Planning Board

Town of Truro
24 Town Hall Road
Truro, MA 02666
(508) 349-7004

DECISION OF THE PLANNING BOARD

Commercial Development Site Plan Review

Case Reference No.: 2025-005/SPR

Atlas Map 46, Parcel 269 **Address: 17 Town Hall Road**

Title Reference: Barnstable County Registry of Deeds Book 92, Page 23

Owner and Applicant: Town of Truro

Hearing Dates: November 19, 2025, December 3, 2025, December 17, 2025, January 7, 2026

Decision Date: January 7, 2026 **Vote: 7-0**

Sitting: Ellery Althaus, Chair; Anne Greenbaum, Vice Chair; Virginia Frazier, Clerk; Harlen Howard; Eric Jansen; Richard Roberts; Caitlin Townsend

Following duly posted and noticed Truro Planning Board hearings held on November 19, 2025 and continued to December 3, 2025, December 17, 2025, and January 7, 2026 the Board voted to grant Commercial Site Plan Approval for proposed new Department of Public Works Facility, including a building of approximately 18,680 sq. ft. and related infrastructure, located in the Residential District.

Board Vote:

At the January 7, 2026 meeting, M. Althaus made a motion, seconded by M. Greenbaum to approve the application for Commercial Site Plan Approval. Vote was 7-0 in favor.

> In favor of the Motion: Ellery Althaus, Chair; Anne Greenbaum, Vice Chair; Virginia Frazier, Clerk; Harlen Howard; Eric Jansen; Richard Roberts; Caitlin Townsend
>
> Not In favor of the Motion: None
>
> Abstained: None

The application of Town of Truro for Commercial Site Plan approval pursuant to Section 70.3 and Section 70.9 of the Truro Zoning Bylaw was granted by the Planning Board.

The following materials were submitted as part of the complete application for review:

- Cover Letter from Della Donahue, Project Manager, Weston & Sampson Engineers, Inc., dated October 20, 2025
- Town of Truro Massachusetts, Department of Public Works Facility, Application for Planning Board Site Plan Review dated October 20, 2025
    - Appendix A – Commercial Site Plan Review Application Form: Application, Review Checklist, Review Criteria
    - Appendix B – Stormwater Report
    - Appendix C – Truck Turning Circulation Plans
    - Appendix D – Project Cost Estimate, Schematic Design Cost Estimate, dated May 29, 2025
    - Appendix E – Certified Abutters List
    - Appendix F –

      Project Site & Building Plans – Weston & Sampson Engineers, Inc.; Project for Town of Truro, MA, New Department of Public Works Facility, 17 Town Hall, Truro, MA 02666; dated October 16, 2025, Stamped
        - Sheet C000 – Cover Sheet
        - Sheet C001 – General Notes & Legend
        - Sheet C201 – Site Preparation and Erosion Control Plan & Demolition Plan, Scale 1" = 20'
        - Sheet C301 – Site Layout & Materials Plan, Scale 1" = 20'
        - Sheet C401 – Grading & Drainage Plan, Scale 1" = 20'
        - Sheet C501 – Utility Plan, Scale 1" = 20'
        - Sheet C601 – Site Details I, Scale = N.T.S.
        - Sheet C602 – Site Details II, Scale = N.T.S.
        - Sheet C603 – Site Details III, Scale = N.T.S.
        - Sheet C604 – Site Details IV, Scale = N.T.S.
        - Sheet C605 – Site Details V, Scale = N.T.S.
        - Sheet C606 – Civil Details VI, Scale = N.T.S.
        - Sheet C607 – Civil Details VII, Scale = N.T.S.
        - Sheet GT100 – Geothermal Well Details, Scale = N.T.S.

      Prepared by Alpha Survey Group, LLC for Weston & Sampson, Inc., dated October 24, 2024, revised November 21, 2024 and December 4, 2024, Scale 1" = 30', Sheet 1 of 2 and Sheet 2 of 2, Stamped
        - Sheet C101 – Existing Conditions and Boundary Survey of #24 Town Hall Road, #22 & #24 Meeting House Road, Truro, Massachusetts Plan I and Plan II

      Weston & Sampson Engineers, Inc.; Project: Town of Truro, MA, New Department of Public Works Facility, 17 Town Hall, Truro, MA 02666; Consultants: GGD Consulting Engineers, Inc.; dated October 14, 2025, Scale 1/8" = 1'0"
        - Sheet A101 – Overall Floor Plan – Base
        - Sheet A101A – Overall Floor Plan – Bid Alt 1
        - Sheet A102 – Overall Mezzanine Plan – Base
        - Sheet A102A – Overall Mezzanine Plan – Bid Alt 1
        - Sheet A106 – Bid Alt #2 – Storage Building Plans & Elevations

- Sheet A201 – Exterior Elevations – Base
- Sheet A201A – Exterior Elevations – Bid Alt 1
- Sheet A231 – Exterior 3D Views – Base; no scale indicated
- Sheet A1011 – Salt Shed Plans & Elevations

SUPPLEMENTAL FILINGS:

- Supplemental Filing Cover Letter from Della Donahue, Project Manager, Weston & Sampson Engineers, Inc., dated November 10, 2025
    - Appendix D – Project Cost Estimate, Design Development Cost Estimate dated October 28, 2025 to supersede the Schematic Design Cost Estimate dated May 29, 2025
    - Appendix F –

      Project Site & Building Plans – Weston & Sampson Engineers, Inc.; Project for Town of Truro, MA, New Department of Public Works Facility, 17 Town Hall Road, Truro, MA 02666
        - Replace Sheet C301 – Site Layout & Materials Plan, dated October 16, 2025, revised November 5, 2025, Scale 1" = 20', Stamped

      Weston & Sampson Engineers, Inc.; Project: Town of Truro, MA, New Department of Public Works Facility, 17 Town Hall Road, Truro, MA 02666; Consultants: GGD Consulting Engineers, Inc.; dated October 15, 2025, Scale NTS, Stamped
        - Add Sheet LC001 – Site Photometric Calculation Base Bid
        - Add Sheet LC002 – Site Photometric Calculation Base Bid with Bid Alt #1
        - Add Sheet LC003 – Site Photometric Calculation Base Bid with Bid Alt 1 & 2
        - Add Sheet LC004 – Photometric Details and Schedules

      Weston & Sampson Engineers, Inc.; Project: Town of Truro, MA, New Department of Public Works Facility, 17 Town Hall Road, Truro, MA 02666; Consultants: GGD Consulting Engineers, Inc.; dated November 5, 2025, Scale 1½" = 1'0"
        - Add Sheet A932 – Exterior Signage

The Board also received:

- November 25, 2025 Email and Memorandum from Emily Beebe, Health & Conservation Agent, stating the Board of Health reviewed and endorsed the plans

This decision is pursuant to the following findings and conditions:

Facts:
Pursuant to Section 70.3 of the Bylaw, the Board finds:

1. .
2. .
3. .
4. .

Commercial Site Plan Review

5. Commercial Site Plan Review is required pursuant to Section 70.3.A.1 of the Zoning Bylaw. The project is reviewed under the Review Criteria and Design Guidelines contained in Section 70.3.F. Pursuant to this section, the Board makes the following findings:

    1. The proposal is in conformity with all applicable provisions of the Zoning Bylaw: Condition that the project shall obtain requested waivers and shall obtain all necessary zoning relief from the ZBA.
    2. The proposal provides for the protection of abutting properties and the surrounding area from detrimental site characteristics and from adverse impact from excessive noise, dust, smoke, or vibration higher than levels previously experienced from permitted uses:
    3. The proposal provides for the protection of adjacent properties and the night sky from intrusive lighting, including parking lot and building exterior lighting. Lighting must be consistent with Chapter IV, Section 6 of the General Bylaws of the Town of Truro:
    4. The proposal provides for the protection of significant or important natural, historic, or scenic features:
    5. The building sites shall minimize obstruction of scenic views from publicly accessible locations; minimize tree, vegetation, and soil removal and grade changes; and maximize open space retention:
    6. The proposal adequately provides for refuse disposal:
    7. The proposed sewage disposal and water supply systems within and adjacent to the site shall be adequate to serve the proposed use:
    8. The proposed drainage system within the site shall be adequate to handle the runoff resulting from the development. Drainage run-off from the project shall not: damage any existing wellfield(s) or public water supply; damage adjoining property; overload, silt up or contaminate any marsh, swamp, bog, pond, stream, or other body of water; or interfere with the functioning of any vernal pool:
    9. A soil erosion plan shall adequately protect all steep slopes within the site and control runoff to adjacent properties and streets both during and after construction:
    10. The proposal shall provide for structural and/or landscaped screening or buffers for storage areas, loading docks, dumpsters, rooftop or other exposed equipment, parking areas, utility buildings and similar features viewed from street frontages and residentially used or zoned premises:
    11. Buildings and structures within the subject site shall relate harmoniously to each other in architectural style, site location, and building exits and entrances. Building scale, massing, materials, and detailing should be compatible with the surrounding area:
    12. Electric, telephone, cable, and other such utility lines and equipment shall be placed underground:
    13. The project shall not place excessive demands on Town services:

14. The location and number of curb cuts shall be minimized to reduce turning movements and hazardous exits and entrances. Where appropriate and allowable, access to adjoining properties shall be provided. Joint access driveways between adjoining properties shall be encouraged:
15. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent and other ways serving the project shall be maximized. Traffic patterns for vehicles and pedestrians must show safe and adequate circulation within and access to and from the site:
16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s):

Waivers Requested §70.9

Section 30.9.G.4

a. Applicants were granted a waiver from Town of Truro Zoning Bylaw, §30.9.G Parking Design Requirements, Design Criteria 4:

The Board waived the provision of this section pertaining to the requirement for parking stall dimensions relieving the 20' requirement and reducing it to 18'.

M. Greenbaum made a motion, seconded by M. Howard, to waive the parking requirement. Vote was 6-0 in favor

Section 70.3.F.16

a. Applicants were granted a waiver from Town of Truro Zoning Bylaw, §70.3.F Review Criteria/Design Guidelines 16:

The Board waived the provision of this section that requires a bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s). The site includes an existing bicycle rack at the Town Hall located on this property.

M. Greenbaum made a motion, seconded by M. Roberts, to waive the requirement for a bicycle rack. Vote was 6-0 in favor

Conditions

This Commercial Site Plan Approval is subject to the following conditions.

1. The use of the Property shall be in strict conformance with the Town of Truro Zoning Bylaw.

2. Obtain all necessary zoning relief from the Zoning Board of Appeals.

3. All construction on the Property, including materials, shall conform to the plans referenced herein. No additional construction is permitted unless authorized by amendment to this Decision or deemed by the Building Commissioner to be de minimis. The applicant or agent shall consult with the Building Commissioner regarding any field changes for a

determination as to whether the applicant must return to this Board to seek amendment of this Decision.

4. Adjacent properties and the night sky shall be protected from intrusive lighting, including parking lot and building exterior lighting. All lighting on the property shall conform to Truro General Bylaw Chapter IV Section 6, Outdoor Lighting.

5. Site Control – construction phasing

6. Drainage/runoff issues to be addressed within 24 hours.

7. The applicant shall comply with any and all conditions imposed by the Historical Commission.

8. The applicant shall obtain any necessary approvals from the Truro Board of Health and/or the Massachusetts Department of Environmental Protection. The project shall comply with the requirements of _____.

9.

10. Prior to issuance of a Certificate of Occupancy for the new buildings, applicant shall submit to the Building Commissioner complete, stamped As-Built Plans for those structures confirming that the dimensions of the buildings conform to this Decision. No Certificate of Occupancy shall issue until the Building Commissioner finds that the commercial structures as built conform to the requirements of this Decision.

This Site Plan Approval for a Commercial Site Plan shall expire two (2) years from the date of approval.

Pursuant to Zoning Bylaw Section 70.6, it is the responsibility of the applicant to obtain a true attested copy of this decision from the Town Clerk and to record this decision in the Barnstable Registry of Deeds or Land Court, as applicable. Prior to the issuance of a building permit, the applicant shall present evidence of such recording to the Building Commissioner and the Planning Department.

_____ _____

Ellery Althaus, Chair Date

Received, Office of the Town Clerk:

_____ _____

Nicole Tudor, Truro Town Clerk Date

I hereby certify that this decision was filed with the Office of the Town Clerk on _____ and 20 (twenty) days have elapsed since the date of filing, and:

☐ No Appeal has been filed.

☐ An Appeal has been filed and received in this office on:_____

_____ _____

Nicole Tudor, Truro Town Clerk Date

NOTE: Any person aggrieved by a decision of the Planning Board may appeal to the Superior or Land Court by bringing action within twenty days after the decision has been filed with the Town Clerk of Truro. (Massachusetts General Laws, Chapter 40A, Section 17)

THE COPY OF THIS DECISION PROVIDED BY THE TOWN CLERK MUST BE FILED WITH THE REGISTER OF DEEDS OF BARNSTABLE COUNTY BY THE APPLICANT.

TOWN OF TRURO

P.O. Box 2030, Truro, MA 02666
Tel: 508-349-7004, Extension: 110 or 124 Fax: 508-349-5505

Town of Truro
Truro Historical Commission
Remote Public Hearing
Tuesday, December 16, 2025, at 5:00pm

This will be a remote meeting. Citizens can participate by going to

Meeting ID:
The Truro Historical Commission will hold a remote Public Hearing on Tuesday, December 16, 2025, at 5:00pm to review the request for the demolition of all DPW structures at 24 Town Hall Road, Truro, MA, Map 46, Parcel 269-0, including the former North Truro Library that had been moved to the site to serve as the DPW office. This proposal is subject to review under the General Bylaws, Chapter VI, Preserving Historic Properties. All interested parties are urged to provide comment via the instructions above.

Matthew Kiefer, Chair

§ 50.1 Regulations

A. Table

DIMENSIONAL REQUIREMENT	ALL DISTRICTS
Minimum lot size	33,750 sq. ft. (1)(2)(8)
Minimum lot frontage	150 ft (1)(2)
Minimum frontyard setback	25 ft (3)
Minimum sideyard setback	25 ft (3)(4)
Maximum building height	2 stories; 30 feet (5)(5a)(6)
Minimum backyard setback	25 ft (3)(4)
Lot Shape	(9)

(4/05, 4/06, 4/10)

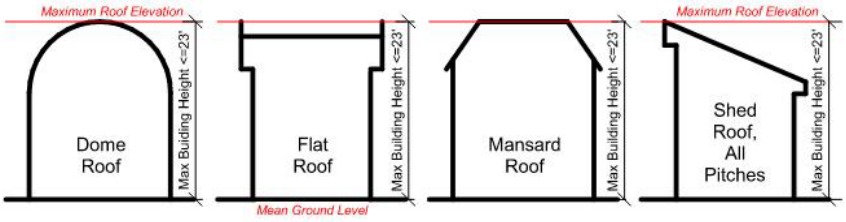
NOTES

1. Except buildings for accessory use and cottage. *(4/10)*
2. Except lots or parcels lawfully in existence and shown on a subdivision plan or described in a deed recorded at the Barnstable County Registry of Deeds prior to the adoption of the bylaw by Truro Town Meeting on February 15, 1960, having at least five thousand (5,000) square feet of area and at least fifty (50) feet of lot frontage.
3. Except in the Seashore District where the minimum setback from all streets is 50 ft. measured at a right angle from the street line.
4. Except in those portions of the Beach Point Limited Business district served by the Town of Provincetown Water System, where the minimum sideyard and backyard setbacks shall be equivalent to five (5) ft per story of the building or structure in question. Structures less than a full story shall meet the minimum 5 ft setback.
5. The 2 story/30 ft height limitation shall be measured from above mean ground level. *(5/24)*
   5a. Except buildings which do not have a ridge or hip defined by two opposing sloped roof surfaces the maximum building height shall not exceed twenty-three (23) ft as measured to the highest point of the structure. *(4/12, 5/24)*
6. Free standing flagpoles and private noncommercial radio and television antennae shall not exceed fifty (50) ft above mean ground level.
7. *(#7* deleted *4/12)*
8. Except in the Seashore District where the minimum lot size is 3 acres. *(4/05)*
9. For any lot created after April 30, 2004, the portion of the lot connecting the frontage with the front line of any building site shall not be less than 50 feet wide, as measured between opposite sidelines. *(4/06)*

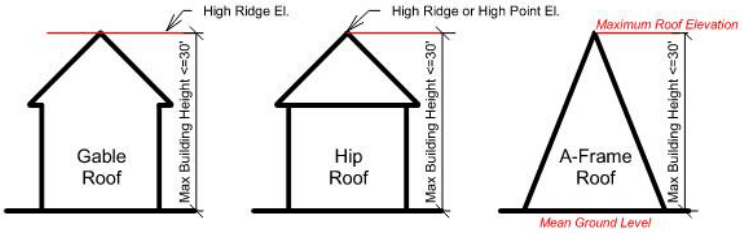
APPENDIX Q: MAXIMUM BUILDING HEIGHT RELATIVE TO MEAN GROUND LEVEL AND ROOF CONFIGURATION

Roof Type:
Dome/Flat
Mansard/Shed/
Clerestory

Maximum Building Height
For all roof Types: The elevation of the highest point of the roof, including the top of any parapet

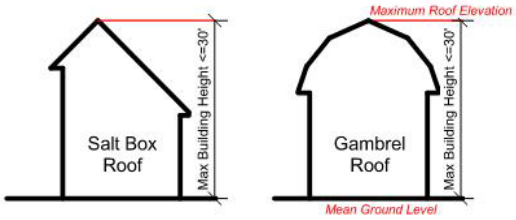


Gable/Hip
A-Frame (With Sloped Roof Surfaces
(pitch >=3V:12H)



Salt Box
(with Sloped Roof Surfaces)

Gambrel
(with Sloped Roof Surfaces)



Note: Shed dormers for individual windows shall not be considered Sloped Roof Surfaces in this context.

§ 30.9 Parking

G. Design Requirements

4. Design Criteria:

PARKING ANGLE	SPACE WIDTH (in feet)	SPACE LENGTH (perpendicular to aisle)	AISLE WIDTH (in feet)	TOTAL WIDTH (in feet)
45°	9	17.5	15	50
60°	9	19	18	56
90°	9	20	24	64

The above chart is for parking areas with double-loaded aisles. For single loaded aisles subtract the space length from the total width. Aisles for parking angles of 45° and 60° shall be for one-way directional traffic patterns.

§ 70.3 Commercial Development

F. Review Criteria/Design Guidelines

The Planning Board will review applications and their supporting information based on the following:

16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s).

November 10, 2025

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

Truro Planning Board
24 Town Hall Road
Truro, MA 02666

WSE Project No. ENG24-1552

Re: **Supplemental Filing for Site Plan Review & Special Permit**
17 Town Hall Road
Truro Department of Public Works Facility

Dear Member of the Board,

On behalf of the Town of Truro, Weston & Sampson Engineers, Inc. is proving a supplemental filing for the Commercial Site Plan Review. The following documents are attached:

- Design Development Cost Estimate dated October 28, 2025
  - To supersede the Schematic Design Cost Estimate dated May 29, 2025
- Updated Sheet C301 Site Layout & Materials Plan
  - Updates include removing the (2) manual slide gates, enlarging the parking stalls off of Town Hall Road, adding (11) parking stalls in the rear along the west property line, and locating a new DPW sign and flag pole.
- Photometric Site Calculation Plans
- Sheet A932 Exterior Signage

Please feel free to contact me at (508) 203-4231 or donahue.della@wseinc.com if you have any questions.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Della Donahue
Project Manager

Design Development Cost Estimate

New Department of Public Works Facility

17 Town Hall

Truro, Ma

Prepared by:

TCi Construction Cost Estimating

Post Office Box 1988

North Falmouth, Ma 02556

www.tortoraconsulting.com

p 781-275-5511

Prepared for:

Weston and Sampson

October 28, 2025

New Department of Public Works Facility
Truro, Ma

Design Development Cost Estimate

28-Oct-25

MAIN CONSTRUCTION COST SUMMARY

	Building GSF	$/sf	Estimated Construction Cost
BASE ESTIMATE	21,040	$1,197.01	$25,185,021
TOTAL DD BASE CONSTRUCTION COSTS	**21,040**	**$1,197.01**	**$25,185,021**

Alternates

1. Add 5,000 SF Fleet storage	add	**$1,450,650**
2. Add 4,050 SF Detached Cold Storage building	add	**$1,938,573**

QUALIFICATIONS

This Schematic Design cost estimate was produced from drawings prepared by Weston and Sampson and their design team dated October 4, 2025.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes bid received 1st quarter 2026. Phased construction starting June 2026

Bidding conditions are expected to be chapter 149 public bidding to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures. The project is expected to be bid and construction start there after with one continuous phase.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

All professional fees and insurance
All Furnishings, Fixtures and Equipment not identified
Items identified in the design as Not In Contract (NIC)
Items identified in the design as by others
Special foundations (unless indicated by design engineers)
Utility company back charges, including work required off-site
Work to City streets and sidewalks, (except as noted in this estimate)
Construction or occupancy phasing or off hours' work, (except as noted in this estimate)
Off hours
Ledge & contaminated soils
Building Permit
Temporary trailer rentals and or renovations to vehicle maintenace
Demolition of buildings except vehicle maintenance for temp usage
Sliding entry gates

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*Filed Sub-Bids (includes contingencies)*	*BASE ESTIMATE*	*21,040 $/sf*
DIV. 2 DEMOLITION			
020500 Demolition		$48,000	*$2.28*
024500 Hazardous Material Abatement		$20,000	*$0.95*
DIV. 3 CONCRETE			
033000 Cast-in-Place Concrete		$1,307,685	*$62.15*
DIV. 4 MASONRY			
042000 Unit Masonry - FSB	**$350,817**	$307,734	*$14.63*
DIV. 5 METALS			
055000 Metal Fabrications - FSB	**$269,872**	$236,730	*$11.25*
DIV. 6 WOODS & PLASTICS			
061000 Rough Carpentry		$121,930	*$5.80*
064020 Interior Architectural Woodwork		$33,910	*$1.61*
DIV. 7 THERMAL & MOISTURE PROTECTION			
072100 Thermal Insulation		$103,100	*$4.90*
072700 Air Barriers & Waterproofing - FSB	**$220,511**	$103,655	*$4.93*
074600 Cement Board Siding and Trim		$56,400	*$2.68*
075400 Membrane Roofing		$0	*$0.00*
075450 Through-wall flashing		$0	*$0.00*
077200 Roof Accessories		$8,400	*$0.40*
078410 Penetration Firestopping		$6,312	*$0.30*
079200 Joint Sealants		$89,776	*$4.27*
DIV. 8 DOORS & WINDOWS			
081110 Doors and Frames		$104,900	*$4.99*
083110 Access Doors and Frames		$0	*$0.00*
083310 Overhead Coiling Doors		$214,000	*$10.17*
084110 Aluminum Windows		$51,600	*$2.45*
084500 Aluminum Storefront and Curtainwall		$7,500	*$0.36*
084550 Skylights		$0	*$0.00*
084555 Sunshades		$0	*$0.00*
084600 Translucent Windows		$106,575	*$5.07*
087100 Door Hardware		$63,600	*$3.02*
088000 Glazing		$9,000	*$0.43*
089000 Louvers and Vents		$10,000	*$0.48*
DIV. 9 FINISHES			
092110 Gypsum Board Assemblies		$509,190	*$24.20*
093000 Tiling - FSB	**$31,225**	$27,390	*$1.30*
095100 Acoustical Ceilings - FSB	**$31,920**	$28,000	*$1.33*
096510 Resilient Flooring and Accessories - FSB	**$29,138**	$25,560	*$1.21*
096550 Carpet		$4,800	*$0.23*
097300 Resinous flooring and base		$13,500	*$0.64*
099000 Painting and Coating - FSB	**$176,206**	$154,567	*$7.35*
DIV 10 SPECIALTIES			
101400 Signage		$17,000	*$0.81*
102800 Toilet Accessories		$8,213	*$0.39*
104400 Fire Protection Specialties		$1,500	*$0.07*
106500 Toilet Partitions		$2,900	*$0.14*
108500 Lockers		$19,250	*$0.91*
109400 Screen Partitions		$0	*$0.00*
109500 Fall Arrest		$20,000	*$0.95*
DIV. 11 EQUIPMENT			
113100 Appliances		$0	*$0.00*
118100 Industrial Equipment		$881,225	*$41.88*
DIV. 12 FURNISHINGS			
122110 Horizontal Louver Blinds		$4,800	*$0.23*
DIV. 13 SPECIAL CONSTRUCTION			
13100 Pre-fabricated Metal Building, Mezzanine Steel and Decking		$2,497,198	*$118.69*
13200 Fabric Structure Salt Shed Building		$285,000	*$13.55*

New Department of Public Works Facility
Truro, Ma

Design Development Cost Estimate

28-Oct-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*Filed Sub-Bids (includes contingencies)*	*BASE ESTIMATE*	*21,040 $/sf*
DIV. 21 FIRE SUPPRESSION			
210000 Fire Suppression - FSB	**$605,030**	$530,728	*$25.22*
DIV. 22 PLUMBING			
220000 Plumbing - FSB	**$1,092,348**	$958,200	*$45.54*
DIV. 23 HVAC			
220000 HVAC - FSB	**$3,660,581**	$3,211,036	*$152.62*
DIV. 26 ELECTRICAL			
260000 Electrical - FSB	**$2,178,728**	$1,911,165	*$90.83*
DIV. 31 EARTHWORK			
311000 Site Clearing		$197,270	*$9.38*
312000 Earthwork		$848,390	*$40.32*
312500 Erosion and Sedimentation Controls		$29,000	*$1.38*
315000 Ground Improvements		$0	*$0.00*
DIV. 32 EXTERIOR IMPROVEMENTS			
321216 Asphalt Paving		$379,500	*$18.04*
321213 Portland Cement Concrete Paving		$26,160	*$1.24*
321613 Curbs and Gutters		$37,800	*$1.80*
323100 Site Improvements		$102,150	*$4.86*
329000 Landscaping		$75,000	*$3.56*
DIV. 33 UTILITIES			
331000 On Site Water Distribution		$127,590	*$6.06*
331000 Off Site Well And Water Distribution		$538,750	*$25.61*
333000 Sanitary Sewerage Utilities		$264,100	*$12.55*
334000 Storm Drainage		$584,500	*$27.78*
335000 Gas		$0	*$0.00*
SUBTOTAL DIRECT (TRADE) COST		*$17,332,239*	*$823.78*
GENERAL CONDITIONS, REQUIREMENTS & GL INSURANCE (27 months phased)		$3,240,000	
BONDS	1.8%	$311,980	
GC - OVERHEAD & PROFIT	5%	$1,044,211	
DESIGN AND PRICING CONTINGENCY	7.5%	$1,644,632	
ESCALATION TO 1ST QUARTER 2026 BID	5%	$1,178,653	
OUTER CAPE PREMIUM		included in trades	
TARIFFS COST INCREASE ALLOWANCE	2.5%	$433,306	
TOTAL DD BASE CONSTRUCTION COSTS		**$25,185,021**	*$1,197.01*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	GROSS FLOOR AREA CALCULATION						
	Base footprint			**18,680**			
	Mezzanine			**2,360**			
	TOTAL GROSS FLOOR AREA (including mezzanine)				**21,040** ***gsf***		
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings						
03300	Formwork	**900**	sf	18.00	16,200		
03300	Re-bar	**3,180**	lbs	2.50	7,950		
03300	Concrete material	**53**	cy	190.00	10,070		
03300	Placing concrete	**53**	cy	40.00	2,120		
	Foundation walls						
03300	Formwork	**9,912**	sf	18.00	178,416		
03300	Re-bar	**17,340**	lbs	2.50	43,350		
03300	Concrete material	**289**	cy	190.00	54,910		
03300	Placing concrete	**289**	cy	40.00	11,560		
	3' -4" Back up knee walls						
03300	Formwork	**2,470**	sf	18.00	44,460		
03300	Re-bar	**2,040**	lbs	2.50	5,100		
03300	Concrete material	**34**	cy	190.00	6,460		
03300	Placing concrete	**34**	cy	40.00	1,360		
	4' -8" Back up knee walls						
03300	Formwork	**713**	sf	18.00	12,834		
03300	Re-bar	**600**	lbs	2.50	1,500		
03300	Concrete material	**10**	cy	190.00	1,900		
03300	Placing concrete	**10**	cy	40.00	400		
	5' -4" Back up knee walls						
03300	Formwork	**714**	sf	18.00	12,852		
03300	Re-bar	**600**	lbs	2.50	1,500		
03300	Concrete material	**10**	cy	190.00	1,900		
03300	Placing concrete	**10**	cy	40.00	400		
	F8 Column footings						
03300	Formwork	**720**	sf	18.00	12,960		
03300	Re-bar	**6,720**	lbs	2.50	16,800		
03300	Concrete material	**112**	cy	190.00	21,280		
03300	Placing concrete	**112**	cy	40.00	4,480		
	F10 Column footings						
03300	Formwork	**210**	sf	18.00	3,780		
03300	Re-bar	**2,460**	lbs	2.50	6,150		
03300	Concrete material	**41**	cy	190.00	7,790		
03300	Placing concrete	**41**	cy	40.00	1,640		
	F12 Column footings						
03300	Formwork	**96**	sf	18.00	1,728		
03300	Re-bar	**1,320**	lbs	2.50	3,300		
03300	Concrete material	**22**	cy	190.00	4,180		
03300	Placing concrete	**22**	cy	40.00	880		
	F14 Column footings						
03300	Formwork	**62**	sf	18.00	1,116		
03300	Re-bar	**1,020**	lbs	2.50	2,550		
03300	Concrete material	**17**	cy	190.00	3,230		
03300	Placing concrete	**17**	cy	40.00	680		
	F12x14 Column footings						
03300	Formwork	**540**	sf	18.00	9,720		
03300	Re-bar	**8,820**	lbs	2.50	22,050		
03300	Concrete material	**147**	cy	190.00	27,930		
03300	Placing concrete	**147**	cy	40.00	5,880		
	Piers						
03300	Formwork	**320**	sf	18.00	5,760		
03300	Re-bar	**1,500**	lbs	2.50	3,750		
03300	Concrete material	**25**	cy	190.00	4,750		
03300	Placing concrete	**25**	cy	40.00	1,000		
	SUBTOTAL					588,626	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	A1030 LOWEST FLOOR CONSTRUCTION						
	8" Slab on grade						
03300	Vapor barrier	**13,500**	sf	2.00	27,000		
03300	Reinforcing	**13,500**	sf	2.50	33,750		
03300	Concrete - 8" thick	**374**	cy	190.00	71,060		
03300	Placing concrete	**374**	cy	45.00	16,830		
03300	Finishing and curing concrete	**13,500**	sf	1.65	22,275		
03300	Control joints - saw cut	**13,500**	sf	0.50	6,750		
	6" Slab on grade						
03300	Vapor barrier	**4,400**	sf	2.00	8,800		
03300	Reinforcing	**4,400**	sf	1.50	6,600		
03300	Concrete - 6" thick	**90**	cy	190.00	17,100		
03300	Placing concrete	**90**	cy	45.00	4,050		
03300	Finishing and curing concrete	**4,400**	sf	1.65	7,260		
03300	Control joints - saw cut	**4,400**	sf	0.50	2,200		
	Miscellaneous						
07210	R10 - 25 PSI Rigid insulation at 4' horizontal	**520**	sf	5.00	2,600		
07210	R10 - 60 PSI Rigid insulation at 4' horizontal	**1,640**	sf	6.00	9,840		
07210	R15 - 60 PSI rigid insulation vertical	**3,320**	sf	6.00	19,920		
07210	R15 - 60 PSI rigid insulation underslab at maintenance	**3,600**	sf	6.00	21,600		
07270	Dampproofing of foundation walls	**3,720**	sf	4.00	14,880		
03300	4' haunch under CM walls	**40**	cy	350.00	14,000		
03300	Wash bay sump	**1**	ea	12,000.00	12,000		
03300	Fluid room sump	**1**	ea	5,000.00	5,000		
03300	Curbs, equipment Pads and supports	**1**	ls	7,500.00	7,500		
03300	Outer cape premium	**1**	ls	91,964.10	91,964		
	SUBTOTAL					422,979	
	TOTAL - FOUNDATIONS						***$1,011,605***
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Mezzanine Floor Structure - Steel:						
13100	W columns, beam, bracing, HSS tubes, L angles and Channels	**14**	tons	6,000.00	84,000		
	Mezzanine Floor Structure						
13100	Floor deck - 1 1/2'' deck	**2,360**	sf	5.50	12,980		
03300	WWF reinforcement	**2,360**	sf	2.00	4,720		
03300	2" Concrete Fill to metal deck	**29**	cy	195.00	5,655		
03300	Place and finish concrete	**2,360**	sf	2.00	4,720		
	Miscellaneous						
05500	Misc metals - overall added cost for FSB pricing	**21,040**	sf	6.00	126,240		
07841	Firestopping	**21,040**	sf	0.30	6,312		
13100	Outer cape premium	**1**	ls	9,698.00	9,698		
	SUBTOTAL					254,325	
	B1020 ROOF CONSTRUCTION						
	Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
13100	Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**18,680**	sf	115.00	2,148,200		
13100	Entry canopy structure and roof, gutters and downspouts	**200**	sf	125.00	25,000		
13100	Outer cape premium	**1**	ls	217,320.00	217,320		
	Miscellaneous						
06100	Entry canopy soffits - 1x4 T&G teak wd ceiling	**260**	sf	40.00	10,400		
05500	Overhead door openings	**6**	ea	1,500.00	9,000		
05500	Window openings	**240**	sf	12.00	2,880		
05500	Translucent window openings	**735**	sf	12.00	8,820		
	SUBTOTAL					2,421,620	
	TOTAL - SUPERSTRUCTURE						***$2,675,945***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B20 EXTERIOR CLOSURE						
	B2010 EXTERIOR WALLS						
	Admin exterior wall back-up						
09211	6" Metal stud, sheathing	**1,820**	sf	22.00	40,040		
09211	5/8" int gwb	**1,820**	sf	8.00	14,560		
09900	Paint	**1,820**	sf	2.00	3,640		
	CMU & Fiber cement						
07460	Fiber cement board lap siding	**1,410**	sf	40.00	56,400		
04200	CMU veneer	**2,050**	sf	55.00	112,750		
07270	Air barrier	**3,460**	sf	10.00	34,600		
07210	Rigid insulation	**2,050**	sf	6.00	12,300		
07270	Outer cape premium	**1**	ls	11,275.00	11,275		
	SUBTOTAL					285,565	
	B2020 WINDOWS						
	Storefront and windows						
84600	Translucent windows	**735**	sf	145.00	106,575		
84110	W - Aluminum windows (triple glazed)	**240**	sf	215.00	51,600		
08900	Louvers	**1**	ls	10,000.00	10,000		
07920	Backer rod & double sealant	**618**	lf	12.00	7,416		
06100	Wood blocking at openings	**618**	lf	10.00	6,180		
07920	Waterproofing - overall added cost for FSB pricing	**21,040**	sf	3.50	73,640		
	SUBTOTAL					255,411	
	B2030 EXTERIOR DOORS						
	Overhead doors						
08331	18x16 OHD	**2**	ea	28,800.00	57,600		
08331	16x16 OHD	**3**	ea	25,600.00	76,800		
08331	14x14 OHD	**1**	ea	19,600.00	19,600		
08331	16x16 OHD poly	**2**	ea	30,000.00	60,000		
	Man Doors						
08111	HM doors with half light/HM frame 3x7 HM	**9**	ea	2,500.00	22,500		
08111	HM flush doors/frame 6x7 HM	**1**	ea	3,500.00	3,500		
84500	CW-1- Alum entry and side/tran triple glazed	**1**	ea	7,500.00	7,500		
08710	Hardware	**12**	lvs	1,500.00	18,000		
	Misc						
09900	Paint	**12**	ea	200.00	2,400		
07920	Backer rod & double sealant	**360**	lf	12.00	4,320		
06100	Wood blocking at openings	**360**	lf	10.00	3,600		
	SUBTOTAL					275,820	
	TOTAL - EXTERIOR CLOSURE						***$816,796***
	B30 ROOFING						
	B3010 ROOF COVERINGS						
	All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
	SUBTOTAL					-	
	B3020 ROOF OPENINGS						
07720	Roof hatch and ladder	**1**	ea	6,750.00	6,750		
07720	Roof ladders	**1**	ea	1,650.00	1,650		
10950	Fall arrest system allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					28,400	
	TOTAL - ROOFING						**$28,400**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C10 INTERIOR CONSTRUCTION						
	C1010 PARTITIONS						
09211	1B Fur-out	**1,992**	sf	14.00	27,888		
09211	2B Fur-out	**1,332**	sf	15.00	19,980		
09211	3A GWB partition	**4,298**	sf	20.00	85,960		
09211	4B 2H GWB rated partition	**320**	sf	25.00	8,000		
09211	6A at Mezz	**1,888**	sf	22.00	41,536		
04200	8A 2HR walls	**1,316**	sf	36.00	47,376		
04200	8A CMU walls at FP rm	**420**	sf	34.00	14,280		
04200	8 CMU wall	**96**	sf	34.00	3,264		
04200	8A CMU walls under mezz	**1,617**	sf	34.00	54,978		
04200	8A CMU wall at wash equip	**840**	sf	34.00	28,560		
	18 - Wash bay separation walls						
04200	8" CMU wall to 8'	**480**	sf	35.00	16,800		
09211	6" metal stud and gwb each side	**1,200**	sf	22.00	26,400		
	F1 - Fire separation walls						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,600**	sf	25.00	40,000		
07210	3" closed cell spray foam	**1,600**	sf	10.00	16,000		
04200	4" CMU behind knee wall	**440**	sf	30.00	13,200		
07210	2" rigid behind knee wall	**440**	sf	6.00	2,640		
07270	AVB	**440**	sf	10.00	4,400		
	F2 - Fire separation walls						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,400**	sf	25.00	35,000		
07210	3" closed cell spray foam	**1,400**	sf	10.00	14,000		
07210	2" rigid behind knee wall	**700**	sf	6.00	4,200		
07270	AVB	**700**	sf	10.00	7,000		
	Misc						
06100	Rough blocking	**800**	lf	10.00	8,000		
09211	Outer cape premium - drywall	**1**	ls	28,476.40	28,476		
04200	Outer cape premium - masonry	**1**	ls	16,525.80	16,526		
	SUBTOTAL					564,464	
	C1020 INTERIOR DOORS						
	Doors and Frames						
08111	Single doors and frames	**26**	lvs	1,800.00	46,800		
08111	Double doors and frames	**6**	pr	3,200.00	19,200		
	Hardware						
08710	Hardware	**38**	lvs	1,200.00	45,600		
	Misc						
08800	Glazing to doors and frames	**180**	sf	50.00	9,000		
08111	Door sidelights	**12**	ea	800.00	9,600		
08111	HM1 window frames	**2**	ea	1,650.00	3,300		
09900	Paint HM frames	**40**	ea	200.00	8,000		
07920	Sealants & caulking	**40**	ea	110.00	4,400		
12211	Interior blinds	**6**	ea	200.00	1,200		
	SUBTOTAL					147,100	
	C1030 SPECIALTIES / MILLWORK						
06402	Restroom vanities	**10**	lf	475.00	4,750		
06402	Window sills	**64**	lf	65.00	4,160		
06402	Kitchen wall, base cabinets & counters	**20**	lf	700.00	14,000		
06402	Admin copy/file - base and wall cabinet & counter	**5**	lf	700.00	3,500		
06402	Misc millwork and finish carpentry	**1**	ls	7,500.00	7,500		
10140	Tack/white boards	**2**	ea	500.00	1,000		
	Lockers						
10850	Lockers	**16**	ea	950.00	15,200		
10850	Lockers benches	**1**	ea	750.00	750		
10850	ADA benches	**2**	ea	1,650.00	3,300		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Restrooms						
10650	Toilet partitions HC	**1**	ea	1,600.00	1,600		
10650	Toilet partitions Reg	**1**	ea	1,300.00	1,300		
10280	Soap disp	**4**	ea	30.00	120		
10280	Mirror	**4**	ea	285.00	1,140		
10280	Robe hook	**8**	ea	30.00	240		
10280	18" Grab bar	**3**	ea	150.00	450		
10280	42" Grab bar	**6**	ea	150.00	900		
10280	Shower seat and bars	**2**	ea	285.00	570		
10280	Wet gear hooks	**8**	ea	65.00	520		
10280	SRWR	**3**	ea	250.00	750		
10280	TTD	**4**	ea	110.00	440		
10280	SND	**4**	ea	165.00	660		
10280	PTD	**3**	ea	330.00	990		
10280	Hooks	**8**	ea	40.00	320		
10280	Shower curtain and rods	**3**	ea	276.00	828		
10280	Jan closet MB	**1**	ea	285.00	285		
	Miscellaneous						
06100	Plywood backers, locker bases and misc	**650**	sf	5.00	3,250		
10440	Fire extinguisher cabinets	**6**	ea	250.00	1,500		
10140	Town seal/ exterior signage	**1**	ls	8,500.00	8,500		
10140	Interior signage	**1**	ls	7,500.00	7,500		
	SUBTOTAL					86,023	
	TOTAL - INTERIOR CONSTRUCTION						***$797,587***
	C20 STAIRCASES						
	C2010 STAIR CONSTRUCTION						
05500	Mezzanine Stairs	**1**	ea	17,500.00	17,500		
05500	Mezzanine railings	**90**	lf	185.00	16,650		
05500	Gates	**1**	ea	1,250.00	1,250		
05500	Ladders	**1**	ea	1,250.00	1,250		
03300	Concrete material in pan infill	**1**	ea	1,200.00	1,200		
	SUBTOTAL					37,850	
	C2020 STAIR FINISHES						
09900	Paint to mezzanine stairs	**1**	ea	3,850.00	3,850		
09900	Paint to mezzanine rails/gates/ladder	**100**	lf	35.00	3,500		
	SUBTOTAL					7,350	
	TOTAL - STAIRCASES						***$45,200***
	C30 INTERIOR FINISHES						
	C3010 WALL FINISHES						
09900	Paint to GWB	**23,536**	sf	1.50	35,304		
09900	Paint to interior CMU	**9,498**	sf	2.50	23,745		
09300	Wall tile	**750**	sf	33.00	24,750		
06100	FRP to janitor closet	**200**	sf	15.00	3,000		
06100	Wash bay - 1/2" PVC panels	**3,500**	sf	25.00	87,500		
07270	Wash bay - AVB	**3,500**	sf	9.00	31,500		
09211	Exterior wall framing and column wraps	**2,850**	sf	18.00	51,300		
	SUBTOTAL					257,099	
	C3020 FLOOR FINISHES						
09651	LVT	**1,500**	sf	14.00	21,000		
09665	Carpet tile	**800**	sf	6.00	4,800		
09730	RF - Resinous Flooring	**750**	sf	18.00	13,500		
09900	SC - Sealed Concrete	**17,910**	sf	1.50	26,865		
09300	Tile	**80**	sf	33.00	2,640		
09651	Rubber base	**760**	lf	6.00	4,560		
09900	Line stripping	**600**	sf	5.00	3,000		
	SUBTOTAL					76,365	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C3030 CEILING FINISHES						
09510	A1 - ACT ceilings; 2' x 2'	**2,000**	sf	11.00	22,000		
09510	A2 - ACT ceilings; 2' x 2'	**500**	sf	12.00	6,000		
09211	G1 - GWB ceiling	**400**	sf	18.00	7,200		
09211	G2 - GWB ceiling	**475**	sf	22.00	10,450		
09211	G3 - GWB ceiling	**560**	lf	125.00	70,000		
09211	Drop gwb soffits	**40**	lf	60.00	2,400		
09900	Paint to GWB ceilings and soffits	**3,275**	sf	2.00	3,800		
09900	Exposed prefab metal columns and beams	**16,185**	sf	2.50	40,463		
	SUBTOTAL					162,313	
	TOTAL - INTERIOR FINISHES						***495,777***
	D20 PLUMBING						
	D20 PLUMBING						
	Equipment						
220000	Water Meter	**1**	ea	2,950.00	2,950		
220000	Backflow Preventor Assembly	**1**	ea	6,045.00	6,045		
220000	Water Pressure Regulator	**1**	ea	1,170.00	1,170		
220000	Heat Pump Water Heaters	**1**	ea	15,112.50	15,113		
220000	Hot Water Storage Tank	**1**	ea	7,020.00	7,020		
220000	Recirc Pump	**1**	ea	1,235.00	1,235		
220000	Expansion Tank	**1**	ea	455.00	455		
220000	Thermostatic Mixing Valve	**2**	ea	2,710.50	5,421		
220000	Oil/Water Seperator	**1**	ea	11,830.00	11,830		
220000	Air Compressor w/ Dryer	**1**	ea	31,083.00	31,083		
220000	Trap Primers	**6**	ea	425.00	2,550		
220000	Make Up Water Station	**1**	ea	1,140.00	1,140		
220000	Plumbing Specialties	**1**	ls	11,398.70	11,399		
220000	Equipment Connections	**18**	ea	845.00	15,210		
	Fixtures						
220000	Water Closets	**10**	ea	1,413.50	14,135		
220000	Urinal	**2**	ea	1,216.54	2,433		
220000	Lavatory	**10**	ea	1,292.50	12,925		
220000	Showers	**4**	ea	2,035.00	8,140		
220000	Sink - Mop	**2**	ea	1,292.50	2,585		
220000	Kitchen Sink	**1**	ea	1,527.54	1,528		
220000	Kitchen Sink Garbage Disposal	**1**	ea	780.00	780		
220000	Hand Sink	**1**	ea	1,235.00	1,235		
220000	Shop Sink	**1**	ea	4,810.00	4,810		
220000	Emergency Shower / Eyewash	**1**	ea	3,918.75	3,919		
220000	Bottle Fill Station	**1**	ea	2,887.50	2,888		
220000	Wall Hydrant	**6**	ea	357.50	2,145		
220000	Hose Bibbs	**3**	ea	258.50	776		
220000	Hose Stations	**4**	ea	884.00	3,536		
220000	Ice Machine Box	**1**	ea	181.50	182		
220000	Outlet Box	**1**	ea	287.64	288		
220000	Compressed Air Outlets	**12**	ea	294.87	3,538		
220000	Floor Drains	**9**	ea	654.50	5,891		
220000	Floor Sinks	**2**	ea	808.50	1,617		
220000	(2) Trench Drains	**33**	lf	158.50	5,231		
220000	Trench Drain Catch Basin	**1**	ea	1,365.00	1,365		
220000	Clean Outs	**1**	ea	262.00	262		
220000	Vent Thru Roof	**12**	ea	290.00	3,480		
220000	Hose Connection	**5**	ea	475.00	2,375		
220000	Compressed Air Equipment Connections	**5**	ea	475.00	2,375		
220000	Fixture Rough Ins	**40**	ea	624.00	24,960		
	Piping						
220000	Water Service	**25**	lf	168.32	4,208		
220000	Water - 1/2"	**600**	lf	39.00	23,400		
220000	Water - 3/4"	**500**	lf	42.25	21,125		
220000	Water - 1"	**300**	lf	48.75	14,625		
220000	Water - 1 1/4"	**150**	lf	53.95	8,093		
220000	Water - 1 1/2"	**120**	lf	59.80	7,176		
220000	Water - 2 1/2"	**200**	lf	71.50	14,300		
220000	UGSan - 2"	**70**	lf	94.25	6,598		
220000	UGSan - 4"	**200**	lf	130.00	26,000		
220000	San - 2"	**180**	lf	94.25	16,965		
220000	San - 3"	**110**	lf	123.50	13,585		
220000	San - 4"	**340**	lf	130.00	44,200		
220000	Vent - 1 1/2"	**60**	lf	76.05	4,563		
220000	Vent - 2"	**120**	lf	88.40	10,608		
220000	Vent - 2 1/2"	**60**	lf	94.25	5,655		
220000	Vent - 3"	**140**	lf	100.10	14,014		
220000	UGOil Vent - 2"	**60**	lf	113.75	6,825		
220000	UGOil Vent - 4"	**130**	lf	140.40	18,252		
220000	Oil Vent - 2"	**50**	lf	94.25	4,713		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
220000	UG Oil Waste - 4"	**600**	lf	140.40	84,240		
220000	UG Oil Waste - 6"	**300**	lf	166.40	49,920		
220000	Compressed Air- 1/2"	**120**	lf	41.60	4,992		
220000	Compressed Air - 3/4"	**800**	lf	45.50	36,400		
220000	Compressed Air - 1"	**150**	lf	51.35	7,703		
220000	Compressed Air - 1 1/2"	**150**	lf	58.50	8,775		
220000	Compressed Air - 2"	**100**	lf	71.50	7,150		
220000	Insulation	**1,895**	lf	13.98	26,492		
	Trade Requirements						
220000	Excavation & Backfill	**400**	cy	49.87	19,948		
220000	Project Supervision	**600**	hrs	130.00	78,000		
220000	Coordination	**400**	hrs	130.00	52,000		
220000	Outer cape premium	**1**	ls	86,654.50	86,655		
	SUBTOTAL					953,200	
	TOTAL - PLUMBING						***$953,200***
	D30 HVAC						
	D30 HVAC						
	Equipment						
230000	(2) Ground Source Geothermal Heat Pumps - GSHP 1 thru 2	**60**	tons	1,982.50	118,950		
230000	Geothermal Heat Exchanger - HX 1	**1**	ea	14,040.00	14,040		
230000	Geothermal Pumps - P 1A & B	**2**	ea	33,540.00	67,080		
230000	VFD - Geothermal Pumps P1 A & B	**2**	ea	26,520.00	53,040		
230000	Primary Loop Pumps - P 2A & B	**2**	ea	3,770.00	7,540		
230000	VFD - Primary Loop Pumps - P 2A & B	**2**	ea	2,080.00	4,160		
230000	Secondary Loop Pumps - P 3A & B	**2**	ea	3,282.50	6,565		
230000	VFD - Secondary Loop Pumps - P 3A & B	**2**	ea	3,120.00	6,240		
230000	Geothermal Pumps - P 4A & B	**2**	ea	5,915.00	11,830		
230000	VFD - Geothermal Pumps - P 4A & B	**2**	ea	3,120.00	6,240		
230000	Air Seperator - Geothermal	**2**	ea	5,460.00	10,920		
230000	Expansion Tank - Geothermal	**2**	ea	8,053.50	16,107		
230000	Buffer Tank - Geothermal	**1**	ea	17,290.00	17,290		
230000	Bypass Chemical Shot Feeder - Geothermal	**1**	ea	2,750.00	2,750		
230000	Glycol Feeder - Geothermal	**2**	ea	10,465.00	20,930		
230000	Glycol - Geothermal	**220**	gal	33.50	7,370		
230000	Radiant Manifold - Fleet Maintenance	**3**	ea	5,070.00	15,210		
230000	Radiant Floor Coverage - Fleet Maintenance Bay	**8,696**	sf	20.00	173,920		
230000	(1) Energy Recovery Unit - ERU 1	**2,500**	cfm	9.25	23,125		
230000	(2) Heat Recovery Unit - HRU 1 & 2	**4,275**	cfm	14.50	61,988		
230000	(1) Energy Recovery Unit - ERU 1	**750**	cfm	8.50	6,375		
230000	Fan Coil Units	**10**	ea	5,590.00	55,900		
230000	(1) Heating & Ventilation - HV 1	**2,500**	cfm	5.00	12,500		
230000	Gravity Ventilators	**6**	ea	5,785.00	34,710		
230000	(3) Louvers & Dampers - Outside & Exhaust	**20**	sf	205.00	4,100		
230000	Ductless Splt Heat Pump - HP/CU	**2**	ea	3,965.00	7,930		
230000	Exhaust Fan - EF 1	**3**	ea	4,940.00	14,820		
230000	Exhaust Fan - EF 2A	**3**	ea	3,120.00	9,360		
230000	Exhaust Fan - EF 2B	**3**	ea	2,145.00	6,435		
230000	Exhaust Fan - EF 3A	**1**	ea	5,980.00	5,980		
230000	Exhaust Fan - EF 3B & 3C	**2**	ea	7,215.00	14,430		
230000	Ceiling Fans	**3**	ea	7,865.00	23,595		
230000	Unit Heaters - UH 1 thru UH 5	**5**	ea	1,495.00	7,475		
230000	Unit Heaters - 6A thru 6C	**4**	ea	3,380.00	13,520		
230000	RGDs	**100**	ea	292.00	29,200		
	Geothermal Well Field						
230000	Geothermal Test Well				by others		
230000	Geothermal Wells	**15**	ea	16,500.00	247,500		
230000	Geothermal Manifold	**1**	ea	15,860.00	15,860		
230000	Geothermal Horizontal Piping to Manifold	**1,200**	lf	49.40	59,280		
230000	Geothermal Horizontal Piping from Manifold to Geo Mechanical Room	**400**	lf	110.50	44,200		
230000	Sediment and Water Handling	**1**	ls	20,000.00	20,000		
	Sheet Metal						
230000	Galvanized	**26,300**	lbs	17.35	456,305		
230000	Sheet Metal Specialties	**1**	ls	45,630.50	45,631		
230000	Equipment Connections	**1**	ls	14,040.00	14,040		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Piping						
230000	Dual Temp Water from GSHP to Equipment	**3,000**	lf	123.50	370,500		
230000	Hot Water	**360**	lf	65.00	23,400		
230000	Refrigerant Line Sets	**2**	ea	1,332.50	2,665		
230000	Condensate	**300**	lf	42.90	12,870		
230000	Geothermal Piping at GSHP Mechanical Room	**200**	lf	49.40	9,880		
230000	Dual Temp Specialties	**1**	ls	37,050.00	37,050		
230000	Hot Water Specialties	**1**	ls	2,340.00	2,340		
230000	Refrigerant Specialties	**1**	ls	666.25	666		
230000	Geothermal Specialties	**1**	ls	2,470.00	2,470		
230000	Equipment Connections	**1**	ls	22,750.00	22,750		
	Insulation						
230000	Sheet Metal - Galvi	**17,884**	sf	4.35	77,795		
230000	Piping	**3,860**	lf	19.85	76,621		
	Controls						
230000	ATC	**21,040**	sf	7.75	163,060		
230000	CO2/NO2 Monitoring	**21,040**	sf	3.00	63,120		
230000	BMS Network	**1**	ls	30,700.00	30,700		
230000	Network Integration	**1**	ls	10,150.00	10,150		
	Commissioning						
230000	Start Up	**280**	hrs	130.00	36,400		
230000	Testing, Adjusting, & Balancing	**320**	hrs	135.00	43,200		
230000	3rd Party Cx Assist	**240**	hrs	140.00	33,600		
	Trade Requirements						
230000	Project Supervision	**400**	hrs	130.00	52,000		
230000	Coordination	**200**	hrs	130.00	26,000		
230000	Crane	**1**	ls	12,500.00	12,500		
230000	Rigging	**80**	hrs	130.00	10,400		
230000	Outer cape premium	**1**	ls	291,457.80	291,458		
	SUBTOTAL					3,206,036	
	TOTAL - HVAC						***$3,206,036***
	D40 FIRE PROTECTION						
	D40 FIRE PROTECTION						
210000	FP service equipment, valves, compressors and misc	**1**	ls	20,000.00	20,000		
210000	Mains, branch and heads	**21,040**	sf	12.00	252,480		
210000	500 GMP Fire pump, 7 GMP jockey and turbine vault	**1**	ls	110,000.00	110,000		
210000	30,000 gal tank and piping assembly	**1**	ls	85,000.00	85,000		
210000	Hydraulic calculations, coordination and testing	**1**	ls	15,000.00	15,000		
210000	Outer cape premium	**1**	ls	48,248.00	48,248		
	SUBTOTAL					530,728	
	TOTAL - FIRE PROTECTION						***$530,728***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	D50 ELECTRICAL						
	D50 ELECTRICAL						
	Light Fixtures						
260000	Type LR22	**9**	ea	410.00	3,690		
260000	Type LS4	**8**	ea	320.00	2,560		
260000	Type LS8	**5**	ea	640.00	3,200		
260000	Type LR4	**6**	ea	615.00	3,690		
260000	Type LR6	**4**	ea	925.00	3,700		
260000	Type LR8	**4**	ea	1,200.00	4,800		
260000	Type LS4H	**1**	ea	340.00	340		
260000	Type LS8H	**29**	ea	580.00	16,820		
260000	Type LSV8	**9**	ea	580.00	5,220		
260000	Type LP1 Hi Bay	**20**	ea	425.00	8,500		
260000	Type LP8	**1**	ea	1,285.00	1,285		
260000	Type LP10	**3**	ea	1,550.00	4,650		
260000	Type RC1	**5**	ea	400.00	2,000		
260000	Type RC2	**8**	ea	400.00	3,200		
260000	Type RSH	**3**	ea	410.00	1,230		
260000	Exit	**14**	ea	400.00	5,600		
260000	Type SL3 Exter Wallpack	**8**	ea	475.00	3,800		
260000	Type SL4 Exter Wallpack	**10**	ea	1,000.00	10,000		
260000	Type UC	**12**	lf	130.00	1,560		
260000	Type LWS	**44**	lf	165.00	7,260		
260000	Addressable Luminaire Module	**115**	ea	90.00	10,350		
260000	Emergency Battery Ballast	**42**	ea	150.00	6,300		
	Branch Circuitry						
260000	3/4" Emt, 4#12	**5,389**	lf	20.00	107,780		
260000	MC Cable	**3,592**	lf	8.00	28,736		
260000	3/4" Emt, 4#10	**120**	lf	20.00	2,400		
260000	1" Emt, 4#8	**100**	lf	28.00	2,800		
260000	Plenum Cable	**2,770**	lf	1.50	4,155		
260000	Plug Load Controller Xmitters	**1**	ls	4,600.00	4,600		
260000	Core for Poke-Thru's	**8**	ea	55.00	440		
260000	Switches	**1**	ea	100.00	100		
260000	OS, VS Power Pack	**22**	ea	200.00	4,400		
260000	Lighting Wall Station L	**29**	ea	245.00	7,105		
260000	Master Lighting Wall Station M	**9**	ea	700.00	6,300		
260000	Occupancy Sensor clg	**27**	ea	275.00	7,425		
260000	Occupancy Sensor HB clg	**16**	ea	300.00	4,800		
260000	Duplex Receptacles	**31**	ea	100.00	3,100		
260000	Junc Boxes, Misc	**16**	ea	75.00	1,200		
260000	Receptacles GFI	**7**	ea	120.00	840		
260000	Receptacles Quad	**4**	ea	165.00	660		
260000	Receptacles I/O Module	**34**	ea	135.00	4,590		
260000	Receptacles Quad, I/O Module	**6**	ea	245.00	1,470		
260000	Floor Power Outlet, poke-thru	**4**	ea	440.00	1,760		
260000	Cond Pump Conn	**10**	ea	175.00	1,750		
260000	Receptacles GFI WP	**19**	ea	275.00	5,225		
260000	Receptacles 20/2A	**3**	ea	110.00	330		
260000	Receptacles 20/2A Tw Lk	**2**	ea	120.00	240		
260000	Receptacles Cord/Reel - Allow	**16**	ea	600.00	9,600		
260000	EPO	**6**	ea	245.00	1,470		
260000	Manual Snap Switch Starter, 120v	**35**	ea	200.00	7,000		
260000	30 Amp Receptacle	**3**	ea	145.00	435		
260000	50 Amp Receptacle	**1**	ea	220.00	220		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Power Circuitry						
260000	1/2" Emt, 2#14	**330**	lf	10.00	3,300		
260000	3/4" Emt, 4#12	**1,560**	lf	12.00	18,720		
260000	3/4" Emt, 2#18	**180**	lf	10.00	1,800		
260000	3/4" Emt, 4#10	**3,600**	lf	13.00	46,800		
260000	1" Emt, 4#8	**100**	lf	18.00	1,800		
260000	1" Emt, 4#6	**200**	lf	22.00	4,400		
260000	1 1/4" Emt, 4#4	**400**	lf	30.00	12,000		
260000	1 1/4" Emt, 4#2	**80**	lf	36.00	2,880		
260000	1 1/2" Emt, 4#1	**50**	lf	42.00	2,100		
260000	2" Emt, 4 3/0	**170**	lf	60.00	10,200		
260000	3" Emt, 4 350Mcm	**30**	lf	110.00	3,300		
260000	3 1/2" Emt, 4 500 Mcm	**30**	lf	145.00	4,350		
260000	4" Emt, 4 600 Mcm	**80**	lf	175.00	14,000		
260000	3/4" Rigid, 4#10	**100**	lf	25.00	2,500		
260000	2" Rigid, 4 1/0	**30**	lf	75.00	2,250		
260000	1" Pvc, 4#6 UG	**280**	lf	16.00	4,480		
260000	1" EMT Cdt. Future PV	**100**	lf	12.00	1,200		
260000	4" EMT Cdt. Future PV	**700**	lf	38.00	26,600		
260000	PV Power Pullbox, WP	**2**	ea	470.00	940		
260000	PV Comm Pullbox, WP	**2**	ea	275.00	550		
	Lightning Protection & Grounding						
260000	Lightning Protection Allowance	**1**	ls	20,000.00	20,000		
260000	Service Grounding	**1**	ls	4,500.00	4,500		
260000	MDF Grounding	**1**	ls	1,500.00	1,500		
	Power Equipment						
260000	100 Amp Panel Board	**4**	ea	4,200.00	16,800		
260000	225 Amp Panel Board	**9**	ea	6,250.00	56,250		
260000	225 Amp Panel Board, 2-Section	**2**	ea	12,000.00	24,000		
260000	800 Amp Distr Board	**1**	ea	20,000.00	20,000		
260000	1000 Amp Main Switchboard	**1**	ls	70,000.00	70,000		
260000	MMU Metering Cabinet	**1**	ea	8,400.00	8,400		
260000	CT's for MMU	**11**	ea	830.00	9,130		
260000	Lighting Control Panel - Allow	**1**	ea	5,400.00	5,400		
260000	SPD @ MDB	**1**	ea	2,700.00	2,700		
260000	SPD @ Panel	**18**	ea	1,000.00	18,000		
260000	Shunt Trip Adder	**3**	ea	450.00	1,350		
260000	30 Kva Transformer	**5**	ea	6,800.00	34,000		
260000	112 Kva Transformer	**2**	ea	11,000.00	22,000		
260000	Future PV Disc 800A	**1**	ea		-		
260000	Future PV Meter 800A	**1**	ea		-		
	Emergency Power						
260000	400KW Emergency Generator, diesel, WP	**1**	ea	150,000.00	150,000		
260000	100 Amp Encl Ckt Brkr, EG	**1**	ea	1,750.00	1,750		
260000	200 Amp Encl Ckt Brkr, EG	**1**	ea	2,500.00	2,500		
260000	400/250 Amp Encl Ckt Brkr, EG	**1**	ea	4,500.00	4,500		
260000	800 Amp Encl Ckt Brkr, EG	**1**	ea	8,500.00	8,500		
260000	EG Tap Box 1000A	**1**	ea	27,000.00	27,000		
260000	Manual Transfer Sw 100A	**1**	ea	5,300.00	5,300		
260000	Autotransfer Sw 100A, Byp Isol	**1**	ea	10,000.00	10,000		
260000	EG Cam Lock Conn 150A	**1**	ea	6,200.00	6,200		
260000	Manual Transfer Sw 200A	**1**	ea	7,000.00	7,000		
260000	Autotransfer Sw 800A	**1**	ea	21,000.00	21,000		
260000	EG Annunciator	**1**	ea	1,400.00	1,400		
260000	250KW Load Bank	**1**	ea	22,000.00	22,000		
260000	24KW UPS, Batteries - ALLOW	**1**	ls	25,000.00	25,000		
260000	200 Amp Disconnect, UPS	**1**	ea	2,210.00	2,210		
260000	Portable Generator	**NIC**					
260000	Install OH Door CP FBO	**8**	ea	340.00	2,720		
260000	Photo Eye Micro Sw MS (Door, FBO)	**40**	ea	90.00	3,600		
260000	OH Door Pushbutton Controller	**8**	ea	335.00	2,680		
260000	OH Door Traffic Light	**8**	ea	250.00	2,000		
260000	20/2 Amp Disconnect	**4**	ea	480.00	1,920		
260000	30/2 Amp Disconnect	**2**	ea	480.00	960		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
260000	30 Amp Disconnect OH Door	**8**	ea	650.00	5,200		
260000	30 Amp Disconnect	**16**	ea	650.00	10,400		
260000	60 Amp Disconnect	**1**	ea	1,100.00	1,100		
260000	100/2 Amp Disconnect	**1**	ea	1,200.00	1,200		
260000	100 Amp Disconnect	**3**	ea	1,500.00	4,500		
260000	Install Veh Exh CP FBO	**1**	ea	340.00	340		
260000	Pressure Sensor Backbox, stubup	**6**	ea	57.00	342		
260000	Install 10HP VFD FBO	**10**	ea	840.00	8,400		
260000	Install Jockey Pump Controller FBO	**1**	ea	1,200.00	1,200		
260000	Install Fire Pump Controller/ATS FBO	**1**	ea	2,600.00	2,600		
260000	Install Misc Sensor FBO	**3**	ea	90.00	270		
260000	Install Water Meter FBO	**1**	ea	175.00	175		
260000	Instal Misc CP FBO	**2**	ea	340.00	680		
260000	Instal Power Sujpply FBO	**1**	ea	100.00	100		
	Fire Alarm						
260000	3/4" Rigid, 3#10	**50**	lf	18.00	900		
260000	MC/ Teflon Cable	**2,920**	lf	6.00	17,520		
260000	FATC	**1**	ea	900.00	900		
260000	Pull Station	**12**	ea	185.00	2,220		
260000	Audible/Visual	**23**	ea	320.00	7,360		
260000	Audible/Visual WP	**1**	ea	380.00	380		
260000	Smoke Detector	**16**	ea	345.00	5,520		
260000	CO Detector	**4**	ea	345.00	1,380		
260000	WP Bell	**1**	ea	225.00	225		
260000	WP Beacon	**1**	ea	225.00	225		
260000	Annunciator	**1**	ea	1,750.00	1,750		
260000	Central Equipment FACP (filing, program, test)	**1**	ls	16,000.00	16,000		
260000	Fused Disc	**1**	ea	670.00	670		
260000	Communicator	**1**	ea	185.00	185		
260000	Misc Connections - Allow	**24**	ea	235.00	5,640		
260000	Master Box Radio, Antenna (allow)	**1**	ea	7,500.00	7,500		
260000	Knox Box	**2**	ea	300.00	600		
260000	SPD	**3**	ea	600.00	1,800		
260000	BDA Allowance ((2) Amps)	**1**	ls	65,000.00	65,000		
	Telecommunications System						
260000	MDF Racks, Terms, etc (PBX by others)	**1**	ls	10,000.00	10,000		
260000	CAT 6A Cable	**8,850**	lf	1.40	12,390		
260000	Main Ground Bar	**1**	ea	1,000.00	1,000		
260000	Ground Bar	**1**	ea	600.00	600		
260000	1" EMT, #1/0G	**100**	lf	16.00	1,600		
260000	2" EMT Cdt	**360**	lf	20.00	7,200		
260000	Roof Pene, Antenna Weatherhead	**4**	ea	530.00	2,120		
260000	2" Wall Sleeve	**6**	ea	100.00	600		
260000	4" Wall Sleeve	**4**	ea	110.00	440		
260000	24" Cable Tray (allow)	**220**	lf	40.00	8,800		
260000	J-Hook Pathway (allow)	**200**	lf	4.00	800		
260000	Tel Outlet w/ Stubup 1C	**9**	ea	57.00	513		
260000	WAP Outlet 2c AN	**10**	ea	57.00	570		
260000	TVC Outlet w/ Stubup 2C	**1**	ea	70.00	70		
260000	Tel/Data Outlet w/ Stubup 3C	**4**	ea	80.00	320		
260000	Floor Data Outlet 4C	**4**	ea	325.00	1,300		
260000	ARA Area Phone	**1**	ea	500.00	500		
260000	SRP	**1**	ea	500.00	500		
	Security System						
260000	3/4" Emt, 4#12	**260**	lf	10.00	2,600		
260000	Composite Cable	**1,560**	lf	2.00	3,120		
260000	Plenum Cable	**3,710**	lf	1.00	3,710		
260000	Coax Cable	**3,000**	lf	0.80	2,400		
260000	Access Control Central Eqpt	**1**	ea	10,000.00	10,000		
260000	CPU	**1**	ea	2,600.00	2,600		
260000	CCTV Monitoring/Recording Eqpt	**1**	ls	9,500.00	9,500		
260000	UPS, Rack Mtd	**1**	ls	3,000.00	3,000		
260000	Door Junc Box	**13**	ea	60.00	780		
260000	Door Contact Switch	**19**	ea	150.00	2,850		
260000	Overhead Door Contact Switch	**8**	ea	265.00	2,120		
260000	Request to Exit REX	**13**	ea	185.00	2,405		
260000	Card Reader	**13**	ea	625.00	8,125		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
260000	Motion Sensor	**9**	ea	450.00	4,050		
260000	Electric Lock EL	**13**	ea	425.00	5,525		
260000	Power Hinge EH	**13**	ea	425.00	5,525		
260000	PT Power Supply @ Door Locks	**13**	ea	350.00	4,550		
260000	TS Switch @ Doors	**13**	ea	150.00	1,950		
260000	CCTV Camera Fixed (allow)	**12**	ea	1,100.00	13,200		
260000	CCTV Camera, WP	**8**	ea	1,700.00	13,600		
	AV/Sound/PA/Intercom System						
260000	Plenum Cable	**250**	lf	1.25	313		
260000	Sound Rack	**1**	ea	5,300.00	5,300		
260000	Speaker	**2**	ea	225.00	450		
260000	Volume Control	**2**	ea	155.00	310		
260000	A/V System Roughin Allowance	**21,040**	sf	0.20	4,208		
	Misc						
260000	Temp Power and Lighting	**1**	ls	25,000.00	25,000		
260000	Misc Demo, Removals	**1**	ls	15,000.00	15,000		
260000	Startup, Testing, Commissioning	**1**	ls	25,000.00	25,000		
	SITE WORK						
	Site Lighting						
260000	Type SL1 Light Pole w/ 1-Fixt	**8**	ea	3,600.00	28,800		
260000	Type SL2 Light Pole w/ 2-Fixt	**1**	ea	4,500.00	4,500		
260000	Type SL6 Flagpole Light	**3**	ea	500.00	1,500		
260000	1" PVC, 3#8, #10 UG	**900**	lf	10.00	9,000		
260000	#10 Wire in Poles	**810**	lf	1.15	932		
260000	Site Lighting Controls	**1**	ls	3,500.00	3,500		
	EV Charging Stations						
260000	EV Charging Station	**2**	ea	5,500.00	11,000		
260000	1" PVC, 3#8, #10 UG	**300**	lf	10.00	3,000		
	Site Utilities						
260000	Utility Pole Riser	**1**	ls	3,500.00	3,500		
260000	4" PVC CDT UG (Pri)	**280**	lf	15.00	4,200		
260000	Utility Transformer Pad	**1**	ls	3,500.00	3,500		
260000	1000 Amp CT Cabinet	**1**	ea	9,200.00	9,200		
260000	4" PVC, 4 600 Mcm UG (Sec)	**650**	lf	160.00	104,000		
260000	4" PVC CDT UG (Spare)	**310**	lf	15.00	4,650		
260000	4" PVC, 4 600 Mcm UG (EG)	**190**	lf	160.00	30,400		
260000	4" PVC CDT UG (EG Spare)	**50**	lf	15.00	750		
260000	2" PVC, 4#1 (EG) UG	**390**	lf	30.00	11,700		
260000	1" PVC, EG Controls, 120v, UG	**150**	lf	9.00	1,350		
	Misc Power						
260000	Electric Handhole	**1**	ea	5,500.00	5,500		
	Telecommunications						
260000	Telecomm Utility Riser	**1**	ls	3,500.00	3,500		
260000	4" PVC (Tel,empty)	**720**	lf	15.00	10,800		
260000	1 1/4" Innderduct	**540**	lf	3.00	1,620		
	Misc						
260000	Temp Power	**1**	ls	6,000.00	6,000		
260000	Remove Exist Service, Xfmr, Fdrs, Eqpt	**1**	ls	2,500.00	2,500		
260000	Misc Site Demo	**1**	ls	3,000.00	3,000		
260000	Misc Eqpt Rentals	**1**	ls	2,500.00	2,500		
260000	Outer cape premium	**1**	ls	89,341.20	89,341		
	SUBTOTAL					1,876,165	
	TOTAL - ELECTRICAL						***$1,876,165***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	E20 FURNISHINGS						
	E2010 FIXED FURNISHINGS						
12211	Horizontal Louver Blinds/Blackout	**240**	sf	15.00	3,600		
11310	Kitchen appliances				by owner		
	SUBTOTAL					$3,600	
	E2020 MOVABLE FURNISHINGS						
	All movable furnishings to be provided and installed by owner					NIC	
	SUBTOTAL						
	TOTAL - FURNISHINGS						***$3,600***
	F10 INDUSTRIAL EQUIPMENT						
	Maintenance Equipment Schedule						
11810	CD-1 Wood Workbench with Casters 1 ERO N/A	**ERO**					
11810	CD-2 Steel Work Bench (72inx36in) (14,000 Lbs Capacity) 1 N 12 40 00	**1**	ea	1,037.30	1,037		
11810	CD-3 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	CD-4 Long Wood Workbench 1 N 12 40 00	**1**	ea	600.00	600		
11810	CD-5 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	850.00	850		
11810	CH-1 Carpentry Tool Drawer 1 ERO N/A	**ERO**					
11810	CH-2 Flammable Cabinet (Green)(60-Gallons) 1 ERO N/A	**ERO**					
11810	CH-3 Flammable Cabinet (45-Gallons) 1 ERO N/A	**ERO**					
11810	CH-4 Parts Shelving (6' x 2') 1 N 12 40 00	**1**	ea	1,005.40	1,005		
11810	CM-1 Miter Saw with Stand 1 ERO N/A	**ERO**					
11810	CM-2 Saw Horse 1 ERO N/A	**ERO**					
11810	CM-3 Pallet Jack 1 ERO N/A	**ERO**					
11810	CM-4 Portable Table Saw 1 ERO N/A	**ERO**					
11810	CM-5 Portable Dust Collector 1 N 12 40 00	**1**	ea	1,280.00	1,280		
11810	CM-6 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	MA-1 5 Ton Bridge Crane 1 N 14 22 13	**1**	ea	185,000.00	185,000		
11810	MB-1 18k Mobile Column 6 N 14 45 00	**6**	ea	65,000.00	390,000		
11810	MB-2 20K 2 Post Lift 1 N 14 45 00	**1**	ea	38,000.00	38,000		
11810	MC-1 2-Drum Spill Pallet 2 ERO 11 11 29	**ERO**					
11810	MC-2 55-Gallon Drum 10 NIC N/A	**NIC**					
11810	MC-3 Waste Oil Caddy 1 ERO N/A	**ERO**					
11810	MC-4 Grease Cart 1 ERO N/A	**ERO**					
11810	MC-5-9 Fluid storage	**1**	ls	95,000.00	95,000		
11810	MC-5 600-Gallon Bulk Fluids Tank (300G 15W-40/180G 0W-30/120G 0W-20) 1	**1**	ea		inc above		
11810	MC-6 400-Gallon Waste Oil Tank 1 N 11 11 29	**1**	ea		inc above		
11810	MC-7 Wall Mounted Lube Pumps 3 N 11 11 29	**3**	ea		inc above		
11810	MC-8 Lube Reel Bank (0W-20, 0W-30, 15W-40, Electric Reel, 1/2" Air) 1 N 11 1	**1**	ea		inc above		
11810	MC-9 Fluid Storage Room Sump Alarm 1 N 11 11 29	**1**	ea		inc above		
11810	MD-1 Metal Worktop 1 ERO N/A	**ERO**					
11810	MD-2 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	MD-3 Steel Work Bench on Casters 2 N 12 40 00	**2**	ea	2,800.00	5,600		
11810	MD-4 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	950.00	950		
11810	MF-1 Torch Cart 1 ERO N/A	**ERO**					
11810	MF-2 Lincoln AC225 Arc Welder 1 ERO N/A	**ERO**					
11810	MF-3 Miller Millermatic 252 1 ERO N/A	**ERO**					
11810	MF-4 Metabo HPT Hammer Cart 1 ERO N/A	**ERO**					
11810	MF-5 Thermal Dynamics Welder 1 ERO N/A	**ERO**					
11810	MF-6 Lincoln Welden Power 1 ERO N/A	**ERO**					
11810	MF-7 Lincoln SP-170T Arc Welder 1 ERO N/A	**ERO**					
11810	MF-8 Drill Press 1 ERO N/A	**ERO**					
11810	MF-9 Shop Press 1 ERO N/A	**ERO**					
11810	MF-10 Portable Weld Fume Extractor 1 NIC N/A	**NIC**					
11810	MF-11 Welding Screen 2 NIC N/A	**NIC**					
11810	MF-12 Oxygen/Acetylene Tank Storage Cage 2 N 12 40 00	**2**	ea	1,303.50	2,607		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
11810	MG-1 Tire Changer 1 ERO N/A	**ERO**					
11810	MG-2 Tire Balancer 1 ERO N/A	**ERO**					
11810	MG-3 Tire Storage Rack 2 N 12 40 00	**2**		220.00	440		
11810	MH-1 Snap-on Tool Box 1 ERO N/A	**ERO**					
11810	MH-2 MAC Tools Blue Cart 1 ERO N/A	**ERO**					
11810	MH-3 Wooden Cabinet (Glass Window) 1 ERO N/A	**ERO**					
11810	MH-4 Windshield Wiper Blade Rack 1 ERO N/A	**ERO**					
11810	MH-5 Nuts and Bolts Storage 4 ERO N/A	**ERO**					
11810	MH-6 Flammable Cabinet (60-Gallons) 1 ERO N/A	**ERO**					
11810	MH-7 Metal Cabinet 1 N 12 40 00	**1**	ea	1,450.00	1,450		
11810	MH-10 Cantilever Rack (Flat) 1 N 12 40 00	**1**	ea	2,310.00	2,310		
11810	MM-1 Tall Jack Stand 1 ERO N/A	**ERO**					
11810	MM-2 Small Jack Stands 8 ERO N/A	**ERO**					
11810	MM-3 Floor Jack 1 ERO N/A	**ERO**					
11810	MM-4 Chop Saw on Cart 1 ERO N/A	**ERO**					
11810	MM-5 Snap-on Battery Charger 1 ERO N/A	**ERO**					
11810	MM-6 Chain Sharpener 1 ERO N/A	**ERO**					
11810	MM-7 Heated Carpet Extractor 1 ERO N/A	**ERO**					
11810	MM-8 Parts Washer 1 N 12 40 00	**1**	ea	2,500.00	2,500		
11810	MM-9 Pedestal Grinder 2 N 12 40 00	**2**	ea	559.90	1,120		
11810	MM-10 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	SD-1 Drafting Table 1 ERO N/A	**ERO**					
11810	SD-2 Computer Desk 1 N 12 40 00	**1**		506.00	506		
11810	SH-1 Hanging Vinyl Storage 1 ERO N/A	**ERO**					
11810	SH-2 Parts Shelving (6' x 2') 2 N 12 40 00	**2**		800.00	1,600		
11810	SM-1 Vinyl Express Printer 1 ERO N/A	**ERO**					
	Mezzanine Industrial Equipment Schedule						
11810	ME-1 Hose Clamp Rack 2 ERO N/A	**ERO**					
11810	ME-2 Hydraulic Hose Bins 1 ERO N/A	**ERO**					
11810	ME-3 Hydraulic Hose Chop Saw 1 ERO N/A	**ERO**					
11810	ME-4 Hydraulic Hose Crimper 1 ERO N/A	**ERO**					
11810	ME-5 Steel Work Bench on Casters 1 N 12 40 00	**1**	ea	2,800.00	2,800		
11810	ME-6 Hydraulic Hose Reel Rack 2 N 12 40 00	**2**	ea	836.00	1,672		
11810	ME-7 Hydraulic Vertical Storage Cabinet 1 N 12 40 00	**1**	ea	1,556.50	1,557		
11810	MH-8 Parts Shelving (6' x 2') 12 N 12 40 00	**12**	ea	1,005.40	12,065		
11810	MH-9 Parts Shelving (6' x 2') 3 N 12 40 00 Reserved for existing sliding drawers	**3**	ea	1,005.40	3,016		
	Wash Bay						
11810	Manual high pressure wash and undercarriage wash	NIC					
11810	V-1 Manual Wash Pressure Plant 1 N 11 11 26	NIC					
11810	V-2 Manual Wash Control Panel 1 N 11 11 26	NIC					
11810	V-3 Festoons 2 N 11 11 26	NIC					
11810	V-4 Manual Wash On/Off Switch 2 N 11 11 26	NIC					
11810	V-5 Undercarriage Wash Pressure Plant 1 N 11 11 26	NIC					
11810	V-6 Undercarriage Wash Control Panel 1 N 11 11 26	NIC					
11810	V-7 Automatic Undercarriage Pre-Fab Trenches 2 N 11 11 26	**2**	ea	25,000.00	50,000		
11810	V-8 Automatic Undercarriage photo Eye 2 N 11 11 26	NIC					
11810	V-9 Automatic Wheel Washers 1 N 11 11 26	NIC					
11810	V-10 Vehicle Wash Guide Rails 1 N 11 11 26	NIC					
11810	V-11 Vehicle Wash Soap drum 1 N 11 11 26	NIC					
11810	V-12 Undercarriage Wash Control Station 2 N 11 11 26	**2**	ea	5,000.00	10,000		
11810	V-13 Vehicle Wash Pre-Treatment Tank (1500gal) 1 N 11 11 26	**1**	ea	20,000.00	20,000		
11810	V-14 Mobile Platform 1 N 11 11 26	NIC					
11810	V-15 Loop Detector 2 N 11 11 26	**2**	ea	7,500.00	15,000		
11810	V-16 Vehicle Wash Entry Traffic Light 1 N 11 11 26	NIC					
11810	V-17 Undercarriage Wash Status Light 1 N 11 11 26	NIC					
	Misc						
11810	Connect and or install ERO equipment	**200**	hrs	150.00	30,000		
	SUBTOTAL					881,225	
	TOTAL - INDUSTRIAL EQUIPMENT						***$881,225***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B SITEWORK						
	Building Demolition						
02050	Demolish and remove vehicle maintenance building only	**4,000**	sf	12.00	48,000		
02450	Haz-mat allowance	**4,000**	sf	5.00	20,000		
220000	Demo, cut and cap plumbing	**1**	ea	5,000.00	5,000		
230000	Demo, cut, cap and decommission HVAC	**1**	ea	5,000.00	5,000		
260000	Demo/make safe electrical	**1**	ea	5,000.00	5,000		
	SUBTOTAL					83,000	
	Site Demo & Prep						
312000	Mobilization	**1**	ea	7,500.00	7,500		
311000	Site fencing, gates, protection, barricades	**1**	ls	25,000.00	25,000		
311000	Stabilized Construction Entrance	**1**	ea	7,500.00	7,500		
312500	Compost filter tubes and silt fence	**1,500**	lf	19.00	28,500		
312500	Inlet protection	**2**	ea	250.00	500		
311000	Tree/stump removals	**27**	ea	500.00	13,500		
311000	Clear and grub	**28,800**	sf	0.90	25,920		
311000	Sawcut and remove paving & curbing	**37,500**	sf	0.85	31,875		
311000	Remove sand and gravel	**1,159**	cy	25.00	28,975		
311000	Remove flag pole and bollards	**1**	ls	2,500.00	2,500		
311000	Remove concrete walks, ramps, pads and misc items at building perimeter	**1**	ls	20,000.00	20,000		
311000	Remove drainage structures & piping	**2**	ea	3,500.00	7,000		
311000	Remove wells	**2**	ea	10,000.00	20,000		
311000	Remove septic systems	**1**	ls	15,000.00	15,000		
	SUBTOTAL					233,770	
	Earthwork						
312000	Strip topsoil	**625**	cy	15.00	9,375		
312000	Screen & Respread	**625**	cy	25.00	15,625		
312000	Site Cuts to Fills	**5,500**	cy	18.00	99,000		
312000	Remove unsuitable material under building and export	**3,200**	cy	45.00	144,000		
312000	Import structural fill under building	**3,200**	cy	60.00	192,000		
312000	Sloped riprap	**400**	cy	65.00	26,000		
312000	Easrthwork to support geothermal wells	**1,000**	cy	75.00	75,000		
	Structural excavation and backfill						
312000	Import 12" subbase for under slabs	**725**	cy	60.00	43,500		
312000	E&E foundation footing and walls	**1,250**	cy	25.00	31,250		
312000	E&B foundation column footings	**500**	cy	25.00	12,500		
	SUBTOTAL					648,250	
	Paving and curbing						
312000	12" Dense Grade at paving and walks	**2,296**	cy	60.00	137,760		
321216	Asphalt pavement	**62,000**	sf	6.00	372,000		
321216	Patch roads and connections	**1**	ls	7,500.00	7,500		
321613	Granite curbs	**100**	lf	58.00	5,800		
321613	Bitum berm	**1,600**	lf	20.00	32,000		
	SUBTOTAL					555,060	
	Storm						
334000	CB	**9**	ea	6,500.00	58,500		
334000	DMH	**12**	ea	8,500.00	102,000		
334000	YD	**1**	ea	4,500.00	4,500		
334000	OCS	**3**	ea	12,500.00	37,500		
334000	FE	**2**	ea	3,500.00	7,000		
334000	12" HDPE piping	**900**	lf	100.00	90,000		
334000	6" HDPE piping	**500**	lf	50.00	25,000		
334000	MC-4500 Storm water infiltration system (E,B, prep and manifolds)	**104**	ea	2,500.00	260,000		
	SUBTOTAL					584,500	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Water						
	Onsite water						
331000	8'' DI piping	**410**	lf	150.00	61,500		
331000	4'' DI piping	**200**	lf	95.00	19,000		
331000	4'' DI domestic water	**22**	lf	95.00	2,090		
331000	3,000 gal domestic water tank	**1**	lf	20,000.00	20,000		
331000	Connections, Ts, valves and hydrants	**1**	ls	25,000.00	25,000		
	SUBTOTAL					127,590	
	Offsite well						
331200	Offsite well assembly	**1**	ls	150,000.00	150,000		
331200	Mobilization/Demobilization	**1**	ls		inc above		
331200	Min. 8" Drilling (Overburden)	**30**	ft		inc above		
331200	Install temporary surface casing (Overburden)	**30**	ft		inc above		
331200	Cement Grout between temporary surface casing and 4” Permanent Casing	**30**	ft		inc above		
331200	Drill minimum 4” Borehole and sample	**160**	ft		inc above		
331200	Install 4” PVC threaded and coupled Casing	**150**	ft		inc above		
331200	Install 4” stainless steel, wire-wrapped screen	**10**	ft		inc above		
331200	Development (air lift)	**4**	hrs		inc above		
331200	Pumping Test/Rate Test (48-hr minimum)	**48**	hrs		inc above		
331200	Pitless Adaptor w/ Install & Connect	**1**	ea		inc above		
331200	Submersible Pump & Wiring	**1**	ea		inc above		
331200	Pump Column/Pipe w/ Connections	**150**	lf		inc above		
331200	Wellhead completion w/ cap	**1**	ea		inc above		
331200	In-line flow meter with totalizer	**1**	ea		inc above		
331200	Abandonment of existing Boyd Well(s)	**1**	ls		inc above		
	Piping						
331200	Meeting House crossing	**1**	ls	20,000.00	20,000		
331200	Mobilization/Demobilization	**1**	ls	7,500.00	7,500		
331200	Controls (in building/structure)	**1**	ls	10,000.00	10,000		
331200	Mechanical Components (in building/structure)	**1**	ls	15,000.00	15,000		
331200	Building/Structure (vault or shed)	**1**	ls	50,000.00	50,000		
331200	Electrical	**1**	ls	45,000.00	45,000		
331200	Treatment – Chlorination for potable only	**1**	ls	5,000.00	5,000		
331200	Backup generator – propane	**1**	ls	35,000.00	35,000		
331200	3-inch HDPE pipe & fittings from the well to Complex (800-2,600 lf)	**1,000**	lf	65.00	65,000		
331200	Hydrant	**2**	ea	4,500.00	9,000		
331200	2-inch blow off	**3**	ea	75.00	225		
331200	3-inch gate valve	**3**	ea	75.00	225		
331200	Demo, remove, excavate and backfill trenches	**1,000**	cy	45.00	45,000		
331200	Test pits	**3**	ea	600.00	1,800		
331200	Temp. and Final pavement patch	**2,000**	sf	25.00	50,000		
331200	Landscape restoration	**2,000**	sf	15.00	30,000		
	SUBTOTAL					538,750	
	Sanitary / Septic						
333000	Town hall tie in	**1**	ls	2,500.00	2,500		
333000	6'' PVC sewer	**186**	lf	100.00	18,600		
333000	Oil/Water separator	**1**	ls	10,000.00	10,000		
333000	5,000 gal tight tank	**1**	ls	20,000.00	20,000		
333000	SMH	**2**	ls	6,500.00	13,000		
333000	Septic system - two compartment 2,000 gal tanks, piping, 3 trenches and Nitogen removal	**1**	ls	200,000.00	200,000		
	SUBTOTAL					264,100	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Improvements						
323100	30' Sliding entry gate and access key pad				NIC		
323100	40' Sliding entry gate and access key pad				NIC		
323100	Parking signs	**8**	ea	250.00	2,000		
321213	Concrete walks	**400**	sf	15.00	6,000		
321213	Knockdown pad	**1,260**	sf	16.00	20,160		
323100	20x20 blocks walls at storage bins	**750**	sf	65.00	48,750		
323100	Parking space lines, symbols and hatching	**27**	ea	250.00	6,750		
323100	6' wood stockade fence	**470**	lf	95.00	44,650		
05500	Site bollards	**47**	ea	800.00	37,600		
03300	Transformer Pad	**1**	ea	5,000.00	5,000		
03300	Generator Pad	**1**	ea	8,500.00	8,500		
03300	Fire cistern Pad	**1**	ea	20,000.00	20,000		
03300	Tight tank Pad	**1**	ea	18,000.00	18,000		
03300	Dom water tank Pad	**1**	ea	9,000.00	9,000		
312000	E&B Elec/communication duct banks	**340**	lf	55.00	18,700		
03300	Encase duct banks in concrete	**50**	cy	350.00	17,500		
	SUBTOTAL					262,610	
	60' x 50' Salt Shed						
312000	Excavate and backfill	**3,000**	sf	10.00	30,000		
312000	8" crushed stone bedding under1'-6" mat slab	**103**	cy	60.00	6,180		
03300	1'-6" mat slab	**216**	cy	375.00	81,000		
03300	12'-4'' ht x 1'-6" thick perimeter walls	**140**	cy	950.00	133,000		
05500	2'-4" structural fill/stone under 8" slab	**259**	cy	60.00	15,540		
03300	8" slab	**79**	cy	375.00	29,625		
03300	PT framing and plywood at interior	**1,800**	sf	15.00	27,000		
13200	Structure - fabric roof structure	**3,000**	sf	95.00	285,000		
260000	Electrical - lighting and power	**3,000**	sf	10.00	30,000		
	SUBTOTAL					637,345	
	Landscaping						
329000	Landscaping allowance	**1**	ls	75,000.00	75,000		
	SUBTOTAL					75,000	
	TOTAL - SITEWORK						***4,009,975***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
GROSS FLOOR AREA CALCULATION						
Add 5,000 sf			**5,000**			
TOTAL GROSS FLOOR AREA				**5,000** ***gsf***		
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**130**	sf	18.00	2,340		
Re-bar	**480**	lbs	2.50	1,200		
Concrete material	**8**	cy	190.00	1,520		
Placing concrete	**8**	cy	40.00	320		
Foundation walls						
Formwork	**780**	sf	18.00	14,040		
Re-bar	**1,495**	lbs	2.50	3,738		
Concrete material	**23**	cy	190.00	4,370		
Placing concrete	**23**	cy	40.00	920		
Back up knee walls						
Formwork	**540**	sf	18.00	9,720		
Re-bar	**455**	lbs	2.50	1,138		
Concrete material	**7**	cy	190.00	1,330		
Placing concrete	**7**	cy	40.00	280		
12x14 Column footings						
Formwork	**260**	sf	18.00	4,680		
Re-bar	**2,475**	lbs	2.50	6,188		
Concrete material	**33**	cy	190.00	6,270		
Placing concrete	**33**	cy	40.00	1,320		
Piers						
Formwork	**32**	sf	18.00	576		
Re-bar	**75**	lbs	2.50	188		
Concrete material	**1**	cy	190.00	190		
Placing concrete	**1**	cy	40.00	40		
SUBTOTAL					60,368	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**5,000**	sf	2.00	10,000		
Reinforcing	**5,500**	sf	2.50	13,750		
Concrete - 8" thick	**132**	cy	190.00	25,080		
Placing concrete	**132**	cy	45.00	5,940		
Finishing and curing concrete	**5,000**	sf	1.65	8,250		
Control joints - saw cut	**5,500**	sf	0.50	2,750		
R10 - 25 PSI Rigid insulation at 4' horizontal	**260**	sf	5.00	1,300		
R10 - 60 PSI Rigid insulation at 4' horizontal	**260**	sf	6.00	1,560		
Dampproofing of foundation walls	**390**	sf	4.00	1,560		
SUBTOTAL					70,190	
TOTAL - FOUNDATIONS						***$130,558***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**5,000**	sf	110.00	550,000		
Outer cape premium	**1**	ls	55,000.00	55,000		
SUBTOTAL					605,000	
TOTAL - SUPERSTRUCTURE						***$605,000***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						**$2,500**
D20 PLUMBING						
D20 PLUMBING						
(2) Trench Drains	**34**	lf	158.50	5,389		
Trench Drain Catch Basin	**1**	ea	1,365.00	1,365		
Floor Drains	**1**	ea	654.50	655		
San - 4"	**200**	lf	130.00	26,000		
Vent - 2"	**100**	lf	88.40	8,840		
Water - 2 1/2"	**60**	lf	71.50	4,290		
Insulation	**60**	lf	13.98	839		
Excavation & Backfill	**100**	cy	49.87	4,987		
Project Supervision	**24**	hrs	130.00	3,120		
Coordination	**16**	hrs	130.00	2,080		
Outer cape premium	**1**	ls	5,756.50	5,757		
SUBTOTAL					63,322	
TOTAL - PLUMBING						***$63,322***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
D30 HVAC						
D30 HVAC						
Equipment						
Ceiling Fans	**1**	ea	7,865.00	7,865		
Unit Heaters - UH 7A thru 7F	**6**	ea	3,380.00	20,280		
Exhaust Fan - EF 4A, 4B, & 4C	**3**	ea	4,420.00	13,260		
Sheet Metal						
Galvanized	**300**	lbs	17.35	5,205		
Sheet Metal Specialties	**1**	ls	520.50	521		
Equipment Connections	**1**	ls	14,040.00	14,040		
Piping						
Hot Water	**360**	lf	65.00	23,400		
Hot Water Specialties	**1**	ls	2,340.00	2,340		
Equipment Connections	**1**	ls	2,600.00	2,600		
Insulation						
Sheet Metal	**204**	sf	4.35	887		
Piping	**360**	lf	19.85	7,146		
Controls						
Ceiling Fans	**1**	ea	1,210.00	1,210		
Unit Heaters	**6**	ea	1,210.00	7,260		
BMS Network	**1**	ls	3,540.00	3,540		
Network Integration	**1**	ls	1,770.00	1,770		
Commissioning						
Start Up	**16**	hrs	130.00	2,080		
Testing, Adjusting, & Balancing	**8**	hrs	135.00	1,080		
3rd Party Cx Assist	**8**	hrs	140.00	1,120		
Trade Requirements						
Project Supervision	**16**	hrs	130.00	2,080		
Coordination	**8**	hrs	130.00	1,040		
Rigging	**1**	ls	780.00	780		
Outer cape premium	**1**	ls	11,950.40	11,950		
SUBTOTAL					131,454	
TOTAL - HVAC						***$131,454***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**56**	ea	125.00	7,000		
Branch sprinkler piping with fittings & hangers	**672**	lf	38.00	25,536		
Main sprinkler piping with fittings & hangers	**100**	lf	60.00	6,000		
Hydraulic calculations, coordination and testing	**1**	ls	5,000.00	5,000		
Outer cape premium	**1**	ls	4,353.60	4,354		
SUBTOTAL					47,890	
TOTAL - FIRE PROTECTION						***$47,890***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Type LP1 Hi Bay	**15**	ea	425.00	6,375		
Addressable Luminaire Module	**15**	ea	90.00	1,350		
Branch Circuitry						
3/4" Emt, 4#12	**252**	lf	20.00	5,040		
MC Cable	**168**	lf	8.00	1,344		
Plenum Cable	**270**	lf	1.50	405		
OS, VS Power Pack	**3**	ea	200.00	600		
Occupancy Sensor HB clg	**6**	ea	310.00	1,860		
Receptacles GFI WP	**2**	ea	275.00	550		
Manual Snap Switch Starter, 120v	**1**	ea	200.00	200		

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
Power Circuitry						
3/4" Emt, 4#10	**450**	lf	15.00	6,750		
Power Equipment						
30 Amp Disconnect	**3**	ea	675.00	2,025		
Install 10HP VFD FBO	**2**	ea	900.00	1,800		
Fire Alarm						
MC/ Teflon Cable	**120**	lf	6.00	720		
Audible/Visual	**2**	ea	330.00	660		
Misc Connections	**1**	ea	240.00	240		
Telecommunications System						
CAT 6A Cable	**600**	lf	1.35	810		
WAP Outlet 2c AN	**2**	ea	60.00	120		
Misc						
Outer cape premium	**1**	ls	3,084.90	3,085		
SUBTOTAL					33,934	
TOTAL - ELECTRICAL						***$33,934***
B SITEWORK						
Deduct paving	**(5,000)**	sf	5.00	(25,000)		
Over excavate foundation footprint and export	**741**	cy	30.00	22,230		
Import structural fill	**185**	cy	60.00	11,100		
Import 12" subbase for under slabs	**185**	cy	60.00	11,100		
Backfill foundation footing and walls	**74**	cy	25.00	1,850		
Backfill foundation column footings	**15**	cy	25.00	375		
SUBTOTAL					21,655	
TOTAL - SITEWORK						***21,655***
SUBTOTAL						***$1,036,313***
GENERAL CONDITIONS & REQUIREMENTS			15%			$155,447
BONDS			1.8%			$18,654
GC - OVERHEAD & PROFIT			5%			$51,816
DESIGN AND PRICING CONTINGENCY			7.5%			$94,667
ESCALATION TO 1ST QUARTER 2026			5%			$67,845
OUTER CAPE PREMIUM						included in trades
TARIFFS COST INCREASE ALLOWANCE			2.5%			$25,908
TOTAL - ALTERNATE 1						***$1,450,650***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**400**	sf	18.00	7,200		
Re-bar	**1,380**	lbs	2.50	3,450		
Concrete material	**23**	cy	190.00	4,370		
Placing concrete	**23**	cy	40.00	920		
Foundation walls						
Formwork	**3,756**	sf	18.00	67,608		
Re-bar	**7,150**	lbs	2.50	17,875		
Concrete material	**110**	cy	190.00	20,900		
Placing concrete	**110**	cy	40.00	4,400		
3'-4" Back up knee walls						
Formwork	**1,332**	sf	18.00	23,976		
Re-bar	**1,170**	lbs	2.50	2,925		
Concrete material	**18**	cy	190.00	3,420		
Placing concrete	**18**	cy	40.00	720		
F8 Column footings						
Formwork	**256**	sf	18.00	4,608		
Re-bar	**1,500**	lbs	2.50	3,750		
Concrete material	**20**	cy	190.00	3,800		
Placing concrete	**20**	cy	40.00	800		
F10 Column footings						
Formwork	**800**	sf	18.00	14,400		
Re-bar	**5,850**	lbs	2.50	14,625		
Concrete material	**78**	cy	190.00	14,820		
Placing concrete	**78**	cy	40.00	3,120		
Piers						
Formwork	**192**	sf	18.00	3,456		
Re-bar	**300**	lbs	2.50	750		
Concrete material	**4**	cy	190.00	760		
Placing concrete	**4**	cy	40.00	160		
Outer cape premium	**1**	ls	22,281.30	22,281		
SUBTOTAL					245,094	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**4,050**	sf	2.00	8,100		
Reinforcing	**4,050**	sf	2.50	10,125		
Concrete - 8" thick	**112**	cy	190.00	21,280		
Placing concrete	**112**	cy	45.00	5,040		
Finishing and curing concrete	**4,050**	sf	1.65	6,683		
Control joints - saw cut	**4,050**	sf	0.50	2,025		
Outer cape premium	**1**	ls	5,325.30	5,325		
SUBTOTAL					58,578	
TOTAL - FOUNDATIONS						***$303,672***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, metal panels walls and roof) :						
Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**4,050**	sf	115.00	465,750		
Outer cape premium	**1**	ls	46,575.00	46,575		
SUBTOTAL					512,325	
TOTAL - SUPERSTRUCTURE						***$512,325***
B20 EXTERIOR CLOSURE						
B2010 EXTERIOR WALLS						
CMU						
CMU veneer	**950**	sf	55.00	52,250		
Air barrier	**950**	sf	10.00	9,500		
Outer cape premium	**1**	ls	5,225.00	5,225		
SUBTOTAL					66,975	
B2020 WINDOWS						
Storefront and windows						
Translucent windows	**500**	sf	145.00	72,500		
Backer rod & double sealant	**230**	lf	12.00	2,760		
Wood blocking at openings	**230**	lf	10.00	2,300		
Waterproofing - overall added cost for FSB pricing	**4,050**	sf	3.50	14,175		
SUBTOTAL					91,735	
B2030 EXTERIOR DOORS						
Overhead doors						
22x16 OHD	**5**	ea	38,000.00	190,000		
Man Doors						
HM doors with half light/HM frame 3x7 HM	**1**	ea	2,500.00	2,500		
Hardware	**1**	lvs	1,500.00	1,500		
Misc						
Paint	**1**	ea	200.00	200		
Backer rod & double sealant	**30**	lf	12.00	360		
Wood blocking at openings	**30**	lf	10.00	300		
SUBTOTAL					194,860	
TOTAL - EXTERIOR CLOSURE						***$353,570***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						***$2,500***
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Floor drains allowance	**4,050**	sf	5.00	20,250		
SUBTOTAL					20,250	
TOTAL - PLUMBING						***$20,250***

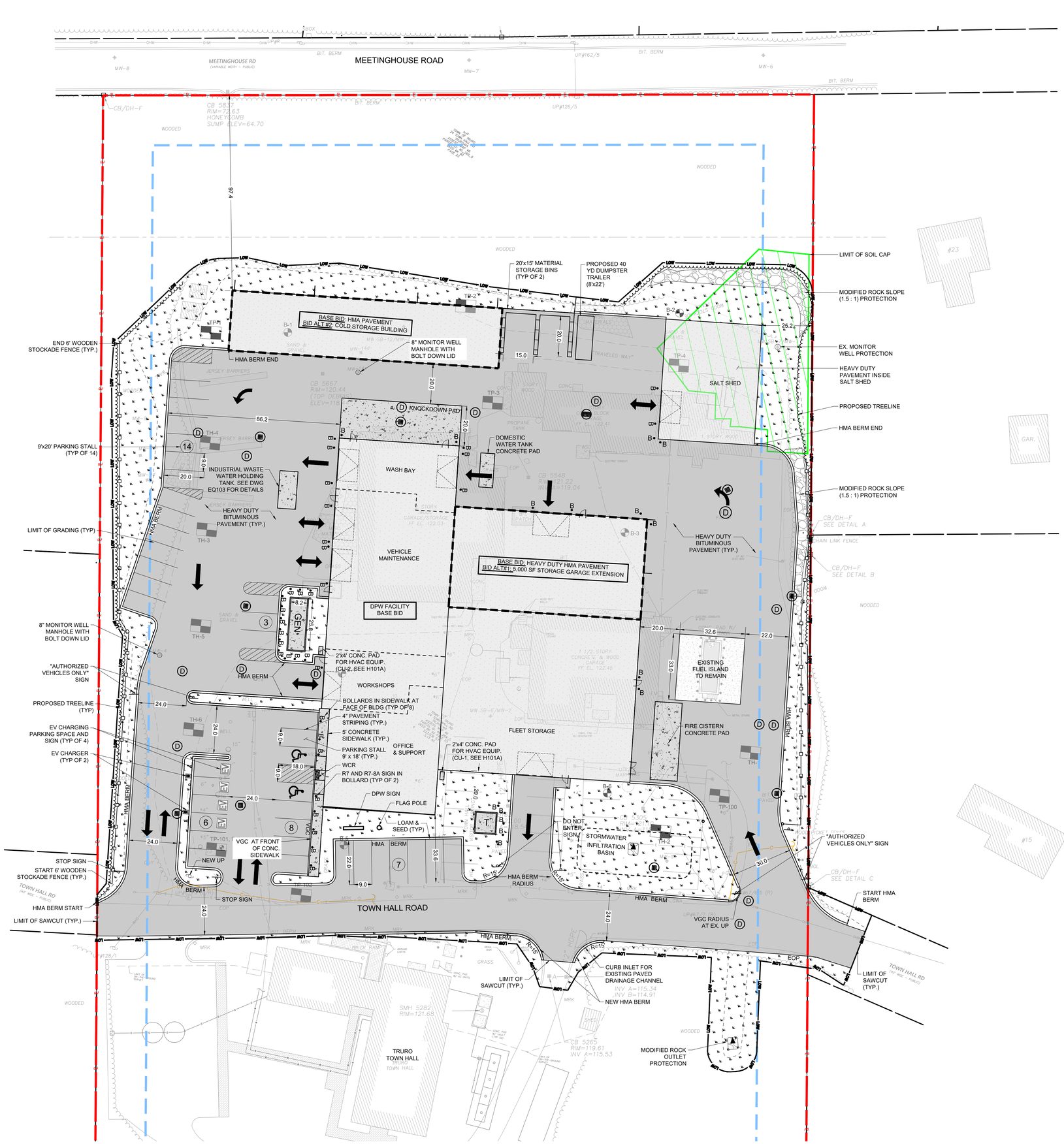
DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
D30 HVAC						
D30 HVAC						
Ventilation allowance	**4,050**	sf	5.00	20,250		
SUBTOTAL					20,250	
TOTAL - HVAC						***$20,250***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
N/A						
SUBTOTAL					-	
TOTAL - FIRE PROTECTION						***$0***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Type LSV8	**20**	ea	575.00	11,500		
Exit	**1**	ea	400.00	400		
Addressable Luminaire Module	**20**	ea	90.00	1,800		
Emergency Battery Ballast	**3**	ea	150.00	450		
Branch Circuitry						
3/4" Emt, 4#12	**446**	lf	20.00	8,920		
MC Cable	**298**	lf	8.00	2,384		
Plenum Cable	**280**	lf	1.50	420		
OS, VS Power Pack	**2**	ea	200.00	400		
Lighting Wall Station L	**1**	ea	245.00	245		
Occupancy Sensor clg	**3**	ea	265.00	795		
Receptacles GFI WP	**8**	ea	275.00	2,200		
Power Circuitry						
3/4" Emt, 4#12	**800**	lf	13.00	10,400		
3/4" Emt, 4#10	**750**	lf	15.00	11,250		
1" Emt, 4#6	**10**	lf	24.00	240		
1 1/4" Emt, 4#2	**10**	lf	38.00	380		
2" Pvc, 4 3/0 UG	**180**	lf	55.00	9,900		
Power Equipment						
225 Amp Panel Board	**2**	ea	6,000.00	12,000		
SPD @ Panel	**1**	ea	1,000.00	1,000		
30 Kva Transformer	**1**	ea	7,000.00	7,000		
Install OH Door CP FBO	**5**	ea	350.00	1,750		
Photo Eye Micro Sw MS (Door, FBO)	**25**	ea	95.00	2,375		
OH Door Pushbutton Controller	**5**	ea	340.00	1,700		
OH Door Traffic Light	**5**	ea	275.00	1,375		
30 Amp Disconnect OH Door	**5**	ea	660.00	3,300		
Fire Alarm						
MC/ Teflon Cable	**200**	lf	6.00	1,200		
Audible/Visual	**2**	ea	325.00	650		
Smoke Detector	**2**	ea	350.00	700		
Misc						
Temp Power and Lighting	**1**	ls	3,500.00	3,500		
SUBTOTAL					98,234	
TOTAL - ELECTRICAL						***$98,234***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
B SITEWORK						
Remove wells	**3**	ea	10,000.00	30,000		
Over excavate foundation footprint and export	**600**	cy	30.00	18,000		
Import structural fill	**150**	cy	60.00	9,000		
Import 12" subbase for under slabs	**150**	cy	60.00	9,000		
Backfill foundation footing and walls	**278**	cy	25.00	6,950		
Backfill foundation column footings	**45**	cy	25.00	1,125		
SUBTOTAL					74,075	
TOTAL - SITEWORK						***74,075***
SUBTOTAL						***$1,384,876***
GENERAL CONDITIONS & REQUIREMENTS				15%		$207,731
BONDS				1.8%		$24,928
GC - OVERHEAD & PROFIT				5%		$69,244
DESIGN AND PRICING CONTINGENCY				7.5%		$126,508
ESCALATION TO 1ST QUARTER 2026				5%		$90,664
OUTER CAPE PREMIUM						included in trades
TARIFF PREMIUM				2.5%		$34,622
TOTAL - ALTERNATE 2						***$1,938,573***

NOTE:
1. THE CONTRACTOR SHALL GIVE TWENTY-FOUR (24) HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
2. DIRECTIONAL ARROWS ARE SHOWN FOR INFORMATION ONLY TO SHOW THE DIRECTION OF TRAFFIC ON SITE. THEY DO NOT INDICATE PAVEMENT MARKINGS.
3. GRANITE CURB SHALL BE TYPE VA-4 UNLESS OTHERWISE IDENTIFIED.
4. PROVIDE NEW HOT MIX ASPHALT PAVEMENT BETWEEN ALL PROPOSED CURB LINES & BUILDINGS, (INCLUDING UP TO SAWCUT LIMITS) AND BETWEEN PROPOSED RETAINING WALLS, CURB LINES & BUILDING.
5. CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION SIGNAGE AS REQUIRED FOR CONTROL OF TRAFFIC AND PEDESTRIANS.
6. CONTRACTOR SHALL PATCH EXISTING PAVED AREAS WITH HMA FOLLOWING UTILITY INSTALLATION.
7. ALL BACKFILL MATERIAL BELOW PROPOSED BUILDINGS SHALL CONSIST OF STRUCTURAL AGGREGATE BACKFILL OR PROCESSED GRAVEL PER SPECIFICATION SECTION 31 00 00-EARTHWORK.

LEGEND

- BITUMINOUS PAVEMENT
- CONCRETE
- LOAM & SEED/PLANTINGS (SEE LANDSCAPE PLAN)
- MODIFIED ROCKFILL
- LOW — LIMIT OF WORK



0 20 50 100
SCALE: 1" = 20'

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY
17 TOWN HALL ROAD
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON
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Consultants:

Revisions:

No.	Date	Description
1.	11/5/25	SUPPLEMENTAL FILING

COA:

Seal:
ALYSSA K. PECK CIVIL No. 49974 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
11.5.25

Issued For:
PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

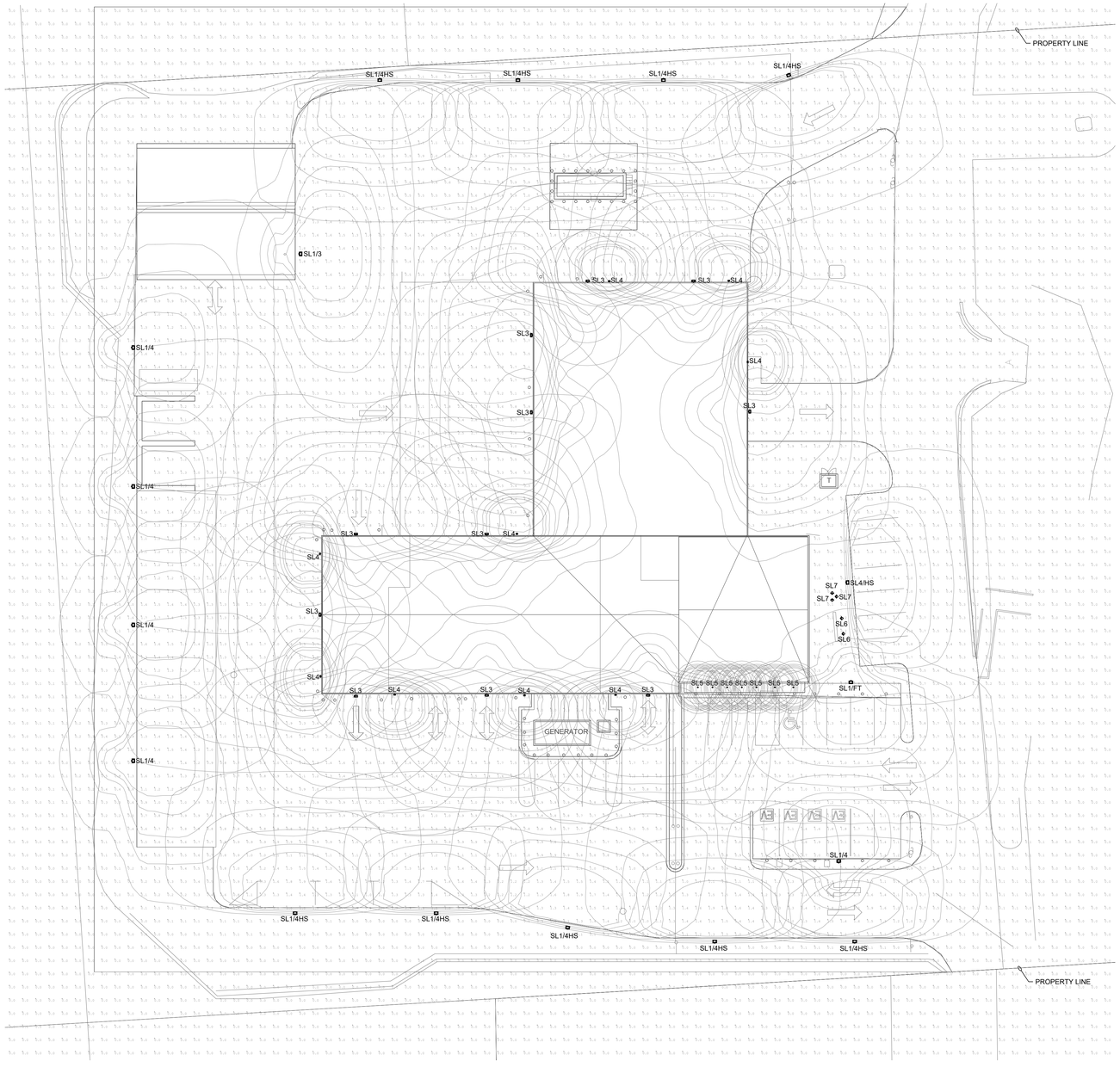
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Drawn By: AKA
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

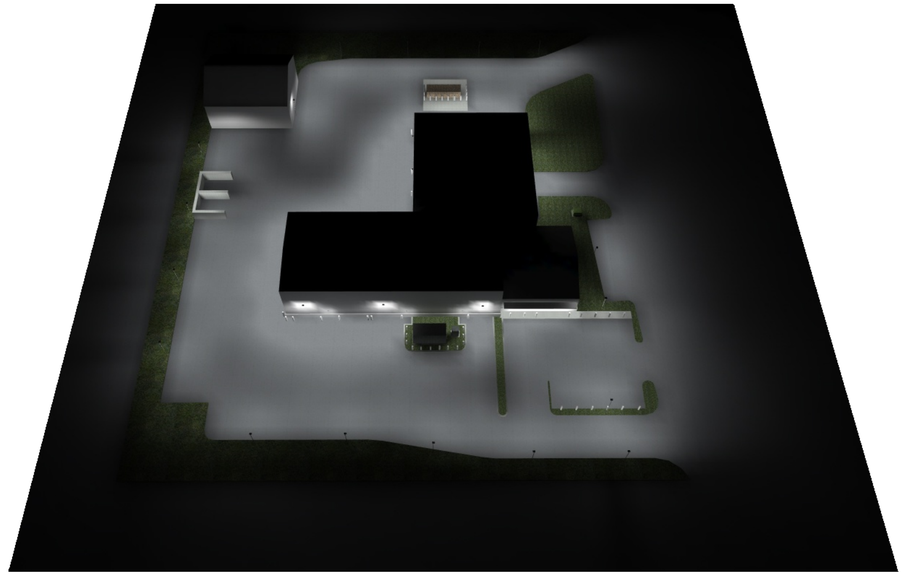
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SITE LAYOUT & MATERIALS PLAN

Sheet Number:
C301

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1 LC001 SITE PHOTOMETRIC CALCULATION (BASE BID)
SCALE: 1" = 20'-0"



2 LC001 SITE PHOTOMETRIC (BASE BID) - RENDERING
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL ROAD
TRURO, MA 02666

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Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
DAVID M. PEREIRA
No. 49310
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER

Issued For:

SITE PLAN REVIEW

Scale: NTS

Key Plan:

NORTH

Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

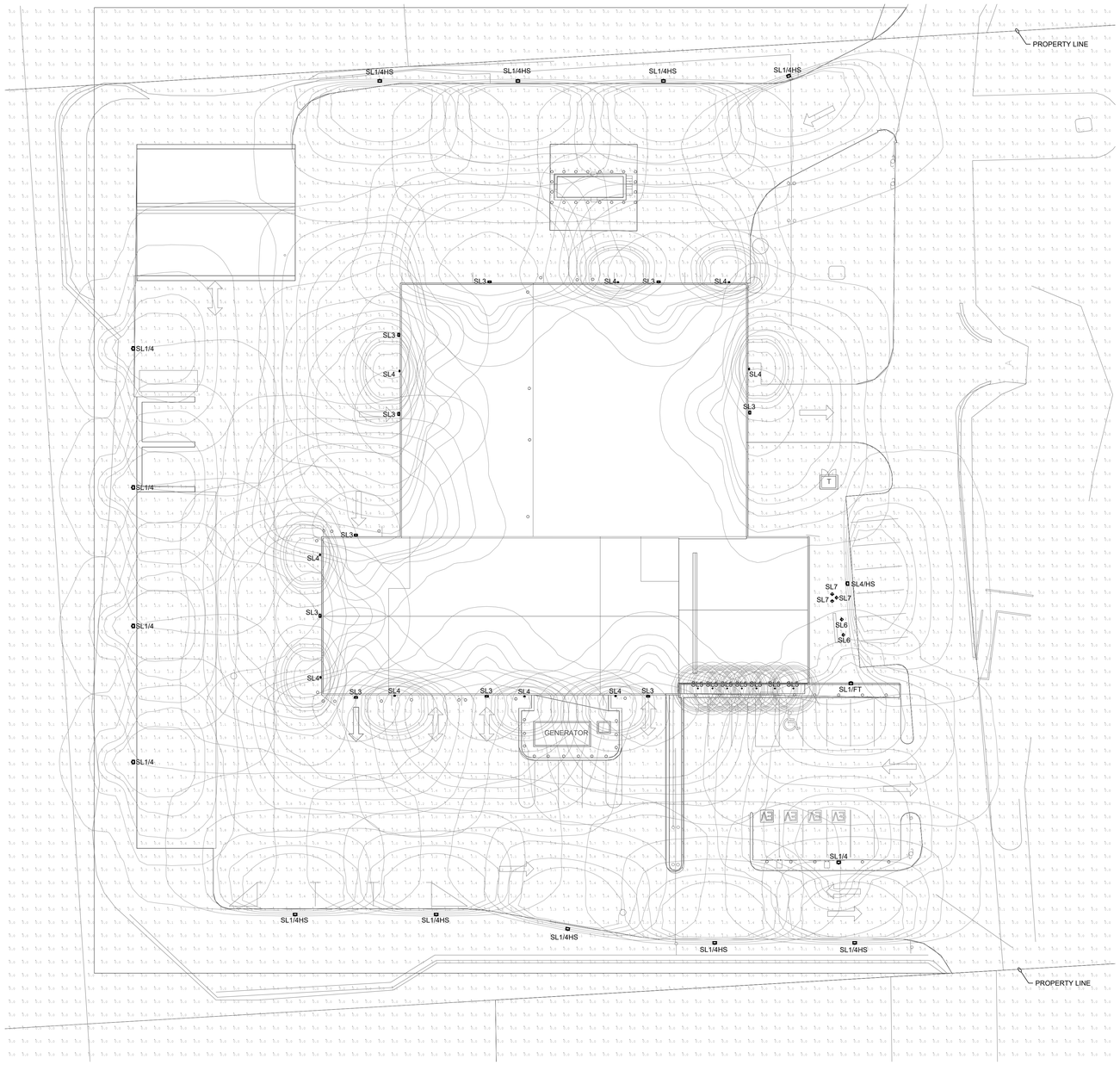
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SITE PHOTOMETRIC CALCULATION BASE BID

Sheet Number:

LC001

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1 LC002 SITE PHOTOMETRIC CALCULATION (BASE BID WITH BID ALT #1)
SCALE: 1" = 20'-0"



2 LC002 SITE PHOTOMETRIC (BASE BID WITH BID ALT #1) - RENDERING
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Consultants:

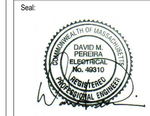
GGD Consulting Engineers, Inc.
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Revisions:

No.	Date	Description

COA:

Seal:



Issued For:

SITE PLAN REVIEW

Scale: NTS

Key Plan:



Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

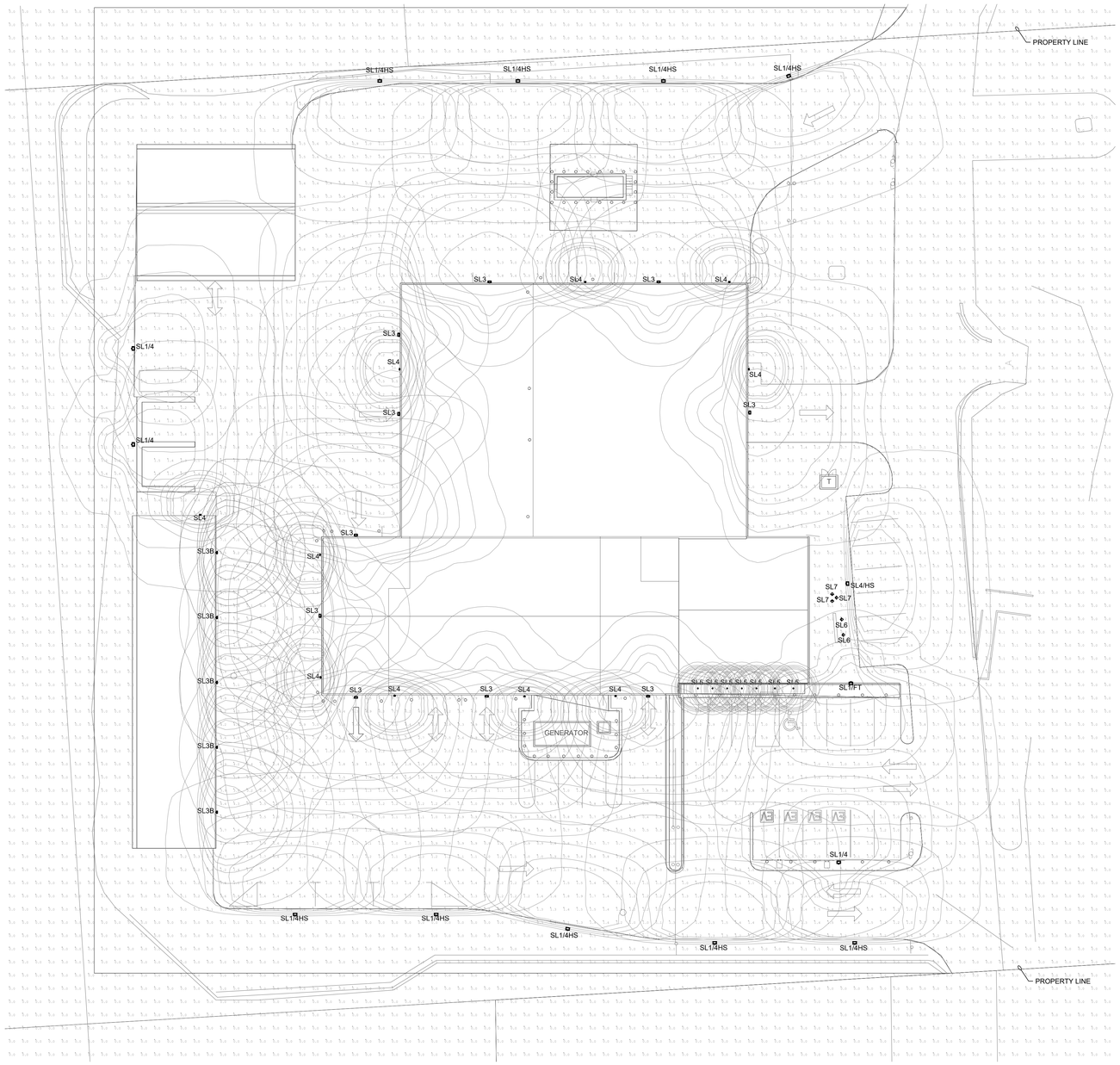
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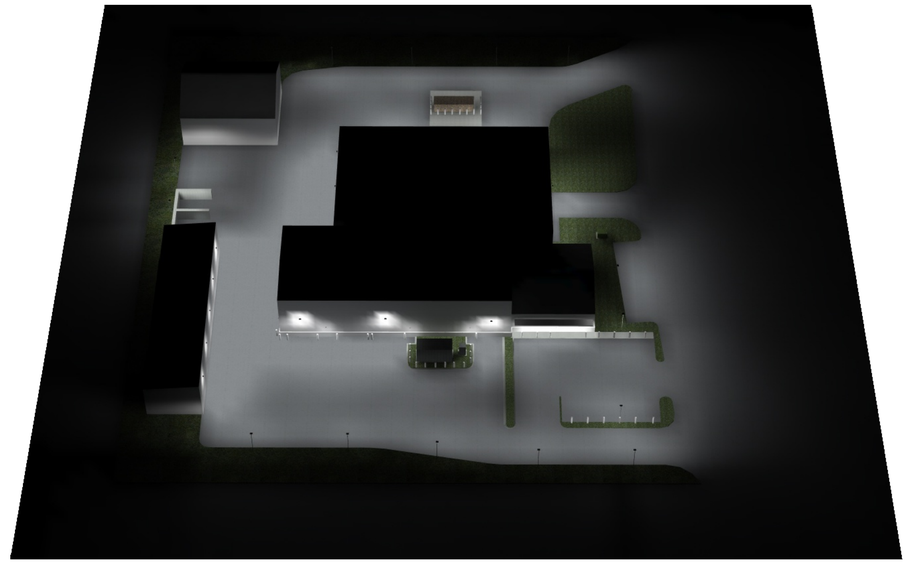
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1 LC003 SITE PHOTOMETRIC CALCULATION (BASE BID WITH BID ALT #1 & #2)
SCALE: 1" = 20'-0"



2 LC003 SITE PHOTOMETRIC (BASE BID WITH BID ALT #1 & #2) - RENDERING
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Revisions:

No.	Date	Description

COA:

Seal:

DAVID M. PEREIRA
ELECTRICAL
No. 46910
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

Issued For:

SITE PLAN REVIEW

Scale: NTS

Key Plan:

NORTH

Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

SITE PHOTOMETRIC CALCULATION BASE BID WITH BID ALT 1 & 2

Sheet Number:

LC003

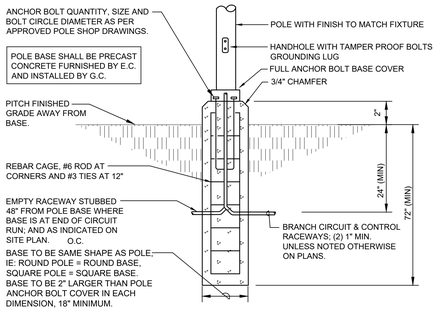
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LIGHTING FIXTURE SCHEDULE

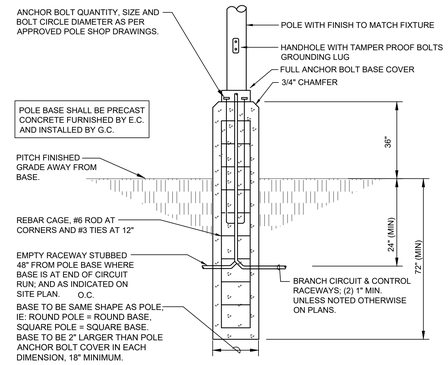
TYPE	MANUFACTURER	MODEL / SERIES NUMBER	MTG.	VOLTAGE	LIGHTING SOURCE			DESCRIPTION	MOUNTING HEIGHT ABOVE FINISHED GRADE (A.F.G)
					LUMENS	WATTS	SOURCE/CCT		
SL1/3	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-T3M-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4597	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE III DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL1/4	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-T4M-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4666	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE IV DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL1/4HS	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-BLC4-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	3454	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE IV DISTRIBUTION WITH INTEGRAL HOUSE SIDE SHIELD OPTICS MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15-0") A.F.G.
SL1/FT	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-TFTM-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4896	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ FORWARD THROW DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL3	LITHONIA LIGHTING	WDGE3 LED-P1-30K-80CRI-R4-MVOLT-SRM	W	UNIVERSAL	7133	52	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A TYPE IV DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(15'-0" to 17'-0") A.F.G.
SL3B	LITHONIA LIGHTING	WDGE2 LED-P3-40K-80CRI-VF-MVOLT-SRM	W	UNIVERSAL	3015	23	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A FORWARD THROW DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(18'-0") A.F.G.
SL4	LITHONIA LIGHTING	WDGE1 LED-P1-40K-80CRI-VF-MVOLT-SRM	W	UNIVERSAL	1122	10	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A FORWARD THROW DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(9'-0") A.F.G.
SL5	GOTHAM	EVO4-30K-10-XX-XX-LSS-MWD-MVOLT-GZ10	R	UNIVERSAL	1001	8.8	LED/3000K	4" APERTURE LED DOWN LIGHT FIXTURE WITH SEMI-SPECULAR FINISH AND 0-10V DIMMING CAPABILITY. FIXTURE HAS 45 DEGREE DISTRIBUTION.	CANOPY
SL6	ECOSENSE	F080-1S-MO-30-80-40-XX-XX-C RISE-PERMA-POST-19	IG	UNIVERSAL	761	7.5	LED/3000K	LED GRADE STAKE MOUNTED IP66 RATED FIXTURE PROVIDED WITH MOUNT FOR ADJUSTABLE OPTICS.	ON-GRADE
SL7	TARGETTI	KPL-41-ZM-L2-30+1DU2XX+1DUXXX+ 1DU2530+1E2495+1E2496+1E0388+XX	OG	UNIVERSAL	2384	35	LED/3000K	LED IP68 RATED FIXTURE SUITABLE FOR USE IN GRADE. FIXTURE CAPABLE OF ADJUSTING BOTH DISTRIBUTION ANGLE AND AIMING.	IN-GRADE

MOUNTING DESIGNATIONS

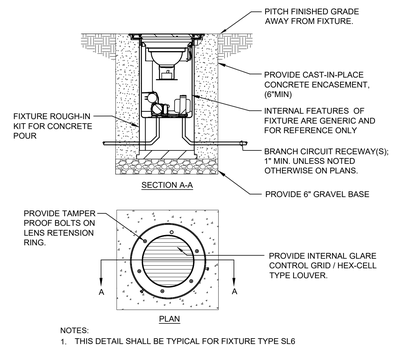
POLE	POLE	U	UNIVERSAL
BOL	BOLLARD	W	WALL
R	RECESSED	S	SURFACE
OG	ON GRADE	IG	IN GRADE



1 LC004 SITE POLE DETAIL (BEHIND CURBING WITHIN PARKING AREA)
SCALE: NONE

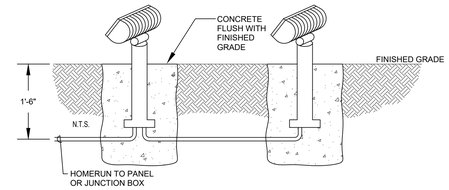


2 LC004 SITE POLE DETAIL (WITHIN PARKING AREA)
SCALE: NONE



NOTES:
1. THIS DETAIL SHALL BE TYPICAL FOR FIXTURE TYPE SL6

3 LC004 IN-GRADE SITE LIGHT DETAIL (FLAGPOLE)
SCALE: NONE



4 LC004 ON-GRADE SITE LIGHT DETAIL (SITE SIGN)
SCALE: NONE



5 LC004 POLE MOUNTED AREA LIGHTING FIXTURE
SCALE: NONE



6 LC004 WALL MOUNTED EGRESS DOOR AND STORAGE BUILDING FIXTURE
SCALE: NONE



7 LC004 WALL MOUNTED STORAGE BUILDING FIXTURE
SCALE: NONE



8 LC004 RECESSED CANOPY LIGHTING FIXTURE
SCALE: NONE



9 LC004 IN-GRADE FLAGPOLE FIXTURE
SCALE: NONE



10 LC004 ON-GRADE SITE SIGN FIXTURE
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL ROAD
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

GGD Consulting Engineers, Inc.
175 Fresco Central Road, Suite D
Dartmouth, MA 02747
P (508) 998-7700 F (508) 998-8883

Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
DAVID M. PEREIRA
ELECTRICAL
No. 60310
REGISTERED PROFESSIONAL ENGINEER

Issued For:
SITE PLAN REVIEW

Scale: NTS

Key Plan:

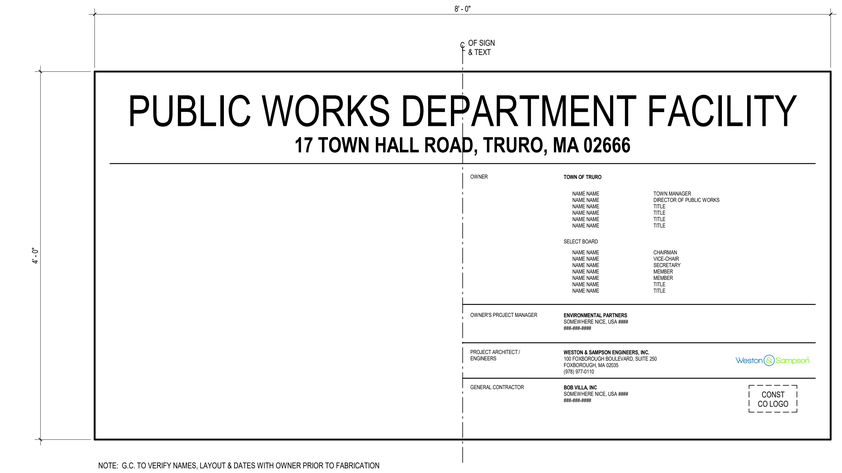
NORTH

Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
PHOTOMETRIC DETAILS AND SCHEDULES

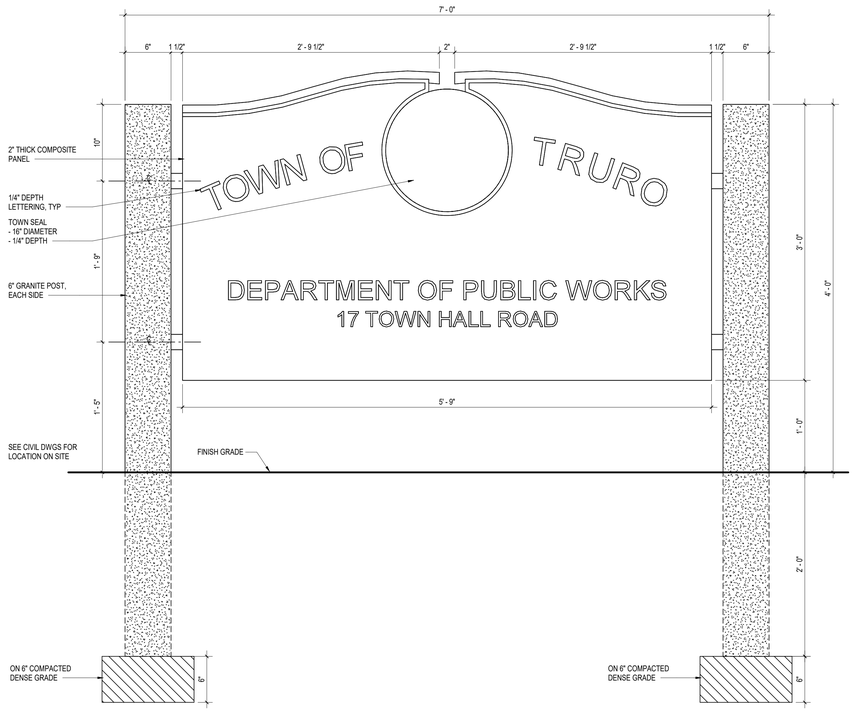
Sheet Number:
LC004

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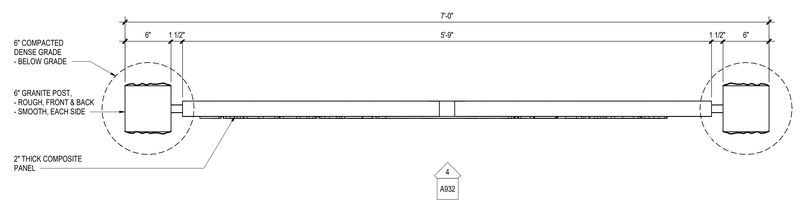


NOTE: G.C. TO VERIFY NAMES, LAYOUT & DATES WITH OWNER PRIOR TO FABRICATION

1 CONSTRUCTION SIGNAGE
1 1/2" = 1'-0"



4 DPW FACILITY SIGNAGE - FRONT ELEVATION
1 1/2" = 1'-0" 3/ A932



3 DPW FACILITY SIGNAGE - PLAN VIEW
1 1/2" = 1'-0"

0' 6" 1' 2'
SCALE: 1 1/2" = 1'-0"

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY
17 TOWN HALL ROAD
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

GGD Consulting Engineers, Inc.
375 Corner Road, Suite D
Darmouth, MA 02747
(508) 998-0883

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:
SITE PLAN REVIEW

Scale: 1 1/2" = 1'-0"

Key Plan:

Date:	NOVEMBER 5, 2025
Drawn By:	DRD
Reviewed By:	DRD
Approved By:	JRC
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR SIGNAGE

Sheet Number:
A932

11/5/2025 10:55:17 AM C:\+RevitProjects\202424-1552_Truro DPW_Arch_v24_Sotelo.Fernanda.rvt

Building Permit Application

Massachusetts State Building Code, 780 CMR, 9th Edition

TOWN OF TRURO
Building Department

24 Town Hall Rd.
PO Box 2030
Truro, MA 02666
Tel (508) 349-7004 x131 Fax (508) 349-5508

Permit #: Fee: $50 Application Fee
Fee: exempt

BUILDING DEPARTMENT
TOWN OF TRURO
NOV 05 2025
RECEIVED BY:

SITE INFORMATION

Project Site: DPW Buildings 24 Town Hall Rd

Assessors Map & Parcel: 046 269	Zoning District: R
☑ Outside Flood Zone	☐ Inside Flood Zone – Specify:

Setbacks:	Front:	Left Side:	Right Side:	Rear:

Lot Area (sq. ft.)	Frontage:
Water Supply: ☐ Private ☐ Public	Subject to Policy 28: Curb Cut? ☐ Y ☑ N **If Yes, please attach a copy of the approval to this application.**

SUBJECT TO NHESP/MESA REVIEW? ☐ Y ☐ N * IF YES, PLEASE ATTACH A COPY OF THE APPROVAL.

PROPERTY OWNERSHIP

Owner of Record: Town of Truro

Mailing Address: 24 Town Hall Rd

Phone: 508 214 0400	E-mail: jcabral@truro-ma.gov

Property Owner Authorization Kelly S. Clark

Signature: Kelly S. Clark	Date: Oct 22 2025

PROJECT INFORMATION

☐ 1 & 2 Family Home	☐ Commercial / Other than 1 & 2 Family Home*	☑ Change of Use	☑ DEMO - Subject to Chapter VI: Historic Properties Bylaw? ☐ Y ☐ N

*** BUILDINGS IN EXCESS OF 35,000 CU. FT. MUST MEET CONTROL CONSTRUCTION REGULATIONS (780 CMR 116). ADDENDUM TO PERMIT APPLICATION AVAILABLE IN BUILDING DEPARTMENT.**

☐ New Dwelling: # of units _____	☐ Commercial Building	
☐ Addition	☐ Alteration	☐ Mechanical
☐ Accessory Structure: (type) _____	Other: _____	

Detailed Description of Proposed Work: Demo all DPW Facliites Vehicle Maintenance garge will be phased Demo.

Estimated Construction Cost: $70,000	Debris Disposal: (Landfill or Company Name) Paul Danials
Floor Area: (Proposed Work Only)	Basement: ☐ unfinished _____ ☐ finished _____
1st flr:	2nd flr:
Porch/Deck:	Other:
#fireplaces:	#chimneys:
#bathrooms: existing _____ proposed _____	
#bedrooms: existing _____ proposed _____	
Type of Heating System:	Type of Cooling System:

CONTRACTOR INFORMATION*

*HOMEOWNER'S AFFIDAVIT REQUIRED IF OWNERS ARE DOING THEIR OWN WORK (RESIDENTIAL PROJECTS ONLY)

Contractor Name: Town of Truro DPW	
Address: 24 Town Hall RD Truro MA	
Phone: 508 214 0400	Email: jcabral@truro-ma.gov
CSL#:	HIC #

OFFICE USE

HEALTH/CONSERVATION AGENT Review _____

Signature:	Date:

Other Comments: _____

BUILDING COMMISSIONER Review & Approval: _____ Pending Historic Approval

Signature:	Issuance Date: 11-5-25

BUILDING PERMIT APPLICATION DOCUMENT CHECKLIST

This checklist is part of the permit application and must be completed. If not completed the application may be considered incomplete and cause the permit to be denied.

Town of Truro
Building Department

24 Town Hall Rd.
PO Box 2030
Truro, MA 02666
Tel (508) 349-7004 x131 Fax (508) 349-5508

Please note that marked-up archival drawings do not constitute acceptable documents for permitting purposes.

☑ **One and/or Two Family Home**

☐ Completed application form

☐ 1 copy original site plan showing building setbacks and grades.

☐ 2 (min.) copies building plans – One can be full size if greater than 11 x 17. One must be no greater than 11 x 17 for department filing. Electronic version is acceptable, in addition.

Drawings indicating all relevant information including but not limited to:

☐
- Fully dimensioned foundation, floor and structural plans;
- Building elevations showing finish materials and critical dimensions;
- Building/wall sections describing building construction, energy related details and showing critical vertical dimensions.
- Smoke, CO and heat detectors must be shown.
- Door and window information demonstrating conformance with minimum room and dwelling egress and emergency escape.
- Exterior window and door information demonstrating conformance with light, ventilation and energy requirements.
- Location and design of any required fire separation assemblies.

☐ All structural conditions noted on plans – braced wall lines indicated and analysis shown and/or engineered solution with registered design professional's certification and/or other prescriptive solution allowed by Code.

☐ 1 copy Energy Code compliance documents (check only one below)

- ☐ HERS/performance rating document – new construction
- ☐ ResCheck (2015 MA) – additions/alterations- per 2015 IECC R502 & 503
- ☐ Prescriptive – values shown on plans – see 2015 IECC table R402.1.2 and other req's.

☐ Photocopy of CSL and HIC (if applicable) shown on application form

☑ Worker's Compensation Insurance Affidavit and copy of current certificate of insurance

☐ Homeowner's License Exemption (if qualified and there is no CSL)

☐ Copy of recorded approvals from local regulatory boards

☐ If street access is required and property is on a Town road, copy of Curb Cut approval from the Board of Selectmen

For applications for Modular and other than 1&2 Family Structures see Checklist on next page.

☐ **Modular Home** (Homeowner license exemption not allowed)

- ☐ 2 copies of foundation plan
- ☐ Approved plans by MA Board of Building Regulations & Standards with evidence of 3rd party inspection
- ☐ Manufacturer's certification of installer/set crew.

☐ **Structures Other than 1 & 2 Family Home**

- ☐ Completed Application form
- ☐ Stamp and signature of registered design professional
- ☐ 2 (min.) copies building plans – One can be full size if greater than 11 x 17. One must be no greater than 11 x 17 for filing. Electronic version is acceptable, in addition. Drawings must indicate all relevant information including but not limited to: Fully dimensioned foundation, floor and structural plans; fire separation assemblies; door, window and room finish schedules; building elevations with critical dimensions; building/wall sections describing building construction and energy related details and showing critical vertical dimensions.
- ☐ COMcheck Envelope, Lighting and Mechanical Compliance Certificates and Plan Review Inspection Checklist for the purposes of demonstrating compliance with the energy code.
- ☐ Construction Control Document(s)
- ☐ Tier 1 Fire Protection System document per section 902.2.1
- ☐ Code analysis indicating (but not limited to) all use groups, construction types, allowable areas, fire separations, egress paths and distances. This analysis can be part of drawing set.
- ☐ Contractor credentials
- ☐ Worker's Compensation Insurance Affidavit and copy of current certificate of insurance
- ☐ Recorded copy of any local regulatory board approvals
- ☐ If modular construction see items above

Notes:

TOWN OF TRURO
BUILDING DEPARTMENT
P.O. Box 2030, Truro MA 02666
Tel: 508-349-7004, Ext. 31 Fax: 508-349-5508

DEMOLITION CHECKLIST

Owner: Town of Truro

Location: 24 Town Hall Road

Map: 046 Parcel: 269

In accordance with the Town of Truro General By-Laws, "Preserving Historic Properties":

☐ 1.) Listed on the National or State Register of Historic places, or the subject of a pending application for such a listing; or

☐ 2.) Constructed in whole or in part 75 years or more prior to the date of application for a demolition permit; or

☐ 3.) Determined by the Historical Review Board to be a significant building either because:

☐ (a.) It is historically or architecturally significant in terms of period, style, method of building construction, or association with a famous architect; or

☐ (b.) It is importantly associated with one or more historic persons or events, or with the broad architectural, cultural, political, economic or social history of the Town or the Commonwealth.

In accordance with 780 CMR Mass State Building Code, Section 112

SERVICE DISCONNECTS FROM UTILITY PROVIDERS:

☐ Electric

☐ Water

☐ Gas

☐ Other Connections

Key: 2486 **Town of TRURO - Fiscal Year 2025** 10/8/2024 5:57 pm SEQ #: 2,554

LEGAL

CURRENT OWNER	PARCEL ID	LOCATION
TOWN OF TRURO PO BOX 2030 TRURO, MA 02666-2030	46-269-0	24 TOWN HALL RD

TRANSFER HISTORY	DOS	T	SALE PRICE	BK-PG (Cert)

CLASS	CLASS%	DESCRIPTION	BN ID	BN	CARD
9310	100	IMP.SELECT/CITY CNCL		2	2 of 5

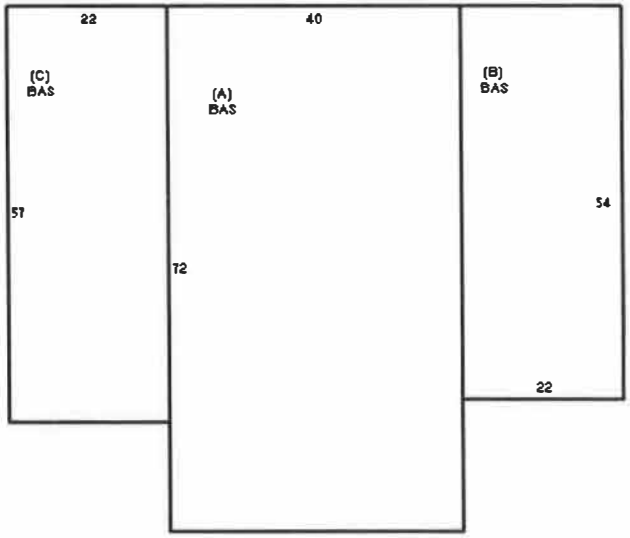
PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%

LAND

CD	T	AC/SF/UN	Nbhd	Infl1	Infl2	ADJ BASE	SAF	Infl3	Lpi	VC	CREDIT AMT	ADJ VALUE

TOTAL		ZONING		FRNT	
Nbhd		NOTE			
Infl1					
Infl2					

ASSESSED	CURRENT	PREVIOUS
LAND		
BUILDING	144,700	
DETACHED		
OTHER		
TOTAL		



DETACHED

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD

PHOTO 03/14/2016



BLDG COMMENTS
SALT/SAND STORAGE SHED

BUILDING

BUILDING	CD	ADJ	DESC
MODEL	5		CIM
STYLE	53	1.13	STORAGE GARAGE [100%]
QUALITY	L	0.83	LOW COST [100%]
FRAME	1	1.00	WOOD FRAME [100%]

MEASURE	3/14/2016	RJM
LIST	3/14/2016	RJM
REVIEW	3/17/2016	RJM

YEAR BLT	1970	SIZE ADJ	0.840
NET AREA	5,322	DETAIL ADJ	0.817
$NLA(RCN)	$62	OVERALL	1.000

CAPACITY	UNITS	ADJ
STORIES	1	1.00
% HEATED	0	1.00
% A/C	0	1.00
% SPRINKLERS	0	1.00

ELEMENT	CD	DESCRIPTION	ADJ
FOUNDATION	2	SLAB	1.00
EXTERIOR WALL	19	PRE-FAB METAL	1.01
ROOF STRUCTURE	1	GABLE	1.00
ROOF COVER	10	METAL	0.98
FLOORING	7	NONE	0.83
INT FINISH	6	MINIMUM	0.95
H.V.A.C.	13	NONE	0.90
FUEL SOURCE	8	NONE	1.00
COMPLEX	0		1.00

S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN
A	BAS	L	BASE AREA	2,880	1970	61.79	177,964
B	BAS	L	BASE AREA	1,188	2007	61.79	73,410
C	BAS	L	BASE AREA	1,254	2008	61.79	77,488

TOTAL RCN	328,862

CONDITION ELEM	CD

EFF.YR/AGE	1987 / 36
COND	56 56 %
FUNC	0
ECON	0
DEPR	56 % GD 44
RCNLD	$144,700

Key: 2486 **Town of TRURO - Fiscal Year 2025** 10/8/2024 5:57 pm SEQ #: 2,553

LEGAL

CURRENT OWNER	PARCEL ID	LOCATION
TOWN OF TRURO PO BOX 2030 TRURO, MA 02666-2030	46-269-0	24 TOWN HALL RD

TRANSFER HISTORY	DOS	T	SALE PRICE	BK-PG (Cert)
TOWN OF TRURO	01/01/1988	99		92-23

CLASS	CLASS%	DESCRIPTION	BN ID	BN	CARD
9310	100	IMP,SELECT/CITY CNCL		1	1 of 5

PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%
24-271	07/02/2024	3	REPAIR/REMOD	49,132			0	0
17-073X	03/14/2017	3	REPAIR/REMOD	18,000	04/19/2017	LG	100	100
11-049	03/23/2011	2	ADDITION	8,000	07/23/2012	DF	100	100
10-238	11/23/2010	2	ADDITION	5,000	05/18/2011	MR	100	100
10-155	08/04/2010	90	BP NVC	2,000	05/18/2011	MR	100	100

LAND

CD	T	AC/SF/UN	Nbhd	Infl1	Infl2	ADJ BASE	SAF	Infl3	Lpi	VC	CREDIT AMT	ADJ VALUE
100	A	0.775	14 1.00	1 1.00	1 1.00	472,810	1.00	1 1.00	R05 1.30			366,430
300	A	4.365	14 1.00	1 1.00	1 1.00	36,140	1.00	1 1.00	R05 1.30			157,750

TOTAL	5.140 Acres	ZONING	RES	FRNT	0
Nbhd	TRURO CENTER	NOTE	FY11 - RMVD LAND CODE 200		
Infl1	NO ADJ				
Infl2	NO ADJ				

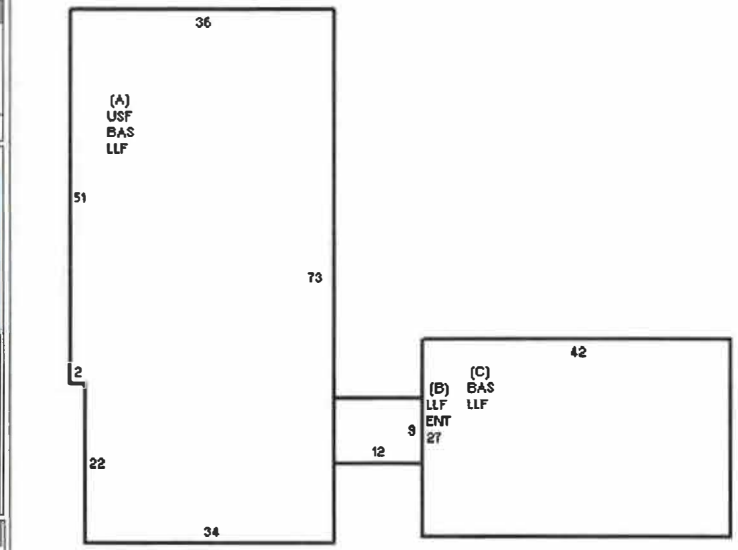
ASSESSED	CURRENT	PREVIOUS
LAND	524,200	518,900
BUILDING	1,576,200	1,528,000
DETACHED	74,100	73,500
OTHER	405,700	391,600
TOTAL	2,580,200	2,512,000

DETACHED

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD
TN2	A 1.00	G 0.90	CON TANK		15,000	0.90	12,200
APV	A 1.00	A 0.75			20,000	0.70	10,500
TN2	A 1.00	G 0.90	CON TANK		15,000	0.90	12,200
LH1	A 1.00	G 0.90			4	1,902.80	6,900
LH2	A 1.00	G 0.90			2	3,033.40	5,500
SN2	G 1.18	A 0.75	3X8		24	55.34	1,000
SHC	A 1.00	A 0.75	10X12		120	20.56	1,900
SHF	A 1.00	A 0.75	6X8		48	17.32	600
GEN	A 1.00	A 0.75		2015	1	31,037.00	23,300

PHOTO 08/15/2019





BUILDING

BUILDING	CD	ADJ	DESC
MODEL	5		CIM
STYLE	90	2.30	GOV BLDG [100%]
QUALITY	+	1.10	GOOD-/AVE+ [100%]
FRAME	1	1.00	WOOD FRAME [100%]

MEASURE	3/14/2016	RJM
LIST	3/14/2016	RJM
REVIEW	3/17/2016	RJM

BLDG COMMENTS

TOWN HALL, FY18: added LLF for hallway under BAS entryway.

YEAR BLT	2004	SIZE ADJ	0.788
NET AREA	10,128	DETAIL ADJ	2.364
$NLA(RCN)	$219	OVERALL	1.000

CAPACITY	UNITS	ADJ
STORIES	2	1.00
% HEATED	100	1.00
% A/C	100	1.00
% SPRINKLERS	0	1.00

ELEMENT	CD	DESCRIPTION	ADJ
FOUNDATION	4	BSMT WALL	1.00
EXTERIOR WALL	2	CLAP BOARD	1.00
ROOF STRUCTURE	1	GABLE	1.00
ROOF COVER	1	ASPH/COMP SHIN	1.00
FLOORING	1	HARDWOOD	1.00
INT FINISH	2	DRYWALL	1.02
H.V.A.C.	9	WM/CL AIR PKGE	1.04
FUEL SOURCE	1	OIL	1.00
COMPLEX	0		1.00

S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN
+	LLF	L	LOW-LEV FIN	3,718	2004	189.92	706,137
+	BAS	L	BASE AREA	3,718	2004	222.29	826,492
A	USF	L	UP-STRY FIN	2,584	2004	222.29	574,410
B	ENT	N	ENCL ENTRY	108		113.09	12,214
B	LLF	L	LOW-LEV FIN	108	2004	189.93	20,512
	ELP	O	PASSGR. ELEV.	1		80,284.00	80,284

TOTAL RCN	2,220,049
CONDITION ELEM	CD

EFF.YR/AGE	2004 / 19
COND	29 29 %
FUNC	0
ECON	0
DEPR	29 % GD 71
RCNLD	$1,576,200

Key: 2486 **Town of TRURO - Fiscal Year 2025** 10/8/2024 5:57 pm SEQ #: 2,555

LEGAL

CURRENT OWNER	PARCEL ID	LOCATION
TOWN OF TRURO PO BOX 2030 TRURO, MA 02666-2030	46-269-0	24 TOWN HALL RD

TRANSFER HISTORY	DOS	T	SALE PRICE	BK-PG (Cert)

CLASS	CLASS%	DESCRIPTION	BN ID	BN	CARD
9310	100	IMP.SELECT/CITY CNCL		3	3 of 5

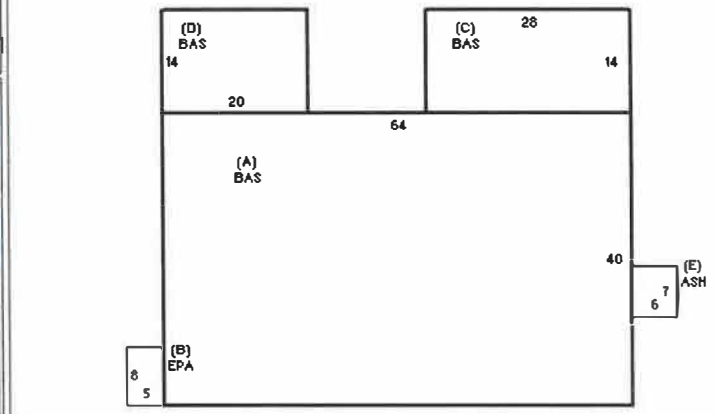
PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%

LAND

CD	T	AC/SF/UN	Nbhd	Infl1	Infl2	ADJ BASE	SAF	Infl3	LDi	VC	CREDIT AMT	ADJ VALUE

TOTAL		ZONING		FRNT	
Nbhd		NOTE			
Infl1					
Infl2					

ASSESSED	CURRENT	PREVIOUS
LAND		
BUILDING	128.200	
DETACHED		
OTHER		
TOTAL		



DETACHED

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD

PHOTO 03/14/2016



BUILDING

BUILDING	CD	ADJ	DESC
MODEL	5		CIM
STYLE	53	1.13	STORAGE GARAGE [100%]
QUALITY	A	1.00	AVERAGE [100%]
FRAME	1	1.00	WOOD FRAME [100%]

MEASURE	3/14/2016	RJM
LIST	3/14/2016	RJM
REVIEW	3/17/2016	RJM

BLDG COMMENTS
HIGHWAY GARAGE

YEAR BLT	1980	SIZE ADJ	0.900
NET AREA	3,232	DETAIL ADJ	0.979
$NLA(RCN)	$97	OVERALL	1.000

CAPACITY	UNITS	ADJ
STORIES	1	1.00
% HEATED	100	1.00
% A/C	0	1.00
% SPRINKLERS	0	1.00

ELEMENT	CD	DESCRIPTION	ADJ
FOUNDATION	2	SLAB	1.00
EXTERIOR WALL	10	VERT BOARD	1.00
ROOF STRUCTURE	1	GABLE	1.00
ROOF COVER	1	ASPH/COMP SHIN	1.00
FLOORING	9	CONCRETE	0.95
INT FINISH	6	MINIMUM	0.95
H.V.A.C.	15	SUSPENDED	0.95
FUEL SOURCE	1	OIL	1.00
COMPLEX	0		1.00

S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN
A	BAS	L	BASE AREA	2,560	1980	95.60	244,734
B	EPA	N	ENCL PORCH	40		55.33	2,213
C	BAS	L	BASE AREA	392	2011	95.60	37,475
D	BAS	L	BASE AREA	280	1980	95.60	26,768
E	ASH	N	ATT SHED	42		38.40	1,613

TOTAL RCN	312,803
CONDITION ELEM	CD

EFF.YR/AGE	1984 / 39
COND	59 59 %
FUNC	0
ECON	0
DEPR	59 % GD 41
RCNLD	$128,200

Key: 2486 **Town of TRURO - Fiscal Year 2025** 10/8/2024 5:57 pm SEQ #: 2,556

LEGAL

CURRENT OWNER	PARCEL ID	LOCATION
TOWN OF TRURO PO BOX 2030 TRURO, MA 02666-2030	46-269-0	24 TOWN HALL RD

TRANSFER HISTORY	DOS	T	SALE PRICE	BK-PG (Cert)

CLASS	CLASS%	DESCRIPTION	BN ID	BN	CARD
9310	100	IMP.SELECT/CITY CNCL		4	4 of 5

PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%

LAND

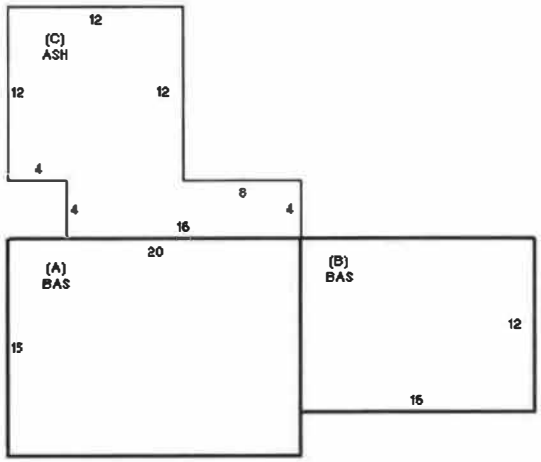
CD	T	AC/SF/UN	Nbhd	Infl1	Infl2	ADJ BASE	SAF	Infl3	Lpi	VC	CREDIT AMT	ADJ VALUE

TOTAL | ZONING | FRNT

Nbhd
Infl1
Infl2

NOTE

ASSESSED	CURRENT	PREVIOUS
LAND		
BUILDING	57,000	
DETACHED		
OTHER		
TOTAL		



DETACHED

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD

PHOTO 03/14/2016



BLDG COMMENTS
HIGHWAY OFFICE

BUILDING

BUILDING	CD	ADJ	DESC
MODEL	5		CIM
STYLE	20	1.95	OFFICE BUILDING [100%]
QUALITY	L	0.83	LOW COST [100%]
FRAME	1	1.00	WOOD FRAME [100%]

MEASURE	3/14/2016	RJM
LIST	3/14/2016	RJM
REVIEW	3/17/2016	RJM

YEAR BLT	1966	SIZE ADJ	1.750
NET AREA	492	DETAIL ADJ	1.833
$NLA(RCN)	$305	OVERALL	1.000

CAPACITY	UNITS	ADJ
STORIES	1	1.00
% HEATED	100	1.00
% A/C	0	1.00
% SPRINKLERS	0	1.00

ELEMENT	CD	DESCRIPTION	AOJ
FOUNDATION	3	CONTIN WALL	1.00
EXTERIOR WALL	1	WOOD SHINGLES	1.00
ROOF STRUCTURE	2	HIP	1.00
ROOF COVER	2	WOOD SHINGLE	1.02
FLOORING	2	SOFTWOOD	0.95
INT FINISH	2	DRYWALL	1.02
H.V.A.C.	1	FORCED AIR	1.00
FUEL SOURCE	2	GAS	1.00
COMPLEX	0		1.00

S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN
A	BAS	L	BASE AREA	300	1966	288.80	86,640
B	BAS	L	BASE AREA	192	2005	288.80	55,450
C	ASH	N	ATT SHED	208		38.40	7,987

TOTAL RCN 150,077

CONDITION ELEM	CD

EFF.YR/AGE 1981 / 42

COND	62	62 %	
FUNC	0		
ECON	0		
DEPR	62	% GD	38

RCNLD $57,000

Key: 2486 **Town of TRURO - Fiscal Year 2025** 10/8/2024 5:57 pm SEQ #: 2,557

LEGAL

CURRENT OWNER	PARCEL ID	LOCATION
TOWN OF TRURO PO BOX 2030 TRURO, MA 02666-2030	46-269-0	24 TOWN HALL RD

TRANSFER HISTORY	DOS	T	SALE PRICE	BK-PG (Cert)

CLASS	CLASS%	DESCRIPTION	BN ID	BN	CARD
9310	100	IMP.SELECT/CITY CNCL		5	5 of 5

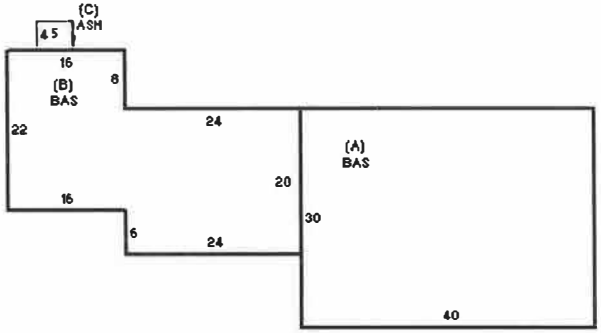
PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%

LAND

CD	T	AC/SF/UN	Nbhd	Infl1	Infl2	ADJ BASE	SAF	Infl3	Lpi	VC	CREDIT AMT	ADJ VALUE

TOTAL		ZONING		FRNT	
Nbhd		NOTE			
Infl1					
Infl2					

ASSESSED	CURRENT	PREVIOUS
LAND		
BUILDING	75.800	
DETACHED		
OTHER		
TOTAL		



DETACHED

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD

PHOTO 03/14/2016



BLDG COMMENTS

BUILDING

BUILDING	CD	ADJ	DESC
MODEL	5		CIM
STYLE	53	1.13	STORAGE GARAGE [100%]
QUALITY	L	0.83	LOW COST [100%]
FRAME	2	1.00	MASONRY [59%]

MEASURE	3/14/2016	RJM
LIST	3/14/2016	RJM
REVIEW	3/17/2016	RJM

YEAR BLT	1950	SIZE ADJ	0.985
NET AREA	2,032	DETAIL ADJ	0.890
$NLA(RCN)	$79	OVERALL	1.000

CAPACITY	UNITS	ADJ
STORIES	1	1.00
% HEATED	50	1.00
% A/C	0	1.00
% SPRINKLERS	0	1.00

ELEMENT	CD	DESCRIPTION	ADJ
FOUNDATION	2	SLAB	1.00
EXTERIOR WALL	15	CONC/ CC BLOCK	0.98
ROOF STRUCTURE	1	GABLE	1.00
ROOF COVER	1	ASPH/COMP SHIN	1.00
FLOORING	9	CONCRETE	0.95
INT FINISH	6	MINIMUM	0.95
H.V.A.C.	13	NONE	0.90
FUEL SOURCE	8	NONE	1.00
COMPLEX	0		1.00

S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN
A	BAS	L	BASE AREA	1,200	1950	78.98	94,775
B	BAS	L	BASE AREA	832	1999	78.98	65,710
C	ASH	N	ATT SHED	20		38.40	768

TOTAL RCN	161,253
CONDITION ELEM	CD

EFF.YR/AGE	1990 / 33
COND	53 53 %
FUNC	0
ECON	0
DEPR	53 % GD 47
RCNLD	$75,800

The Commonwealth of Massachusetts
Department of Industrial Accidents
1 Congress Street, Suite 100
Boston, MA 02114-2017
www.mass.gov/dia

Workers' Compensation Insurance Affidavit: Builders/Contractors/Electricians/Plumbers.
TO BE FILED WITH THE PERMITTING AUTHORITY.

Applicant Information **Please Print Legibly**

Name (Business/Organization/Individual): Town of Truro

Address: 24 Town Hall RD Truro MA

City/State/Zip: 02666 Phone #: 508 214 0400

Are you an employer? Check the appropriate box:

1. [✔] I am a employer with Truro employees (full and/or part-time).*
2. [ ] I am a sole proprietor or partnership and have no employees working for me in any capacity. [No workers' comp. insurance required.]
3. [ ] I am a homeowner doing all work myself. [No workers' comp. insurance required.] †
4. [ ] I am a homeowner and will be hiring contractors to conduct all work on my property. I will ensure that all contractors either have workers' compensation insurance or are sole proprietors with no employees.
5. [ ] I am a general contractor and I have hired the sub-contractors listed on the attached sheet. These sub-contractors have employees and have workers' comp. insurance.‡
6. [ ] We are a corporation and its officers have exercised their right of exemption per MGL c. 152, §1(4), and we have no employees. [No workers' comp. insurance required.]

Type of project (required):

7. [ ] New construction
8. [ ] Remodeling
9. [✔] Demolition
10. [ ] Building addition
11. [ ] Electrical repairs or additions
12. [ ] Plumbing repairs or additions
13. [ ] Roof repairs
14. [ ] Other _____

*Any applicant that checks box #1 must also fill out the section below showing their workers' compensation policy information.
† Homeowners who submit this affidavit indicating they are doing all work and then hire outside contractors must submit a new affidavit indicating such.
‡Contractors that check this box must attached an additional sheet showing the name of the sub-contractors and state whether or not those entities have employees. If the sub-contractors have employees, they must provide their workers' comp. policy number.

I am an employer that is providing workers' compensation insurance for my employees. Below is the policy and job site information.

Insurance Company Name: MIAA

Policy # or Self-ins. Lic. #: _____ Expiration Date: _____

Job Site Address: 24 Town Hall Rd City/State/Zip: 02666

Attach a copy of the workers' compensation policy declaration page (showing the policy number and expiration date).

Failure to secure coverage as required under MGL c. 152, §25A is a criminal violation punishable by a fine up to $1,500.00 and/or one-year imprisonment, as well as civil penalties in the form of a STOP WORK ORDER and a fine of up to $250.00 a day against the violator. A copy of this statement may be forwarded to the Office of Investigations of the DIA for insurance coverage verification.

I do hereby certify under the pains and penalties of perjury that the information provided above is true and correct.

Signature: Kelly Clark Date: 10/29/25

Phone #: 508-214-0929

Official use only. Do not write in this area, to be completed by city or town official.

City or Town: _____ **Permit/License #** _____

Issuing Authority (circle one):
1. Board of Health 2. Building Department 3. City/Town Clerk 4. Electrical Inspector 5. Plumbing Inspector
6. Other _____

Contact Person: _____ **Phone #:** _____

Town of Truro
Building Department
P.O. Box 2030
Truro, Massachusetts 02666
Phone:(508)349-7004 Ext. 131; Fax:(508)349-5508

At a duly held public hearing conducted by the Truro Board of Selectmen on Tuesday, February 14, 2023, the board unanimously approved the following building permit application fee schedule. The fee schedule will take effect on February 15, 2023.

BUILDING PERMITS

Residential

Application Review Fee (**all full building permits**)	$50.00
New Construction	$0.65 per sq. ft.
Alteration	$0.50 per sq. ft.
Other Accessory Structures (over 200 sq. ft.) & Decks	$0.40 per sq. ft.
Foundation **only**	$50 fee plus $0.25 per linear ft.
Sustaining/Retaining wall	$50 fee plus $0.25 per linear ft.
Express Permit	$50 fee per check box
(Tents greater than 400 sq ft.)	$100.00
Pools /Solar	1% of construction costs + application fee
Signs	$50 fee
Beach Stairs	$50 fee
Mechanical/Sheet Metal	1% of construction cost
Demolition	$50.00 less than 300 sq. ft $150.00 301 sq. ft & greater
Certificate of Occupancy	$75.00
Replacement of Lost Permit Card	$75.00

Commercial (Anything other than 1-2 family, R-4 & R-5)

Apply residential fees and add 15%

Re-inspection and/or Extra Inspection Fees

Residential	$75.00
Commercial	$100.00
Emergency Inspection/After Hours or Weekends	$150.00

** For any work with out a permit, the fees will be tripled.

***Any work not covered by the above fee schedule will be assessed a fee of 1% of construction cost

**** Fees are non-refundable once permit has been issued.

Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

REPORT

October 20, 2025

TOWN OF
Truro
MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS FACILITY

APPLICATION FOR PLANNING BOARD SITE PLAN REVIEW



October 20, 2025

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

Truro Planning Board
24 Town Hall Road
Truro, MA 02666

WSE Project No. ENG24-1552

Re: **Application for Site Plan Review & Special Permit**
17 Town Hall Road
Truro Department of Public Works Facility

Dear Member of the Board,

On behalf of the Town of Truro, Weston & Sampson Engineers, Inc. is pleased to present an application for Planning Board Review of a new Department of Public Works Facility located at 17 Town Hall Road. We have provided ten (10) copies of a Site Plan Review (SPR) Package to fulfill the requirements of Truro's Rules and Regulations. An electronic copy of the SPR Package has also been submitted via email. The filing includes the following material in support of this application:

Appendix A:	Commercial Site Plan Review Application Form
Appendix B:	Stormwater Report
Appendix C:	Truck Turning Circulation Plans
Appendix D:	Project Cost Estimate
Appendix E:	Certified Abutters List
Appendix F:	Project Site & Building Plans

Project Overview

The proposed project is to be located at the current site of Truro's Department of Public Works. The proposed facility design includes a base building of approximately 18,680 square foot building footprint. The program includes offices, support administrative spaces, staff facilities, a carpentry shop, fleet maintenance, a wash bay, utility rooms, and fleet storage.

Site components include employee and visitor parking area, salt shed, generator, transformer, stormwater drainage, a septic treatment (nitrogen removal) and disposal system, a 5,000 gallon tight tank for fleet maintenance operations, a fire pump room and 30,000 gallon cistern, a geothermal wellfield, an underground 3,000 gallon storage tank for domestic water, and a Public Water System (PWS) drinking well and water line from an adjacent property (22 & 24 Meetinghouse Road). Refer to Appendix F for the site and building plans.

There are two design alternates as follows:

- **Alternate 1**: A 5,000 square foot extension of attached fleet storage garage to provide additional storage space for DPW vehicles and equipment.

- **Alternate 2**: A detached, standalone cold storage building on the north edge of the project site measuring 32' x 126'-8", approximately 4,050 square feet.

The Facility will accommodate fifteen (15) full-time employees; three (3) of which primarily work out of the Transfer Station, but who may use the Facility during training events. Consistent with the Town's sustainability goals, the facility will be an all-electric building supported by geothermal heating and cooling systems, a rooftop with solar-ready infrastructure and a parking lot with electric vehicle (EV) charging-ready infrastructure.

The proposed project is seeking funding at the 2026 Spring Town meeting. If successful, construction will begin in the Summer 2026. The construction of the proposed project is requested to be phased to allow for on-site DPW operations to remain during the first phase of construction. Once Phase 1 is completed, the remaining existing buildings will be demolished, and Phase 2 will take place to complete the construction. The time required to complete project with phased construction is approximately 27 months. Refer to Appendix D for the proposed project's schematic design-level cost estimate (note: the base design and design alternates have changed slightly since the schematic design phase). We will be submitting an updated, design development-level cost estimate to the Town by the beginning of November.

On behalf of the Applicant, Weston & Sampson respectfully requests the following items:

- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 30.9.G.4 pertaining to the requirement for Parking Stall Dimensions. The proposed parking stalls are 9-feet wide by 18-feet long; whereas the referenced bylaw requires 9-feet wide by 20-feet long. The request is being made so that the parking lot design could maximize stall quantity and fit a landscape island, access road and side yard fencing while still maintaining some buffer along the property line and minimizing impacts on the abutters.
- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 70.3.F.16 pertaining to the requirement for a bicycle rack.

In addition to the above mentioned waivers, the applicant is also seeking a variance from Section 50.1.A pertaining to the maximum building height requirement. This variance request is being filed in a separate application seeking a special permit through the Board of Appeals.

The attached application was prepared in accordance with the standards and recommendations provided in Truro's Zoning Bylaws. If you have any questions or would like to discuss this further, please do not hesitate to contact me at (508) 203-4231 or donahue.della@wseinc.com.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Della Donahue
Project Manager

Appendix A

Commercial Site Plan Review
Application Form

Town of Truro Planning Board

P.O. Box 2030, Truro, MA 02666

APPLICATION FOR COMMERCIAL SITE PLAN REVIEW

To the Town Clerk and the Planning Board of the Town of Truro, MA Date 10/20/2025

The undersigned hereby files an application with the Truro Planning Board for the following:

☒ ***Site Plan Review*** pursuant to §70 of the Truro Zoning Bylaw

☐ ***Waiver of Site Plan Review*** pursuant to §70.9 of the Truro Zoning Bylaw
(Note: Site Plan Review shall not be waived in the Seashore District)

1. General Information

Description of Property and Proposed Project The project consists of site improvements and a new, consolidated DPW facility. The proposed building includes administrative offices, staff facilities, a carpentry shop, fleet maintenance bays, a vehicle wash bay, a fleet storage garage, utility rooms, and mezzanine storage spaces. The project also includes site components like an exterior knock-down pad, material storage bins and a salt shed. The existing fuel station will remain.

Property Address 17 Town Hall Road, Truro, MA 02666 Map(s) and Parcel(s) 46-269-0

Registry of Deeds title reference: Book 92, Page 23, or Certificate of Title Number N/A and Land Ct. Lot # N/A and Plan # N/A

Applicant's Name Town of Truro

Applicant's Legal Mailing Address 24 Town Hall Road, PO Box 2030, Truro, MA 02666

Applicant's Phone(s), Fax and Email ksclark@truro-ma.gov

Applicant is one of the following: *(please check appropriate box)*

*Written Permission of the owner is required for submittal of this application.

☒ Owner ☐ Prospective Buyer* ☐ Other*

Owner's Name and Address Town of Truro (Kelly Clark, Town Manager), P.O. BOX 2030, Truro, MA 02666

Representative's Name and Address Weston & Sampson - 100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Representative's Phone(s), Fax and Email (508) 203-4231; donahue.della@wseinc.com

2. Waiver(s) Request – The Planning Board may, upon the request of the applicant, pursuant to §70.3.E, waive requirements of §70.3.D, provided that in the opinion of the Planning Board such a waiver would not be detrimental to the public interest, cause the Town any expense, or be inconsistent with the intent and purpose of this Bylaw. A request for a waiver by the applicant shall be accompanied by a reasonable explanation as to why the waiver is being requested. If multiple waivers are requested, the applicant shall explain why each waiver is requested.

- The applicant is ***advised*** to consult with the Building Commissioner, Planning Department, Conservation Department, and/or Health Department prior to submitting this application.

Signature(s)

Della Donahue
Applicant(s)/Representative *Printed* Name(s)

Della Donahue
Applicant(s)/Representative *Signature(s)*

Kelly S. Clark
Owner(s) *Printed* Name(s) or written permission

Kelly S. Clark
Owner(s) *Signature(s)* or written permission

Your signature on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
D. Procedures and Plan Requirements				
1a.	An original and 9 copies of the Application for Site Plan Review	X		
1b.	10 copies of the required plans and other required information including this Checklist	X		
1c.	Completed Criteria Review	X		
1d.	Certified copy of the abutters list obtained from the Truro Assessors Office	X		
1e.	3 copies of drainage calculations stamped by a Professional Engineer	X		
1f.	Applicable filing fee		X	waived
1g.	Any other information that may be applicable or required by the Planning Board	X		truck turning simulations
	Site Plans			
2a.	Site Plans shall be prepared, signed and stamped by a Registered Land Surveyor and Professional Engineer	X		
2b.	Site Plans shall be prepared at a scale of one inch equals forty feet (1"=40') or larger		X	Scale 1"= 20', for detail readability
3a.	General - Submitted plans shall contain the following:			
3a. 1	North Arrow/Location Map: A north arrow and a locus plan containing sufficient information to locate the subject property, such as streets bounding or providing access to the property.	X		
3a. 2	Zoning Information: All applicable Zoning Bylaw information regarding the site's development, both existing and proposed. This information shall be placed in a table format which must list all parking; setbacks; percent of lot coverage, broken down by parking, walkways, building(s), etc.; number of dwelling units; total amount of square feet; size of signs, and any other applicable zoning information necessary for the proper review of the site plan.	X		See C000 Cover Sheet
	Existing:	X		See C100 & C101 Alpha Survey Plans
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Size of signs	X		
	Any other applicable zoning information necessary for the proper review of the site plan	X		See C000 Cover Sheet
	Proposed:			
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		
	Size of signs	X		See Detail 7/ Sheet C604
	Any other applicable zoning information necessary for the proper review of the site plan	X		See Zoning Dimensioal Table on C000 Cover Sheet
3a. 3	Assessor and Deed Information: The Truro Assessors Atlas Map(s) and Parcel(s) numbers and all plan and deed references.	X		See C100 & C101 Alpha Survey Plans
3a. 4	Graphic Scale	X		
3a. 5	Title Block - Including:	X		
	Name and description of the project	X		
	Address of the property	X		
	Names of the record owner(s) and the applicant(s)		X	See C000 Cover Sheet
	Date of the preparation of the plan(s) and subsequent revision dates	X		
3a. 6	Legend of all symbols	X		See Sheets C001, C100 & C10
3b.	Existing Conditions Plan - showing the following:			
3b. 1	Total area and dimensions of the lot shown on a surveyed plan conforming to the requirements of the Barnstable County Registry of Deeds.	X		See C100 & C101 Alpha Survey Plans
3b. 2	Location of existing buildings (including the number of stories, overall height in feet, and gross floor area in square feet of all existing buildings), parking, drives, walks, lighting service areas, all utilities, drainage facilities, easements, and other appurtenances, including setbacks from property lines.	X		
	Location of existing buildings	X		
	Number of stories	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Overall height in feet	X		
	Gross floor area in square feet		X	
	Parking	X		
	Drives	X		
	Walks	X		
	Lighting service areas	X		
	All utilities	X		
	Draining facilities	X		
	Easements	X		
	Other appurtenances	X		
	Setback from property lines	X		See Zoning Dimensioal Table on C000 Cover Sheet
3b. 3	Existing contours based on two foot (2') contour intervals.	X		
3b. 4	General location of trees having a caliper of ten (10) inches or more diameter at breast height (DBH), all resource areas as defined in M.G.L. Chapter 131, Section 40, landscaping and other significant natural features.	X		See C100 & C101 Alpha Survey Plans
3b. 5	Respective floor areas and/or square footage of existing uses of buildings and/or the property.		X	
3b. 6	Existing location(s) of any freestanding sign(s).	X		
3b. 7	National Flood Insurance Program flood hazard elevation.		X	Site is not located within a FEMA Flood Hazard Zone
3b. 8	Massachusetts Natural Heritage Endangered Species Act jurisdiction.		X	N/A
3c.	Proposed Conditions Plan - showing the following:			
3c. 1	Building Location: Identification of all building(s) to be located on the site. The number of stories, overall height in feet and gross floor area in square feet of all buildings shall be indicated.	X		
3c. 2	Building Elevation: A drawing(s) of the exterior of all building(s), as viewed from all sides, including dimensions, at a scale of no smaller than 1/8” = 1’-0”. This drawing must be at least 8" x 11" in size.	X		See sheets A106, A201 A201A, and A1011

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 3	Location of Parking/Walkways: Identification of the location of all parking and walkways, including curb cuts that will be used for site access from adjacent roadways or access points. Parking shall be consistent with the requirements outlined in §30.9.	X		
3c. 4	Easements/Legal Conditions: Identification of legal encumbrances(s), including easements, that are related to the site's physical development, and a listing of any condition(s) placed upon the site by the Zoning Board of Appeals, Planning Board, Conservation Commission, Board of Health or any other public body or agency with the authority to place conditions on the site's development.		X	See C100 & C101 Alpha Survey Plan notes, there are no known easements at the site.
3c. 5	Stormwater Drainage: All storm water drainage facilities utilized by the site shall be shown on the site plan. Storm water drainage calculations, which support the design of the control facilities shown on the plan, shall be calculated using a 2, 10, and 50-year storm events.	X		See Sheet C401 Grading & Drainage Plan and Appendix B for the accompanying Stormwater Report
3c. 6	Grades: Topography and a grading plan of the site.	X		
3c. 7	Location of Walls: Identification of the location, height, length, and materials to be used for all retaining walls to be located on the site.		X	No retaining wall are proposed on site.
3c. 8	Signs: Identification of the location, height and materials to be used for all signs to be located on the site. Signs will be reviewed using the Town of Truro Sign Code section of the zoning bylaw.	X		See Detail 7/ Sheet C604 for the Permanent Traffic Sign Summary Table.
3c. 9	Location of Streets/Drives: Identification of all streets and driveways including the type and dimensions of curbs and gutters. Distances to all the nearest streets and/or curb cuts shall be shown for both sides of any street which is adjacent to the site.	X		
3c. 10	Outdoor Storage/Display Areas: Identification of the location and type of outdoor storage and display areas on the site.	X		
3c. 11	Refuse Areas: Identification of the location of each outdoor refuse storage area, including the method of storage and screening. All refuse areas must be fully enclosed.		X	No dumpster enclosure area is proposed on site.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 12	Lighting Facilities: Identification of all illumination, including numbers and locations, indicating the direction and the degree of illumination offered by the lighting facilities and including specifications of the light fixture(s) to be used. (Also see General Bylaws Ch. IV §6.)	X		See Sheets LC001, LC002, LC003, and LC004 for the proposed Lighting Plans.
3c. 13	Location of Wetlands and Other Resource Areas: All resource areas as defined in M.G.L. Chapter 131, Section 40. (If applicable, the applicant shall file a Notice of Intent with the Truro Conservation Commission concurrently with the application to the Planning Board for Site Plan Review.)	X		There are no wetlands on or adjacent to the site. The existing conditions survey locates the existing ground water supply well on site.
3c. 14	Location and Description of Utilities. Identification of all utilities, including sewer line locations and profiles and storm drainage systems.	X		See Sheet C501 Utility Plan.
3c. 15	Parking and Driveway Cross Section: a cross section identifying the proposed construction of driveways and parking areas on the site.	X		See Detail 5/ Sheet C602 for the Pavement Section Detail.
3c. 16	Limit of work area (area to be disturbed during construction, including parking and storage of vehicles and equipment) and work staging area(s).	X		See Sheet C201.
3d.	Proposed landscape schedule for, and identification of, the location of all perimeter and interior landscaping – showing the following:		X	Proposed Landscaping includes loam & seed only.
	Proposed paving materials for walkways	X		
	Fences	X		
	Stonewalls		X	No stonewalls are proposed on site.
	All planting materials to be placed on the site	X		
	All existing trees over 10 inches diameter at breast height (DBH) to be saved or removed shall be shown on the site plan	X		See Sheet C201.
3e.	Building Plans – at a scale of no less than 1/8" = 1'-0" showing the following:	X		See sheets A101, A101A, A201, A201A, A106, and A1011
3e. 1	Elevations showing exterior materials and features including but not limited to doors, windows, trim, roof, lighting and including the height of the building(s).	X		
3e. 2	Floor plans with dimensions.	X		
3f.	Project Estimate:	X		
	Estimated date of initiation	X		refer to cover letter / project overview
	Estimated time required to complete the proposed project and any and all phases thereof	X		refer to cover letter / project overview
	Written cost estimate with a breakdown of the building(s) and all site improvements	X		See Appendix D for SD Cost Estimate

ADDRESSING THE REVIEW CRITERIA

§ 70.1 PURPOSE

The purpose of Site Plan Review for Commercial Development and for Residential Development is to protect the health, safety, convenience and general welfare of the inhabitants of the Town. It provides for a review of plans for uses and structures which may have significant impacts, both within the site and in relation to adjacent properties and streets; including the potential impact on public services and infrastructure; pedestrian and vehicular traffic; significant environmental and historic resources; abutting properties; and community character and ambiance.

Instructions: Please provide the Planning Board with a short explanation of how your application meets each of the review criteria of §70.3F of the Truro Zoning Bylaw. If you require extra space for your answers, please attach the additional information to your application in no more than two pages. This is to provide the Planning Board with an overview of your rationale prior to the meeting.

§70.3F – REVIEW CRITERIA/DESIGN GUIDELINES

The Planning Board will review applications and their supporting information based on the following:

1. The proposal is in conformity with all applicable provisions of the Zoning Bylaw because:
   The project has been designed to conform with applicable provisions of the Zoning Bylaw with the exception of the two waivers requested herein, and the variance being sought by Special Permit through the Board of Appeals.

2. The proposal provides for the protection of abutting properties and the surrounding area from detrimental site characteristics and from adverse impact from excessive noise, dust, smoke, or vibration higher than levels previously experienced from permitted uses because:

   The proposed site is designed to provide enhanced protection for abutting properties and the surrounding area, mitigating detrimental site characteristics and reducing adverse impacts beyond current levels. Because it is the location of existing operations, the new design incorporates improvements for greater protection. Key enhancements include: relocating most outdoor operations indoors; orienting the salt shed door inward toward the DPW yard; using proposed structures to shield operations; ensuring compliance with current lighting codes; installing perimeter fencing along the side yards; and adding other features intended to benefit neighboring properties and the surrounding area.

3. The proposal provides for the protection of adjacent properties and the night sky from intrusive lighting, including parking lot and building exterior lighting. Lighting must be consistent with Chapter IV, Section 6 of the General Bylaws of the Town of Truro because:

   Specified site light fixtures will be provided as dark sky compliant and will be provided with house side shields to project lighting away from property lines to maintain 0-foot candle level at the property line, meeting or exceeding the General Bylaws. Refer to Appendix F for Lighting / Photometric Site Calculation plans (will be provided in a supplemental filing).

4. The proposal provides for the protection of significant or important natural, historic, or scenic features because:

   The existing property provides no significant or important natural or scenic features. Because of the age of building(s), the Town will be filling out a permit for demolition, and the Building Commissioner will determine if a review will be required from the Historic Commission.

5. The building sites shall minimize obstruction of scenic views from publicly accessible locations; minimize tree, vegetation, and soil removal and grade changes; and maximize open space retention because:

   The site is the current site of DPW operations and therefore has no scenic views. Further, the project involves minimal tree, vegetation, and soil removal and grade changes. Refer to the plan sheet Cover Page in Appendix F for the Lot Coverage Table which indicates that the lot coverage is being increased by 2.85 % compared to existing for a total of 46.56%.

6. The proposal adequately provides for refuse disposal because:

   The site has a dumpster that is routinely transported by Town's forces to the Town's transfer station.

7. The proposed sewage disposal and water supply systems within and adjacent to the site shall be adequate to serve the proposed use because:

   The project proposes a new septic system and nitrogen removal system sized for both the proposed DPW and existing Town Hall.
   The existing well serves both the current DPW and Town Hall and has experienced minor contamination. This project proposes a new drinking water well and force main from an adjacent lot, 22 and 24 Meetinghouse Road, for both the new DPW and existing Town Hall that will improve water quality. This well is currently being permitted with MassDEP.

8. The proposed drainage system within the site shall be adequate to handle the runoff resulting from the development. Drainage run-off from the project shall not: damage any existing wellfield(s) or public water supply; damage adjoining property; overload, silt up or contaminate any marsh, swamp, bog, pond, stream, or other body of water; or interfere with the functioning of any vernal pool because:

   The proposed drainage system is designed to meet current MassDEP standards and local bylaws. Refer to Appendix B for the stormwater design report.

9. A soil erosion plan shall adequately protect all steep slopes within the site and control runoff to adjacent properties and streets both during and after construction because:

   Refer to Appendix F, Sheet C201, for construction activities, and refer to Sheet C401 for long term stormwater management design.

10. The proposal shall provide for structural and/or landscaped screening or buffers for storage areas, loading docks, dumpsters, rooftop or other exposed equipment, parking areas, utility buildings and similar features viewed from street frontages and residentially used or zoned premises because:

    The proposed facility enhances screening and buffering from operations through the addition of a stockade fence along the side property lines abutting residential uses. These side yards are generally maintaining the same level of natural vegetative screening as currently experienced. The rear yard will maintain its natural vegetative buffer of approximately 90 feet. The front of operations will be consistent with current operations.

11. Buildings and structures within the subject site shall relate harmoniously to each other in architectural style, site location, and building exits and entrances. Building scale, massing, materials, and detailing should be compatible with the surrounding area because:

    The proposed architectural style of the DPW's lower, administrative mass relates to the architectural style of the Town Hall across the street. The larger masses of the other building blocks are due to functionality or framing type (pre-engineered metal buildings). The mass of the fleet storage garage is minimized as much as possible, and the vehicle maintenance is strategically located further back on the project site.

12. Electric, telephone, cable, and other such utility lines and equipment shall be placed underground because:

    All new electric, telephone, and cable utility lines will be placed underground, feeding from an existing utility pole located on the property.

13. The project shall not place excessive demands on Town services because:

    The proposed project has no change in staffing or operations, and therefore will not place excessive demands on Town services. Additionally, the proposed facility will improve the DPW’s ability to respond to demands and serve the community more efficiently.

14. The location and number of curb cuts shall be minimized to reduce turning movements and hazardous exits and entrances. Where appropriate and allowable, access to adjoining properties shall be provided. Joint access driveways between adjoining properties shall be encouraged because:

The new DPW facility's layout has been designed with appropriate exits and entrances from the property access road to enhance safety through proper turning movements of anticipated vehicles. Refer to Appendix C to see Truck Turning Circulation Plans.

15. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent and other ways serving the project shall be maximized. Traffic patterns for vehicles and pedestrians must show safe and adequate circulation within and access to and from the site because:

The DPW project has been designed for safe vehicular traffic including: Counter-clockwise truck circulation for site lines and visibility, visitor parking and pedestrian traffic contained within the front of the DPW site for separation of operations from the public, and security gates for separation of operations from the public.

16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s) because:

The site includes an existing bicycle rack at Town Hall located on this property. As a formality this application is requesting a waiver of the bicycle rack at this building.

Appendix B

Stormwater Report

Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
tel: 508.698.3034

STORMWATER MANAGEMENT REPORT

October 2025

TOWN OF
Truro
MASSACHUSETTS

Department of Public Works
24 Town Hall Road

PREPARED FOR:
TOWN OF TRURO

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

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



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

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

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

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

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

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

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

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

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

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature



10·16·25
Signature and Date

Checklist

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

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

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

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☐ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☐ Other (describe): _____

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

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

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

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

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☒ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☒ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☒ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☒ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

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

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☒ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☒ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☒ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☒ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

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

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Applicant/Project Name: Town of Truro – Department of Public Works

Project Address: 24 Town Hall Road, Truro, MA

Application Prepared by:
Firm: Weston & Sampson, Inc.
Registered PE: Alyssa Peck, PE

NARRATIVE

Project Description

The Town of Truro proposes the reconstruction of the existing Department of Public Works (DPW) facility located at 24 Town Hall Road in Truro, Massachusetts. The proposed project is located at the existing Truro DPW property (the Site) which occupies approximately 2.72 acres of a 5.13-acre irregular shaped parcel of land identified as Assessors Map ID 46-269-0.

In addition to Truro DPW, the property also houses Truro Town Hall. The existing DPW buildings and parking areas are situated in the northern portion of the parcel, north of Town Hall Road. Town Hall and the Town Hall parking lot are situated in the southern portion of the parcel, south of Town Hall Road. The site is bordered by Meeting House Road to the north, single-family residential properties to the east and west, and Bridge Street to the south. The grade beyond the developed section of the DPW drops approximately 40 feet down to Meeting House Road. The grade beyond the developed section of Town Hall drops approximately 45 feet to Bridge Street.

The existing DPW Facility includes four main buildings and a parking lot that accommodates 27 parking stalls. The buildings include a 1.5-story DPW garage building with an approximate footprint of 3,370 square feet, a 2-story wooden storage garage with an approximate footprint of 5,390 square feet, a 1-story DPW administration building with an approximate footprint of 2,050 square feet, and a 1-story DPW office building with an approximate footprint of 750 square feet. There are several smaller sheds and non-covered material storage bins located around the DPW site. The ground surface at the site is mostly comprised of asphalt pavement around existing buildings and a packed sand/gravel area northwest of the buildings.

The existing Town Hall portion of the site includes one main Town Hall building with an approximate building footprint of 4,315 square feet and a parking lot that accommodates 15 parking stalls. The subsurface utilities include several stormwater dry wells, water, a public ground water supply well, and three septic systems, two for the DPW campus and one for the Town Hall. MassGIS indicates there are no wetlands located on, or within, 100 feet of the Site.

The existing project site is located within a DEP approved Zone I and Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards. The existing Public Water Supply Well is to be decommissioned and, as part of a separate project, a new water supply well will be installed on the adjacent property at 22-24 Meting House Road. A new water line from the new well will be installed to connect to the new DPW Facility and existing Town Hall building. With

the new location of the new water supply well, the DPW Facility will no longer be located in a MassDEP approved Zone I (100-foot radius of the new public water supply well), but a portion of the site will remain located within an Interim Wellhead Protection Area (IWPA) (500-foot radius of the new well).

The proposed project includes the construction of a new, approximately 23,520 square foot, 1-story Department of Public Works (DPW) building, a 4,050 square foot cold storage building, and a 2,880 square foot Salt Shed. The DPW building will include administration/engineering areas, equipment repair shops, wash bay, and vehicle storage areas. Additional proposed site improvements include newly paved circulation, parking spaces for 27 vehicles, utility and stormwater improvements to support the new DPW Facility, and ancillary landscape improvements.

Stormwater Management:

The proposed project will incorporate Stormwater Best Management Practices (BMPs) in compliance with the MassDEP Stormwater Management Standards and Truro Stormwater Regulations.

The approach to stormwater management for the project consists of maintaining existing drainage patterns, minimizing stormwater runoff to off-site areas, and installing structural BMPs to provide water quality treatment, groundwater recharge, and attenuation of peak flows. To achieve this, the runoff from the driveways, parking, and circulation areas will be conveyed to proposed deep sump catch basins equipped with “gas and oil” hood traps and isolator rows of the subsurface infiltration chamber systems. These BMPs will provide the required pre-treatment to the stormwater runoff before discharging to the proposed underground infiltration chamber system, which will provide additional water quality treatment and allow the stormwater to recharge into the ground. The roof runoff from the proposed buildings will discharge into the proposed underground infiltration chambers directly, where it will recharge into the ground.

Stormwater Design

Weston & Sampson utilized HydroCAD computer software to model the stormwater runoff for 2-year, 10-year, 25-year, and 100-year 24-hour storm events. The rainfall amounts used for the analysis were based on the extreme precipitation tables obtained from the Northeast Regional Climate Center. The rainfall depths were 3.20 inches, 4.72 inches, 5.89 inches, and 8.24 inches, respectively.

Soil information was obtained from the Natural Resources Conservation Service (NRCS) Barnstable County Web Soil Survey. The soil survey indicated Carver Coarse sand (3-8 percent slopes) within developed portions of the site, surrounded by Carver Coarse Sand (15-35 percent slopes) in the undeveloped portions of the site. As a result, Hydrologic Group A was assigned to the soils within the project area for the purposes of hydrologic calculations. The soil map and descriptions are included in Appendix A.

In addition to information gathered from Web Soil Survey, test pits (TH-1 through TH-5, and TP-100) were performed in the location of the proposed Infiltration Chamber System A and B, and Pond 1 to confirm soil information obtained from Web Soil Survey and to determine the feasibility of infiltration and respective infiltration rates. The test pits were excavated to approximately 4 feet below the proposed bottom of infiltration BMPs, resulting in an overall depth ranging from 10 to 12 feet below the ground surface. No groundwater was encountered in any of the performed test pits. Along with

test pits, several borings conducted for geotechnical purposes were performed within the vicinity of proposed Infiltration Chambers A and B and Stormwater Infiltration Basin, which show soil characteristics consistent with findings of borings and test pits performed throughout the site with very little variability. In summary, the test pit and boring logs indicate sand to depths below the proposed infiltration; therefore, a Rawl's rate of 8.27 inches per hour was used for the design of infiltration BMPs. Complete test pit and boring logs are included in Appendix A.

Existing Drainage Conditions

The existing DPW Facility and Town Hall are located at a topographical high point, bordered by steep slopes down to the northern and southern portions of the parcel. Existing ground surface elevations at the proposed DPW Site are generally flat, ranging from elevations 120 to 124.

The existing conditions in the project area of the site consist of approximately 80,920 square feet of impervious and gravel surface, comprised of the buildings, storage structures, and circulation areas including driveways and parking areas. The perimeter of the site is grassed/wooded and totals an approximate 111,123 square feet site.

Based on the existing drainage pattern, two existing Points of Analysis (POA) were delineated based on the existing topography of the site, shown graphically in Appendix B. The northern portion of the site discharges to POA-1, which includes steep-sloped, wooded ground down to Meeting House Road. A southern portion of the site discharges to a POA-2, which includes steep-sloped, wooded ground down to Bridge Street.

POA-1
Drainage Areas: 1S includes the rear portion of the site, the existing DPW buildings and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells, which the maintenance/performance condition is unknown. The stormwater from this area sheet flows toward the rear of the DPW toward POA-1.

POA-2
Drainage Areas: 1S includes the front portion of the site, the front DPW building and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells whose maintenance/performance condition are unknown. The stormwater from this area sheet flows across Town Hall Road towards catch basins located within the Town Hall exit driveway of the wooden area to the right of the Town Hall, towards POA-2.

Proposed Drainage Conditions

In the proposed condition the amount of impervious surface on site will increase to approximately 89,914 square feet. To mitigate the runoff from the additional impervious surface in the proposed condition, a series of underground chamber infiltration systems is proposed. The infiltration systems will ensure that proposed runoff rates will not exceed the existing rate of runoff. The stormwater runoff from the paved areas will be directed into deep sump catch basins and conveyed to the isolator rows prior to discharge to proposed infiltration systems.

Similar to the existing condition, the runoff from the Site discharges to two distinct Points of Analysis: POA-1 and POA-2, and six drainage areas (1S, 2S, 3S, 4S, 5S, and 6S) which are graphically shown on Hydrology Map – Proposed Conditions in Appendix B.

POA-1
Area 1S includes the grassed and modified rock sloped areas surrounding the rear portion of the Site between the new DPW Facility and the adjacent wooded area. No additional stormwater treatment is proposed for this area.

POA-2
Areas 2S and 3S include the roof area of the proposed cold storage building, a portion of the roofed area of the DPW Facility and Salt Shed and paved circulation areas. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-A).

Area 4S includes a portion of the roof area of the proposed fleet storage building and Salt Shed, and paved circulation area around the existing fuel island. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-B).

Area 5S includes a portion of the roof area of the proposed fleet storage building and the grassed island which houses the stormwater infiltration basin (P-1). The roof runoff from the building will discharge directly into the stormwater infiltration basin without pre-treatment as permitted under the MA Stormwater Regulations. Stormwater discharge from the stormwater infiltration basin will outlet across Town Hall Road to a plunge pool outfall to POA-2.

Area 6S includes Town Hall Road and small areas of lawn between the new DPW and the proposed seven parking stalls along Town Hall Road. This area will remain similar to the existing conditions with the exception of the new parking stalls and limited widening of Town Hall Road to achieve a minimum parking aisle of 24' (required for 2-way traffic). Town Hall Road and the DPW entrance drive will be repaved to minimize erosion along the edge of the driveway and to direct stormwater to POA-2. No additional stormwater treatment is proposed for this area, as this area is considered a redevelopment.

Best Management Practices (BMPs) and Low Impact Development (LID) Measures

Low Impact Development (LID) Measures will be incorporated, where possible, into this project. Unlike the existing condition, the proposed redevelopment provides sediment and oil removal, peak rate attenuation, and groundwater recharge. The BMPs used in this project are described below.

Deep Sump Hooded Catch Basins
The catch basins are to be constructed with a sump (minimum 4 feet) and oil/debris traps to prevent the discharge of sediments and floating contaminants.

Stormwater Infiltration Basin
This basin (P1) accepts flow from the roof area of the proposed Fleet Storage building; it offers storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration.

Underground Infiltration Chambers
These infiltration areas will store and/or attenuate runoff from the storm events and allow for exfiltration of runoff and recharge of groundwater.

Below is an explanation of MassDEP Stormwater Standards 1-10 as they apply to the Town of Truro Public Works Facility project:

STANDARD 1 – NO NEW UNTREATED DISCHARGES

The proposed project will create no new untreated discharges.

The proposed project was designed to mimic existing conditions as much as possible and improve the conditions to the maximum extent practicable. Supporting information and computations demonstrating that no new untreated discharges will result from the project are presented through compliance with Standards 4 through 6.

The project does not propose to discharge any untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. Additionally, the proposed design attenuates stormwater such that discharge rates will be lower than existing conditions. Discharges have been designed to prevent scouring and erosion of downstream surfaces. Therefore, the Project complies with Standard 1.

STANDARD 2 – PEAK RATE ATTENUATION

The Project has been designed to fully comply with standard 2.

The rainfall-runoff response of the Site under existing and proposed conditions was analyzed for storm events with recurrence intervals of 2-, 10-, 25-, and 100-years. The stormwater management system is designed to attenuate peak discharge rates for each of the analyzed design storm events in compliance with Standard 2. Please refer to the comparison of the pre- and post-development discharge rates table in Appendix B.

STANDARD 3 – RECHARGE

The impervious area within the proposed project limits will increase after construction, but with the designed improvements, recharge will be provided in the two underground infiltration chamber systems. The recharge volume provided under post-development conditions is greater than the recharge volume required by MassDEP's Stormwater Management Standards. The minimum required recharge volume is computed to be 8,994 cubic feet based on a project located within Hydrologic soil group A. The proposed infiltration BMPs result in a total recharge volume of 15,527 cubic feet. The proposed infiltration BMPs all drain within 72 hours.

The recharge requirement calculation is included in Appendix C and illustrates compliance with the current MassDEP Stormwater Management Standards.

STANDARD 4 – WATER QUALITY

For the redevelopment portion of the project, Standard 4 is required to be met only to the maximum extent practicable. Stormwater from all new impervious areas will be directed into at least one drainage structure for treatment or recharged through the sandy soils into the ground. Stormwater runoff from all paved areas of the site will be directed through deep sump catch basins and isolator rows before infiltrating in the underground chambers. All drainage features have been adequately sized to mimic existing conditions and promote recharge to groundwater.

In compliance with Standard 4, a Long-Term Pollution Plan and Stormwater Operation and Maintenance Plan is included in Appendix D.

STANDARD 5 – LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS (LUHPPLs)

Because the use of the property will involve maintenance of vehicles, storage of oils and anti-freeze, and snow storage; the land use has the potential for higher pollutant loads. A Long-Term Pollution Prevention Plan (included in Appendix D) identifies proper procedures of practices for source control and pollution prevention due to the site specific LUHPPL. The 44% TSS removal pre-treatment will be achieved prior to discharging any runoff from the proposed paved areas. This requirement will be achieved using a treatment train of deep sump catch basins, and isolator rows prior to discharging into subsurface infiltration chamber systems, combined with incorporating non-structural BMPs such as street sweeping. TSS removal worksheets documenting compliance are included in Appendix C of this report.

STANDARD 6 – CRITICAL AREAS

The existing project site is located within a DEP approved Zone I and an Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under MassDEP's Stormwater Management Standards. Stormwater discharges near or to any critical areas require specific source control and pollution prevention management. The stormwater management system treatment train is designed for the more stringent 1-inch water quality volume as documented in Standard 4 above. The selected stormwater BMPs are consistent with Table CA3 in the Stormwater Management Handbook. A minimum 44% TSS removal pretreatment is also provided prior to infiltration BMPs.

STANDARD 7 – REDEVELOPMENTS AND OTHER PROJECTS SUBJECT TO THE STANDARDS ONLY TO THE MAXIMUM EXTENT PRACTICABLE

The new and expanded areas of impervious surfaces meet all standards for new development.

STANDARD 8 – CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENT CONTROL

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is included in Appendix D of this report. To ensure that the work incorporates the performance standards recommended in MassDEP's Stormwater Management Standards, necessary erosion and sedimentation control measures will be utilized during construction. These measures include compost filter tubes, catch basin protection, and a stabilized construction entrance, as depicted on

the site plans. In addition, the contractor will be required to produce the SWPPP prior to any land disturbance since this project is resulting in over 1 acre of land disturbance.

STANDARD 9 – OPERATION AND MAINTENANCE PLAN

An Operations and Maintenance Plan is provided in Appendix D of this report. Town of Truro DPW will be responsible for the operation and maintenance of the proposed drainage system.

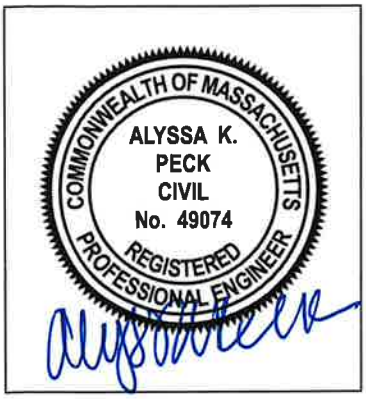
STANDARD 10 – PROHIBITION OF ILLICIT DISCHARGES

Illicit discharges will be prevented on the site through the use of spill/discharge prevention measures, along with good housekeeping and BMPs, and in accordance with the Long-Term Pollution Prevention Plan and O&M plan. A draft copy of the Illicit Discharge Compliance Statement has been developed for this site and is included in Appendix D. A signed Illicit Discharge Compliance Statement will be submitted prior to discharging stormwater to the post-construction stormwater BMPs.

REGISTERED PROFESSIONAL ENGINEER'S CERTIFICATION

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

Registered Professional Engineer Block and Signature



10.16.25

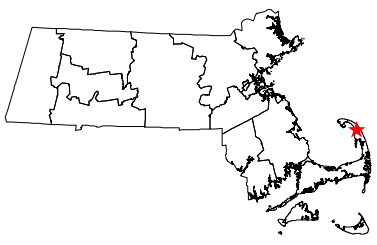
Signature and Date

APPENDIX A



Weston & Sampson

FIGURE 1
LOCUS MAP
TRURO DPW
17 TOWN HALL ROAD
TRURO, MA
BARNSTABLE COUNTY



SCALE IN FEET

0 1000 2000

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\07-DesignMaterials\02-Geotechnical\CAD\Truro DPW - Figure 1 - Locus Map.dwg

Path: \\wse03.local\WSE\Depts\Water\Water Resources Group\GIS - Constraints Mapping\Truro\DPW\GIS\GIS.aprx **User:** GasparA **Saved:** 4/9/2025 10:06 AM **Opened:** 4/9/2025 10:20 AM



N
W E
S

200 100 0 200 Feet

Coastal Zone

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- Hydrologic Connection

Streams
- Perennial Stream
- Intermittent Stream

DEP Wetland Areas
- Marsh/Bog
- Wooded marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune
- Article 97 Land
- ACECs

NHESP Estimated Habitats of Rare Wildlife
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species

NHESP Certified Vernal Pools
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Cold Water Fisheries

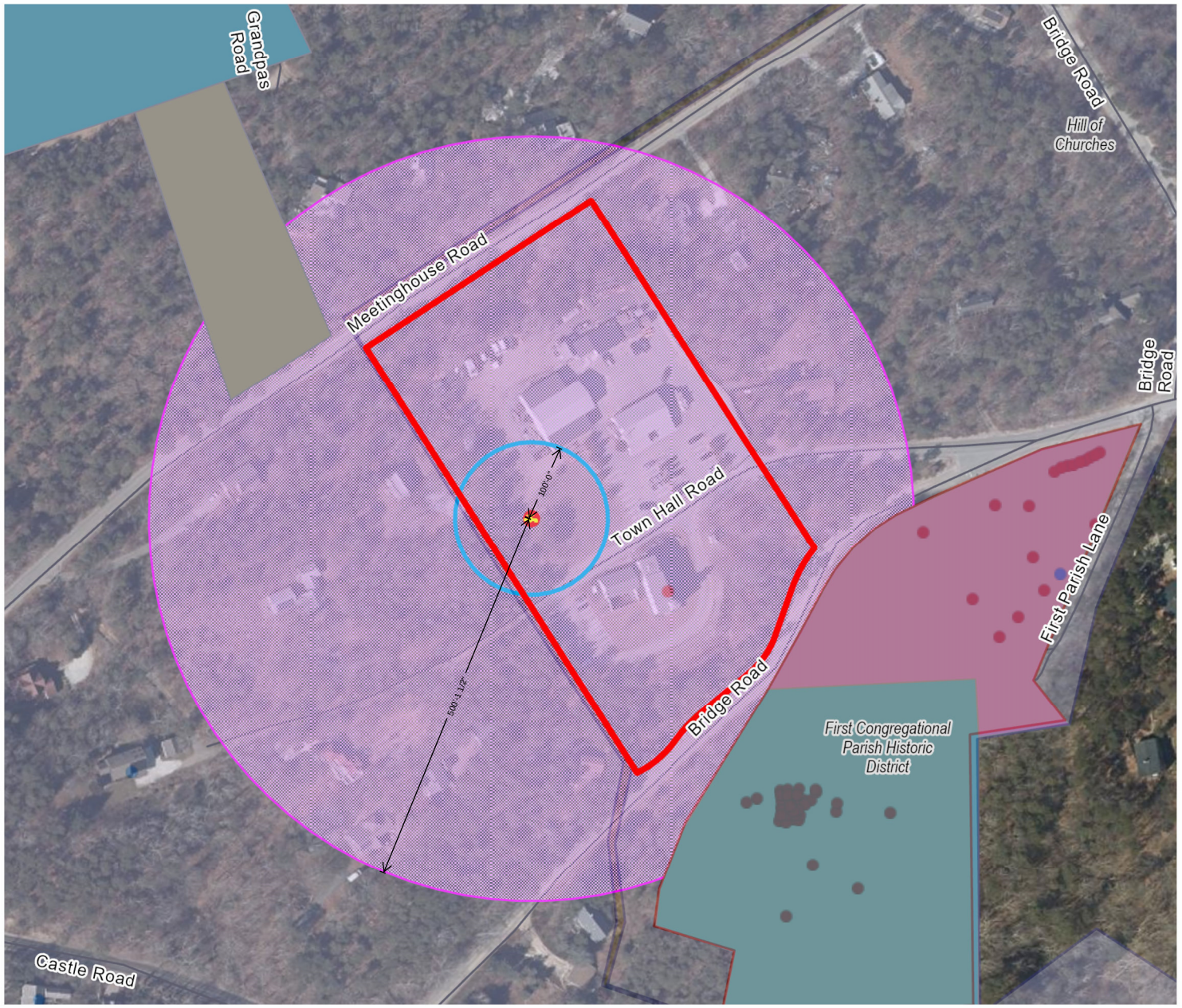
Outstanding Resource Waters
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

FEMA National Flood Hazard Layer
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included

FIGURE 1

24 Town Hall Road
Truro, MA
Environmental
Receptors Map

Weston & Sampson



Castle Hill Snow Village Area

N
W E
S

200 100 0 200
Feet

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- MassHistoric Commission Inventory (Points)
  - National Register of Historic Places ✓
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Inventory (Areas)
  - National Register of Historic Places
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Towns
  - Survey Pending
  - No Survey Pending
- Type II Surfacewater Discharge Permit
- AUL Sites
- Tier Classified Sites
  - TIERI
  - TIERII
  - TIER1D
- Protected and Recreation Open Space
  - State-State Dispute
  - State-Non-Profit Dispute
  - State-Municipal Dispute
  - State-Private Dispute
  - Private-Private Dispute
  - Public Non-Profit
- County
- Federal
- Conservation Organization
- Land Trust
- Municipal
- Private Non-Profit
- Other
- Private
- State
- Unknown
- <all other values>
- Public Water Supplies
  - Community Groundwater Source
  - Surface Water Intake
  - Non-Community Groundwater Source ✓
  - Emergency Surface Water
  - DEP Approved Zone I ✓
  - DEP Approved Zone II
  - IWPA ✓
- Surface Water Protection Areas
  - Surface Water Protection Areas - Zone A
  - Surface Water Protection Areas - Zone B
  - Surface Water Protection Areas - Zone C
  - DEP Approved Zone I
- BWP Landfills by Status
  - Inactive
  - Closed
  - Active

FIGURE 2

24 Town Hall Road
Truro, MA

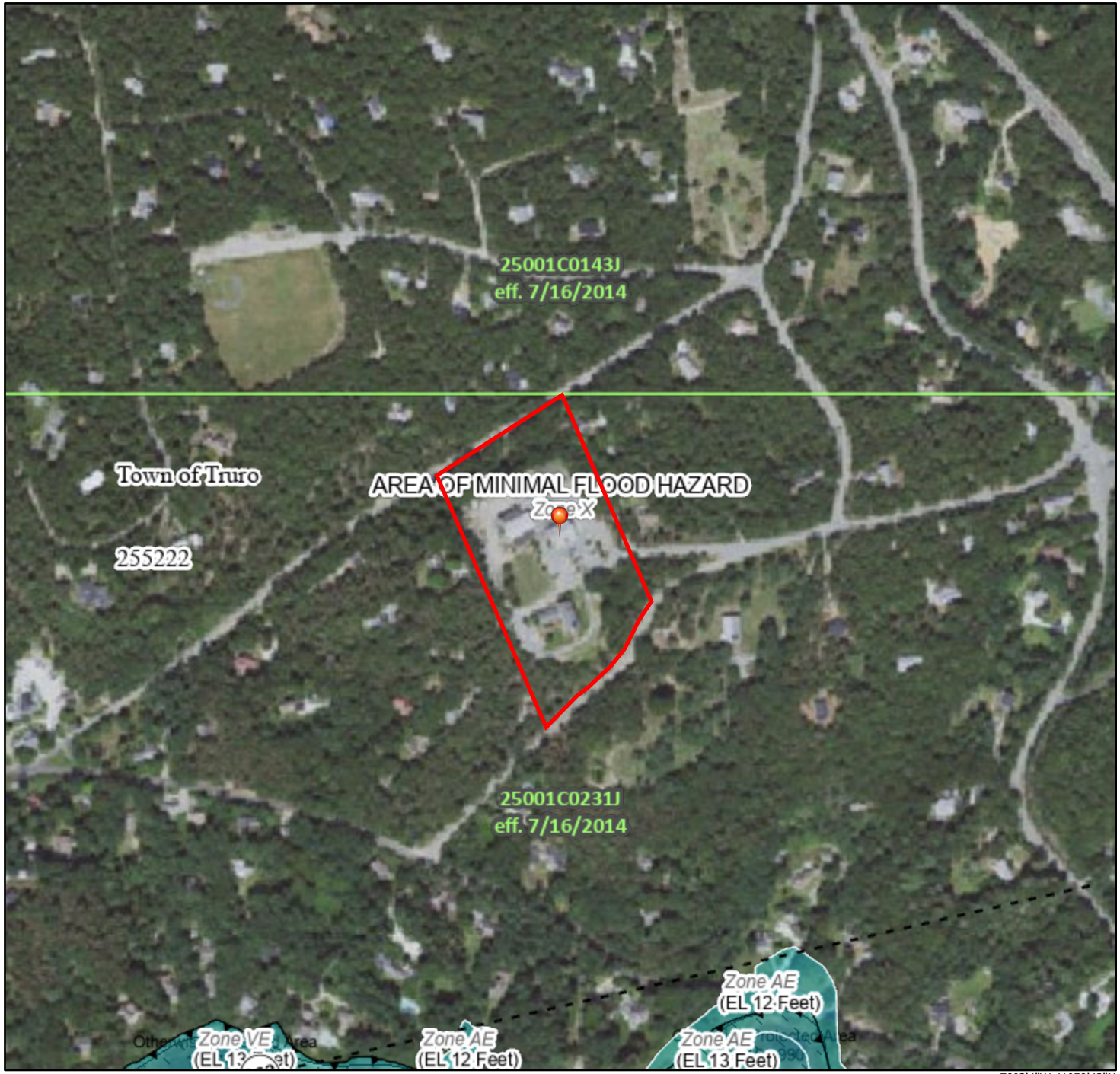
Human Receptor Map

Weston & Sampson

National Flood Hazard Layer FIRMette

FEMA

70°3'41"W 42°0'10"N



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

1:6,000

70°3'4"W 41°59'43"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2025 at 8:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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


70° 3' 27" W
70° 3' 18" W
412400
412430
412460
412490
412520
412550
412580
412610
42° 0' 1" N
41° 59' 51" N
4650350
4650320
4650290
4650260
4650230
4650200
4650170
4650140
4650110
4650080
Meetinghouse Rd
252D
252B
Driveway
Town Hall Rd
Bridge St
Soil Map may not be valid at this scale.
Map Scale: 1:1,430 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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

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

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

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

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

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

Soil Survey Area: Barnstable County, Massachusetts
Survey Area Data: Version 23, Sep 17, 2024

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

Date(s) aerial images were photographed: Jun 10, 2022—Jun 30, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
252B	Carver coarse sand, 3 to 8 percent slopes	A	4.0	87.5%
252D	Carver coarse sand, 15 to 35 percent slopes	A	0.6	12.5%
Totals for Area of Interest			**4.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

CONTRACTOR:	**Desmond Well Drilling, Inc.**	BORING LOCATION:	**See Attached Figure**	DATE START:	**April 16, 2025**
FOREMAN:	**Pat Desmond**	ADVANCE METHOD:	**Hollow-Stem Auger Drilling**	DATE FINISH:	**April 16, 2025**
LOGGED BY:	**Aaron Chabot**	AUGER DIAMETER:	**4-1/4" ID (Stem), 7-5/8" OD (Flights)**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Stephen Spink**	SUPPORT CASING:	**N/A**	FINAL DEPTH:	**39.0 ft.**
EQUIPMENT:	**CME 45, Truck Mounted**	CORING METHOD:	**N/A**	GRID COORDS:	**N:2828052.0 ± / E:1048383.8 ±**
SPT HAMMER:	**Automatic (140-lb.)**	BACKFILL MATERIAL:	**Drill Cuttings**	GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
					Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	S-1 21/24	2 3 3 3	6		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
	S-2 12/24	2 2 2 1	4				[3.0] GC: 9%, SC: 83%, FC: 8%
	S-3 14/24	1 1 1 2	2				
5						116	
	S-4 19/24	2 2 1 2	3				
	S-5 16/24	1 1 1 1	2		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace wood. **[FILL]**		
10						111	
	S-6 18/24	1 2 1 1	3		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (ceramic, glass). **[FILL]**		
	S-7 18/24	1 2 3 4	5				
	S-8 12/24	3 4 5 7	9		**Poorly graded sand with gravel (SP)** - Loose; tan with orange; moist; mostly fine to medium SAND, little fine to coarse gravel, trace non plastic fines.		
15						106	
	S-9 18/24	3 3 2 3	5		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[17.0] GC: 0%, SC: 98%, FC: 2%
20						101	
	S-10 15/24	5 7 8 9	15				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-11 19/24	4 4 5 8	● 9		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-12 19/24	5 7 7 11	● 14		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
35							86	
		S-13 15/24	4 7 9 11	● 16				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	121.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2828167.6 ± / E:1048540.8 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-1 19/24	2 2 1 2	3		**Poorly graded sand with silt (SP-SM)** - Very loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
		S-2 13/24	2 1 2 2	3		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[FILL]**		
		S-3 14/24	2 2 4 4	6		**Silty sand (SM)** - Loose; orange; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[SUBSOIL]**		
5		S-4 19/24	2 3 2 4	5		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.	116	[7.0] GC: 1%, SC: 98%, FC: 2%
10		S-5 12/24	2 2 3 3	5			111	
15		S-6 19/24	2 2 2 2	4			106	
20		S-7 17/24	2 4 3 3	7		*Coarse gravel*	101	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 20/24	4 5 5 6	● 10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-9 20/24	2 4 4 4	● 8				
35							86	
		S-10 13/24	5 7 10 12	● 17				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

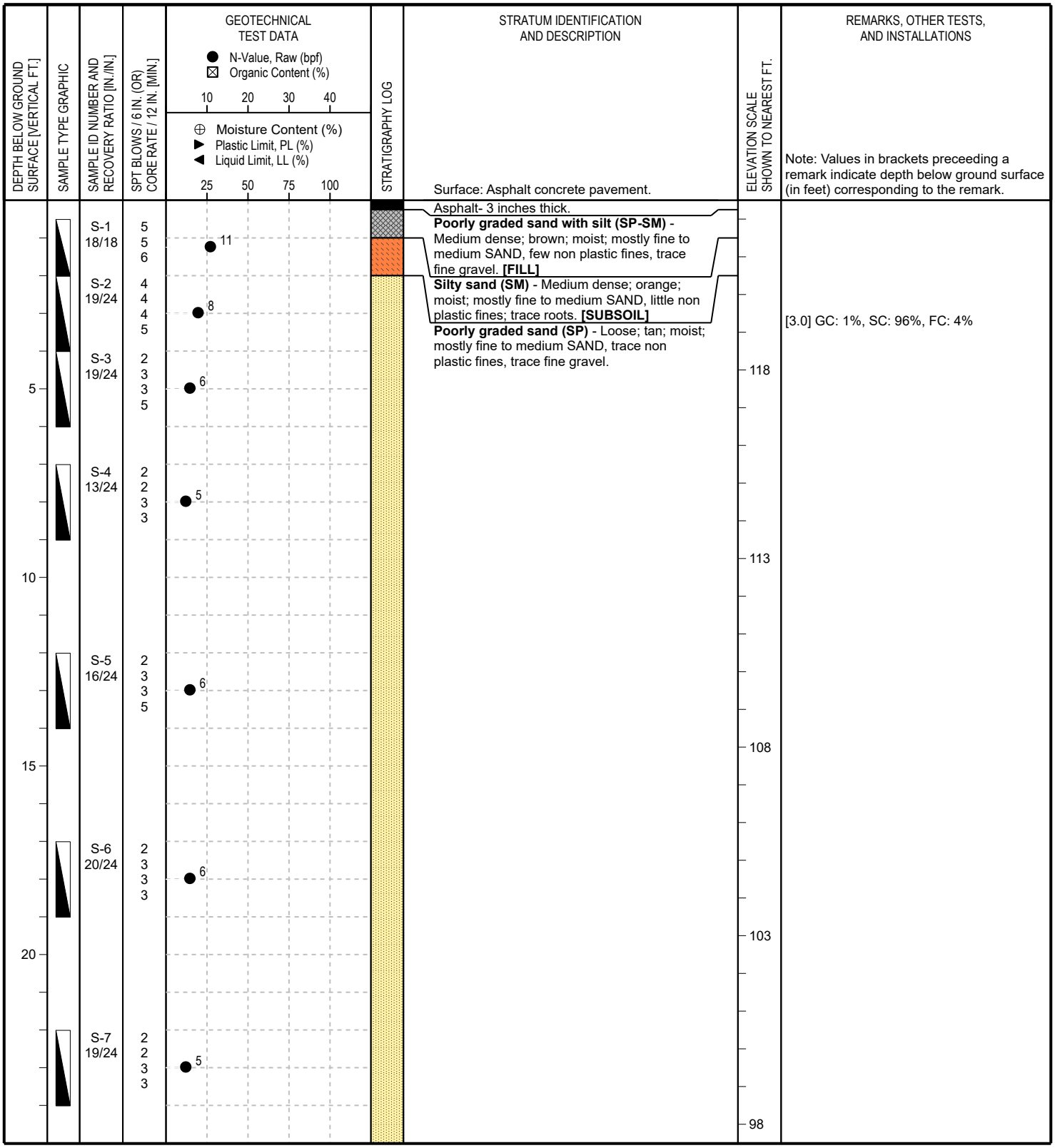
Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	122.5 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2828056.7 ± / E:1048574.5 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings and Asphalt Patch	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	4 5 5 4	● 10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	3 5 6 6	● 11			93 88	
35		S-10 18/24	5 8 8 12	● 16			83	**Exploration ended at 39.0 ft.**
40							78	
45							73	
50								

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

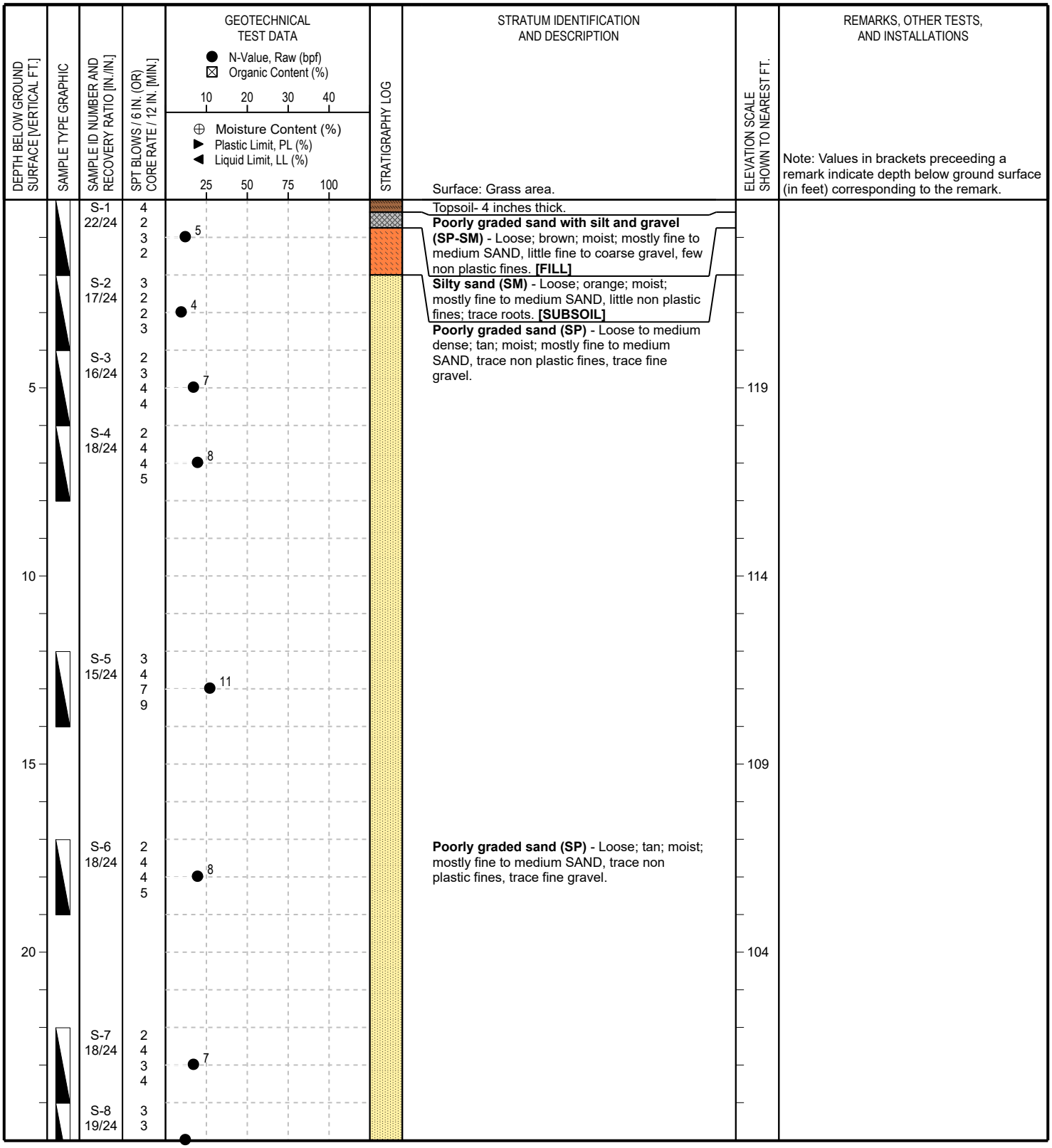
Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	34.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827922.3 ± / E:1048496.1 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			2 3			**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
		S-9 18/24	6 11 13 14	24		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							94	
		S-10 18/24	7 9 11 10	20				
								Exploration ended at 34.0 ft.
35							89	
40							84	
45							79	
50							74	

GEOTECHNICAL TEST DATA
- ● N-Value, Raw (bpf)
- ⊠ Organic Content (%)
- 10 20 30 40
- ⊕ Moisture Content (%)
- ▶ Plastic Limit, PL (%)
- ◀ Liquid Limit, LL (%)
- 5 25 50 75 100

Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.

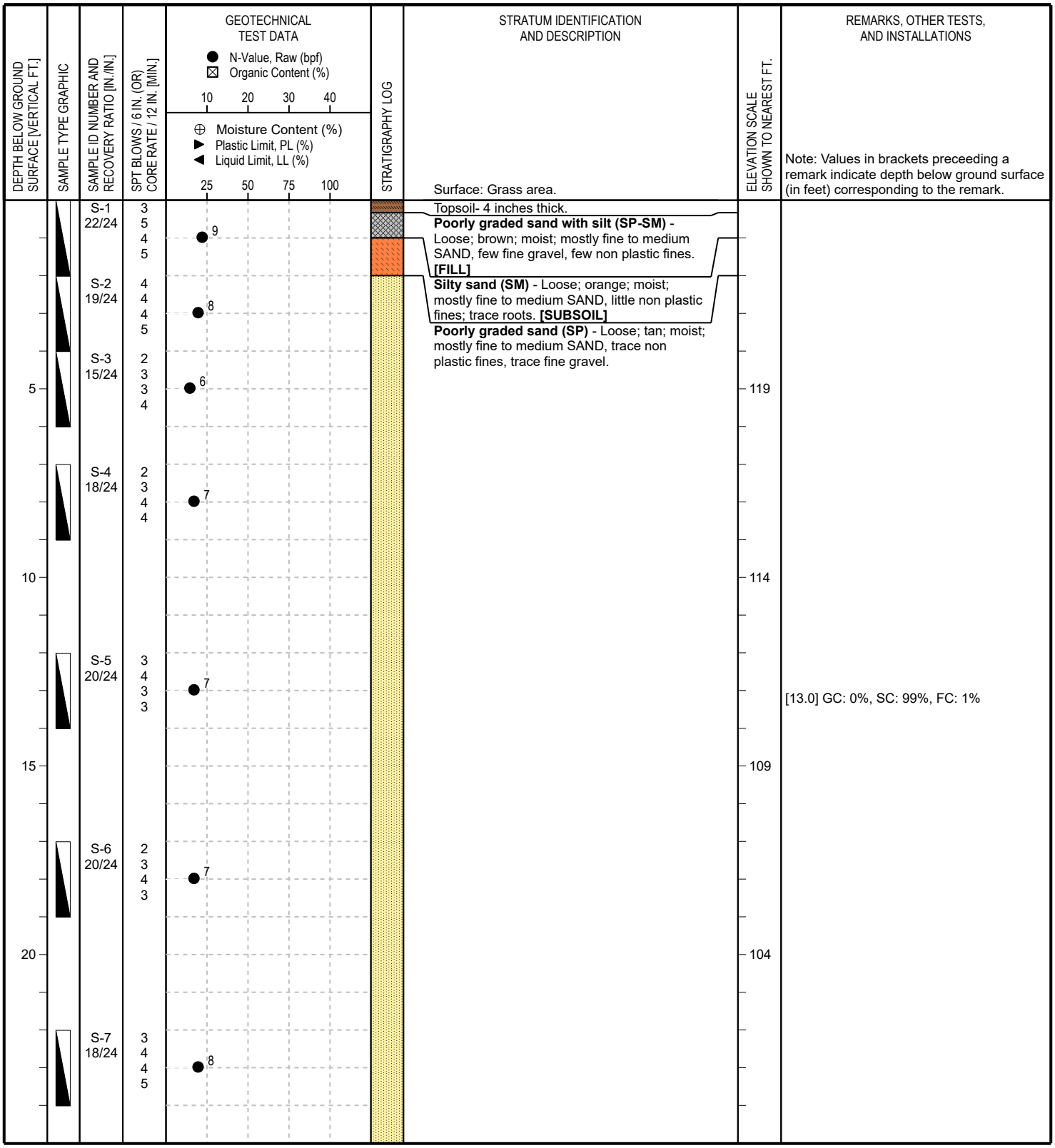
Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827852.4 ± / E:1048544.3 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	5 6 5 7	11		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	4 5 5 7	10			94	
		S-10 16/24	5 5 5 5	10				
35							89	
		S-11 18/24	3 4 5 7	9				
								Exploration ended at 39.0 ft.
40							84	
45							79	
50							74	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	122.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	29.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827945.1 ± / E:1048637.9 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings and Asphalt Patch	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Asphalt concrete pavement.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
						Asphalt- 3 inches thick.		
		S-1 17/18	5 6 6	12		**Poorly graded sand with silt and gravel (SP-SM)** - Medium dense; brown; moist; mostly fine to medium SAND, little fine gravel, few non plastic fines. **[FILL]**		
		S-2 19/24	4 5 5 5	10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
5		S-3 17/24	2 3 4 5	7			117	
		S-4 19/24	2 4 6 7	10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[8.0] GC: 1%, SC: 98%, FC: 1%
10							112	
		S-5 19/24	5 7 8 9	15				
15							107	
		S-6 15/24	3 5 5 8	10				
20							102	
		S-7 20/24	4 5 5 6	10				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 16/24	5 11 14 12	25		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							92	**Exploration ended at 29.0 ft.**
35							87	
40							82	
45							77	
50							72	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

4/15/2025
EMILY BEEBE SE
CHRIS LUCY EXC.

TH 1 NWE

Horizon	Munsell	Depth
FILL		0-12"
C	10YR 5/8 MS	12"-101"

TH 2 NWE

FILL		0-18"
C	10YR 5/8 MS	18"-105"

TH 3 NWE

FILL		0-4
B	10YR 5/6 LS	4-12
C1	10YR 5/8 MS	12-62
C2	10YR 7/3 MS	

TH 4 (#1) NWE

FILL		0-10"
C	10YR 5/6 MS	10-120"

TH 5

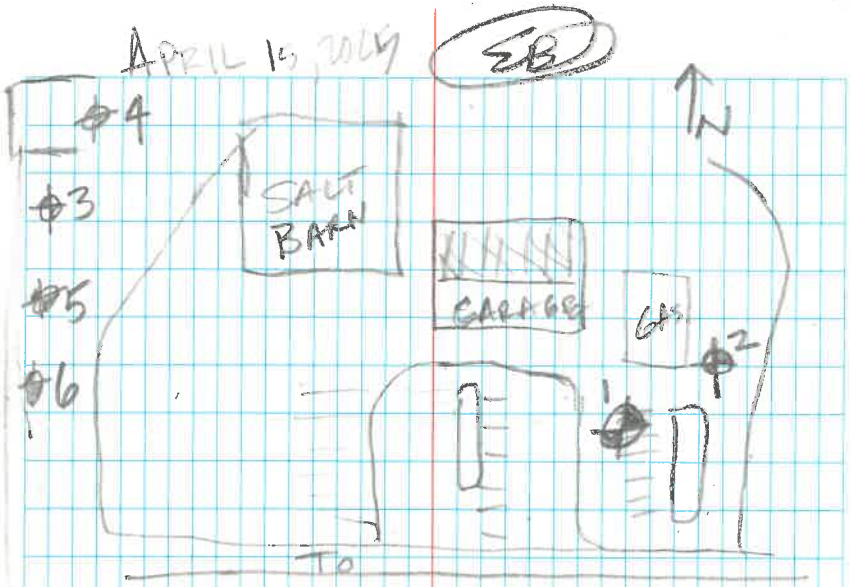
FILL NWE →		0-4
B	10YR 5/6 LS	4-13
C	10YR 5/8 MS	13-110

TH 6 NWE

FILL		0-10"
E+B	10YR 5/6 LS	10"-29"
C	10YR 5/8 MS	29"-126"

NWE = No GROUND WATER ENCOUNTERED

APRIL 15 2025 EB



Weston & Sampson

Department of Public Works

TEST PIT ID: TP-1

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 15.0 ft. , Width: 10.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 8.0 ft.**	FINAL DEPTH:	**8.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828049 ± / E:1048355 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; common brick and metal fencing debris. **[FILL]**		
			1 inch topsoil layer		
5				116	
					Caving at 8.0 ft. (exploration ended).

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-2

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

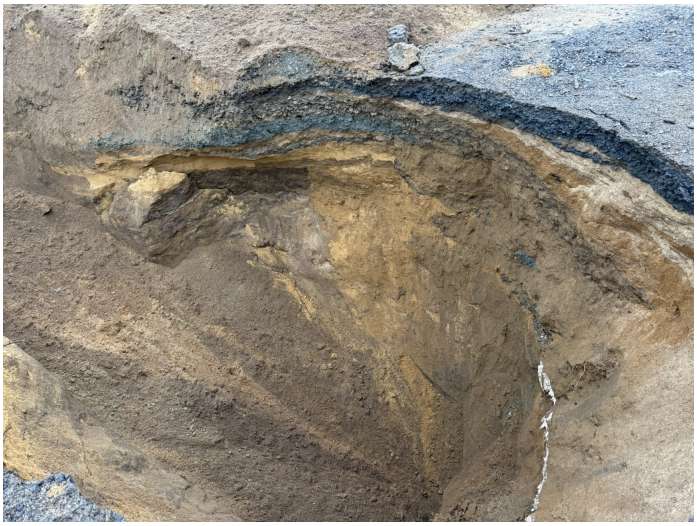
CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 30, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 16.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 9.0 ft.**	FINAL DEPTH:	**9.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828090 ± / E:1048427 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**	117	
5	G		*White plastic liner observed in west sidewall*		
				112	***Caving at 9.0 ft. (exploration ended).***

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-3

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 17.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**9.5 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828100 ± / E:1048466 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]** **Poorly graded sand with silt (SP-SM)** - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (metal, glass, plastic, roots). **[FILL]** *1 inch topsoil layer* *2 inch topsoil layer*		
5				117	
	G		**Silty sand (SM)** - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, trace fine gravel, trace non plastic fines.		
				112	**Exploration ended at 9.5 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-4

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 13.0 ft. , Width: 8.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**5.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828152 ± / E:1048561 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (metal, plastic, roots). **[FILL]**		
	G		Topsoil- 2 inches thick.		
			Silty sand (SM) - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, few fine to coarse gravel, trace non plastic fines.		
5				116	**Exploration ended at 5.0 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
18"	Ap - Sand (2.5Y 4/3) 0% Gravel and 0% Cobbles Single Grain
72"	B_w - Sand (7.5YR 6/8) 0% Gravel and 0% Cobbles Single Grain
120"	C- Sand (10YR 8/4) 0% Gravel and 0% Cobbles Single Grain
	- End of Exploration - Groundwater was observed and exploration was ended.

NOTES:

1. No GW Observed

TEST PIT NUMBER

TP-100

Weston & Sampson℠

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION



NOTES:

1. No GW Observed

TEST PIT NUMBER
TP-100

Weston & Sampson℠

APPENDIX B

TRUOR DPW FACILITY
TRURO, MA

Pre-Development Conditions vs. Post-Development Conditions									
Pre-Development Flows					**Post-Development Flows**				
Storm Event	2-year storm	10-year storm	25-year storm	100-year storm	Storm Event	2-year storm	10-year storm	25-year storm	100-year storm
	3.20 in	4.72 in	5.89 in	8.24 in		3.20 in	4.72 in	5.89 in	8.24 in
Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)
POA 1	2.67	4.77	6.42	9.73	POI 1	0.00	0.00	0.03	0.18
Offiste - Woods Meetinghouse Road					*Offiste - East*				
POA 2	1.26	2.60	3.70	6.01	POI 2	0.82	1.69	2.79	4.47
Offsite - Woods Town Hall Road					*Offsite - North*				



NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.

2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)
- PAVEMENT, HSG A (CN=98)
- GRAVEL, HSG A (CN=96)

PLAN

SCALE: 1" = 50'

0 50 100 150

SCALE: 1" = 50'

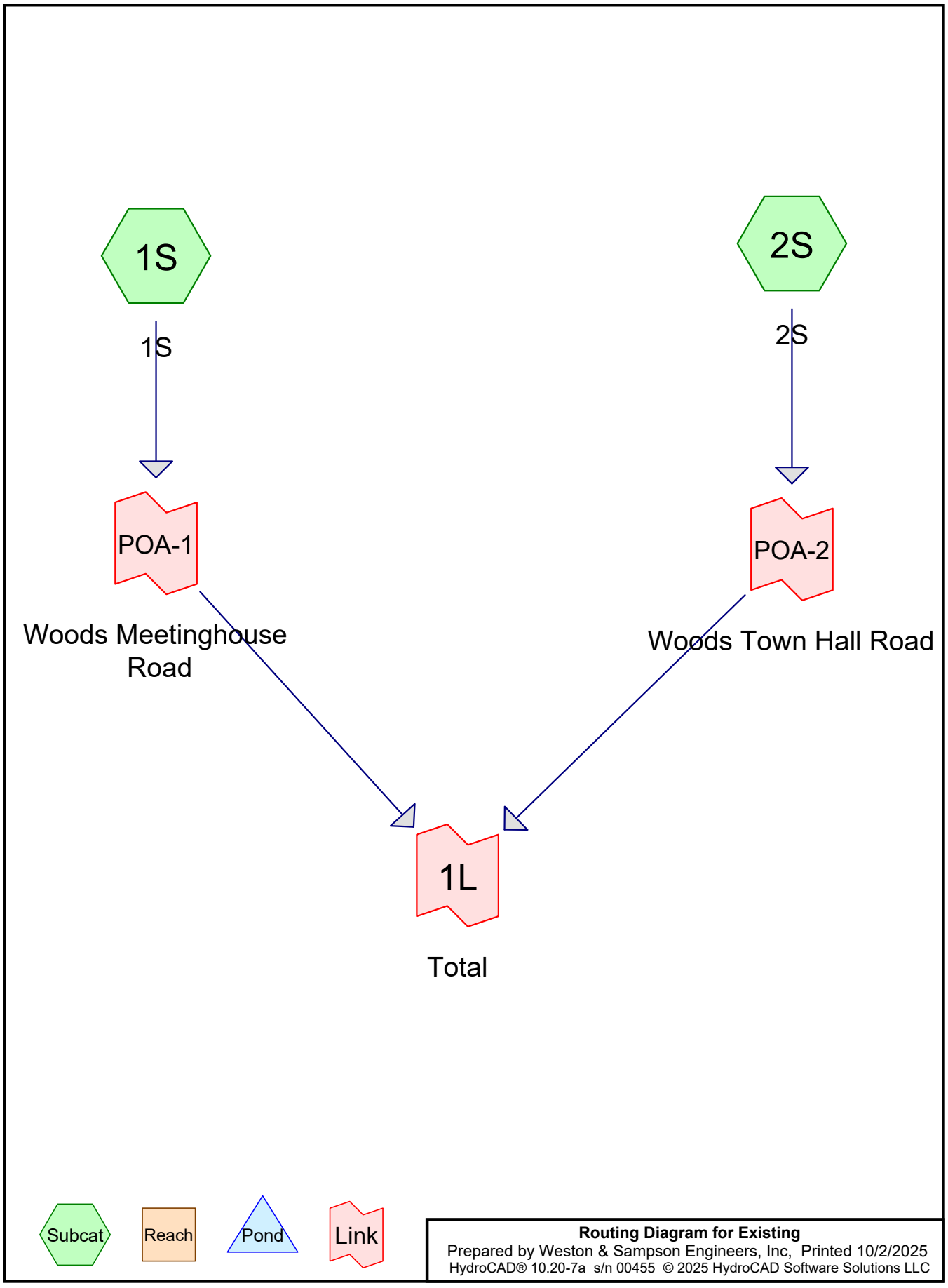
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
EXISTING CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Pre-Development.dwg



Routing Diagram for Existing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/2/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
22,770	39	>75% Grass cover, Good, HSG A (1S, 2S)
31,180	96	Gravel surface, HSG A (1S, 2S)
37,852	98	Paved parking, HSG A (1S, 2S)
11,888	98	Roofs, HSG A (1S, 2S)
7,433	30	Woods, Good, HSG A (1S, 2S)
111,123	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
22,770	0	0	0	0	22,770	>75% Grass cover, Good	
31,180	0	0	0	0	31,180	Gravel surface	
37,852	0	0	0	0	37,852	Paved parking	
11,888	0	0	0	0	11,888	Roofs	
7,433	0	0	0	0	7,433	Woods, Good	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=1.68"
Tc=10.0 min CN=84 Runoff=2.67 cfs 9,589 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=76 Runoff=1.26 cfs 4,102 cf

Link 1L: Total Inflow=3.79 cfs 13,691 cf
Primary=3.79 cfs 13,691 cf

Link POA-1: Woods Meetinghouse Road Inflow=2.67 cfs 9,589 cf
Primary=2.67 cfs 9,589 cf

Link POA-2: Woods Town Hall Road Inflow=1.26 cfs 4,102 cf
Primary=1.26 cfs 4,102 cf

Total Runoff Area = 111,123 sf Runoff Volume = 13,691 cf Average Runoff Depth = 1.48"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

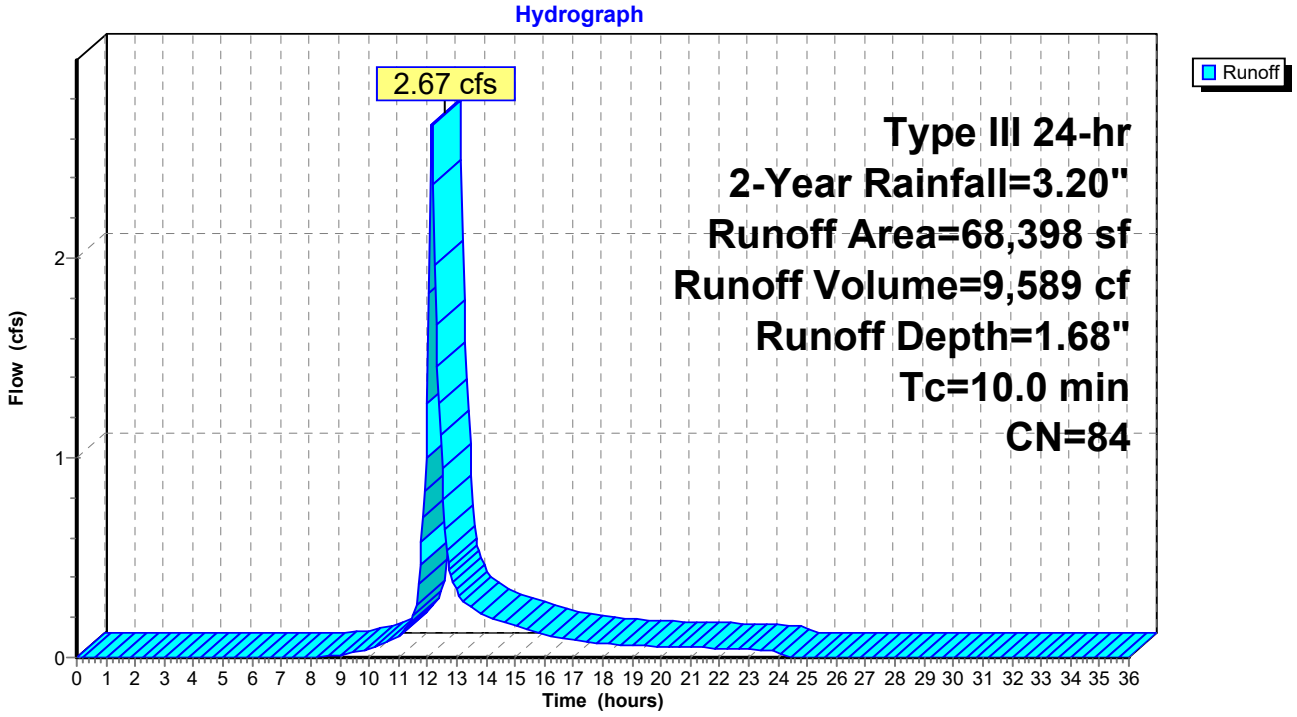
Runoff = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Depth= 1.68"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

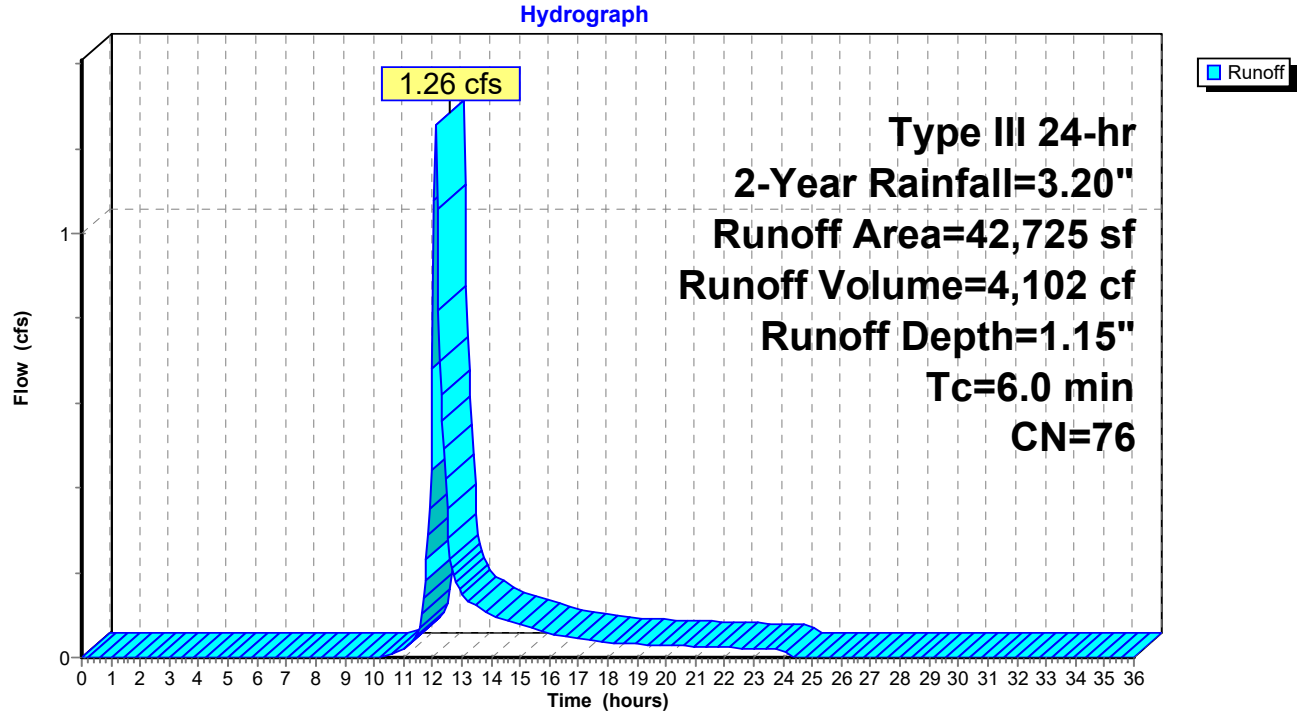
Runoff = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Depth= 1.15"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

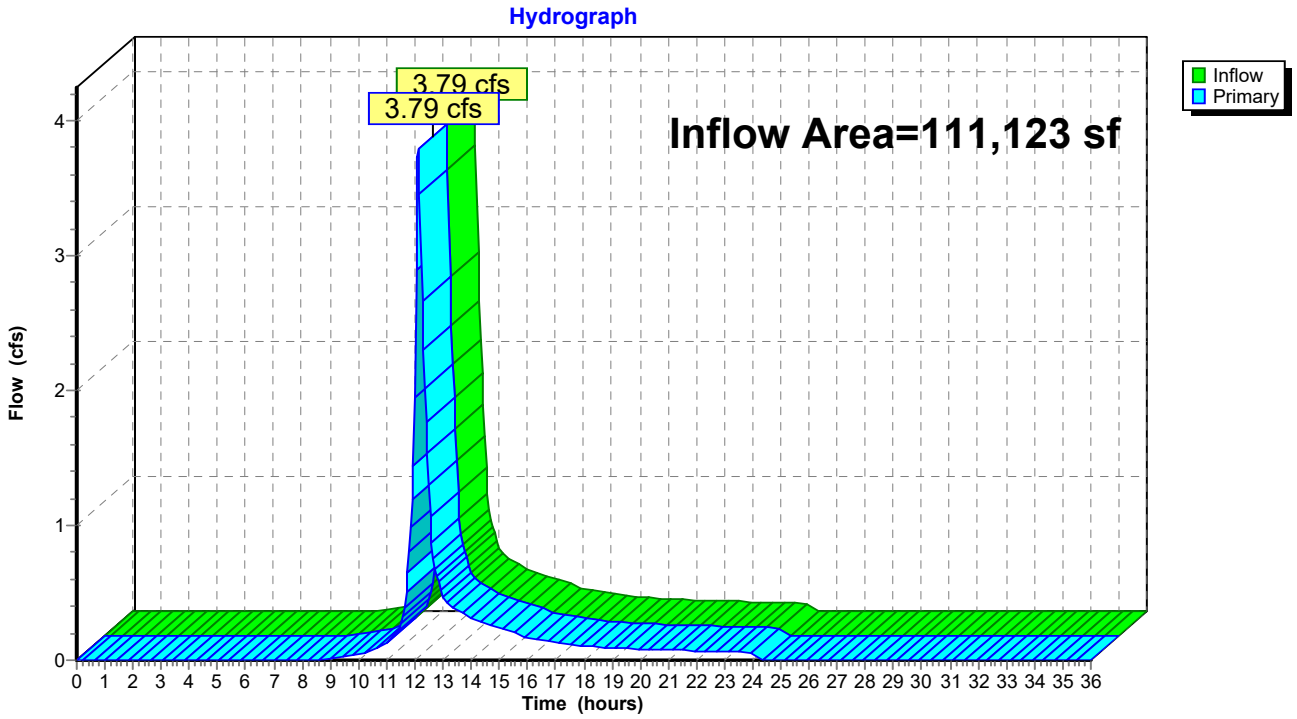


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 1.48" for 2-Year event
Inflow = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf
Primary = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

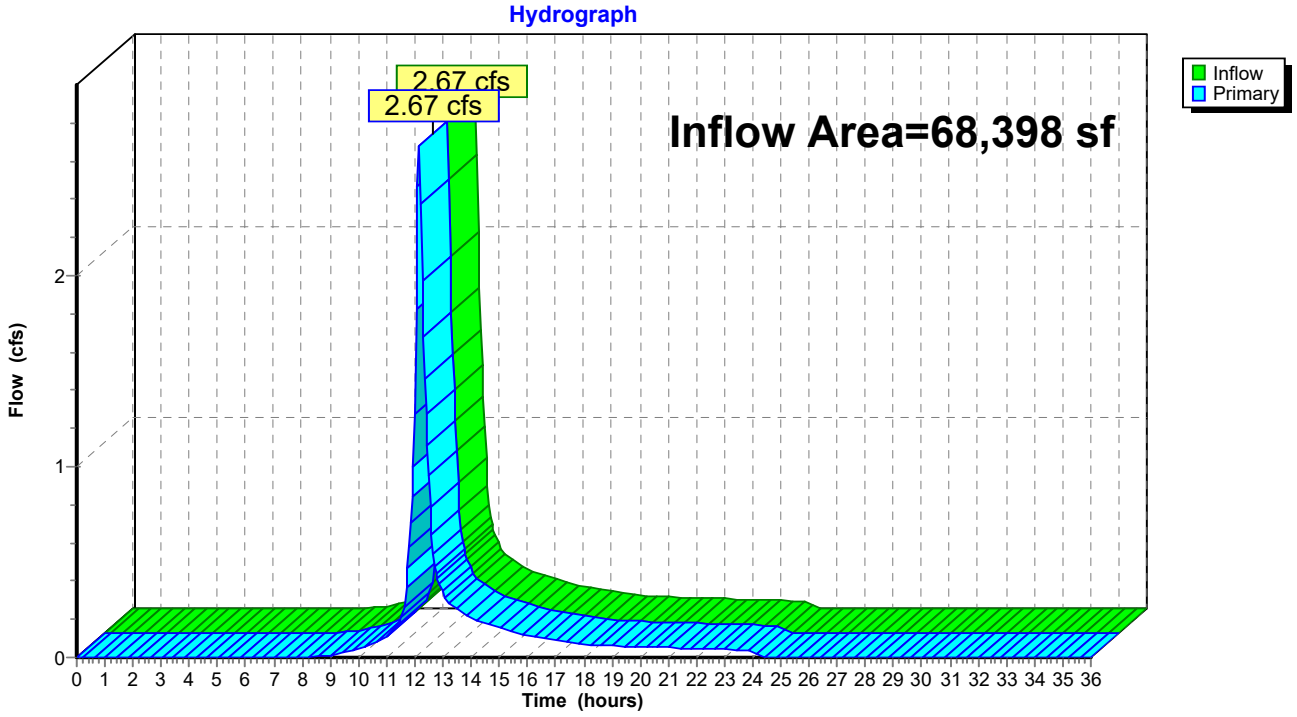


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 1.68" for 2-Year event
Inflow = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf
Primary = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

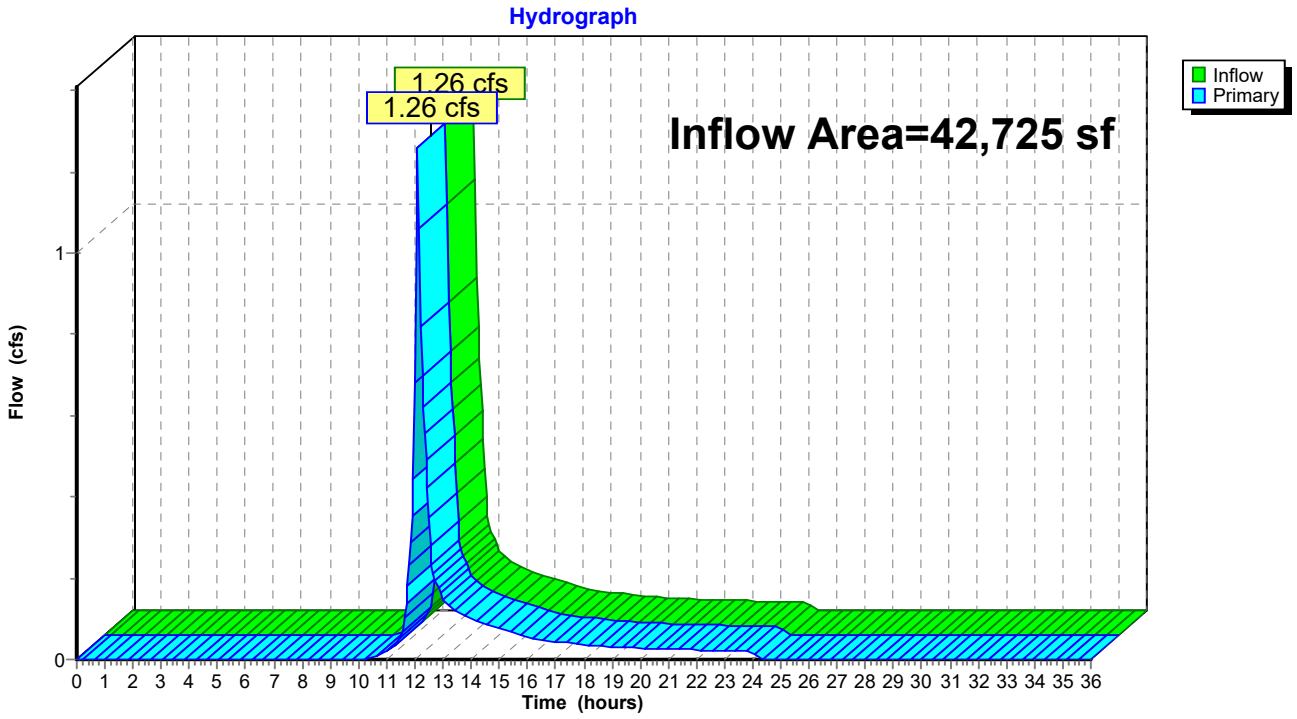


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 1.15" for 2-Year event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf
Primary = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=3.02"
Tc=10.0 min CN=84 Runoff=4.77 cfs 17,187 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=76 Runoff=2.60 cfs 8,213 cf

Link 1L: Total Inflow=7.17 cfs 25,400 cf
Primary=7.17 cfs 25,400 cf

Link POA-1: Woods Meetinghouse Road Inflow=4.77 cfs 17,187 cf
Primary=4.77 cfs 17,187 cf

Link POA-2: Woods Town Hall Road Inflow=2.60 cfs 8,213 cf
Primary=2.60 cfs 8,213 cf

Total Runoff Area = 111,123 sf Runoff Volume = 25,400 cf Average Runoff Depth = 2.74"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

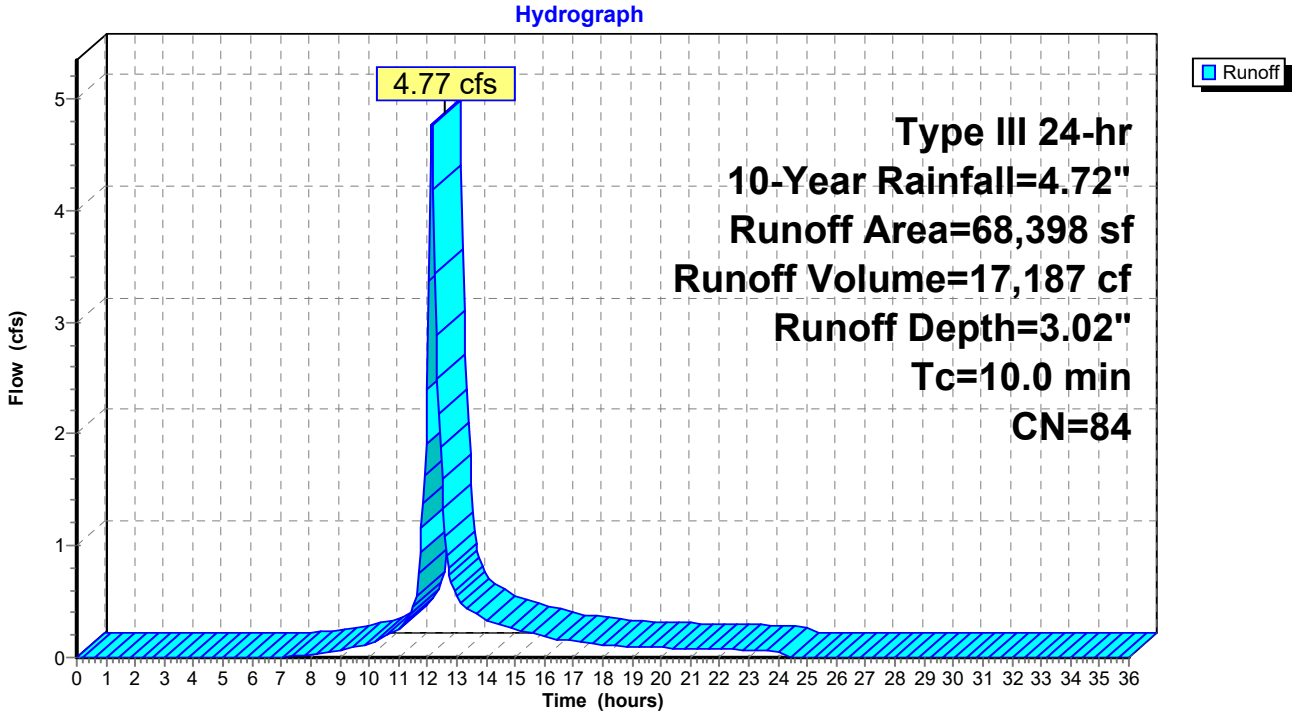
Runoff = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Depth= 3.02"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

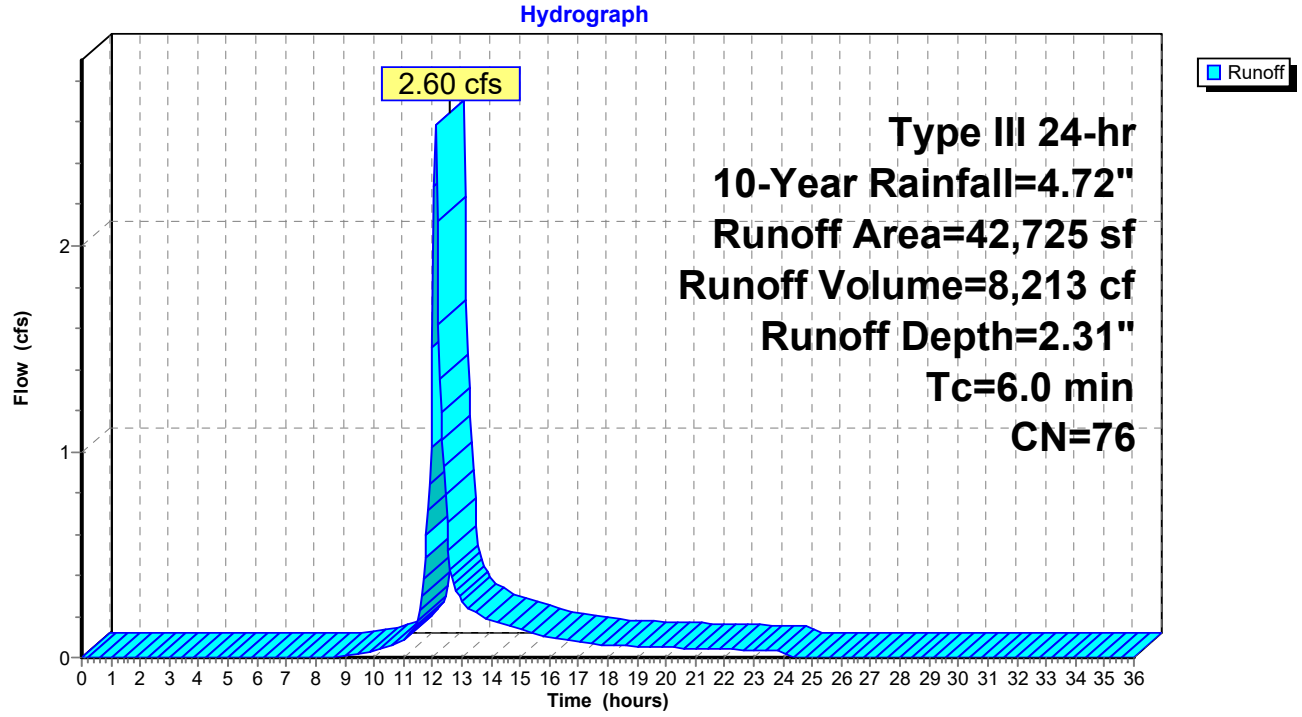
Runoff = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Depth= 2.31"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

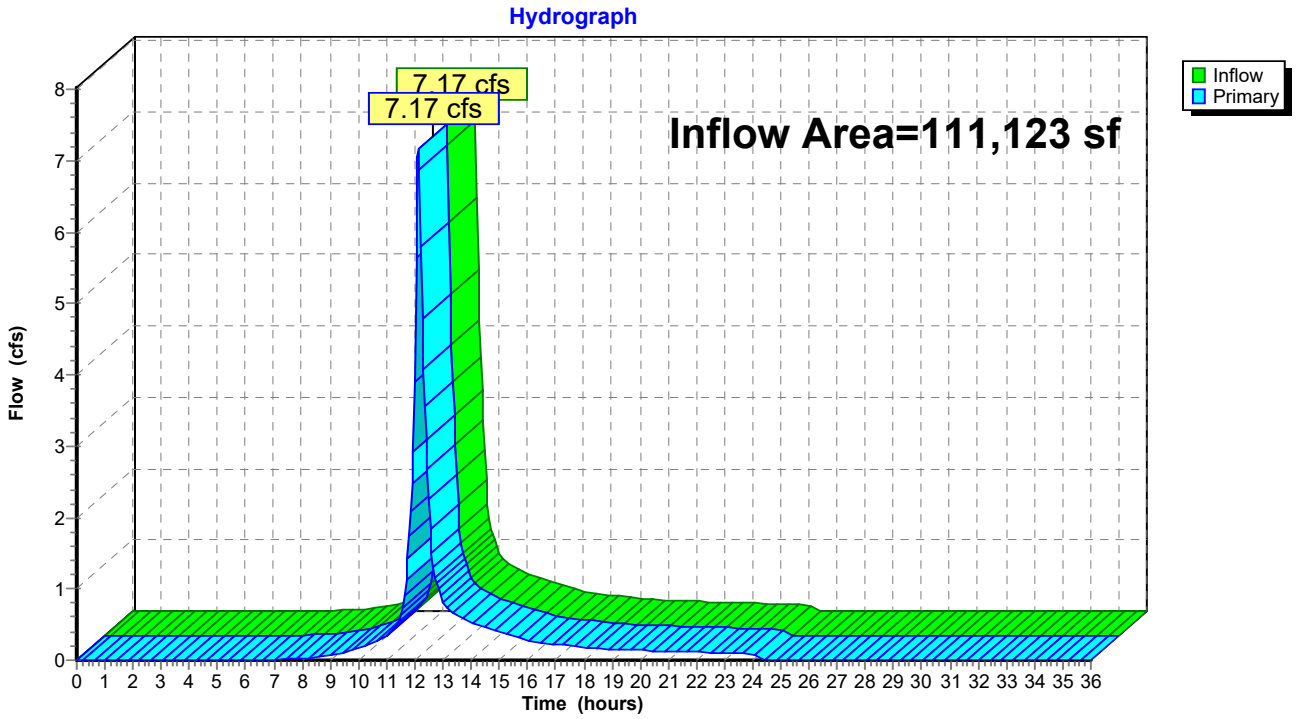


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 2.74" for 10-Year event
Inflow = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf
Primary = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

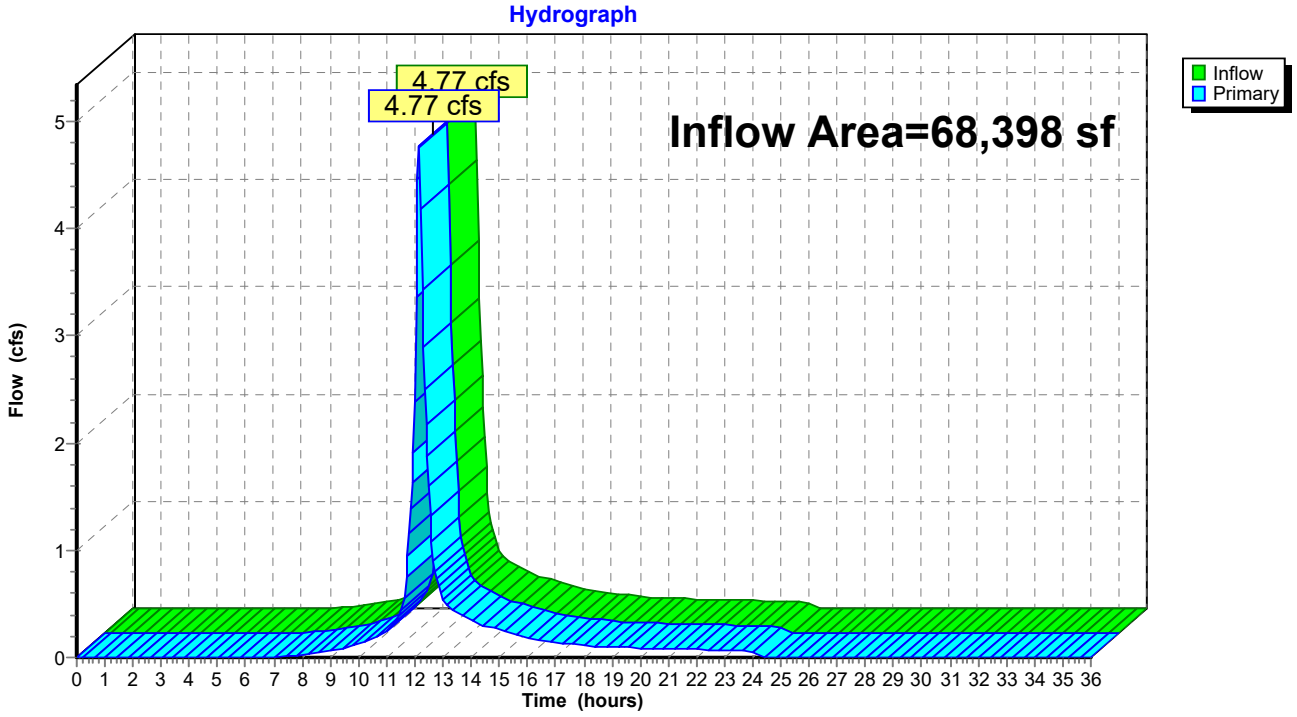


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf
Primary = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

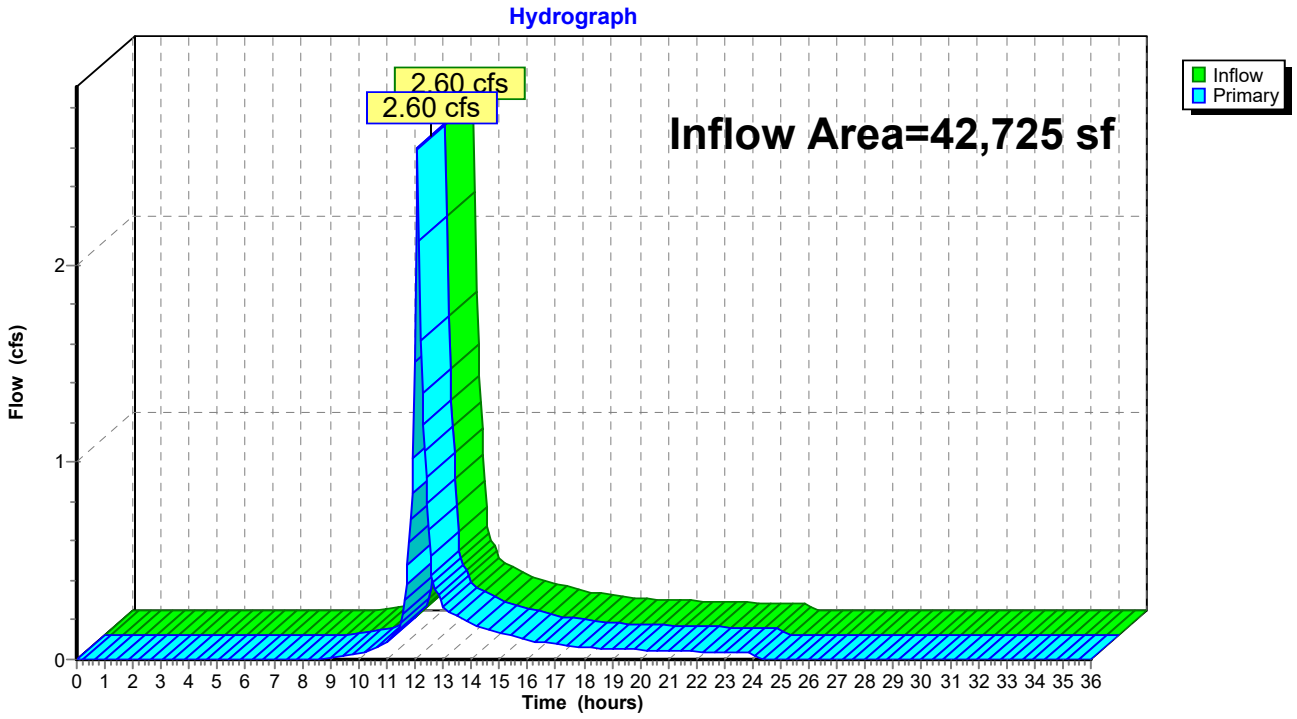


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 2.31" for 10-Year event
Inflow = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf
Primary = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=4.09"
Tc=10.0 min CN=84 Runoff=6.42 cfs 23,333 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=76 Runoff=3.70 cfs 11,697 cf

Link 1L: Total Inflow=9.85 cfs 35,031 cf
Primary=9.85 cfs 35,031 cf

Link POA-1: Woods Meetinghouse Road Inflow=6.42 cfs 23,333 cf
Primary=6.42 cfs 23,333 cf

Link POA-2: Woods Town Hall Road Inflow=3.70 cfs 11,697 cf
Primary=3.70 cfs 11,697 cf

Total Runoff Area = 111,123 sf Runoff Volume = 35,031 cf Average Runoff Depth = 3.78"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

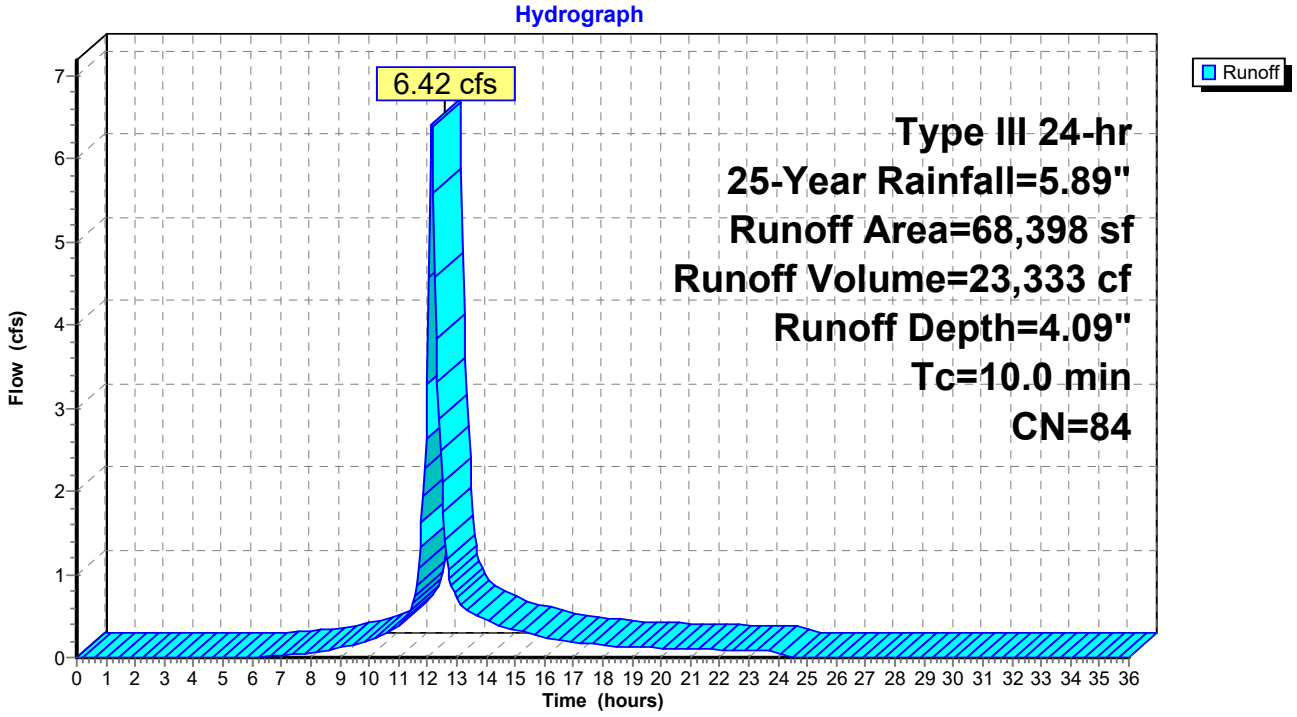
Runoff = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Depth= 4.09"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

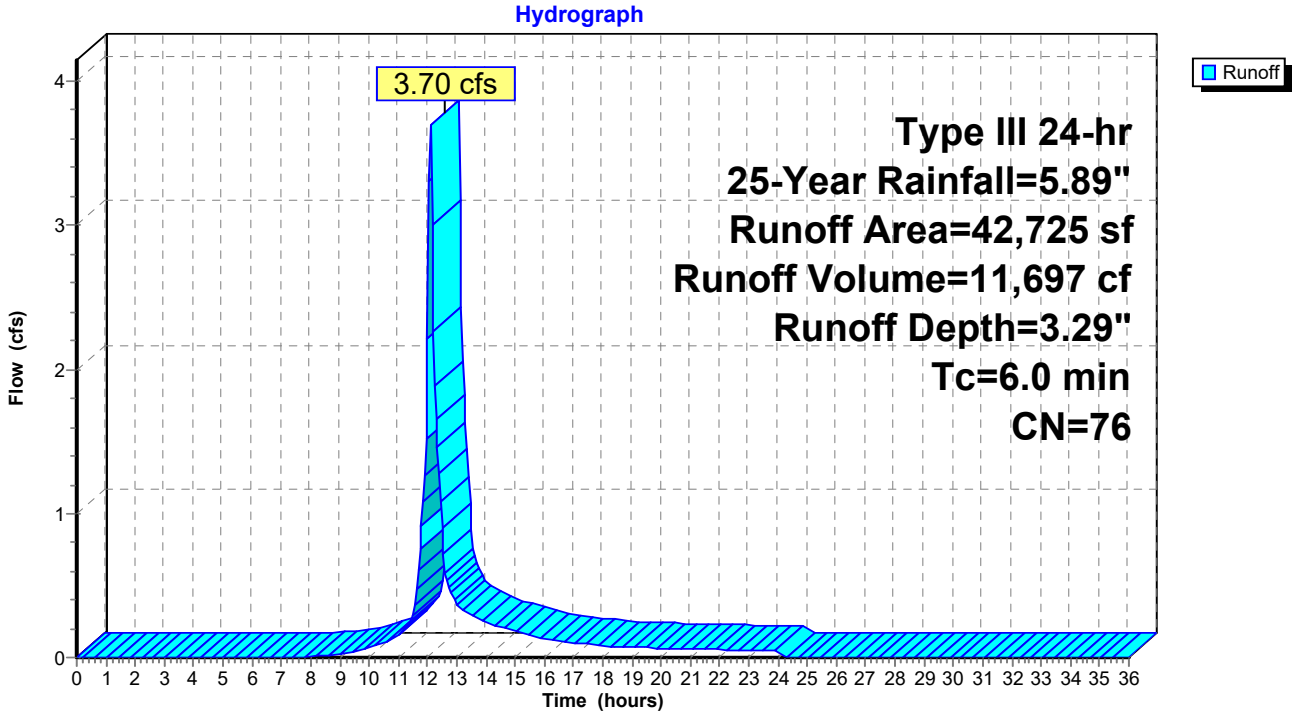
Runoff = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Depth= 3.29"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

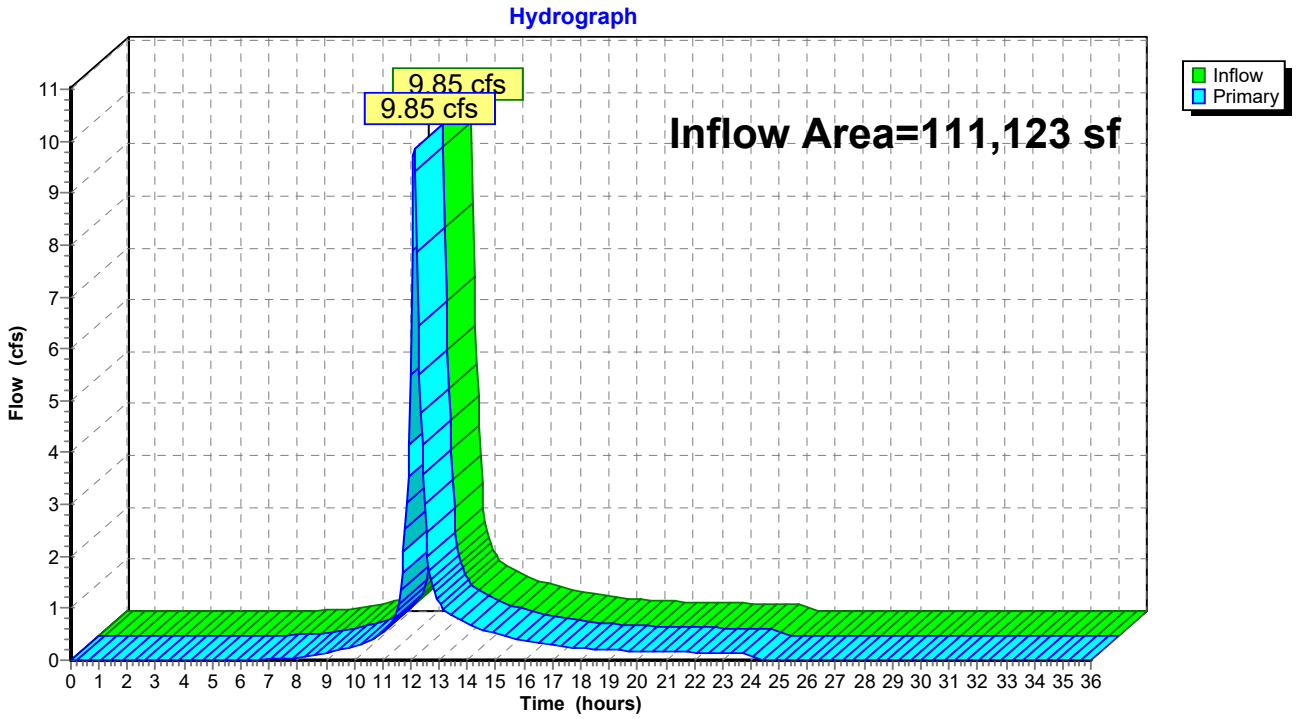


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf
Primary = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

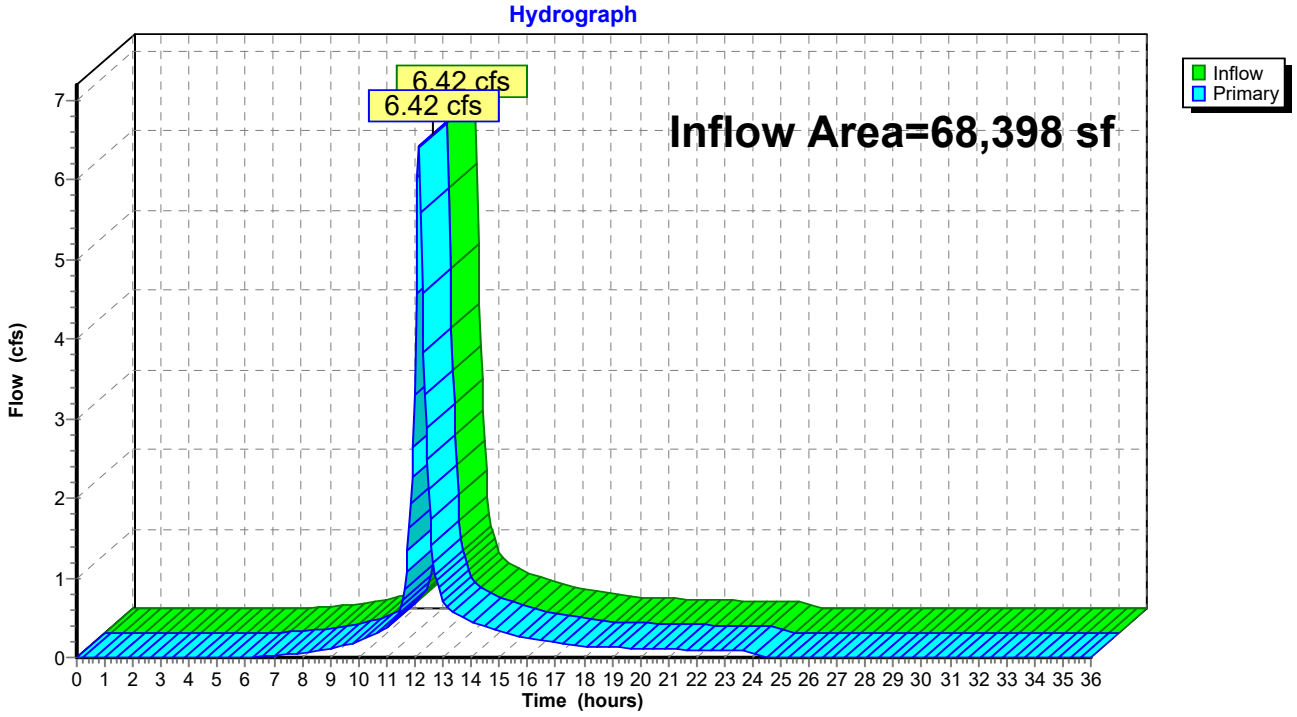


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 4.09" for 25-Year event
Inflow = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf
Primary = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

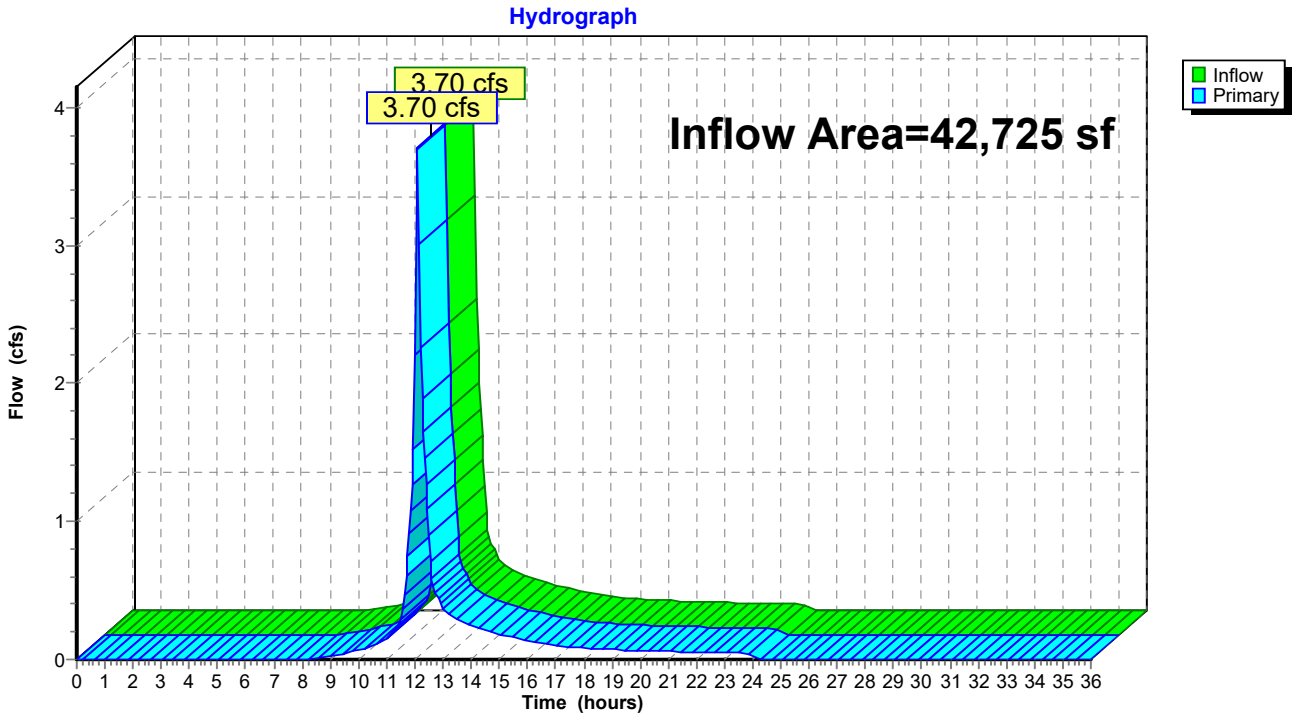


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 3.29" for 25-Year event
Inflow = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf
Primary = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=6.33"
Tc=10.0 min CN=84 Runoff=9.73 cfs 36,056 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=5.38"
Tc=6.0 min CN=76 Runoff=6.01 cfs 19,144 cf

Link 1L: Total Inflow=15.33 cfs 55,200 cf
Primary=15.33 cfs 55,200 cf

Link POA-1: Woods Meetinghouse Road Inflow=9.73 cfs 36,056 cf
Primary=9.73 cfs 36,056 cf

Link POA-2: Woods Town Hall Road Inflow=6.01 cfs 19,144 cf
Primary=6.01 cfs 19,144 cf

Total Runoff Area = 111,123 sf Runoff Volume = 55,200 cf Average Runoff Depth = 5.96"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

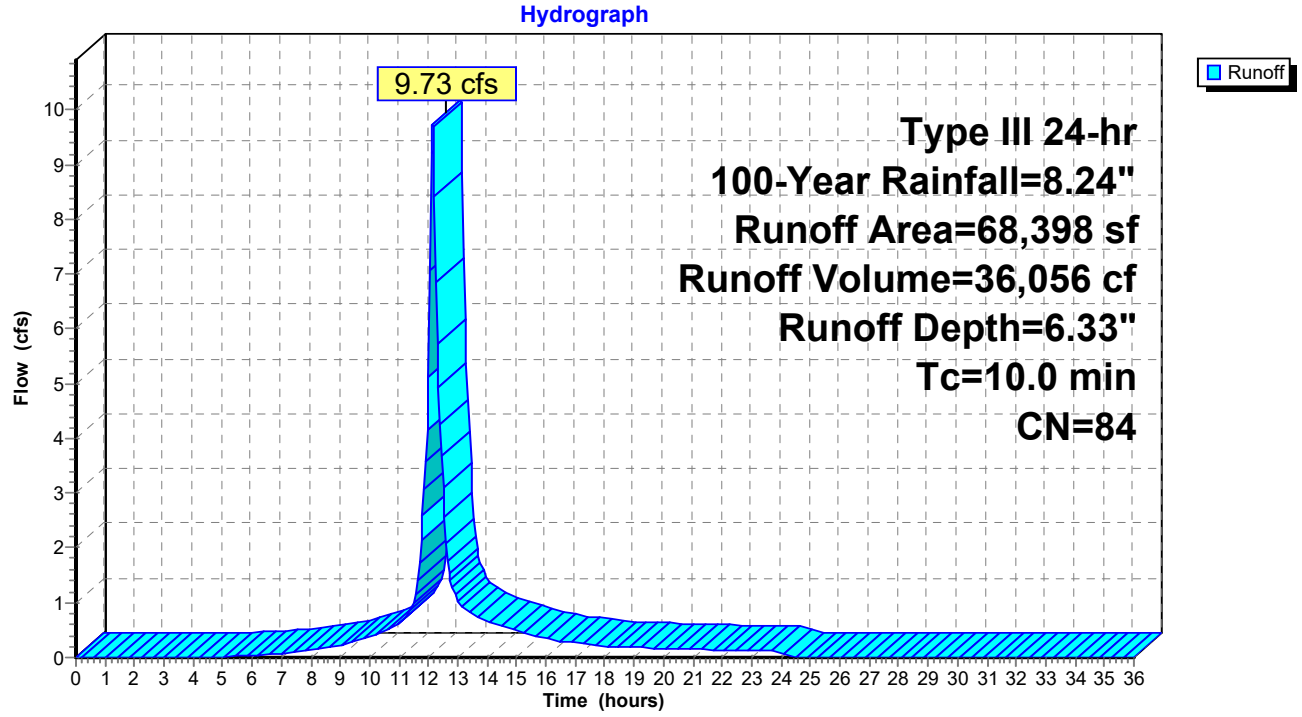
Runoff = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Depth= 6.33"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

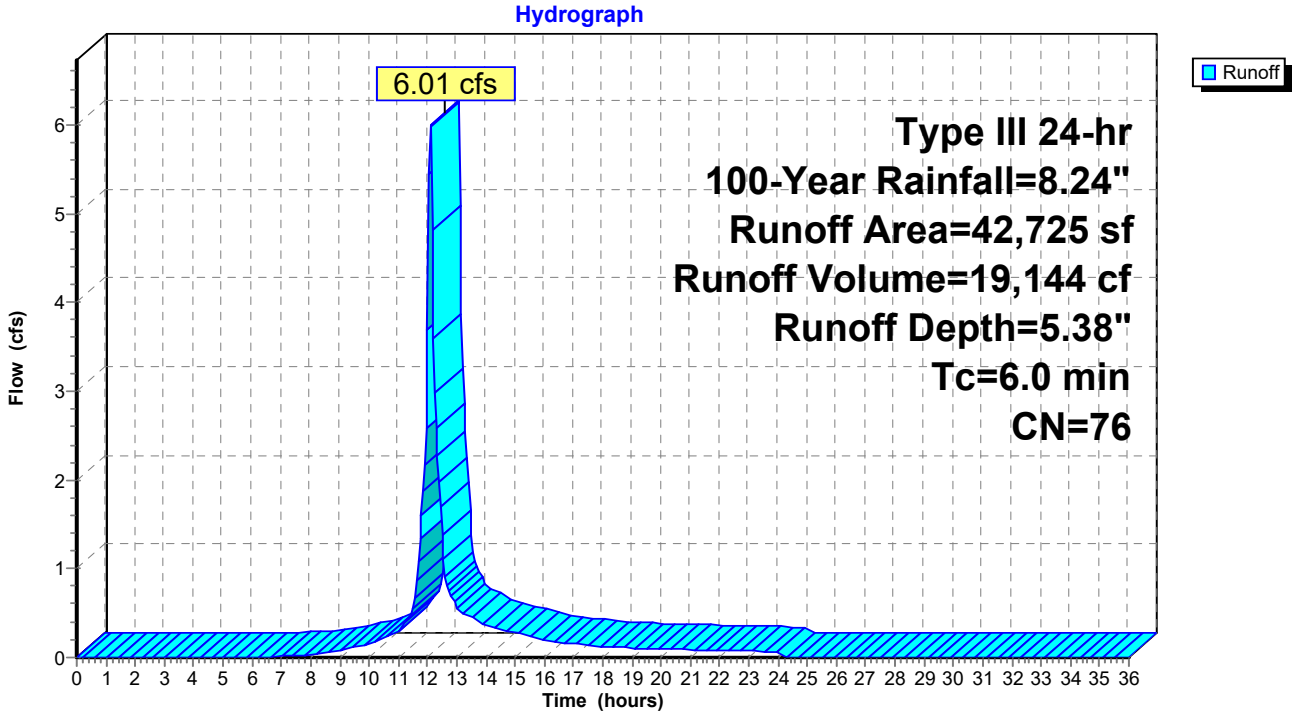
Runoff = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Depth= 5.38"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

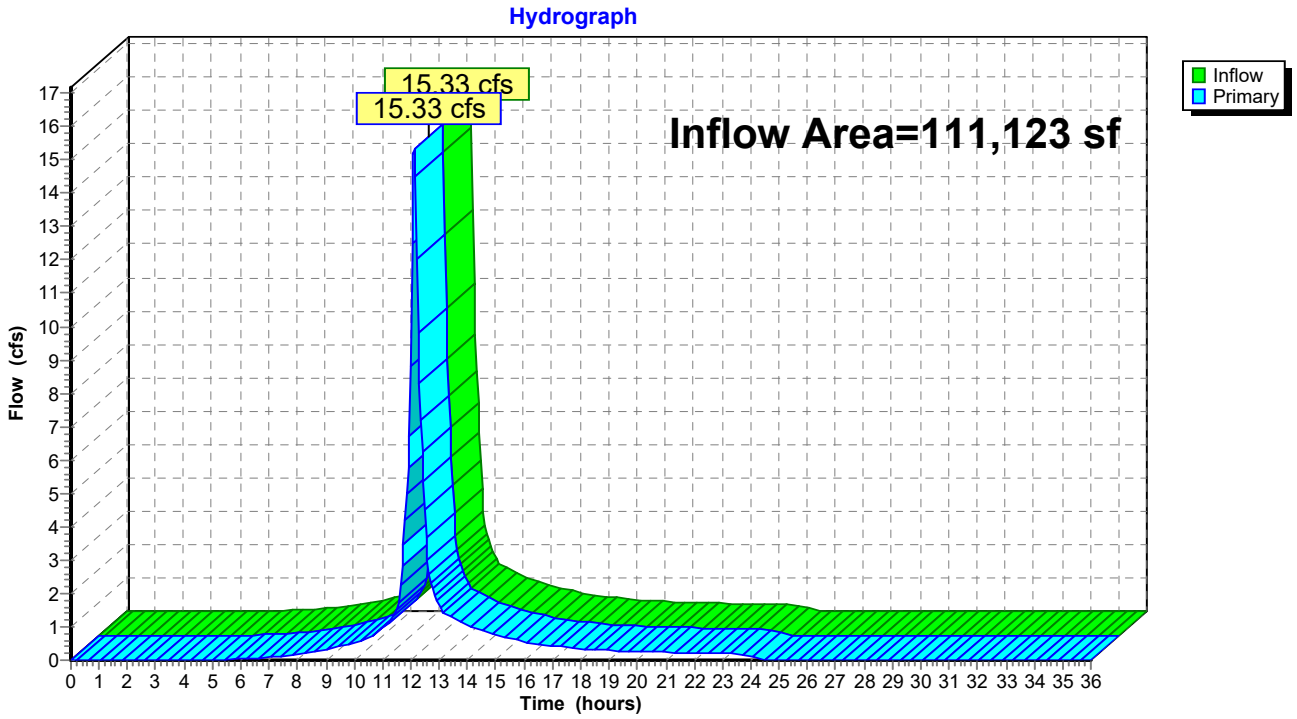


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 5.96" for 100-Year event
Inflow = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf
Primary = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

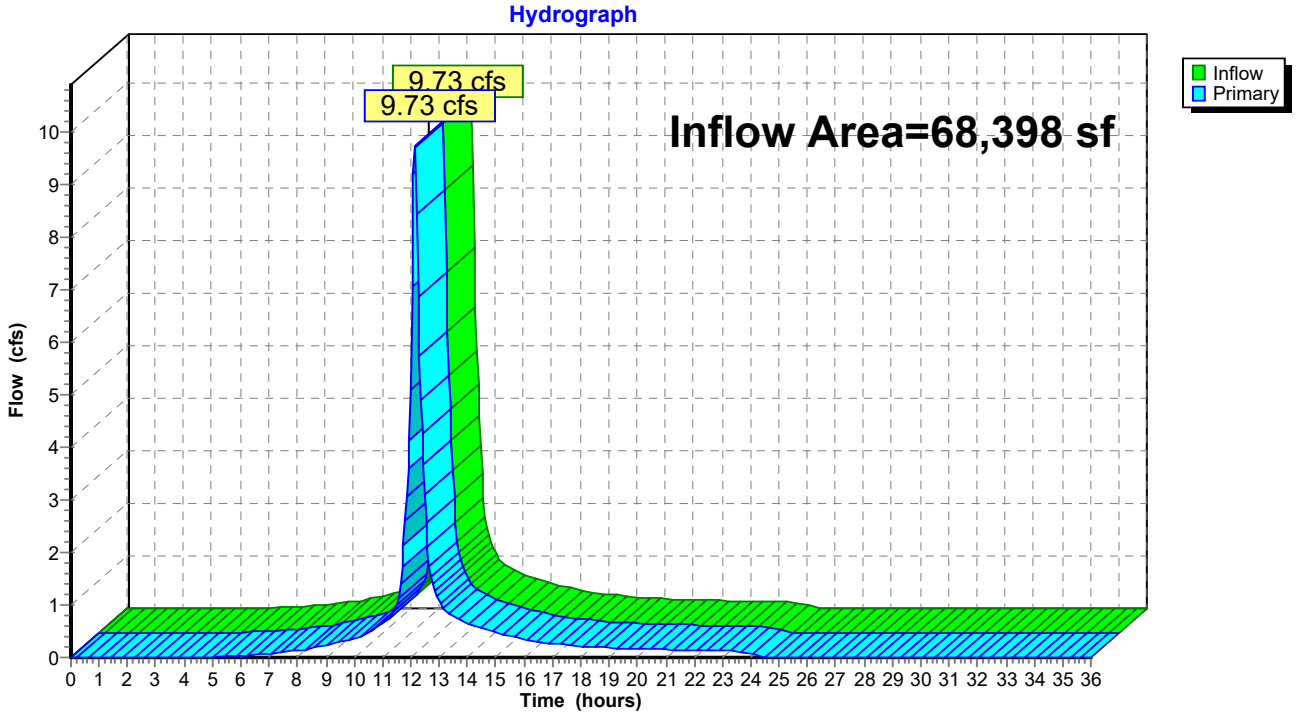


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 6.33" for 100-Year event
Inflow = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf
Primary = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

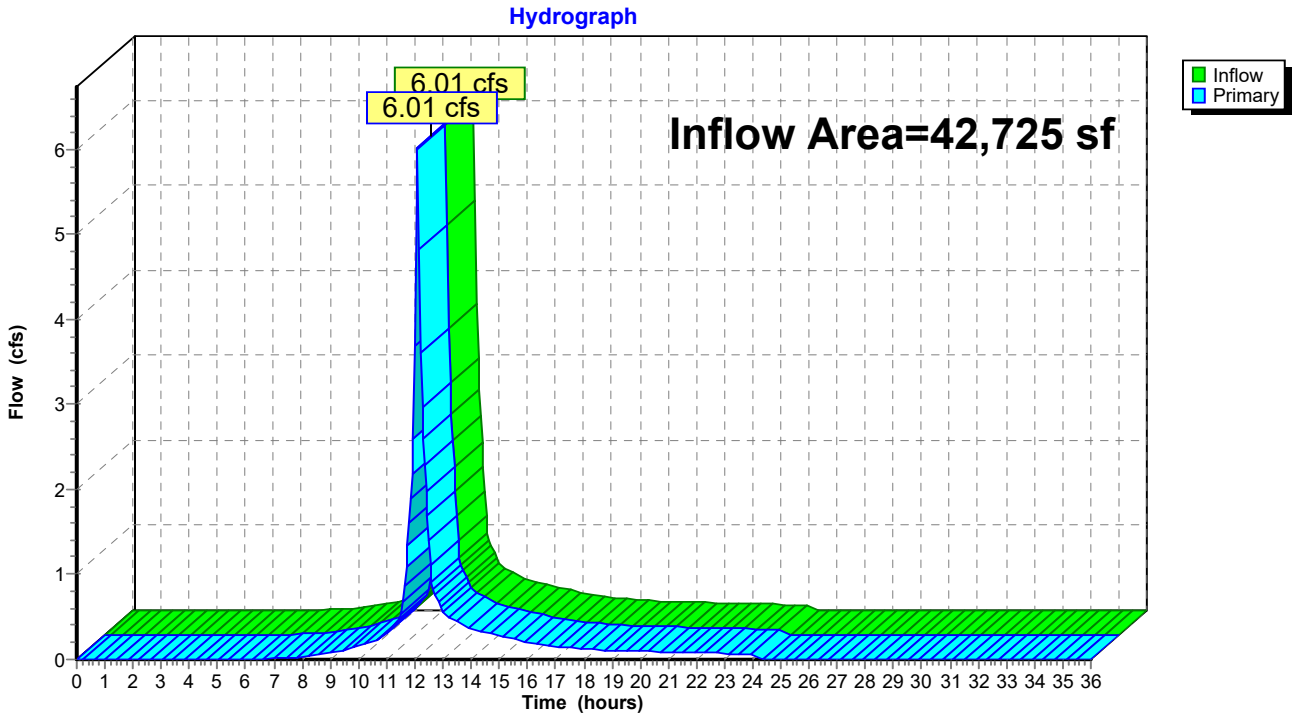


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 5.38" for 100-Year event
Inflow = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf
Primary = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road





NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.
2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- PAVEMENT, HSG A (CN=98)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)

PLAN

SCALE: 1" = 50'

0 50 100 150 200

SCALE: 1" = 50'

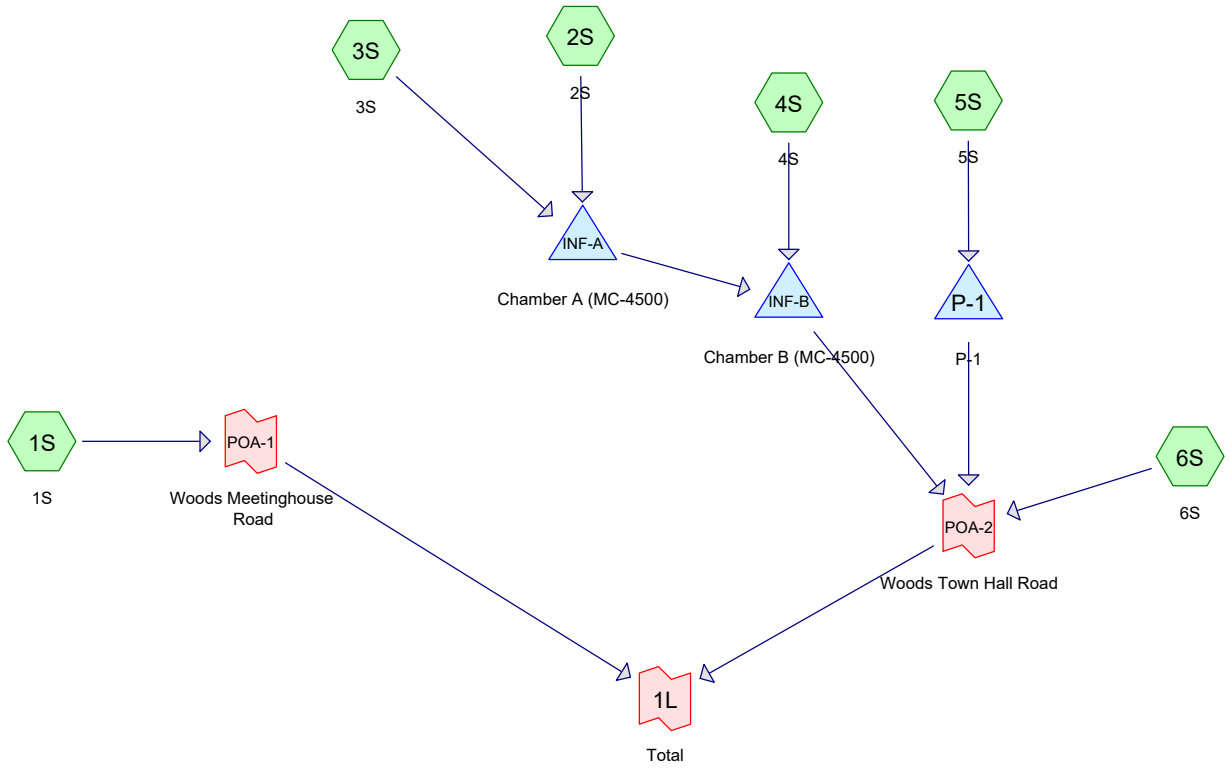
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
PROPOSED CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Post-Development.dwg



Subcat Reach Pond Link

Routing Diagram for Proposed

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
21,209	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 5S, 6S)
59,465	98	Paved parking, HSG A (2S, 3S, 4S, 6S)
30,449	98	Roofs, HSG A (2S, 3S, 4S, 5S)
111,123	**87**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S, 3S, 4S, 5S, 6S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
21,209	0	0	0	0	21,209	>75% Grass cover, Good	
59,465	0	0	0	0	59,465	Paved parking	
30,449	0	0	0	0	30,449	Roofs	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	
3	P-1	119.00	118.00	53.0	0.0189	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.00"
Tc=10.0 min CN=39 Runoff=0.00 cfs 0 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=2.75"
Tc=10.0 min CN=96 Runoff=2.10 cfs 8,083 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=2.45"
Tc=10.0 min CN=93 Runoff=0.69 cfs 2,554 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=98 Runoff=1.60 cfs 5,695 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=1.21"
Tc=6.0 min CN=77 Runoff=0.35 cfs 1,138 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=80 Runoff=0.72 cfs 2,284 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=116.46' Storage=3,372 cf Inflow=2.79 cfs 10,638 cf
Discarded=0.40 cfs 10,638 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 10,638 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.08' Storage=1,061 cf Inflow=1.60 cfs 5,695 cf
Discarded=0.43 cfs 5,695 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 5,695 cf

Pond P-1: P-1 Peak Elev=120.41' Storage=213 cf Inflow=0.35 cfs 1,138 cf
Outflow=0.11 cfs 1,138 cf

Link 1L: Total Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-2: Woods Town Hall Road Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Total Runoff Area = 111,123 sf Runoff Volume = 19,755 cf Average Runoff Depth = 2.13"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

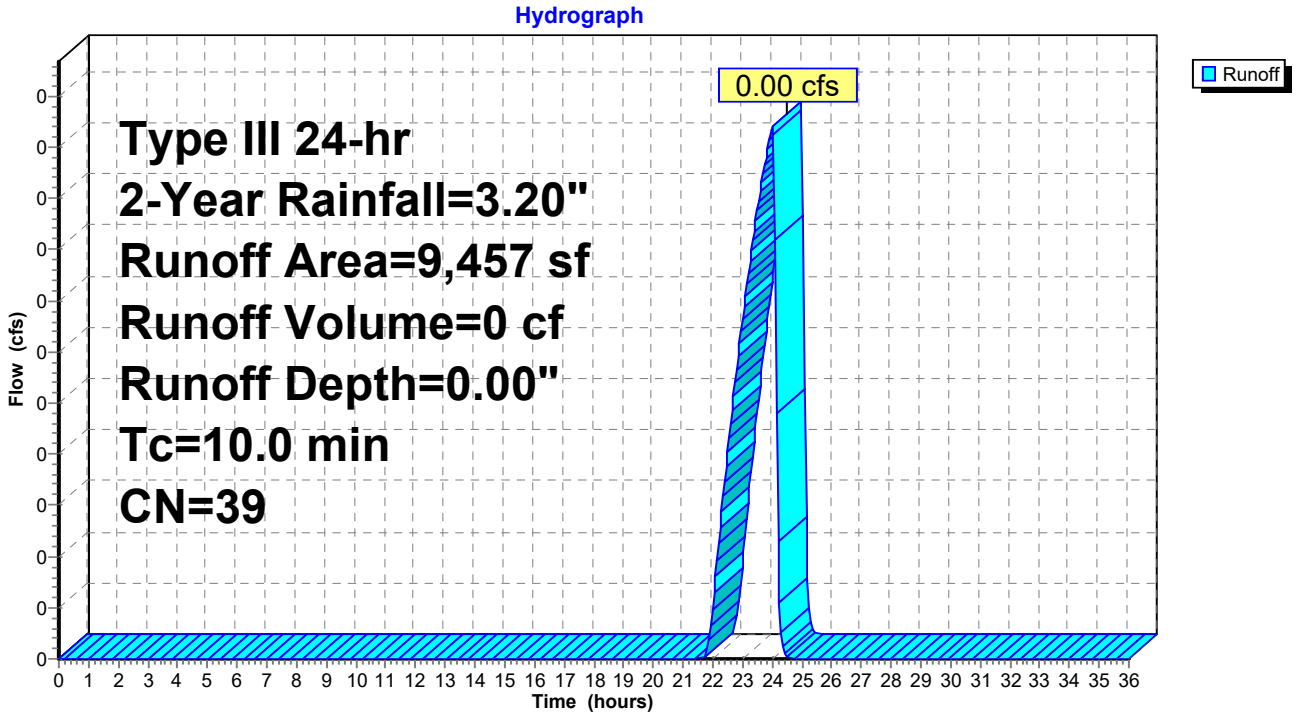
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

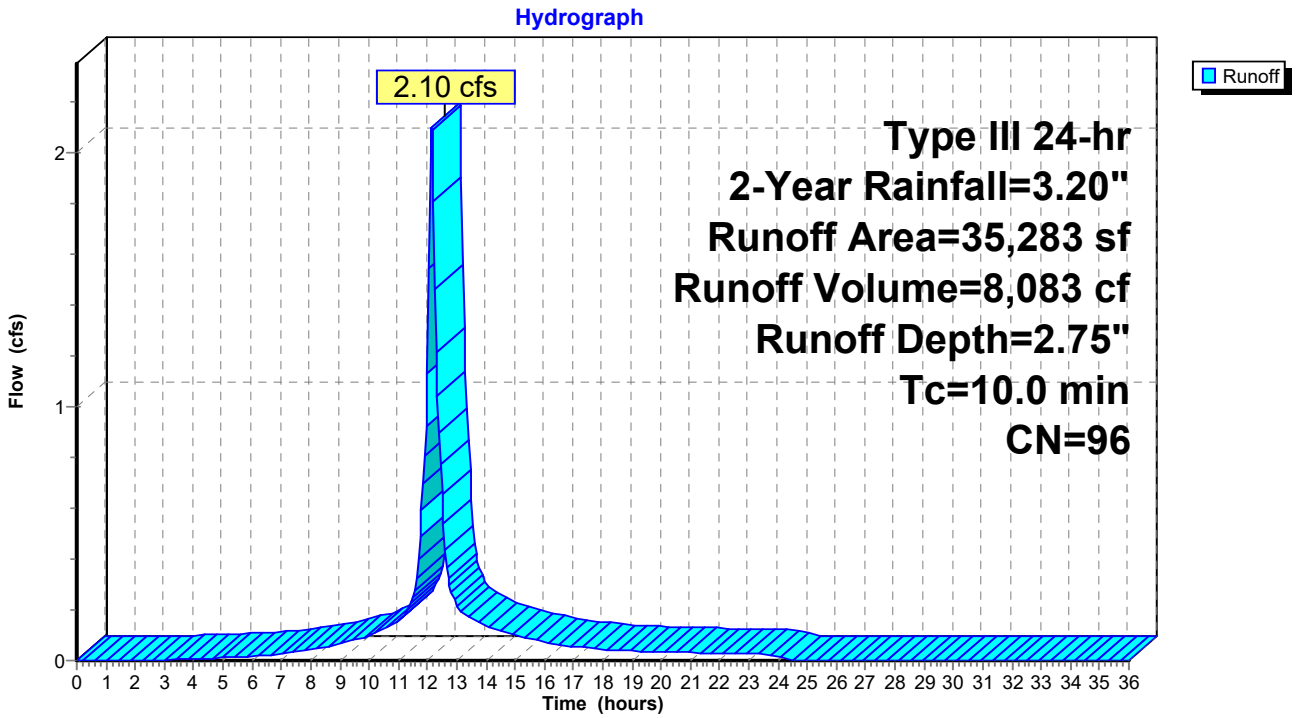
Runoff = 2.10 cfs @ 12.14 hrs, Volume= 8,083 cf, Depth= 2.75"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

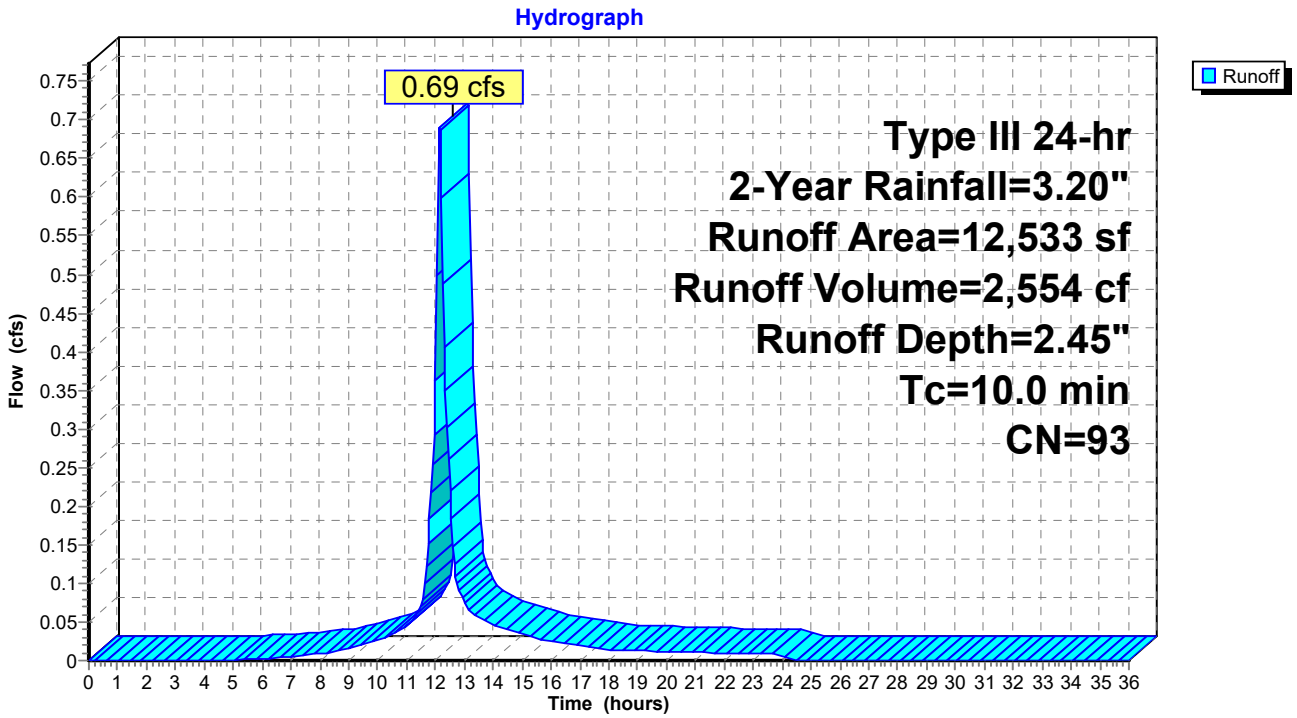
Runoff = 0.69 cfs @ 12.14 hrs, Volume= 2,554 cf, Depth= 2.45"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

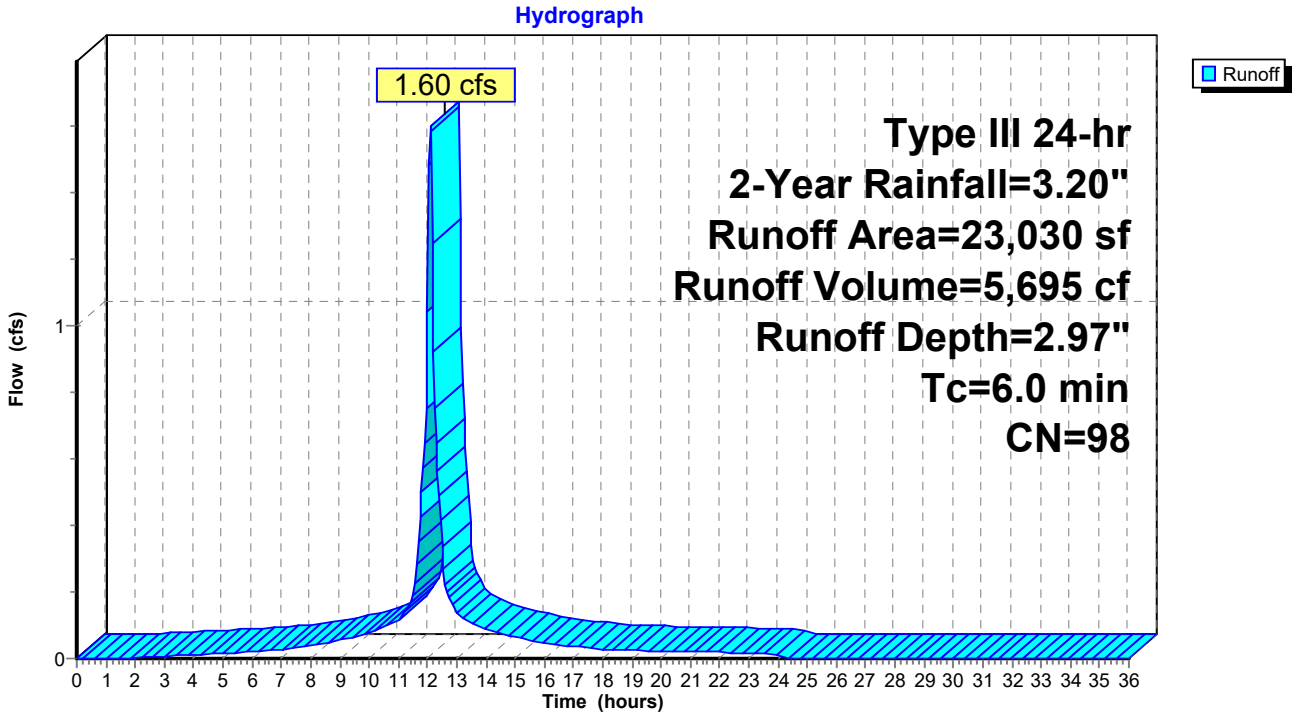
Runoff = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf, Depth= 2.97"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

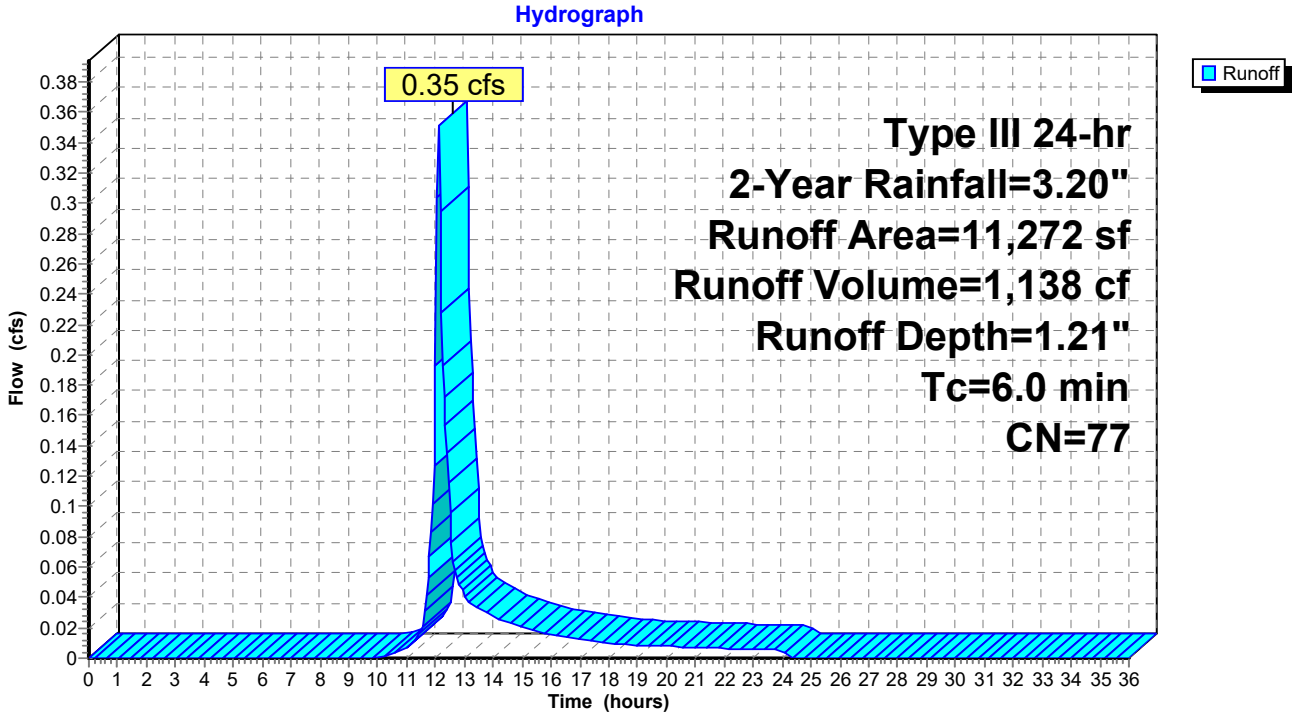
Runoff = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf, Depth= 1.21"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

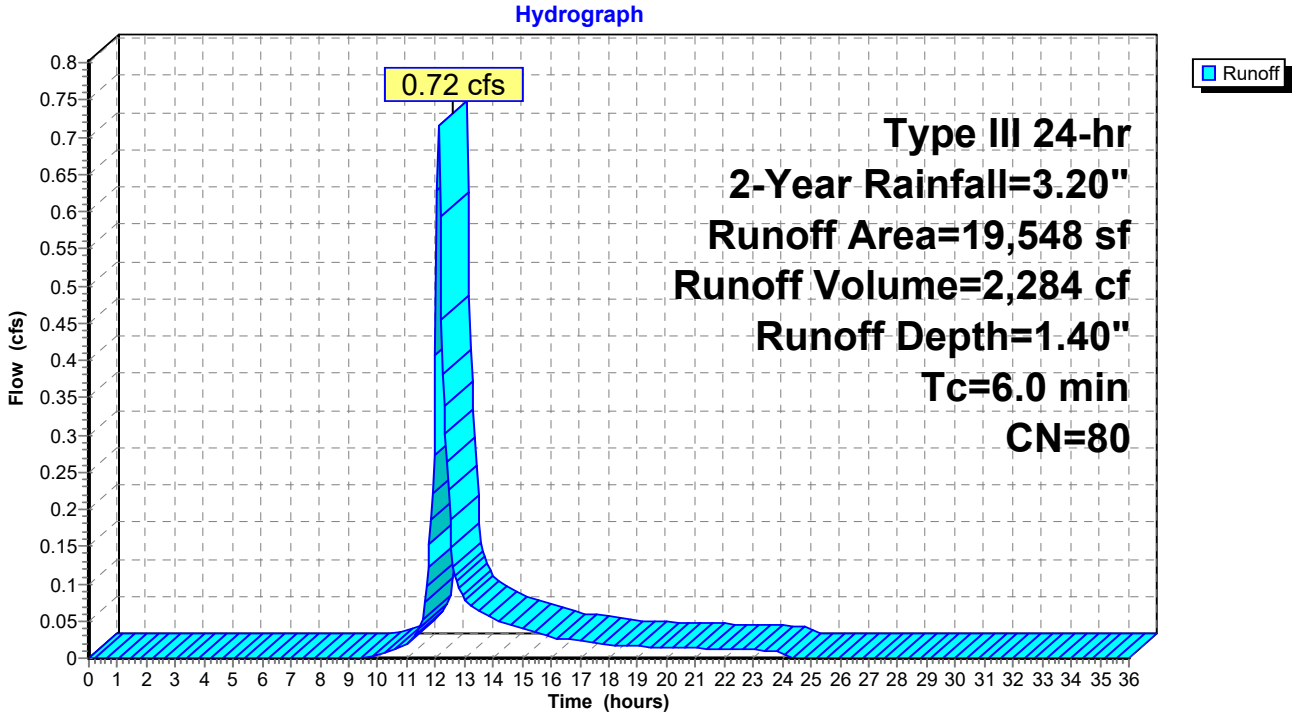
Runoff = 0.72 cfs @ 12.10 hrs, Volume= 2,284 cf, Depth= 1.40"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 2.67" for 2-Year event
Inflow = 2.79 cfs @ 12.14 hrs, Volume= 10,638 cf
Outflow = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf, Atten= 86%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 116.46' @ 12.74 hrs Surf.Area= 2,092 sf Storage= 3,372 cf

Plug-Flow detention time= 55.6 min calculated for 10,638 cf (100% of inflow)
Center-of-Mass det. time= 55.6 min (837.8 - 782.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.70 hrs HW=114.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

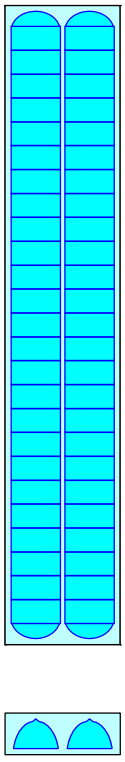
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

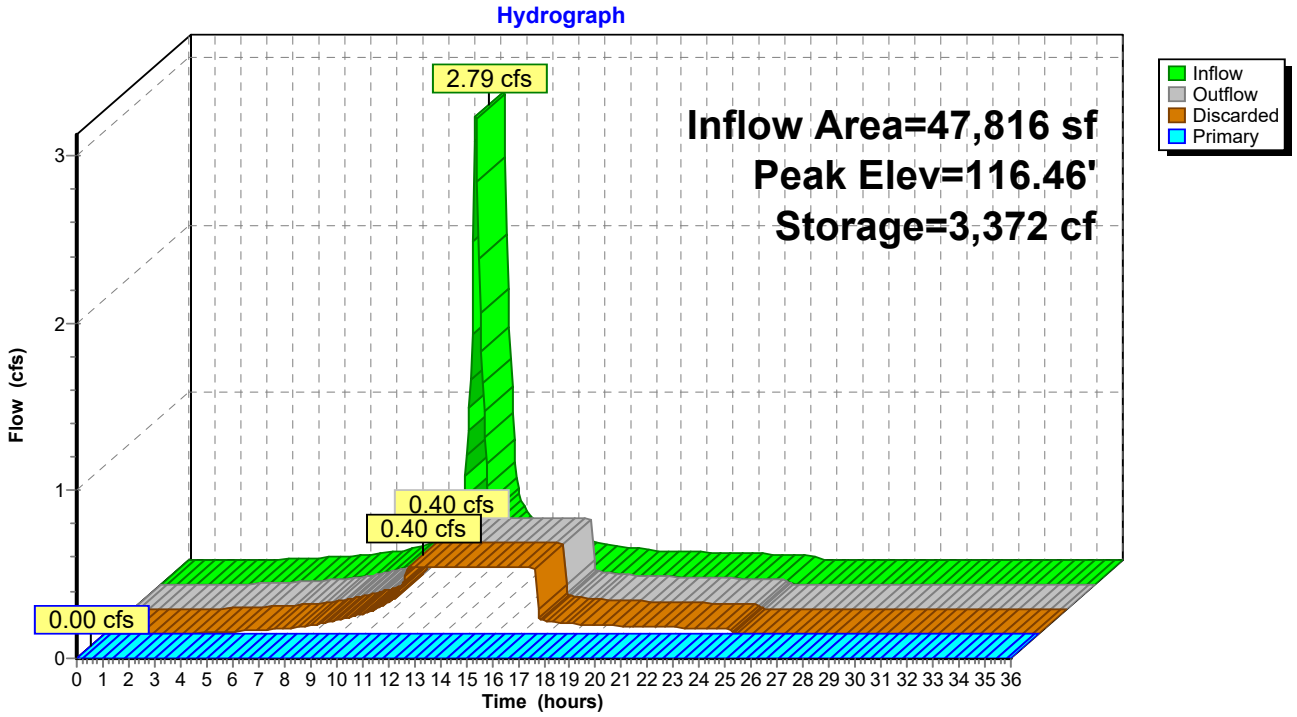
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 0.96" for 2-Year event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf
Outflow = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf, Atten= 73%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.08' @ 12.44 hrs Surf.Area= 2,268 sf Storage= 1,061 cf

Plug-Flow detention time= 12.3 min calculated for 5,687 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (768.7 - 756.4)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.80 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

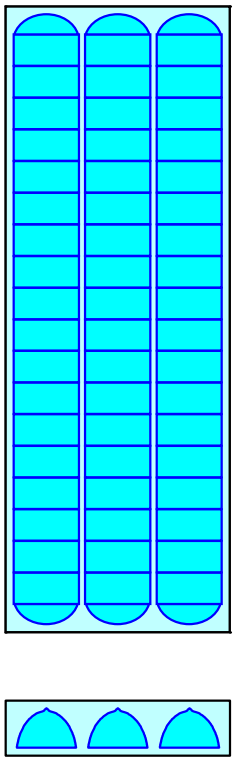
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

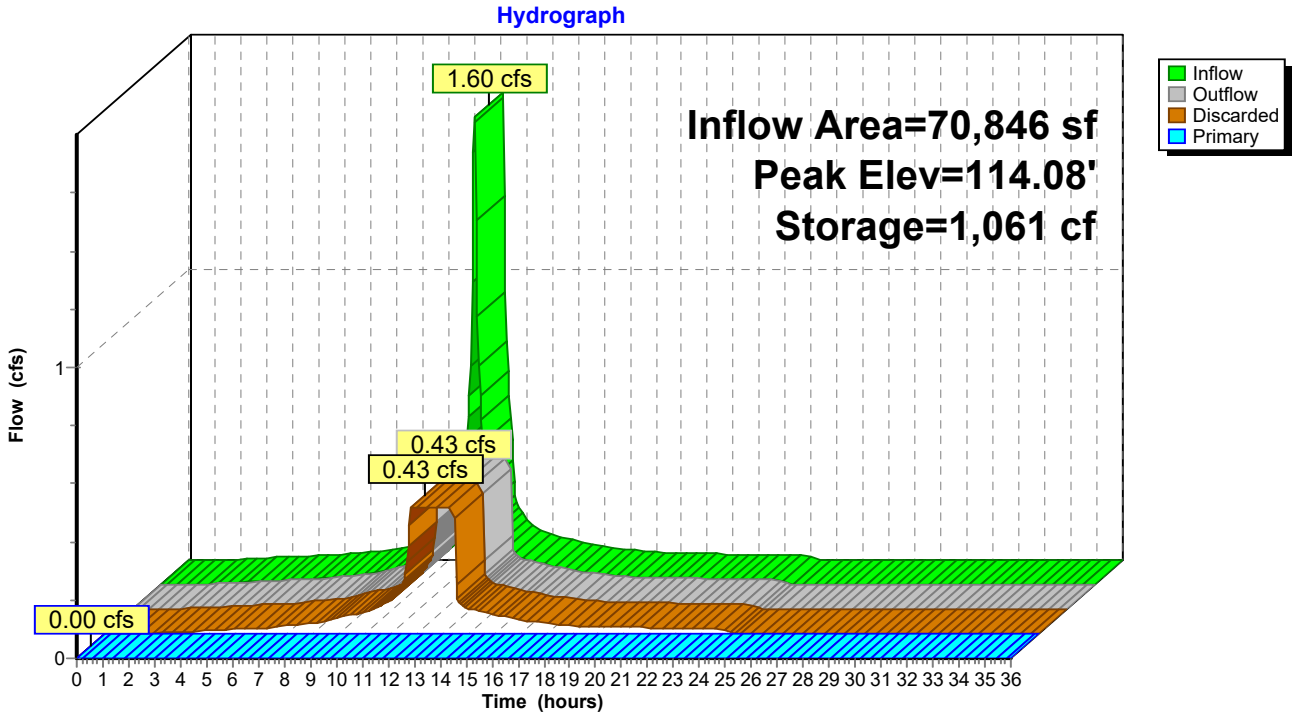
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 1.21" for 2-Year event
Inflow = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf
Outflow = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf, Atten= 68%, Lag= 21.6 min
Primary = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.41' @ 12.46 hrs Surf.Area= 589 sf Storage= 213 cf

Plug-Flow detention time= 11.3 min calculated for 1,137 cf (100% of inflow)
Center-of-Mass det. time= 11.2 min (863.6 - 852.4)

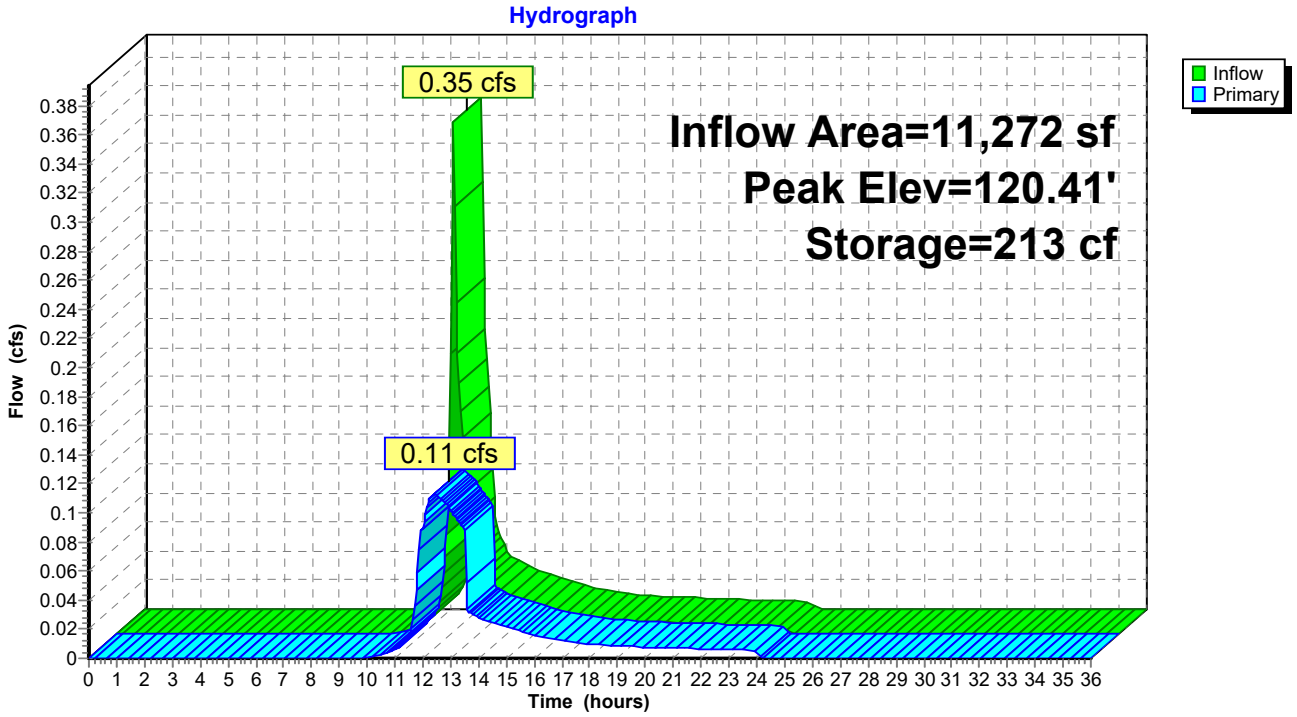
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 12.46 hrs HW=120.41' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.11 cfs)
└─**2=Culvert** (Passes 0.00 cfs of 2.85 cfs potential flow)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond P-1: P-1

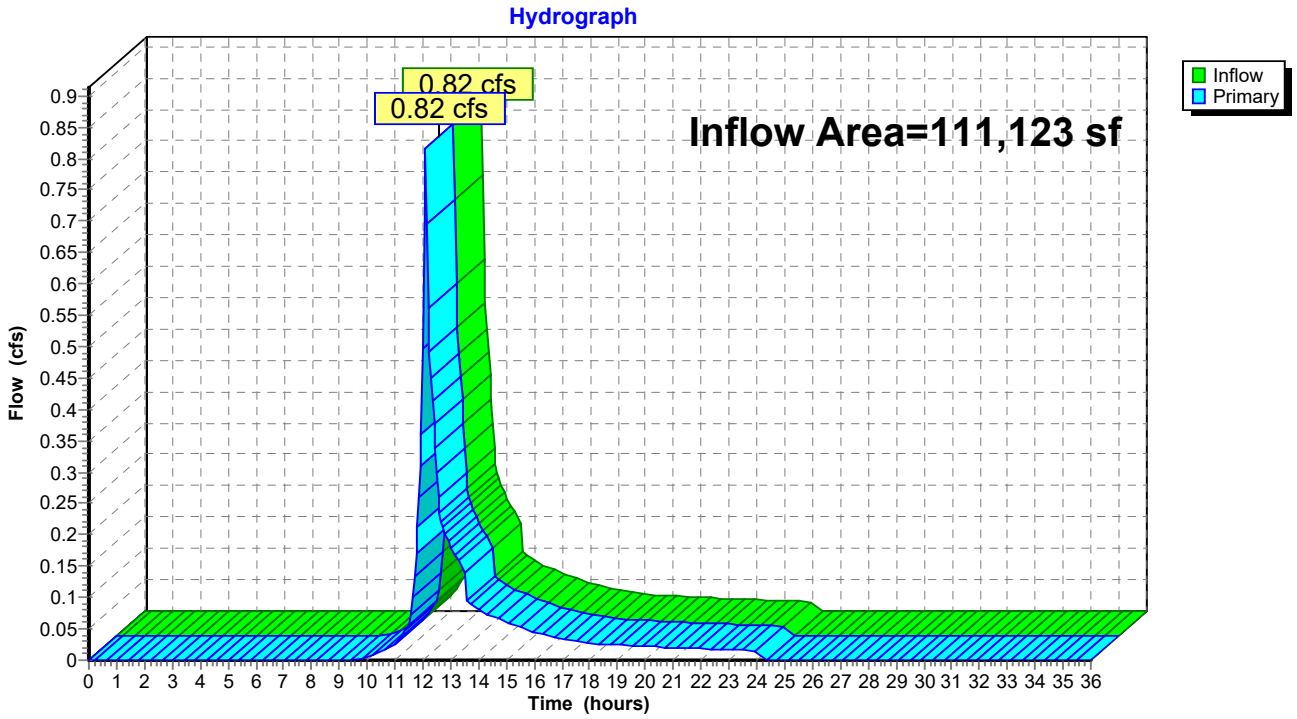

Hydrograph
Inflow
Primary
0.35 cfs
0.11 cfs
Inflow Area=11,272 sf
Peak Elev=120.41'
Storage=213 cf
Flow (cfs)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38
Time (hours)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

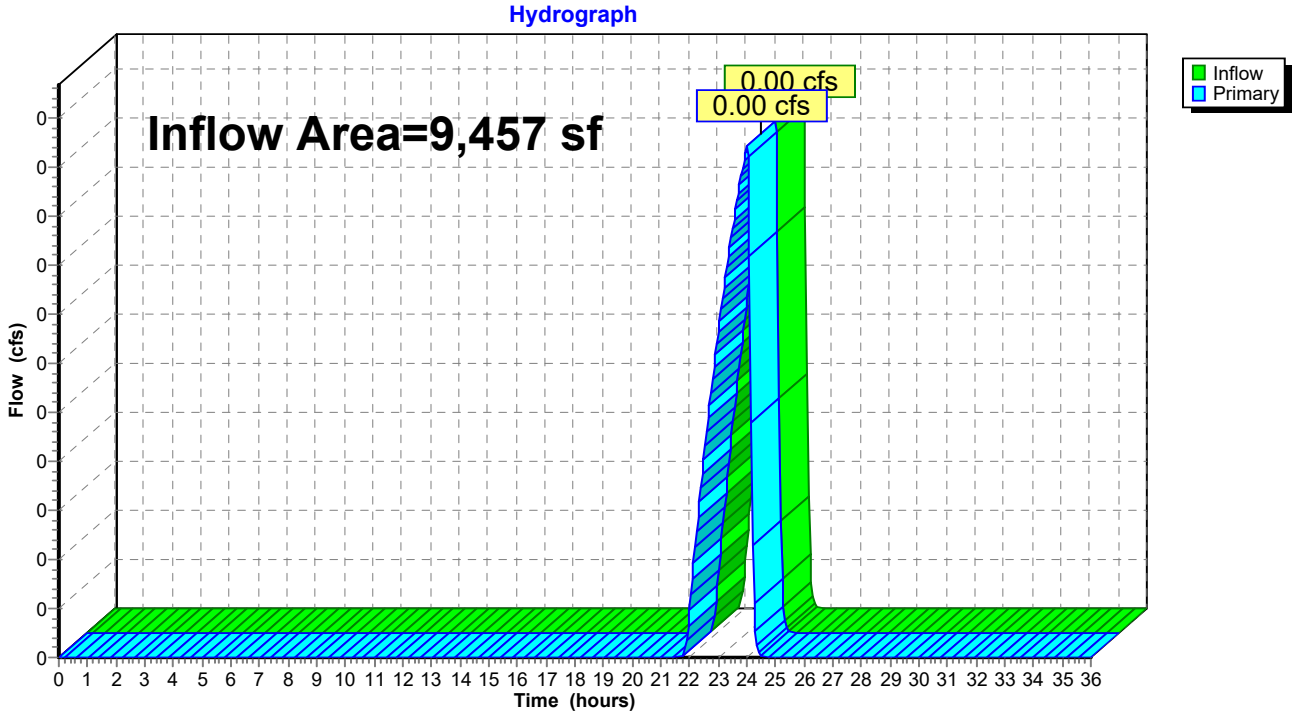


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

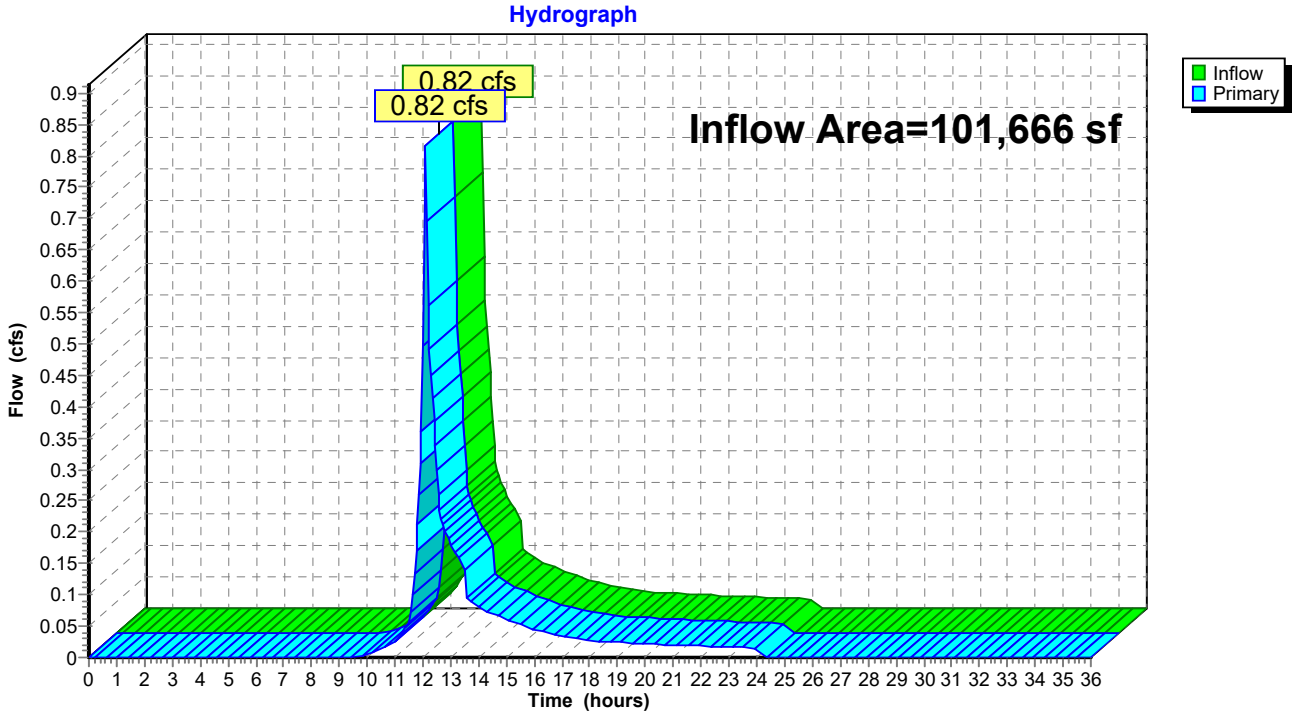


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.40" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.15"
Tc=10.0 min CN=39 Runoff=0.00 cfs 116 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=4.25"
Tc=10.0 min CN=96 Runoff=3.18 cfs 12,509 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=3.92"
Tc=10.0 min CN=93 Runoff=1.08 cfs 4,097 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=4.48"
Tc=6.0 min CN=98 Runoff=2.38 cfs 8,605 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=2.39"
Tc=6.0 min CN=77 Runoff=0.71 cfs 2,246 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=2.65"
Tc=6.0 min CN=80 Runoff=1.37 cfs 4,317 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=118.23' Storage=6,190 cf Inflow=4.26 cfs 16,606 cf
Discarded=0.40 cfs 16,606 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 16,606 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.64' Storage=2,140 cf Inflow=2.38 cfs 8,605 cf
Discarded=0.43 cfs 8,605 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 8,605 cf

Pond P-1: P-1 Peak Elev=120.63' Storage=349 cf Inflow=0.71 cfs 2,246 cf
Outflow=0.58 cfs 2,246 cf

Link 1L: Total Inflow=1.69 cfs 6,678 cf
Primary=1.69 cfs 6,678 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 116 cf
Primary=0.00 cfs 116 cf

Link POA-2: Woods Town Hall Road Inflow=1.69 cfs 6,562 cf
Primary=1.69 cfs 6,562 cf

Total Runoff Area = 111,123 sf Runoff Volume = 31,890 cf Average Runoff Depth = 3.44"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

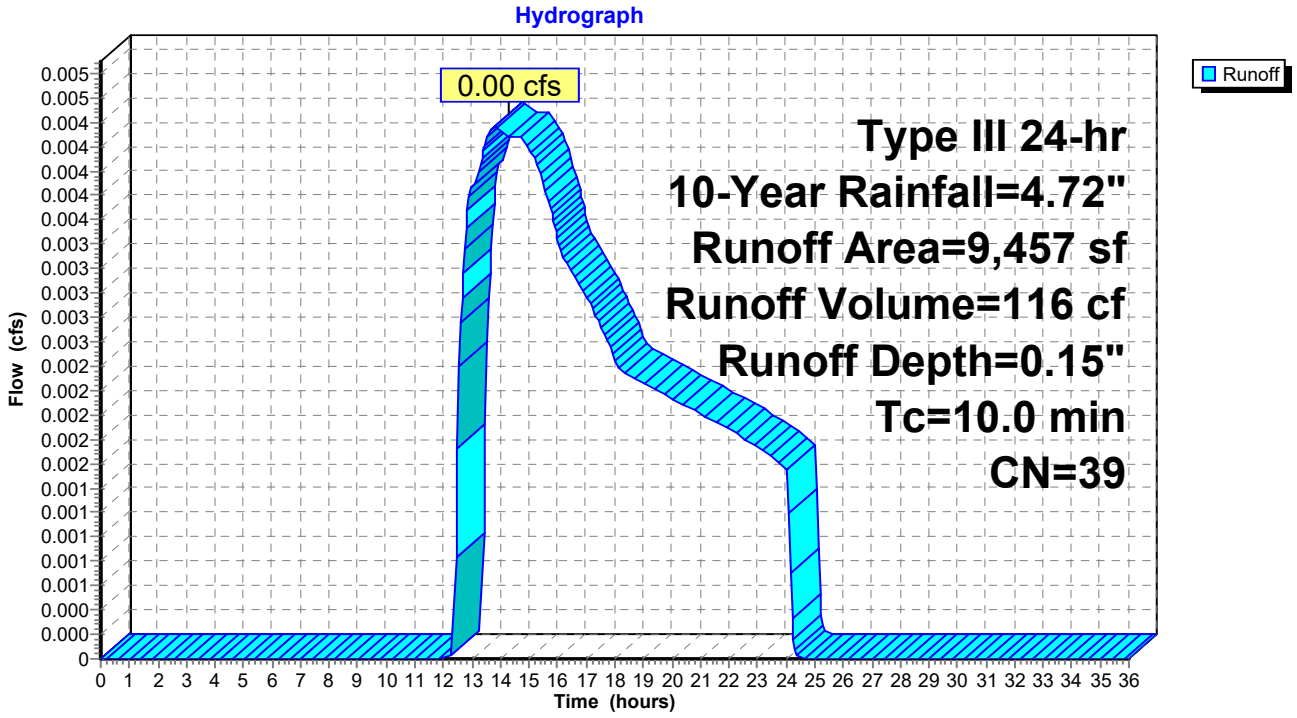
Runoff = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Depth= 0.15"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

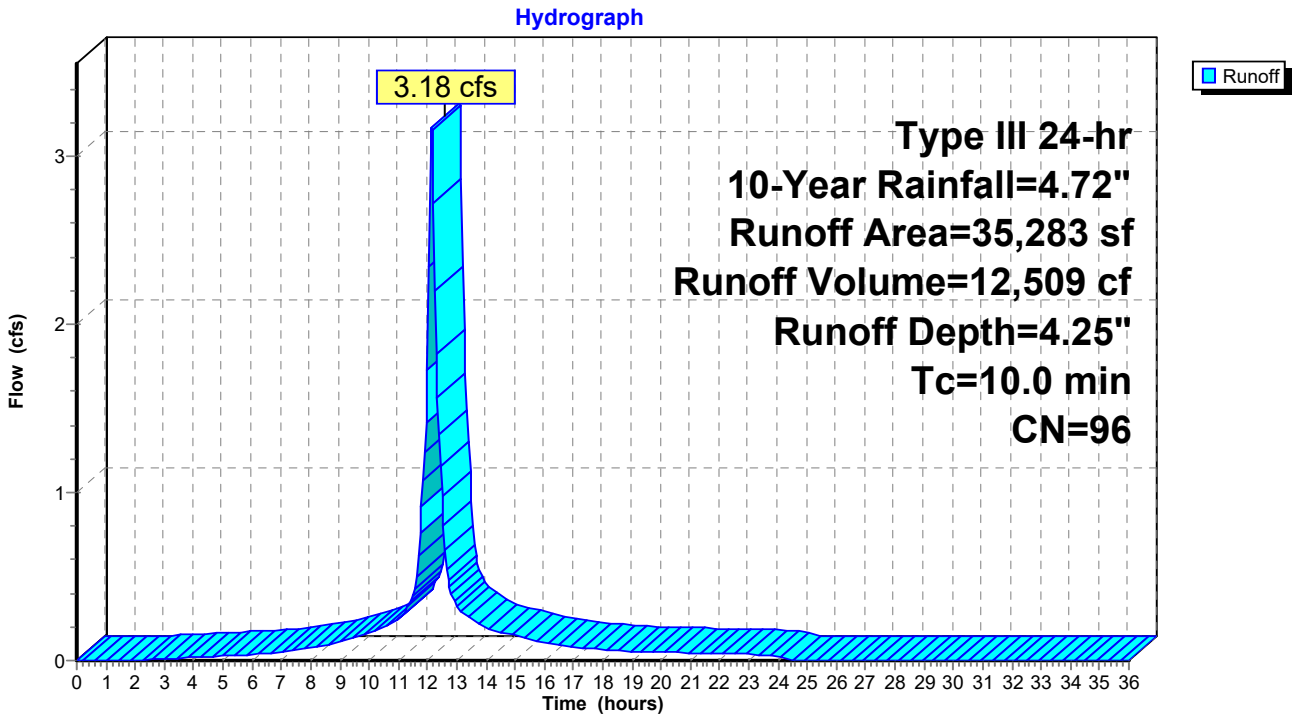
Runoff = 3.18 cfs @ 12.14 hrs, Volume= 12,509 cf, Depth= 4.25"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

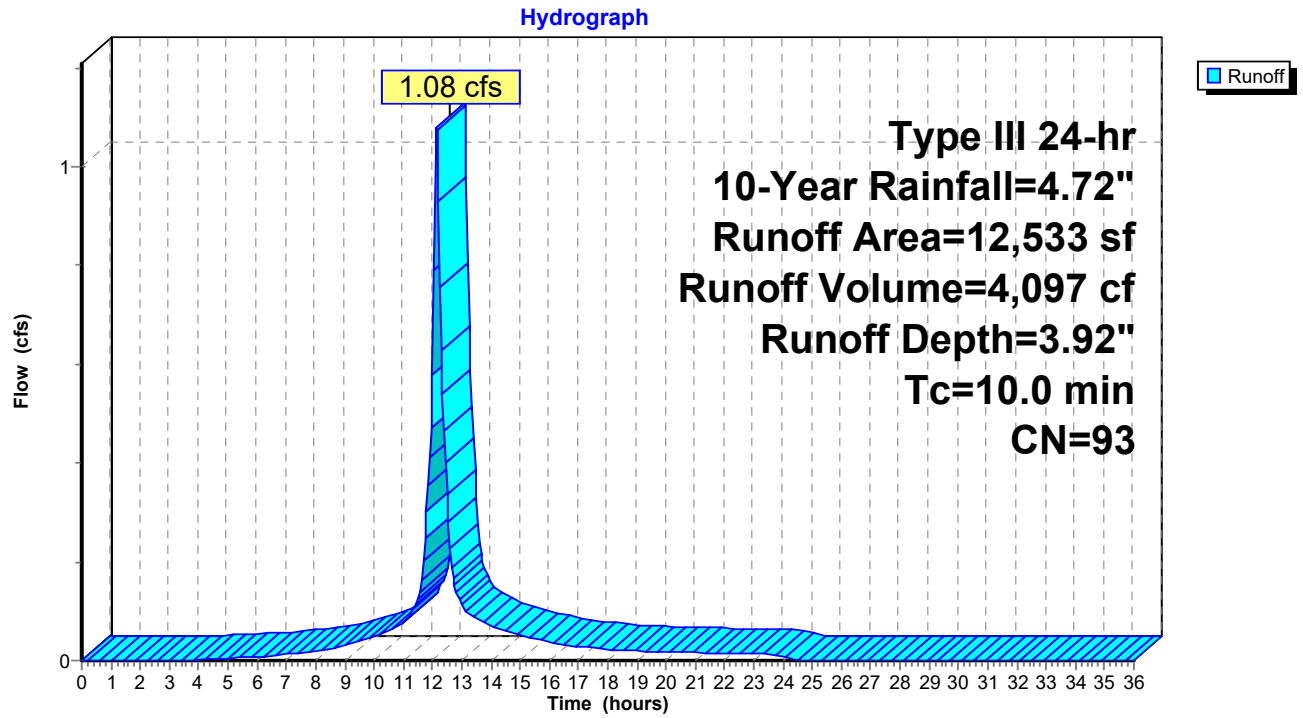
Runoff = 1.08 cfs @ 12.14 hrs, Volume= 4,097 cf, Depth= 3.92"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

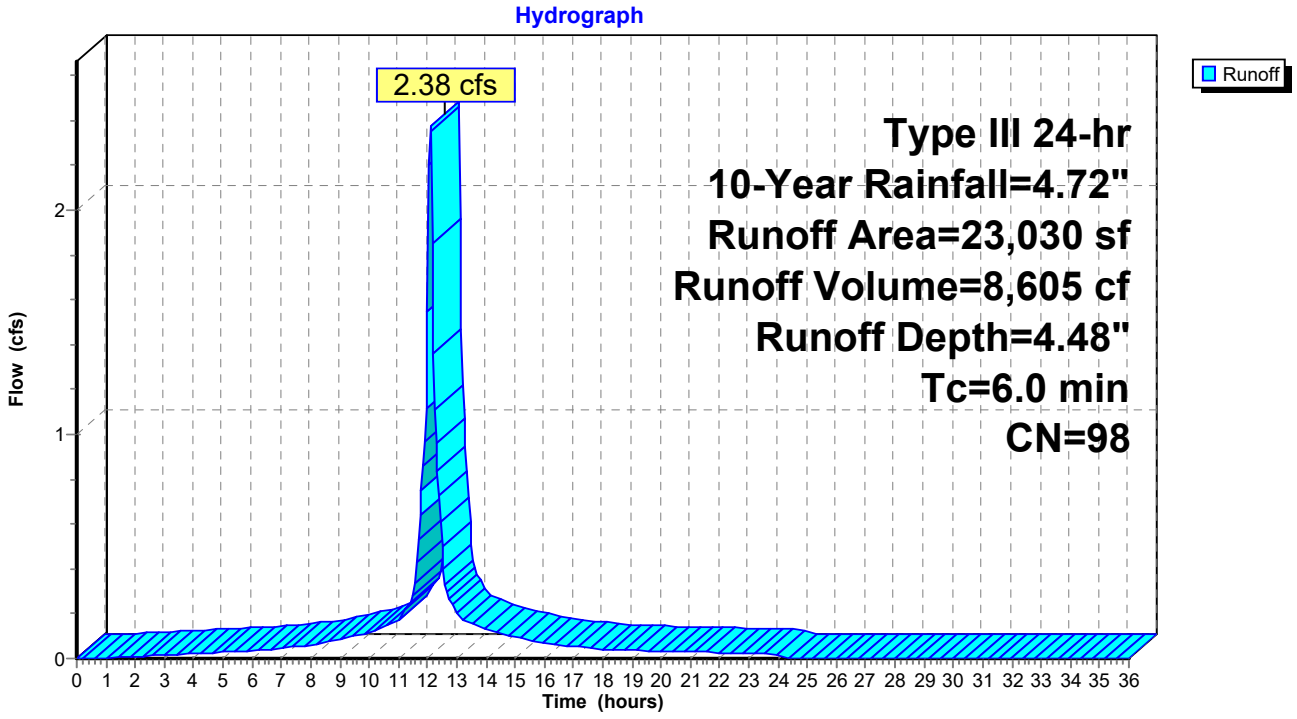
Runoff = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf, Depth= 4.48"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

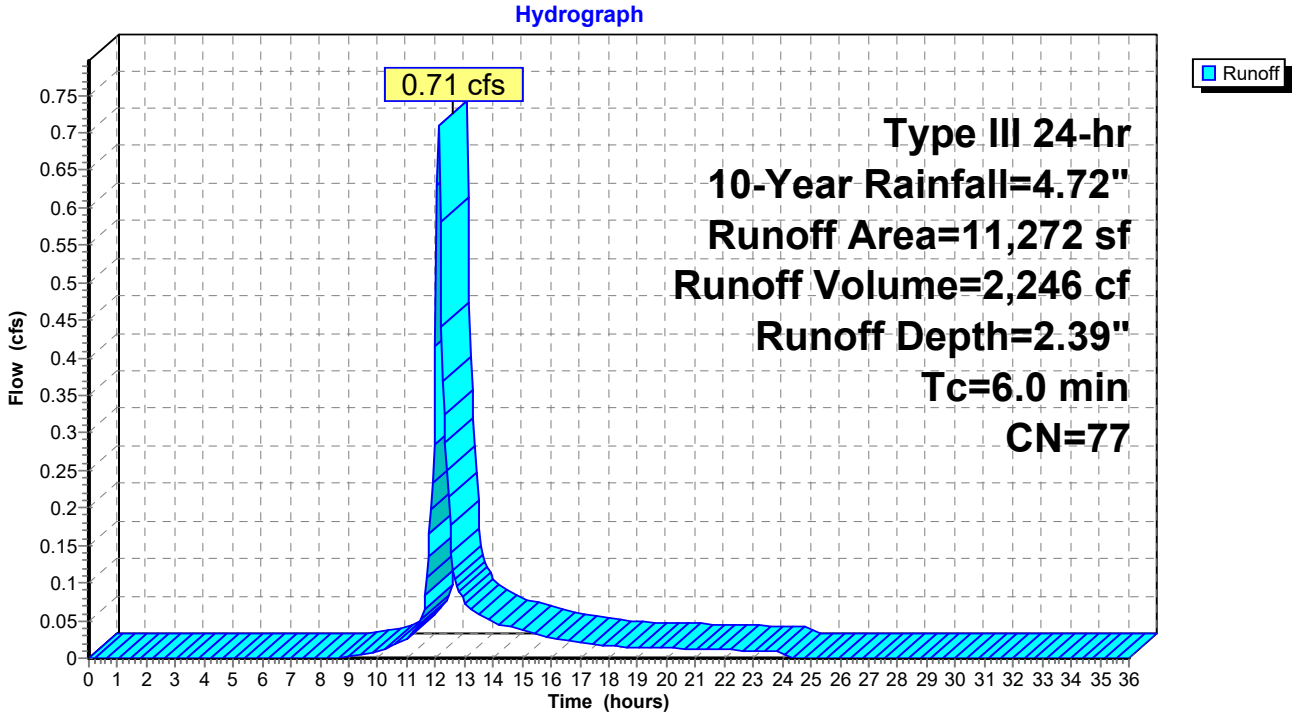
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf, Depth= 2.39"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

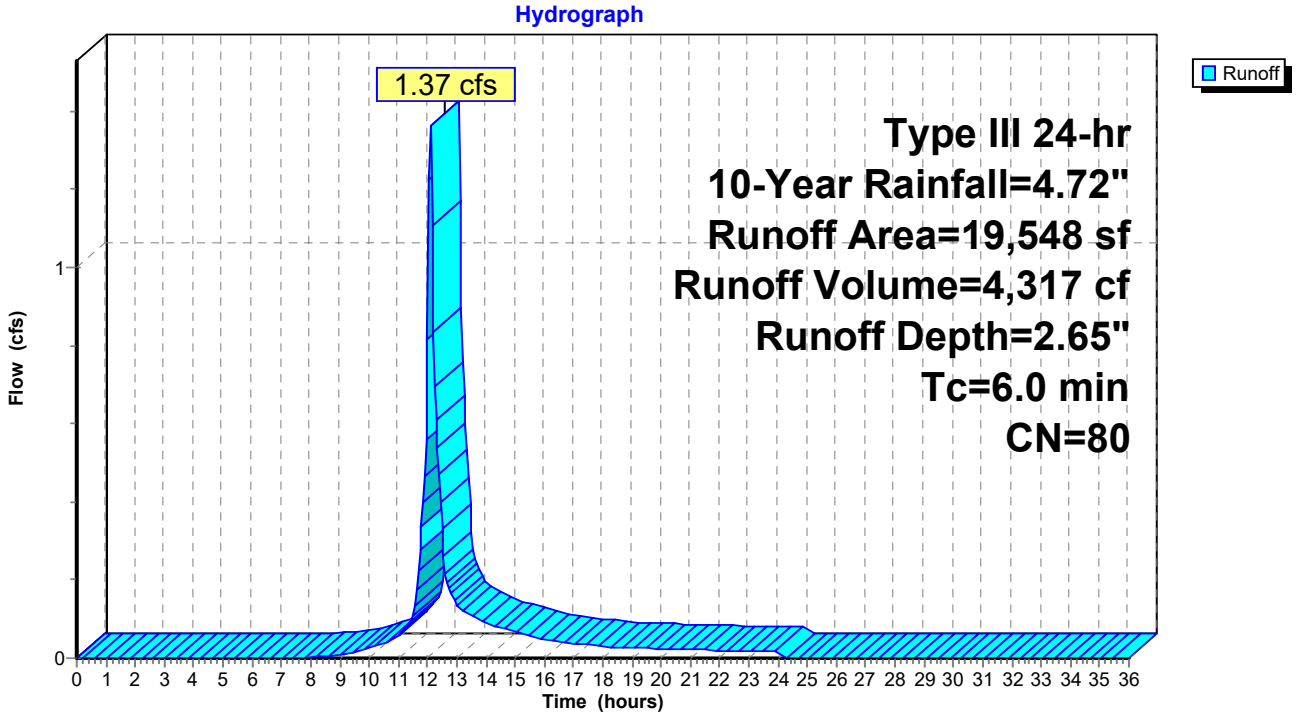
Runoff = 1.37 cfs @ 12.09 hrs, Volume= 4,317 cf, Depth= 2.65"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 4.17" for 10-Year event
Inflow = 4.26 cfs @ 12.14 hrs, Volume= 16,606 cf
Outflow = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf, Atten= 91%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.23' @ 13.11 hrs Surf.Area= 2,092 sf Storage= 6,190 cf

Plug-Flow detention time= 114.9 min calculated for 16,606 cf (100% of inflow)
Center-of-Mass det. time= 114.9 min (886.4 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.35 hrs HW=114.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

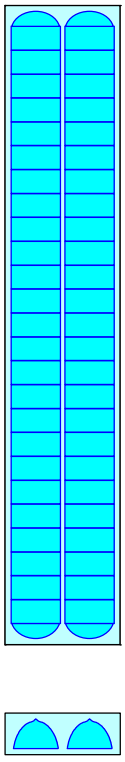
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

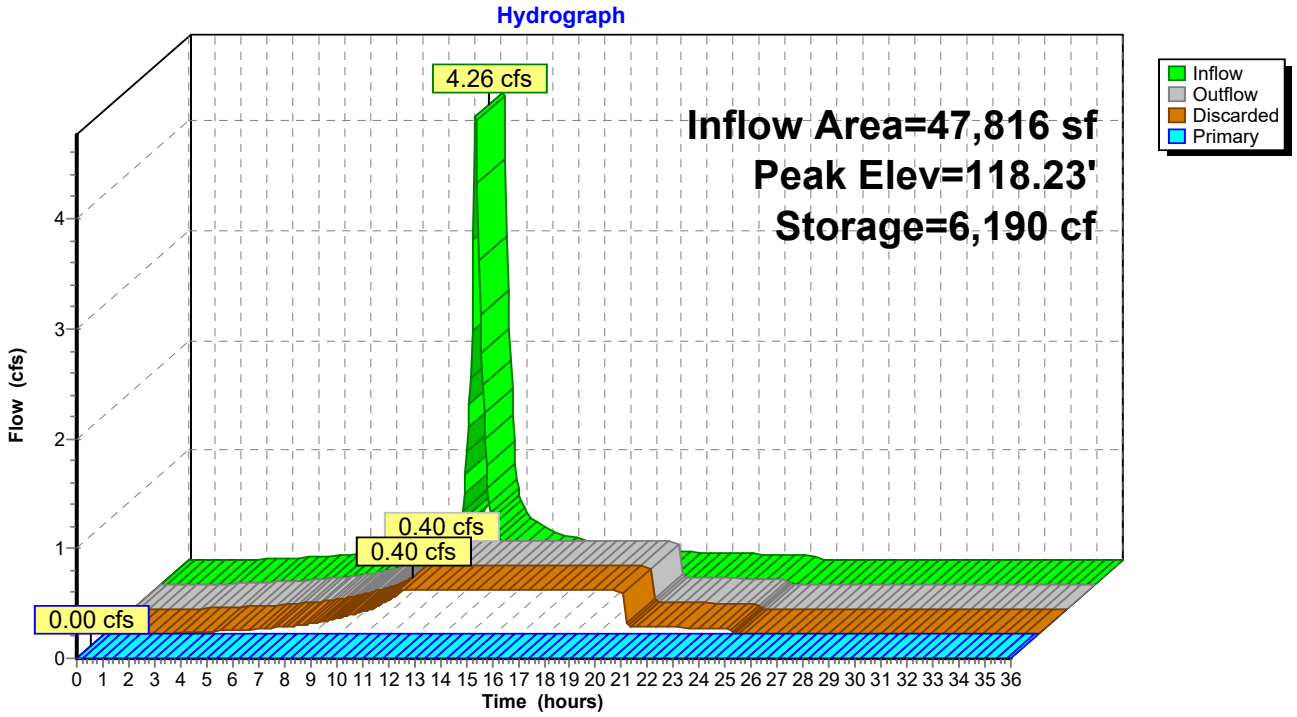
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf
Outflow = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf, Atten= 82%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.64' @ 12.53 hrs Surf.Area= 2,268 sf Storage= 2,140 cf

Plug-Flow detention time= 26.5 min calculated for 8,593 cf (100% of inflow)
Center-of-Mass det. time= 26.5 min (775.5 - 749.0)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.70 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

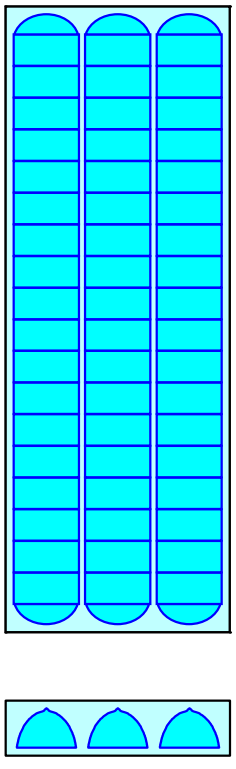
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

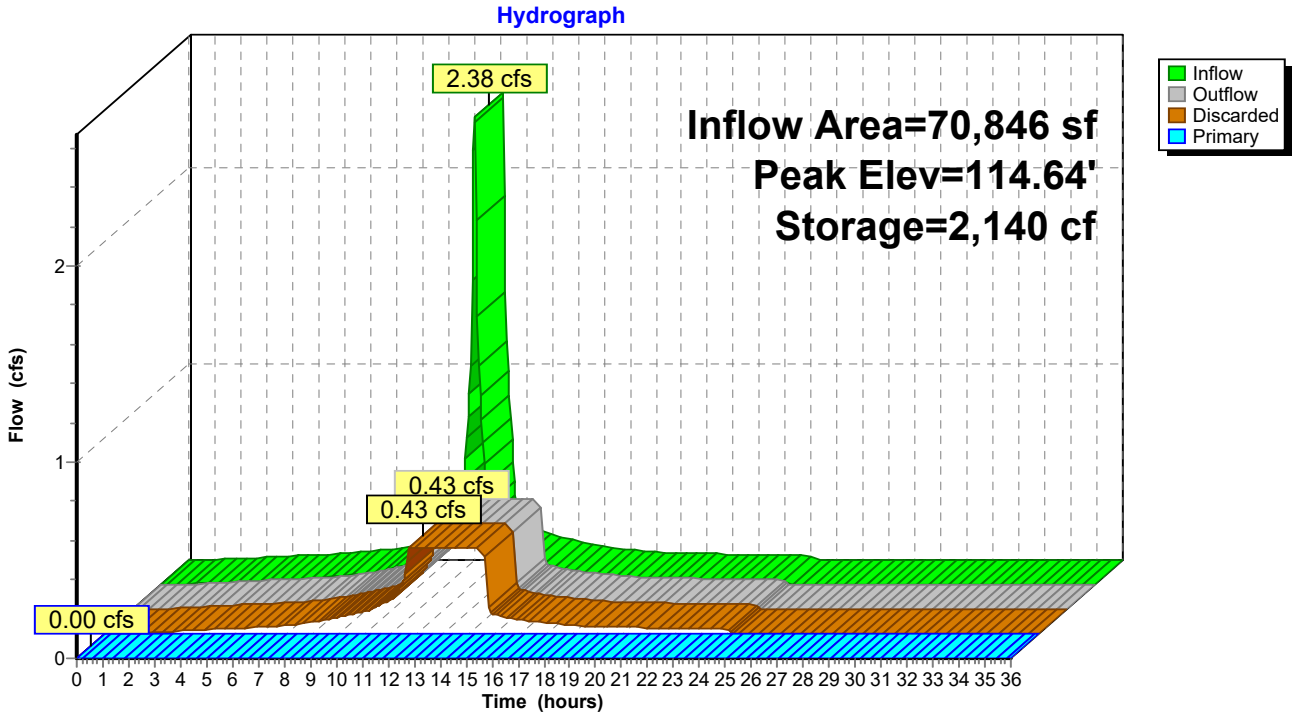
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf
Outflow = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf, Atten= 18%, Lag= 4.5 min
Primary = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.63' @ 12.17 hrs Surf.Area= 668 sf Storage= 349 cf

Plug-Flow detention time= 13.1 min calculated for 2,242 cf (100% of inflow)
Center-of-Mass det. time= 13.1 min (845.5 - 832.4)

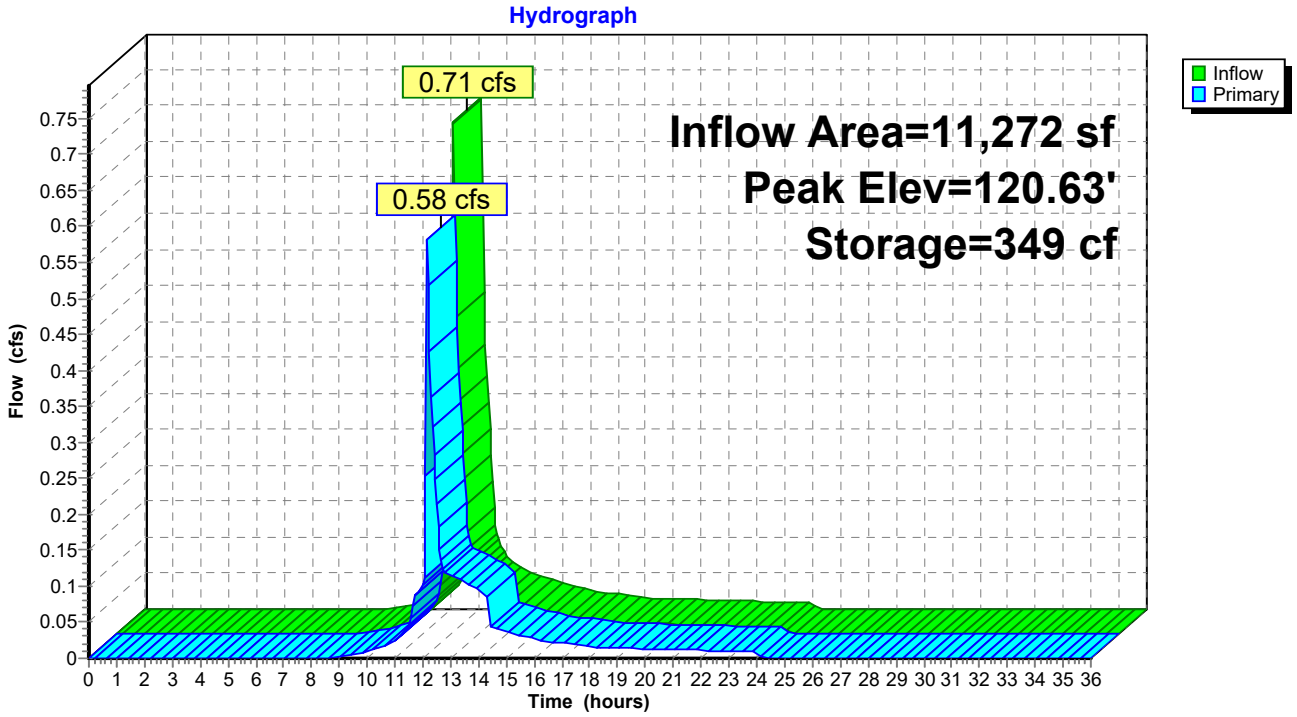
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.54 cfs @ 12.17 hrs HW=120.62' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.13 cfs)
└—**2=Culvert** (Passes 0.41 cfs of 3.16 cfs potential flow)
↑—**3=Orifice/Grate** (Weir Controls 0.41 cfs @ 1.12 fps)

Pond P-1: P-1

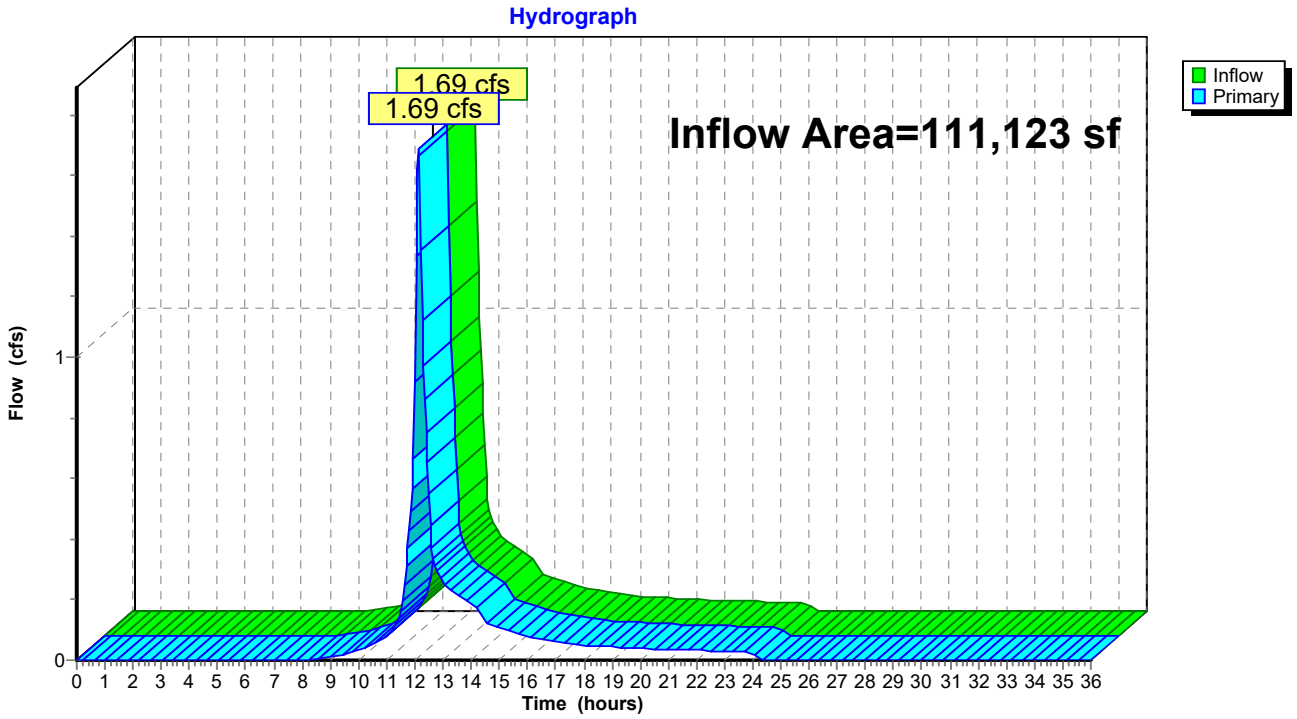

Hydrograph
0.71 cfs
0.58 cfs
Inflow Area=11,272 sf
Peak Elev=120.63'
Storage=349 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.72" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

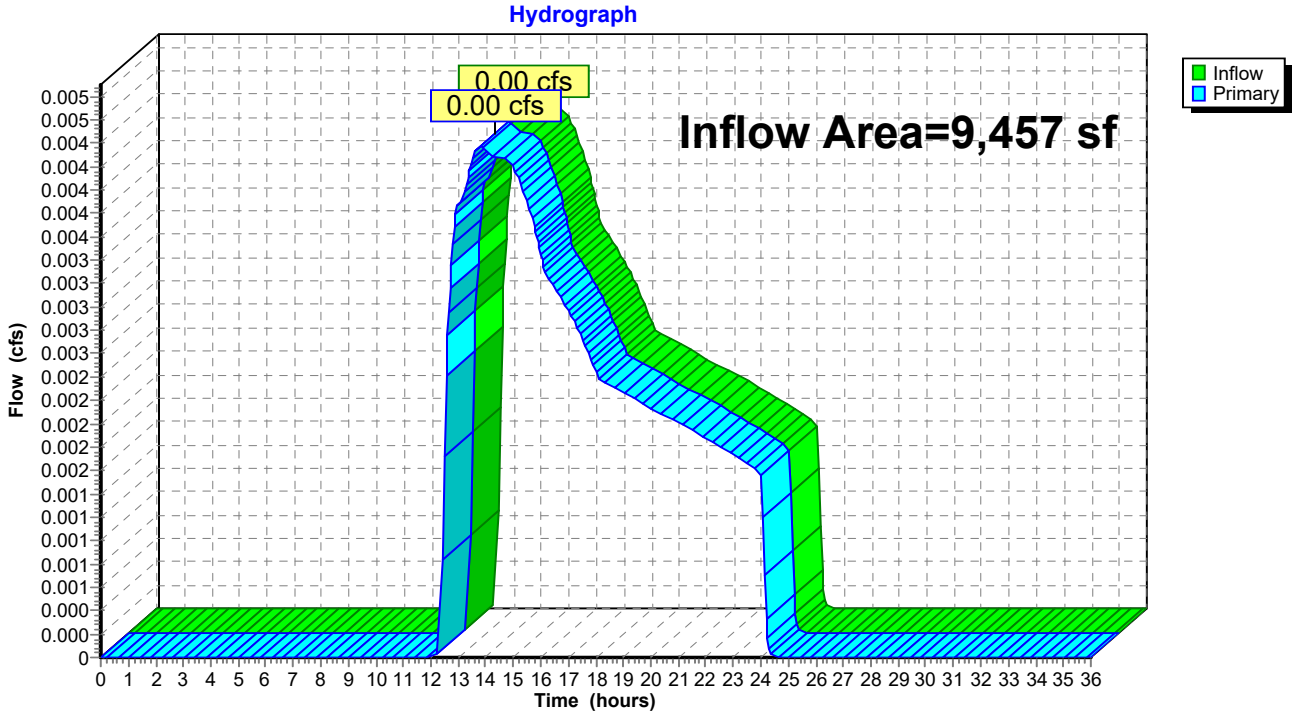


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.15" for 10-Year event
Inflow = 0.00 cfs @ 13.81 hrs, Volume= 116 cf
Primary = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

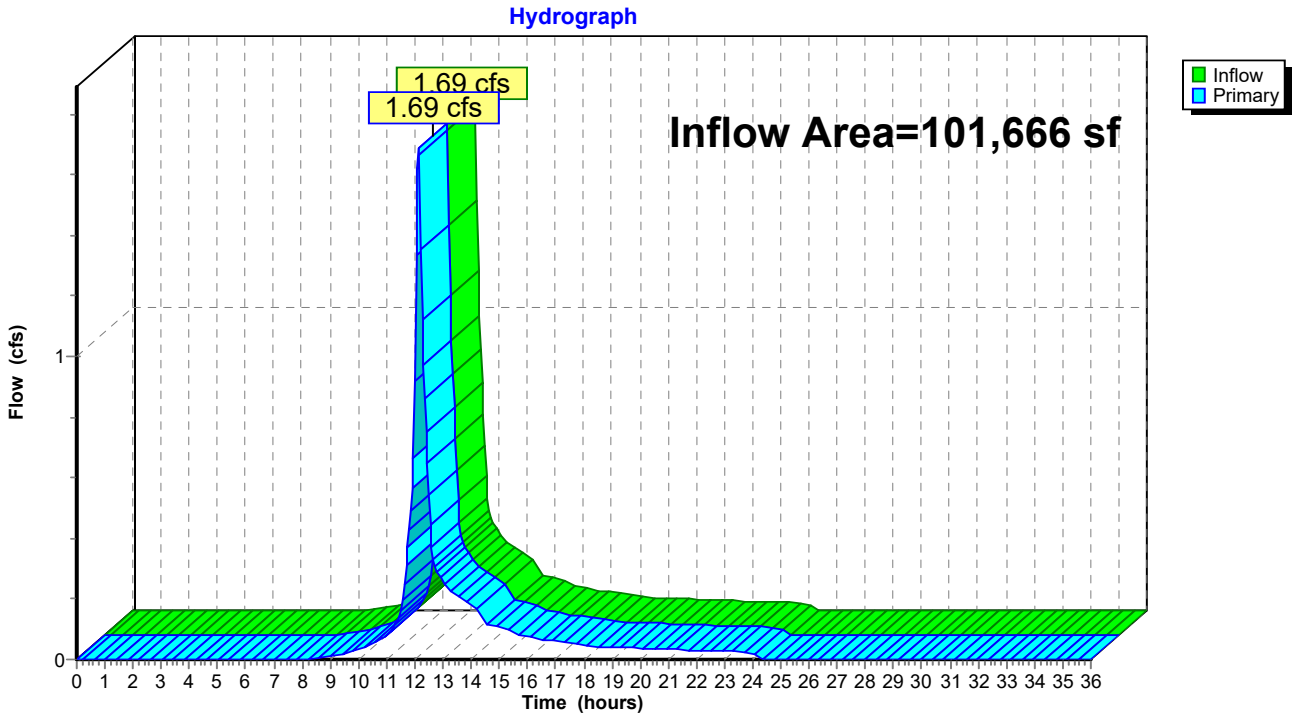


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.77" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.41"
Tc=10.0 min CN=39 Runoff=0.03 cfs 327 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=5.42"
Tc=10.0 min CN=96 Runoff=4.00 cfs 15,930 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=5.07"
Tc=10.0 min CN=93 Runoff=1.38 cfs 5,299 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=5.65"
Tc=6.0 min CN=98 Runoff=2.98 cfs 10,847 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=3.38"
Tc=6.0 min CN=77 Runoff=1.01 cfs 3,178 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=80 Runoff=1.89 cfs 5,998 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=119.53' Storage=7,879 cf Inflow=5.37 cfs 21,229 cf
Discarded=0.40 cfs 20,083 cf Primary=0.58 cfs 1,146 cf Outflow=0.98 cfs 21,229 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=115.46' Storage=3,667 cf Inflow=2.98 cfs 11,993 cf
Discarded=0.43 cfs 11,993 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 11,993 cf

Pond P-1: P-1 Peak Elev=120.68' Storage=387 cf Inflow=1.01 cfs 3,178 cf
Outflow=0.93 cfs 3,178 cf

Link 1L: Total Inflow=2.79 cfs 9,503 cf
Primary=2.79 cfs 9,503 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.03 cfs 327 cf
Primary=0.03 cfs 327 cf

Link POA-2: Woods Town Hall Road Inflow=2.79 cfs 9,176 cf
Primary=2.79 cfs 9,176 cf

Total Runoff Area = 111,123 sf Runoff Volume = 41,579 cf Average Runoff Depth = 4.49"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

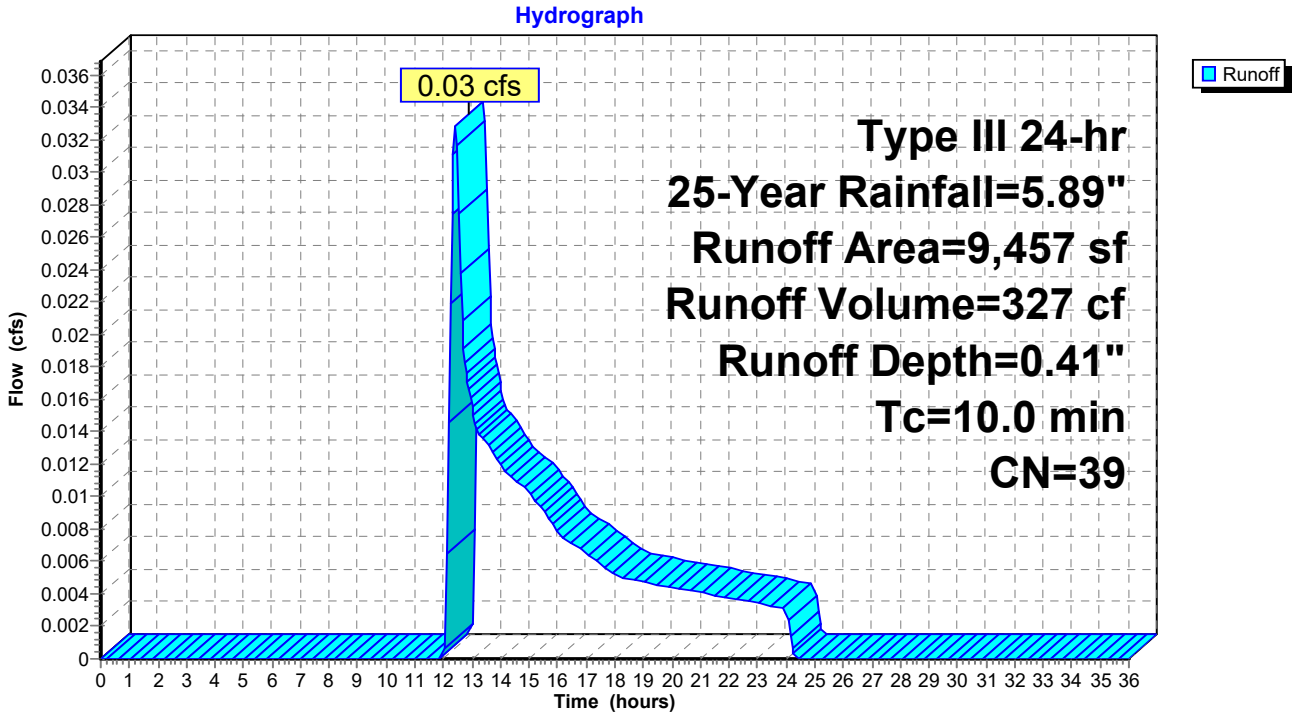
Runoff = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Depth= 0.41"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

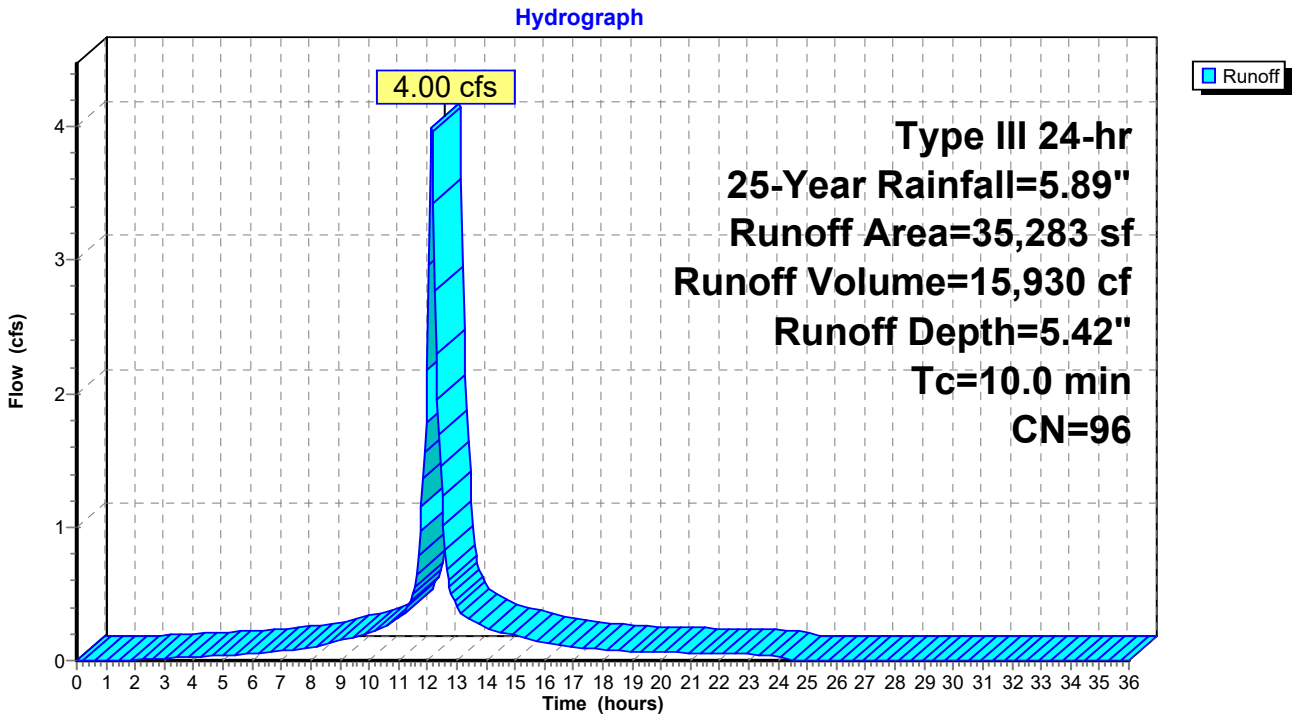
Runoff = 4.00 cfs @ 12.14 hrs, Volume= 15,930 cf, Depth= 5.42"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

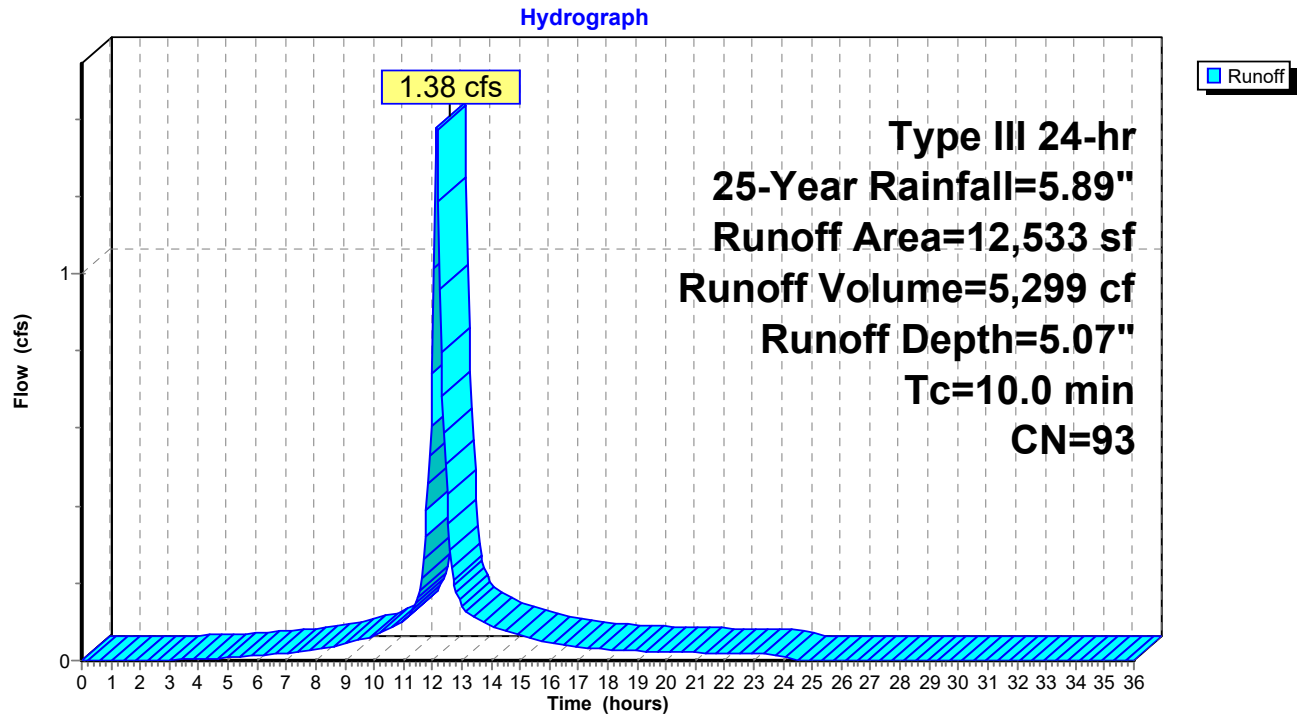
Runoff = 1.38 cfs @ 12.14 hrs, Volume= 5,299 cf, Depth= 5.07"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

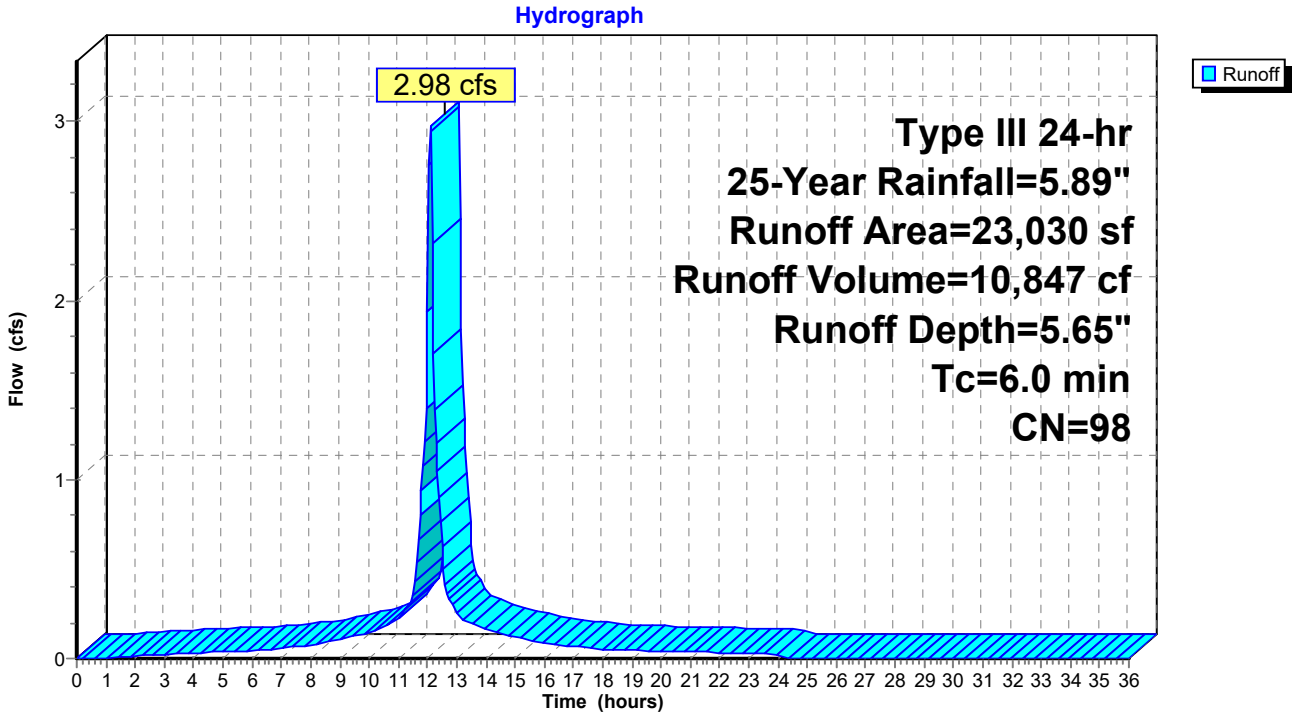
Runoff = 2.98 cfs @ 12.09 hrs, Volume= 10,847 cf, Depth= 5.65"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

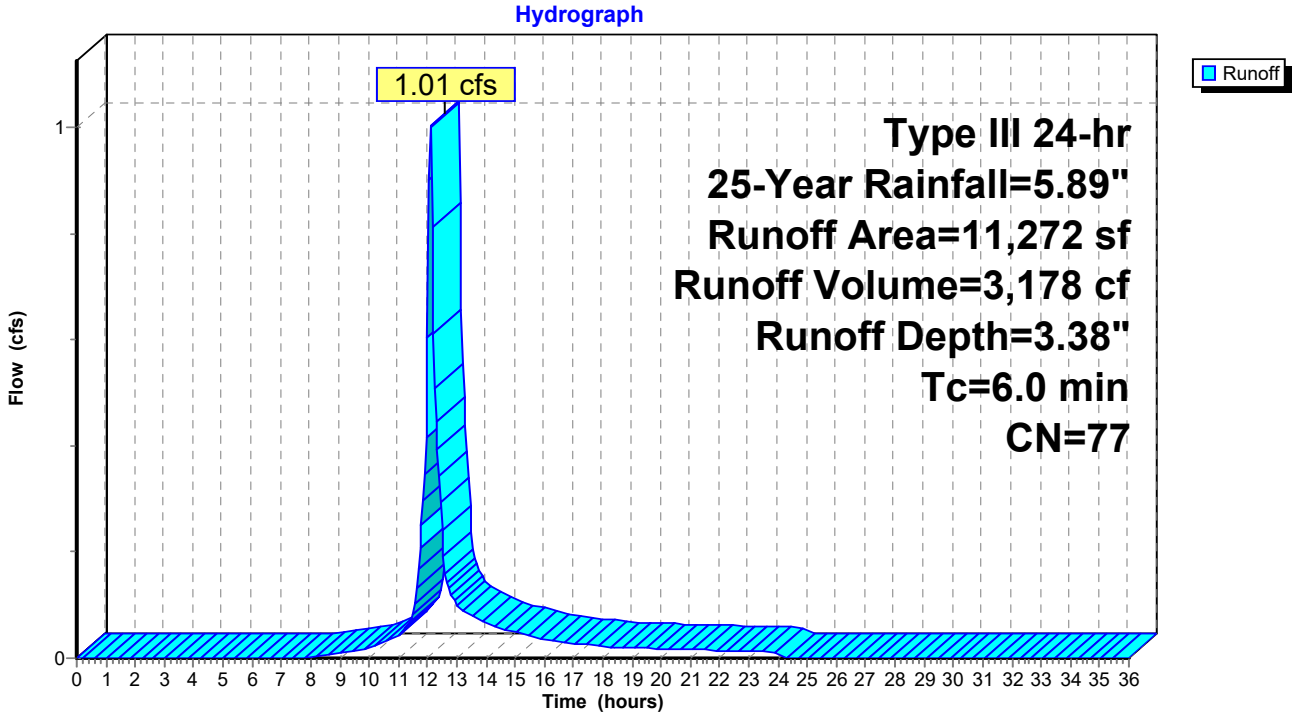
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf, Depth= 3.38"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

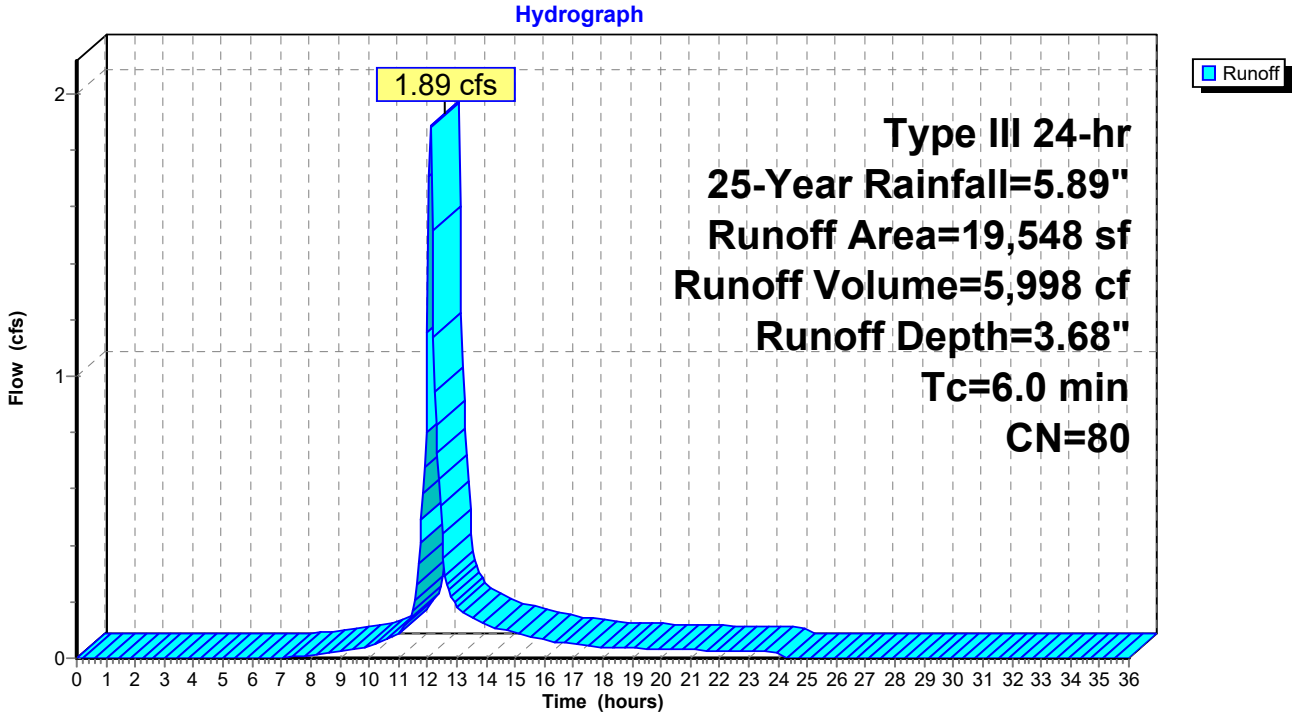
Runoff = 1.89 cfs @ 12.09 hrs, Volume= 5,998 cf, Depth= 3.68"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 5.33" for 25-Year event
Inflow = 5.37 cfs @ 12.14 hrs, Volume= 21,229 cf
Outflow = 0.98 cfs @ 12.64 hrs, Volume= 21,229 cf, Atten= 82%, Lag= 30.3 min
Discarded = 0.40 cfs @ 10.95 hrs, Volume= 20,083 cf
Primary = 0.58 cfs @ 12.64 hrs, Volume= 1,146 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 119.53' @ 12.64 hrs Surf.Area= 2,092 sf Storage= 7,879 cf

Plug-Flow detention time= 139.0 min calculated for 21,200 cf (100% of inflow)
Center-of-Mass det. time= 138.8 min (904.8 - 766.1)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.95 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.58 cfs @ 12.64 hrs HW=119.53' (Free Discharge)
└**2=Culvert** (Inlet Controls 0.58 cfs @ 1.77 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 0.58 cfs of 3.81 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

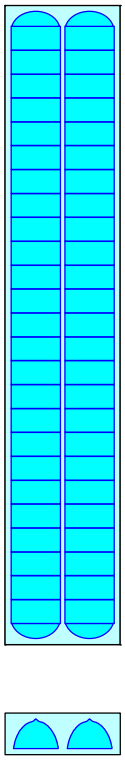
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

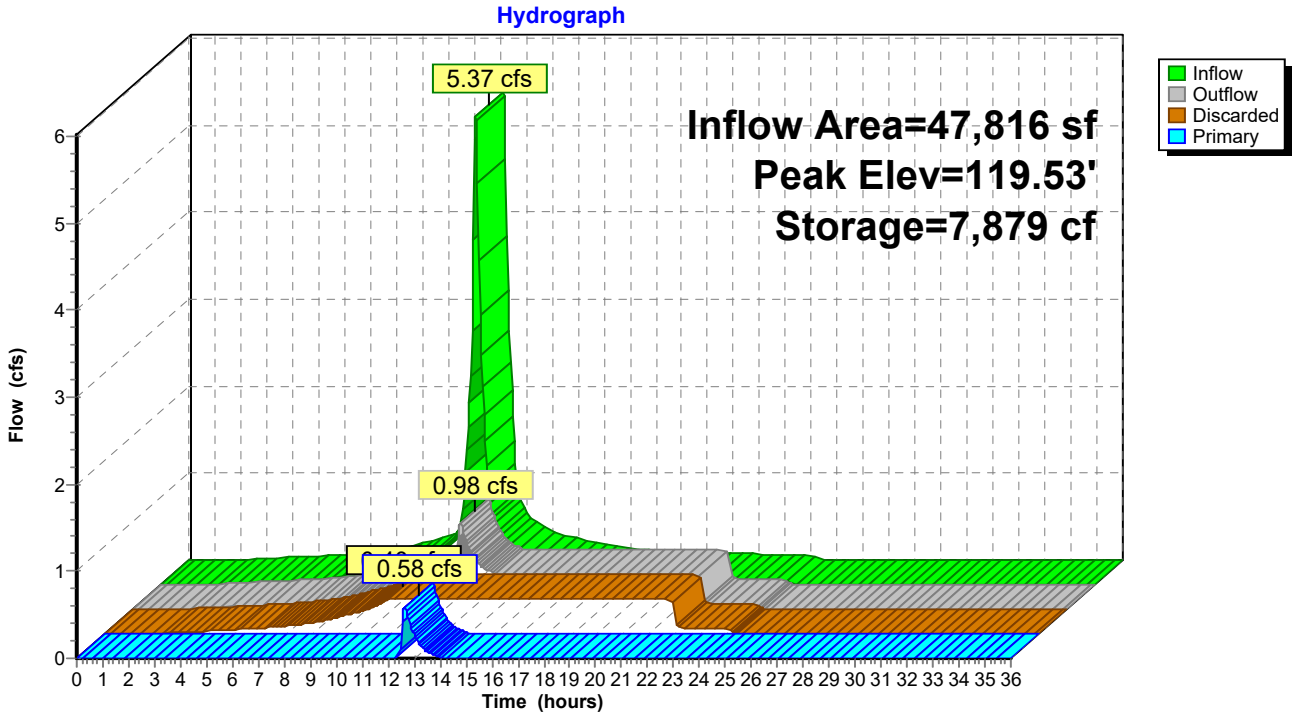
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 2.03" for 25-Year event
Inflow = 2.98 cfs @ 12.09 hrs, Volume= 11,993 cf
Outflow = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf, Atten= 85%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.46' @ 13.12 hrs Surf.Area= 2,268 sf Storage= 3,667 cf

Plug-Flow detention time= 55.6 min calculated for 11,993 cf (100% of inflow)
Center-of-Mass det. time= 55.5 min (803.7 - 748.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.65 hrs HW=113.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

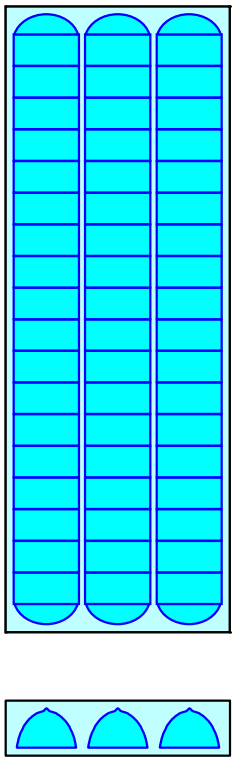
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

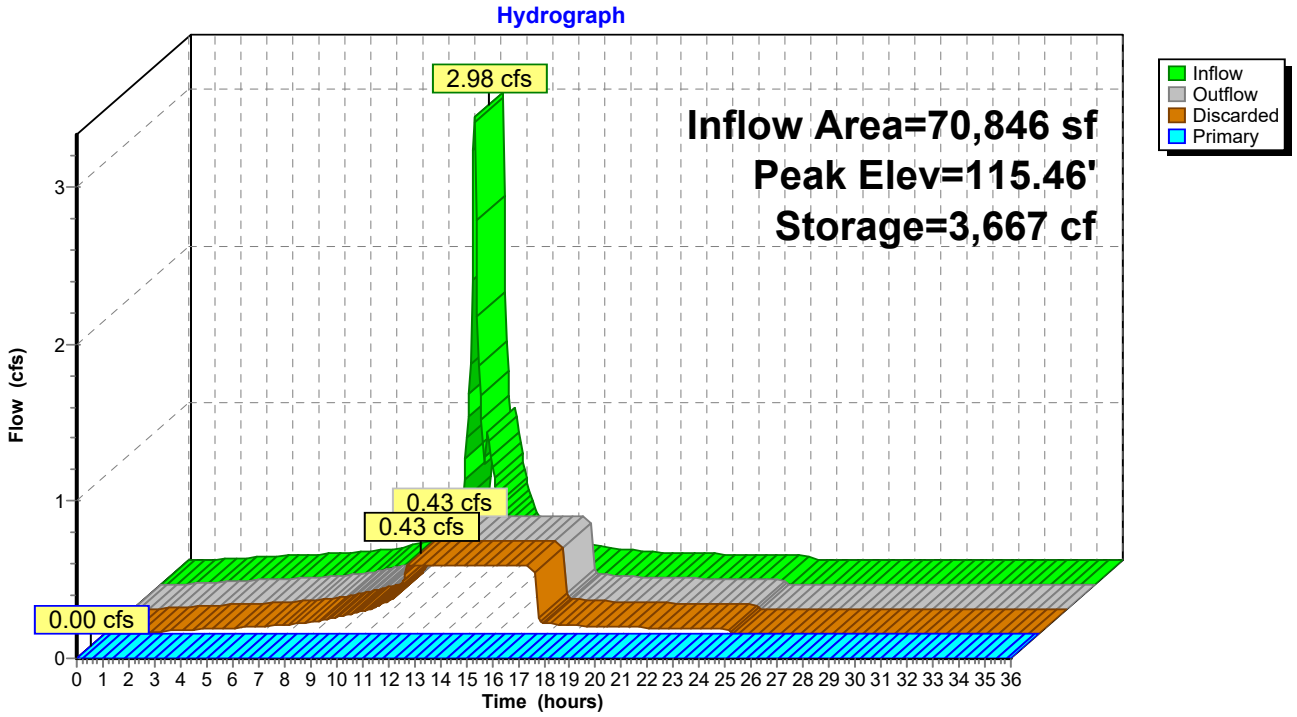
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 3.38" for 25-Year event
Inflow = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf
Outflow = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf, Atten= 8%, Lag= 2.1 min
Primary = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.68' @ 12.13 hrs Surf.Area= 689 sf Storage= 387 cf

Plug-Flow detention time= 12.5 min calculated for 3,174 cf (100% of inflow)
Center-of-Mass det. time= 12.5 min (834.9 - 822.4)

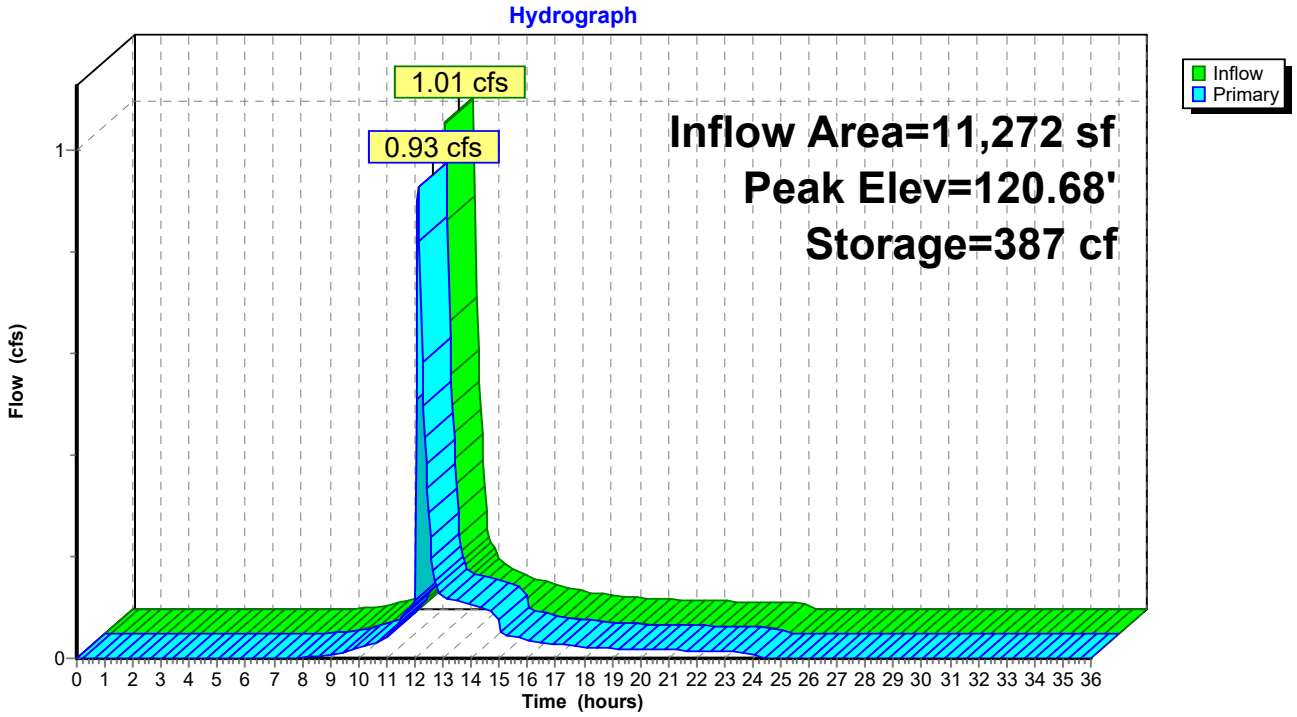
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.13 hrs HW=120.68' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **2=Culvert** (Passes 0.77 cfs of 3.24 cfs potential flow)
  - **3=Orifice/Grate** (Weir Controls 0.77 cfs @ 1.38 fps)

Pond P-1: P-1

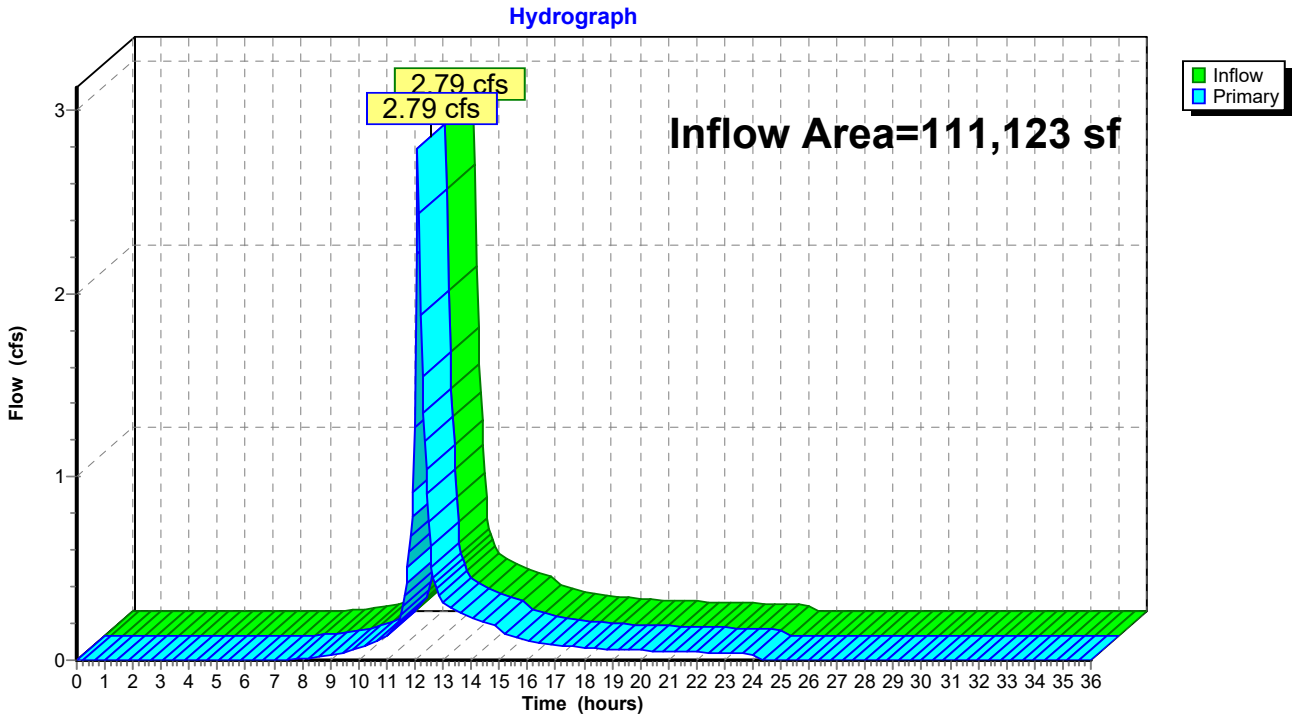

Hydrograph
1.01 cfs
0.93 cfs
Inflow Area=11,272 sf
Peak Elev=120.68'
Storage=387 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 1.03" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

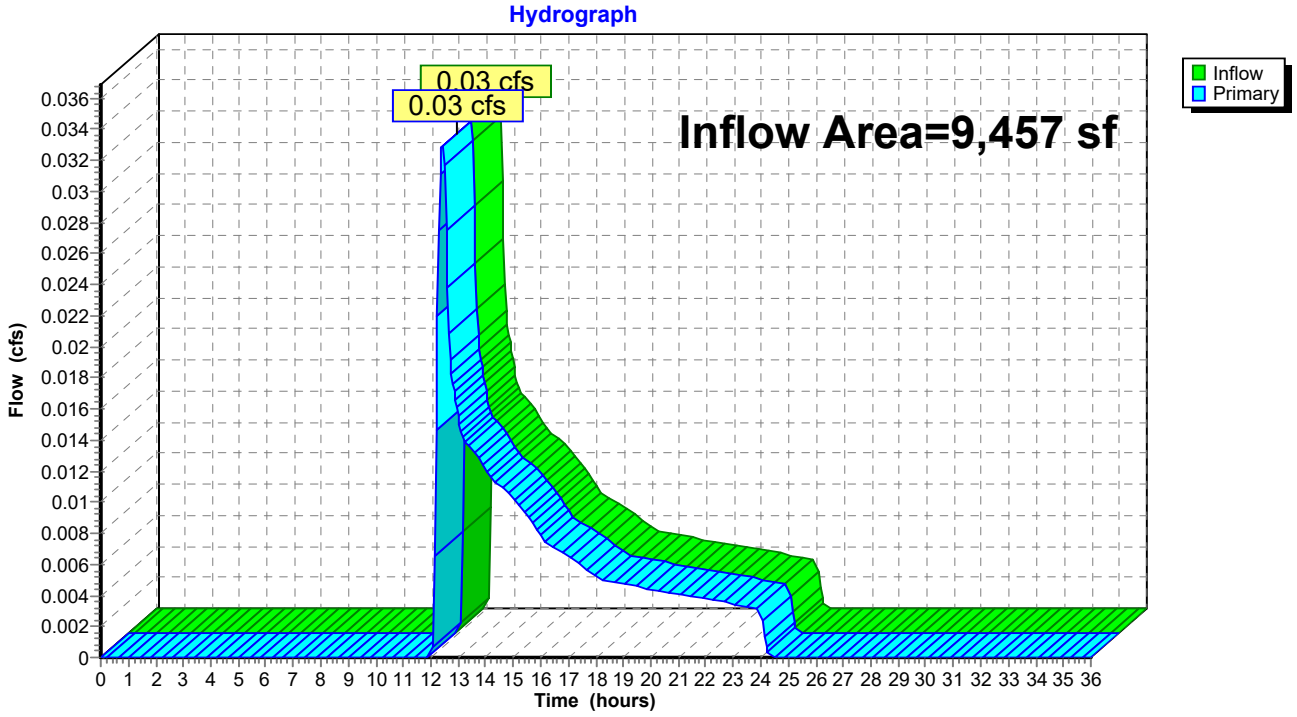


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.41" for 25-Year event
Inflow = 0.03 cfs @ 12.42 hrs, Volume= 327 cf
Primary = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

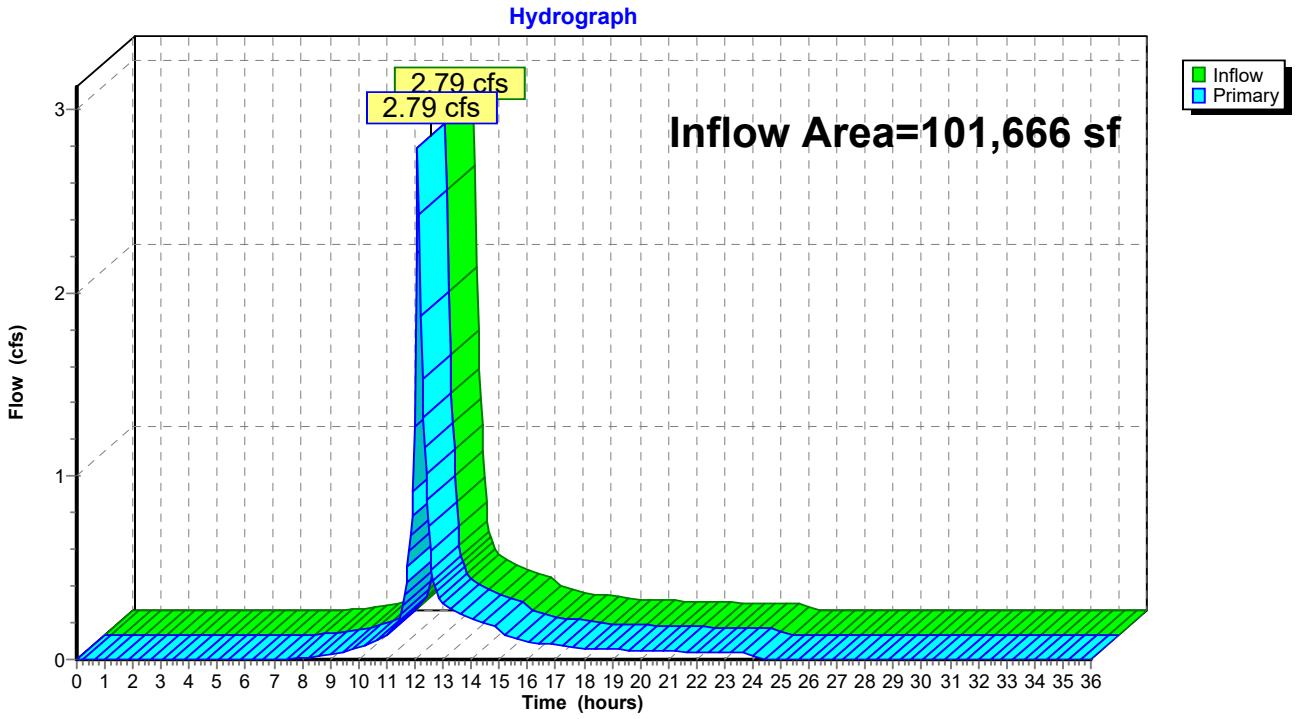


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 1.08" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=1.26"
Tc=10.0 min CN=39 Runoff=0.18 cfs 992 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=7.76"
Tc=10.0 min CN=96 Runoff=5.63 cfs 22,817 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=7.40"
Tc=10.0 min CN=93 Runoff=1.97 cfs 7,730 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=8.00"
Tc=6.0 min CN=98 Runoff=4.18 cfs 15,353 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=77 Runoff=1.62 cfs 5,162 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=80 Runoff=2.96 cfs 9,530 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=120.89' Storage=9,043 cf Inflow=7.60 cfs 30,547 cf
Discarded=0.40 cfs 23,666 cf Primary=3.39 cfs 6,881 cf Outflow=3.79 cfs 30,547 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=118.47' Storage=8,490 cf Inflow=4.98 cfs 22,234 cf
Discarded=0.43 cfs 19,265 cf Primary=2.83 cfs 2,969 cf Outflow=3.26 cfs 22,234 cf

Pond P-1: P-1 Peak Elev=120.77' Storage=447 cf Inflow=1.62 cfs 5,162 cf
Outflow=1.55 cfs 5,162 cf

Link 1L: Total Inflow=4.60 cfs 18,653 cf
Primary=4.60 cfs 18,653 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.18 cfs 992 cf
Primary=0.18 cfs 992 cf

Link POA-2: Woods Town Hall Road Inflow=4.47 cfs 17,661 cf
Primary=4.47 cfs 17,661 cf

Total Runoff Area = 111,123 sf Runoff Volume = 61,584 cf Average Runoff Depth = 6.65"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

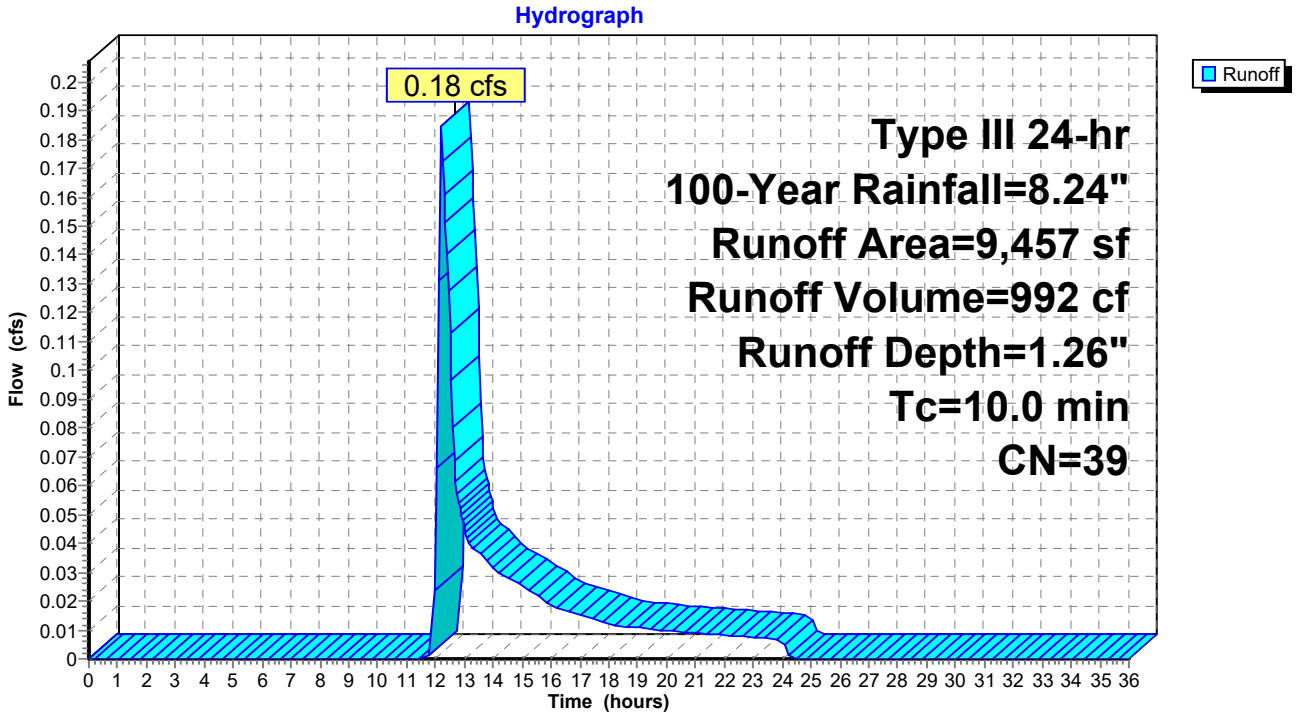
Runoff = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Depth= 1.26"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

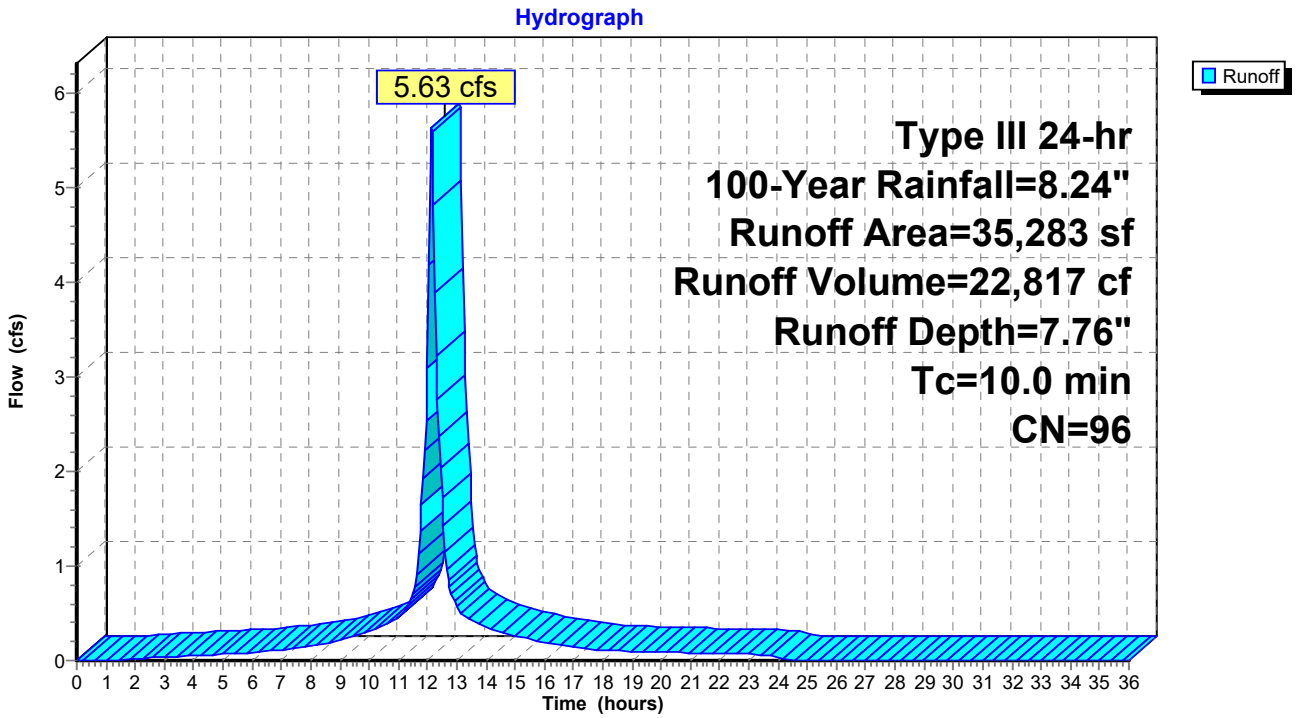
Runoff = 5.63 cfs @ 12.14 hrs, Volume= 22,817 cf, Depth= 7.76"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

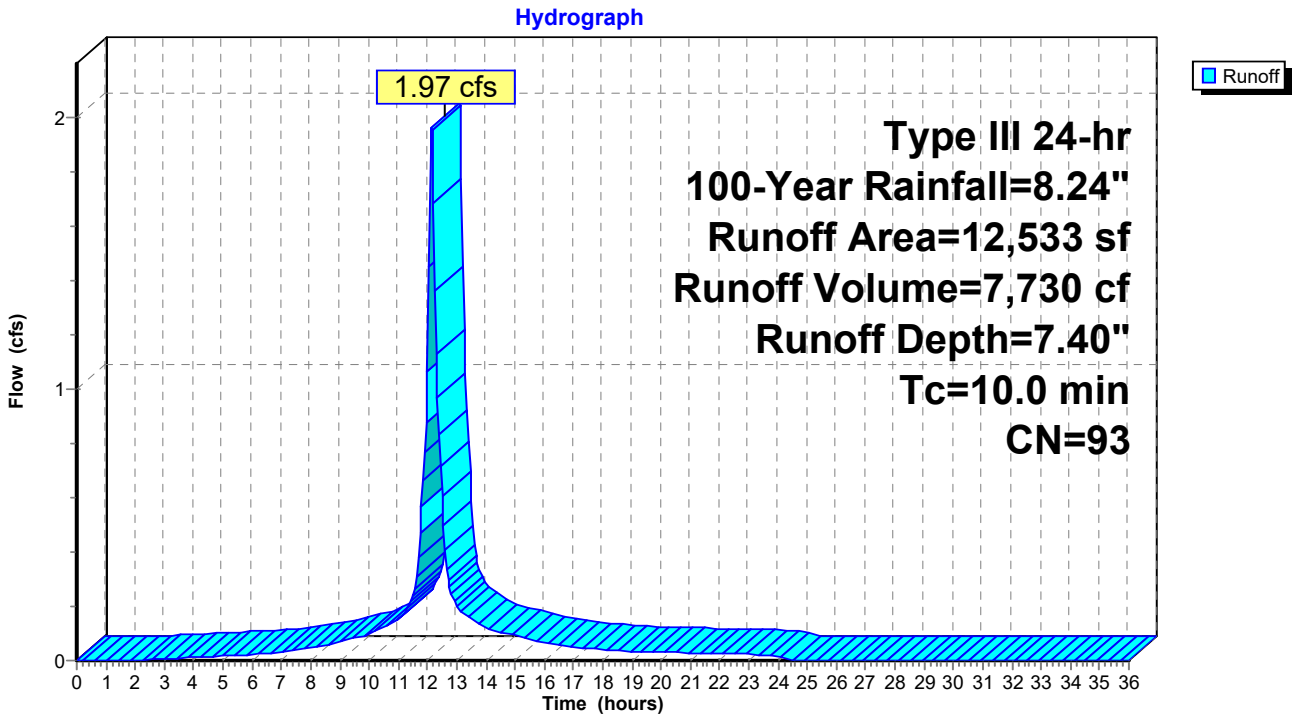
Runoff = 1.97 cfs @ 12.14 hrs, Volume= 7,730 cf, Depth= 7.40"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

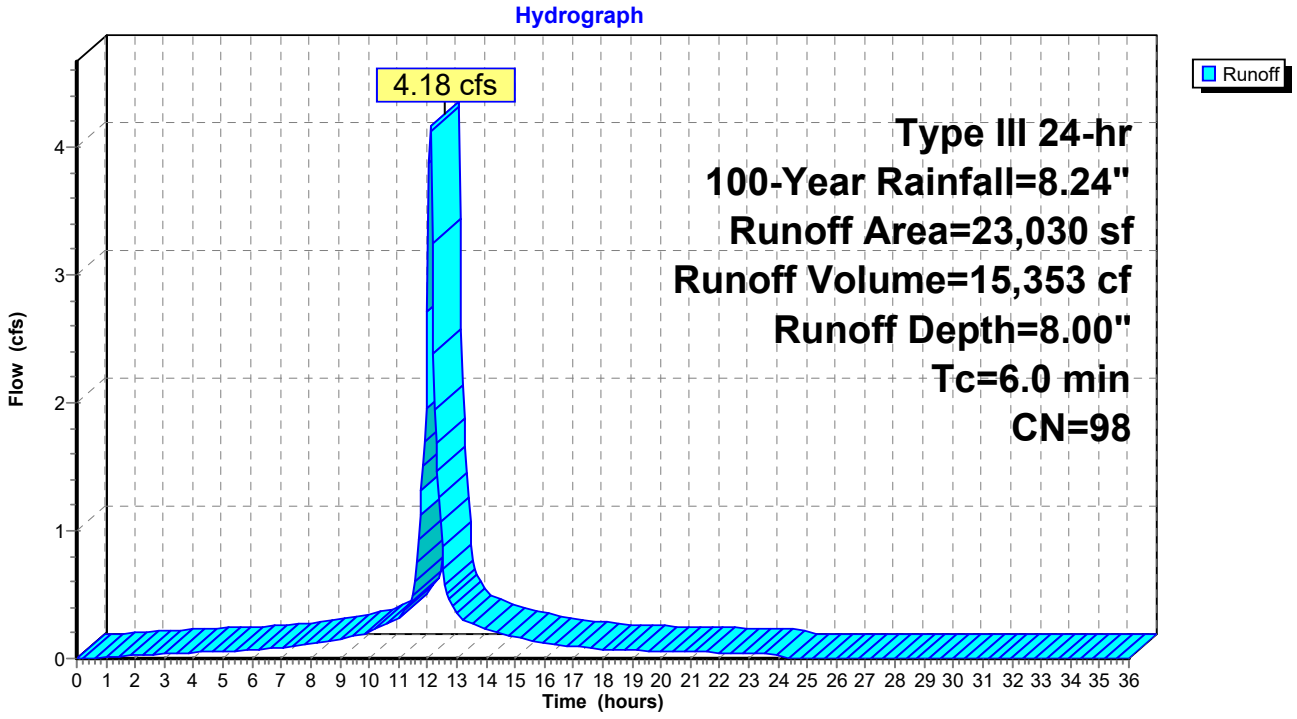
Runoff = 4.18 cfs @ 12.09 hrs, Volume= 15,353 cf, Depth= 8.00"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

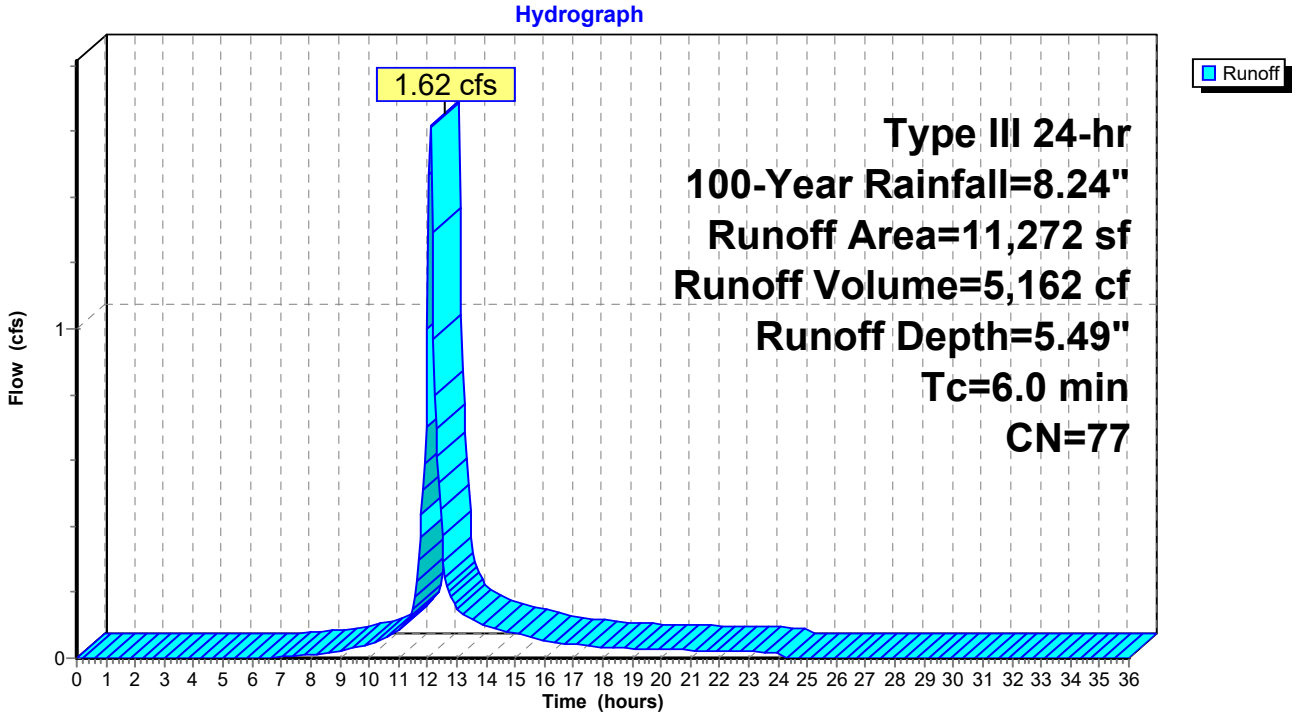
Runoff = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf, Depth= 5.49"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

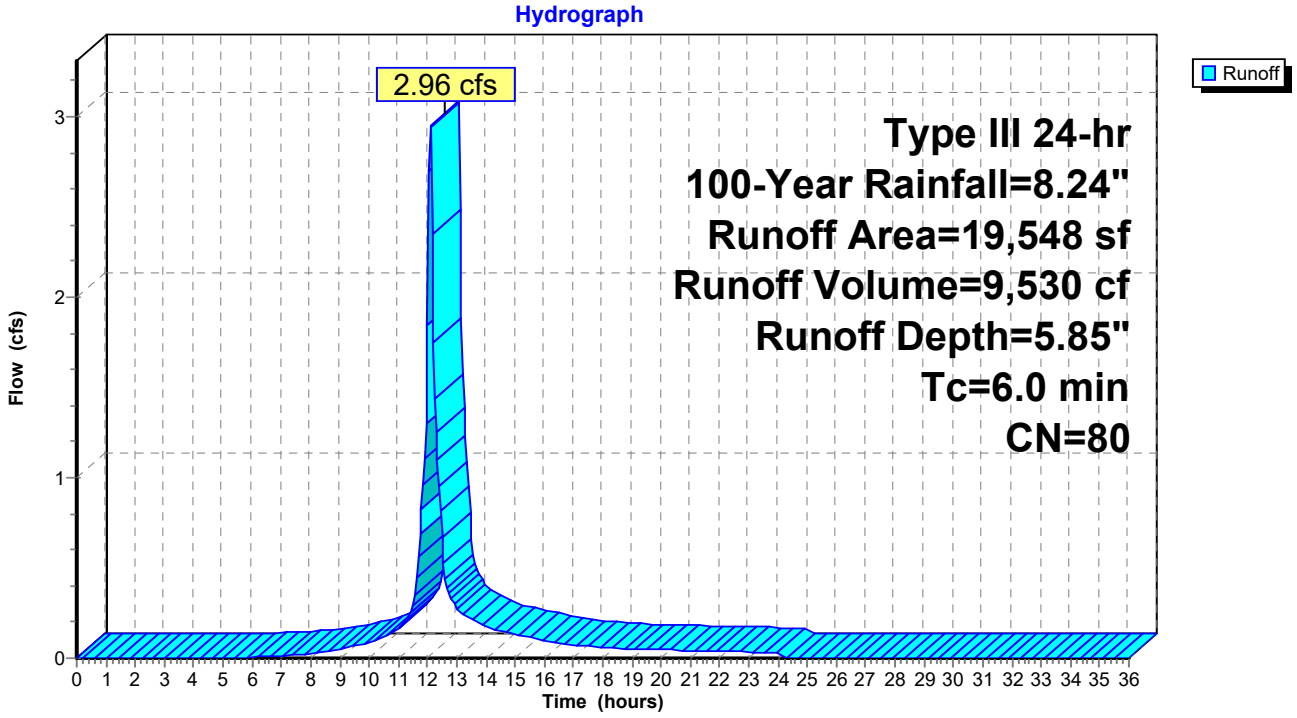
Runoff = 2.96 cfs @ 12.09 hrs, Volume= 9,530 cf, Depth= 5.85"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 7.67" for 100-Year event
Inflow = 7.60 cfs @ 12.14 hrs, Volume= 30,547 cf
Outflow = 3.79 cfs @ 12.35 hrs, Volume= 30,547 cf, Atten= 50%, Lag= 12.9 min
Discarded = 0.40 cfs @ 10.05 hrs, Volume= 23,666 cf
Primary = 3.39 cfs @ 12.35 hrs, Volume= 6,881 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.89' @ 12.35 hrs Surf.Area= 2,092 sf Storage= 9,043 cf

Plug-Flow detention time= 119.8 min calculated for 30,504 cf (100% of inflow)
Center-of-Mass det. time= 119.7 min (878.4 - 758.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.05 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=3.39 cfs @ 12.35 hrs HW=120.89' (Free Discharge)
└**2=Culvert** (Inlet Controls 3.39 cfs @ 4.31 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 3.39 cfs of 34.80 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

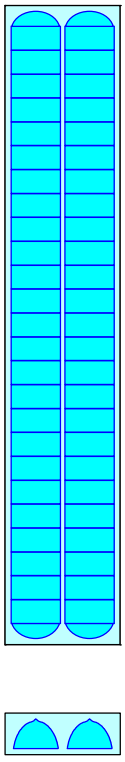
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

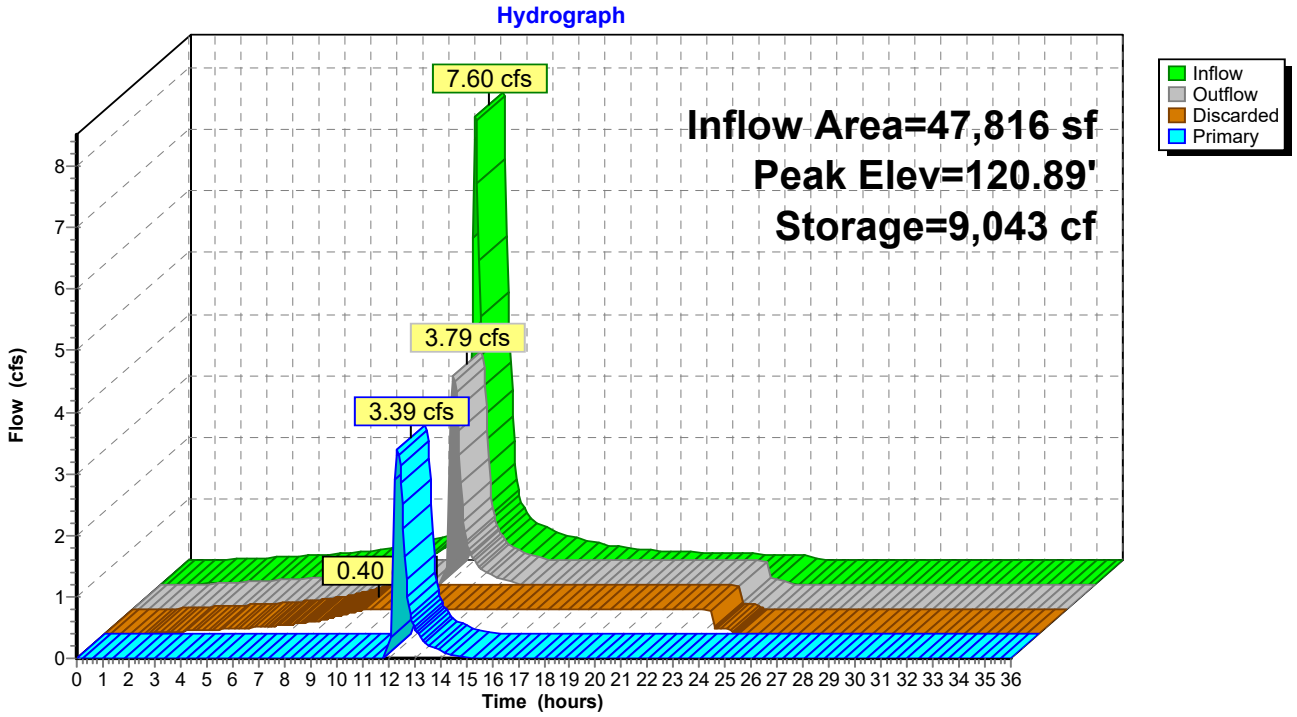
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 3.77" for 100-Year event
Inflow = 4.98 cfs @ 12.30 hrs, Volume= 22,234 cf
Outflow = 3.26 cfs @ 12.57 hrs, Volume= 22,234 cf, Atten= 35%, Lag= 16.4 min
Discarded = 0.43 cfs @ 11.45 hrs, Volume= 19,265 cf
Primary = 2.83 cfs @ 12.57 hrs, Volume= 2,969 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.47' @ 12.57 hrs Surf.Area= 2,268 sf Storage= 8,490 cf

Plug-Flow detention time= 123.7 min calculated for 22,203 cf (100% of inflow)
Center-of-Mass det. time= 123.6 min (870.2 - 746.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.45 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=2.53 cfs @ 12.57 hrs HW=118.44' (Free Discharge)
└**2=Culvert** (Passes 2.53 cfs of 3.71 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.53 cfs @ 1.76 fps)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

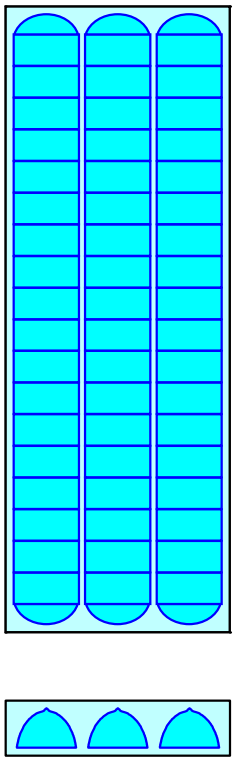
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

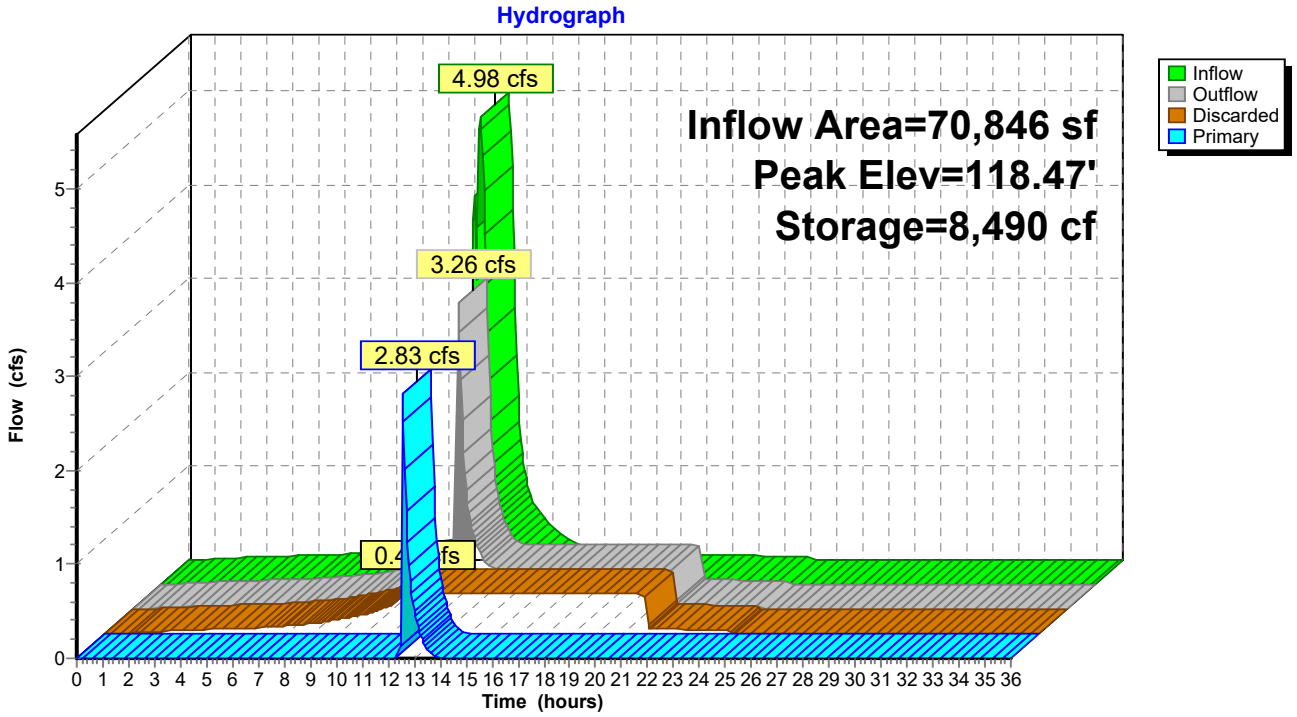
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 5.49" for 100-Year event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf
Outflow = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf, Atten= 4%, Lag= 1.5 min
Primary = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.77' @ 12.12 hrs Surf.Area= 722 sf Storage= 447 cf

Plug-Flow detention time= 12.3 min calculated for 5,154 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (820.8 - 808.6)

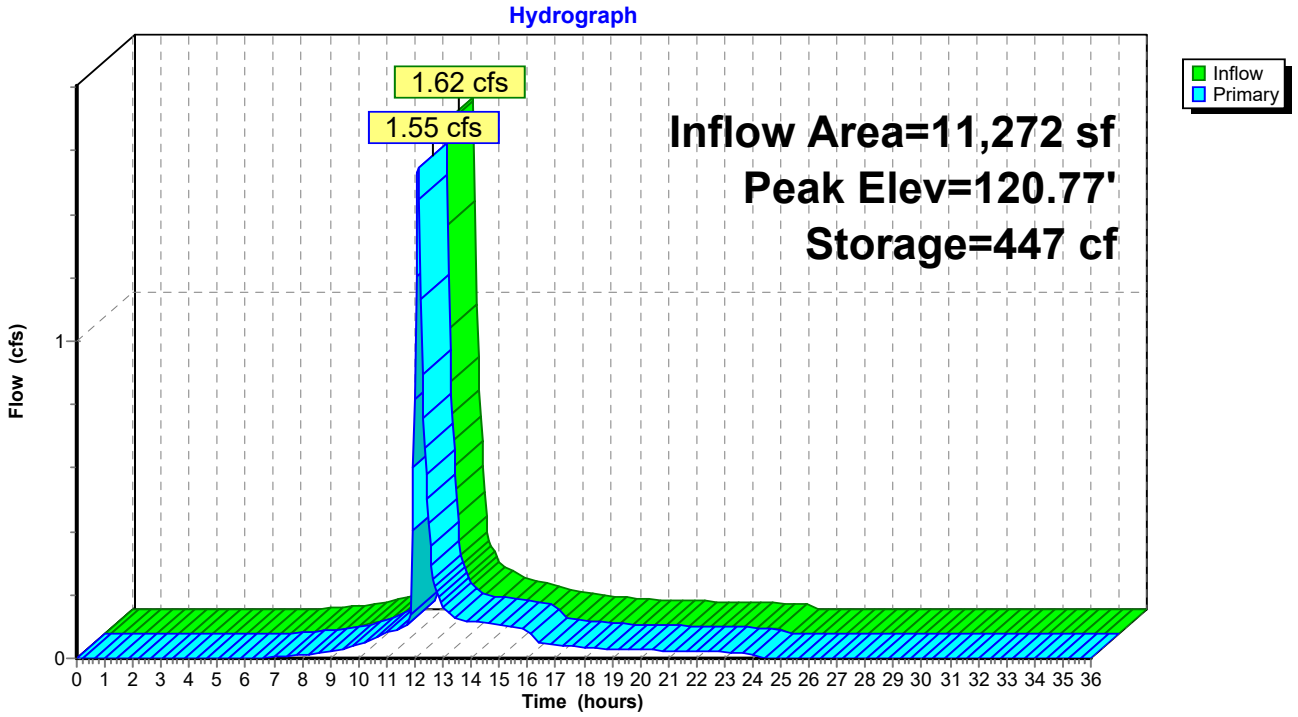
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.51 cfs @ 12.11 hrs HW=120.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.14 cfs)
└**2=Culvert** (Passes 1.37 cfs of 3.35 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.37 cfs @ 1.67 fps)

Pond P-1: P-1

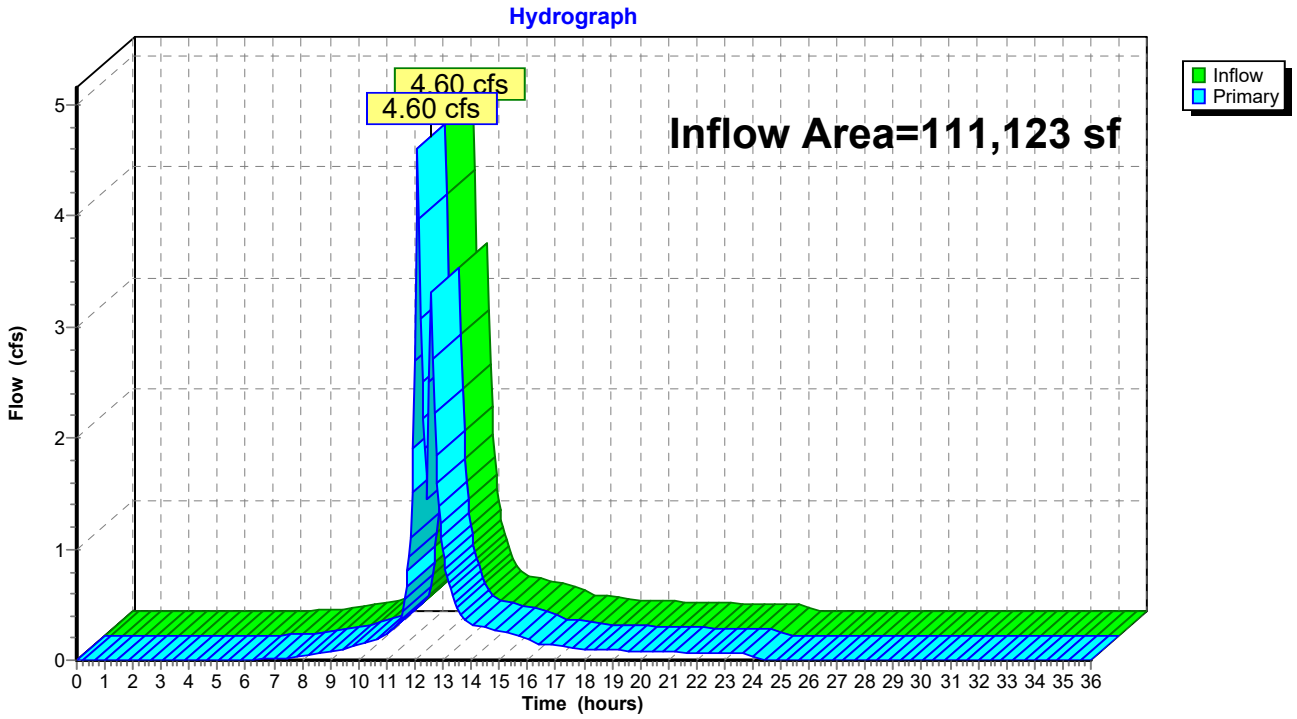

Hydrograph
1.62 cfs
1.55 cfs
Inflow Area=11,272 sf
Peak Elev=120.77'
Storage=447 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 2.01" for 100-Year event
Inflow = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf
Primary = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

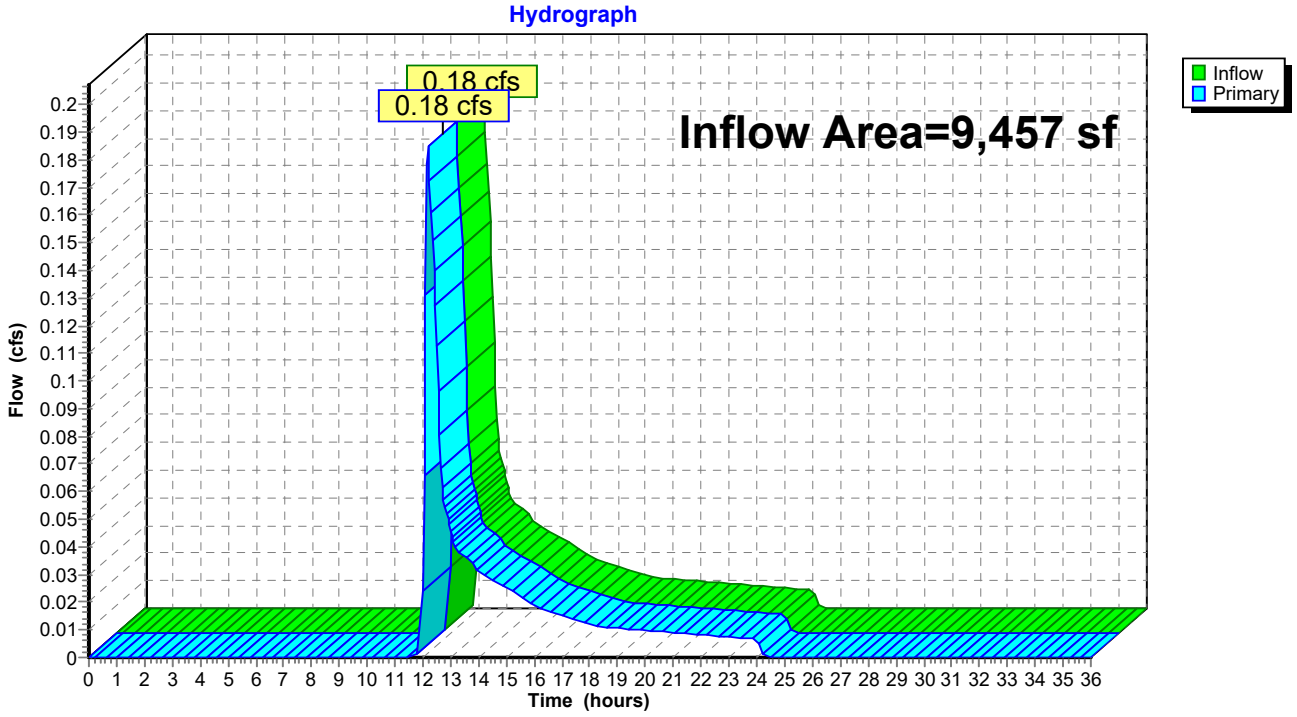


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 1.26" for 100-Year event
Inflow = 0.18 cfs @ 12.19 hrs, Volume= 992 cf
Primary = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

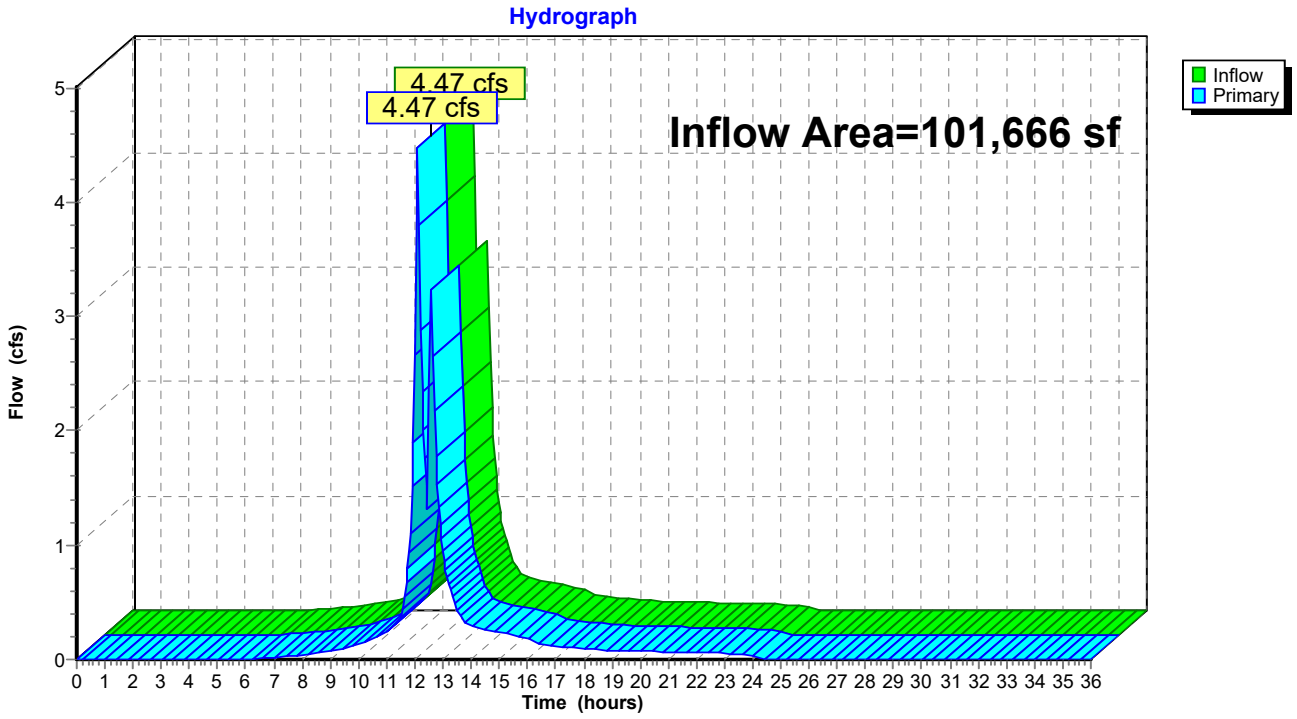


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 2.08" for 100-Year event
Inflow = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf
Primary = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



APPENDIX C

TRURO DPW FACILITY
RECHARGE CALCULATION

REQUIRED RECHARGE

Area Summary	
	Area (SF)*
Existing Impervious	80,920
Proposed Impervious	89,914
Required Recharge Area *(Proposed - Existing)*	8,994

* Areas retrieved from HydroCAD

Note: Site consists of HSG A soils.

Hydrologic Soil Group Summary		
Group	Target Depth Factor (in)	Area (SF)
A	0.6	8,994
B	0.35	0
C	0.25	0
D	0.1	0

Required Recharge (*Rv*) Calculation:

Rv = Target Depth Factor x Δ Impervious Area
Rv = 0.6 x (1/12) x 8,994
Rv = 450 CF

PROPOSED RECHARGE SUMMARY

Detailed calculations on following pages

Location	Volume (CF)
Field A Chambers	7,441
Field B Chambers	8,086
Total	15,527

Rv = 450 CF
Provided recharge = 15,527 CF

Recharge Requirement is exceeded.

PROPOSED RECHARGE

Underground Infiltration Chambers - INF-A
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD)	5,467.30	CF	(50 chambers+end caps)
Available Stone Storage (from HydroCAD)	3,670.60	CF	
Overall System Area	2092.31	SF	
Bottom of Chamber Elevation	115.00	FT	
Weir elevation	119.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**7,441.00**	**CF**	
Stone and Chamber recharge volume	**7,441**	**CF**	

Underground Infiltration Chambers - INF-B
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD	5,964.70	CF	(54 chambers+ end caps)
Available Stone Storage (from HydroCAD	3,963.50	CF	
Overall System Area	2267.75	SF	
Bottom of Chamber Elevation	114.00	FT	
Weir elevation	118.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**8,086.00**	**CF**	
Stone and Chamber recharge volume	**8,086**	**CF**	

TRURO DPW FACILITY
DRAWDOWN CALCULATION

-- MAXIMUM DRAWDOWN TIME IS 72 HOURS --

Time to drawdown calculation

$$\text{Time} = \frac{Rv}{k * \text{bottom area}}$$

where,

Rv =	storage volume
k =	saturated hydraulic conductivity rate
bottom area =	average surface storage area of recharge structure

PROPOSED STORAGE DRAWDOWN CALCULATIONS

Leaching Chambers - Field A			
Net storage volume		7,441	CF
Bottom area		2,092	SF
k		8.27	in/hr
	Time =	5.16	hours
Proposed drawdown time is acceptable.			

Leaching Chambers - Field B			
Net storage volume		8,086	CF
Bottom area		2,268	SF
k		8.27	in/hr
	Time =	5.17	hours
Proposed drawdown time is acceptable.			

TRURO DPW FACILITY
WATER QUALITY VOLUME CALCULATION

As stated in the Stormwater Handbook, for a LUHPPL, the required water quality volume equals 1.0 inch of runoff times the total impervious area of the post-development site.

TOTAL STORAGE PROVIDED		
Field A Storage =	7,441	CF
Field B Storage =	8,086	CF
Total Storage Provided =	15,527	CF

WQV CALCULATION		
Proposed Impervious Area =	89,914	SF
1" Water Quality Storage		
89,914 sf x 1" x 1'/12"=	7,493	CF

Proposed recharge exceeds the 1 inch water quality volume requirements.

Truro DPW
2-Oct-25
OUTLET PROTECTION CALCULATIONS

Proposed Plunge Pool FE-1 (P-1)
Preformed Scour Hole (Type 1)
Equation 11.35 CTDOT Drainage Manual

100-Year Storm:

Primary Outflow	1.55	cfs
Culvert	1.37	cfs

D_{50} Sizing:

TW = Tailwater =	1	feet (assumed)
Rp = Pipe Diameter =	1	feet
Q_{100} = 100-year design peak flow =	1.55	c.f.s.
F = depth of riprap = 0.5Rp =	1	feet

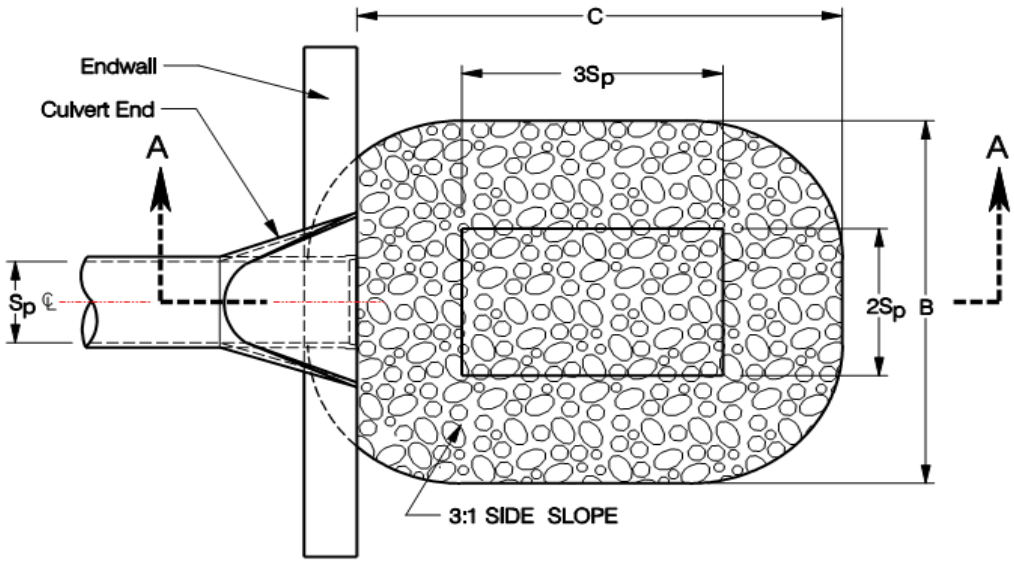
$$D_{50} = \left[\frac{0.0125Rp^2}{Tw}\right] x \left[\frac{Q_{10}}{Rp^{2.5}}\right]^{1.33}$$

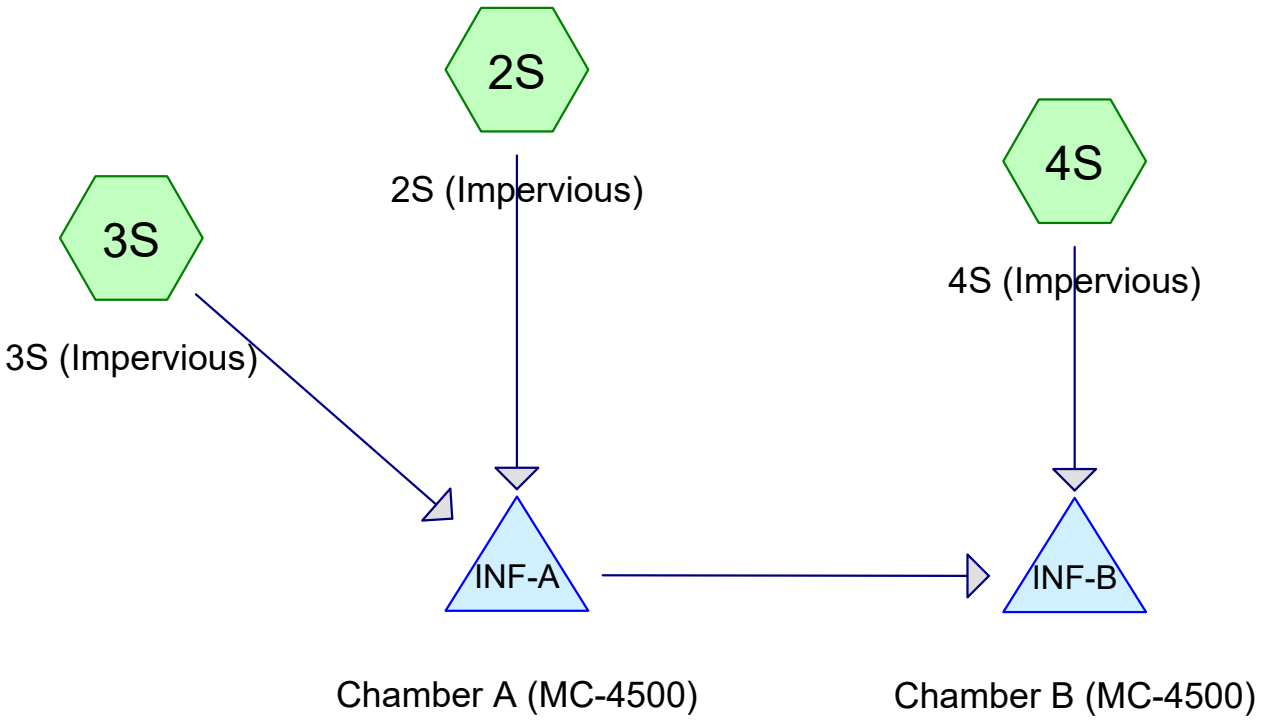
D_{50} = 0.02 feet = 0.27 inches

CT: Use Modified Riprap
MA: Use Modified Rockfill (M2.02.4)

Outlet Protection Dimensions:
Based on table 11-14.1 CTDOT Drainage Manual

Sp = Rp = inside diameter	Sp = 1.0'
Basin Depression (ft)	F = 0.5Rp = 0.5'
Basin Length (ft)	**C** = 3Sp + 6F = **6.0'**
Basin Width (ft)	**B** = 2Sp + 6F = **5.0'**





Subcat Reach Pond Link

Routing Diagram for Isolator Row Sizing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1"	Type III 24-hr		Default	24.00	1	1.00	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
45,788	98	Paved parking, HSG A (2S, 3S, 4S)
23,167	98	Roofs, HSG A (2S, 3S, 4S)
68,955	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
68,955	HSG A	2S, 3S, 4S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
68,955		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchmen Numbers
45,788	0	0	0	0	45,788	Paved parking	2
23,167	0	0	0	0	23,167	Roofs	2
68,955	**0**	**0**	**0**	**0**	**68,955**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment2S: 2S (Impervious) Runoff Area=34,378 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.61 cfs 2,266 cf

Subcatchment3S: 3S (Impervious) Runoff Area=11,547 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.20 cfs 761 cf

Subcatchment4S: 4S (Impervious) Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.46 cfs 1,518 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=115.25' Storage=676 cf Inflow=0.81 cfs 3,027 cf
Discarded=0.21 cfs 3,027 cf Primary=0.00 cfs 0 cf Outflow=0.21 cfs 3,027 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=113.72' Storage=236 cf Inflow=0.46 cfs 1,518 cf
Discarded=0.16 cfs 1,518 cf Primary=0.00 cfs 0 cf Outflow=0.16 cfs 1,518 cf

Total Runoff Area = 68,955 sf Runoff Volume = 4,545 cf Average Runoff Depth = 0.79"
0.00% Pervious = 0 sf 100.00% Impervious = 68,955 sf

Summary for Subcatchment 2S: 2S (Impervious)

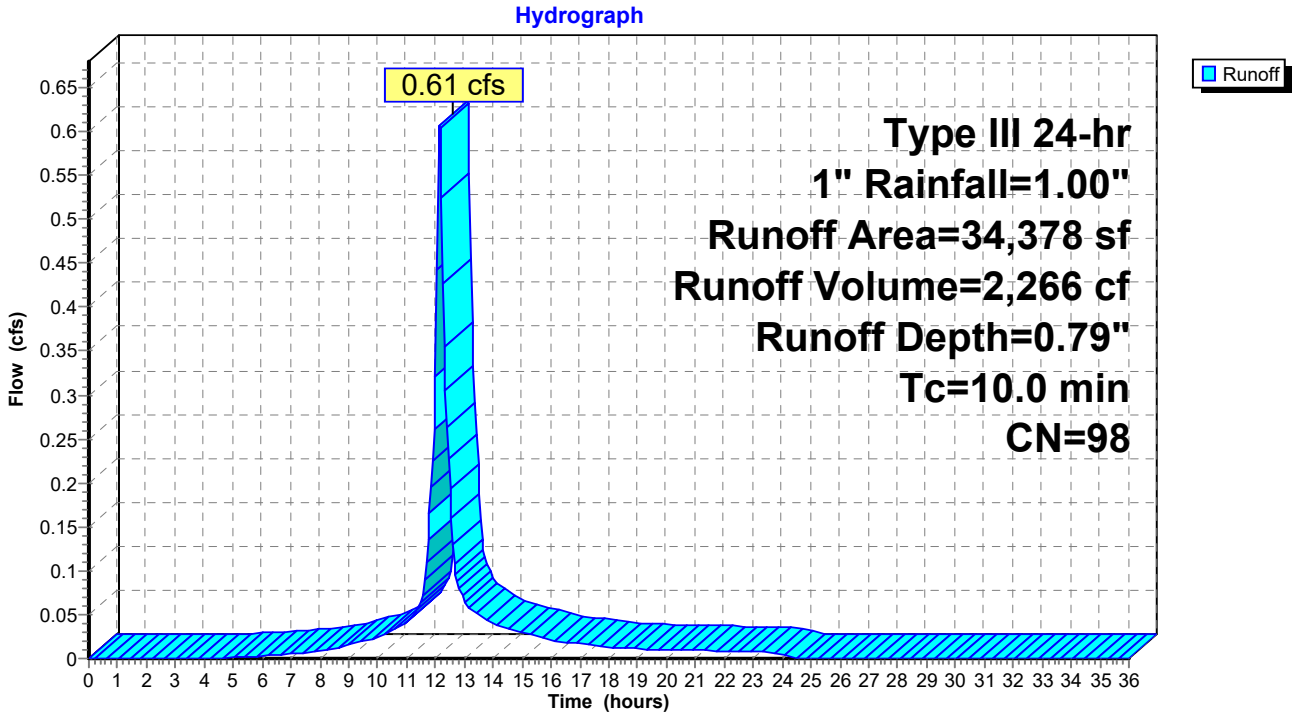
Runoff = 0.61 cfs @ 12.14 hrs, Volume= 2,266 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
9,175	98	Roofs, HSG A
34,378	98	Weighted Average
34,378		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S (Impervious)



Summary for Subcatchment 3S: 3S (Impervious)

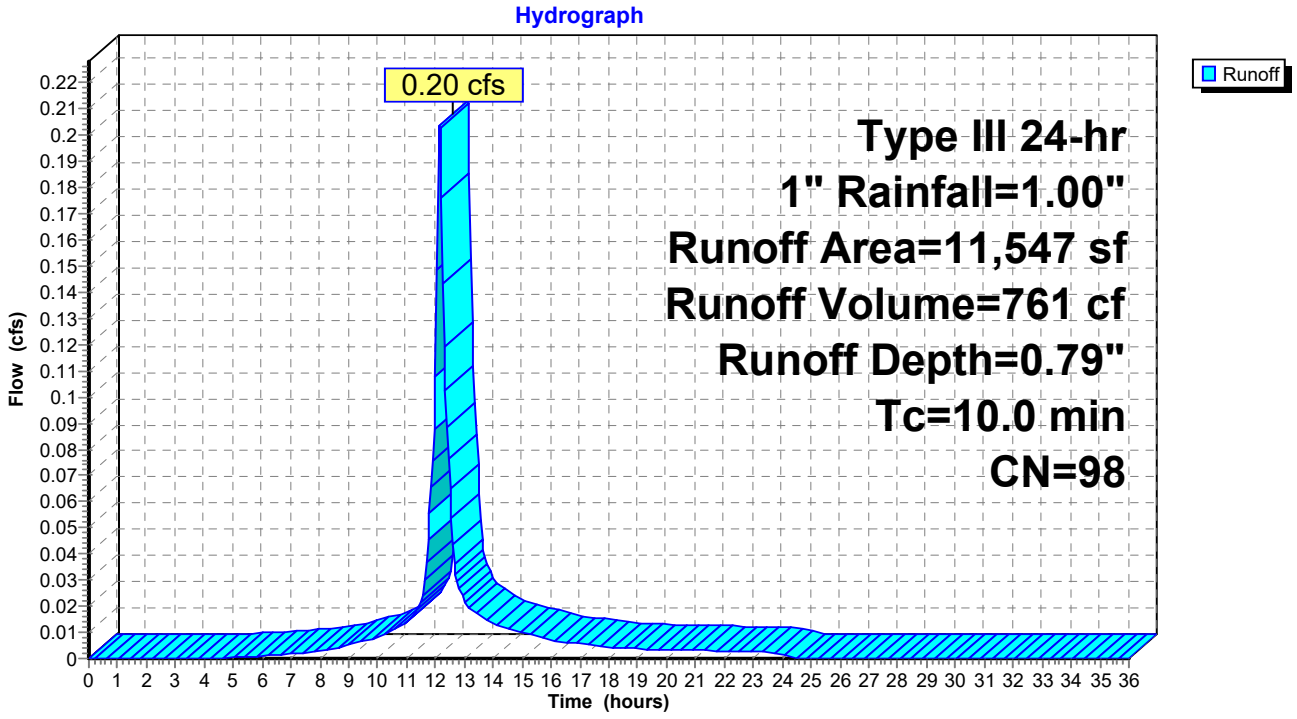
Runoff = 0.20 cfs @ 12.14 hrs, Volume= 761 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
4,030	98	Roofs, HSG A
11,547	98	Weighted Average
11,547		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S (Impervious)



Summary for Subcatchment 4S: 4S (Impervious)

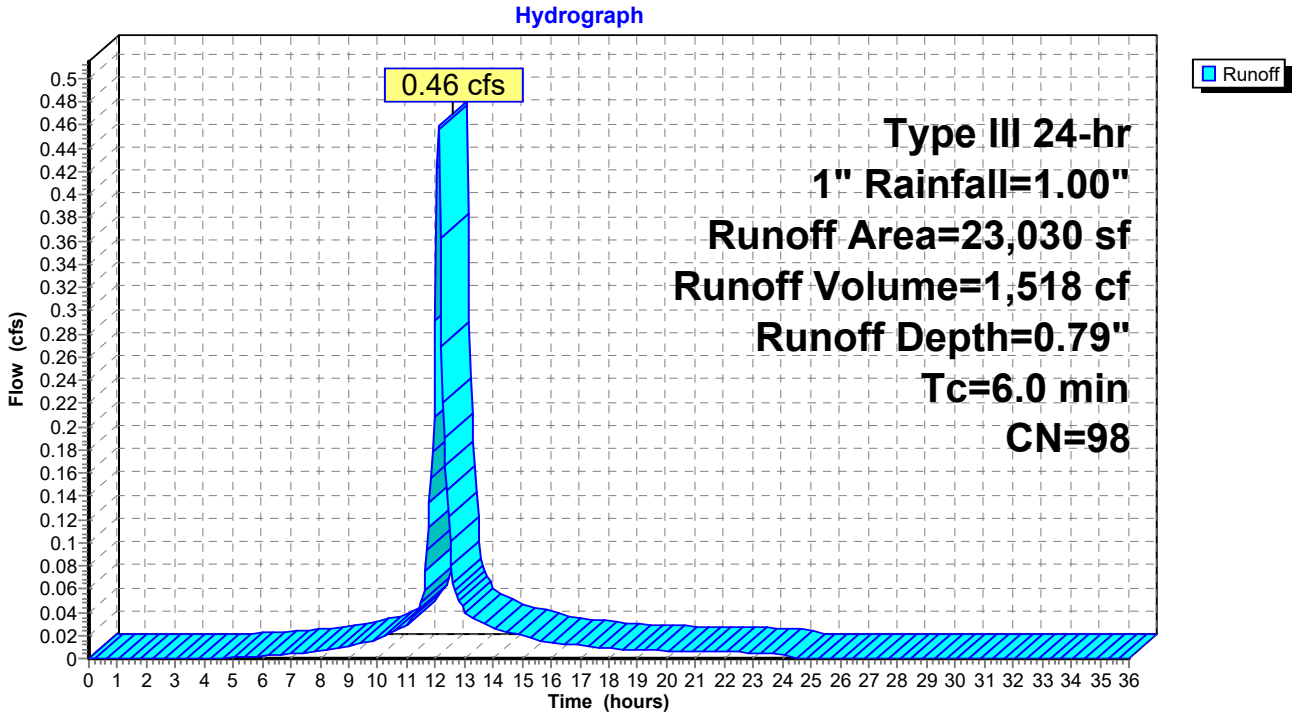
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf, Depth= 0.79"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S (Impervious)



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 45,925 sf,100.00% Impervious, Inflow Depth = 0.79" for 1" event
Inflow = 0.81 cfs @ 12.14 hrs, Volume= 3,027 cf
Outflow = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf, Atten= 74%, Lag= 0.0 min
Discarded = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.25' @ 12.55 hrs Surf.Area= 1,113 sf Storage= 676 cf

Plug-Flow detention time= 17.4 min calculated for 3,023 cf (100% of inflow)
Center-of-Mass det. time= 17.4 min (809.0 - 791.6)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	2,024 cf	**10.33'W x 107.74'L x 7.00'H Field B** 7,793 cf Overall - 2,734 cf Embedded = 5,060 cf x 40.0% Voids
#2B	115.00'	2,734 cf	**ADS_StormTech MC-4500 +Cap** x 25 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		4,758 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.21 cfs @ 11.85 hrs HW=114.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

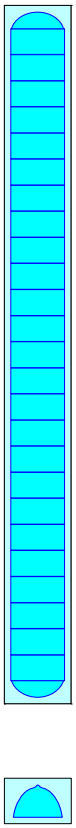
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

25 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 2,733.7 cf Chamber Storage

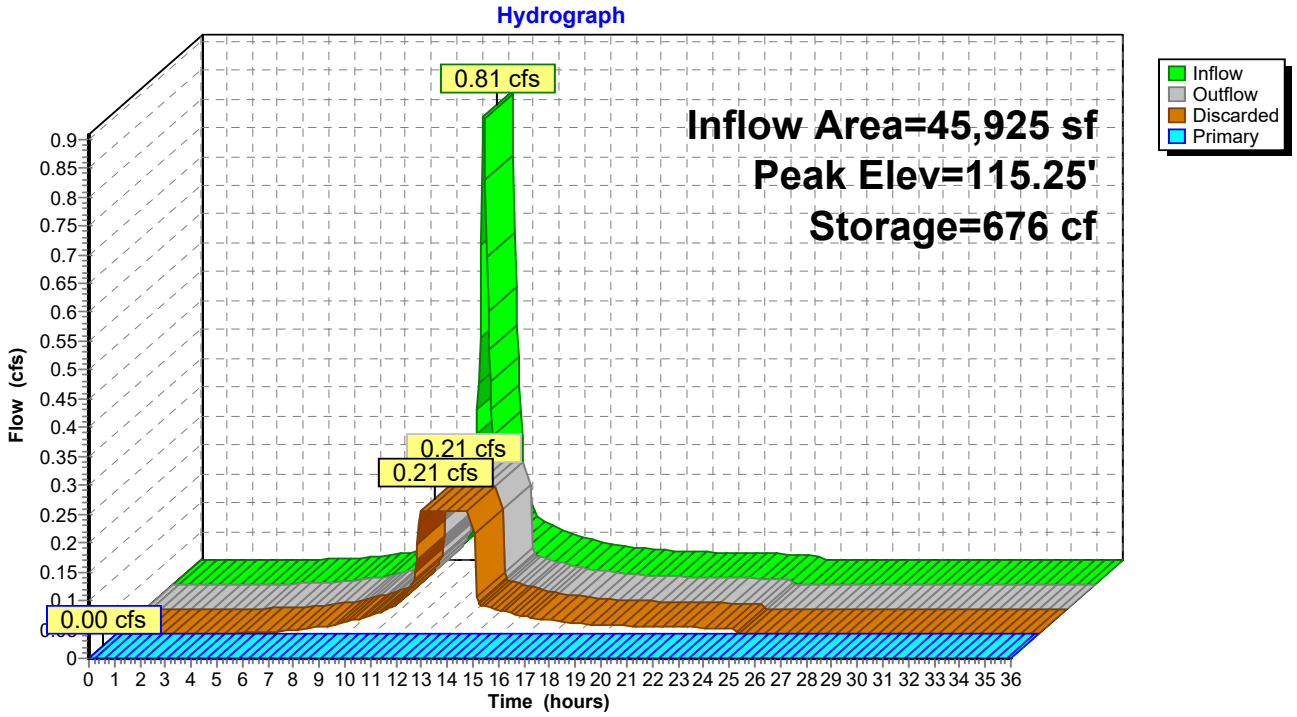
7,793.3 cf Field - 2,733.7 cf Chambers = 5,059.7 cf Stone x 40.0% Voids = 2,023.9 cf Stone Storage

Chamber Storage + Stone Storage = 4,757.5 cf = 0.109 af
Overall Storage Efficiency = 61.0%
Overall System Size = 107.74' x 10.33' x 7.00'

25 Chambers
288.6 cy Field
187.4 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 68,955 sf,100.00% Impervious, Inflow Depth = 0.26" for 1" event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf
Outflow = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf, Atten= 66%, Lag= 0.0 min
Discarded = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to nonexistent node POA-2

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 113.72' @ 12.37 hrs Surf.Area= 822 sf Storage= 236 cf

Plug-Flow detention time= 8.1 min calculated for 1,516 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (795.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	1,507 cf	**10.33'W x 79.57'L x 7.00'H Field B** 5,755 cf Overall - 1,988 cf Embedded = 3,767 cf x 40.0% Voids
#2B	114.00'	1,988 cf	**ADS_StormTech MC-4500 +Cap** x 18 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		3,495 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.16 cfs @ 11.90 hrs HW=113.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

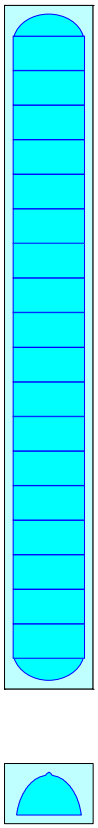
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

18 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 1,988.2 cf Chamber Storage

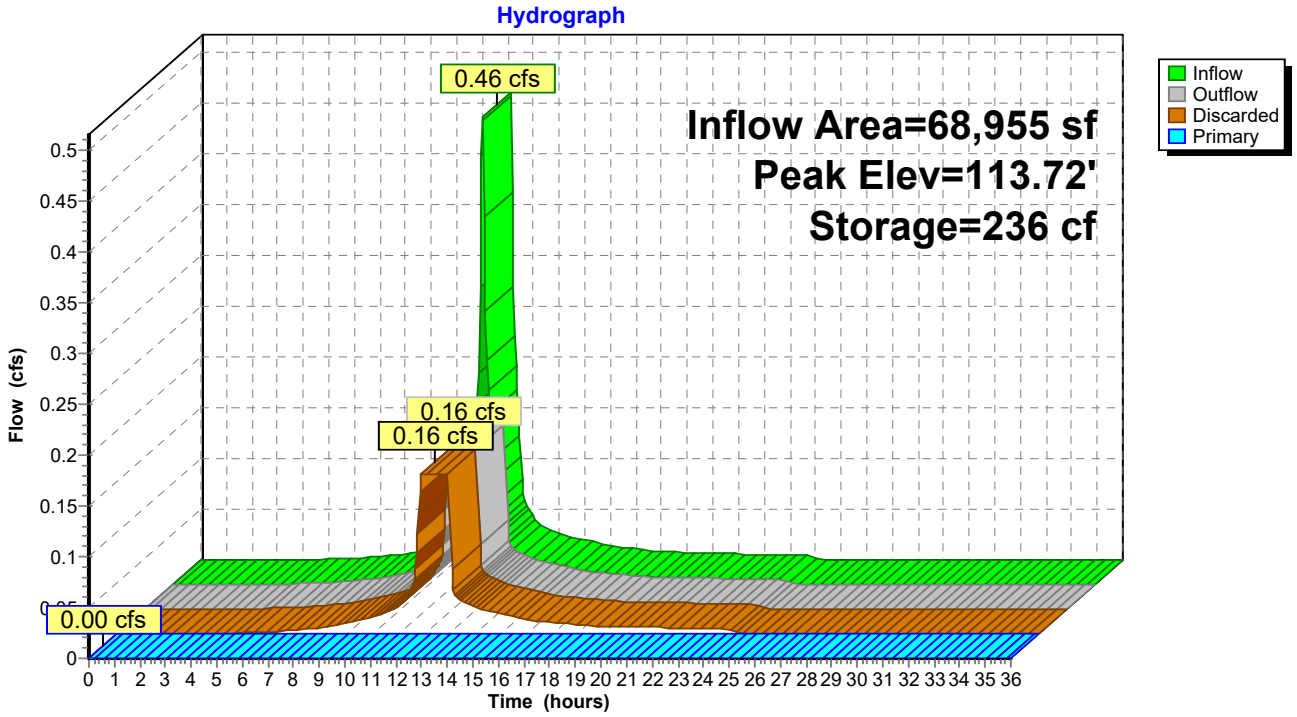
5,755.3 cf Field - 1,988.2 cf Chambers = 3,767.1 cf Stone x 40.0% Voids = 1,506.8 cf Stone Storage

Chamber Storage + Stone Storage = 3,495.1 cf = 0.080 af
Overall Storage Efficiency = 60.7%
Overall System Size = 79.57' x 10.33' x 7.00'

18 Chambers
213.2 cy Field
139.5 cy Stone



Pond INF-B: Chamber B (MC-4500)



INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Pre-Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%

Total TSS Removal = 47%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Pretreatment rate is above 44% prior to Infiltration BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
Subsurface Infiltration Chambers	80.0%	53.4%	43%	11%
	0.0%	10.7%	0%	11%

Total TSS Removal = 89%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (P-1)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95.0%
Infiltration Pond	80.0%	95.0%	76%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%

Total TSS Removal = 81%

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

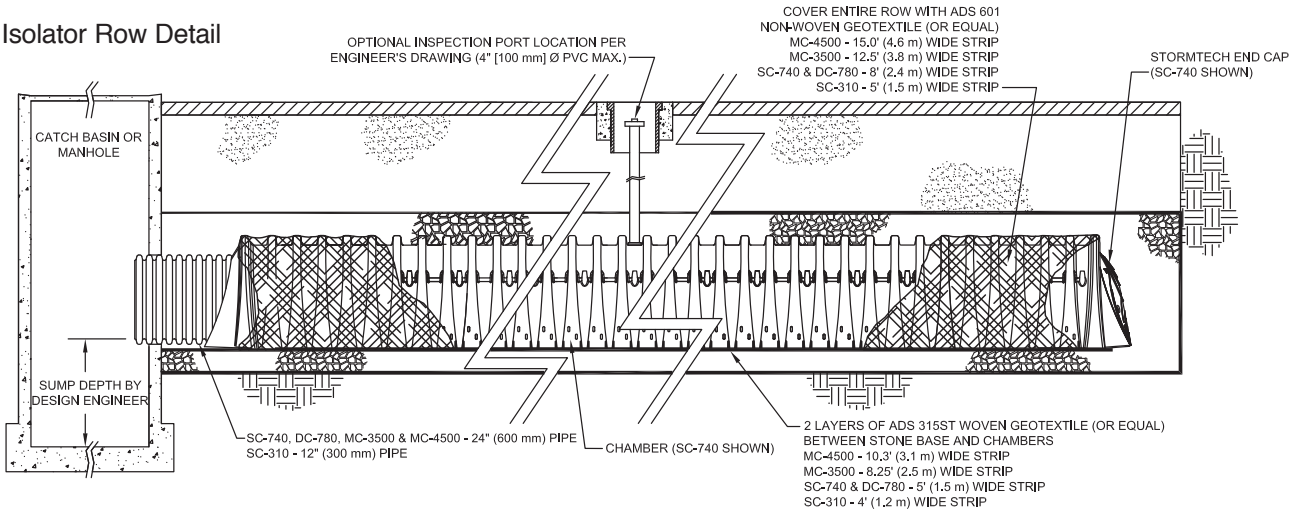
Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

StormTech and Stormwater Quality

StormTech's patented Isolator™ Row is a row of chambers wrapped in a geotextile which filters the stormwater trapping pollutants in the row. The Isolator Row provides a way to inspect and maintain the system.

Isolator Row Detail



Note: For many applications, the non-woven geotextile over the DC-780, MC-3500 and MC-4500 Isolator Row chambers can be eliminated or substituted with the AASHTO Class 1 woven geotextile. Contact your StormTech representative for assistance.

Isolator Row Field Verification Testing at the University of New Hampshire Stormwater Center

- Field testing (TARP tier II protocol) of the Isolator Row has been ongoing since December 2006.
- Removal efficiencies for TSS have improved as the filter cake has built up on the bottom fabric of the Isolator Row.
- Current data shows a TSS removal efficiency which exceeds 80%.

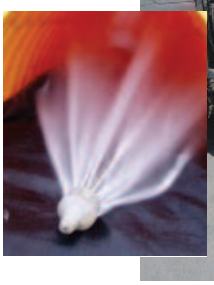


Removal Efficiency Results:

- Total Suspended Solids = 80%
- Phosphorous = 49%
- Total Petroleum Hydrocarbons = 90%
- Zinc = 53%

This system achieves a removal efficiency of 80% for TSS which meets most municipal recommended levels for water quality treatment.





Inspection and Maintenance

The Isolator Row can be inspected through the upstream manhole or optional inspection port.

Maintenance is easily accomplished with the JetVac process.

The frequency of inspection and maintenance varies by location. Contact StormTech for assistance with inspection and maintenance scheduling.

StormTech Isolator Row

UNH EXCERPT STARTS HERE



The StormTech Isolator Row is an effective filtration/infiltration system best suited to locations where space is at a premium and the system's relatively expensive installation cost can be offset by increasing available space for development.

About the StormTech Isolator Row

The StormTech Isolator Row is a manufactured system designed to provide subsurface water quality treatment and easy access for maintenance. It is typically used to remove pollution from runoff before it flows into unlined infiltration chambers designed for detention and water quantity control. The Isolator Row consists of a series of StormTech chambers installed over a layer of woven geotextile, which sits on a crushed stone infiltration bed surrounded with filter fabric. The bed is directly connected to an upstream manhole for maintenance access and large storm bypass. At UNHSC, the Isolator Row has met a TSS median annual removal standard of 80 percent, and exhibited an enhanced capacity to remove phosphorus. The Isolator Row is well suited for urban environments where space is at a premium.

Implementation

The StormTech Isolator Row is part of a class of manufactured, subsurface filtration/infiltration systems that are being used more and more throughout the United States. In general, these systems are best suited to locations where above ground space is at a premium. They are often used in urban areas, where they are located beneath parking lots and other infrastructure. As with any infiltration system, care must be taken when locating these systems near pollution hotspots, or where seasonal high groundwater levels may lead to groundwater contamination. In such cases, if installed, the systems should be lined to prevent infiltration into groundwater, and outfitted with subdrains that discharge to the surface. Designs for the StormTech Isolator Row are available from the manufacturer.

System Performance

Cost & Maintenance

While subsurface HDPE systems such as the Isolator Row tend to be more expensive than conventional stormwater treatments like retention ponds, the costs are ameliorated by the increase in available space for development. The cost to install a StormTech Isolator Row system large enough to treat runoff from one acre of impervious surface was $34,000 in 2006.

In more than two years of operation, the system is at less than 50 percent of its recommended maintenance trigger point. Maintenance should be conducted when the sediment in the chambers reaches approximately three inches in depth according to recommendations from the manufacturer. Sediment accumulation can be monitored through inspection ports. When maintenance is needed, the entire row can be

Fast Facts

CATEGORY / BMP TYPE
Filtration, Infiltration, Manufactured Treatment Device

UNIT OPERATIONS & PROCESSES
Hydrologic (Flow Alteration)

Water Quality: Physical (Sedimentation, Filtration) & Chemical (Sorption)

DESIGN SOURCE
StormTech, LLC

BASIC DIMENSIONS
Chamber: 51" wide X 30" high X 85.4" long

SPECIFICATIONS
Catchment Area: 1 acre
Water Quality Flow: 1 cfs
Water Quality Volume: 3,300 cf

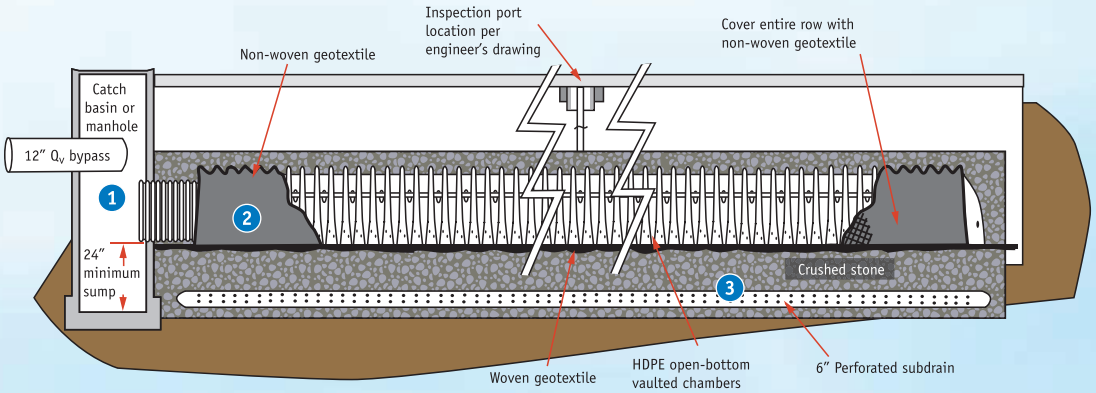
INSTALLATION COST
$34,000 per acre treated

MAINTENANCE
Maintenance Sensitivity: Low
Inspections: High
Sediment Removal: Moderate

How the System Works

WATER QUALITY TREATMENT PROCESS ▼

1. Runoff flows into the Isolator Row chambers from a catchbasin or pipe.
2. Runoff slowly passes from the chambers through a woven geotextile fabric and into the crushed stone reservoir below the system. The runoff passes through the fabric, leaving behind sediments and associated contaminants through the physical unit operations of filtration and sedimentation. As an organic filter cake develops over the fabric, phosphorus is also removed via the chemical process of sorption.
3. Filtered runoff collects in a perforated subdrain and returns to a storm drain system, infiltrates into the subgrade, or is discharged to the surface.



washed clean through an access manhole and by a hydro-jet with sediment removed by vactoring (vacuuming). Entry into the system is considered a confined space entry and requires trained personnel and equipment.

During two years of evaluation at UNHSC, the Isolator Row has accumulated, at most, one and one half inches of sediment in its chambers. As a result, researchers have not performed maintenance on the system. The Isolator Row presents an interesting opportunity to study the relationship between maintenance and performance. Researchers have observed enhanced phosphorus removal as the system develops an organic filter cake between the chambers and the woven geotextile fabric that lies beneath them. This enhancement is tempered by the likelihood that, as the filter cake continues to grow, hydraulic efficiency will decline and more runoff will bypass the system untreated until maintenance is performed. Analyses are underway to develop maintenance recommendations that balance and optimize the water quality and water quantity management abilities of this system.

Cold Climate

This system's water quality treatment and volume control capacity remained strong in all seasons, reinforcing the conclusion that filtration and infiltration systems perform well, even in cold climates.

Water Quality Treatment

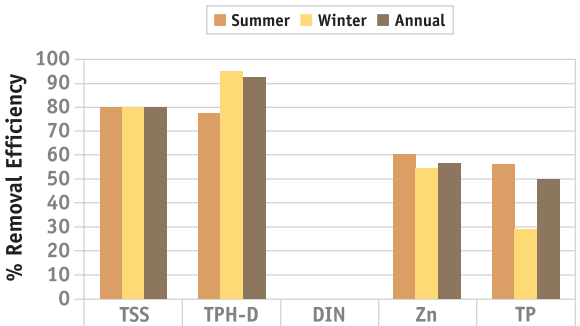
The StormTech Isolator Row system does a good job of reducing the concentration of common pollutants associated with stormwater performance assessment with the exception of nitrogen. It generally meets EPA's recommended level of removal for total suspended solids, and meets regional ambient water quality criteria for heavy metals and petroleum hydrocarbons. The system has a capacity to achieve modest levels of total phosphorus removal, which may be enhanced over time. (See Cost & Maintenance Section.) The lack of nitrogen treatment is typical for non-vegetated aerobic systems. Nutrient load reduction would be further increased through volume reduction by infiltration. Like all other systems monitored at UNHSC, it does not provide chloride removal.

The chart at top right reflects the system's performance in removing total suspended solids, total petroleum hydrocarbons, dissolved inorganic nitrogen, total phosphorus, and zinc. Values represent results recorded over a two-year monitoring period, with the data further divided into summer and winter components.

Water Quantity Control

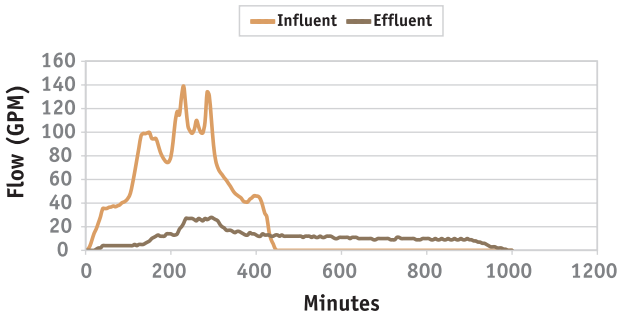
Like other infiltration and filtration systems, the StormTech Isolator Row system exhibits the capacity to reduce peak flows and could be used to reduce runoff volume in appropriate soils, such as those belonging to groups "A" or "B." The figure at bottom right provides information on peak flow reduction and lag times for the system.

POLLUTANT REMOVAL: 2006–2008



Median Annual Influent Event Mean Concentrations (EMC) in mg/L				
48	860 ug/L	.2	.04	.08

HYDRAULIC PERFORMANCE



	Winter	Summer	Annual Average
Average Peak Flow Reduction	71%	81%	76%
Average Lag Time (minutes)	358	190	274

SYSTEM DESIGN

The StormTech Isolator Row is designed to provide subsurface water quality treatment for small storms. The manufacturer adapts the system's design in accordance with local watershed conditions and target treatment objectives.

Chamber units are made of high-density polyethylene (HDPE) pipe and are designed to bear loads consistent with those experienced by parking lots. The UNHSC chamber dimensions are 51 x 30 x 85.4 inches and can be linked together to form linear rows up to 200 feet long. The chambers are laid over woven geotextile, which rests on an infiltration base composed of one foot of three quarter inch crushed stone. The entire excavation is then wrapped in nonwoven geotextile to protect the system from the migration of fine particles from the surrounding soil.

A three- to five-foot separation from seasonal high groundwater table (as designated by regulations) is necessary to minimize the potential for groundwater contamination. Stormwater flows of up to one cubic foot per second (cfs) enter the system through an upstream manhole or other flow diverter. This is representative of flow-based sizing of a BMP common for devices that have limited detention or storage. Such devices are often better described by a maximum treatable flow rate as opposed to a treatment volume.

A bypass is incorporated in the StormTech system where flows exceeding the design rate are bypassed around the device and flow directly into adjacent chambers that can be sized to treat the CP_v and Q_p. Because of the bypass design, maintenance requirements are extremely important. A poorly maintained device would bypass prematurely into the unlined chamber systems and eventually clog subsurface soils resulting in system failure.

APPENDIX D

To meet the requirements of Standard 4 of the Massachusetts Stormwater Handbook, this Long-Term Pollution Prevention Plan is provided to identify the proper procedures of practices for source control and pollution prevention.

STORAGE AND HANDLING OF OIL AND OTHER HAZARDOUS MATERIALS

All oil products and other hazardous materials stored in quantities greater than or equal to 55 gallons will be stored in double walled tanks or provided with other means of secondary containment.

The handling/use of oil and vehicle maintenance fluids will be conducted in the vehicle maintenance and/or shop area of the facility, which will be equipped with floor drains connected to an oil/gas/sand separator prior to discharge to a tight tank.

VEHICLE STORAGE AND WASHING

Vehicles will be stored within the building. Areas under cover or out in the open will be monitored for any potential contamination to the infiltration system or resource areas. Vehicle washing will be performed in the vehicle wash bay of the facility. Wash water will be collected by floor drains located within the wash bay and will be piped to a tight tank. The exterior knock down pad for rinsing vehicles will be treated with a deep sump hooded catch basin and a water quality structure prior to infiltration. This vehicle rinsing area will be registered with the DEP in accordance with the Underground Injection Control (UIC) regulations.

OPERATION AND MAINTENANCE OF STORMWATER CONTROL STRUCTURES

Included in this Appendix is the Operation and Maintenance plan for this site, which includes street sweeping of the paved areas and periodic removal of sediment from catch basins and other stormwater structures. The Department of Public Works will be responsible for the implementation of the plan.

MATERIAL STORAGE AREA

The material storage bins will be inspected and maintained, as required, to prevent erosion or any potential contamination to the infiltration system or resource areas.

LANDSCAPING

The landscaped areas will be maintained by the Department of Public Works. Fertilizers, if stored on site, will be stored under cover and no fertilizers will be stored within the buffer zone.

PET WASTE MANAGEMENT

It is not expected that pets will be accessing the facility; therefore, it is not necessary to design to manage pet waste.

SEPTIC SYSTEM

Wastewater will be generated in the building. This system will be constructed, operated, and maintained in accordance with Title V regulations. Discharges of industrial wastewater will not be permitted to the septic system and will be limited to tight tanks, as described above.

DE-ICING & SNOW DISPOSAL

The DPW intends to utilize salt and sand to treat the paved surfaces of the driveways and main circulation areas during snow and ice events. Salt will be stored inside the proposed salt shed on site. Snow storage will consist of pushing snow into grassed areas along the perimeter of the property.

SECTION 1 – INTRODUCTION

The project consists of construction of a new public works facility in Truro, MA. The new facility will be constructed on the site currently occupied by the existing public works facility, located at 24 Town Hall Road in Truro, MA. The work includes clearing and grubbing, pavement removal, construction of a pre-engineered metal building and salt storage structure, full-depth pavement construction and curbing, new closed drainage system, site utilities, new sidewalks, pavement markings, signage, loam and seed, plantings, and other incidental work.

As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no disturbance to the wetland resource is created during the construction of these repairs.

SECTION 2 – CONSTRUCTION PERIOD POLLUTION PREVENTION MEASURES

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the Wetlands Protection Act (WPA) and MassDEP Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. All recommended control practices will comply with the standards set in the MassDEP Stormwater Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

To minimize disturbed areas, all work will be completed within well-defined work limits. These work limits are shown on the site plans included with this submission. The Contractor shall not disturb native vegetation in any undisturbed area without prior approval from the Engineer. The Contractor will be responsible to make sure that all workers know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

The Contractor will be required to install compost filter tubes between the work area and the wetland resource area.

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during the project. The soils will be exposed for no longer that one week.

2.4 Proper storage and cover of any stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site, or areas to be cleared as a part of this project, and shall require written approval of the Engineer.

Adequate measures for erosion and sediment control such as the placement of compost filter tubes around the downstream perimeter of stockpiles, and in front of water body, shall be employed to protect any downstream areas from siltation.

The Engineer may designate an area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control lines as described in Section 5 will be utilized to ensure that no sedimentation occurs outside the perimeter of the work area.

2.6 Storm Drain Inlet Protection

Catch basin protection will be implemented for all catch basins affected by the work area. Inlet sediment control will be placed within the catch basin to minimize sediment loading into the catch basin.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor all erosion control measures. Whenever necessary, the Contractor will clear all sediment from the compost filter tubes. Daily monitoring should be conducted using the attached Inspection Form.

2.8 Material Handling and Waste Management

All materials stored on-site will be stored in a neat, orderly manner in appropriate containers. All materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer.

All waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for all waste removal. Manufacturer's recommendations for proper use and disposal will be followed for all materials.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own plants, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site oil-absorbing mats will be placed under all equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site except to remove sediments prior to transport from the site.

SECTION 3 – SPILL PREVENTION AND CONTROL PLAN

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

All workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification is to the DEP. The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms, or all of the above, to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site

personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above-mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4 – CONTACT INFORMATION/RESPONSIBLE PARTIES

Owner/Operator:
Jarrod Cabral, Director
Dept. of Public Works
17 Town Hall Road
Truro, MA 02666
508-349-2140

Engineer:
Alyssa Peck, PE
Weston & Sampson, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
800-SAMPSON

Site Inspector:
TBD

Contractor:
TBD

SECTION 5 – EROSION AND SEDIMENTATION CONTROL

Erosion and Sedimentation Control details and layout can be found in the attached plan set. In addition, a technical specification (Environmental Protection) has been included with this report, which details all Erosion and Sedimentation controls.

SECTION 6 – SITE DEVELOPMENT PLAN

The Site Development Plan is included in the attached plan set.

SECTION 7 – OPERATION AND MAINTENANCE OF EROSION CONTROL

The erosion control measures will be installed as detailed in the technical specification. Environmental Protection. If there is a failure to the controls, the Contractor will be required to stop work until the failure is repaired.

Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8 – OPERATION AND MAINTENANCE OF EROSION CONTROL

During construction the erosion and sedimentation controls will be inspected daily. Once the contractor is selected, an on-site inspector will be selected to work closely with the Engineer to ensure that all erosion and sedimentation controls are in place and working properly. An Inspection Form is included.

Inspection Form

Inspected By: _____ Date: _____Time:_____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

Specific location, current weather conditions, and action to be taken:

_____

_____

_____

_____

_____

Other Comments:

_____

_____

Pending the actions noted above I certify that the site is in compliance with the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.

Signature:_____ Date: _____

SECTION I – PURPOSE/INTENT

The purpose of this document is to provide for the health, safety, and general welfare of the citizens of Truro, Massachusetts through the regulation of non-stormwater discharges into existing outstanding resource areas near the proposed public works facility site to the maximum extent practicable, as required by federal and state law. This document establishes methods for controlling the introduction of pollutants into existing outstanding resource areas to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

SECTION II - DEFINITIONS

For the purposes of this statement, the following shall mean:

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to the Massachusetts Erosion and Sedimentation Control Act or NPDES Construction Permits. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Connection: An illegal connection is defined as either of the following:

a. Any pipe, open channel, drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the outstanding resource area including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water, regardless of whether said drain or connection has been previously allowed, permitted, or approved by an authorized enforcement agency; or
b. Any pipe, open channel, drain or conveyance connected to the Town of Truro storm water treatment system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit Discharge: Any direct or indirect non-stormwater discharge to the Town of Truro stormwater treatment system, except as exempted in Section II of this ordinance.

Industrial Activity: Activities subject to NPDES Industrial Permits as defined in 40CFR, Section 122.26 (b) (14).

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit: A permit issued by MassDEP under authority delegated pursuant to 33 USC § 1342 (b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Town of Truro Stormwater Treatment System: Any facility, owned or maintained by the town, designed or used for collecting and/or conveying stormwater, including but not limited to roads with drainage systems, Town of Truro streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, infiltration, retention and detention basins, natural and man-made or altered drainage channels, reservoirs, and other drainage structures.

Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Person: Any individual, association, organization, partnership, firm, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of the State, interstate body, or any other legal entity.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents (biodegradable or otherwise); degreasers; cleaning chemicals; non-hazardous liquid and solid wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; concrete and cement; and noxious or offensive matter of any kind.

Pollution: Contamination or other alteration of any water's physical, chemical, or biological properties by addition of any constituent including but not limited to a change in temperature, taste, color, turbidity, or odor of such waters, or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, welfare, or environment, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

Wastewater: Any water or other liquid discharged from a facility, that has been used, as for washing, flushing, or in a manufacturing process, and so contains waste products.

SECTION III - PROHIBITIONS

Prohibition of Illicit Discharges:

No person shall throw, drain, or otherwise discharge, cause or allow others under its control to throw, drain, or otherwise discharge into the Town of Truro stormwater treatment system or watercourses any materials, including but not limited to, any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct, or continuance of any illicit discharge to the storm drain system is prohibited except as described as follows:

1. Water line flushing performed by a government agency, other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, natural riparian habitat or wetland flows, and any other water source not containing pollutants;

2. Discharges or flows from firefighting, and other discharges specified in writing by the Town of Truro as being necessary to protect public health and safety;

3. Dye testing is an allowable discharge, but requires a verbal notification to the Town of Truro prior to the time of the test;

4. Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for a discharge to the Town of Truro stormwater treatment system.

SECTION IV – INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Town of Truro Department of Public Works prior to allowing discharges to the Arlington stormwater treatment system.

SECTION V – NOTIFICATION OF SPILLS AND ACCIDENTAL DISCHARGES

Notwithstanding other requirements of law, as soon as any person responsible for a facility, activity or operation, or responsible for emergency response for a facility, activity or operation has information of any known or suspected release of pollutants or non-stormwater discharges from that facility, activity, or operation which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the Town of Truro stormwater treatment system, State Waters, or Waters of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release so as to minimize the effects of the discharge. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Town of Truro Department of Public Works in person or by phone no later than the next business day, including the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice, via certified mail return receipt requested addressed to the Town of Truro Department of Public Works within three (3) business days of the initial notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

IN WITNESS WHEREOF the parties hereto have executed copies of this Agreement on the 15th day of October, 2025.

Jarrod Cabral, Director
Department of Public Works

Operation and Maintenance Plan

Truro New Department of Public Works Facility

SECTION 1 – INTRODUCTION

The following document has been written to comply with the stormwater guidelines set forth by the Massachusetts Department of Environmental Protection (MassDEP). The intent of these guidelines is to encourage Low Impact Development techniques to improve the quality of the stormwater runoff. These techniques, also known as Best Management Practices (BMPs) collect, store, and treat the runoff before discharging to adjacent environmental resources.

SECTION 2 - PURPOSE

This Operation and Maintenance Plan (O&M Plan) is intended to provide a mechanism for the consistent inspection and maintenance of each BMP installed on the project site. Included in this O&M Plan is a description of each BMP type and an inspection form for each BMP. The Town of Truro is the owner and operator of the system and is responsible for its upkeep and maintenance. This work will be funded on an annual basis through the Town's operating budget. The estimated budget to maintain these BMPs utilizing the Department of Public Works workforce and equipment is approximately $10,000 per year. This budget assumes that Town equipment will be utilized, and no additional equipment rental is required.

In the event the Town sells the property, it is the Town's responsibility to transfer this plan, as well as the past three years of operation and maintenance records, to the new property owner. The Owner shall also notify the planning board or its agent of the changes in ownership or assignment of financial responsibility.

SECTION 3 – BMP DESCRIPTION AND LOCATIONS

3.1 Street Sweeping

Street sweeping consists of using a street sweeping machine to clean impervious areas of accumulated sediment, debris, and trash at the parking areas surrounding the public works facility.

3.2 Deep Sump Hooded Catch Basins

Deep sump catch basins utilizing catch basin hoods will be located throughout the site and used as pre-treatment before entering the infiltration systems or other Town stormwater infrastructure. The deep sump catch basins are designed to remove trash, debris, hydrocarbons, and coarse sediment from the stormwater runoff.

3.3 Outlet Control Structure

The outlet control structures are used to control discharges from captured stormwater. They release the water in a controlled manner to control peak discharges.

3.4 Drain Manholes

Drain Manholes will be located throughout the site and used to convey and redirect stormwater collected from deep sump catch basins. They allow for access, connection points, and change-in-

direction points in the underground drainage system.

3.5 Surface Infiltration Pond

There will be surface infiltration pond located on the site. The surface infiltration pond was designed for storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration

3.6 Subsurface Infiltration chambers

There will be four subsurface infiltration systems built on site that will receive and treat stormwater. The infiltration chambers are designed to be constructed upon a layer of crushed stone to promote infiltration of stormwater. The storage provided by the chambers assist with mitigation of peak rate run off and pollutant removal.

SECTION 4 – INSPECTION, MAINTENANCE, AND SCHEDULE

4.1 Street Sweeping

Street sweeping shall be performed on all impervious surfaces on a quarterly basis, with sweeping performed primarily in the spring and fall. Street sweeping shall be performed using a high efficiency vacuum street sweeping machine or a regenerative air sweeper. A mechanical rotary broom sweeper may be used if sweeping is performed on a monthly basis.

In the event of contamination by a spill or other means, all street sweeping cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, street sweeping cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.2 Deep Sump Hooded Catch Basins and Outlet Control Structures

Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons. Sediments must be removed whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. The structures should be cleaned a minimum of four times per year regardless of the amount of sediment in the basin. The site is considered a land use with a higher potential pollutant load, therefore if catch basins are found to be filled to capacity with sediment during a cleaning, the frequency of cleaning shall be increased. Catch basins and outlet control structures shall be cleaned with clamshell buckets or by hand tools where necessary. Catch basin hoods shall be inspected annually. Open and close the access hatch and flush or rod the anti-siphon device to ensure proper operation.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance

with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, catch basin cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.3 Drain Manholes

Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins. Remove all accumulated sediments and debris, and dispose of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, manhole cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.4 Surface Infiltration Pond

The surface infiltration pond shall be inspected monthly in the first year and every six months thereafter. Maintenance of vegetation after establishment shall include pruning and weeding to maintain appearance. Weeding is especially important during the plant establishment period, when vegetation cover is not 100 percent yet, but some weeding will likely always be needed. Some plant replacement (at least 5 to 10 percent of the original plantings) during the first few years after planting may be necessary, in case some of the plants that were originally planted die. All accumulated sediment and debris in the infiltration pond should be removed and disposed of according to local, state and federal regulations. Trash removal is important for prevention of mosquitoes.

4.5 Subsurface Infiltration Chambers

The isolation row in the subsurface structures shall be inspected every six months during the first year, and annually thereafter. Inspection may be conducted from the surface using inspection ports. A stadia rod may be inserted to determine the depth of sediment. If upon visual inspection it is found that sediment has accumulated to an average depth exceeding 3-inches, cleanout is required. Cleaning out of the isolator row may be performed with a JetVac process as recommended by the manufacturer as shown in Attachment D Isolator row documentation

4.6 Inspections and Record Keeping

- An inspection form should be filled out every time maintenance work is performed.

- A binder should be kept at the Public Works Facility that contains all the completed inspection forms and any other related materials.

- A review of all Operation & Maintenance actions should take place annually to ensure that these Stormwater BMPs are being taken care of in the manner described in this Operation & Maintenance Plan.

- All operation and maintenance log forms for the last three years, at a minimum, shall be kept on site at the Public Works Facility.

The inspection and maintenance schedule may be refined in the future based on the findings and results of this operation and maintenance program or policy.

SECTION 5 – GENERAL GOOD HOUSEKEEPING PRACTICES

All non-hazardous waste shall be stored in designated trash or recycling containers onsite for periodic collection by the local trash collector. The owner shall have maintenance staff who monitor the site for the accumulation of trash. Any trash that is seen onsite shall immediately be collected and placed into designated trash or recycling containers. The owner's maintenance staff shall make an inspection of the site once per week at minimum.

SECTION 6 - ANNUAL REPORTING

The owner must keep annual reports regarding the inspection and maintenance of the BMPs at the Public Works Facility. The reports must include:

1. Description of the conditions of the BMPs
2. Description of maintenance performed
3. Receipts for maintenance performed

SECTION 7 – OWNER MAINTENANCE AGREEMENT

The stormwater management system shall be owned and maintained by the following party:

Jarrod Cabral
Director of Public Works
17 Town Hall Road
Truro, MA 02666

The owner of the stormwater management system has reviewed and understands the contents of this Stormwater Operation and Maintenance Plan. The signature below constitutes the owner's commitment to maintain the stormwater system in accordance with this plan.

Signature: 

Jarrod Cabral, DPW Director

☐ Street Sweeping

Frequency: Quarterly average, primarily in the spring and fall if using a high efficiency vacuum sweeper or regenerative air sweeper. Monthly, if using a mechanical rotary broom sweeper.

Location: Parking Lots and Driveways

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Sweep all impervious areas, including parking lots, driveways, and roadways using high efficiency vacuum street sweeping machine, regenerative air sweeper, or mechanical rotary broom sweeper. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations

☐ Deep Sump Catch Basins & Outlet Control Structures

Frequency: Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year or whenever the depth of the deposits is greater than or equal to one half the depth from the bottom of the invert to the lowest pipe in the structure. Open and close hood and check anti-siphon vent for clogging.

☐ Drain Manholes

Frequency: Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year at a minimum, or whenever catch basins are inspected. Remove sediment and debris. All debris, and sediments should be disposed of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

☐ Surface Infiltration Pond

Frequency: The infiltration pond shall be inspected every semi-annually

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions:

As needed

- Prune and weed to maintain appearance
- Stabilize or replace mulch when erosion is evident
- Remove trash and debris
- Mow filter strip
- Renew mulch to replace that which has broken down into organic matter
- Replace vegetation whenever percent cover of acceptable vegetation falls below 90 percent or project specific performance requirements are not met. If vegetation suffers for no apparent reason, consult with horticulturist and/or test soil as needed.

Semi-annually

- Inspect inflow points for clogging (off-line systems) and remove any sediment
- Inspect filter strip/grass channel for erosion or gullying and sod as necessary
- Herbaceous vegetation and shrubs should be inspected to evaluate their health and replanted as appropriate
- Remove any dead or severely diseased vegetation

Annually in fall

- Inspect and remove any sediment and debris build-up.
- Inspect inflow points and bioretention surface for build-up of road sand associated with spring melt period, remove as necessary and replant areas that have been impacted by sand/salt build up.

Annually in spring

- Cut back and remove previous years plant material and remove accumulated leaves if needed.

☐ Subsurface Infiltration Chambers

Frequency: The Subsurface Infiltration Chambers should be inspected every six months during the first year and annually thereafter.

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

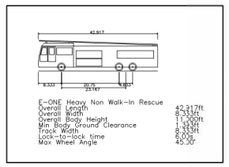
Actions Taken: _____
_____
_____

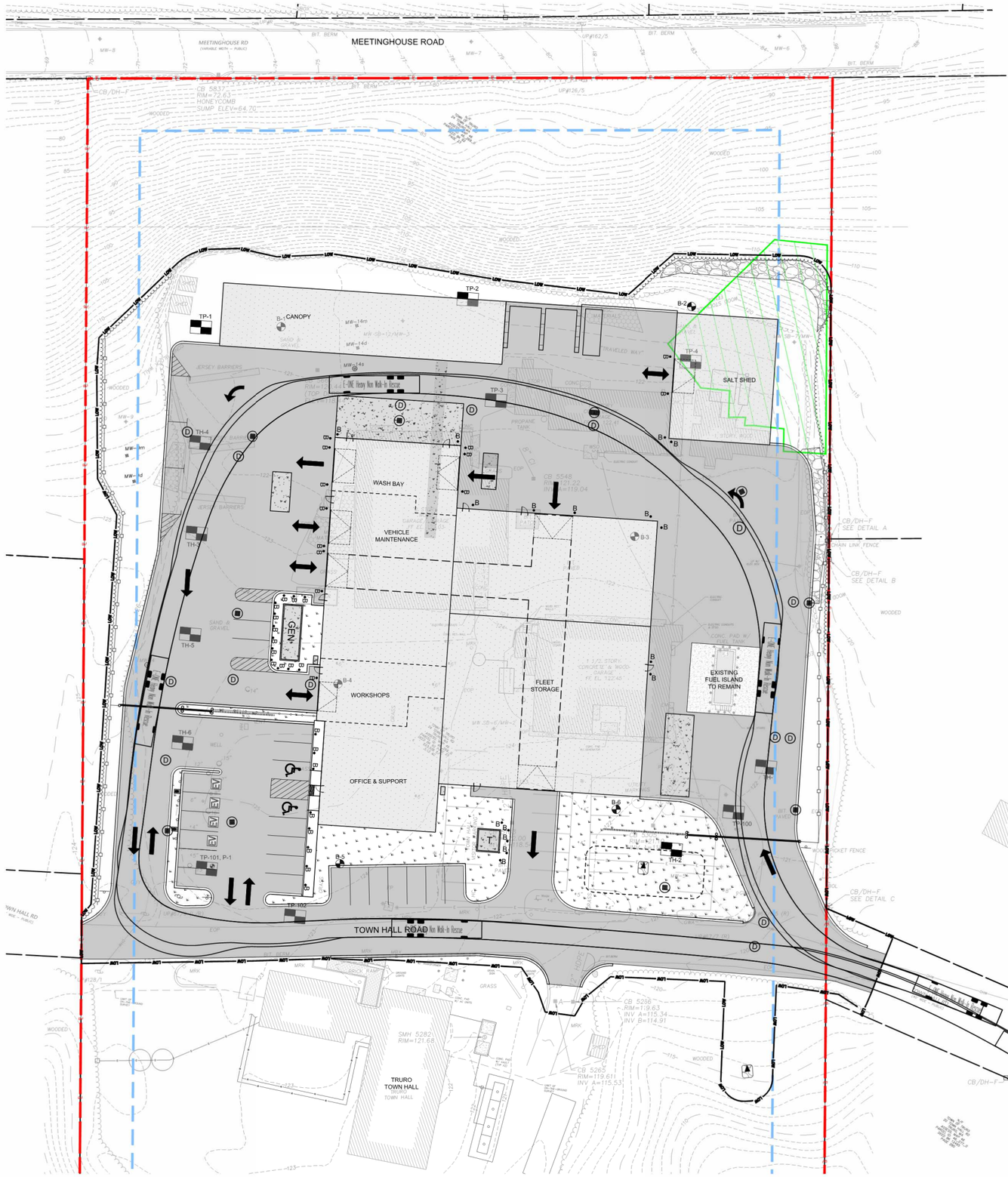
Instructions: Inspect underground isolation rows of chambers via manholes or inspection ports. Use reverse water jet to pull sediment back into manhole. Remove sediment, and dispose of in accordance with local, state, and federal regulations.

Check that the subsurface infiltration chambers are draining completely within 72 hours of rain events. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations.

Appendix C

Truck Turning Circulation Plans





0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

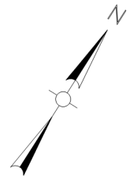
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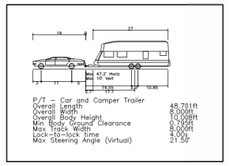
TRUCK TURNING PLAN
FIRE TRUCK CIRCULATION

Sheet Number:

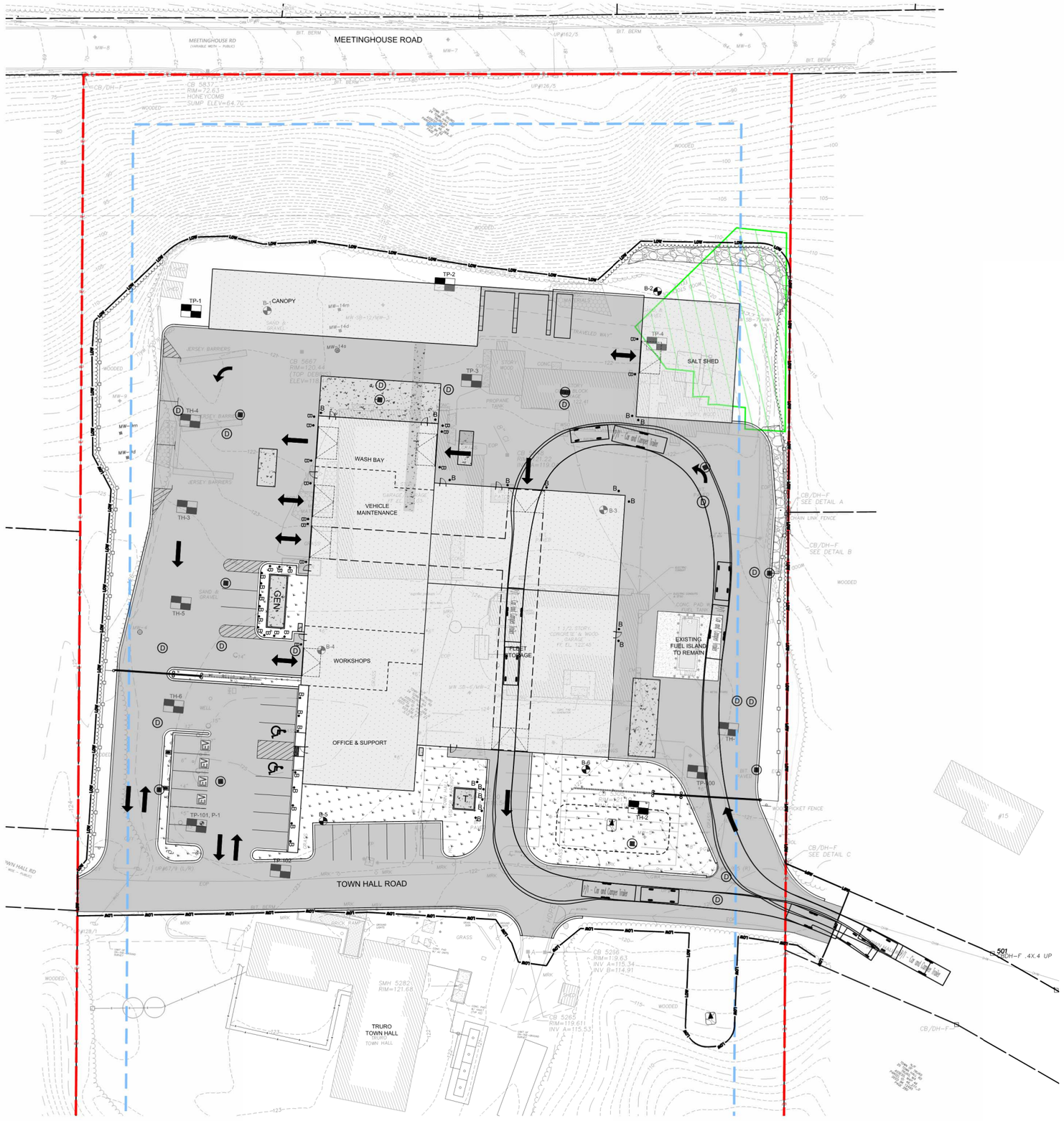
FIG.1

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P/T – Car and Camper Trailer	
Overall Length	48.781ft
Overall Width	8.000ft
Overall Body Height	10.098ft
Min Body Ground Clearance	0.755ft
Max Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	21.50°



0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
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Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

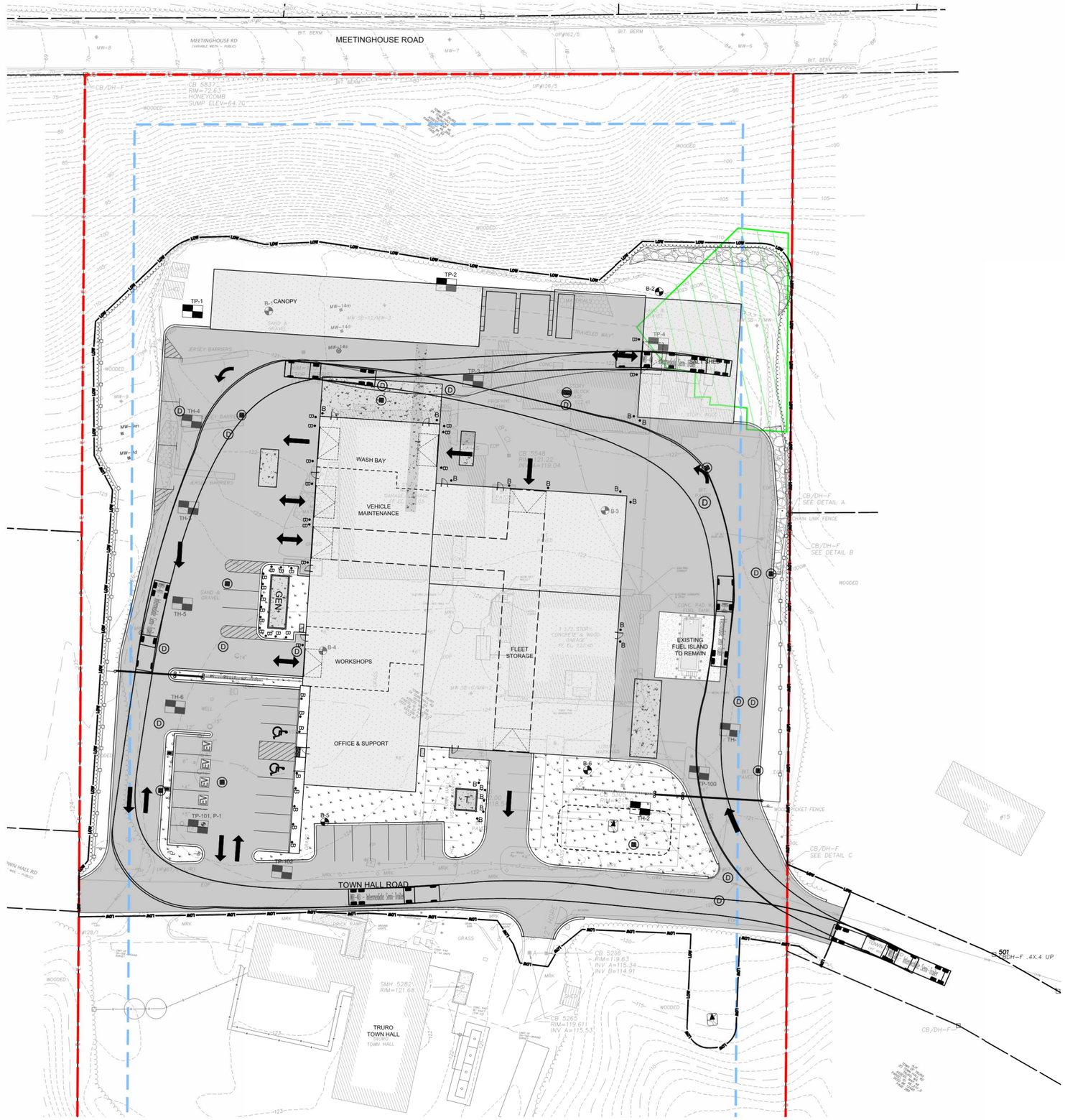
Drawing Title:

TRUCK TURNING PLAN "TRASH COMPACTOR"

Sheet Number:

FIG.2

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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W&S Project No.:ENG24 - 1552
W&S File No.: -

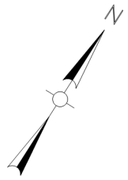
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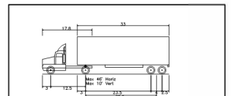
TRUCK TURNING PLAN
WB-40
SALT SHED

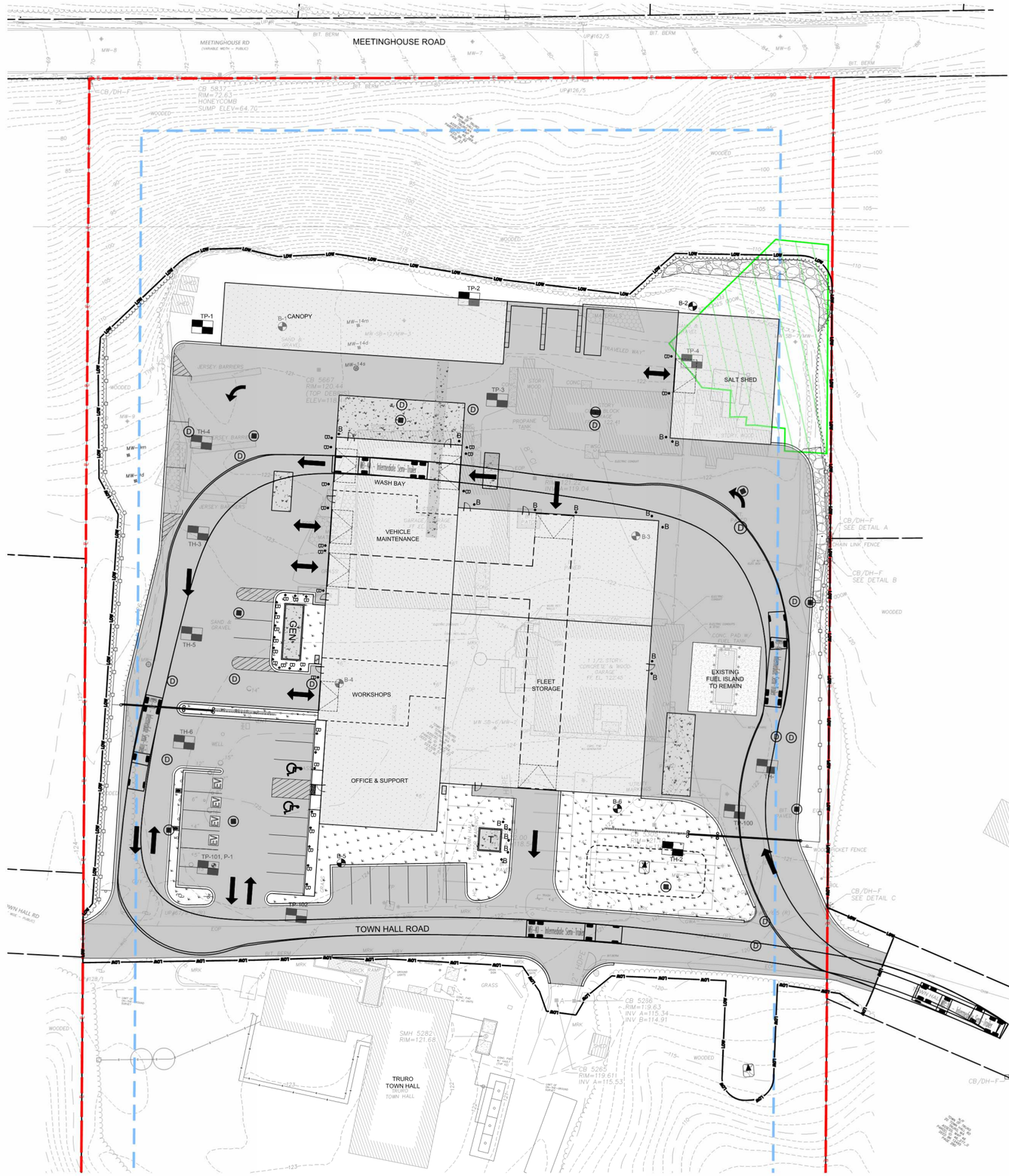
Sheet Number:

FIG.3

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

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Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN
WB-40
WASH BAY

Sheet Number:

FIG.4

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Project:

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Revisions:

No.	Date	Description

COA:

Seal:

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Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN (SU-30) THROUGH INTERIOR FLEET MAINTENANCE

Sheet Number:

FIG.5

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Appendix D

Project Cost Estimate

Schematic Design Cost Estimate

New Department of Public Works Facility

17 Town Hall

Truro, Ma

Prepared by:

TCi Construction Cost Estimating

Post Office Box 1988

North Falmouth, Ma 02556

www.tortoraconsulting.com

p 781-275-5511

Prepared for:

Weston and Sampson

May 29, 2025

New Department of Public Works Facility
Truro, Ma

Schematic Design Cost Estimate

29-May-25

MAIN CONSTRUCTION COST SUMMARY

	Building GSF	$/sf	Estimated Construction Cost
BASE ESTIMATE	22,140	$1,007.59	$22,308,047
TOTAL SD BASE CONSTRUCTION COSTS	**22,140**	**$1,007.59**	**$22,308,047**

Alternates

1. Add Vehicle Wash Bay Finish & Equipment	add	**$937,091**
2. Add Detached Canopy	add	**$1,104,680**
3. Add Rooftop Solar	add	**$645,213**
4. Add Ground Source Heat Pump (GSHP) in lieu of ASHP	add	**$1,192,833**
5. Add 5,000 SF Fleet storage	add	**$1,368,670**

QUALIFICATIONS

This Schematic Design cost estimate was produced from drawings prepared by Weston and Sampson and their design team dated May 2, 2025.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes bid received 1st quarter 2026.

Bidding conditions are expected to be chapter 149 public bidding to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures. The project is expected to be bid and construction start there after with one continuous phase.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

All professional fees and insurance
All Furnishings, Fixtures and Equipment not identified
Items identified in the design as Not In Contract (NIC)
Items identified in the design as by others
Special foundations (unless indicated by design engineers)
Utility company back charges, including work required off-site
Work to City streets and sidewalks, (except as noted in this estimate)
Construction or occupancy phasing or off hours' work, (except as noted in this estimate)
Off hours
Ledge & contaminated soils
Building Permit
Temporary trailer rentals
Phasing
Permit costs

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*BASE ESTIMATE*	*22,140 $/sf*
DIV. 2 DEMOLITION		
020500 Demolition	$144,000	*$6.50*
024500 Hazardous Material Abatement	$50,000	*$2.26*
DIV. 3 CONCRETE		
033000 Cast-in-Place Concrete	$1,050,762	*$47.46*
DIV. 4 MASONRY		
042000 Unit Masonry	$304,860	*$13.77*
DIV. 5 METALS		
055000 Metal Fabrications	$207,950	*$9.39*
DIV. 6 WOODS & PLASTICS		
061000 Rough Carpentry	$23,310	*$1.05*
064020 Interior Architectural Woodwork	$26,210	*$1.18*
DIV. 7 THERMAL & MOISTURE PROTECTION		
072100 Thermal Insulation	$133,420	*$6.03*
072700 Air Barriers & Waterproofing	$62,100	*$2.80*
074600 Cement Board Siding and Trim	$58,350	*$2.64*
075400 Membrane Roofing	$0	*$0.00*
075450 Through-wall flashing	$0	*$0.00*
077200 Roof Accessories	$8,400	*$0.38*
078410 Penetration Firestopping	$4,553	*$0.21*
079200 Joint Sealants	$77,557	*$3.50*
DIV. 8 DOORS & WINDOWS		
081110 Doors and Frames	$69,500	*$3.14*
083110 Access Doors and Frames	$0	*$0.00*
083310 Overhead Coiling Doors	$205,200	*$9.27*
084110 Aluminum Windows	$54,600	*$2.47*
084500 Aluminum Storefront and Curtainwall	$14,050	*$0.63*
084550 Skylights	$0	*$0.00*
084555 Sunshades	$0	*$0.00*
084600 Translucent Windows	$67,500	*$3.05*
087100 Door Hardware	$36,600	*$1.65*
088000 Glazing	$8,000	*$0.36*
089000 Louvers and Vents	$15,000	*$0.68*
DIV. 9 FINISHES		
092110 Gypsum Board Assemblies	$388,282	*$17.54*
093000 Tiling	$29,700	*$1.34*
095100 Acoustical Ceilings	$33,020	*$1.49*
096510 Resilient Flooring and Accessories	$21,360	*$0.96*
096550 Carpet	$11,800	*$0.53*
097300 Resinous flooring and base	$9,360	*$0.42*
099000 Painting and Coating	$170,137	*$7.68*
DIV 10 SPECIALTIES		
101400 Signage	$17,000	*$0.77*
102800 Toilet Accessories	$8,288	*$0.37*
104400 Fire Protection Specialties	$2,000	*$0.09*
106500 Toilet Partitions	$2,900	*$0.13*
108500 Lockers	$19,250	*$0.87*
109400 Screen Partitions	$0	*$0.00*
109500 Fall Arrest	$20,000	*$0.90*
DIV. 11 EQUIPMENT		
113100 Appliances	$0	*$0.00*
118100 Industrial Equipment	$785,924	*$35.50*
DIV. 12 FURNISHINGS		
122110 Horizontal Louver Blinds	$5,100	*$0.23*
DIV. 13 SPECIAL CONSTRUCTION		
13100 Pre-fabricated Metal Building, Mezzanine Steel and Decking	$2,375,815	*$107.31*
13200 Pre-fabricated Building (salt shed)	$216,000	*$9.76*
13300 Fuel Island Equipment and Canopy	$0	*$0.00*

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	***BASE ESTIMATE***	***22,140 $/sf***
DIV. 21 FIRE SUPPRESSION		
210000 Fire Suppression - FSB	$663,515	*$29.97*
DIV. 22 PLUMBING		
220000 Plumbing - FSB	$882,167	*$39.84*
DIV. 23 HVAC		
220000 HVAC - FSB	$1,774,245	*$80.14*
DIV. 26 ELECTRICAL		
260000 Electrical - FSB	$1,445,822	*$65.30*
DIV. 31 EARTHWORK		
311000 Site Clearing	$190,995	*$8.63*
312000 Earthwork	$565,725	*$25.55*
312500 Erosion and Sedimentation Controls	$27,500	*$1.24*
315000 Ground Improvements	$72,000	*$3.25*
DIV. 32 EXTERIOR IMPROVEMENTS		
321216 Asphalt Paving	$475,208	*$21.46*
321213 Portland Cement Concrete Paving	$24,480	*$1.11*
321613 Curbs and Gutters	$59,940	*$2.71*
323100 Site Improvements	$149,525	*$6.75*
329000 Landscaping	$75,000	*$3.39*
DIV. 33 UTILITIES		
331000 Site Water Distribution	$525,850	*$23.75*
333000 Sanitary Sewerage Utilities	$200,000	*$9.03*
334000 Storm Drainage	$521,250	*$23.54*
335000 Gas	$0	*$0.00*
SUBTOTAL DIRECT (TRADE) COST	*$14,391,080*	*$650.00*
GENERAL CONDITIONS & REQUIREMENTS 14%	$2,014,751	
GL INSURANCE 1.3%	$187,084	
BONDS 1.8%	$259,039	
GC - OVERHEAD & PROFIT 5%	$842,598	
DESIGN AND PRICING CONTINGENCY 10%	$1,769,455	
ESCALATION TO 1ST QUARTER 2026 5%	$973,200	
OUTER CAPE PREMIUM 10%	$1,439,108	
TARIFFS PREMIUM ALLOWANCE 3%	$431,732	
TOTAL SD BASE CONSTRUCTION COSTS	**$22,308,047**	*$1,007.59*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	GROSS FLOOR AREA CALCULATION						
	Admin/Support areas			**2,900**			
	Workshops			**1,450**			
	Fleet Storage			**7,700**			
	Fleet Maintenance			**4,680**			
	Wash Bay Shell			**1,480**			
	Mezzanines			**3,930**			
	TOTAL GROSS FLOOR AREA (including mezzanine)				**22,140**	***gsf***	
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings to walls						
03300	Formwork	**1,500**	sf	18.00	27,000		
03300	Re-bar	**5,280**	lbs	2.50	13,200		
03300	Concrete material	**88**	cy	190.00	16,720		
03300	Placing concrete	**88**	cy	40.00	3,520		
	Foundation walls						
03300	Formwork	**9,000**	sf	18.00	162,000		
03300	Re-bar	**15,780**	lbs	2.50	39,450		
03300	Concrete material	**263**	cy	190.00	49,970		
03300	Placing concrete	**263**	cy	40.00	10,520		
	Back up knee walls						
03300	Formwork	**5,400**	sf	18.00	97,200		
03300	Re-bar	**4,440**	lbs	2.50	11,100		
03300	Concrete material	**74**	cy	190.00	14,060		
03300	Placing concrete	**74**	cy	40.00	2,960		
	Column footings						
03300	Formwork	**800**	sf	18.00	14,400		
03300	Re-bar	**7,440**	lbs	2.50	18,600		
03300	Concrete material	**124**	cy	190.00	23,560		
03300	Placing concrete	**124**	cy	40.00	4,960		
	Piers						
03300	Formwork	**520**	sf	18.00	9,360		
03300	Re-bar	**2,400**	lbs	2.50	6,000		
03300	Concrete material	**40**	cy	190.00	7,600		
03300	Placing concrete	**40**	cy	40.00	1,600		
	SUBTOTAL					533,780	
	A1030 LOWEST FLOOR CONSTRUCTION						
	8" Slab on grade						
03300	Vapor barrier	**15,310**	sf	2.00	30,620		
03300	Reinforcing	**15,310**	sf	2.50	38,275		
03300	Concrete - 8" thick	**424**	cy	190.00	80,560		
03300	Placing concrete	**424**	cy	45.00	19,080		
03300	Finishing and curing concrete	**15,310**	sf	1.65	25,262		
03300	Control joints - saw cut	**15,310**	sf	0.50	7,655		
	6" Slab on grade						
03300	Vapor barrier	**2,900**	sf	2.00	5,800		
03300	Reinforcing	**2,900**	sf	1.50	4,350		
03300	Concrete - 6" thick	**59**	cy	190.00	11,210		
03300	Placing concrete	**59**	cy	45.00	2,655		
03300	Finishing and curing concrete	**2,900**	sf	1.65	4,785		
03300	Control joints - saw cut	**2,900**	sf	0.50	1,450		
	Miscellaneous						
07210	R10 - 25 PSI Rigid insulation at 4' horizontal and 2' vertical	**4,500**	sf	5.00	22,500		
07210	R10 - 60 PSI Rigid insulation at 4' horizontal and 2' vertical	**4,000**	sf	5.50	22,000		
07210	R115 - 60 PSI rigid insulation under slab	**4,680**	sf	6.00	28,080		
07270	Damp proofing of foundation walls	**3,600**	sf	4.00	14,400		
03300	4' haunch under CM walls	**60**	cy	350.00	21,000		
03300	Pits, curbs, equipment Pads and supports	**1**	ls	15,000.00	15,000		
	SUBTOTAL					354,682	
	TOTAL - FOUNDATIONS						***$888,462***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Mezzanine Floor Structure - Steel:						
13100	W columns, beam, bracing, HSS tubes, L angles and Channels	**24**	tons	6,000.00	144,000		
	Mezzanine Floor Structure						
13100	Floor deck - 1 1/2'' deck	**3,930**	sf	5.50	21,615		
03300	WWF reinforcement	**3,930**	sf	2.00	7,860		
03300	2" Concrete Fill to metal deck	**48**	cy	195.00	9,360		
03300	Place and finish concrete	**3,930**	sf	2.00	7,860		
	Miscellaneous						
05500	Misc metals - overall added cost for FSB pricing	**18,210**	sf	4.00	72,840		
07841	Firestopping	**18,210**	sf	0.25	4,553		
	SUBTOTAL					268,088	
	B1020 ROOF CONSTRUCTION						
	Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
13100	Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**18,210**	sf	120.00	2,185,200		
13100	Entry canopy structure and roof, gutters and downspouts	**200**	sf	125.00	25,000		
	Miscellaneous						
05500	Overhead door openings	**8**	ea	1,500.00	12,000		
05500	Window openings	**260**	sf	12.00	3,120		
05500	Translucent window openings	**500**	sf	12.00	6,000		
	SUBTOTAL					2,231,320	
	TOTAL - SUPERSTRUCTURE						***$2,499,408***
	B20 EXTERIOR CLOSURE						
	B2010 EXTERIOR WALLS						
	Admin exterior wall back-up						
09211	6" Metal stud, sheathing	**1,600**	sf	22.00	35,200		
09211	5/8" int gwb	**1,600**	sf	8.00	12,800		
09900	Paint	**1,600**	sf	2.00	3,200		
	CMU & Fiber cement						
07460	Fiber cement board lap siding	**1,200**	sf	40.00	48,000		
07460	Fiber cement board shakes	**230**	sf	45.00	10,350		
04200	CMU veneer	**2,200**	sf	55.00	121,000		
07270	Air barrier	**3,630**	sf	10.00	36,300		
07210	Rigid insulation	**2,200**	sf	6.00	13,200		
	SUBTOTAL					280,050	
	B2020 WINDOWS						
	Storefront and windows						
84600	Translucent windows	**500**	sf	135.00	67,500		
84110	W - Aluminum windows (triple glazed)	**260**	sf	210.00	54,600		
08900	Louvers	**1**	ls	15,000.00	15,000		
07920	Backer rod & double sealant	**511**	lf	12.00	6,132		
06100	Wood blocking at openings	**511**	lf	10.00	5,110		
07920	Waterproofing - overall added cost for FSB pricing	**18,210**	sf	3.50	63,735		
	SUBTOTAL					212,077	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B2030 EXTERIOR DOORS						
	Overhead doors						
08331	18x16 OHD	**2**	ea	28,800.00	57,600		
08331	16x16 OHD	**5**	ea	25,600.00	128,000		
08331	14x14 OHD	**1**	ea	19,600.00	19,600		
	Man Doors						
08111	HM doors with half light/HM frame 3x7 HM	**7**	ea	2,500.00	17,500		
08111	HM flush doors/frame 3x7 HM	**1**	ea	2,200.00	2,200		
84500	AS-1/Al 3x7 - Alum entry and side/tran	**1**	ea	750.00	750		
08710	Hardware	**9**	lvs	950.00	8,550		
	Misc						
09900	Paint	**8**	ea	200.00	1,600		
07920	Backer rod & double sealant	**320**	lf	12.00	3,840		
06100	Wood blocking at openings	**320**	lf	10.00	3,200		
	SUBTOTAL					242,840	
	TOTAL - EXTERIOR CLOSURE						***$734,967***
	B30 ROOFING						
	B3010 ROOF COVERINGS						
	All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
	SUBTOTAL					-	
	B3020 ROOF OPENINGS						
07720	Roof hatch and ladder	**1**	ea	6,750.00	6,750		
07720	Roof ladders	**1**	ea	1,650.00	1,650		
10950	Fall arrest system allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					28,400	
	TOTAL - ROOFING						**$28,400**
	C10 INTERIOR CONSTRUCTION						
	C1010 PARTITIONS						
09211	Type 1B GWB partition	**1,080**	sf	13.00	14,040		
09211	Type 2A/B GWB partition	**1,056**	sf	15.00	15,840		
09211	Type 3A GWB partition	**3,150**	sf	20.00	63,000		
09211	Type 3B GWB partition	**1,680**	sf	21.00	35,280		
09211	Type 6A GWB partition	**2,282**	sf	26.00	59,332		
04200	Type 8A - 8" CMU walls	**4,396**	sf	35.00	153,860		
	<u>18 - Wash bay separation walls</u>						
04200	8" CMU wall to 8'	**480**	sf	35.00	16,800		
09211	6" metal stud and gwb each side	**1,200**	sf	22.00	26,400		
	<u>F1 - Fire separation walls</u>						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,600**	sf	25.00	40,000		
03300	Concrete knee wall	**17**	cy	950.00	16,150		
07210	3" closed cell spray foam	**1,600**	sf	10.00	16,000		
04200	4" CMU behind knee wall	**440**	sf	30.00	13,200		
07210	2" rigid behind knee wall	**440**	sf	6.00	2,640		
07270	AVB	**440**	sf	10.00	4,400		
	<u>F2 - Fire separation walls</u>						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**2,480**	sf	25.00	62,000		
03300	GWB to knee wall	**700**	sf	8.00	5,600		
03300	Concrete knee wall	**28**	cy	950.00	26,600		
07210	3" closed cell spray foam	**2,480**	sf	10.00	24,800		
07210	2" rigid behind knee wall	**700**	sf	6.00	4,200		
07270	AVB	**700**	sf	10.00	7,000		
	<u>Misc</u>						
06100	Rough blocking	**800**	lf	10.00	8,000		
	SUBTOTAL					615,142	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C1020 INTERIOR DOORS						
	Doors and Frames						
08111	Single doors and frames	**23**	lvs	1,600.00	36,800		
08111	Double doors and frames	**5**	pr	2,600.00	13,000		
	Hardware						
08710	Hardware	**33**	lvs	850.00	28,050		
	Misc						
08800	Glazing to doors and frames	**160**	sf	50.00	8,000		
84500	HM1 window frames	**2**	ea	1,650.00	3,300		
09900	Paint HM frames	**35**	ea	200.00	7,000		
07920	Sealants & caulking	**35**	ea	110.00	3,850		
12211	Interior blinds	**6**	ea	200.00	1,200		
	SUBTOTAL					101,200	
	C1030 SPECIALTIES / MILLWORK						
06402	Restroom vanities	**10**	lf	450.00	4,500		
06402	Window sills	**54**	lf	65.00	3,510		
06402	Multi-purpose back walls cabinets, counter and shelving	**16**	lf	650.00	10,400		
06402	Admin office counters	**12**	lf	650.00	7,800		
84500	Misc millwork and finish carpentry	**1**	ls	10,000.00	10,000		
10140	Tack/white boards	**2**	ea	500.00	1,000		
	Lockers						
10850	Large Lockers	**16**	ea	950.00	15,200		
10850	Lockers benches	**1**	ea	750.00	750		
10850	ADA benches	**2**	ea	1,650.00	3,300		
	Restrooms						
10650	Toilet partitions HC	**1**	ea	1,600.00	1,600		
10650	Toilet partitions Reg	**1**	ea	1,300.00	1,300		
10280	Soap disp	**5**	ea	30.00	150		
10280	Mirror	**5**	ea	285.00	1,425		
10280	Robe hook	**10**	ea	30.00	300		
10280	Grab bar	**6**	ea	150.00	900		
10280	Shower seat and bars	**2**	ea	285.00	570		
10280	Wet gear hooks	**10**	ea	65.00	650		
10280	SRWR	**2**	ea	250.00	500		
10280	TTD	**5**	ea	110.00	550		
10280	SND	**2**	ea	165.00	330		
10280	PTD	**4**	ea	330.00	1,320		
10280	Hooks	**12**	ea	40.00	480		
10280	Shower curtain and rods	**3**	ea	276.00	828		
10280	Jan closet MB	**1**	ea	285.00	285		
	Miscellaneous						
06100	Plywood backers, locker bases and misc	**800**	sf	5.00	4,000		
10440	Fire extinguisher cabinets	**8**	ea	250.00	2,000		
10140	Town seal/ exterior signage	**1**	ls	8,500.00	8,500		
10140	Interior signage	**1**	ls	7,500.00	7,500		
	SUBTOTAL					89,648	
	TOTAL - INTERIOR CONSTRUCTION						***$805,990***
	C20 STAIRCASES						
	C2010 STAIR CONSTRUCTION						
05500	Mezzanine Stairs	**2**	ea	17,500.00	35,000		
05500	Mezzanine railings	**214**	lf	185.00	39,590		
05500	Gates	**2**	ea	1,250.00	2,500		
05500	Ladders	**2**	ea	1,250.00	2,500		
03300	Concrete material in pan infill	**2**	ea	1,200.00	2,400		
	SUBTOTAL					81,990	
	C2020 STAIR FINISHES						
09900	Paint to mezzanine stairs	**2**	ea	3,850.00	7,700		
09900	Paint to mezzanine rails/gates	**240**	lf	35.00	8,400		
	SUBTOTAL					16,100	
	TOTAL - STAIRCASES						***$98,090***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C30 INTERIOR FINISHES						
	C3010 WALL FINISHES						
09900	Paint to GWB	**28,156**	sf	1.50	42,234		
09900	Paint to interior CMU	**9,712**	sf	2.50	24,280		
09300	Wall tile	**800**	sf	33.00	26,400		
06100	FRP to janitor closet	**200**	sf	15.00	3,000		
	SUBTOTAL					95,914	
	C3020 FLOOR FINISHES						
09651	LVT	**1,200**	sf	14.00	16,800		
09665	Carpet tile	**800**	sf	6.00	4,800		
09730	RF - Resinous Flooring	**520**	sf	18.00	9,360		
09900	SC - Sealed Concrete	**18,040**	sf	1.50	27,060		
09665	Walk off mats	**2**	ea	3,500.00	7,000		
09300	Tile	**100**	sf	33.00	3,300		
09651	Rubber base	**760**	lf	6.00	4,560		
09900	Line stripping	**600**	sf	5.00	3,000		
	SUBTOTAL					75,880	
	C3030 CEILING FINISHES						
09510	A1 - ACT ceilings; 2' x 2'	**2,500**	sf	11.00	27,500		
09510	A2 - ACT ceilings; 2' x 2'	**460**	sf	12.00	5,520		
09211	G2 - GWB ceilings	**380**	sf	18.00	6,840		
09211	G3 - GWB ceilings	**575**	sf	22.00	12,650		
09211	G1 - L gwb soffits	**20**	lf	125.00	2,500		
09211	Drop gwb soffits	**40**	lf	60.00	2,400		
09900	Paint to GWB ceilings and soffits	**1,195**	sf	2.00	3,800		
09900	Exposed prefab metal columns and beams	**16,745**	sf	2.50	41,863		
	SUBTOTAL					103,073	
	TOTAL - INTERIOR FINISHES						***274,867***
	D20 PLUMBING						
	D20 PLUMBING, GENERALLY						
	Equipment						
220000	Water Meter	**1**	ea	2,950.00	2,950		
220000	Backflow Preventor Assembly	**1**	ea	6,045.00	6,045		
220000	Water Pressure Regulator	**1**	ea	1,170.00	1,170		
220000	Heat Pump Water Heaters	**2**	ea	15,112.50	30,225		
220000	Hot Water Storage Tank	**1**	ea	7,020.00	7,020		
220000	Recirc Pump	**2**	ea	1,235.00	2,470		
220000	Expansion Tank	**2**	ea	455.00	910		
220000	Thermostatic Mixing Valve	**2**	ea	2,710.50	5,421		
220000	Oil/Water Seperator	**1**	ea	11,830.00	11,830		
220000	Air Compressor w/ Dryer	**1**	ea	31,083.00	31,083		
220000	Trap Primers	**9**	ea	425.00	3,825		
220000	Make Up Water Station	**1**	ea	1,140.00	1,140		
220000	Plumbing Specialties	**1**	ls	11,398.70	11,399		
220000	Equipment Connections	**24**	ea	845.00	20,280		
	Fixtures						
220000	Water Closets	**5**	ea	1,413.50	7,068		
220000	Urinal	**1**	ea	1,216.54	1,217		
220000	Lavatory	**5**	ea	1,292.50	6,463		
220000	Showers	**2**	ea	2,035.00	4,070		
220000	Sink - Mop	**1**	ea	1,292.50	1,293		
220000	Kitchen Sink	**1**	ea	1,527.54	1,528		
220000	Kitchen Sink Garbage Disposal	**1**	ea	780.00	780		
220000	Laundry Sink	**1**	ea	1,560.00	1,560		
220000	Shop Sink	**1**	ea	4,810.00	4,810		
220000	Emergency Shower / Eyewash	**6**	ea	3,918.75	23,513		
220000	Drinking Fountian	**1**	ea	2,887.50	2,888		
220000	Wall Hydrant	**6**	ea	357.50	2,145		
220000	Hose Bibbs	**2**	ea	258.50	517		
220000	Hose Stations	**3**	ea	884.00	2,652		
220000	Ice Machine Box	**1**	ea	181.50	182		
220000	Outlet Box	**1**	ea	287.64	288		
220000	Compressed Air Outlets	**10**	ea	294.87	2,949		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
220000	Floor Drains	**12**	ea	654.50	7,854		
220000	Floor Sinks	**2**	ea	808.50	1,617		
220000	(8) Trench Drains	**150**	lf	158.50	23,775		
220000	Trench Drain Catch Basin	**4**	ea	1,365.00	5,460		
220000	Clean Outs	**12**	ea	262.00	3,144		
220000	Vent Thru Roof	**12**	ea	290.00	3,480		
220000	Hose Connection	**5**	ea	475.00	2,375		
220000	Compressed Air Equipment Connections	**5**	ea	475.00	2,375		
220000	Fixture Rough Ins	**34**	ea	624.00	21,216		
	Piping						
220000	Water Service	**25**	lf	168.32	4,208		
220000	Water - 1/2"	**672**	lf	39.00	26,208		
220000	Water - 3/4"	**588**	lf	42.25	24,843		
220000	Water - 1"	**294**	lf	48.75	14,333		
220000	Water - 1 1/4"	**42**	lf	53.95	2,266		
220000	Water - 1 1/2"	**151**	lf	59.80	9,030		
220000	Water - 2"	**151**	lf	68.25	10,306		
220000	Water - 3"	**210**	lf	97.50	20,475		
220000	UGSan - 2"	**8**	lf	94.25	754		
220000	UGSan - 3"	**84**	lf	123.50	10,374		
220000	UGSan - 4"	**316**	lf	130.00	41,080		
220000	San - 2"	**44**	lf	94.25	4,147		
220000	San - 3"	**45**	lf	123.50	5,558		
220000	San - 4"	**92**	lf	130.00	11,960		
220000	UGVent- 2"	**15**	lf	94.25	1,414		
220000	UGVent - 3"	**30**	lf	123.50	3,705		
220000	UGVent - 4"	**8**	lf	130.00	1,040		
220000	UGOil Vent - 2 1/2"	**210**	lf	117.65	24,707		
220000	UGOil Vent - 3"	**91**	lf	133.90	12,185		
220000	UGOil Vent - 4"	**225**	lf	140.40	31,590		
220000	Oil Vent - 2 1/2"	**71**	lf	117.65	8,353		
220000	Oil Vent - 3"	**67**	lf	133.90	8,971		
220000	Oil Vent - 4"	**63**	lf	140.40	8,845		
220000	Oil Vent - 6"	**34**	lf	166.40	5,658		
220000	UG Oil Waste - 3"	**8**	lf	133.90	1,071		
220000	UG Oil Waste - 4"	**606**	lf	140.40	85,082		
220000	UG Oil Waste - 6"	**336**	lf	166.40	55,910		
220000	Compressed Air- 1/2"	**29**	lf	41.60	1,206		
220000	Compressed Air - 3/4"	**672**	lf	45.50	30,576		
220000	Compressed Air - 1"	**156**	lf	51.35	8,011		
220000	Compressed Air - 1 1/2"	**150**	lf	58.50	8,775		
220000	Compressed Air - 2"	**80**	lf	71.50	5,720		
220000	Insulation	**2,133**	lf	13.98	29,819		
	Trade Requirements						
220000	Project Supervision	**400**	hrs	130.00	52,000		
220000	Coordination	**200**	hrs	130.00	26,000		
	SUBTOTAL					867,167	
	TOTAL - PLUMBING						***$867,167***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	D30 HVAC						
	D30 HVAC						
	Base ASHP						
230000	Equipment	**22,140**	sf	24.68	546,415		
230000	Sheet Metal	**22,140**	sf	23.72	525,161		
230000	Piping	**22,140**	sf	8.79	194,611		
230000	Insulation	**22,140**	sf	4.93	109,150		
230000	Controls	**22,140**	sf	11.52	255,053		
230000	Commissioning	**22,140**	sf	2.44	54,022		
230000	Trade Requirements	**22,140**	sf	3.38	74,833		
	SUBTOTAL					1,759,245	
	TOTAL - HVAC						***$1,759,245***
	D40 FIRE PROTECTION						
	D40 FIRE PROTECTION						
210000	FP service equipment, valves, compressors and misc	**1**	ls	20,000.00	20,000		
210000	Sprinkler heads	**277**	ea	125.00	34,625		
210000	Branch sprinkler piping with fittings & hangers	**4,155**	lf	38.00	157,890		
210000	Main sprinkler piping with fittings & hangers	**600**	lf	60.00	36,000		
210000	Hydraulic calculations, coordination and testing	**1**	ls	15,000.00	15,000		
210000	Fire pump and 50,000 gal cistern allowance	**1**	ls	400,000.00	400,000		
	SUBTOTAL					663,515	
	TOTAL - FIRE PROTECTION						***$663,515***
	D50 ELECTRICAL						
	D50 ELECTRICAL						
	Light Fixtures						
260000	Light Fixtures	**22,140**	sf	7.00	154,980		
	Branch Circuitry						
260000	Branch Circuitry	**22,140**	sf	5.00	110,700		
260000	Lighting Control Devices	**22,140**	sf	1.00	22,140		
260000	Power Wiring Devices	**22,140**	sf	1.50	33,210		
	Power Circuitry						
260000	Power Circuitry and Motor Feeders	**22,140**	sf	3.00	66,420		
	Power Distribution						
260000	3/4" Emt, 4#10	**50**	lf	14.00	700		
260000	1 1/4" Emt, 4#3	**10**	lf	30.00	300		
260000	1 1/2" Emt, 4#1	**140**	lf	40.00	5,600		
260000	2" Emt, 4 3/0	**30**	lf	55.00	1,650		
260000	2 1/2" Emt, 4 250Mcm	**10**	lf	75.00	750		
260000	4" Emt, 4 500 Mcm	**10**	lf	125.00	1,250		
260000	4" Emt, 4 600 Mcm	**100**	lf	150.00	15,000		
260000	4" Rigid, 4 600 Mcm	**40**	lf	185.00	7,400		
260000	1 1/2" Emt, future PV	**200**	lf	18.00	3,600		
260000	3" Emt, future PV	**200**	lf	25.00	5,000		
260000	4" Emt, future PV	**100**	lf	30.00	3,000		
260000	PV Power Pullbox, WP	**2**	ea	500.00	1,000		
260000	PV Comm Pullbox, WP	**2**	ea	300.00	600		
	Lightning Protection & Grounding						
260000	Lightning Protection Allowance	**1**	ls	15,000.00	15,000		
260000	Service Grounding	**1**	ls	4,500.00	4,500		
260000	MDF Grounding	**1**	ls	1,500.00	1,500		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Power Equipment						
260000	100 Amp Panel Board	**1**	ea	4,500.00	4,500		
260000	225 Amp Panel Board, 60P	**1**	ea	8,800.00	8,800		
260000	400 Amp Panel Board, 2-Section	**1**	ea	16,500.00	16,500		
260000	800 Amp Main Switchboard	**1**	ls	35,000.00	35,000		
260000	Current Monitor	**3**	ea	2,200.00	6,600		
260000	Lighting Control Panel - Allow	**1**	ea	5,000.00	5,000		
260000	SPD @ MDB	**1**	ea	2,600.00	2,600		
260000	30 Kva Transformer	**1**	ea	7,000.00	7,000		
260000	75 Kva Transformer	**1**	ea	10,000.00	10,000		
260000	112 Kva Transformer	**1**	ea	12,000.00	12,000		
260000	800 Amp CT Cabinet	**1**	ea	7,500.00	7,500		
260000	800 Amp Service Disconnect	**2**	ea	12,000.00	24,000		
260000	800 Amp Service Disconnect EG	**1**	ea	12,000.00	12,000		
260000	Meter Pan	**1**	ea	650.00	650		
260000	400 Kw Emerg Generator, WP Encl	**1**	ea	150,000.00	150,000		
260000	Autotransfer Sw 800A	**1**	ea	20,000.00	20,000		
260000	Autotransfer Sw 100A	**1**	ea	6,500.00	6,500		
260000	EG Ennunciator	**1**	ea	1,500.00	1,500		
260000	EG Junc Box	**3**	ea	125.00	375		
260000	EPO Pushbutton	**2**	ea	200.00	400		
260000	800 Amp Encl Ckt Brkr	**2**	ea	9,500.00	19,000		
260000	100 Amp Encl Ckt Brkr	**1**	ea	1,500.00	1,500		
260000	200KW Load Bank	**1**	ea	18,500.00	18,500		
260000	100A Storm Switch	**1**	ea	5,500.00	5,500		
260000	Motor Disconnects	**22,140**	sf	1.50	33,210		
	Misc systems						
260000	Fire Alarm System	**22,140**	sf	4.00	88,560		
260000	BDA Allowance	**1**	ls	45,000.00	45,000		
260000	Telecommunications System	**18,210**	sf	3.00	54,630		
260000	Security Access Control System	**18,210**	sf	2.00	36,420		
260000	CCTV Security System	**18,210**	sf	1.50	27,315		
260000	Sound/PA/Intercom System	**18,210**	sf	1.50	27,315		
260000	A/V System Roughin Allowance	**18,210**	sf	0.20	3,642		
	Site Lighting						
260000	Type SL1 Light Pole w/ 1-Fixt	**8**	ea	3,600.00	28,800		
260000	Type SL6 Flagpole Light	**3**	ea	525.00	1,575		
260000	1" PVC, 3#8, #10 UG	**890**	lf	12.00	10,680		
260000	#10 Wire in Poles	**720**	lf	1.25	900		
260000	Site Lighting Controls	**1**	ls	3,600.00	3,600		
	EV Charging Stations						
260000	EV Charging Station	**2**	ea	5,500.00	11,000		
260000	1" PVC, 3#8, #10 UG	**500**	lf	12.00	6,000		
	Site Utilities						
260000	Utility Pole Riser	**1**	ls	3,600.00	3,600		
260000	4" PVC CDT UG (Pri)	**400**	lf	18.00	7,200		
260000	Utility Transformer Pad	**1**	ls	3,600.00	3,600		
260000	4" PVC, 4 600 Mcm UG (Sec)	**570**	lf	135.00	76,950		
260000	4" PVC CDT UG (Spare)	**50**	lf	18.00	900		
260000	3" PVC, 4 600MCM UG	**120**	lf	135.00	16,200		
260000	1" PVC, EG Controls, 120v, UG	**150**	lf	10.00	1,500		
	Telecommunications						
260000	Telecomm Utility Riser	**1**	ls	3,600.00	3,600		
260000	4" PVC (Tel,empty)	**800**	lf	18.00	14,400		
260000	1 1/4" Innderduct	**600**	lf	3.50	2,100		
	Misc						
260000	Temp Power and Lighting	**1**	ls	15,000.00	15,000		
260000	Coordination and project management	**200**	hrs	135.00	27,000		
260000	Startup, Testing, Commissioning	**160**	hrs	135.00	21,600		
	SUBTOTAL					1,402,022	
	TOTAL - ELECTRICAL						***$1,402,022***

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

29-May-25

Schematic Design Cost Estimate

GSF 22,140

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	E20 FURNISHINGS						
	E2010 FIXED FURNISHINGS						
12211	Horizontal Louver Blinds/Blackout	**260**	sf	15.00	3,900		
11310	Kitchen appliances				by owner		
	SUBTOTAL					$3,900	
	E2020 MOVABLE FURNISHINGS						
	All movable furnishings to be provided and installed by owner					NIC	
	SUBTOTAL						
	TOTAL - FURNISHINGS						***$3,900***
	F10 INDUSTRIAL EQUIPMENT						
	Maintenance Equipment Schedule						
11810	CD-1 Wood Workbench with Casters 1 ERO N/A	**ERO**					
11810	CD-2 Steel Work Bench (72inx36in) (14,000 Lbs Capacity) 1 N 12 40 00	**1**	ea	1,037.30	1,037		
11810	CD-3 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	CD-4 Long Wood Workbench 1 N 12 40 00	**1**	ea	600.00	600		
11810	CD-5 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	850.00	850		
11810	CH-1 Carpentry Tool Drawer 1 ERO N/A	**ERO**					
11810	CH-2 Flammable Cabinet (Green)(60-Gallons) 1 ERO N/A	**ERO**					
11810	CH-3 Flammable Cabinet (45-Gallons) 1 ERO N/A	**ERO**					
11810	CH-4 Parts Shelving (6' x 2') 3 N 12 40 00	**3**	ea	1,005.40	3,016		
11810	CM-1 Miter Saw with Stand 1 ERO N/A	**ERO**					
11810	CM-2 Saw Horse 1 ERO N/A	**ERO**					
11810	CM-3 Pallet Jack 1 ERO N/A	**ERO**					
11810	CM-4 Portable Table Saw 1 ERO N/A	**ERO**					
11810	CM-5 Portable Dust Collector 1 N 12 40 00	**1**	ea	1,280.00	1,280		
11810	CM-6 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	MA-1 5 Ton Bridge Crane 1 N 14 22 13	**1**	ea	185,000.00	185,000		
11810	MB-1 18k Mobile Column 6 N 14 45 00	**6**	ea	65,000.00	390,000		
11810	MB-2 20K 2 Post Lift 1 N 14 45 00	**1**	ea	38,000.00	38,000		
11810	MC-1 2-Drum Spill Pallet 2 ERO 11 11 29	**ERO**					
11810	MC-2 55-Gallon Drum 10 NIC N/A	**NIC**					
11810	MC-3 Waste Oil Caddy 1 ERO N/A	**ERO**					
11810	MC-4 Grease Cart 1 ERO N/A	**ERO**					
11810	MC-5-9 Fluid storage	**1**	ls	95,000.00	95,000		
11810	MC-5 600-Gallon Bulk Fluids Tank (300G 15W-40/180G 0W-30/120G 0W-20) 1 N	**1**	ea		inc above		
11810	MC-6 400-Gallon Waste Oil Tank 1 N 11 11 29	**1**	ea		inc above		
11810	MC-7 Wall Mounted Lube Pumps 3 N 11 11 29	**3**	ea		inc above		
11810	MC-8 Lube Reel Bank (0W-20, 0W-30, 15W-40, Electric Reel, 1/2" Air) 1 N 11 11	**1**	ea		inc above		
11810	MC-9 Fluid Storage Room Sump Alarm 1 N 11 11 29	**1**	ea		inc above		
11810	MD-1 Metal Worktop 1 ERO N/A	**ERO**					
11810	MD-2 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	MD-3 Steel Work Bench on Casters 2 N 12 40 00	**2**	ea	2,800.00	5,600		
11810	MD-4 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	950.00	950		
11810	MF-1 Torch Cart 1 ERO N/A	**ERO**					
11810	MF-2 Lincoln AC225 Arc Welder 1 ERO N/A	**ERO**					
11810	MF-3 Miller Millermatic 252 1 ERO N/A	**ERO**					
11810	MF-4 Metabo HPT Hammer Cart 1 ERO N/A	**ERO**					
11810	MF-5 Thermal Dynamics Welder 1 ERO N/A	**ERO**					
11810	MF-6 Lincoln Welden Power 1 ERO N/A	**ERO**					
11810	MF-7 Lincoln SP-170T Arc Welder 1 ERO N/A	**ERO**					
11810	MF-8 Drill Press 1 ERO N/A	**ERO**					
11810	MF-9 Shop Press 1 ERO N/A	**ERO**					
11810	MF-10 Portable Weld Fume Extractor 1 NIC N/A	**NIC**					
11810	MF-11 Welding Screen 2 NIC N/A	**NIC**					
11810	MF-12 Oxygen/Acetylene Tank Storage Cage 2 N 12 40 00	**2**	ea	1,303.50	2,607		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
11810	MG-1 Tire Changer 1 ERO N/A	**ERO**					
11810	MG-2 Tire Balancer 1 ERO N/A	**ERO**					
11810	MG-3 Tire Storage Rack 2 N 12 40 00	**2**		220.00	440		
11810	MH-1 Snap-on Tool Box 1 ERO N/A	**ERO**					
11810	MH-2 MAC Tools Blue Cart 1 ERO N/A	**ERO**					
11810	MH-3 Wooden Cabinet (Glass Window) 1 ERO N/A	**ERO**					
11810	MH-4 Windshield Wiper Blade Rack 1 ERO N/A	**ERO**					
11810	MH-5 Nuts and Bolts Storage 4 ERO N/A	**ERO**					
11810	MH-6 Flammable Cabinet (60-Gallons) 1 ERO N/A	**ERO**					
11810	MH-7 Metal Cabinet 1 N 12 40 00	**1**	ea	1,450.00	1,450		
11810	MH-8 Parts Shelving (6' x 2') 10 N 12 40 00	**10**	ea	1,005.40	10,054		
11810	MH-9 Parts Shelving (6' x 2') 2 N 12 40 00 Reserved for existing sliding drawers	**2**	ea	1,005.40	2,011		
11810	MM-1 Tall Jack Stand 1 ERO N/A	**ERO**					
11810	MM-2 Small Jack Stands 8 ERO N/A	**ERO**					
11810	MM-3 Floor Jack 1 ERO N/A	**ERO**					
11810	MM-4 Chop Saw on Cart 1 ERO N/A	**ERO**					
11810	MM-5 Snap-on Battery Charger 1 ERO N/A	**ERO**					
11810	MM-6 Chain Sharpener 1 ERO N/A	**ERO**					
11810	MM-7 Heated Carpet Extractor 1 ERO N/A	**ERO**					
11810	MM-8 Parts Washer 1 N 12 40 00	**1**	ea	2,500.00	2,500		
11810	MM-9 Pedestal Grinder 2 N 12 40 00	**2**	ea	559.90	1,120		
11810	MM-10 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	SD-1 Drafting Table 1 ERO N/A	**ERO**					
11810	SD-2 Computer Desk 1 N 12 40 00	**1**		506.00	506		
11810	SH-1 Hanging Vinyl Storage 1 ERO N/A	**ERO**					
11810	SH-2 Parts Shelving (6' x 2') 2 N 12 40 00	**2**		800.00	1,600		
11810	SM-1 Vinyl Express Printer 1 ERO N/A	**ERO**					
	Mezzanine Industrial Equipment Schedule						
11810	ME-1 Hose Clamp Rack 2 ERO N/A	**ERO**					
11810	ME-2 Hydraulic Hose Bins 1 ERO N/A	**ERO**					
11810	ME-3 Hydraulic Hose Chop Saw 1 ERO N/A	**ERO**					
11810	ME-4 Hydraulic Hose Crimper 1 ERO N/A	**ERO**					
11810	ME-5 Steel Work Bench on Casters 1 N 12 40 00	**1**	ea	2,800.00	2,800		
11810	ME-6 Hydraulic Hose Reel Rack 2 N 12 40 00	**2**	ea	836.00	1,672		
11810	ME-7 Hydraulic Vertical Storage Cabinet 1 N 12 40 00	**1**	ea	1,556.50	1,557		
11810	MH-9 Parts Shelving (6' x 2') 5 N 12 40 00	**5**	ea	0.00	-		
11810	MH-11 Pallet Rack Hanging Tool Storage 4 N 12 40 00	**4**	ea	176.00	704		
	Fleet Storage Industrial Equipment Schedule						
11810	MH-10 Cantilever Rack (Flat) 1 N 12 40 00	**1**	ea	2,310.00	2,310		
	Misc						
11810	Connect and or install ERO equipment	**200**	hrs	150.00	30,000		
	SUBTOTAL					785,924	
	TOTAL - INDUSTRIAL EQUIPMENT						***$785,924***
	B SITEWORK						
	Building Demolition						
02050	Demolish and remove buildings	**12,000**	sf	12.00	144,000		
02450	Haz-mat allowance	**1**	ls	50,000.00	50,000		
220000	Demo, cut and cap plumbing	**3**	ea	5,000.00	15,000		
230000	Demo, cut, cap and decommission HVAC	**3**	ea	5,000.00	15,000		
260000	Demo/make safe electrical	**3**	ea	5,000.00	15,000		
	SUBTOTAL					239,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Demo & Prep						
312000	Mobilization	**1**	ea	7,500.00	7,500		
311000	Site fencing, protection, barricades	**1**	ls	25,000.00	25,000		
311000	Stabilized Construction Entrance	**1**	ea	7,500.00	7,500		
312500	Compost filter tubes and silt fence	**1,500**	lf	18.00	27,000		
312500	Inlet protection	**2**	ea	250.00	500		
311000	Tree/stump removals	**27**	ea	500.00	13,500		
311000	Clear and grub	**23,500**	sf	0.90	21,150		
311000	Sawcut and remove paving & curbing	**36,200**	sf	0.85	30,770		
311000	Remove sand and gravel	**1,163**	cy	25.00	29,075		
311000	Remove sheds	**3**	ea	1,500.00	4,500		
311000	Remove flag pole and bollards	**1**	ls	2,500.00	2,500		
311000	Remove concrete walks, ramps, pads and misc items at building perimeter	**1**	ls	20,000.00	20,000		
311000	Remove drainage structures & piping	**2**	ea	3,500.00	7,000		
311000	Remove wells	**1**	ls	10,000.00	10,000		
311000	Remove septic systems	**2**	ea	10,000.00	20,000		
	SUBTOTAL					225,995	
	Earthwork						
312000	Strip topsoil	**600**	cy	15.00	9,000		
312000	Screen & Respread	**600**	cy	25.00	15,000		
312000	Site Cuts to Fills	**4,195**	cy	15.00	62,925		
312000	Remove unsuitable material under building	**3,704**	cy	30.00	111,120		
312000	Import structural fill under building	**3,704**	cy	60.00	222,240		
	Structural excavation and backfill						
312000	Import 12" subbase for under slabs	**674**	cy	60.00	40,440		
312000	E&E foundation footing and walls	**1,200**	cy	25.00	30,000		
312000	E&B foundation column footings	**400**	cy	25.00	10,000		
	SUBTOTAL					500,725	
	Paving and curbing						
321216	12" Dense Grade at paving and walks	**2,126**	cy	58.00	123,308		
321216	Asphalt pavement	**57,400**	sf	6.00	344,400		
321216	Patch roads and connections	**1**	ls	7,500.00	7,500		
321613	Granite curbs	**870**	lf	58.00	50,460		
321613	Bitum berm	**474**	lf	20.00	9,480		
	SUBTOTAL					535,148	
	Storm						
334000	CB	**9**	ea	6,500.00	58,500		
334000	DMH	**7**	ea	8,500.00	59,500		
334000	OCS	**4**	ea	12,500.00	50,000		
334000	SWTU	**3**	ea	15,000.00	45,000		
334000	FE	**2**	ea	3,500.00	7,000		
334000	HDPE piping	**650**	lf	100.00	65,000		
334000	Perimeter building roof drainage piping/boots	**450**	lf	45.00	20,250		
334000	Storm water infiltration system (E,B, prep and manifolds)	**5,400**	sf	40.00	216,000		
	SUBTOTAL					521,250	
	Water						
331000	8" FP DI water main	**600**	lf	125.00	75,000		
331000	4" Dom DI water	**10**	lf	85.00	850		
331000	Gates & valves	**8**	ea	1,500.00	12,000		
331000	Hydrants	**2**	ea	6,500.00	13,000		
331000	Water CTE	**1**	ea	5,000.00	5,000		
331000	Offsite water well & water main Allowance	**1**	ls	420,000.00	420,000		
	SUBTOTAL					525,850	
	Sanitary Septic						
333000	Septic system - two compartment 2,000 gal tanks, piping, 3 trenches and Nitogen removal	**1**	ls	200,000.00	200,000		
	SUBTOTAL					200,000	

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

29-May-25

Schematic Design Cost Estimate

GSF 22,140

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Improvements						
323100	28' Sliding entry gate and access key pad	**1**	ea	25,000.00	25,000		
323100	Parking signs	**8**	ea	250.00	2,000		
321213	Concrete walks	**400**	sf	14.00	5,600		
321213	Knockdown pad	**1,180**	sf	16.00	18,880		
03300	Concrete retaining walls	**50**	cy	950.00	47,500		
323100	20x20 blocks walls at storage bins	**1,425**	sf	65.00	92,625		
323100	Parking space lines, symbols and hatching	**17**	ea	250.00	4,250		
323100	6' wood stockade fence	**270**	lf	95.00	25,650		
05500	Site bollards	**43**	ea	800.00	34,400		
03300	Transformer Pad	**1**	ea	5,000.00	5,000		
03300	Generator Pad	**1**	ea	8,500.00	8,500		
312000	E&B Elec/communication duct banks	**260**	lf	55.00	14,300		
03300	Encase duct banks in concrete	**39**	cy	350.00	13,650		
	SUBTOTAL					297,355	
	Salt Shed						
312000	Earthwork, HMA interior paving	**2,880**	sf	15.00	43,200		
315000	Ground improvements	**2,880**	sf	25.00	72,000		
03300	Foundation and 7' perimeter walls	**104**	cy	950.00	98,800		
13200	Structure - fabric roof structure	**2,880**	sf	75.00	216,000		
260000	Electrical - lighting and power	**2,880**	sf	10.00	28,800		
	SUBTOTAL					458,800	
	Landscaping						
329000	Landscaping allowance	**1**	ls	75,000.00	75,000		
	SUBTOTAL					75,000	
	TOTAL - SITEWORK						***3,579,123***

New Department of Public Works Facility
Truro, Ma

Schematic Design Cost Estimate

29-May-25

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add Vehicle Wash Bay Finish & Equipment						
C30 INTERIOR FINISHES						
C3010 WALL FINISHES						
Wash bay - 1/2" PVC panels	**3,500**	sf	23.00	80,500		
Wash bay - AVB	**3,500**	sf	9.00	31,500		
Exterior wall framing and column wraps	**2,850**	sf	20.00	57,000		
SUBTOTAL					169,000	
C3020 FLOOR FINISHES						
SC - Sealed Concrete	**1,480**	sf	1.50	2,220		
SUBTOTAL					2,220	
C3030 CEILING FINISHES						
Exposed prefab decking and beams	**1,480**	sf	2.50	3,700		
SUBTOTAL					3,700	
TOTAL - INTERIOR FINISHES						***174,920***
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Plumbing	**1,480**	sf	30.00	44,400		
SUBTOTAL					44,400	
TOTAL - PLUMBING						***$44,400***
D30 HVAC						
D30 HVAC						
HVAC	**1,480**	sf	50.00	74,000		
SUBTOTAL					74,000	
TOTAL - HVAC						***$74,000***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**18**	ea	125.00	2,250		
Branch sprinkler piping with fittings & hangers	**216**	lf	38.00	8,208		
Main sprinkler piping with fittings & hangers	**20**	lf	60.00	1,200		
Hydraulic calculations, coordination and testing	**1**	ls	2,500.00	2,500		
SUBTOTAL					14,158	
TOTAL - FIRE PROTECTION						***$14,158***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures	**1,480**	sf	8.00	11,840		
Branch Circuitry	**1,480**	sf	5.00	7,400		
Lighting Control Devices	**1,480**	sf	1.50	2,220		
Power Wiring Devices	**1,480**	sf	3.00	4,440		
3/4" Emt, 4#12	**120**	lf	14.79	1,775		
1" Emt, 4#8	**100**	lf	22.64	2,264		
Manual Snap Switch Starter WP EF	**2**	ea	1,064.80	2,130		
60 Amp Disconnect HV	**1**	ea	1,833.15	1,833		
Fire Alarm System	**1,480**	sf	4.00	5,920		
Telecommunications System	**1,480**	sf	3.00	4,440		
Security Access Control System	**1,480**	sf	2.00	2,960		
CCTV Security System	**1,480**	sf	1.50	2,220		
Temp Power and Lighting	**1,480**	sf	1.00	1,480		
SUBTOTAL					50,922	
TOTAL - ELECTRICAL						***$50,922***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add Vehicle Wash Bay Finish & Equipment						
F10 INDUSTRIAL EQUIPMENT						
Manual high pressure wash and undercarriage wash	**1**	ls	250,000.00	250,000		
V-1 Manual Wash Pressure Plant 1 N 11 11 26	**1**	ea		*inc above*		
V-2 Manual Wash Control Panel 1 N 11 11 26	**1**	ea		*inc above*		
V-3 Festoons 2 N 11 11 26	**2**	ea		*inc above*		
V-4 Manual Wash On/Off Switch 2 N 11 11 26	**2**	ea		*inc above*		
V-5 Undercarriage Wash Pressure Plant 1 N 11 11 26	**1**	ea		*inc above*		
V-6 Undercarriage Wash Control Panel 1 N 11 11 26	**1**	ea		*inc above*		
V-7 Automatic Undercarriage Pre-Fab Trenches 2 N 11 11 26	**2**	ea		*inc above*		
V-8 Automatic Undercarriage photo Eye 2 N 11 11 26	**2**	ea		*inc above*		
V-9 Automatic Wheel Washers 1 N 11 11 26	**1**	ea		*inc above*		
V-10 Vehicle Wash Guide Rails 1 N 11 11 26	**1**	ea		*inc above*		
V-11 Vehicle Wash Soap drum 1 N 11 11 26	**1**	ea		*inc above*		
V-12 Undercarriage Wash Control Station 2 N 11 11 26	**2**	ea		*inc above*		
V-13 Vehicle Wash Pre-Treatment Tank (1500gal) 1 N 11 11 26	**1**	ea		*inc above*		
V-14 Mobile Platform 1 N 11 11 26	**1**	ea		*inc above*		
V-15 Loop Detector 2 N 11 11 26	**2**	ea		*inc above*		
V-16 Vehicle Wash Entry Traffic Light 1 N 11 11 26	**1**	ea		*inc above*		
V-17 Undercarriage Wash Status Light 1 N 11 11 26	**1**	ea		*inc above*		
SUBTOTAL					250,000	
TOTAL - INDUSTRIAL EQUIPMENT						***$250,000***
SUBTOTAL						***$608,400***
GENERAL CONDITIONS & REQUIREMENTS				14%		$85,176
GL INSURANCE				1.3%		$7,909
BONDS				1.8%		$10,951
GC - OVERHEAD & PROFIT				5%		$30,420
DESIGN AND PRICING CONTINGENCY				10%		$74,286
ESCALATION TO 1ST QUARTER 2026				5%		$40,857
OUTER CAPE PREMIUM				10%		$60,840
TARIFFS PREMIUM ALLOWANCE				3%		$18,252
TOTAL - ALTERNATE 1						***$937,091***

DESCRIPTION	QTY	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
2. Add Detached Canopy						
30' x 135' Storage Canopy						
Ground improvements	**4,050**	sf	25.00	101,250		
E&B foundation	**741**	cy	35.00	25,935		
Import underslab subbase	**150**	cy	60.00	9,000		
Foundation - footings and walls	**86**	cy	950.00	81,700		
8" slab on grade	**4,050**	sf	15.00	60,750		
PEMB frame, non insulated metal panels	**4,050**	sf	85.00	344,250		
4" CMU veneer	**780**	sf	60.00	46,800		
AVB	**780**	sf	9.00	7,020		
Lighting and power	4,050	sf	10.00	40,500		
Plumbing				NIC		
HVAC				NIC		
FP				NIC		
SUBTOTAL				717,205		
SUBTOTAL						***717,205***
GENERAL CONDITIONS & REQUIREMENTS			14%			$100,409
GL INSURANCE			1.3%			$9,324
BONDS			1.8%			$12,910
GC - OVERHEAD & PROFIT			5%			$35,860
DESIGN AND PRICING CONTINGENCY			10%			$87,571
ESCALATION TO 1ST QUARTER 2026			5%			$48,164
OUTER CAPE PREMIUM			10%			$71,721
TARIFF PREMIUM			3%			$21,516
TOTAL - ALTERNATE 2						***1,104,680***

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

DESCRIPTION	*QTY*	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
3. Add Rooftop Solar						
Solar Photovoltaic System	**142**	kw	2,950.00	418,900		
SUBTOTAL					418,900	
TOTAL						***$418,900***
SUBTOTAL						***$418,900***

GENERAL CONDITIONS & REQUIREMENTS	14%	$58,646
GL INSURANCE	1.3%	$5,446
BONDS	1.8%	$7,540
GC - OVERHEAD & PROFIT	5%	$20,945
DESIGN AND PRICING CONTINGENCY	10%	$51,148
ESCALATION TO 1ST QUARTER 2026	5%	$28,131
OUTER CAPE PREMIUM	10%	$41,890
TARIFF PREMIUM	3%	$12,567

TOTAL - ALTERNATE 3	***$645,213***

DESCRIPTION	QTY	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
4. Add Ground Source Heat Pump (GSHP) in lieu of ASHP						
Deduct base ASHP HVAC	**1**	ls	(1,759,245.00)	(1,759,245)		
Add closed loop GSHP HVAC						
Equipment	**22,140**	sf	32.00	708,480		
Geothermal Well Field	**22,140**	sf	22.00	487,080		
Sheet Metal	**22,140**	sf	23.72	525,161		
Piping	**22,140**	sf	9.02	199,703		
Insulation	**22,140**	sf	4.93	109,150		
Controls	**22,140**	sf	11.52	255,053		
Commissioning	**22,140**	sf	2.44	54,022		
Trade Requirements	**22,140**	sf	3.38	74,833		
Electrical						
1" Emt, 4#6	**750**	lf	25.37	19,028		
1 1/4" Emt, 4#2	**300**	lf	41.00	12,300		
2" Emt, 4 2/0	**(300)**	lf	61.79	(18,537)		
60 Amp Disconnect	**5**	ea	1,833.15	9,166		
100 Amp Disconnect	**2**	ea	1,936.00	3,872		
200 Amp Disconnect	**(2)**	ea	2,813.25	(5,627)		
Sitework						
Earthwork to support wells	**1**	ls	100,000.00	100,000		
SUBTOTAL					774,439	
SUBTOTAL						***774,439***
GENERAL CONDITIONS & REQUIREMENTS			14%			$108,421
GL INSURANCE			1.3%			$10,068
BONDS			1.8%			$13,940
GC - OVERHEAD & PROFIT			5%			$38,722
DESIGN AND PRICING CONTINGENCY			10%			$94,559
ESCALATION TO 1ST QUARTER 2026			5%			$52,007
OUTER CAPE PREMIUM			10%			$77,444
TARIFF PREMIUM			3%			$23,233
TOTAL - ALTERNATE 4						***1,192,833***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
GROSS FLOOR AREA CALCULATION						
Add 5,000 sf			**5,000**			
TOTAL GROSS FLOOR AREA				**5,000**	***gsf***	
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**152**	sf	18.00	2,736		
Re-bar	**540**	lbs	2.50	1,350		
Concrete material	**9**	cy	190.00	1,710		
Placing concrete	**9**	cy	40.00	360		
Foundation walls						
Formwork	**912**	sf	18.00	16,416		
Re-bar	**1,755**	lbs	2.50	4,388		
Concrete material	**27**	cy	190.00	5,130		
Placing concrete	**27**	cy	40.00	1,080		
Back up knee walls						
Formwork	**912**	sf	18.00	16,416		
Re-bar	**780**	lbs	2.50	1,950		
Concrete material	**12**	cy	190.00	2,280		
Placing concrete	**12**	cy	40.00	480		
Column footings						
Formwork	**48**	sf	18.00	864		
Re-bar	**225**	lbs	2.50	563		
Concrete material	**3**	cy	190.00	570		
Placing concrete	**3**	cy	40.00	120		
Piers						
Formwork	**32**	sf	18.00	576		
Re-bar	**75**	lbs	2.50	188		
Concrete material	**1**	cy	190.00	190		
Placing concrete	**1**	cy	40.00	40		
SUBTOTAL					57,407	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**5,000**	sf	2.00	10,000		
Reinforcing	**5,500**	sf	2.50	13,750		
Concrete - 8" thick	**132**	cy	190.00	25,080		
Placing concrete	**132**	cy	45.00	5,940		
Finishing and curing concrete	**5,000**	sf	1.65	8,250		
Control joints - saw cut	**5,000**	sf	0.50	2,500		
SUBTOTAL					65,520	
TOTAL - FOUNDATIONS						***$122,927***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**5,000**	sf	80.00	400,000		
SUBTOTAL					400,000	
TOTAL - SUPERSTRUCTURE						***$400,000***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						**$2,500**
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Plumbing - floor drains	**1**	ls	20,000.00	20,000		
SUBTOTAL					20,000	
TOTAL - PLUMBING						***$20,000***
D30 HVAC						
D30 HVAC						
HVAC	**5,000**	sf	30.00	150,000		
SUBTOTAL					150,000	
TOTAL - HVAC						***$150,000***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**56**	ea	125.00	7,000		
Branch sprinkler piping with fittings & hangers	**672**	lf	38.00	25,536		
Main sprinkler piping with fittings & hangers	**100**	lf	60.00	6,000		
Hydraulic calculations, coordination and testing	**1**	ls	5,000.00	5,000		
SUBTOTAL					43,536	
TOTAL - FIRE PROTECTION						***$43,536***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures	**5,000**	sf	7.00	35,000		
Branch Circuitry	**5,000**	sf	5.00	25,000		
Lighting Control Devices	**5,000**	sf	1.00	5,000		
Power Wiring Devices	**5,000**	sf	2.00	10,000		
Motor Feeders	**5,000**	sf	2.00	10,000		
Motor Disconnects	**5,000**	sf	1.00	5,000		
Fire Alarm System	**5,000**	sf	4.00	20,000		
Security Access Control System	**5,000**	sf	2.00	10,000		
CCTV Security System	**5,000**	sf	1.50	7,500		
Temp Power and Lighting	**5,000**	sf	1.00	5,000		
SUBTOTAL					132,500	
TOTAL - ELECTRICAL						***$132,500***
B SITEWORK						
Structural excavation and backfill						
Over excavate foundation footprint and export	**741**	cy	30.00	22,230		
Import structural fill	**185**	cy	60.00	11,100		
Import 12" subbase for under slabs	**185**	cy	60.00	11,100		
Backfill foundation footing and walls	**74**	cy	25.00	1,850		
Backfill foundation column footings	**15**	cy	25.00	375		
SUBTOTAL					46,655	
TOTAL - SITEWORK						***46,655***
SUBTOTAL						***$918,118***

GENERAL CONDITIONS & REQUIREMENTS	12%	$110,174
GL INSURANCE	1.3%	$11,936
BONDS	1.8%	$16,526
GC - OVERHEAD & PROFIT	5%	$45,906
DESIGN AND PRICING CONTINGENCY	10%	$110,266
ESCALATION TO 1ST QUARTER 2026	3%	$36,388
OUTER CAPE PREMIUM	10%	$91,812
TARIFF PREMIUM	3%	$27,544

TOTAL - ALTERNATE 5	***$1,368,670***

Appendix E

Certified Abutters List

RECEIVED
OCT 15 2025
ASSESSOR'S OFFICE
TOWN OF TRURO

TOWN OF TRURO

Assessors Office
Certified Abutters List
Request Form

DATE: October 15, 2025

NAME OF APPLICANT: Jarrod Cabral (Truro DPW Director)

NAME OF AGENT (if any): Della Donahue (Weston & Sampson)

MAILING ADDRESS: 100 Foxborough Blvd, Suite 250, Foxborough, MA 02035

CONTACT: HOME/CELL 508-203-4231 **EMAIL** donahue.della@wseinc.com

PROPERTY LOCATION: 17 Town Hall Road, Truro, MA 02666
(street address)

PROPERTY IDENTIFICATION NUMBER: MAP 46 **PARCEL** 269 **EXT.** _____
(*if condominium*)

ABUTTERS LIST NEEDED FOR:
(*please check **all** applicable*)

FEE: $15.00 per checked item
(*Fee must accompany the application unless other arrangements are made*)

X Board of Health[5]	Planning Board (PB)	Zoning Board of Appeals (ZBA)
___ Cape Cod Commission	___ Special Permit[1]	___ Special Permit[1]
___ Conservation Commission[4]	X Site Plan[2]	X Variance[1]
___ Licensing	___ Preliminary Subdivision[3]	
Type: _____	___ Definitive Subdivision[3]	

___ Other _____ ***(Fee: Inquire with Assessors)***
(*Please Specify*)

Note: Per M.G.L., processing may take up to 10 calendar days. Please plan accordingly.

THIS SECTION FOR ASSESSORS OFFICE USE ONLY

Date request received by Assessors: 10/15/2025 Date completed: 10/15/2025

List completed by: Laura Geiges Date paid: n/a Cash/Check n/a

[1]Abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line.

[2]Abutters to the subject property, abutters to the abutters, and owners of properties across the street from the subject property.

[3]Landowners immediately bordering the proposed subdivision, landowners immediately bordering the immediate abutters, and landowners located across the streets and ways bordering the proposed subdivision. Note: For Definitive Subdivision only, responsibility of applicant to notify abutters and produce evidence as required.

[4]All abutters within 300 feet of parcel, except Beach Point between Knowles Heights Road and Provincetown border, in which case it is all abutters within 100 feet. Note: Responsibility of applicant to notify abutters and produce evidence as required.

[5]Abutters sharing any boundary or corner in any direction – including land across a street, river or stream. Note: Responsibility of applicant to notify abutters and produce evidence as required.

TRURO ASSESSORS OFFICE
PO Box 2012 Truro, MA 02666
Telephone: (508) 214-0921
Fax: (508) 349-5506

Date: October 15, 2025

To: Weston & Sampson

From: Assessors Department

Certified Abutters List: 17 Town Hall Road (Map 46 Parcel 269)

Planning Board – Site Plan

Attached is a combined list of abutters for 17 Town Hall Road (Map 46 Parcel 269). The current owner is the Town of Truro.

The names and addresses of the abutters are as of Oct 10, 2025 according to the most recent documents received from the Barnstable County Registry of Deeds.

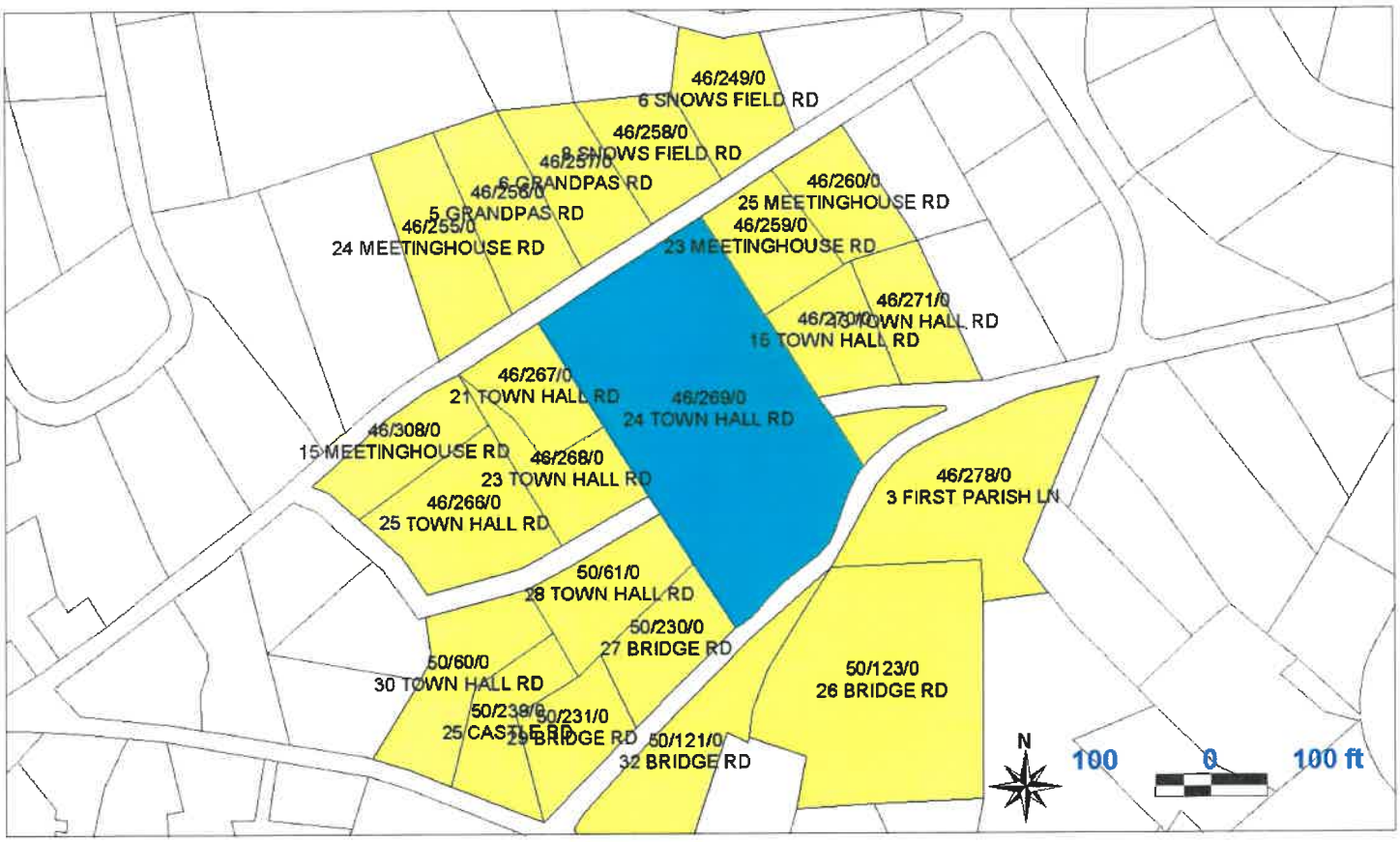
Certified by: _____

Laura Geiges
Assistant Assessor / Data Collector

17 Town Hall Road
Map 46 Parcel 269
Planning Board - Site Plan

TOWN OF TRURO, MA
BOARD OF ASSESSORS
P.O. BOX 2012, TRURO MA 02666

Custom Abutters List



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2466	46-249-0-R	REVOC TRST OF RICHARD H MORSE TRS: RICHARD H MORSE	6 SNOWS FIELD RD	2405 WEST 17TH STREET	WILMINGTON	DE	19806
2472	46-255-0-E	TRURO CONSERVATION TRUST TRS: TOM BOW, ET AL	24 MEETINGHOUSE RD	PO BOX 327	NO TRURO	MA	02652
2473	46-256-0-R	COLLINGS HARRY & MOON DANIEL B	5 GRANDPAS RD	326 DARTMOUTH STREET UNIT 5-7	BOSTON	MA	02116
2474	46-257-0-R	FADER PAUL & LAURIE K BROWN	6 GRANDPAS RD	875 NO WAKONDA ST	FLAGSTAFF	AZ	86004
2475	46-258-0-R	ZIMMAN MICHAEL A & ROVNER ELLEN B	8 SNOWS FIELD RD	315 HIGHLAND AVE #303	SOMERVILLE	MA	02144
2476	46-259-0-R	DUNCOMBE STEPHEN R & RAILLA JEAN A	23 MEETINGHOUSE RD	110 BLEECKER ST #20D	NEW YORK	NY	10012-2105
2477	46-260-0-R	JACKSON NEIL & MARCELLA L	25 MEETINGHOUSE RD	30 MOUNTAIN VIEW DR	BELCHERTOWN	MA	01007
2483	46-266-0-R	GABEL CAROLYN & C/O TOWN HALL ROAD PARTNERS LL	25 TOWN HALL RD	11 COBBS RD	WEST HARTFORD	CT	06107
2484	46-267-0-R	CHRISTIAN TIMOTHY F & NATSUMI	21 TOWN HALL RD	35 SHADOW LN	LARCHMONT	NY	10538
2485	46-268-0-R	HELEN TALBOT MILLER TRUST & GABEL CAROLYN	23 TOWN HALL RD	11 COBBS RD	W HARTFORD	CT	06107
2487	46-270-0-R	MELANDER JOAN & JACQUELINE J	15 TOWN HALL RD	PO BOX 1092	TRURO	MA	02666
2488	46-271-0-R	NAGY ERIC S & NAGY TIMOTHY P	13 TOWN HALL RD	2323 WHIPPOORWILL ROAD	CHARLOTTESVILLE	VA	22901
2494	46-277-0-E	TOWN OF TRURO	20 TOWN HALL RD	PO BOX 2030	TRURO	MA	02666-2030
2495	46-278-0-E	FIRST CONGREGATIONAL PARISH	3 FIRST PARISH LN	PO BOX 149	TRURO	MA	02666-0905
2517	46-308-0-R	KEN FIELD TRUST TRS: KENNETH D FIELD	15 MEETINGHOUSE RD	108 PLEASANT ST, UNIT 3	CAMBRIDGE	MA	02139

LG 10/15/25

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2844	50-60-0-R	COLLIER PAUL & BALANDIS STEFANIE	30 TOWN HALL RD	30 INMAN ST UNIT D	CAMBRIDGE	MA	02139
2845	50-61-0-R	FROHN STEPHEN M ESTATE OF c/o JOHN FROHN III	28 TOWN HALL RD	15 SILVER ST	NORWOOD	MA	02062
2900	50-121-0-R	SNELL MICHAEL & PATRICIA ANN	32 BRIDGE RD	PO BOX 655	TRURO	MA	02666-0655
2902	50-123-0-E	TOWN OF TRURO	26 BRIDGE RD	PO BOX 2030	TRURO	MA	02666-2030
2997	50-230-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	27 BRIDGE RD	PO BOX 144	TRURO	MA	02666
2998	50-231-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	29 BRIDGE RD	22 BOYNTON ST	LYNN	MA	01904
3006	50-239-0-R	DICKEY THOMAS R & NEWTON LYNNE	25 CASTLE RD	PO BOX 903	TRURO	MA	02666-0903

LG 10/15/25

46-249-0-R

REVOC TRST OF RICHARD H MORSE
TRS: RICHARD H MORSE
2405 WEST 17TH STREET
WILMINGTON, DE 19806

46-255-0-E

TRURO CONSERVATION TRUST
TRS: TOM BOW, ET AL
PO BOX 327
NO TRURO, MA 02652

46-256-0-R

COLLINGS HARRY & MOON DANIEL B
326 DARTMOUTH STREET
UNIT 5-7
BOSTON, MA 02116

46-257-0-R

FADER PAUL & LAURIE K BROWN
875 NO WAKONDA ST
FLAGSTAFF, AZ 86004

46-258-0-R

ZIMMAN MICHAEL A &
ROVNER ELLEN B
315 HIGHLAND AVE #303
SOMERVILLE, MA 02144

46-259-0-R

DUNCOMBE STEPHEN R &
RAILLA JEAN A
110 BLEECKER ST #20D
NEW YORK, NY 10012-2105

46-260-0-R

JACKSON NEIL & MARCELLA L
30 MOUNTAIN VIEW DR
BELCHERTOWN, MA 01007

46-266-0-R

GABEL CAROLYN &
C/O TOWN HALL ROAD PARTNERS LL
11 COBBS RD
WEST HARTFORD, CT 06107

46-267-0-R

CHRISTIAN TIMOTHY F & NATSUMI
35 SHADOW LN
LARCHMONT, NY 10538

46-268-0-R

HELEN TALBOT MILLER TRUST &
GABEL CAROLYN
11 COBBS RD
W HARTFORD, CT 06107

46-269-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-270-0-R

MELANDER JOAN & JACQUELINE J
PO BOX 1092
TRURO, MA 02666

46-271-0-R

NAGY ERIC S & NAGY TIMOTHY P
2323 WHIPPOORWILL ROAD
CHARLOTTESVILLE, VA 22901

46-277-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-278-0-E

FIRST CONGREGATIONAL PARISH
PO BOX 149
TRURO, MA 02666-0905

46-308-0-R

KEN FIELD TRUST
TRS: KENNETH D FIELD
108 PLEASANT ST, UNIT 3
CAMBRIDGE, MA 02139

50-60-0-R

COLLIER PAUL &
BALANDIS STEFANIE
30 INMAN ST UNIT D
CAMBRIDGE, MA 02139

50-61-0-R

FROHN STEPHEN M ESTATE OF
c/o JOHN FROHN III
15 SILVER ST
NORWOOD, MA 02062

50-121-0-R

SNELL MICHAEL & PATRICIA ANN
PO BOX 655
TRURO, MA 02666-0655

50-123-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

50-230-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
PO BOX 144
TRURO, MA 02666

50-231-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
22 BOYNTON ST
LYNN, MA 01904

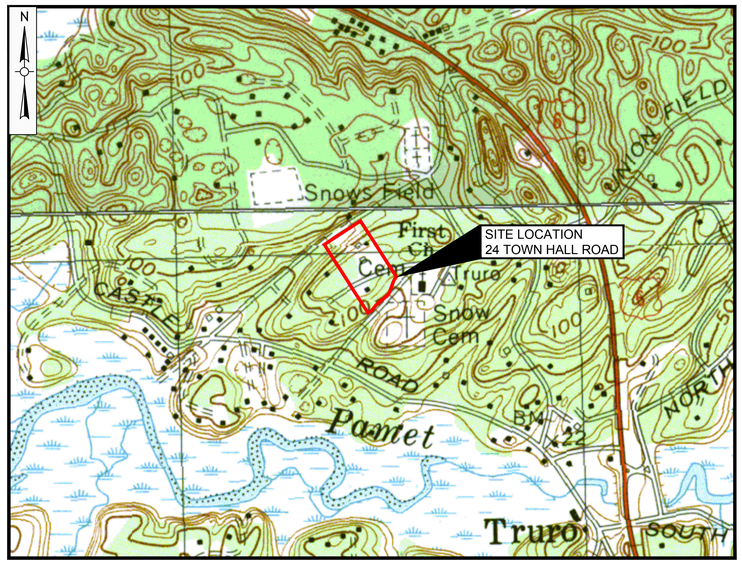
50-239-0-R

DICKEY THOMAS R & NEWTON LYNNE
PO BOX 903
TRURO, MA 02666-0903

LG 10/15/25

Appendix F

Project Site & Building Plans



LOCUS MAP

SCALE: 1" = 500', NORTH AMERICAN DATUM 27 (NAD27)

TOWN OF TRURO, MASSACHUSETTS

NEW DEPARTMENT OF PUBLIC WORKS FACILITY

PLANNING BOARD SITE PLAN REVIEW

ALYSSA K. PECK CIVIL No. 49074 REGISTERED PROFESSIONAL ENGINEER
10-16-25

OCTOBER 16, 2025
ISSUED FOR PERMITTING ONLY
-NOT FOR CONSTRUCTION-

24 TOWN HALL ROAD
TRURO, MA 02666

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE
1	C000	COVER SHEET
2	C001	GENERAL NOTES & LEGEND
3	C101	EXISTING CONDITIONS PLAN I
4	C101	EXISTING CONDITIONS PLAN II
5	C201	SITE PREPARATION & EROSION CONTROL/ DEMOLITION PLAN
6	C301	SITE LAYOUT & MATERIALS PLAN
7	C401	GRADING & DRAINAGE PLAN
8	C501	UTILITY PLAN
9	C601	SITE DETAILS I
10	C602	SITE DETAILS II
11	C603	SITE DETAILS III
12	C604	SITE DETAILS IV
13	C605	SITE DETAILS V
14	C606	SITE DETAILS VI
15	C607	SITE DETAILS VII
16	GT100	GEOTHERMAL WELL DETAILS
17	LC001	SITE PHOTOMETRIC CALCULATION - BASE BID
18	LC002	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1
19	LC003	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1 & #2
20	LC004	PHOTOMETRIC DETAILS AND SCHEDULES
21	A101	OVERALL FLOOR PLAN - BASE
22	A101A	OVERALL FLOOR PLAN - BID ALT 1
23	A102	OVERALL MEZZANINE PLAN - BASE
24	A102A	OVERALL MEZZANINE PLAN - BID ALT 1
25	A106	BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS
26	A201	EXTERIOR ELEVATIONS - BASE
27	A201A	EXTERIOR ELEVATIONS - BID ALT 1
28	A231	EXTERIOR 3D VIEWS - BASE
29	A1011	SALT SHED PLANS & ELEVATIONS

PARKING SUMMARY TABLE

	PARKING REQUIRED PER ZONING REGS	PARKING REQUIRED PER STAFFING COUNTS	PARKING PROVIDED
DPW	27	27	27

PARKING CALCULATIONS:

1. EXISTING PARKING COUNT = 27 SPACES
2. PROPOSED DPW SQUARE FOOTAGE:
   - TOTAL BUILDING GSF: 23,520 SF
   - **ADMIN/OFFICE/SHOP AREA ONLY GSF: 4,550 SF**
3. PROPOSED DPW = 1 space per employee maximum shift, plus1 space per each 3 seats in area of public assembly [30.9.8]
   - 27 SPACES PROVIDED
   - DPW STAFF COUNT = 27 (3 ADMIN, 9 DPW STAFF, 3 TRANSFER STATION STAFF, 12 CONTRACTOR SPACES)

521 CMR 23.2.1 REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES

1. PROPOSED DPW:
   - 27 TOTAL SPACES PROVIDED
   - 2 ACCESSIBLE SPACES PROVIDED [2 REQUIRED FOR (26-50)]

ZONING DIMENSIONAL TABLE

Zoning District: R - Residential

DIMENSION	Required	Existing	Proposed
Min. Lot Frontage (ft.)	33,750	5.14 Acres	5.14 Acres
Min. Lot Frontage (ft.)	150	355	355
Min. Front Yard (ft.) (To Town Hall Road)	25	88.4	33.6
Min. Side Yard (ft.)	25	29.0	25.2
Max.Building Height (ft.)	2 stories, 30	n/a	33'-5 ½"

LOT COVERAGE TABLE

	EXISTING		PROPOSED	
Area Description	**Area (sf)**		**Area (sf)**	
DPW				
Buildings	11,892		30,446	
Pavement*	38,579		55,256	
Gravel	31,180		0	
Concrete Sidewalk	0		420	
Concrete Pads	500		2,399	
Fuel Island	1,077		1,077	
DPW TOTAL	**83,229**		**89,599**	
Town Hall (Town Hall is not included in the limit of work)				
Buildings	4,405		4,405	
Pavement	8,072		8,072	
Brick Sidewalk	1,751		1,751	
Concrete Pads	228		228	
Town Hall TOTAL	**14,457**		**14,457**	
PARCEL TOTAL	**97,685**	**43.71%**	**104,055**	**46.56%**
Total Parcel Area (sf)	**223,506**			

*DPW Pavement includes the pavement within Town Hall Road.

Weston & Sampson SM

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035

APPLICANT:

JARROD CABRAL, DPW DIRECTOR
17 TOWN HALL ROAD
TRURO, MA 02666-2030

OWNER:
TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

File No.
ENG24-1552

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\\westoncad\WMS_Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\C000 COVER.dwg

GENERAL NOTES

1. THE INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC. THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
6. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
7. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
8. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
9. ALL WORK SHOWN ON THE PLANS AS BOLD SHALL REPRESENT PROPOSED WORK. THE TERM "PROPOSED (PROP)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)", OR REMOVE, RELOCATE, RESET, (R,R&R).
10. ALL KNOWN EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND ARE INDICATED ON THE PLANS.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
12. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
13. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
14. EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
15. TREES AND SHRUBS WITHIN THE LIMITS OF WORK SHALL BE REMOVED ONLY UPON THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
16. NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
17. THE CONTRACTOR SHALL REMOVE ALL SURFACE VEGETATION PRIOR TO GRADING THE SITE. TEMPORARY EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS (INCLUDING SILT FENCE AND COMPOSITE FILTER TUBES) SHALL BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT WHICH COST SHALL BE INCIDENTAL TO THE PROJECT.
18. ALL SURPLUS AND/OR UNSUITABLE MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 02 61 00.16 - HANDLING, TRANSPORTATION, REUSE AND OFF-SITE DISPOSAL OF EXCAVATED MATERIAL. SUITABLE SOIL EXCAVATION AS PART OF THE PROJECT MUST MEET ONE OR MORE OF THE MATERIAL REQUIREMENTS SPECIFIED IN 31 00 00 - EARTHWORK. ON-SITE FILL MATERIALS, WHICH DO NOT CONFORM TO SECTION 31 00 00, SHALL NOT BE USED BELOW ANY STRUCTURES. IF THE CONTRACTOR PROPOSES TO USE THE EXISTING FILL ON SITE BELOW PAVEMENT AREAS, OR FOR THE EARTHEN BERM, IT MUST BE DEMONSTRATED THAT THE FILL MEETS THE REQUIREMENTS PER 31 00 00. ALL EXCAVATED FILL MATERIAL WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH SECTION 02 61 00.16.
19. CONTRACTOR IS RESPONSIBLE FOR STAKING CONSTRUCTION BASELINES IN FIELD. NO CONSTRUCTION WILL BE PERFORMED WITHOUT THE PROPOSED BASELINES AND LAYOUTS APPROVED BY THE ENGINEER.
20. NO FILL SHALL CONTAIN HAZARDOUS MATERIALS.
21. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND PERIMETER OF WORK AREA (LIMIT OF WORK). FENCE SHALL NOT IMPEDE TRAVEL WAYS.
22. ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
23. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
24. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
25. THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND SIDEWALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
26. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
27. CONTRACTOR SHALL DEWATER AS NECESSARY TO PERFORM THE PROPOSED WORK. SEE SPECIFICATION SECTION 00 31 32 SUBSURFACE DATA).
28. THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD PRIOR TO THE START OF SITE CLEARING OR CONSTRUCTION.
29. DEEP SUMP CATCH BASINS AND STORMWATER BASIN SHALL BE CLEANED FOLLOWING CONSTRUCTION AND SHALL FOLLOW THE OPERATION AND MAINTENANCE PLAN THEREAFTER.
30. HAULING OF EARTH MATERIALS TO AND FROM THE SITE SHALL BE RESTRICTED TO THE HOURS OF 7 AM TO 4 PM MONDAY THROUGH FRIDAY.
31. ANY BOULDERS 3 CY OR SMALLER SHALL BE CONSIDERED UNDOCUMENTED FILL AND SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE TOWN.
32. WORK ON SATURDAYS SHALL ONLY BE CONDUCTED IF PRIOR WRITTEN PERMISSION IS PROVIDED BY THE OWNER.
33. THE TERM "AS DIRECTED" AS USED IN THE CONTRACT DRAWINGS SHALL BE REPLACED WITH "AS REQUIRED".

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE TOWN OF TRURO WETLANDS PROTECTION REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
5. ALL CATCH BASINS, DRAIN GRATES, AND CURB INLETS WITHIN OR ADJACENT TO THE PROJECT LIMITS SHALL BE PROTECTED WITH INLET SEDIMENT CONTROL DURING THE ENTIRE DURATION OF CONSTRUCTION.
6. SEDIMENT CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
7. ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
8. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
9. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC/PRIVATE ROADS.

GRADING, UTILITIES & DRAINAGE NOTES

1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE TOWN OF TRURO.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED GRAVEL SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
5. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
6. ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF PERCENT (1.5%) AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 5% MAX.
7. MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.
8. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
9. THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
10. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
11. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
12. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
13. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
14. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.
15. FOR STRUCTURE REMODELING (REMOD), CONSTRUCTION METHODS SHALL FOLLOW MASSACHUSETTS DOT STANDARD SPEC. LATEST EDITION (SECTION 220).

DEMOLITION & SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
3. UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL OR CRUSHED AND PROCESSED ROCK IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW. RE-USE OF ON-SITE MATERIALS SHALL BE EVALUATED ON A CASE-BY-CASE BASIS BY THE GEOTECHNICAL ENGINEER.
7. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
8. 'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
9. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
12. THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LAYOUT & MATERIALS NOTES

1. REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEETS C100 & C101).
2. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
3. ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY OWNER".
4. THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
5. THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 521, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
6. ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
7. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
11. THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED
12. ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO LOAM BORROW AND HYDROMULCH SEEDED LAWN.
13. REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
CB	CB	CATCH BASIN
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		WETLAND
WG	WG	WATER GATE
PM	PM	PARKING METER
	OH	OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
	D	UNDERGROUND DRAIN PIPE
	E	UNDERGROUND ELECTRIC DUCT
	G	UNDERGROUND GAS MAIN
	S	UNDERGROUND SEWER MAIN
	T T	UNDERGROUND TELEPHONE DUCT
	W	UNDERGROUND WATER MAIN
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
X X X		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49974
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
PERMITTING
NOT RELEASED FOR CONSTRUCTION

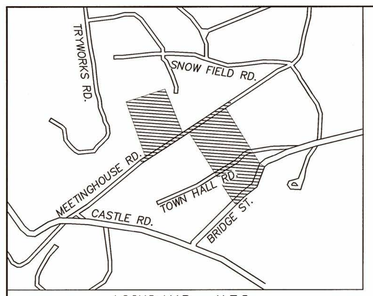
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Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:
GENERAL NOTES & LEGEND

Sheet Number:
C001

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LOCUS MAP – N.T.S.

MASS STATE PLANE (NAD83)

PLAN REFERENCES:

PB 174 PG 83
PB 174 PG 85
PB 213 PG 45
PB 215 PG 69
PB 316 PG 60
PB 368 PG 100
PB 378 PG 19
PB 551 PG 12

NOTES:

1) THE INFORMATION SHOWN HEREON IS BASED ON AN ON–THE–GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC.

2) THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK.

3) THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK. DIFFERENTIAL LEVELING WAS PERFORMED BETWEEN THE BENCHMARKS SHOWN HERON AND SELECT ALPHA SURVEY CONTROL POINTS UTILIZING A SOKKIA DIGITAL LEVEL & BAR–CODED ROD.

5) THE SUBJECT PREMISES DOES NOT LIE WITHIN A FEMA FLOOD ZONE BASED UPON FLOOD INSURANCE RATE MAP NUMBERS 25001C0231J WITH AN EFFECTIVE DATE OF 7/16/2014.

6) THE PROPERTY LINES SHOWN HEREON ARE BASED ON CITED PLANS AND DEEDS AND AN ON–THE–GROUND SURVEY. THE BOUNDARIES WERE ESTABLISHED UTILIZING PRIMACODE'S TRANSFORM PROGRAM TO OBTAIN A "BEST FIT" TO MONUMENTS LOCATED IN THE FIELD.

7) THIS PLAN AND THE ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWN ASSESSOR'S RECORDS. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE ABSTRACT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.

8) TOPOGRAPHICAL CONTOURS SHOWN ON 22 & 24 MEETING HOUSE RD. TAKEN FROM 2021 USGS LIDAR: CENTRAL EASTERN MASSACHUSETTS..

UTILITY NOTES:

1) UTILITIES SHOWN HEREON ARE DERIVED FROM RECORD PLANS AND FIELD OBSERVATIONS MADE BY ALPHA SURVEY BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024.

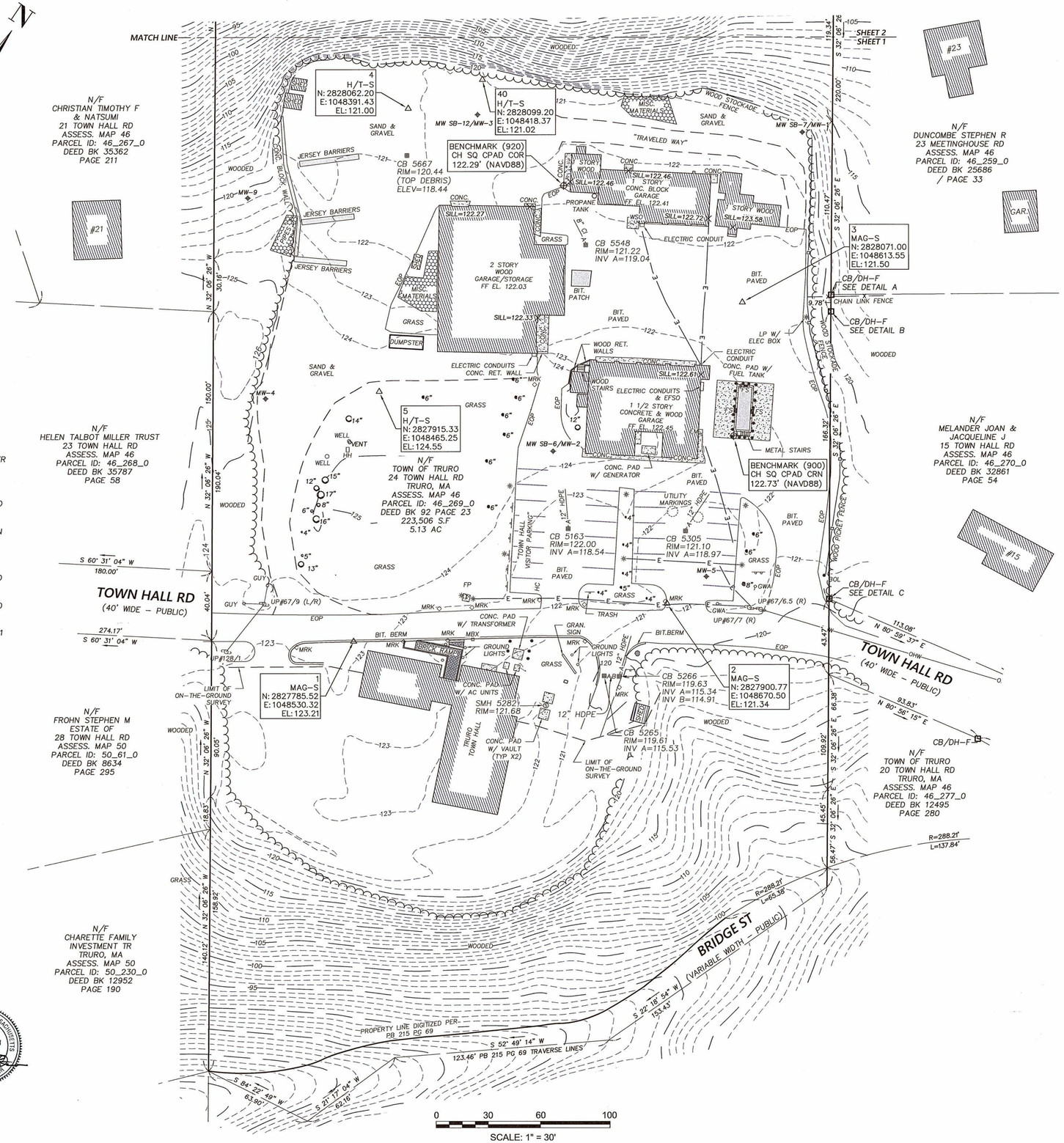
2) ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

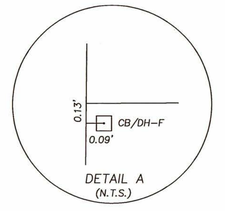
3) UTILITY RESPONSES HAVE NOT BEEN RECEIVED FOR:
BARNSTABLE COUNTY IT
EVERSOURCE FIBER

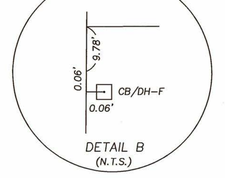
COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

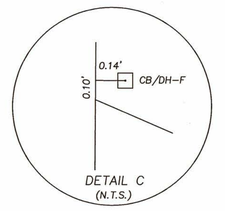
James E. Peterson
REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/04/24
DATE









DRAWING LEGEND

WATER SHUT OFF	WSO
ELECTRIC METER	E
UTILITY POLE	
GUY WIRE ANCHOR	GUY
SEWER MANHOLE	S
CATCH BASIN	
HAND HOLE	HH
HYDRANT	
BOLLARD	
LIGHT POLE	
FLOODLIGHT	
TREE (SIZE INCHES)	
MONITORING WELL	MW#
GAS LINE	G
TELEPHONE LINE	T
DRAIN LINE	D
SEWER LINE	S
ELECTRIC LINE	E
WATER LINE	W
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X
TREELINE	
RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
SPOT GRADE	X 100.00
FOUND	–F
RECORD	(R)
STONE BOUND	SB
CONCRETE BOUND	CB
DRILL HOLE	DH
IRON PIPE	IP
IRON ROD	IR
PARKER–KALON NAIL	PK
MAG NAIL	MAG
BENCHMARK	
TRAVERSE (CONTROL) POINT	
SIGN	
REFLECTIVE ROAD MARKER	MRK
SPLICE BOX	SBOX
EMERGENCY FUEL SHUT OFF	EFSO
FUEL SERVICE PUMP	FS
FLAG POLE	FP

DATE	REVISION
11–21–2024	REVISED TO UPDATE MONITORING WELL DESIGNATIONS
12–04–2024	REVISED TO ADD ADDITIONAL MW LOCATIONS

SCALE 1"=30' | DRAWN GA/LB | FIELD PP/KG | CHECKED JEP

PREPARED BY
ALPHA SURVEY GROUP, LLC
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MIDDLEBOROUGH, MA 02346
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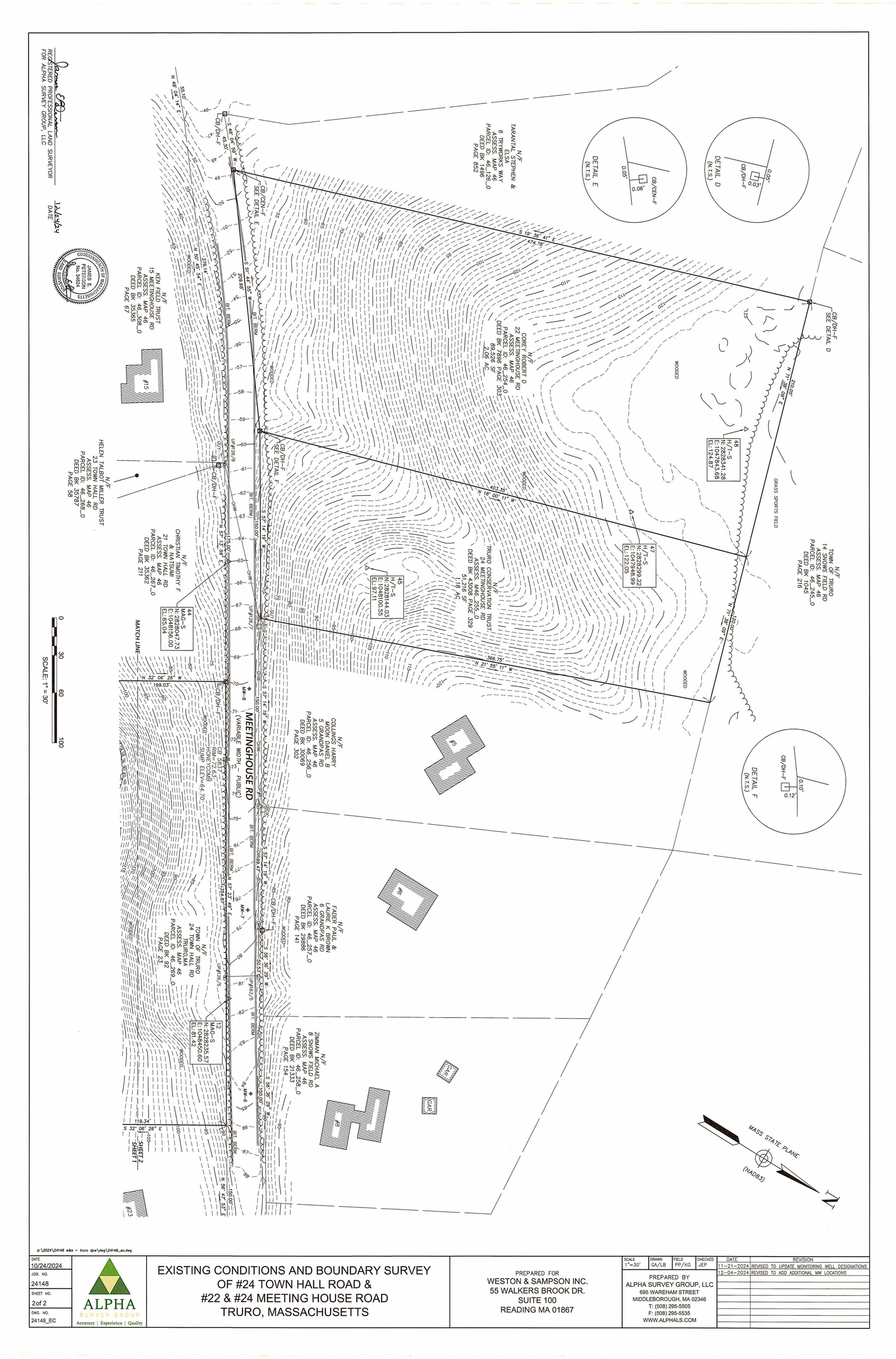
PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

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DATE	JOB. NO.	SHEET NO.	DWG. NO.
10/24/2024	24148	1of 2	24148_EC



REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/4/24
DATE

COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

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DATE	10/24/2024
JOB. NO.	24148
SHEET NO.	2of 2
DWG. NO.	24148_EC

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD & #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

SCALE	DRAWN	FIELD	CHECKED
1"=30'	GA/LB	PP/KG	JEP

PREPARED BY
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DATE	REVISION
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SITE NOTES

1. ALL EXISTING PIPES TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION SECTION 02 41 13.29 "ABANDONMENT OF SEWER AND DRAINS."
2. ALL EXISTING UTILITIES, PIPES, STRUCTURES, OBSERVATION WELLS, ETC. SHALL BE ABANDONED AS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL COORDINATE REMOVAL OF MATERIAL STOCKPILES WITH THE TRURO DPW. TOWN SHALL REMOVE MATERIAL STOCKPILES IN ADVANCE OF THE WORK.
4. ALL UTILITIES AND DRAINAGE STRUCTURES BELOW PROPOSED FOOTPRINT OF BUILDINGS MUST BE REMOVED IN THEIR ENTIRETY.
5. REMOVAL OF CONCRETE WALLS SHALL INCLUDE ALL ASSOCIATED FOUNDATIONS.
6. UTILITIES FOR SITE AMENITIES INCLUDING LIGHT POLES AND BUILDINGS SCHEDULED TO BE DEMOLISHED SHALL BE DISCONNECTED AND MADE SAFE AT THE POWER SOURCE BY THE ELECTRICAL FILED SUB-BIDDER. SITE CONTRACTOR TO REMOVE AMENITIES INCLUDING THE DISCONNECTED UTILITIES FEEDING THE AMENITIES.
7. ALL VOIDS CREATED BY REMOVAL OF EXISTING ELEMENTS SHALL BE BACKFILLED WITH GRAVEL BORROW IN ACCORDANCE WITH 31 00 00 EARTHWORK.
8. CONTRACTOR SHALL BE AWARE THAT THE EXISTING LIMIT OF BITUMINOUS CONCRETE IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LIMITS PRIOR TO BIDDING. ALL EXISTING BITUMINOUS CONCRETE SHALL BE REMOVED TO COMPLETE THE PROPOSED WORK WITHOUT ADJUSTMENT TO COMPENSATION.
9. SEDIMENTATION CONTROL DEVICES WITHIN THE TOWN'S RIGHT OF WAY, MUST BE MAINTAINED, INSPECTED, CLEANED AND REPLACED AS NECESSARY TO PREVENT POSSIBLE FLOODING ISSUES DURING RAIN EVENTS. ONCE ALL WORK IS DONE, ANY SEDIMENTATION CONTROL DEVICES MUST BE REMOVED BY THE CONTRACTOR AS SOON AS POSSIBLE.
10. CONTRACTOR SHALL CORDON OFF THE INFILTRATION POND AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILES MATERIALS FROM COMPACTING THE SUBGRADE SOILS. SEE PLAN C401 GRADING & DRAINAGE PLAN FOR POND LOCATION.
11. CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS TO ENSURE CONTINUOUS OPERATION OF THE EXISTING FUEL ISLAND AND COORDINATE ANY CONSTRUCTION ACTIVITIES THAT MIGHT TEMPORARILY INTERFERE WITH OPERATION WITH THE TOWN.

SITE PREPARATION LEGEND

- STABILIZED CONST ENTRANCE
- STRUCTURES TO BE DEMOLISHED AND REMOVED FROM SITE
- GRAVEL SURFACE TO BE REMOVED
- PAVEMENT TO BE REMOVED
- LIMITS OF TREE CLEARING
- EXISTING BUILDING/STRUCTURE TO REMAIN
- TEMPORARY CONSTRUCTION FENCE
- SILT FENCE
- COMPOST FILTER TUBING
- LIMIT OF WORK
- TREE REMOVAL
- INLET PROTECTION



0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49974
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:

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Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:

SITE PREPARATION AND EROSION CONTROL PLAN & DEMOLITION PLAN

Sheet Number:

C201

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NOTE:
1. THE CONTRACTOR SHALL GIVE TWENTY-FOUR (24) HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
2. DIRECTIONAL ARROWS ARE SHOWN FOR INFORMATION ONLY TO SHOW THE DIRECTION OF TRAFFIC ON SITE. THEY DO NOT INDICATE PAVEMENT MARKINGS.
3. GRANITE CURB SHALL BE TYPE VA-4 UNLESS OTHERWISE IDENTIFIED.
4. PROVIDE NEW HOT MIX ASPHALT PAVEMENT BETWEEN ALL PROPOSED CURB LINES & BUILDINGS, (INCLUDING UP TO SAWCUT LIMITS) AND BETWEEN PROPOSED RETAINING WALLS, CURB LINES & BUILDING.
5. CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION SIGNAGE AS REQUIRED FOR CONTROL OF TRAFFIC AND PEDESTRIANS.
6. CONTRACTOR SHALL PATCH EXISTING PAVED AREAS WITH HMA FOLLOWING UTILITY INSTALLATION.
7. ALL BACKFILL MATERIAL BELOW PROPOSED BUILDINGS SHALL CONSIST OF STRUCTURAL AGGREGATE BACKFILL OR PROCESSED GRAVEL PER SPECIFICATION SECTION 31 00 00-EARTHWORK.

LEGEND

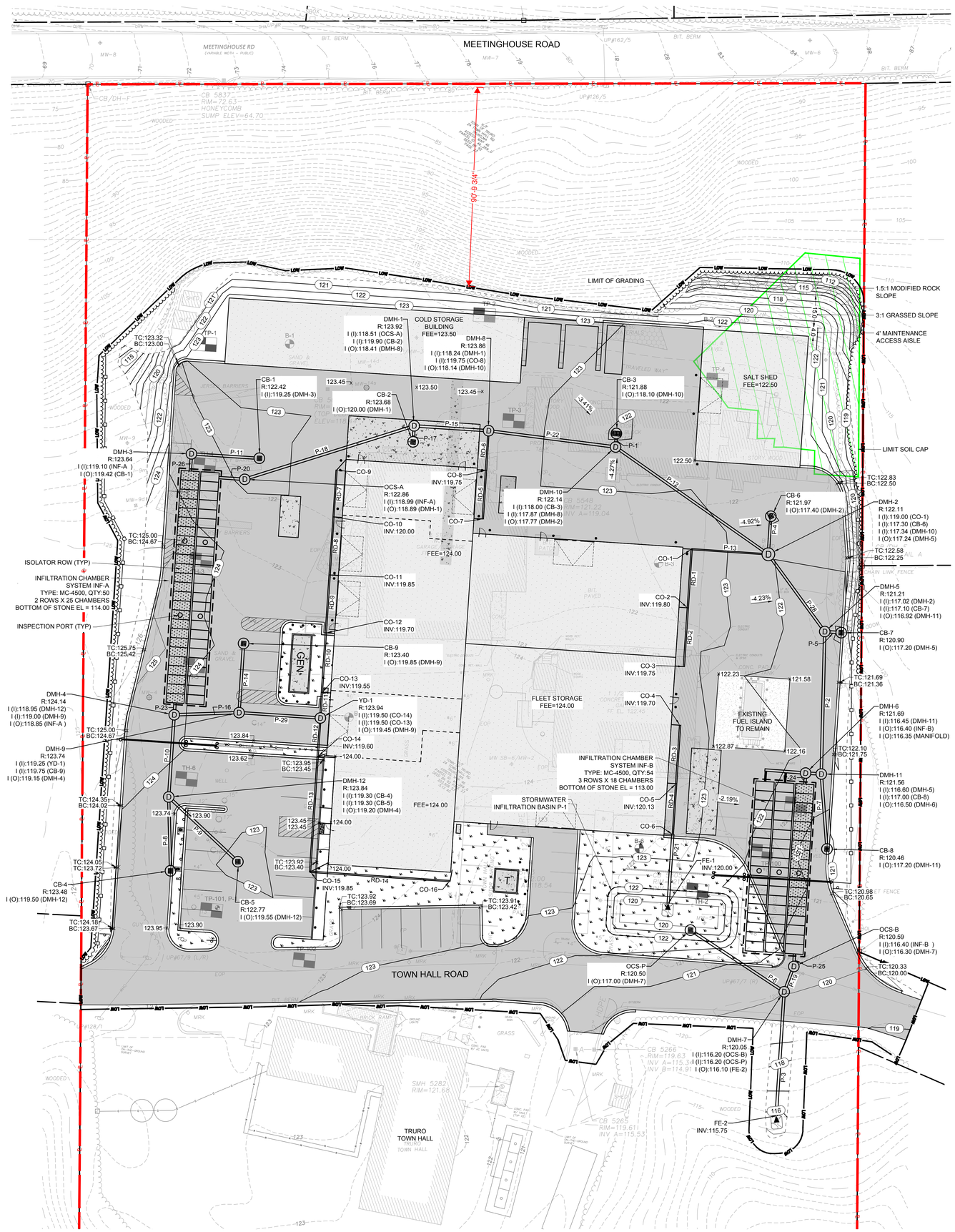
- BITUMINOUS PAVEMENT
- CONCRETE
- LOAM & SEED/PLANTINGS (SEE LANDSCAPE PLAN)
- MODIFIED ROCKFILL
- LOW — LIMIT OF WORK

NOT
CHRISTOPHER TIMOTHY F
& MATTHEW
21 TOWN HALL RD
ASSESS. MAP 46
PARCEL ID 46_267_0
DEED BK 32612
PAGE 311

MEETINGHOUSE ROAD
MEETINGHOUSE RD (VARIABLE WIDTH — PUBLIC)
TOWN HALL ROAD
TOWN HALL RD (40' WIDE — PUBLIC)
BIT. BERM
WOODED
CB 5537 RIM=72.63 HONEYCOMB SUMP ELEV=64.70
CB/DH–F
UP#162/5
UP#26/5
MW–6
MW–7
MW–8
MW–9
MW–14
MW–15
MW–16
TP-1
TP-2
TP-3
TP-4
TP-100
TP-101, P-1
TP-102
TH-1
TH-2
TH-3
TH-4
TH-5
TH-6
B-1
B-2
B-3
B-5
B-6
#21
#23
#15
GAR.
SALT SHED
1 1/2 STORY CONCRETE & WOOD GARAGE FF EL. 122.45
1 STORY WOOD
1 STORY CONC. BLOCK FF EL. 122.41
CB 5548 RIM=121.22 INV E=119.04
CB 5667 RIM=120.44 (TOP DEBRIS) ELEV=118
CB 5265 RIM=119.61 INV A=115.53
SMH 5282 RIM=121.68
INV A=115.34
INV B=114.91
GEN
TRURO TOWN HALL
TOWN HALL
BRICK RAMP
GRASS
SHED
CHAIN LINK FENCE
ELECTRIC CONDUIT
SAND & GRAVEL
JERSEY BARRIERS
PROPANE TANK
GARAGE FF EL. 122.45
ELEV. 122.41
ELEV. 122.34
ELEV. 122.22
ELEV. 119.04
ELEV. 115.34
ELEV. 114.91
ELEV. 115.53
ELEV. 121.68
ELEV. 119.61
ELEV. 115.53
ELEV. 121.22
ELEV. 119.04
ELEV

PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
MANIFOLD	12" HDPE	17-LF	0.006	116.35	116.25
P-1	12" HDPE	2-LF	0.016	118.10	118.00
P-2	12" HDPE	61-LF	0.005	116.92	116.60
P-3	12" HDPE	53-LF	0.006	116.10	115.75
P-4	12" HDPE	13-LF	0.006	117.40	117.30
P-5	12" HDPE	4-LF	0.013	117.20	117.10
P-6	12" HDPE	47-LF	0.016	117.00	116.20
P-7	12" HDPE	30-LF	0.006	117.20	117.00
P-8	12" HDPE	30-LF	0.006	119.50	119.30
P-9	12" HDPE	39-LF	0.006	119.55	119.30
P-10	12" HDPE	34-LF	0.007	119.20	118.95
P-11	12" HDPE	27-LF	0.005	119.42	119.25
P-12	12" HDPE	81-LF	0.005	117.77	117.34
P-13	6" HDPE	31-LF	0.017	119.60	119.00
P-14	12" HDPE	28-LF	0.003	119.85	119.75
P-15	12" HDPE	30-LF	0.005	118.41	118.24
P-16	12" HDPE	26-LF	0.005	119.15	119.00
P-17	12" HDPE	3-LF	0.014	120.00	119.90
P-18	12" HDPE	77-LF	0.005	118.89	118.51
P-19	12" HDPE	8-LF	0.008	116.30	116.20
P-20	12" HDPE	8-LF	0.009	119.10	118.99
P-21	12" HDPE	30-LF	0.004	120.13	120.00
P-22	12" HDPE	54-LF	0.005	118.14	117.87
P-23	12" HDPE	1-LF	0.009	118.85	118.80
P-24	12" HDPE	1-LF	0.000	116.40	116.40
P-25	12" HDPE	2-LF	0.000	116.40	116.40
P-26	12" HDPE	4-LF	0.006	119.15	119.10
P-27	12" HDPE	3-LF	0.007	116.50	116.45
P-28	12" HDPE	39-LF	0.005	117.24	117.02
P-29	12" HDPE	33-LF	0.005	119.45	119.25

PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
RD-1	6" HDPE	23-LF	0.002	119.85	119.80
RD-2	6" HDPE	23-LF	0.002	119.80	119.75
RD-3	6" HDPE	23-LF	0.002	119.75	119.70
RD-4	6" HDPE	19-LF	0.005	120.25	120.13
RD-5	6" HDPE	18-LF	0.000	119.75	119.75
RD-6	6" HDPE	14-LF	0.000	119.75	119.75
RD-7	6" HDPE	17-LF	0.005	120.10	120.00
RD-8	6" HDPE	23-LF	0.006	120.00	119.85
RD-9	6" HDPE	23-LF	0.006	119.85	119.70
RD-10	6" HDPE	23-LF	0.006	119.70	119.55
RD-11	6" HDPE	8-LF	0.004	119.55	119.50
RD-12	6" HDPE	14-LF	0.006	119.60	119.50
RD-13	6" HDPE	49-LF	0.005	119.85	119.60
RD-14	6" HDPE	60-LF	0.005	120.15	119.85



NOTES:

1. ALL EXISTING EARTHWORK MATERIALS, (EXCEPT FOR STOCKPILED FILL MATERIALS SHOWN ON C101) MAY BE INCORPORATED IN THE WORK AND USED FOR BACKFILL IF MATERIALS MEET 31 00 00 EARTHWORK SPECIFICATION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR TESTING OF EXISTING MATERIAL FOR POTENTIAL REUSE ON SITE. IF MATERIAL DOES NOT MEET MATERIAL REQUIREMENTS LISTED IN 31 00 00 FOR REUSE ON SITE, THEN THE CONTRACTOR SHALL REMOVE AND DISPOSE OF MATERIAL AND IMPORT NEW MATERIAL AS NEEDED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE TOWN. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BACKFILL MATERIALS AS NEEDED AND AS SPECIFIED IN SECTION 31 00 00 EARTHWORK. NO ON-SITE BACKFILL MATERIAL MAY BE USED AS PIPE TRENCH BACKFILL OR BELOW THE BUILDING SLAB AND FOUNDATION, UNLESS IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, ALL DRAIN MANHOLES SHALL BE 4' DIAMETER.
3. ALL RIM ELEVATIONS SHALL BE FLUSH WITH FINISH GRADE.
4. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
5. DUMPSTER PADS SHALL SLOPE AT A MINIMUM 2% INTO THE PAVED AREA.
6. ALL CATCH BASINS SHALL BE SET FLUSH AGAINST THE GRANITE CURBING.
7. EROSION CONTROL FABRIC SHALL BE USED FOR ALL SLOPES 3:1 OR STEEPER PER 32 91 19 SEEDING.
8. REFER TO EXISTING CONDITIONS PLAN FOR BENCHMARK LOCATIONS.
9. REFER TO UTILITY PLAN FOR PROPOSED UTILITY LOCATIONS AND COORDINATE ACCORDINGLY WITH ALL GRADING AND DRAINAGE WORK.
10. UNLESS NOTED AS TOP OF CURB (TOC), ALL SPOT ELEVATIONS ARE SHOWN AS THE BOTTOM OF CURB OR BOTTOM OF WALL ELEVATION. TOP OF CURB ELEVATIONS ARE 6" HIGHER THAN BOTTOM OF CURB.
11. GRASSED AREAS ADJOINING THE BUILDING SHALL SLOPE AWAY FROM THE BUILDING AT A 1% MINIMUM SLOPE.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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TRURO, MA 02666

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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
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REGISTERED PROFESSIONAL ENGINEER
10-16-25

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Reviewed By: AP
Approved By: AP

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W&S File No.: -

Drawing Title:
GRADING & DRAINAGE PLAN

Sheet Number:
C401

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NOTES:

1. THE G.C. IS RESPONSIBLE FOR EXCAVATION AND BACKFILL FOR ALL UNDERGROUND UTILITIES WITHIN THE BUILDING. COORDINATE LOCATIONS, ROUTING, DEPTH, ETC. WITH EACH SUBCONTRACTOR.
2. THE G.C. SHALL COORDINATE BOLLARD LOCATIONS FOR ELECTRICAL TRANSFORMER WITH UTILITY COMPANY PRIOR TO INSTALLATION.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE G.C. SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE G.C. FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE G.C. AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE G.C. SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER.
5. THE G.C. IS RESPONSIBLE FOR ADJUSTING HORIZONTAL AND VERTICAL ALIGNMENT OF PROPOSED UTILITIES AS REQUIRED TO COMPLETE THE PROPOSED DRAINAGE AND SEWER WORK.
6. THE G.C. SHALL PROVIDE ALL NECESSARY FITTINGS TO ACHIEVE WATER SERVICE LAYOUT AS SHOWN ON THE DRAWINGS.
7. THE G.C. IS RESPONSIBLE FOR PROVIDING PROPER TRANSITION MATERIAL AND FITTINGS TO PROVIDE A TIGHT TRANSITION FROM DISSIMILAR PIPE MATERIALS FROM PLUMBING & FIRE PROTECTION WORK TO G.C. WORK.
8. THE G.C. SHALL BE RESPONSIBLE FOR THE EXCAVATION, SAND PIPE BEDDING, AND BACKFILL OF THE GAS LINE. THE PIPE INSTALLATION WILL BE THE RESPONSIBILITY OF THE GAS COMPANY FROM THE MAIN TO THE METER. THE GAS COMPANY WILL DETERMINE IN THE FIELD THE EXACT LOCATION FOR PROPER CONNECTION TO THE EXISTING GAS MAIN.
9. THE G.C. IS RESPONSIBLE FOR EXCAVATION, BACKFILL, CONCRETE ENCASEMENT, AND REINFORCEMENT FOR ALL UNDERGROUND CONDUITS/DUCTBANKS, HANDHOLES, PLUMBING, AND FIRE PROTECTION WORK. COORDINATE LIMITS OF WORK WITH FP, P, E, AND TC DRAWINGS FOR WORK NOT SHOWN ON THIS DRAWING.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Consultants:

Revisions:

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COMMONWEALTH OF MASSACHUSETTS
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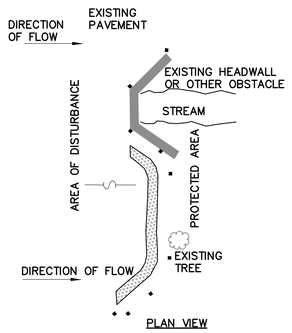
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W&S File No.: -

Drawing Title:
UTILITY PLAN

Sheet Number:
C501

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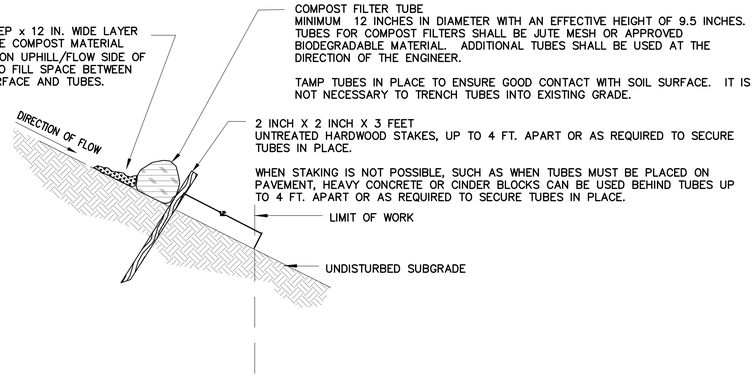
PLAN VIEW

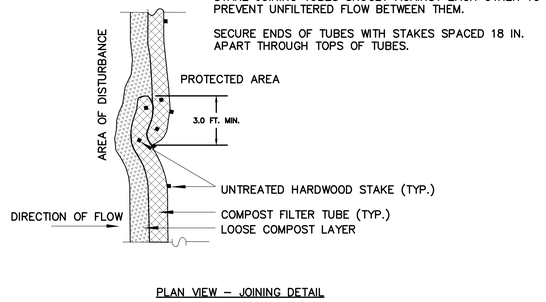
PLACING TUBES AGAINST THE UPHILL SIDE OF WELL– ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN–OFF.

GENERAL NOTES:

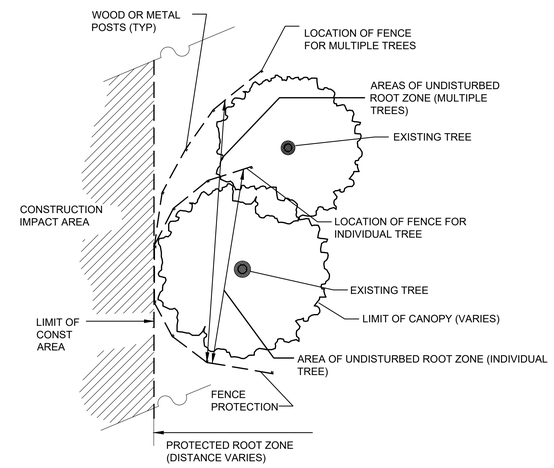
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN–OFF.
5. MULCH MATERIAL FOR THE FILTER TUBES SHALL BE WEED–FREE STRAW, WOOD EXCELSIOR, OR WOOD CHIPS, OR COIR. STRAW SHALL BE WEED FREE AND DERIVED FROM THRESHING OF GRAIN CROP.



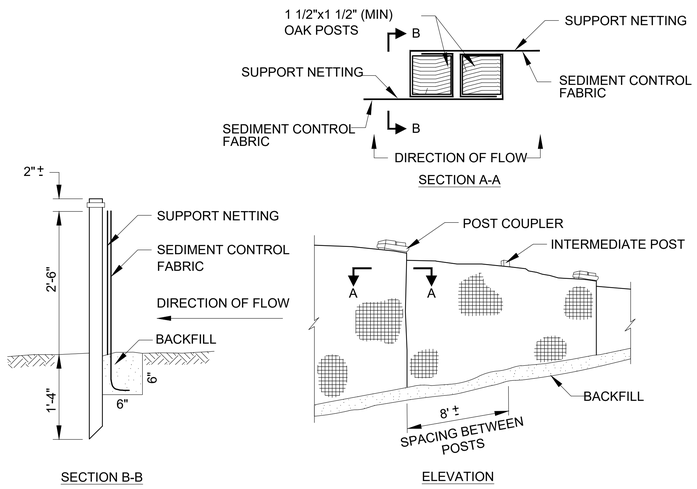


PLAN VIEW – JOINING DETAIL

1 EROSION CONTROL MEASURE: SINGLE COMPOST FILTER TUBE DETAIL
SCALE: N.T.S.

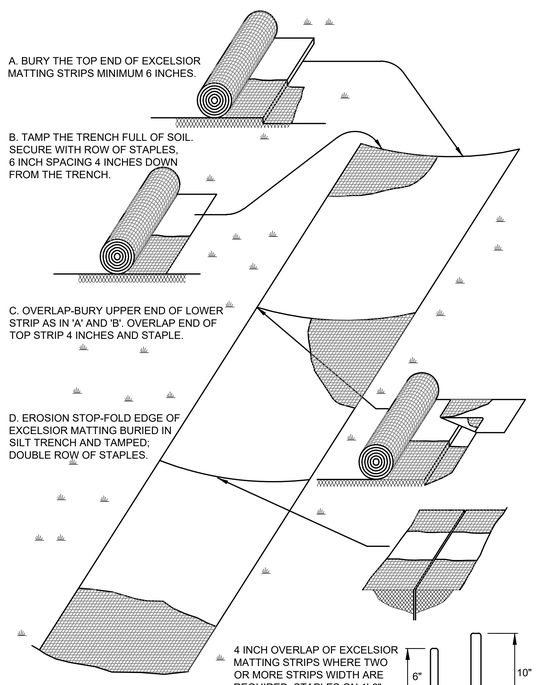


PLAN VIEW



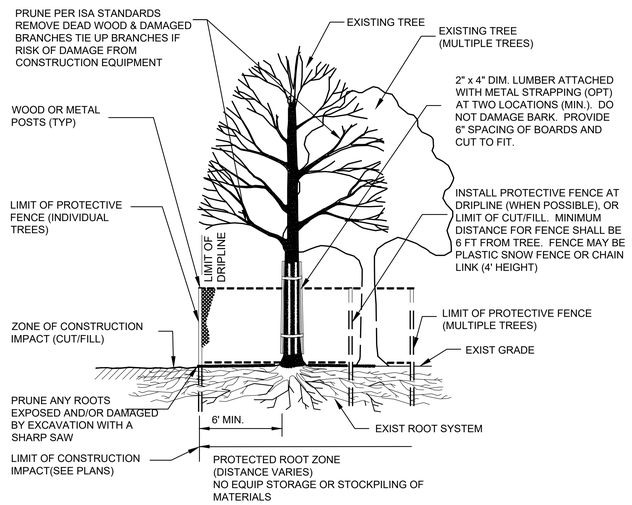
2 SILT FENCE DETAIL
SCALE: N.T.S.

1. EROSION CONTROL MEASURES SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
2. AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
3. IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDES EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
4. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
5. TEMPORARY SILT CONTROLS SHALL BE PLACED AS SHOWN ON THE PLAN. PERMANENTLY STABILIZE EACH COMPLETED SEGMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REMOVE TEMPORARY SILT CONTROLS AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS.
7. SILT CONTROLS SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SILT AND DEBRIS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
9. OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADE. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS NEEDED.
11. SILT CONTROLS SHALL BE REMOVED UPON THE SATISFACTORY COMPLETION OF ALL WORK SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
12. SITE PERIMETER SHALL HAVE COMPOST FILTER TUBES INSTALLED AS SHOWN ON C201.

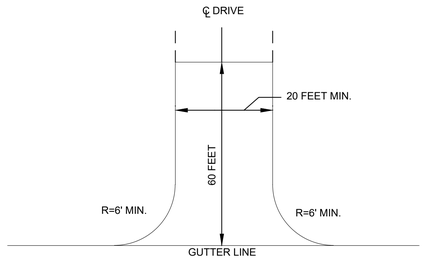


3 EROSION CONTROL BLANKET
SCALE: N.T.S.

NOTE:
JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS



4 EXISTING TREE PROTECTION
SCALE: N.T.S.

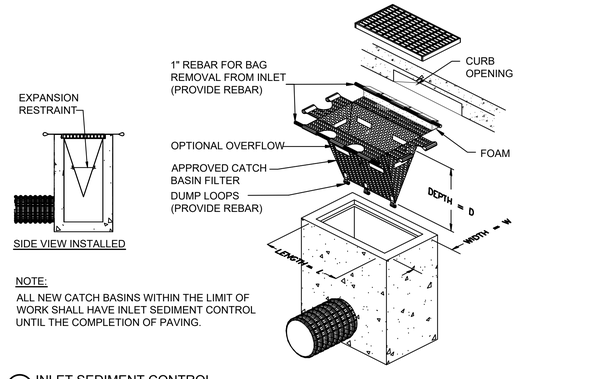


PLAN

NOTES:

1. AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE PLACED AT EACH ENTRANCE TO THE SITE, THROUGHOUT CONSTRUCTION ACTIVITIES.
2. THE LOCATION OF THE CONSTRUCTION ENTRANCE(S) SHALL BE APPROVED BY THE OWNER PRIOR TO PLACEMENT.
3. CONSTRUCTION ENTRANCE(S) SHALL CONSIST OF 2" CRUSHED STONE PLACED AT A DEPTH OF A MINIMUM 8 INCHES PLACED OVER GEOTEXTILE FABRIC.
4. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION AND ALL NECESSARY MAINTENANCE OF ALL ENTRANCES.
5. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO THE STREET, AS WELL MAINTENANCE OF EROSION CONTROL MEASURES.

5 STABILIZED TEMPORARY CONSTRUCTION ENTRANCE
SCALE: N.T.S.



NOTE:
ALL NEW CATCH BASINS WITHIN THE LIMIT OF WORK SHALL HAVE INLET SEDIMENT CONTROL UNTIL THE COMPLETION OF PAVING.

6 INLET SEDIMENT CONTROL
SCALE: N.T.S.

Project:
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
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CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

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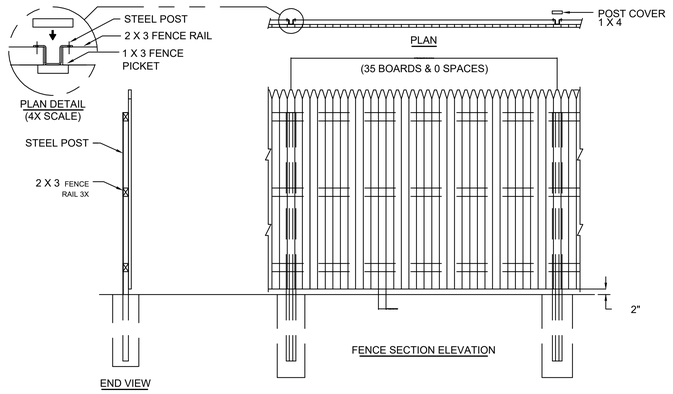
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Reviewed By: AP
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W&S Project No.:ENG24 - 1552
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SITE DETAILS I

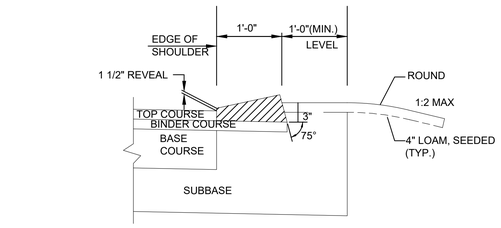
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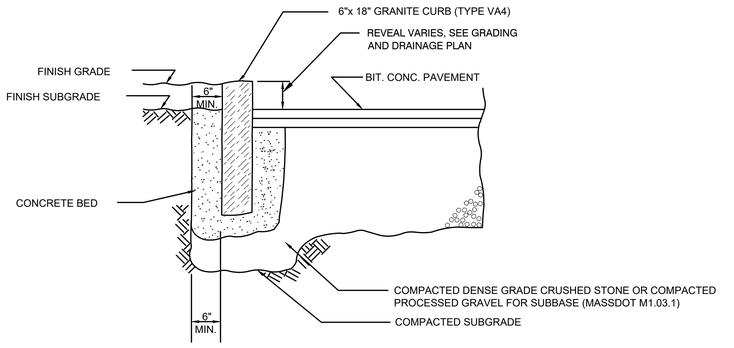


NOTES:
1. FOOTING WIDTH TO BE 10" [254MM]. MINIMUM DEPTH 30" [762MM].
2. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

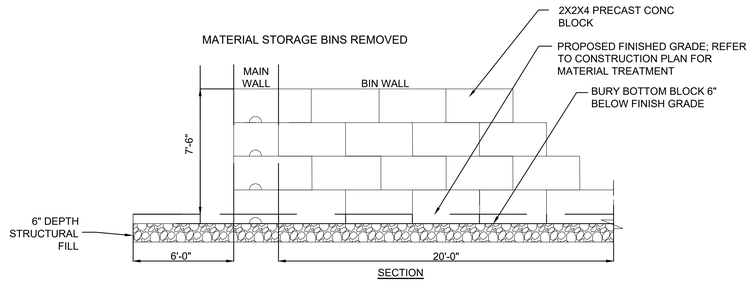
1 WOOD STOCKADE DETAIL
SCALE: N.T.S.



2 HMA BERM
SCALE: N.T.S.



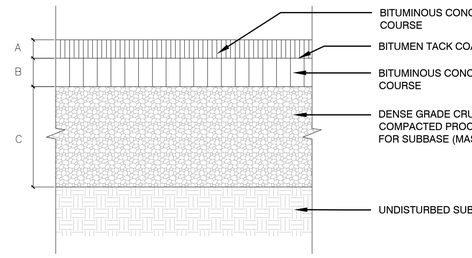
3 GRANITE CURB DETAIL
SCALE: N.T.S.



NOTES:

1. PRECAST BLOCKS SHALL BE INTERLOCKING AT ALL INTERSECTING WALLS.
2. PAINTING CONTRACTOR SHALL PAINT A 4" MARKER AT 6' ABOVE FINISHED GRADE ALONG THE INTERIOR PERIMETER OF EACH BULK MATERIAL STORAGE BIN.
3. CONTRACTOR SHALL PROVIDE A SIGN IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATION SECTION 828. THE SIGN SHALL BE 8 INCHES TALL AND HAVE LETTERING SIMILAR TO STREET NAME SIGN TYPE D3, AS DESCRIBED IN THE MUTCD (LATEST EDITION). THE SIGN SHALL STATE "MAXIMUM FILL HEIGHT 6 FEET" FOR EACH STORAGE BIN.
4. 2"Wx8"Lx1/2" THICK GALVAN. STEEL PLATE BOLTED TO EACH BLOCK AT VERTICAL JOINT. (TYP) PLATE PROVIDED AND INSTALLED BY G.C. PROVIDE PRE-DRILLED HOLES FOR SELF TAPPING CONCRETE SCREWS.
5. THE CONTRACTOR SHALL SUBMIT WALL DESIGN STAMPED BY A MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER. THE SUBMITTAL MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

4 PRECAST CONCRETE BLOCK STORAGE BIN WALL DETAIL
SCALE: N.T.S.

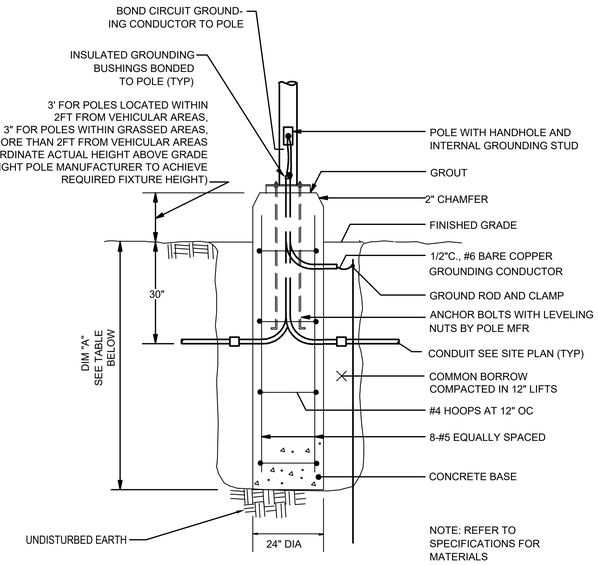


PAVEMENT DEPTH SCHEDULE

	TOP (A)	BINDER (B)	BASE COURSE (C)
HEAVY DUTY	2.0"	3.0"	16"

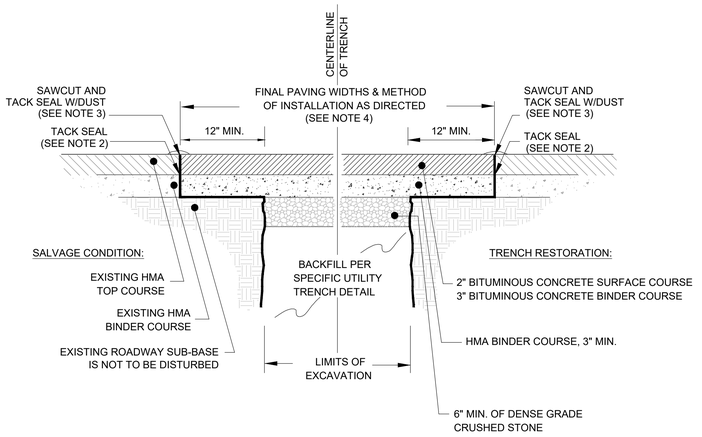
5 TYPICAL PAVEMENT SECTION DETAIL
SCALE: N.T.S.

NOTES:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.



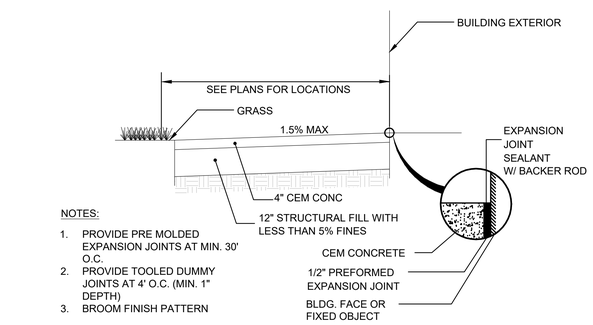
POLE HEIGHT	DIMENSION "A"
10' TO 20'	4'-6"
20' TO 30'	5'-6"
30' TO 40'	6'-6"

6 LIGHT POLE FOUNDATION DETAIL
SCALE: N.T.S.



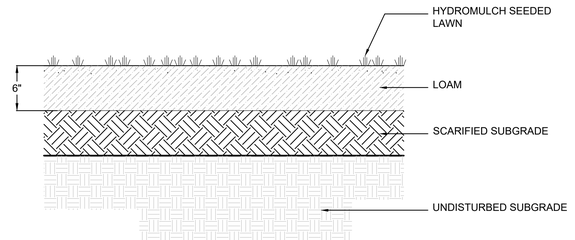
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
2. ALL EXPOSED HMA IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE TOWN.

7 TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL
SCALE: N.T.S.



NOTES:
1. PROVIDE PRE MOLDED EXPANSION JOINTS AT MIN. 30' O.C.
2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C. (MIN. 1" DEPTH)
3. BROOM FINISH PATTERN

8 CEMENT CONCRETE WALK
SCALE: N.T.S.



9 LOAM & SEED
SCALE: N.T.S.

NOTES:
1. REFER TO THE LANDSCAPING PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF LOAM AND SEED AREAS.

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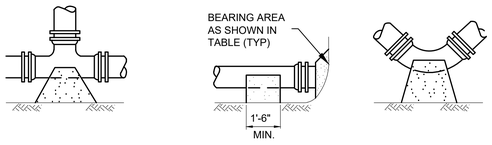
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SITE DETAILS II

Sheet Number:
C602

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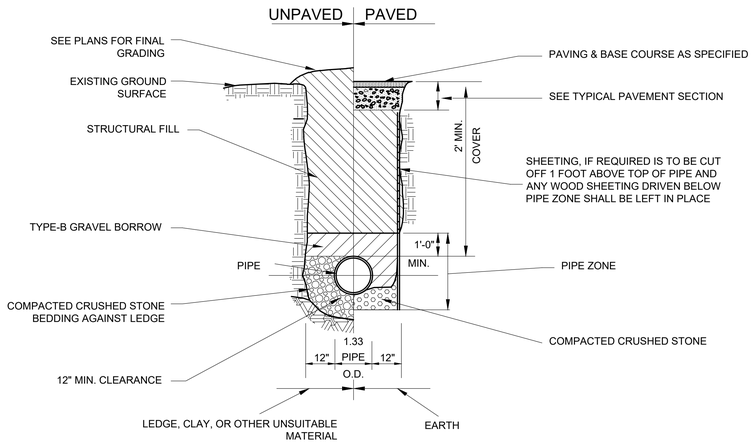


TEE DETAIL (PLAN VIEW) | CAP DETAIL (PLUG SIMILAR) (SECTION VIEW) | BEND DETAIL (PLAN VIEW)

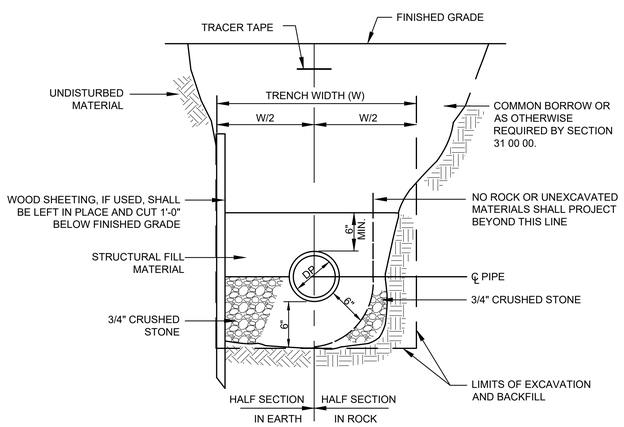
TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS				
SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2
16"	20	15	8	4
20"	36	24	13	7

NOTES: 1. ALL WATER MAIN FITTINGS SHALL HAVE CONCRETE BACKING FOR
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF

1 CONCRETE THRUST RESTRAINT FOR FITTINGS
SCALE: N.T.S.

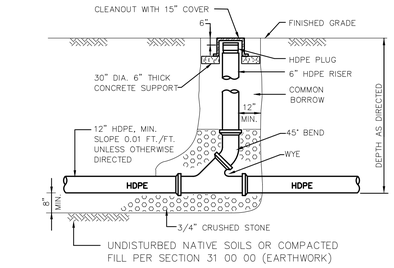


4 TYPICAL STORM DRAIN TRENCH DETAIL
SCALE: N.T.S.



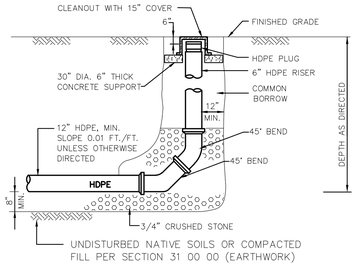
DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	TO 4"	5'-0"

8 SEWER TRENCH DETAIL
SCALE: N.T.S.



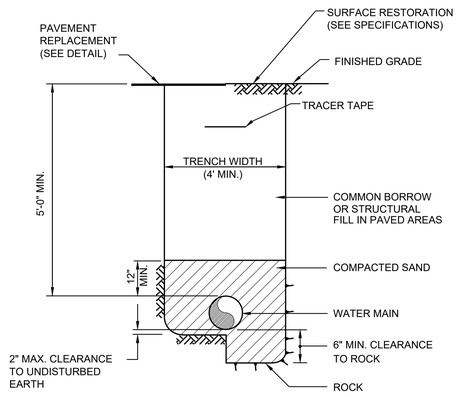
2 WYE CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED

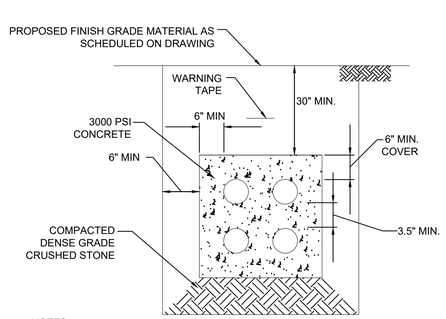


3 END CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED



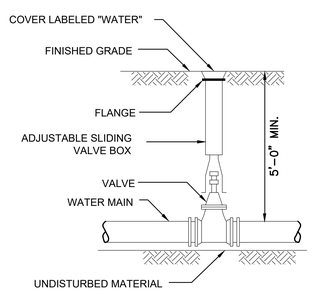
5 WATER MAIN TRENCH DETAIL
SCALE: N.T.S.



NOTES:

1. G.C. IS RESPONSIBLE FOR EXCAVATION, CONCRETE ENCASEMENT, REINFORCEMENT AND BACKFILL. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONDUITS & SPACERS. SEE E-SERIES DRAWINGS FOR DUCTBANK REINFORCEMENT REQUIREMENTS.
2. PROVIDE REINFORCEMENT PER LOCAL UTILITY COMPANY REQUIREMENTS.
3. QUANTITY & SIZE OF CONDUITS VARY. DUCTBANK SIZE SHALL BE ADJUSTED BASED ON CONDUIT TYPES & SIZES IDENTIFIED ON THE E-SERIES DRAWINGS.
4. CONTRACTOR SHALL COORDINATE DEPTH OF PROPOSED DUCTBANK WITH PROPOSED UTILITY & DRAINAGE SYSTEMS TO AVOID CONFLICTS.
5. BACKFILL AROUND DUCTBANK WITH GRAVEL BORROW BACKFILL MATERIAL.

7 ELECTRIC/COMMUNICATION DUCTBANK DETAIL
SCALE: N.T.S.



NOTES:
1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE.
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS.
3. REINFORCED CONCRETE COLLAR REQUIRED WHEN INSTALLED IN PAVED SURFACE.

9 VALVE AND BOX DETAIL
SCALE: N.T.S.

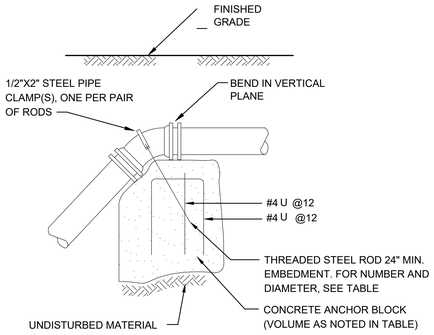


TABLE OF DIMENSIONS FOR ANCHOR BLOCKS		NO. AND SIZE OF THREADED RODS	
BEND SIZE	Volume	NO.	DIAM.
6"-22.5°	0.6 C.Y.	2	1/2"
6"-45°	1.0 C.Y.	2	1/2"
8"-22.5°	1.0 C.Y.	2	1/2"
8"-45°	1.8 C.Y.	2	3/4"
12"-22.5°	2.5 C.Y.	2	3/4"
12" 45°	4.0 C.Y.	4	3/4"

6 ANCHOR BLOCK DETAIL
SCALE: N.T.S.

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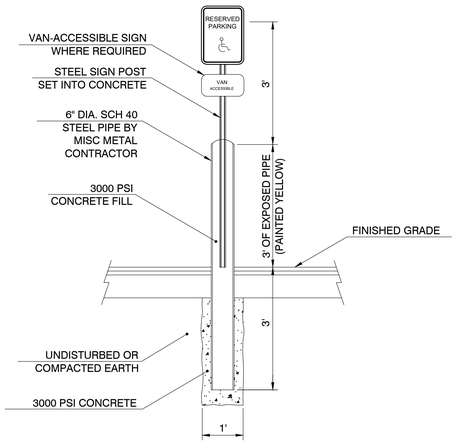
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SITE DETAILS III

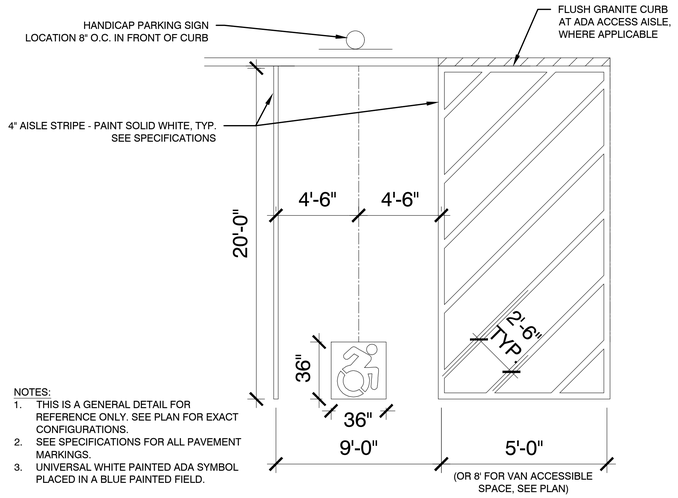
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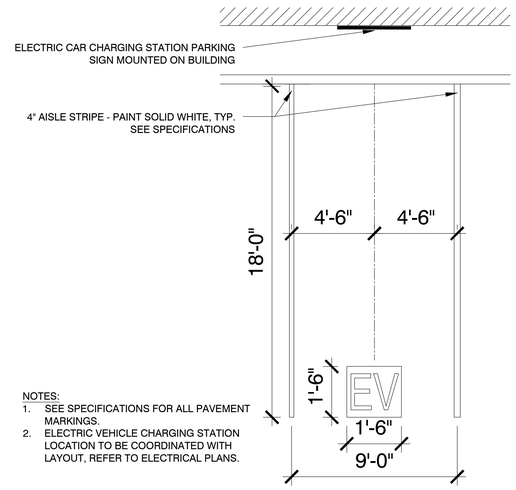
NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 1' FROM EDGE OF PARKING.
2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

1 ACCESSIBLE SIGN IN BOLLARD
SCALE: N.T.S.



NOTES:
1. THIS IS A GENERAL DETAIL FOR REFERENCE ONLY. SEE PLAN FOR EXACT CONFIGURATIONS.
2. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
3. UNIVERSAL WHITE PAINTED ADA SYMBOL PLACED IN A BLUE PAINTED FIELD.

2 HANDICAP PARKING SPACE MARKING
SCALE: N.T.S.

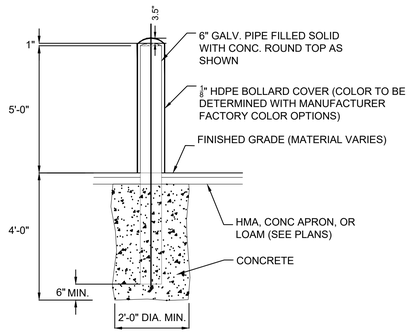


NOTES:
1. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
2. ELECTRIC VEHICLE CHARGING STATION LOCATION TO BE COORDINATED WITH LAYOUT, REFER TO ELECTRICAL PLANS.

3 EV CHARGING PARKING SPACE MARKING
SCALE: N.T.S.

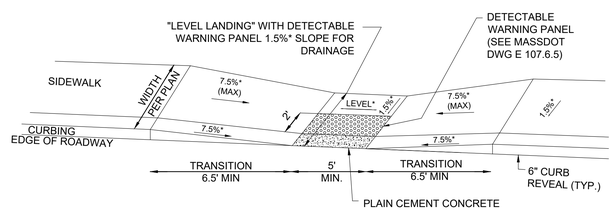
NOTES:
1. FULL EXCAVATION DEPTH EQUALS LENGTH OF FOUNDATION TUBE PLUS. 1'-0".
2. CONFIRM LOCATION OF FLAGPOLE IN FIELD.
3. DETAIL PROVIDED FOR ILLUSTRATION ONLY. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN TO MEET PROJECT SOIL CONDITIONS.

4 FLAGPOLE DETAIL
SCALE: N.T.S.



NOTES:
1. SEE C103 SERIES FOR BOLLARD LOCATIONS.
2. BOLLARD FOUNDATION CONCRETE TO BE 3000 PSI MIN.
3. EXACT LOCATION TO BE DETERMINED IN THE FIELD AND APPROVED BY TOWN BEFORE INSTALLATION.
4. 6" GALVANIZED PIPE PROVIDED BY MISC. METALS CONTRACTOR. INSTALLATION AND CONCRETE BY GENERAL CONTRACTOR.
5. HDPE BOLLARD SLEEVE WITH 6 1/8" DIAMETER TO BE INSTALLED OVER STEEL BOLLARD USING TWO FOAM EXPANSION STRIPS.

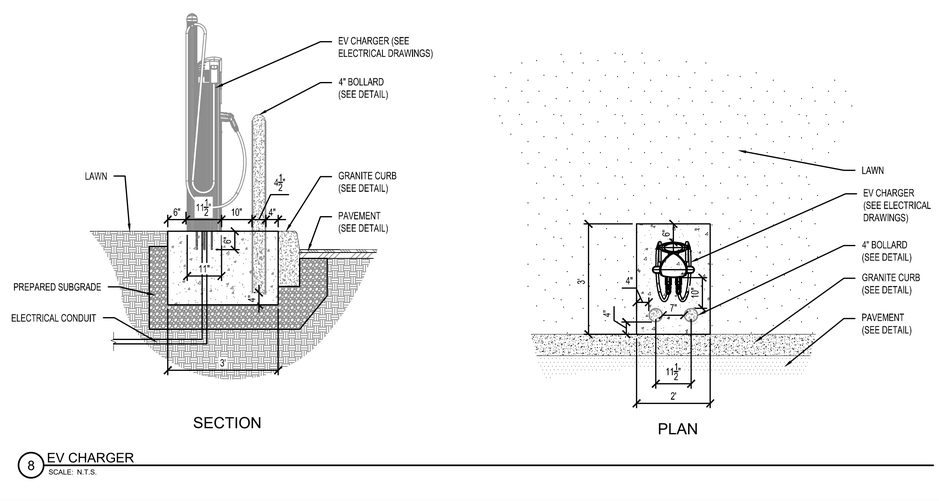
5 EXTERIOR STEEL PIPE BOLLARD
SCALE: N.T.S.



6 WHEEL CHAIR RAMP (TYPE B)
SCALE: N.T.S.

IDENTIFICATION NUMBER	TEXT	PANEL SIZE: WIDTH	PANEL SIZE: HEIGHT	PANEL SIZE: CORNER RADII	PANEL SIZE: BORDER WIDTH	PANEL SIZE: MARGIN WIDTH	NUMERALS & LETTERS: NUM. IN.	NUMERALS & LETTERS: UPPER CASE	NUMERALS & LETTERS: LOWER CASE	NUMERALS & LETTERS: SERIES	COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED
R1-1	STOP	30"	30"	SEE MUTCD, INCLUDING STANDARD HIGHWAY SIGNS, LATEST EDITION							WHITE ON RED	2	5.16	P5-1 2
R7-8MA	HANDICAPPED PARKING MASS. GEN. LAWS CH. 90 SEC. 2A VIOLATORS SUBJECT TO $100 FINE	12"	18"								WHITE ON BLUE	1	1.50	P5-1 1
R7-8b	VAN ACCESSIBLE	12"	6"								WHITE ON BLUE	1	0.50	P5-1 0
R5-11	AUTHORIZED VEHICLES ONLY	24"	18"								BLACK ON WHITE	1	3.00	P5-1 1
CUSTOM	CHARGING STATION ELECTRIC VEHICLE PARKING ONLY CHARGING	12"	18"								WHITE ON GREEN	4	6.0	P5-1 4

7 PERMANENT TRAFFIC SIGN SUMMARY
SCALE: N.T.S.



8 EV CHARGER
SCALE: N.T.S.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY
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Revisions:

No.	Date	Description

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Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

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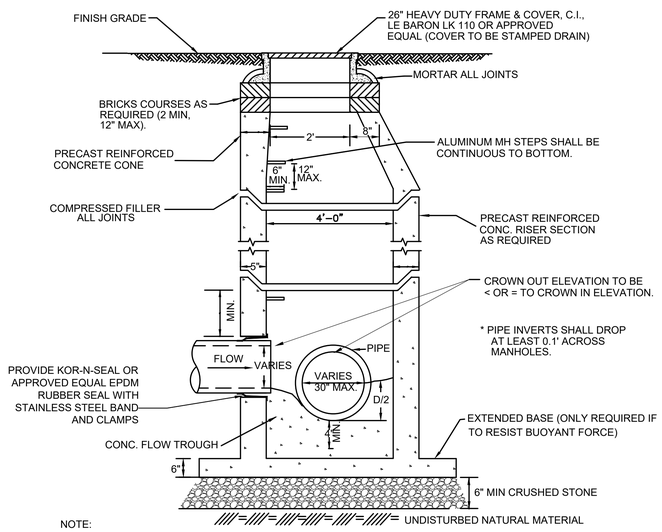
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Drawing Title:
SITE DETAILS IV

Sheet Number:
C604

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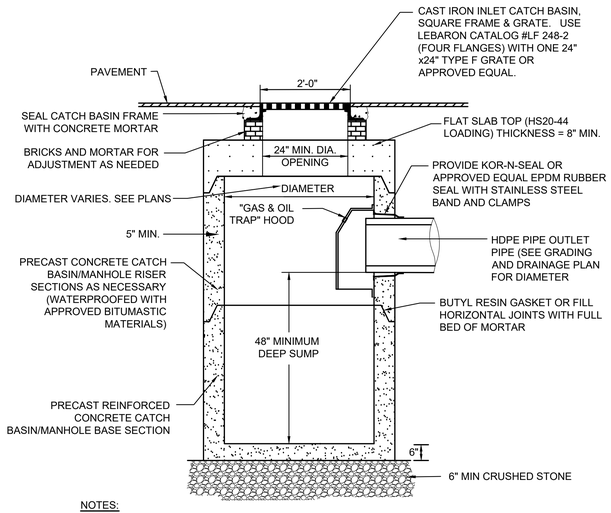


NOTE:

1. THE DRAIN MANHOLE SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.

2. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

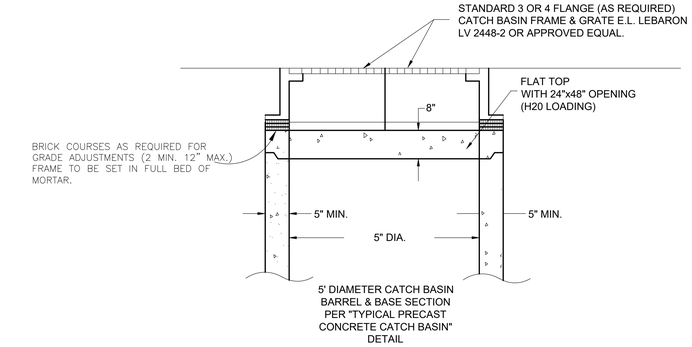
1 TYPICAL PRECAST CONCRETE MANHOLE
SCALE: N.T.S.



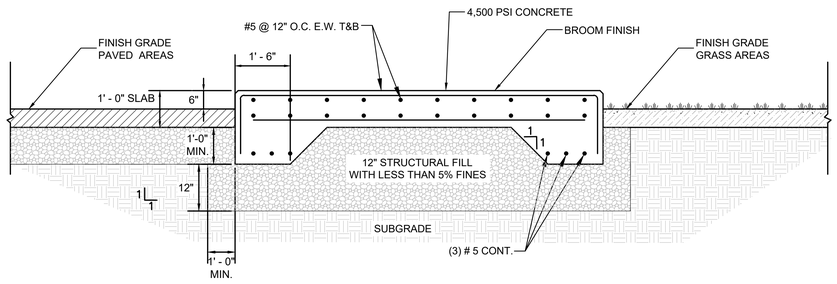
NOTES:

1. FOR DOUBLE CATCH BASINS, STRUCTURE SHALL BE 5' IN DIAMETER.
2. THE CATCH BASIN SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.
3. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

2 STANDARD CATCH BASIN
SCALE: N.T.S.



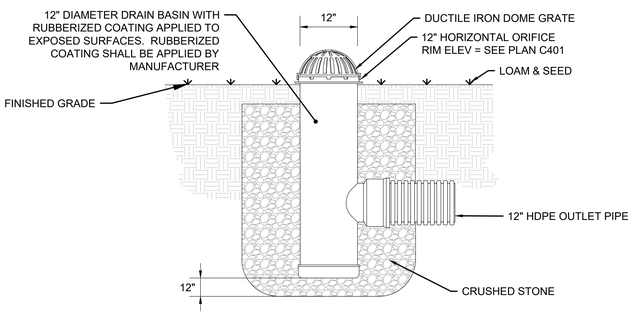
3 DOUBLE GRATE CATCH BASIN
SCALE: N.T.S.



NOTES:

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL CONCRETE PADS.
2. SEE LAYOUT AND GRADING PLANS FOR FINISH GRADE
3. COORDINATE WITH ALL CONTRACTORS AND ADJUST PAD LOCATIONS AND DIMENSIONS IN FIELD
4. SLABS 8" OR LESS IN THICKNESS SHALL HAVE ONE LAYER OF REINFORCING PLACED IN THE TOP ONE THIRD OF THE SLAB.
5. THE EXACT SIZE, SHAPE AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PAD(S) SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR EQUIPMENT. ANCHOR BOLTS, WHERE REQUIRED, SHALL BE SIZED AND LOCATED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE CAULK WITH POLYSULFIDE SEALANT AND PREFORMED JOINT FILLER WHERE EQUIPMENT PADS ADJOIN THE BUILDING.
7. EQUIPMENT PAD DETAIL SHALL BE USE FOR, BUT NOT LIMITED TO, THE ELECTRICAL TRANSFORMER PAD, EMERGENCY GENERATOR PAD, GAS METER PADS, AND CONEX STORAGE PAD.
8. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR CONDUIT PENETRATIONS IN EQUIPMENT PADS

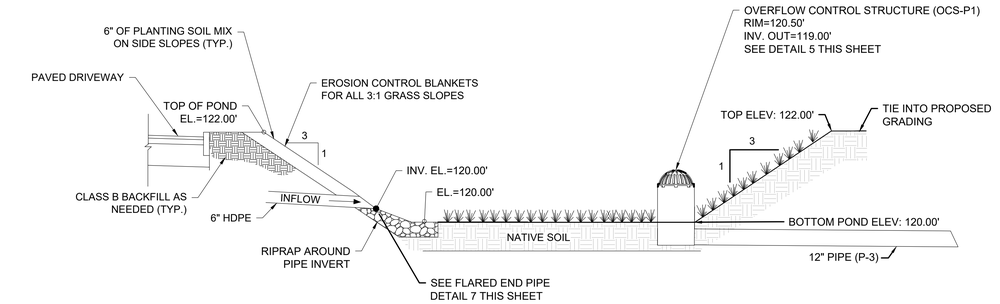
4 TYPICAL EQUIPMENT PAD DETAIL
SCALE: N.T.S.



5 OVERFLOW CONTROL STRUCTURE (OCS-P1)
SCALE: N.T.S.

NOTES:

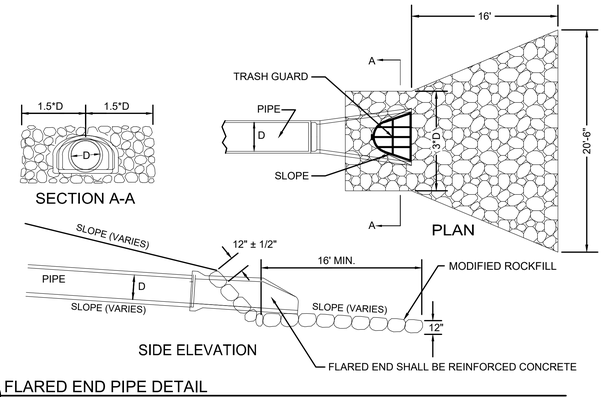
1. OUTLET CONTROL STRUCTURE SHALL BE AS MANUFACTURED BY NYLOPLAST OR APPROVED EQUAL.
2. OUTLET CONTROL STRUCTURE SHALL HAVE 2' DEEP SUMPS.



NOTES:

1. CROSS SECTION IS SCHEMATIC ONLY AND IS MEANT TO DISPLAY THE PATH OF TRAVEL FOR WATER.
2. SEE LANDSCAPE PLAN FOR PLANTING REQUIREMENTS.
3. ALL UNDOCUMENTED FILL SHALL BE REMOVED FROM BENEATH INFILTRATION BASIN DOWN TO NATIVE SOILS.

6 INFILTRATION BASIN P-1 SCHEMATIC DETAIL
SCALE: N.T.S.



7 FLARED END PIPE DETAIL
SCALE: N.T.S.

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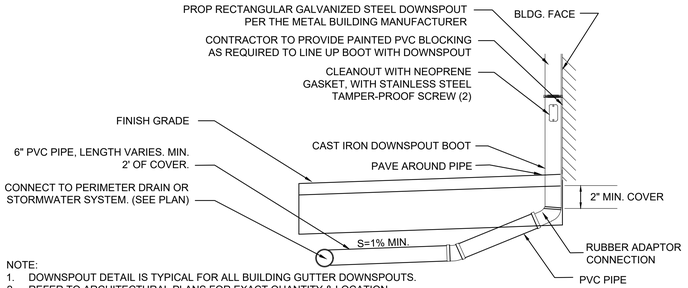
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Reviewed By: AP
Approved By: AP
W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:
SITE DETAILS V

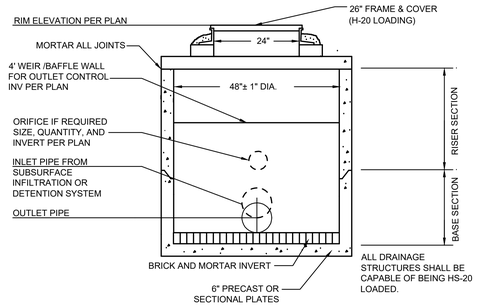
Sheet Number:
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NOTE:
1. DOWNSPOUT DETAIL IS TYPICAL FOR ALL BUILDING GUTTER DOWNSPOUTS.
2. REFER TO ARCHITECTURAL PLANS FOR EXACT QUANTITY & LOCATION.
3. COORDINATE WITH CIVIL SITE PLANS FOR CONNECTIONS TO STORM SYSTEM.
4. PROVIDE A DOWNSPOUT BOOT AT EACH DOWNSPOUT TO ALLOW THE RECTANGULAR DOWNSPOUT TO TRANSITION TO THE ROUND CAST IRON RECEPTOR PIPE.
5. PAINT DOWNSPOUT ADAPTER BY PAINTING SUBCONTRACTOR. COLOR AS SELECTED BY THE ARCHITECT (CONFIRMED BY OWNER).
6. DOWNSPOUT ADAPTER SHALL BE MANUFACTURED BY J.R. HOE AND SONS, NEENAH FOUNDRY, PIEDMONT MANUFACTURING OR APPROVED EQUAL.

1 GUTTER DOWNSPOUT CONNECTION DETAIL (EXTERNAL)
SCALE: N.T.S.



2 OCS FOR INFILTRATION SYSTEMS INF-A, AND INF-B
SCALE: N.T.S.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

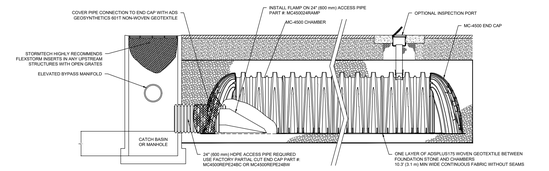
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

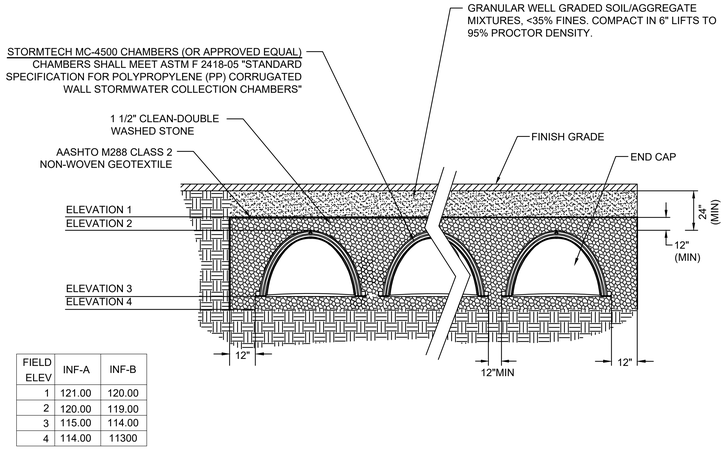
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



3 ISOLATOR ROW
SCALE: N.T.S.

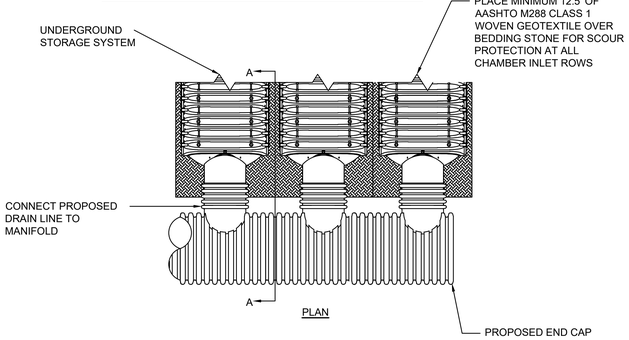
Table 5 - Standard Distances From Base of Chamber to Invert of Inlet and Outlet Manifolds on StormTech MC-4500 End Caps

	Pipe Diameter	Inv. (IN)	Inv. (MM)
TOP	12" (300 mm)	35.69	907
	15" (375 mm)	32.72	831
	18" (450 mm)	29.36	746
	24" (600 mm)	23.05	585
BOTTOM	12" (750 mm)	1.55	34
	15" (900 mm)	1.7	43
	18" (1050 mm)	1.97	50
	24" (1200 mm)	2.26	57

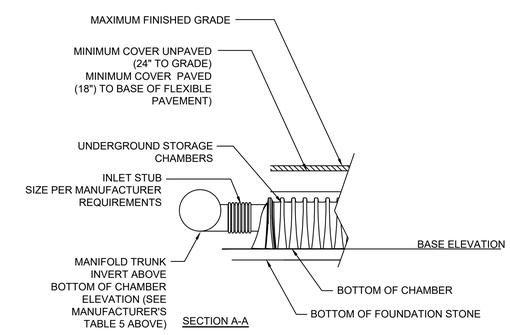


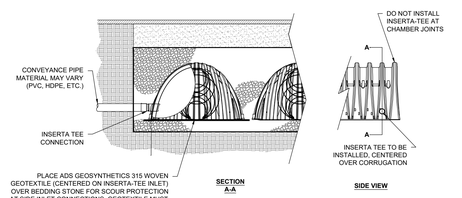
FIELD ELEV	INF-A	INF-B
1	121.00	120.00
2	120.00	119.00
3	115.00	114.00
4	114.00	11300

4 INFILTRATION/RECHARGE CHAMBER - SECTION
SCALE: N.T.S.



5 INFILTRATION/RECHARGE CHAMBER - MANIFOLD CONNECTION
SCALE: N.T.S.

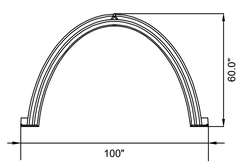




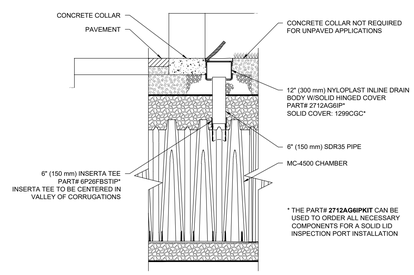
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.
CONTACT STORMTECH FOR MORE INFORMATION.

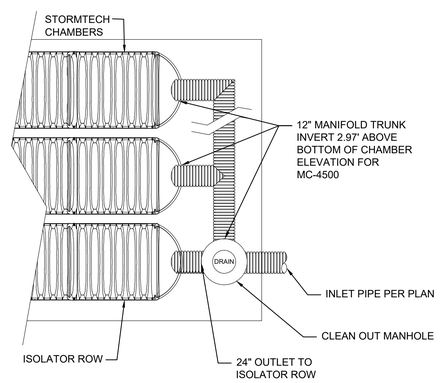
6 INSERTA TEE DETAIL
SCALE: N.T.S.



7 CHAMBER UNIT DETAIL
SCALE: N.T.S.



8 6" PVC INSPECTION PORT DETAIL
SCALE: N.T.S.



9 INFILTRATION CHAMBER CONNECTION TO ISOLATOR ROW AND MANIFOLD
SCALE: N.T.S.

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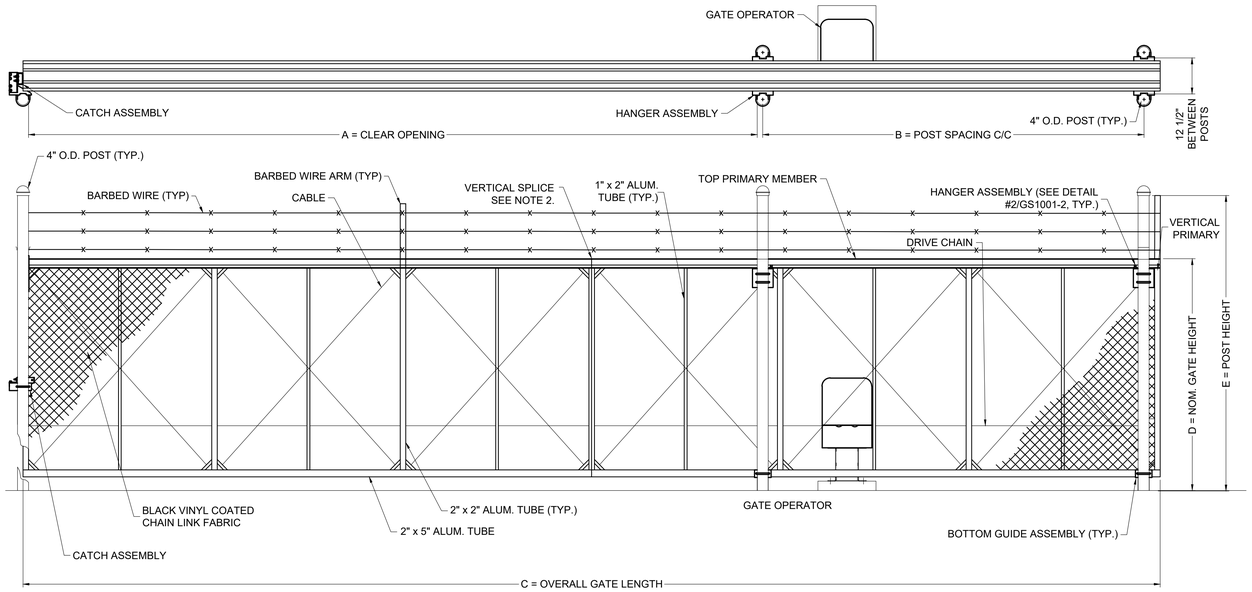
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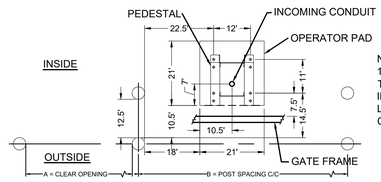


NOTES:

1. ALL FITTINGS PROVIDED FOR 4" O.D. POSTS. OTHER SIZES ARE AVAILABLE UPON REQUEST.
2. FOR GATES THAT REQUIRE TWO PIECE FABRICATION, A 5" ALUMINUM CHANNEL WILL BE SUBSTITUTED FOR THE 2" x 5" ALUM. TUBE, AND A VERTICAL SPLICE WILL BE ADDED.
3. POWDER COATED BLACK.
4. THE CONTRACTOR SHALL SUBMIT FINAL GATE FOUNDATION DESIGNS STAMPED BY A MASSACHUSETTS PE.

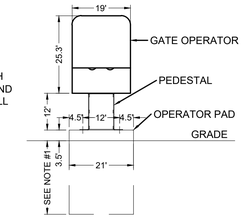
GATE DIMENSIONS		
A	30'	40'
B	14'-7"	19'-7"
C	45'-6"	55'-6"
D	8'-0"	8'-0"
E	9'-6"	9'-6"

1 CANTILEVER SLIDE GATE WITH BARBED WIRE
SCALE: N.T.S.

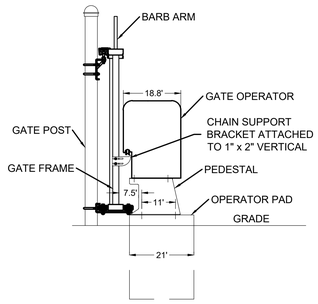


NOTES:
1) OPERATOR PAD DEPTH TO BE MINIMUM OF 24" AND IN ACCORDANCE WITH ALL LOCAL CODES AND SOIL CONDITIONS.

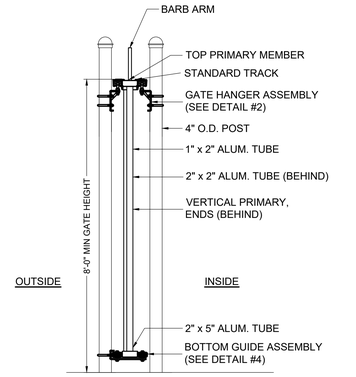
2 SLIDE GATE OPERATOR PAD LAYOUT PLAN
SCALE: N.T.S.



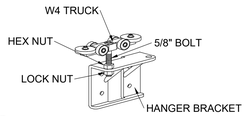
3 SLIDE GATE OPERATOR FRONT ELEVATION
SCALE: N.T.S.



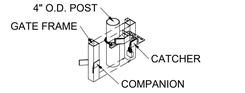
4 SLIDE GATE OPERATOR SIDE ELEVATION
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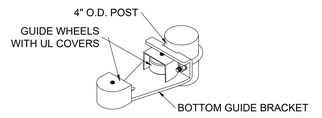
5 SLIDE GATE ASSEMBLY SECTION
SCALE: N.T.S.



6 SLIDE GATE HANGER
SCALE: N.T.S.



7 SLIDE GATE CATCH ASSEMBLY
SCALE: N.T.S.



8 SLIDE GATE BOTTOM GUIDE
SCALE: N.T.S.

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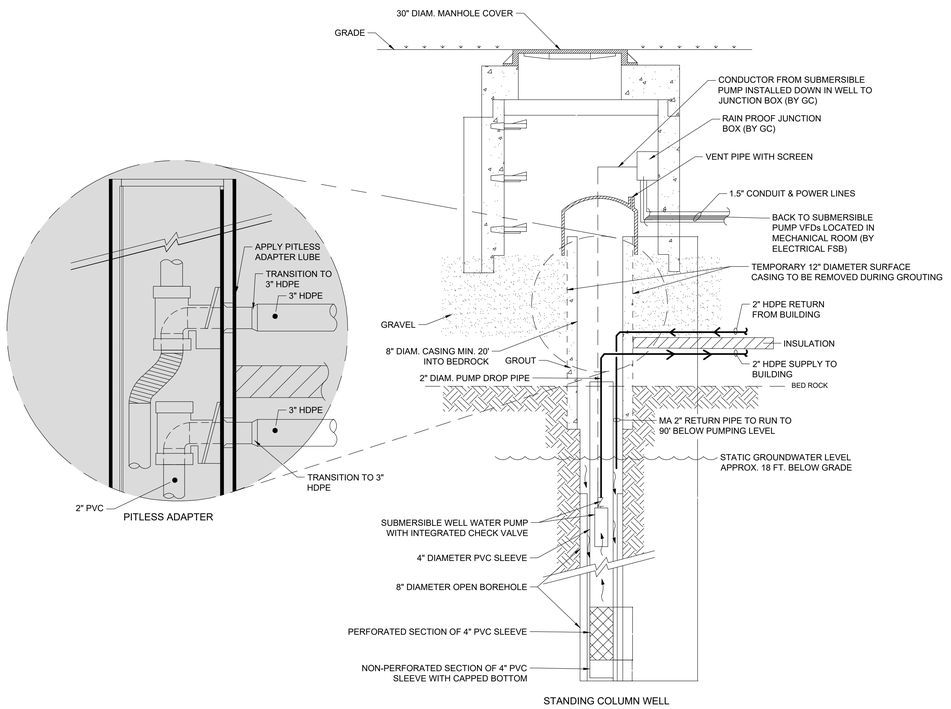
Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.: ENG24 - 1552
W&S File No.: -

Drawing Title:
CIVIL DETAILS VII

Sheet Number:
C607

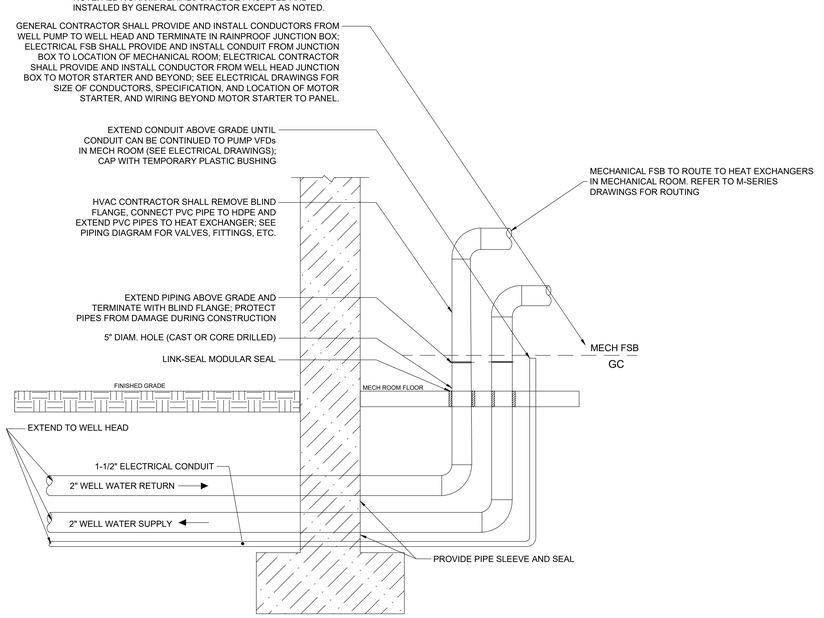
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1 STANDING COLUMN WELL DETAIL
SCALE: N.T.S.

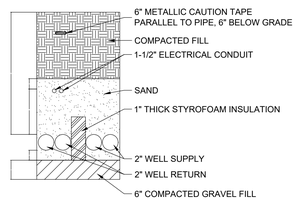
NOTE: ALL WORK/MATERIALS SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR EXCEPT AS NOTED.

GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTORS FROM WELL PUMP TO WELL HEAD AND TERMINATE IN RAINPROOF JUNCTION BOX; ELECTRICAL FSB SHALL PROVIDE AND INSTALL CONDUIT FROM JUNCTION BOX TO LOCATION OF MECHANICAL ROOM; ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTOR FROM WELL HEAD JUNCTION BOX TO MOTOR STARTER AND BEYOND; SEE ELECTRICAL DRAWINGS FOR SIZE OF CONDUCTORS, SPECIFICATION, AND LOCATION OF MOTOR STARTER, AND WIRING BEYOND MOTOR STARTER TO PANEL.



NOTE: SEE CIVIL PLANS FOR WATER SUPPLY, WATER RETURN, AND CONDUIT ROUTING OUTSIDE OF BUILDING. SEE MECHANICAL PLANS FOR ROUTING INSIDE BUILDING.

WELL WATER PIPING DETAIL
N.T.S.



2 WELL PIPE BURIAL DETAIL
SCALE: N.T.S.

Project:
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
PERMITTING
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Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:
GEOTHERMAL WELL DETAILS

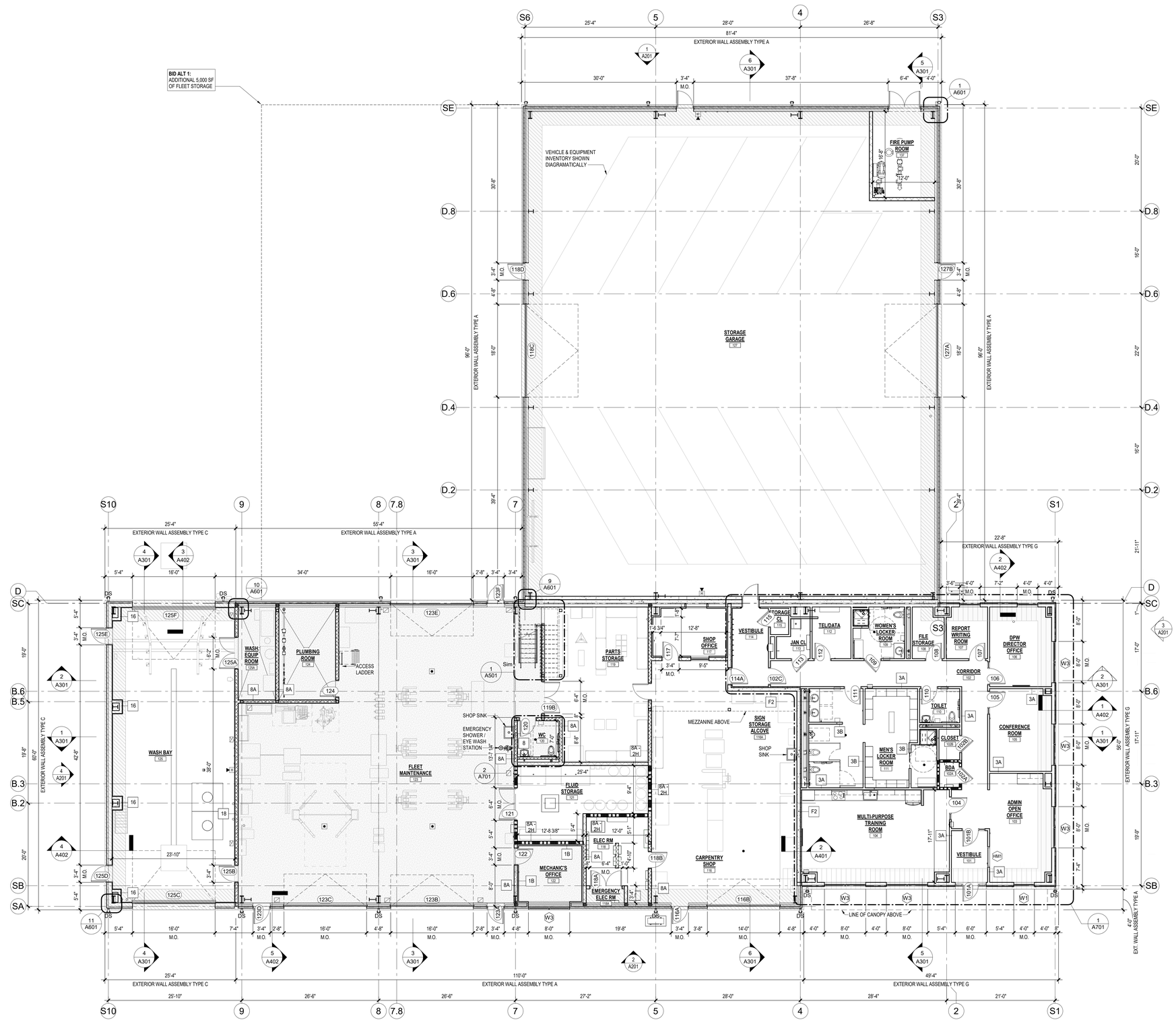
Sheet Number:
GT100

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PENDING

Lighting / Photometric Site Calculation Plans
will be included in a supplemental filing

BID ALT 1:
ADDITIONAL 5,000 SF
OF FLEET STORAGE



1 FIRST FLOOR PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE EQ DRAWINGS FOR MORE INFO.
2. FURNITURE SHOWN FOR INFORMATION ONLY (N.I.C.). SEE FURNITURE PLAN A921 FOR MORE INFO.
3. F.E. = FIRE EXTINGUISHER.
   F.E.C = FIRE EXTINGUISHER CABINET
   - BRACKET MOUNTED
   - CABINET MOUNTED (SEMI-RECESSED)
4. ALL INTERIOR DIMENSIONS ARE TAKEN FROM FACE OF GYPSUM WALL BOARD TO FACE OF GYPSUM WALL BOARD OR FACE OF CMU UNLESS SPECIFICALLY NOTED OTHERWISE.
5. SEE SHEET A012 FOR PLUMBING FIXTURE SCHEDULE / MOUNTING HEIGHTS.
6. BOLLARDS:
   - EB: EXTERIOR BOLLARD, 6" DIAMETER (SEE CIVIL DWGS)
   - IB: INTERIOR BOLLARD, 6" DIAMETER (SEE DETAIL X / AXXX)
7. FUME SEPARATION PARTITION, SEE A031 - FUME SEPARATION ASSEMBLY, TYPE F1 AND F2.
8. BOX-OUT DIMENSIONS AT STRUCTURAL COLUMNS ARE APPROXIMATE. GENERAL CONTRACTOR TO INSTALL TIGHT TO STRUCTURE, TYPICAL.
9. NOT ALL TV / MONITOR LOCATIONS ARE SHOWN. COORDINATE PROPOSED LOCATIONS WITH ELECTRICAL &TELECOMMUNICATIONS DRAWINGS. PROVIDE BLOCKING AT EACH LOCATION ACCORDINGLY.
10. CG — CORNER GUARD, SEE A901 FOR LOCATIONS.

UNDERSLAB RIGID INSULATION LEGEND:

A) ADMINISTRATION RIGID INSULATION
- STANDARD COMPRESSIVE STRENGTH - 25 PSI
- R-10, 4'-0" HORIZONTAL FROM FOUNDATION WALL INWARDS
- R-15 DOWN TO TOP OF FOODTING ON EXTERIOR SIDE OF FOUNDATION WALL

B) VEHICLE STORAGE, SHOPS RIGID INSULATION
- HIGH COMPRESSIVE STRENGTH - 60 PSI
- R-10, 4'0" HORIZONTAL FROM FOUNDATION WALLS INWARDS
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

C) MAINTENANCE BAY RIGID INSULATION
- HIGH COMPRESIVE STRENGTH - 60 PSI
- COMPLETELY UNDER SLAB
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

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Revisions:

No.	Date	Description

COA:

Seal:

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

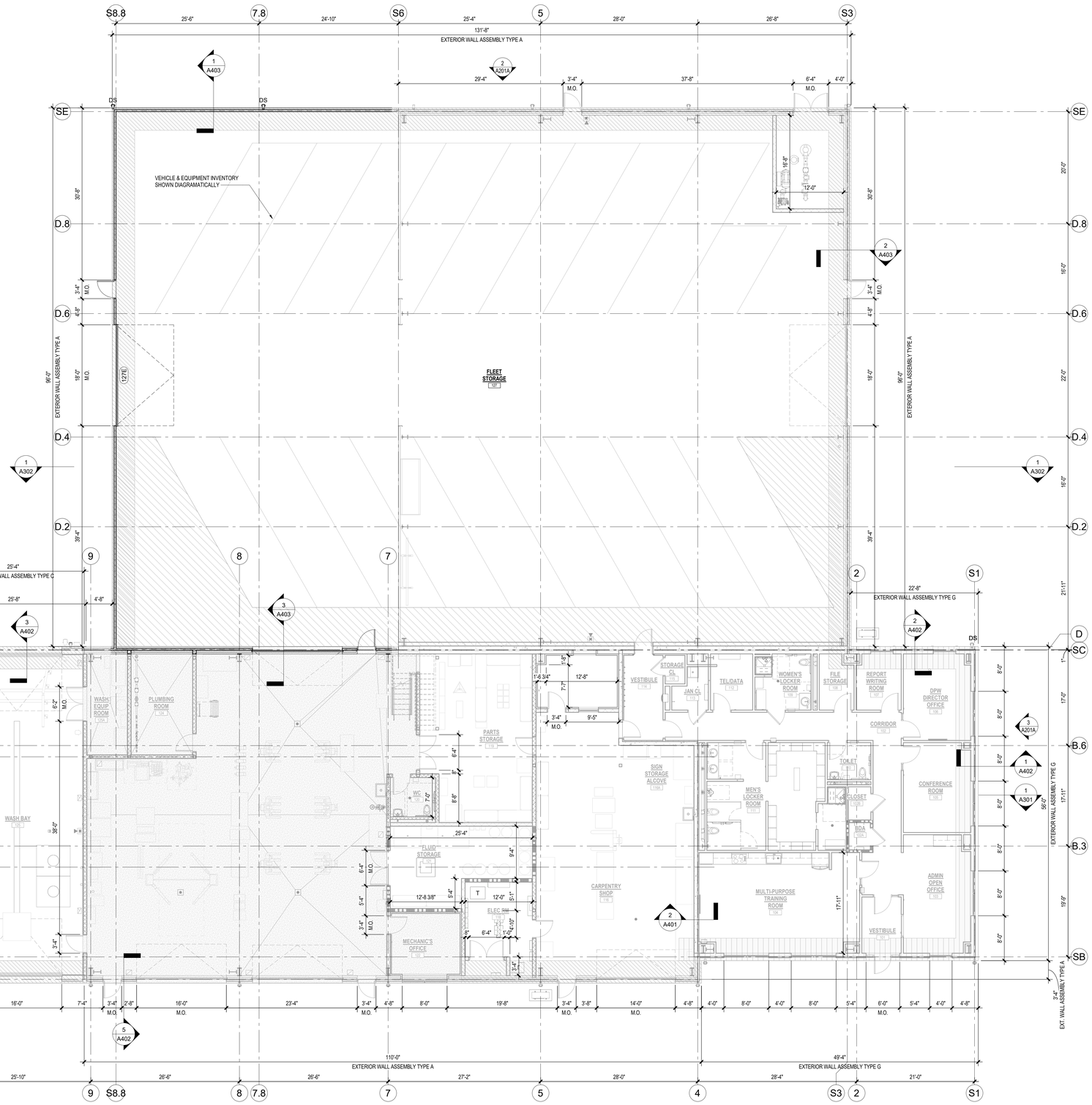
Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
OVERALL FLOOR PLAN - BASE

Sheet Number:
A101

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1 FIRST FLOOR PLAN
1/8" = 1'-0" 5/ A106

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE EQ DRAWINGS FOR MORE INFO.
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- R-15 DOWN TO TOP OF FOODTING ON EXTERIOR SIDE OF FOUNDATION WALL

B) VEHICLE STORAGE, SHOPS RIGID INSULATION
- HIGH COMPRESSIVE STRENGTH - 60 PSI
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- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

C) MAINTENANCE BAY RIGID INSULATION
- HIGH COMPRESIVE STRENGTH - 60 PSI
- COMPLETELY UNDER SLAB
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

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Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

OVERALL FLOOR PLAN - BID ALT 1

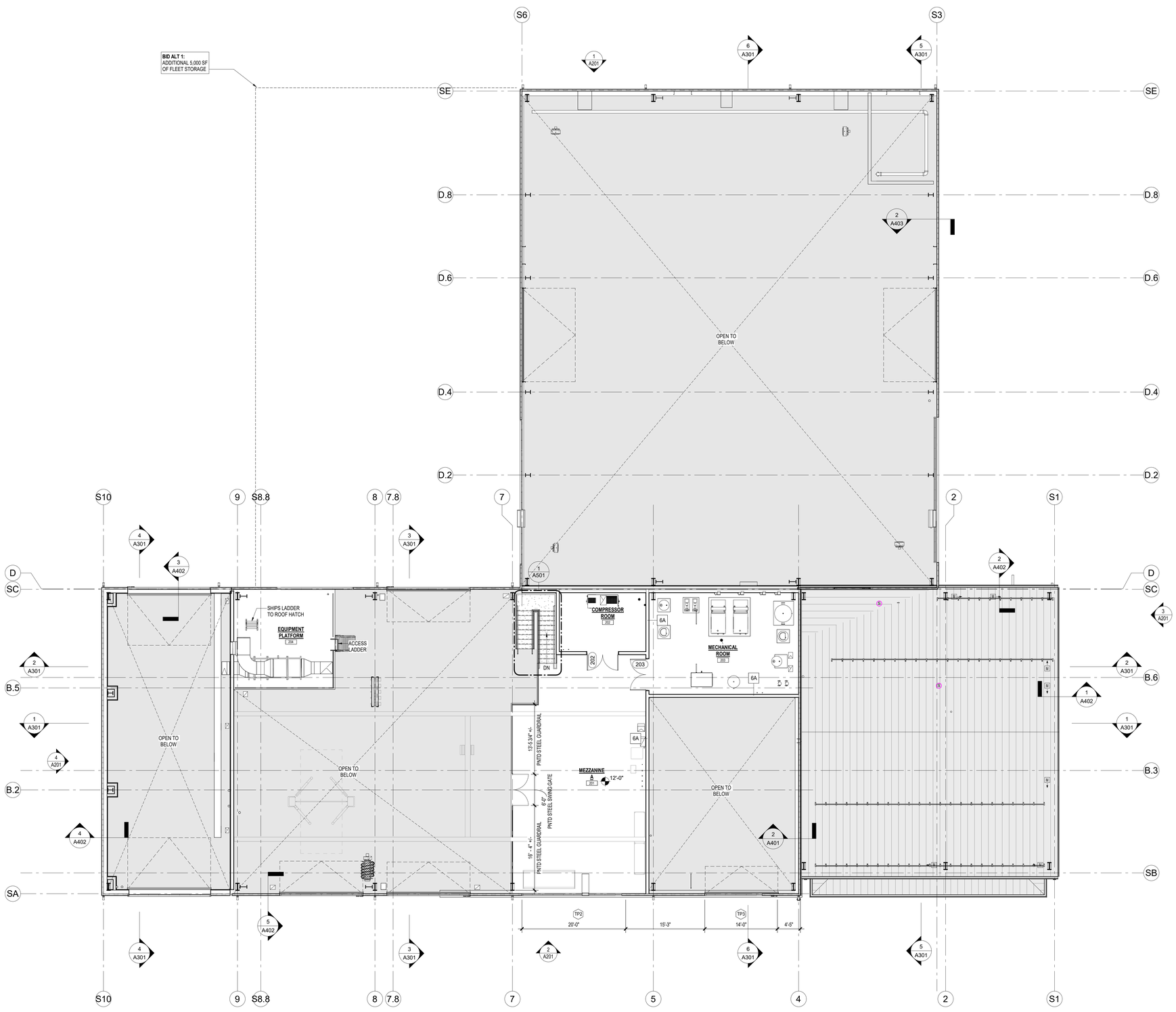
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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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No.	Date	Description

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Seal:

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Scale: 1/8" = 1'-0"

Key Plan:

NORTH

Date:	OCTOBER 14, 2025
Drawn By:	MMS
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Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

OVERALL MEZZANINE PLAN - BASE

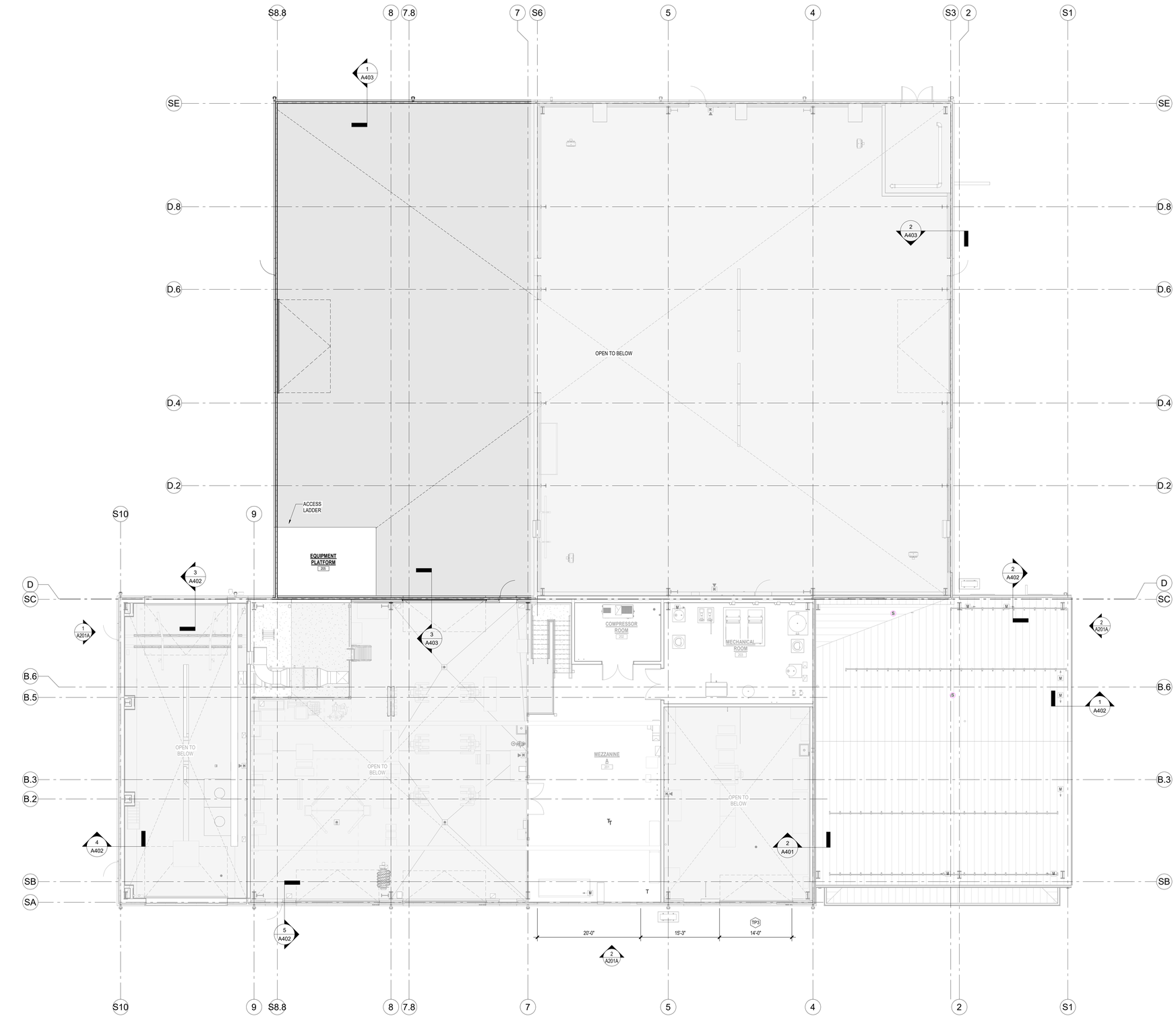
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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0" 1/ A201

SCALE: 1/8" = 1'-0"

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Revisions:

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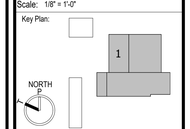
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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:



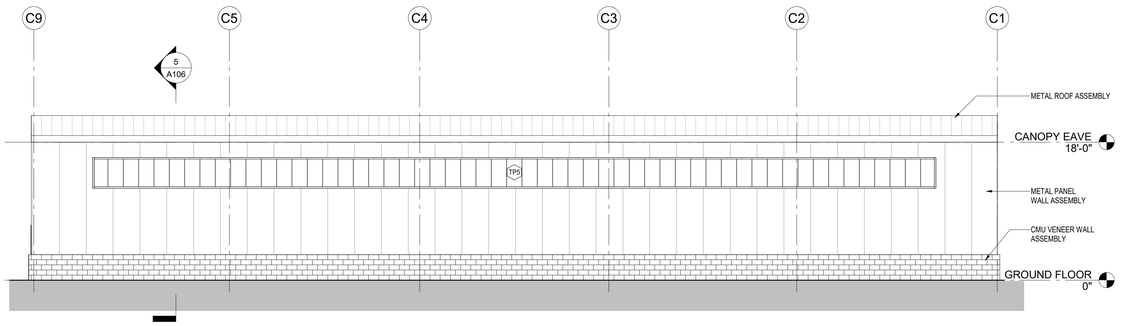
Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

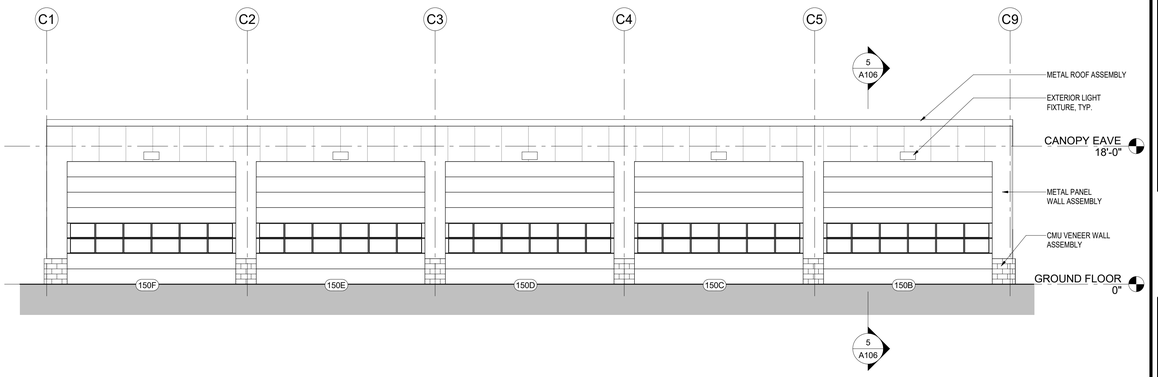
OVERALL MEZZANINE PLAN - BID ALT 1

Sheet Number:

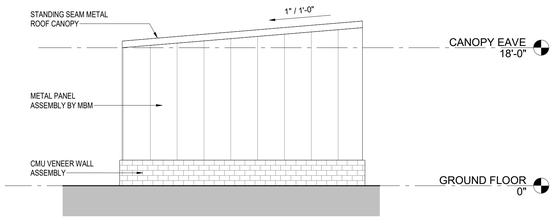
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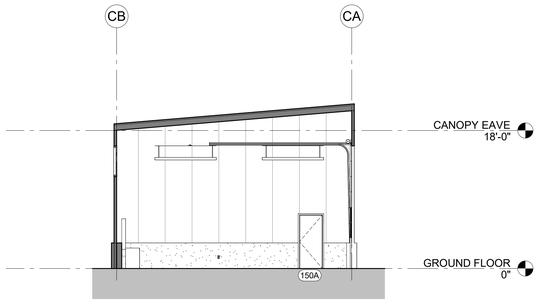
7 NORTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



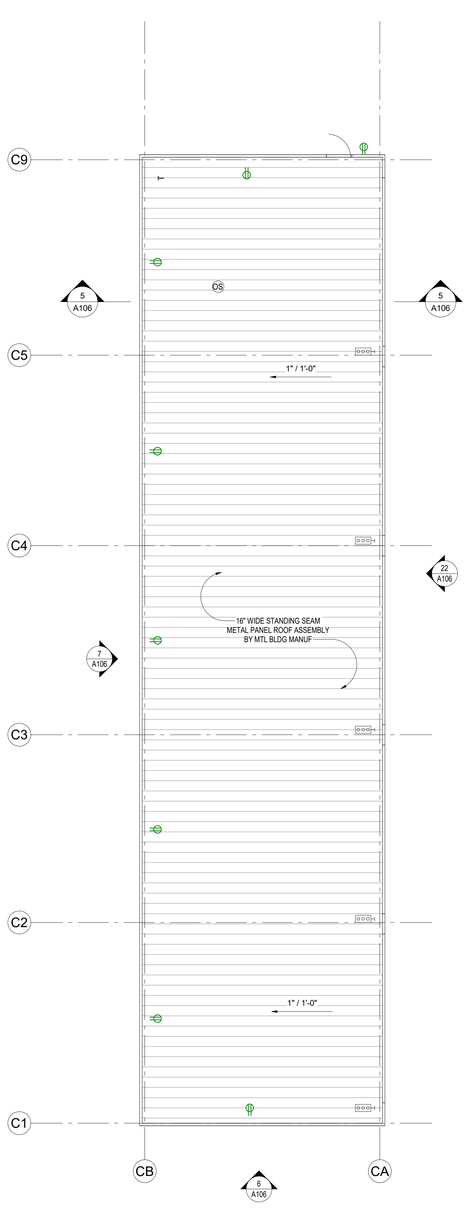
22 SOUTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



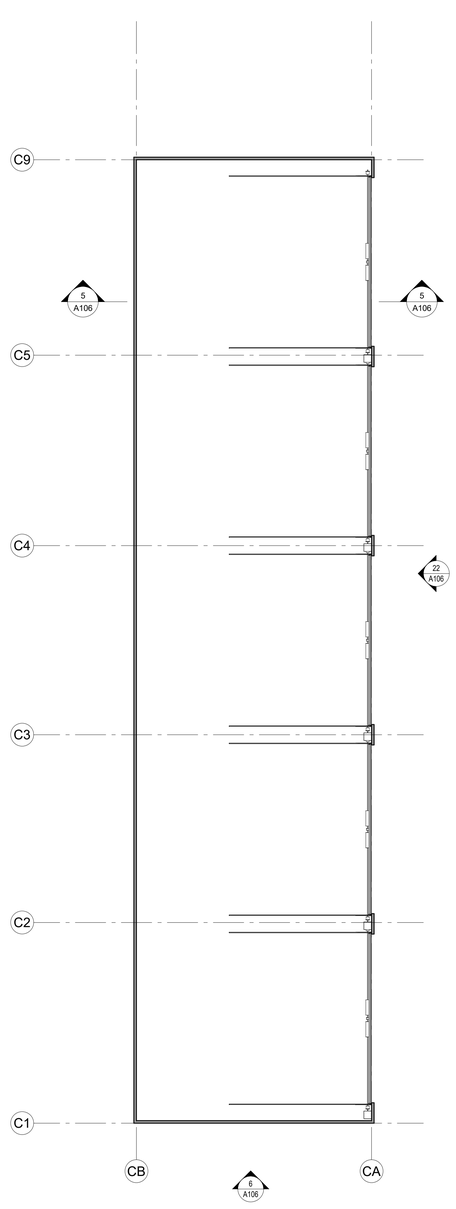
6 WEST ELEVATION - STORAGE CANOPY
1/8" = 1'-0"



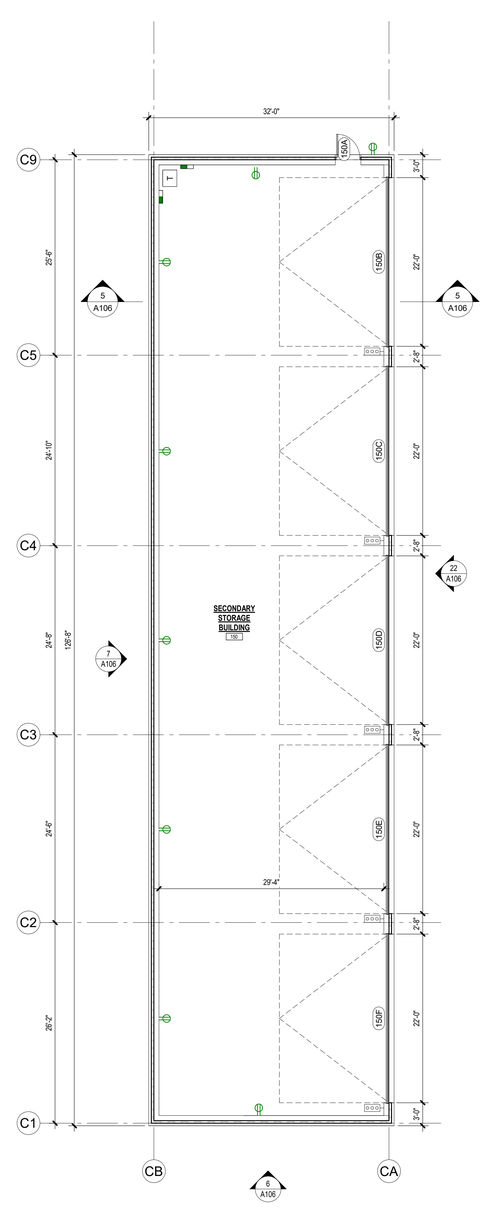
5 BUILDING SECTION - STORAGE CANOPY
1/8" = 1'-0"



4 ROOF PLAN - STORAGE CANOPY
1/8" = 1'-0"



3 RCP - STORAGE CANOPY
1/8" = 1'-0"



1 FLOOR PLAN - STORAGE CANOPY
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

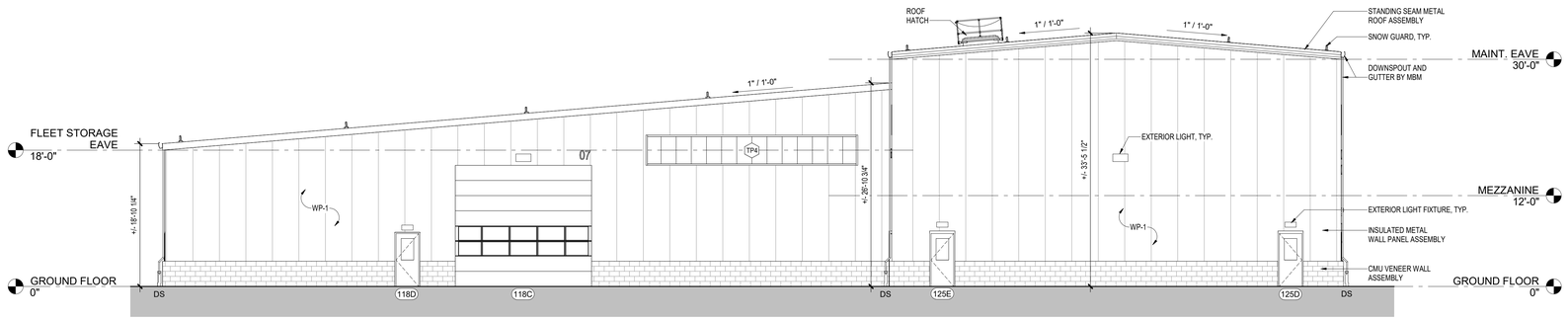
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BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS

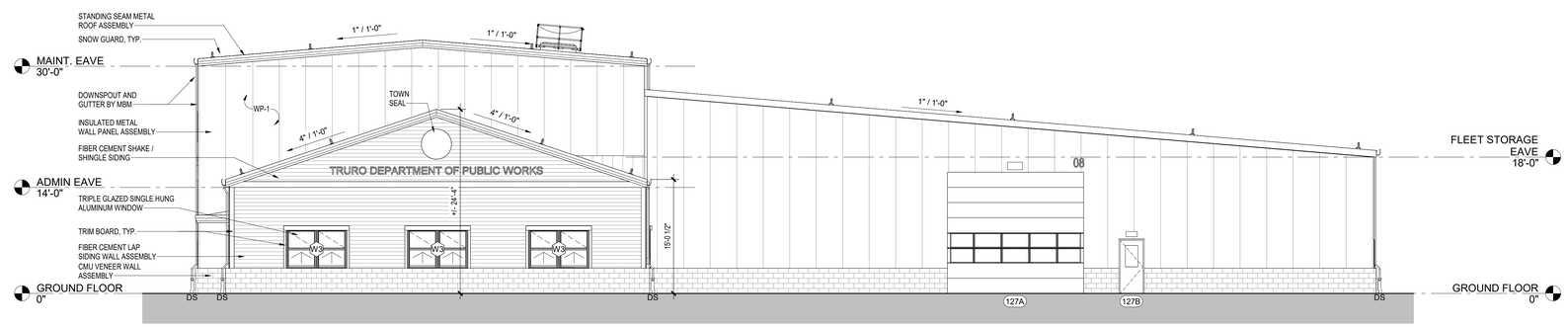
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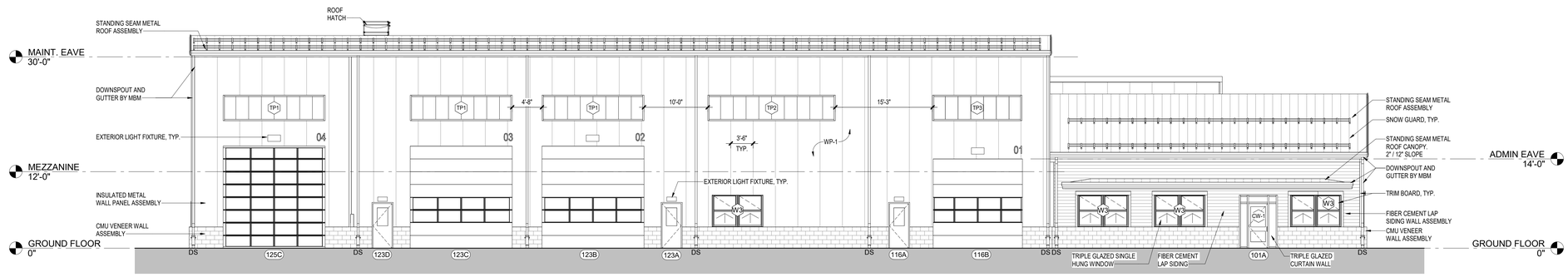
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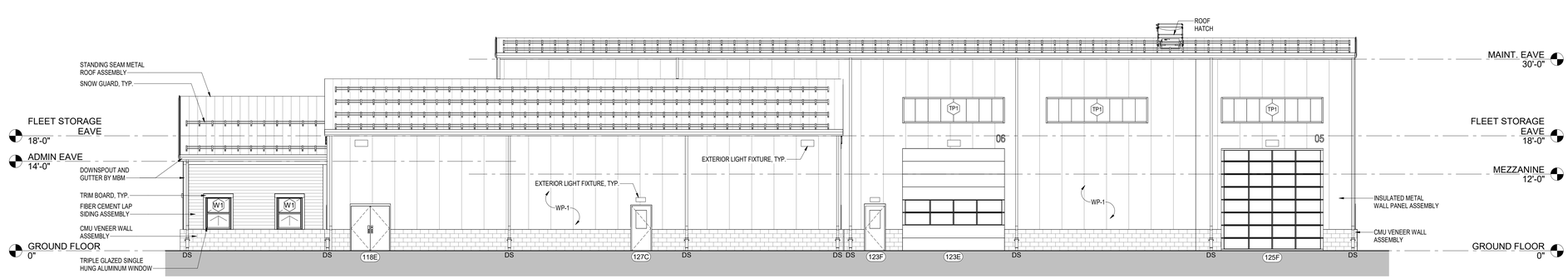
4 NORTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



3 SOUTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



2 WEST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



1 EAST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101

0" 4" 8" 16"
SCALE: 1/8" = 1'-0"

WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1, INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION - REFER TO X / AXXX FOR ADDITIONAL INFO

TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

FIBER CEMENT SHINGLE / SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
2. FOR MOCK-UP REQUIREMENTS, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR ELEVATIONS - BASE BID

Sheet Number:
A201

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WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1,
INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION
- REFER TO X / AXXX FOR ADDITIONAL INFO

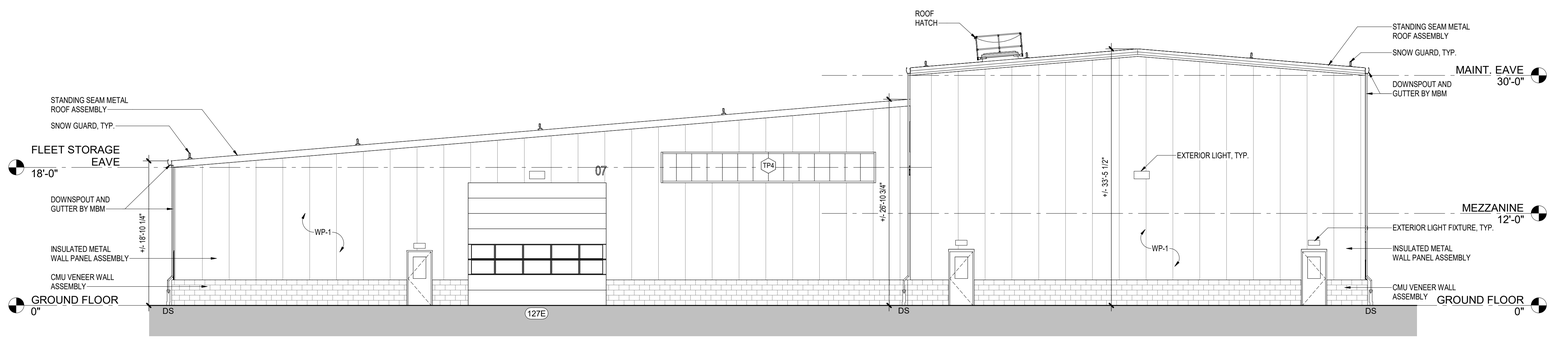
TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

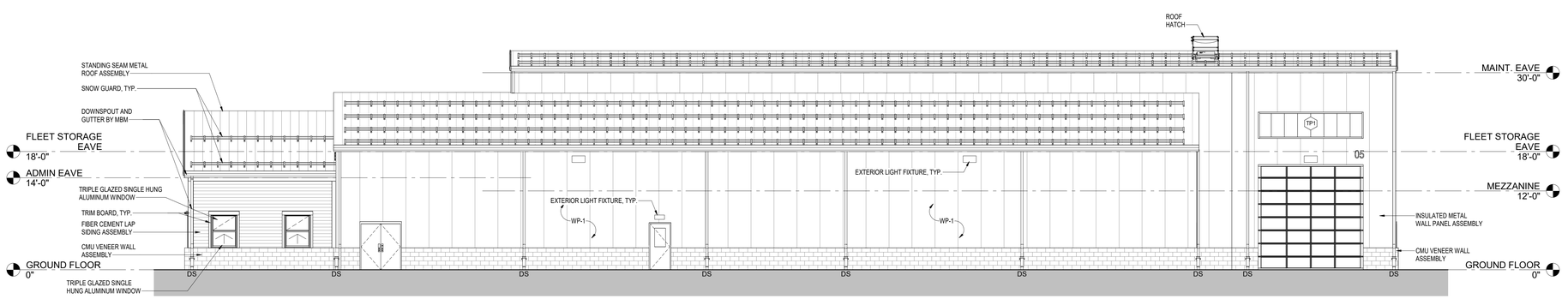
FIBER CEMENT SHINGLE /
SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
2. FOR MOCK-UP REQUIREMENTS, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



1 NORTH EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0"



2 EAST EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0" 1/ A101A

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

GGD Consulting Engineers, Inc.
375 Corner Road, Suite D
Darmouth, MA 02747
(508) 996-0883

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

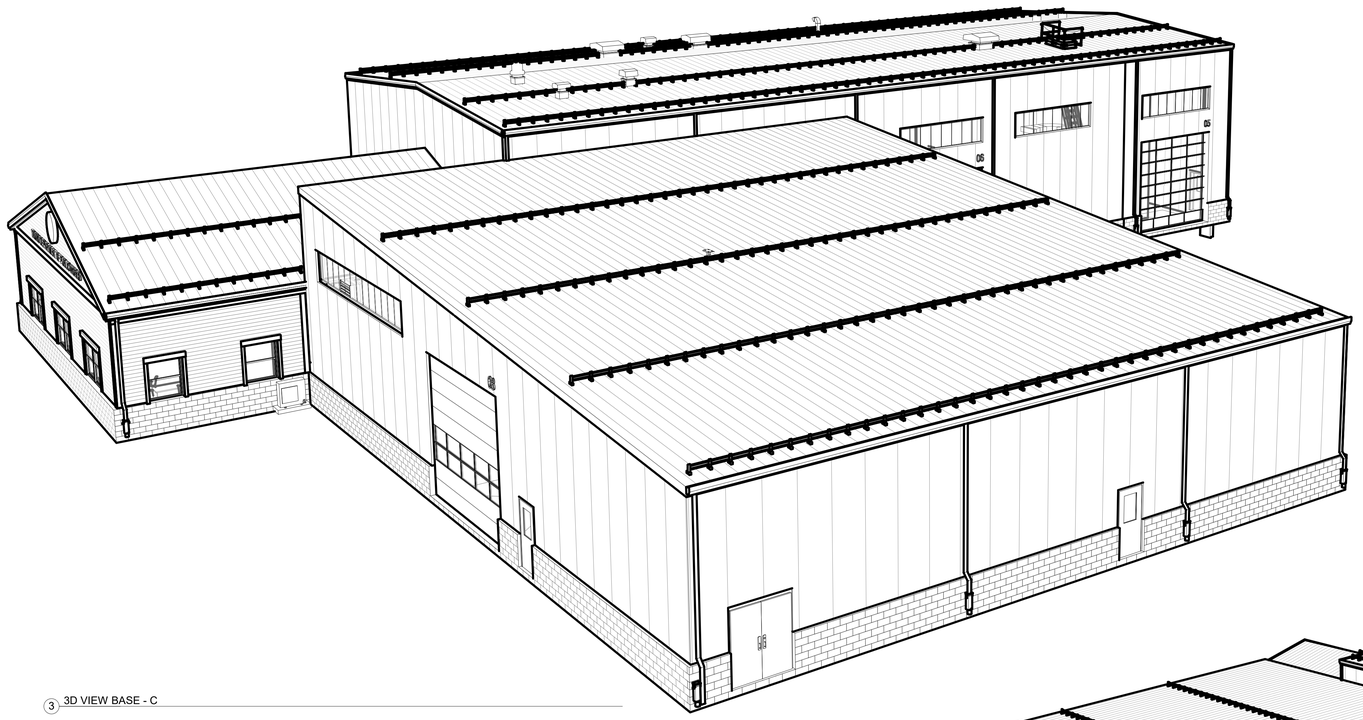
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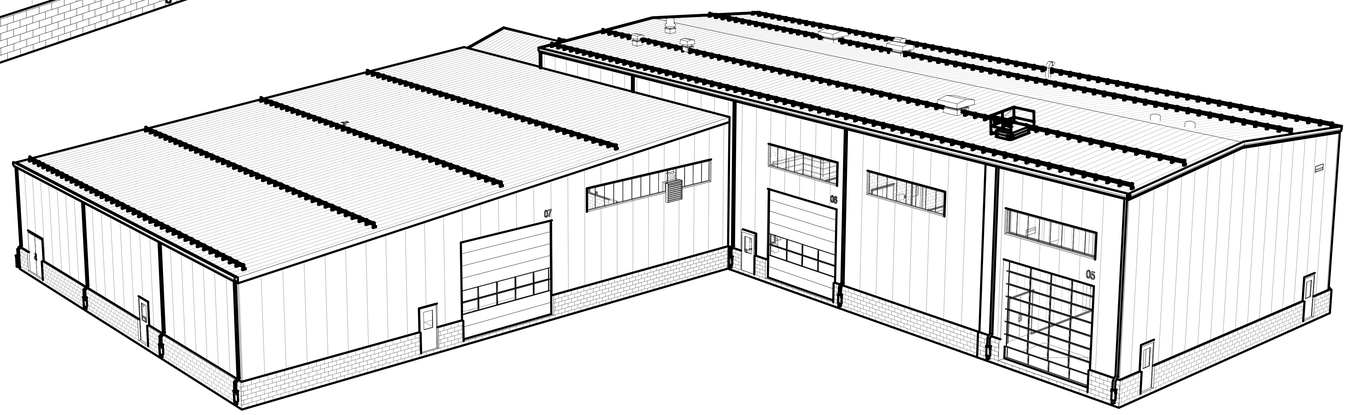
Sheet Number:

A201A

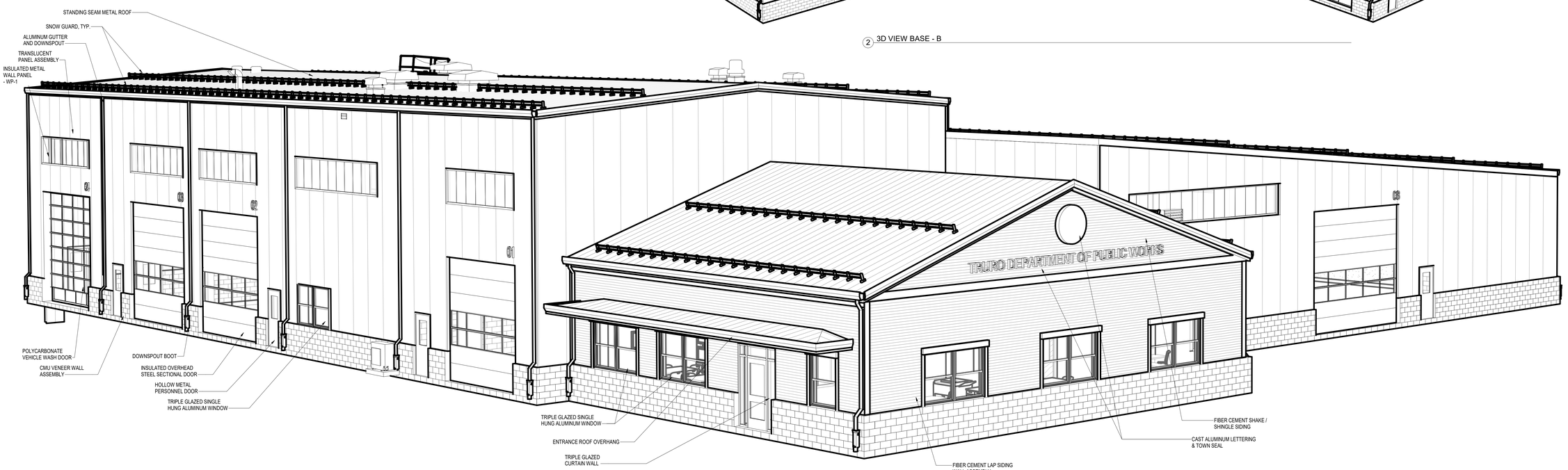
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3 3D VIEW BASE - C



2 3D VIEW BASE - B



1 3D VIEW BASE - A

NOTE: 3D VIEWS ARE PROVIDED FOR REFERENCE ONLY. REFER TO PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEDULES FOR BUILDING REQUIREMENTS.

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Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
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(508) 998-0883

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:
SITE PLAN REVIEW

Scale: NTS

Key Plan:

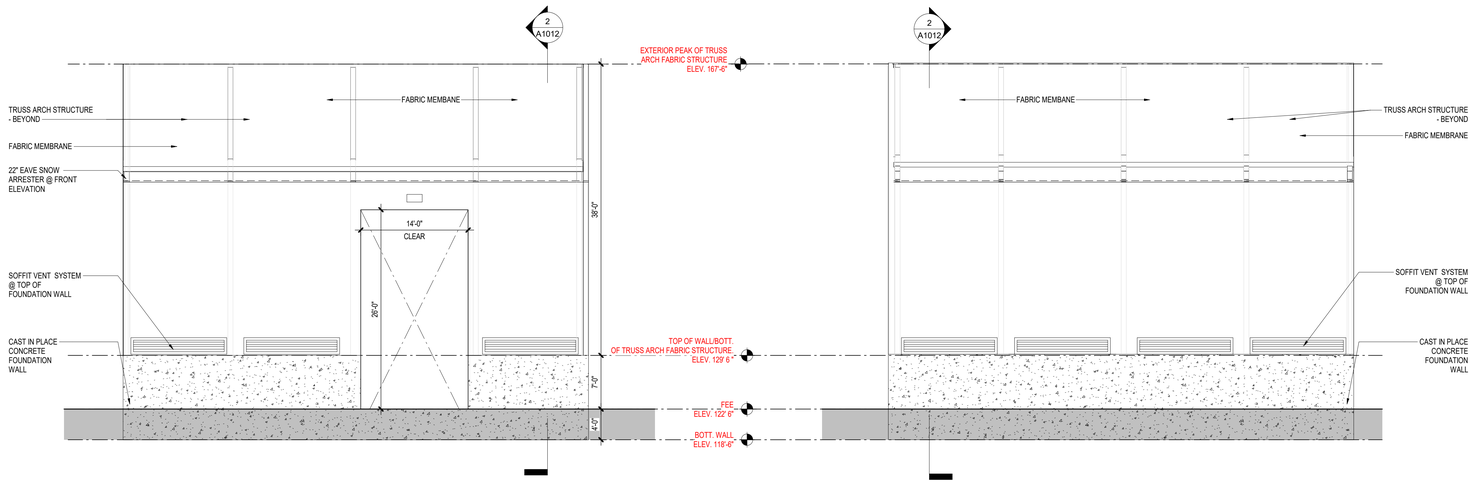
Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR 3D VIEWS - BASE

Sheet Number:
A231

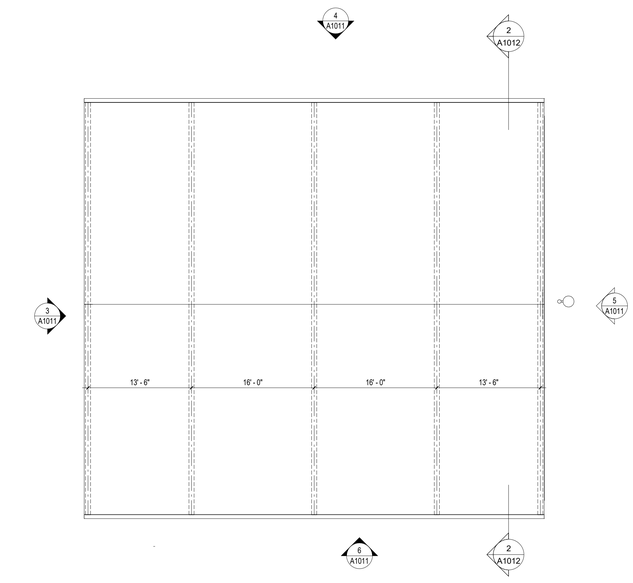
GENERAL SALT SHED NOTES:

1. COLUMN LINE SPACING SHOWN FOR NEW TRUSS ARCH FRAMING AND WOOD SIDE WALL IS DIAGRAMMATIC ONLY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE STRUCTURE TO MEET ALL CURRENT CODES. FINAL QUANTITY OF TRUSS ARCH FRAMES AND COLUMN LINE SPACING SHALL BE DETERMINED BY THE SALT SHED MANUFACTURER. FINAL COLUMN LINE LOCATIONS ARE SUBJECT TO ENGINEER REVIEW. THE ADDITION OR DELETION OF TRUSS ARCH FRAMES BASED ON THE FINAL DESIGN BY THE BUILDING MANUFACTURER SHALL NOT BE CAUSE FOR A CHANGE IN THE CONTRACTOR PRICE.
2. CONTRACTOR SHALL SUBMIT DETAILED CONNECTION DRAWINGS FOR THE MEMBRANE AND WOOD SIDE WALL COVERED FRAME STRUCTURE AND CAST-IN-PLACE CONCRETE WALLS STAMPED BY A LICENSED MASSACHUSETTS STRUCTURAL ENGINEER.
3. THE PT PLYWOOD PROTECTION WALL (INSIDE FACE OF SIDE AND BACK WALLS) SHALL CONSIST OF 3/4" PT PLYWOOD MOUNTED TO 1/2" STRAPPING AT 16" O.C. INSTALLED VERTICALLY FASTENED TO THE CONCRETE BLOCKS WITH NON- CORROSIVE FASTENERS (STAINLESS STEEL). PLYWOOD SHALL STOP 12" FORM THE FLOOR TO ALLOW SALT TO FALL OUT FROM BEHIND THE WALL.

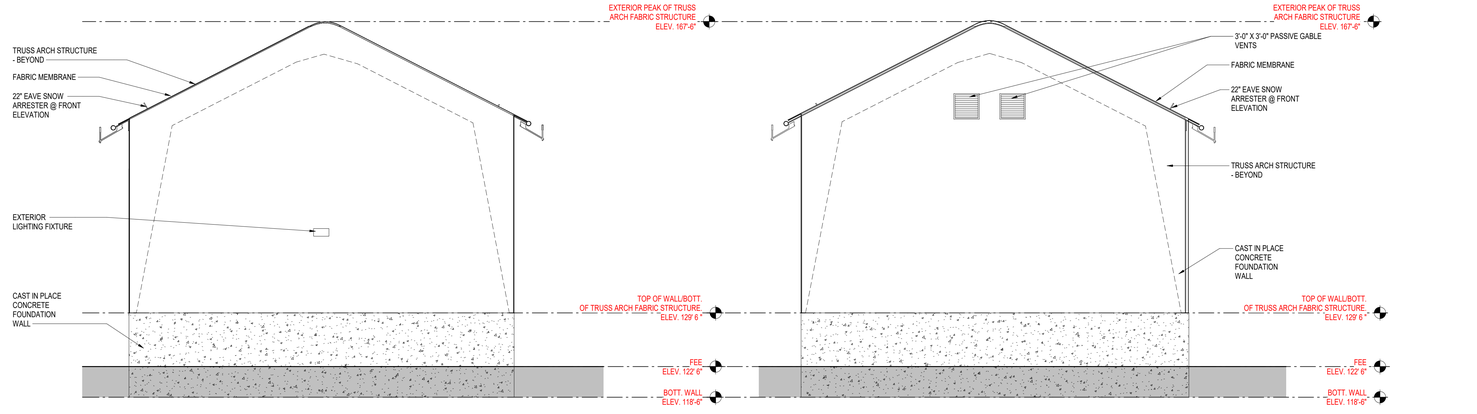


6 SALT SHED ELEVATION 4
1/8" = 1'-0" 1/ A1011

4 SALT SHED ELEVATION 2
1/8" = 1'-0" 1/ A1011

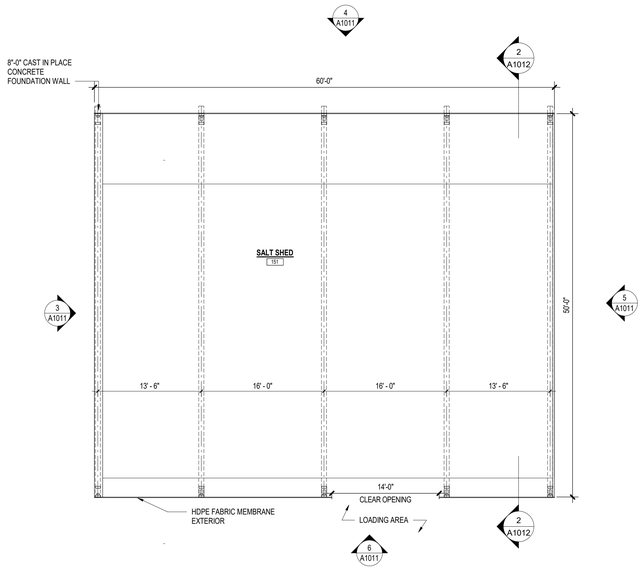


2 SALT SHED ROOF PLAN
1/8" = 1'-0" 5/ A106



5 SALT SHED ELEVATION 1
1/8" = 1'-0" 1/ A101

3 SALT SHED ELEVATION 3
1/8" = 1'-0" 1/ A1011



1 SALT SHED FLOOR PLAN
1/8" = 1'-0" 5/ A106

Project:
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Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	FS
Reviewed By:	DRD
Approved By:	JRC
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

SALT SHED PLANS & ELEVATIONS

Sheet Number:

A1011

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Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

REPORT

October 20, 2025

TOWN OF
Truro
MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS FACILITY

APPLICATION FOR PLANNING BOARD SITE PLAN REVIEW



October 20, 2025

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

Truro Planning Board
24 Town Hall Road
Truro, MA 02666

WSE Project No. ENG24-1552

Re: **Application for Site Plan Review & Special Permit**
17 Town Hall Road
Truro Department of Public Works Facility

Dear Member of the Board,

On behalf of the Town of Truro, Weston & Sampson Engineers, Inc. is pleased to present an application for Planning Board Review of a new Department of Public Works Facility located at 17 Town Hall Road. We have provided ten (10) copies of a Site Plan Review (SPR) Package to fulfill the requirements of Truro's Rules and Regulations. An electronic copy of the SPR Package has also been submitted via email. The filing includes the following material in support of this application:

Appendix A:	Commercial Site Plan Review Application Form
Appendix B:	Stormwater Report
Appendix C:	Truck Turning Circulation Plans
Appendix D:	Project Cost Estimate
Appendix E:	Certified Abutters List
Appendix F:	Project Site & Building Plans

Project Overview

The proposed project is to be located at the current site of Truro's Department of Public Works. The proposed facility design includes a base building of approximately 18,680 square foot building footprint. The program includes offices, support administrative spaces, staff facilities, a carpentry shop, fleet maintenance, a wash bay, utility rooms, and fleet storage.

Site components include employee and visitor parking area, salt shed, generator, transformer, stormwater drainage, a septic treatment (nitrogen removal) and disposal system, a 5,000 gallon tight tank for fleet maintenance operations, a fire pump room and 30,000 gallon cistern, a geothermal wellfield, an underground 3,000 gallon storage tank for domestic water, and a Public Water System (PWS) drinking well and water line from an adjacent property (22 & 24 Meetinghouse Road). Refer to Appendix F for the site and building plans.

There are two design alternates as follows:

- **Alternate 1**: A 5,000 square foot extension of attached fleet storage garage to provide additional storage space for DPW vehicles and equipment.

- **Alternate 2**: A detached, standalone cold storage building on the north edge of the project site measuring 32' x 126'-8", approximately 4,050 square feet.

The Facility will accommodate fifteen (15) full-time employees; three (3) of which primarily work out of the Transfer Station, but who may use the Facility during training events. Consistent with the Town's sustainability goals, the facility will be an all-electric building supported by geothermal heating and cooling systems, a rooftop with solar-ready infrastructure and a parking lot with electric vehicle (EV) charging-ready infrastructure.

The proposed project is seeking funding at the 2026 Spring Town meeting. If successful, construction will begin in the Summer 2026. The construction of the proposed project is requested to be phased to allow for on-site DPW operations to remain during the first phase of construction. Once Phase 1 is completed, the remaining existing buildings will be demolished, and Phase 2 will take place to complete the construction. The time required to complete project with phased construction is approximately 27 months. Refer to Appendix D for the proposed project's schematic design-level cost estimate (note: the base design and design alternates have changed slightly since the schematic design phase). We will be submitting an updated, design development-level cost estimate to the Town by the beginning of November.

On behalf of the Applicant, Weston & Sampson respectfully requests the following items:

- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 30.9.G.4 pertaining to the requirement for Parking Stall Dimensions. The proposed parking stalls are 9-feet wide by 18-feet long; whereas the referenced bylaw requires 9-feet wide by 20-feet long. The request is being made so that the parking lot design could maximize stall quantity and fit a landscape island, access road and side yard fencing while still maintaining some buffer along the property line and minimizing impacts on the abutters.
- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 70.3.F.16 pertaining to the requirement for a bicycle rack.

In addition to the above mentioned waivers, the applicant is also seeking a variance from Section 50.1.A pertaining to the maximum building height requirement. This variance request is being filed in a separate application seeking a special permit through the Board of Appeals.

The attached application was prepared in accordance with the standards and recommendations provided in Truro's Zoning Bylaws. If you have any questions or would like to discuss this further, please do not hesitate to contact me at (508) 203-4231 or donahue.della@wseinc.com.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Della Donahue
Project Manager

Appendix A

Commercial Site Plan Review
Application Form

Town of Truro Planning Board

P.O. Box 2030, Truro, MA 02666

APPLICATION FOR COMMERCIAL SITE PLAN REVIEW

To the Town Clerk and the Planning Board of the Town of Truro, MA Date 10/20/2025

The undersigned hereby files an application with the Truro Planning Board for the following:

☒ ***Site Plan Review*** pursuant to §70 of the Truro Zoning Bylaw

☐ ***Waiver of Site Plan Review*** pursuant to §70.9 of the Truro Zoning Bylaw
(Note: Site Plan Review shall not be waived in the Seashore District)

1. General Information

Description of Property and Proposed Project The project consists of site improvements and a new, consolidated DPW facility. The proposed building includes administrative offices, staff facilities, a carpentry shop, fleet maintenance bays, a vehicle wash bay, a fleet storage garage, utility rooms, and mezzanine storage spaces. The project also includes site components like an exterior knock-down pad, material storage bins and a salt shed. The existing fuel station will remain.

Property Address 17 Town Hall Road, Truro, MA 02666 Map(s) and Parcel(s) 46-269-0

Registry of Deeds title reference: Book 92, Page 23, or Certificate of Title Number N/A and Land Ct. Lot # N/A and Plan # N/A

Applicant's Name Town of Truro

Applicant's Legal Mailing Address 24 Town Hall Road, PO Box 2030, Truro, MA 02666

Applicant's Phone(s), Fax and Email ksclark@truro-ma.gov

Applicant is one of the following: *(please check appropriate box)*

*Written Permission of the owner is required for submittal of this application.

☒ Owner ☐ Prospective Buyer* ☐ Other*

Owner's Name and Address Town of Truro (Kelly Clark, Town Manager), P.O. BOX 2030, Truro, MA 02666

Representative's Name and Address Weston & Sampson - 100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Representative's Phone(s), Fax and Email (508) 203-4231; donahue.della@wseinc.com

2. Waiver(s) Request – The Planning Board may, upon the request of the applicant, pursuant to §70.3.E, waive requirements of §70.3.D, provided that in the opinion of the Planning Board such a waiver would not be detrimental to the public interest, cause the Town any expense, or be inconsistent with the intent and purpose of this Bylaw. A request for a waiver by the applicant shall be accompanied by a reasonable explanation as to why the waiver is being requested. If multiple waivers are requested, the applicant shall explain why each waiver is requested.

- The applicant is ***advised*** to consult with the Building Commissioner, Planning Department, Conservation Department, and/or Health Department prior to submitting this application.

Signature(s)

Della Donahue
Applicant(s)/Representative *Printed* Name(s)

Della Donahue
Applicant(s)/Representative *Signature(s)*

Kelly S. Clark
Owner(s) *Printed* Name(s) or written permission

Kelly S. Clark
Owner(s) *Signature(s)* or written permission

Your signature on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
D. Procedures and Plan Requirements				
1a.	An original and 9 copies of the Application for Site Plan Review	X		
1b.	10 copies of the required plans and other required information including this Checklist	X		
1c.	Completed Criteria Review	X		
1d.	Certified copy of the abutters list obtained from the Truro Assessors Office	X		
1e.	3 copies of drainage calculations stamped by a Professional Engineer	X		
1f.	Applicable filing fee		X	waived
1g.	Any other information that may be applicable or required by the Planning Board	X		truck turning simulations
	Site Plans			
2a.	Site Plans shall be prepared, signed and stamped by a Registered Land Surveyor and Professional Engineer	X		
2b.	Site Plans shall be prepared at a scale of one inch equals forty feet (1"=40') or larger		X	Scale 1"= 20', for detail readability
3a.	General - Submitted plans shall contain the following:			
3a. 1	North Arrow/Location Map: A north arrow and a locus plan containing sufficient information to locate the subject property, such as streets bounding or providing access to the property.	X		
3a. 2	Zoning Information: All applicable Zoning Bylaw information regarding the site's development, both existing and proposed. This information shall be placed in a table format which must list all parking; setbacks; percent of lot coverage, broken down by parking, walkways, building(s), etc.; number of dwelling units; total amount of square feet; size of signs, and any other applicable zoning information necessary for the proper review of the site plan.	X		See C000 Cover Sheet
	Existing:	X		See C100 & C101 Alpha Survey Plans
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Size of signs	X		
	Any other applicable zoning information necessary for the proper review of the site plan	X		See C000 Cover Sheet
	Proposed:			
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		
	Size of signs	X		See Detail 7/ Sheet C604
	Any other applicable zoning information necessary for the proper review of the site plan	X		See Zoning Dimensioal Table on C000 Cover Sheet
3a. 3	Assessor and Deed Information: The Truro Assessors Atlas Map(s) and Parcel(s) numbers and all plan and deed references.	X		See C100 & C101 Alpha Survey Plans
3a. 4	Graphic Scale	X		
3a. 5	Title Block - Including:	X		
	Name and description of the project	X		
	Address of the property	X		
	Names of the record owner(s) and the applicant(s)		X	See C000 Cover Sheet
	Date of the preparation of the plan(s) and subsequent revision dates	X		
3a. 6	Legend of all symbols	X		See Sheets C001, C100 & C10
3b.	Existing Conditions Plan - showing the following:			
3b. 1	Total area and dimensions of the lot shown on a surveyed plan conforming to the requirements of the Barnstable County Registry of Deeds.	X		See C100 & C101 Alpha Survey Plans
3b. 2	Location of existing buildings (including the number of stories, overall height in feet, and gross floor area in square feet of all existing buildings), parking, drives, walks, lighting service areas, all utilities, drainage facilities, easements, and other appurtenances, including setbacks from property lines.	X		
	Location of existing buildings	X		
	Number of stories	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Overall height in feet	X		
	Gross floor area in square feet		X	
	Parking	X		
	Drives	X		
	Walks	X		
	Lighting service areas	X		
	All utilities	X		
	Draining facilities	X		
	Easements	X		
	Other appurtenances	X		
	Setback from property lines	X		See Zoning Dimensioal Table on C000 Cover Sheet
3b. 3	Existing contours based on two foot (2') contour intervals.	X		
3b. 4	General location of trees having a caliper of ten (10) inches or more diameter at breast height (DBH), all resource areas as defined in M.G.L. Chapter 131, Section 40, landscaping and other significant natural features.	X		See C100 & C101 Alpha Survey Plans
3b. 5	Respective floor areas and/or square footage of existing uses of buildings and/or the property.		X	
3b. 6	Existing location(s) of any freestanding sign(s).	X		
3b. 7	National Flood Insurance Program flood hazard elevation.		X	Site is not located within a FEMA Flood Hazard Zone
3b. 8	Massachusetts Natural Heritage Endangered Species Act jurisdiction.		X	N/A
3c.	Proposed Conditions Plan - showing the following:			
3c. 1	Building Location: Identification of all building(s) to be located on the site. The number of stories, overall height in feet and gross floor area in square feet of all buildings shall be indicated.	X		
3c. 2	Building Elevation: A drawing(s) of the exterior of all building(s), as viewed from all sides, including dimensions, at a scale of no smaller than 1/8” = 1’-0”. This drawing must be at least 8" x 11" in size.	X		See sheets A106, A201 A201A, and A1011

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 3	Location of Parking/Walkways: Identification of the location of all parking and walkways, including curb cuts that will be used for site access from adjacent roadways or access points. Parking shall be consistent with the requirements outlined in §30.9.	X		
3c. 4	Easements/Legal Conditions: Identification of legal encumbrances(s), including easements, that are related to the site's physical development, and a listing of any condition(s) placed upon the site by the Zoning Board of Appeals, Planning Board, Conservation Commission, Board of Health or any other public body or agency with the authority to place conditions on the site's development.		X	See C100 & C101 Alpha Survey Plan notes, there are no known easements at the site.
3c. 5	Stormwater Drainage: All storm water drainage facilities utilized by the site shall be shown on the site plan. Storm water drainage calculations, which support the design of the control facilities shown on the plan, shall be calculated using a 2, 10, and 50-year storm events.	X		See Sheet C401 Grading & Drainage Plan and Appendix B for the accompanying Stormwater Report
3c. 6	Grades: Topography and a grading plan of the site.	X		
3c. 7	Location of Walls: Identification of the location, height, length, and materials to be used for all retaining walls to be located on the site.		X	No retaining wall are proposed on site.
3c. 8	Signs: Identification of the location, height and materials to be used for all signs to be located on the site. Signs will be reviewed using the Town of Truro Sign Code section of the zoning bylaw.	X		See Detail 7/ Sheet C604 for the Permanent Traffic Sign Summary Table.
3c. 9	Location of Streets/Drives: Identification of all streets and driveways including the type and dimensions of curbs and gutters. Distances to all the nearest streets and/or curb cuts shall be shown for both sides of any street which is adjacent to the site.	X		
3c. 10	Outdoor Storage/Display Areas: Identification of the location and type of outdoor storage and display areas on the site.	X		
3c. 11	Refuse Areas: Identification of the location of each outdoor refuse storage area, including the method of storage and screening. All refuse areas must be fully enclosed.		X	No dumpster enclosure area is proposed on site.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 12	Lighting Facilities: Identification of all illumination, including numbers and locations, indicating the direction and the degree of illumination offered by the lighting facilities and including specifications of the light fixture(s) to be used. (Also see General Bylaws Ch. IV §6.)	X		See Sheets LC001, LC002, LC003, and LC004 for the proposed Lighting Plans.
3c. 13	Location of Wetlands and Other Resource Areas: All resource areas as defined in M.G.L. Chapter 131, Section 40. (If applicable, the applicant shall file a Notice of Intent with the Truro Conservation Commission concurrently with the application to the Planning Board for Site Plan Review.)	X		There are no wetlands on or adjacent to the site. The existing conditions survey locates the existing ground water supply well on site.
3c. 14	Location and Description of Utilities. Identification of all utilities, including sewer line locations and profiles and storm drainage systems.	X		See Sheet C501 Utility Plan.
3c. 15	Parking and Driveway Cross Section: a cross section identifying the proposed construction of driveways and parking areas on the site.	X		See Detail 5/ Sheet C602 for the Pavement Section Detail.
3c. 16	Limit of work area (area to be disturbed during construction, including parking and storage of vehicles and equipment) and work staging area(s).	X		See Sheet C201.
3d.	Proposed landscape schedule for, and identification of, the location of all perimeter and interior landscaping – showing the following:		X	Proposed Landscaping includes loam & seed only.
	Proposed paving materials for walkways	X		
	Fences	X		
	Stonewalls		X	No stonewalls are proposed on site.
	All planting materials to be placed on the site	X		
	All existing trees over 10 inches diameter at breast height (DBH) to be saved or removed shall be shown on the site plan	X		See Sheet C201.
3e.	Building Plans – at a scale of no less than 1/8" = 1'-0" showing the following:	X		See sheets A101, A101A, A201, A201A, A106, and A1011
3e. 1	Elevations showing exterior materials and features including but not limited to doors, windows, trim, roof, lighting and including the height of the building(s).	X		
3e. 2	Floor plans with dimensions.	X		
3f.	Project Estimate:	X		
	Estimated date of initiation	X		refer to cover letter / project overview
	Estimated time required to complete the proposed project and any and all phases thereof	X		refer to cover letter / project overview
	Written cost estimate with a breakdown of the building(s) and all site improvements	X		See Appendix D for SD Cost Estimate

ADDRESSING THE REVIEW CRITERIA

§ 70.1 PURPOSE

The purpose of Site Plan Review for Commercial Development and for Residential Development is to protect the health, safety, convenience and general welfare of the inhabitants of the Town. It provides for a review of plans for uses and structures which may have significant impacts, both within the site and in relation to adjacent properties and streets; including the potential impact on public services and infrastructure; pedestrian and vehicular traffic; significant environmental and historic resources; abutting properties; and community character and ambiance.

Instructions: Please provide the Planning Board with a short explanation of how your application meets each of the review criteria of §70.3F of the Truro Zoning Bylaw. If you require extra space for your answers, please attach the additional information to your application in no more than two pages. This is to provide the Planning Board with an overview of your rationale prior to the meeting.

§70.3F – REVIEW CRITERIA/DESIGN GUIDELINES

The Planning Board will review applications and their supporting information based on the following:

1. The proposal is in conformity with all applicable provisions of the Zoning Bylaw because:
   The project has been designed to conform with applicable provisions of the Zoning Bylaw with the exception of the two waivers requested herein, and the variance being sought by Special Permit through the Board of Appeals.

2. The proposal provides for the protection of abutting properties and the surrounding area from detrimental site characteristics and from adverse impact from excessive noise, dust, smoke, or vibration higher than levels previously experienced from permitted uses because:

   The proposed site is designed to provide enhanced protection for abutting properties and the surrounding area, mitigating detrimental site characteristics and reducing adverse impacts beyond current levels. Because it is the location of existing operations, the new design incorporates improvements for greater protection. Key enhancements include: relocating most outdoor operations indoors; orienting the salt shed door inward toward the DPW yard; using proposed structures to shield operations; ensuring compliance with current lighting codes; installing perimeter fencing along the side yards; and adding other features intended to benefit neighboring properties and the surrounding area.

3. The proposal provides for the protection of adjacent properties and the night sky from intrusive lighting, including parking lot and building exterior lighting. Lighting must be consistent with Chapter IV, Section 6 of the General Bylaws of the Town of Truro because:

   Specified site light fixtures will be provided as dark sky compliant and will be provided with house side shields to project lighting away from property lines to maintain 0-foot candle level at the property line, meeting or exceeding the General Bylaws. Refer to Appendix F for Lighting / Photometric Site Calculation plans (will be provided in a supplemental filing).

4. The proposal provides for the protection of significant or important natural, historic, or scenic features because:

   The existing property provides no significant or important natural or scenic features. Because of the age of building(s), the Town will be filling out a permit for demolition, and the Building Commissioner will determine if a review will be required from the Historic Commission.

5. The building sites shall minimize obstruction of scenic views from publicly accessible locations; minimize tree, vegetation, and soil removal and grade changes; and maximize open space retention because:

   The site is the current site of DPW operations and therefore has no scenic views. Further, the project involves minimal tree, vegetation, and soil removal and grade changes. Refer to the plan sheet Cover Page in Appendix F for the Lot Coverage Table which indicates that the lot coverage is being increased by 2.85 % compared to existing for a total of 46.56%.

6. The proposal adequately provides for refuse disposal because:

   The site has a dumpster that is routinely transported by Town's forces to the Town's transfer station.

7. The proposed sewage disposal and water supply systems within and adjacent to the site shall be adequate to serve the proposed use because:

   The project proposes a new septic system and nitrogen removal system sized for both the proposed DPW and existing Town Hall.
   The existing well serves both the current DPW and Town Hall and has experienced minor contamination. This project proposes a new drinking water well and force main from an adjacent lot, 22 and 24 Meetinghouse Road, for both the new DPW and existing Town Hall that will improve water quality. This well is currently being permitted with MassDEP.

8. The proposed drainage system within the site shall be adequate to handle the runoff resulting from the development. Drainage run-off from the project shall not: damage any existing wellfield(s) or public water supply; damage adjoining property; overload, silt up or contaminate any marsh, swamp, bog, pond, stream, or other body of water; or interfere with the functioning of any vernal pool because:

   The proposed drainage system is designed to meet current MassDEP standards and local bylaws. Refer to Appendix B for the stormwater design report.

9. A soil erosion plan shall adequately protect all steep slopes within the site and control runoff to adjacent properties and streets both during and after construction because:

   Refer to Appendix F, Sheet C201, for construction activities, and refer to Sheet C401 for long term stormwater management design.

10. The proposal shall provide for structural and/or landscaped screening or buffers for storage areas, loading docks, dumpsters, rooftop or other exposed equipment, parking areas, utility buildings and similar features viewed from street frontages and residentially used or zoned premises because:

    The proposed facility enhances screening and buffering from operations through the addition of a stockade fence along the side property lines abutting residential uses. These side yards are generally maintaining the same level of natural vegetative screening as currently experienced. The rear yard will maintain its natural vegetative buffer of approximately 90 feet. The front of operations will be consistent with current operations.

11. Buildings and structures within the subject site shall relate harmoniously to each other in architectural style, site location, and building exits and entrances. Building scale, massing, materials, and detailing should be compatible with the surrounding area because:

    The proposed architectural style of the DPW's lower, administrative mass relates to the architectural style of the Town Hall across the street. The larger masses of the other building blocks are due to functionality or framing type (pre-engineered metal buildings). The mass of the fleet storage garage is minimized as much as possible, and the vehicle maintenance is strategically located further back on the project site.

12. Electric, telephone, cable, and other such utility lines and equipment shall be placed underground because:

    All new electric, telephone, and cable utility lines will be placed underground, feeding from an existing utility pole located on the property.

13. The project shall not place excessive demands on Town services because:

    The proposed project has no change in staffing or operations, and therefore will not place excessive demands on Town services. Additionally, the proposed facility will improve the DPW’s ability to respond to demands and serve the community more efficiently.

14. The location and number of curb cuts shall be minimized to reduce turning movements and hazardous exits and entrances. Where appropriate and allowable, access to adjoining properties shall be provided. Joint access driveways between adjoining properties shall be encouraged because:

The new DPW facility's layout has been designed with appropriate exits and entrances from the property access road to enhance safety through proper turning movements of anticipated vehicles. Refer to Appendix C to see Truck Turning Circulation Plans.

15. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent and other ways serving the project shall be maximized. Traffic patterns for vehicles and pedestrians must show safe and adequate circulation within and access to and from the site because:

The DPW project has been designed for safe vehicular traffic including: Counter-clockwise truck circulation for site lines and visibility, visitor parking and pedestrian traffic contained within the front of the DPW site for separation of operations from the public, and security gates for separation of operations from the public.

16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s) because:

The site includes an existing bicycle rack at Town Hall located on this property. As a formality this application is requesting a waiver of the bicycle rack at this building.

Appendix B

Stormwater Report

Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
tel: 508.698.3034

STORMWATER MANAGEMENT REPORT

October 2025

TOWN OF
Truro
MASSACHUSETTS

Department of Public Works
24 Town Hall Road

PREPARED FOR:
TOWN OF TRURO

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

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



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

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

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

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

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

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

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

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

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

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature



10·16·25
Signature and Date

Checklist

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

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

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

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☐ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☐ Other (describe): _____

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

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

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

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

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☒ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☒ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☒ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☒ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

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

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☒ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☒ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☒ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☒ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

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

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Applicant/Project Name: Town of Truro – Department of Public Works

Project Address: 24 Town Hall Road, Truro, MA

Application Prepared by:
Firm: Weston & Sampson, Inc.
Registered PE: Alyssa Peck, PE

NARRATIVE

Project Description

The Town of Truro proposes the reconstruction of the existing Department of Public Works (DPW) facility located at 24 Town Hall Road in Truro, Massachusetts. The proposed project is located at the existing Truro DPW property (the Site) which occupies approximately 2.72 acres of a 5.13-acre irregular shaped parcel of land identified as Assessors Map ID 46-269-0.

In addition to Truro DPW, the property also houses Truro Town Hall. The existing DPW buildings and parking areas are situated in the northern portion of the parcel, north of Town Hall Road. Town Hall and the Town Hall parking lot are situated in the southern portion of the parcel, south of Town Hall Road. The site is bordered by Meeting House Road to the north, single-family residential properties to the east and west, and Bridge Street to the south. The grade beyond the developed section of the DPW drops approximately 40 feet down to Meeting House Road. The grade beyond the developed section of Town Hall drops approximately 45 feet to Bridge Street.

The existing DPW Facility includes four main buildings and a parking lot that accommodates 27 parking stalls. The buildings include a 1.5-story DPW garage building with an approximate footprint of 3,370 square feet, a 2-story wooden storage garage with an approximate footprint of 5,390 square feet, a 1-story DPW administration building with an approximate footprint of 2,050 square feet, and a 1-story DPW office building with an approximate footprint of 750 square feet. There are several smaller sheds and non-covered material storage bins located around the DPW site. The ground surface at the site is mostly comprised of asphalt pavement around existing buildings and a packed sand/gravel area northwest of the buildings.

The existing Town Hall portion of the site includes one main Town Hall building with an approximate building footprint of 4,315 square feet and a parking lot that accommodates 15 parking stalls. The subsurface utilities include several stormwater dry wells, water, a public ground water supply well, and three septic systems, two for the DPW campus and one for the Town Hall. MassGIS indicates there are no wetlands located on, or within, 100 feet of the Site.

The existing project site is located within a DEP approved Zone I and Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards. The existing Public Water Supply Well is to be decommissioned and, as part of a separate project, a new water supply well will be installed on the adjacent property at 22-24 Meting House Road. A new water line from the new well will be installed to connect to the new DPW Facility and existing Town Hall building. With

the new location of the new water supply well, the DPW Facility will no longer be located in a MassDEP approved Zone I (100-foot radius of the new public water supply well), but a portion of the site will remain located within an Interim Wellhead Protection Area (IWPA) (500-foot radius of the new well).

The proposed project includes the construction of a new, approximately 23,520 square foot, 1-story Department of Public Works (DPW) building, a 4,050 square foot cold storage building, and a 2,880 square foot Salt Shed. The DPW building will include administration/engineering areas, equipment repair shops, wash bay, and vehicle storage areas. Additional proposed site improvements include newly paved circulation, parking spaces for 27 vehicles, utility and stormwater improvements to support the new DPW Facility, and ancillary landscape improvements.

Stormwater Management:

The proposed project will incorporate Stormwater Best Management Practices (BMPs) in compliance with the MassDEP Stormwater Management Standards and Truro Stormwater Regulations.

The approach to stormwater management for the project consists of maintaining existing drainage patterns, minimizing stormwater runoff to off-site areas, and installing structural BMPs to provide water quality treatment, groundwater recharge, and attenuation of peak flows. To achieve this, the runoff from the driveways, parking, and circulation areas will be conveyed to proposed deep sump catch basins equipped with “gas and oil” hood traps and isolator rows of the subsurface infiltration chamber systems. These BMPs will provide the required pre-treatment to the stormwater runoff before discharging to the proposed underground infiltration chamber system, which will provide additional water quality treatment and allow the stormwater to recharge into the ground. The roof runoff from the proposed buildings will discharge into the proposed underground infiltration chambers directly, where it will recharge into the ground.

Stormwater Design

Weston & Sampson utilized HydroCAD computer software to model the stormwater runoff for 2-year, 10-year, 25-year, and 100-year 24-hour storm events. The rainfall amounts used for the analysis were based on the extreme precipitation tables obtained from the Northeast Regional Climate Center. The rainfall depths were 3.20 inches, 4.72 inches, 5.89 inches, and 8.24 inches, respectively.

Soil information was obtained from the Natural Resources Conservation Service (NRCS) Barnstable County Web Soil Survey. The soil survey indicated Carver Coarse sand (3-8 percent slopes) within developed portions of the site, surrounded by Carver Coarse Sand (15-35 percent slopes) in the undeveloped portions of the site. As a result, Hydrologic Group A was assigned to the soils within the project area for the purposes of hydrologic calculations. The soil map and descriptions are included in Appendix A.

In addition to information gathered from Web Soil Survey, test pits (TH-1 through TH-5, and TP-100) were performed in the location of the proposed Infiltration Chamber System A and B, and Pond 1 to confirm soil information obtained from Web Soil Survey and to determine the feasibility of infiltration and respective infiltration rates. The test pits were excavated to approximately 4 feet below the proposed bottom of infiltration BMPs, resulting in an overall depth ranging from 10 to 12 feet below the ground surface. No groundwater was encountered in any of the performed test pits. Along with

test pits, several borings conducted for geotechnical purposes were performed within the vicinity of proposed Infiltration Chambers A and B and Stormwater Infiltration Basin, which show soil characteristics consistent with findings of borings and test pits performed throughout the site with very little variability. In summary, the test pit and boring logs indicate sand to depths below the proposed infiltration; therefore, a Rawl's rate of 8.27 inches per hour was used for the design of infiltration BMPs. Complete test pit and boring logs are included in Appendix A.

Existing Drainage Conditions

The existing DPW Facility and Town Hall are located at a topographical high point, bordered by steep slopes down to the northern and southern portions of the parcel. Existing ground surface elevations at the proposed DPW Site are generally flat, ranging from elevations 120 to 124.

The existing conditions in the project area of the site consist of approximately 80,920 square feet of impervious and gravel surface, comprised of the buildings, storage structures, and circulation areas including driveways and parking areas. The perimeter of the site is grassed/wooded and totals an approximate 111,123 square feet site.

Based on the existing drainage pattern, two existing Points of Analysis (POA) were delineated based on the existing topography of the site, shown graphically in Appendix B. The northern portion of the site discharges to POA-1, which includes steep-sloped, wooded ground down to Meeting House Road. A southern portion of the site discharges to a POA-2, which includes steep-sloped, wooded ground down to Bridge Street.

POA-1
Drainage Areas: 1S includes the rear portion of the site, the existing DPW buildings and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells, which the maintenance/performance condition is unknown. The stormwater from this area sheet flows toward the rear of the DPW toward POA-1.

POA-2
Drainage Areas: 1S includes the front portion of the site, the front DPW building and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells whose maintenance/performance condition are unknown. The stormwater from this area sheet flows across Town Hall Road towards catch basins located within the Town Hall exit driveway of the wooden area to the right of the Town Hall, towards POA-2.

Proposed Drainage Conditions

In the proposed condition the amount of impervious surface on site will increase to approximately 89,914 square feet. To mitigate the runoff from the additional impervious surface in the proposed condition, a series of underground chamber infiltration systems is proposed. The infiltration systems will ensure that proposed runoff rates will not exceed the existing rate of runoff. The stormwater runoff from the paved areas will be directed into deep sump catch basins and conveyed to the isolator rows prior to discharge to proposed infiltration systems.

Similar to the existing condition, the runoff from the Site discharges to two distinct Points of Analysis: POA-1 and POA-2, and six drainage areas (1S, 2S, 3S, 4S, 5S, and 6S) which are graphically shown on Hydrology Map – Proposed Conditions in Appendix B.

POA-1
Area 1S includes the grassed and modified rock sloped areas surrounding the rear portion of the Site between the new DPW Facility and the adjacent wooded area. No additional stormwater treatment is proposed for this area.

POA-2
Areas 2S and 3S include the roof area of the proposed cold storage building, a portion of the roofed area of the DPW Facility and Salt Shed and paved circulation areas. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-A).

Area 4S includes a portion of the roof area of the proposed fleet storage building and Salt Shed, and paved circulation area around the existing fuel island. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-B).

Area 5S includes a portion of the roof area of the proposed fleet storage building and the grassed island which houses the stormwater infiltration basin (P-1). The roof runoff from the building will discharge directly into the stormwater infiltration basin without pre-treatment as permitted under the MA Stormwater Regulations. Stormwater discharge from the stormwater infiltration basin will outlet across Town Hall Road to a plunge pool outfall to POA-2.

Area 6S includes Town Hall Road and small areas of lawn between the new DPW and the proposed seven parking stalls along Town Hall Road. This area will remain similar to the existing conditions with the exception of the new parking stalls and limited widening of Town Hall Road to achieve a minimum parking aisle of 24' (required for 2-way traffic). Town Hall Road and the DPW entrance drive will be repaved to minimize erosion along the edge of the driveway and to direct stormwater to POA-2. No additional stormwater treatment is proposed for this area, as this area is considered a redevelopment.

Best Management Practices (BMPs) and Low Impact Development (LID) Measures

Low Impact Development (LID) Measures will be incorporated, where possible, into this project. Unlike the existing condition, the proposed redevelopment provides sediment and oil removal, peak rate attenuation, and groundwater recharge. The BMPs used in this project are described below.

Deep Sump Hooded Catch Basins
The catch basins are to be constructed with a sump (minimum 4 feet) and oil/debris traps to prevent the discharge of sediments and floating contaminants.

Stormwater Infiltration Basin
This basin (P1) accepts flow from the roof area of the proposed Fleet Storage building; it offers storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration.

Underground Infiltration Chambers
These infiltration areas will store and/or attenuate runoff from the storm events and allow for exfiltration of runoff and recharge of groundwater.

Below is an explanation of MassDEP Stormwater Standards 1-10 as they apply to the Town of Truro Public Works Facility project:

STANDARD 1 – NO NEW UNTREATED DISCHARGES

The proposed project will create no new untreated discharges.

The proposed project was designed to mimic existing conditions as much as possible and improve the conditions to the maximum extent practicable. Supporting information and computations demonstrating that no new untreated discharges will result from the project are presented through compliance with Standards 4 through 6.

The project does not propose to discharge any untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. Additionally, the proposed design attenuates stormwater such that discharge rates will be lower than existing conditions. Discharges have been designed to prevent scouring and erosion of downstream surfaces. Therefore, the Project complies with Standard 1.

STANDARD 2 – PEAK RATE ATTENUATION

The Project has been designed to fully comply with standard 2.

The rainfall-runoff response of the Site under existing and proposed conditions was analyzed for storm events with recurrence intervals of 2-, 10-, 25-, and 100-years. The stormwater management system is designed to attenuate peak discharge rates for each of the analyzed design storm events in compliance with Standard 2. Please refer to the comparison of the pre- and post-development discharge rates table in Appendix B.

STANDARD 3 – RECHARGE

The impervious area within the proposed project limits will increase after construction, but with the designed improvements, recharge will be provided in the two underground infiltration chamber systems. The recharge volume provided under post-development conditions is greater than the recharge volume required by MassDEP's Stormwater Management Standards. The minimum required recharge volume is computed to be 8,994 cubic feet based on a project located within Hydrologic soil group A. The proposed infiltration BMPs result in a total recharge volume of 15,527 cubic feet. The proposed infiltration BMPs all drain within 72 hours.

The recharge requirement calculation is included in Appendix C and illustrates compliance with the current MassDEP Stormwater Management Standards.

STANDARD 4 – WATER QUALITY

For the redevelopment portion of the project, Standard 4 is required to be met only to the maximum extent practicable. Stormwater from all new impervious areas will be directed into at least one drainage structure for treatment or recharged through the sandy soils into the ground. Stormwater runoff from all paved areas of the site will be directed through deep sump catch basins and isolator rows before infiltrating in the underground chambers. All drainage features have been adequately sized to mimic existing conditions and promote recharge to groundwater.

In compliance with Standard 4, a Long-Term Pollution Plan and Stormwater Operation and Maintenance Plan is included in Appendix D.

STANDARD 5 – LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS (LUHPPLs)

Because the use of the property will involve maintenance of vehicles, storage of oils and anti-freeze, and snow storage; the land use has the potential for higher pollutant loads. A Long-Term Pollution Prevention Plan (included in Appendix D) identifies proper procedures of practices for source control and pollution prevention due to the site specific LUHPPL. The 44% TSS removal pre-treatment will be achieved prior to discharging any runoff from the proposed paved areas. This requirement will be achieved using a treatment train of deep sump catch basins, and isolator rows prior to discharging into subsurface infiltration chamber systems, combined with incorporating non-structural BMPs such as street sweeping. TSS removal worksheets documenting compliance are included in Appendix C of this report.

STANDARD 6 – CRITICAL AREAS

The existing project site is located within a DEP approved Zone I and an Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under MassDEP's Stormwater Management Standards. Stormwater discharges near or to any critical areas require specific source control and pollution prevention management. The stormwater management system treatment train is designed for the more stringent 1-inch water quality volume as documented in Standard 4 above. The selected stormwater BMPs are consistent with Table CA3 in the Stormwater Management Handbook. A minimum 44% TSS removal pretreatment is also provided prior to infiltration BMPs.

STANDARD 7 – REDEVELOPMENTS AND OTHER PROJECTS SUBJECT TO THE STANDARDS ONLY TO THE MAXIMUM EXTENT PRACTICABLE

The new and expanded areas of impervious surfaces meet all standards for new development.

STANDARD 8 – CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENT CONTROL

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is included in Appendix D of this report. To ensure that the work incorporates the performance standards recommended in MassDEP's Stormwater Management Standards, necessary erosion and sedimentation control measures will be utilized during construction. These measures include compost filter tubes, catch basin protection, and a stabilized construction entrance, as depicted on

the site plans. In addition, the contractor will be required to produce the SWPPP prior to any land disturbance since this project is resulting in over 1 acre of land disturbance.

STANDARD 9 – OPERATION AND MAINTENANCE PLAN

An Operations and Maintenance Plan is provided in Appendix D of this report. Town of Truro DPW will be responsible for the operation and maintenance of the proposed drainage system.

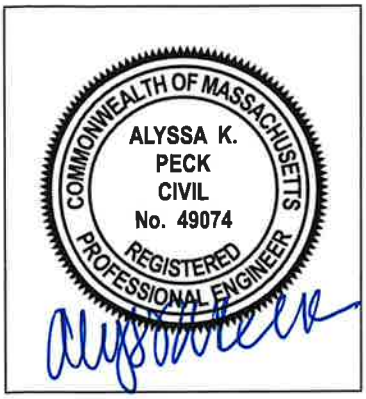
STANDARD 10 – PROHIBITION OF ILLICIT DISCHARGES

Illicit discharges will be prevented on the site through the use of spill/discharge prevention measures, along with good housekeeping and BMPs, and in accordance with the Long-Term Pollution Prevention Plan and O&M plan. A draft copy of the Illicit Discharge Compliance Statement has been developed for this site and is included in Appendix D. A signed Illicit Discharge Compliance Statement will be submitted prior to discharging stormwater to the post-construction stormwater BMPs.

REGISTERED PROFESSIONAL ENGINEER'S CERTIFICATION

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

Registered Professional Engineer Block and Signature



10.16.25

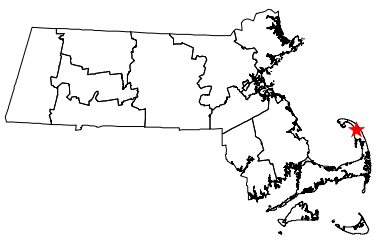
Signature and Date

APPENDIX A



Weston & Sampson

FIGURE 1
LOCUS MAP
TRURO DPW
17 TOWN HALL ROAD
TRURO, MA
BARNSTABLE COUNTY



SCALE IN FEET

0 1000 2000

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\07-DesignMaterials\02-Geotechnical\CAD\Truro DPW - Figure 1 - Locus Map.dwg

Path: \\wse03.local\WSE\Depts\Water\Water Resources Group\GIS - Constraints Mapping\Truro\DPW\GIS\GIS.aprx **User:** GasparA **Saved:** 4/9/2025 10:06 AM **Opened:** 4/9/2025 10:20 AM



N
W E
S

200 100 0 200 Feet

Coastal Zone

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- Hydrologic Connection

Streams
- Perennial Stream
- Intermittent Stream

DEP Wetland Areas
- Marsh/Bog
- Wooded marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune
- Article 97 Land
- ACECs

NHESP Estimated Habitats of Rare Wildlife
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species

NHESP Certified Vernal Pools
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Cold Water Fisheries

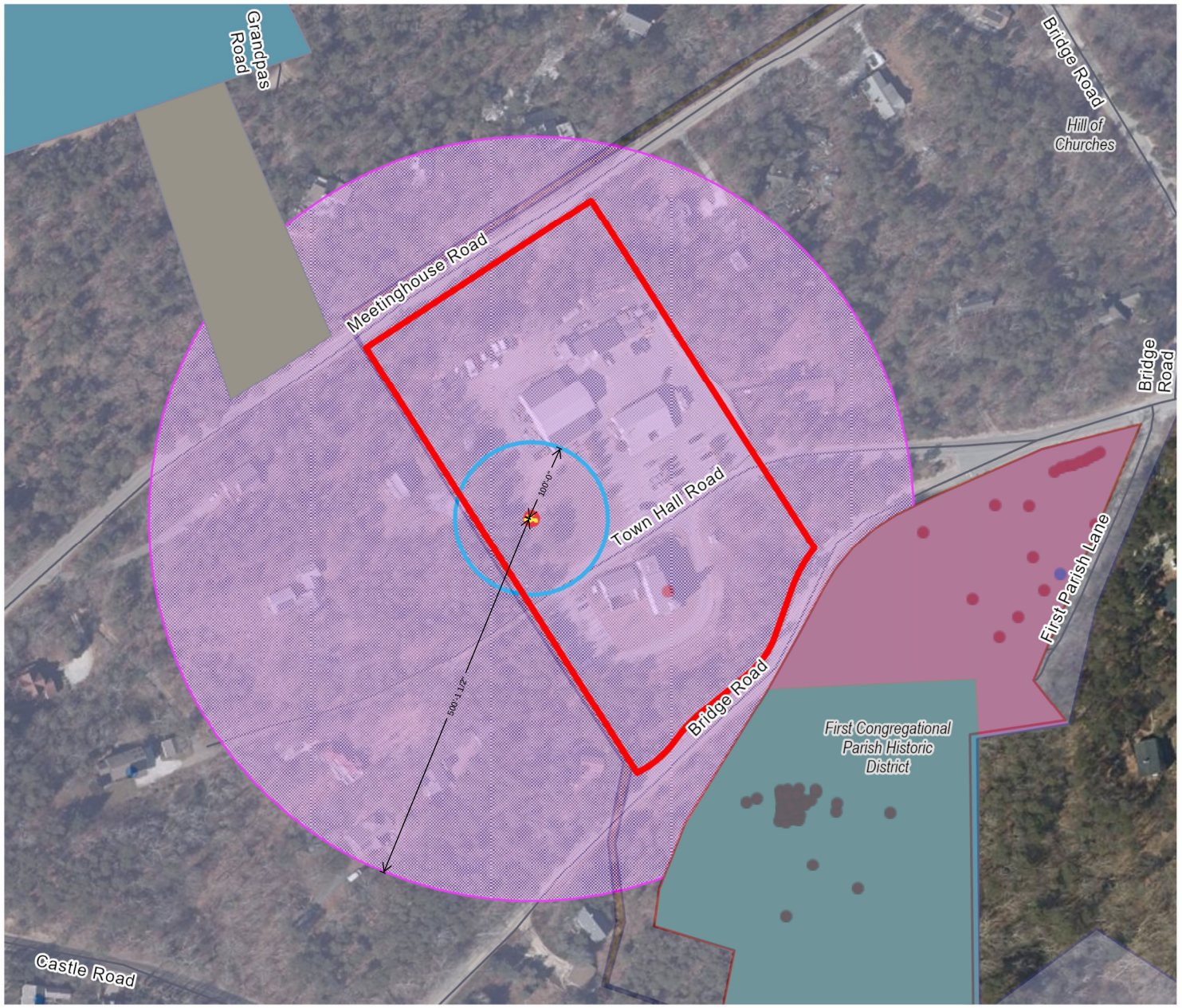
Outstanding Resource Waters
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

FEMA National Flood Hazard Layer
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included

FIGURE 1

24 Town Hall Road
Truro, MA
Environmental
Receptors Map

Weston & Sampson



Castle Hill Snow Village Area

N
W E
S

200 100 0 200
Feet

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- MassHistoric Commission Inventory (Points)
  - National Register of Historic Places ✓
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Inventory (Areas)
  - National Register of Historic Places
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Towns
  - Survey Pending
  - No Survey Pending
- Type II Surfacewater Discharge Permit
- AUL Sites
- Tier Classified Sites
  - TIERI
  - TIERII
  - TIER1D
- Protected and Recreation Open Space
  - State-State Dispute
  - State-Non-Profit Dispute
  - State-Municipal Dispute
  - State-Private Dispute
  - Private-Private Dispute
  - Public Non-Profit
- County
- Federal
- Conservation Organization
- Land Trust
- Municipal
- Private Non-Profit
- Other
- Private
- State
- Unknown
- <all other values>
- Public Water Supplies
  - Community Groundwater Source
  - Surface Water Intake
  - Non-Community Groundwater Source ✓
  - Emergency Surface Water
  - DEP Approved Zone I ✓
  - DEP Approved Zone II
  - IWPA ✓
- Surface Water Protection Areas
  - Surface Water Protection Areas - Zone A
  - Surface Water Protection Areas - Zone B
  - Surface Water Protection Areas - Zone C
  - DEP Approved Zone I
- BWP Landfills by Status
  - Inactive
  - Closed
  - Active

FIGURE 2

24 Town Hall Road
Truro, MA

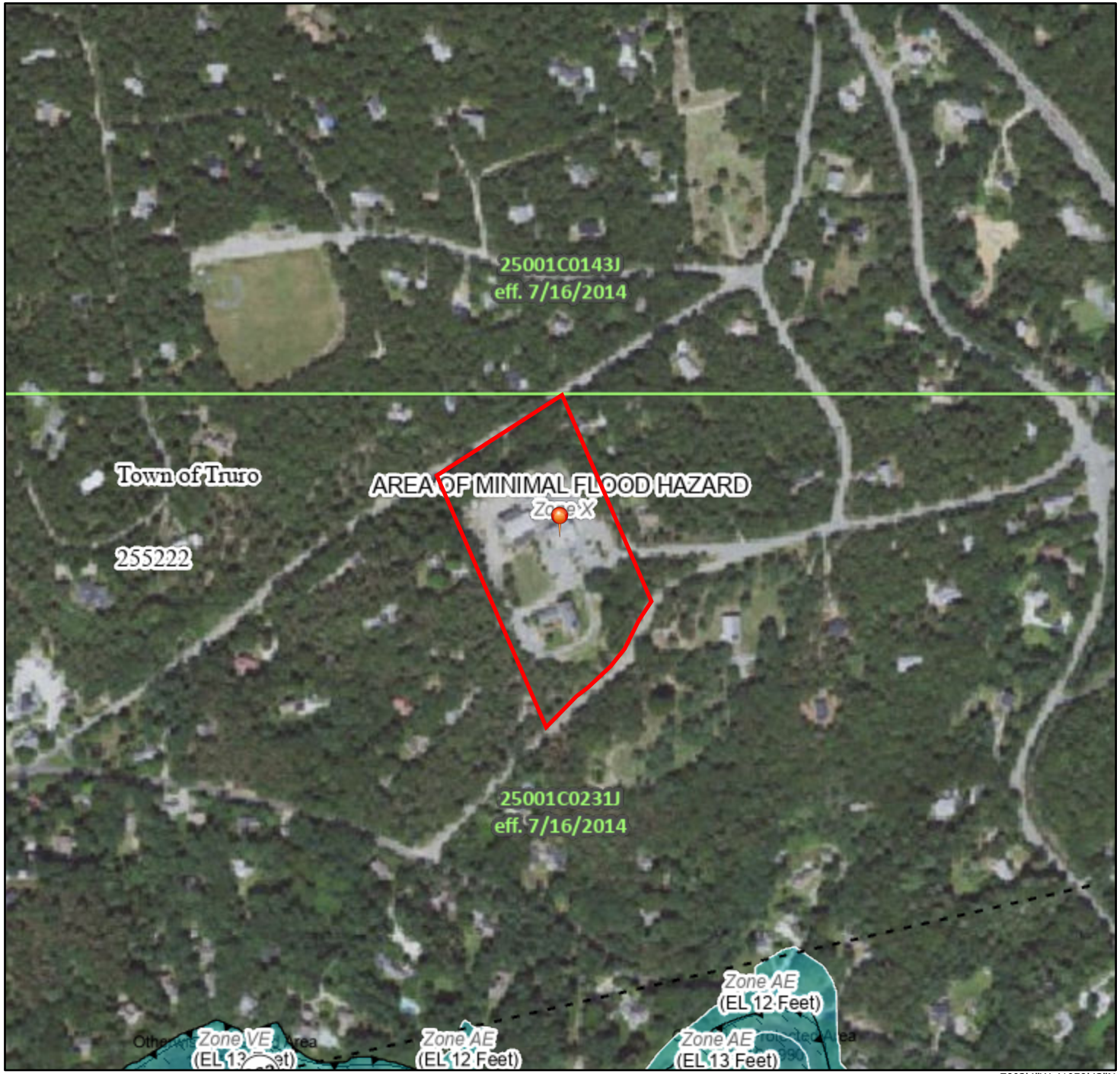
Human Receptor Map

Weston & Sampson

National Flood Hazard Layer FIRMette

FEMA

70°3'41"W 42°0'10"N



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

1:6,000

70°3'4"W 41°59'43"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2025 at 8:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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


70° 3' 27" W
70° 3' 18" W
412400
412430
412460
412490
412520
412550
412580
412610
42° 0' 1" N
41° 59' 51" N
4650350
4650320
4650290
4650260
4650230
4650200
4650170
4650140
4650110
4650080
Meetinghouse Rd
252D
252B
Driveway
Town Hall Rd
Bridge St
Soil Map may not be valid at this scale.
Map Scale: 1:1,430 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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

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

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

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

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

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

Soil Survey Area: Barnstable County, Massachusetts
Survey Area Data: Version 23, Sep 17, 2024

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

Date(s) aerial images were photographed: Jun 10, 2022—Jun 30, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
252B	Carver coarse sand, 3 to 8 percent slopes	A	4.0	87.5%
252D	Carver coarse sand, 15 to 35 percent slopes	A	0.6	12.5%
Totals for Area of Interest			**4.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

CONTRACTOR:	**Desmond Well Drilling, Inc.**	BORING LOCATION:	**See Attached Figure**	DATE START:	**April 16, 2025**
FOREMAN:	**Pat Desmond**	ADVANCE METHOD:	**Hollow-Stem Auger Drilling**	DATE FINISH:	**April 16, 2025**
LOGGED BY:	**Aaron Chabot**	AUGER DIAMETER:	**4-1/4" ID (Stem), 7-5/8" OD (Flights)**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Stephen Spink**	SUPPORT CASING:	**N/A**	FINAL DEPTH:	**39.0 ft.**
EQUIPMENT:	**CME 45, Truck Mounted**	CORING METHOD:	**N/A**	GRID COORDS:	**N:2828052.0 ± / E:1048383.8 ±**
SPT HAMMER:	**Automatic (140-lb.)**	BACKFILL MATERIAL:	**Drill Cuttings**	GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
					Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	S-1 21/24	2 3 3 3	6		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
	S-2 12/24	2 2 2 1	4				[3.0] GC: 9%, SC: 83%, FC: 8%
	S-3 14/24	1 1 1 2	2				
5						116	
	S-4 19/24	2 2 1 2	3				
	S-5 16/24	1 1 1 1	2		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace wood. **[FILL]**		
10						111	
	S-6 18/24	1 2 1 1	3		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (ceramic, glass). **[FILL]**		
	S-7 18/24	1 2 3 4	5				
	S-8 12/24	3 4 5 7	9		**Poorly graded sand with gravel (SP)** - Loose; tan with orange; moist; mostly fine to medium SAND, little fine to coarse gravel, trace non plastic fines.		
15						106	
	S-9 18/24	3 3 2 3	5		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[17.0] GC: 0%, SC: 98%, FC: 2%
20						101	
	S-10 15/24	5 7 8 9	15				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-11 19/24	4 4 5 8	● 9		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-12 19/24	5 7 7 11	● 14		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
35							86	
		S-13 15/24	4 7 9 11	● 16				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	121.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2828167.6 ± / E:1048540.8 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-1 19/24	2 2 1 2	3		**Poorly graded sand with silt (SP-SM)** - Very loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
		S-2 13/24	2 1 2 2	3		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[FILL]**		
		S-3 14/24	2 2 4 4	6		**Silty sand (SM)** - Loose; orange; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[SUBSOIL]**		
5		S-4 19/24	2 3 2 4	5		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.	116	[7.0] GC: 1%, SC: 98%, FC: 2%
10		S-5 12/24	2 2 3 3	5			111	
15		S-6 19/24	2 2 2 2	4			106	
20		S-7 17/24	2 4 3 3	7		*Coarse gravel*	101	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 20/24	4 5 5 6	● 10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-9 20/24	2 4 4 4	● 8				
35							86	
		S-10 13/24	5 7 10 12	● 17				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

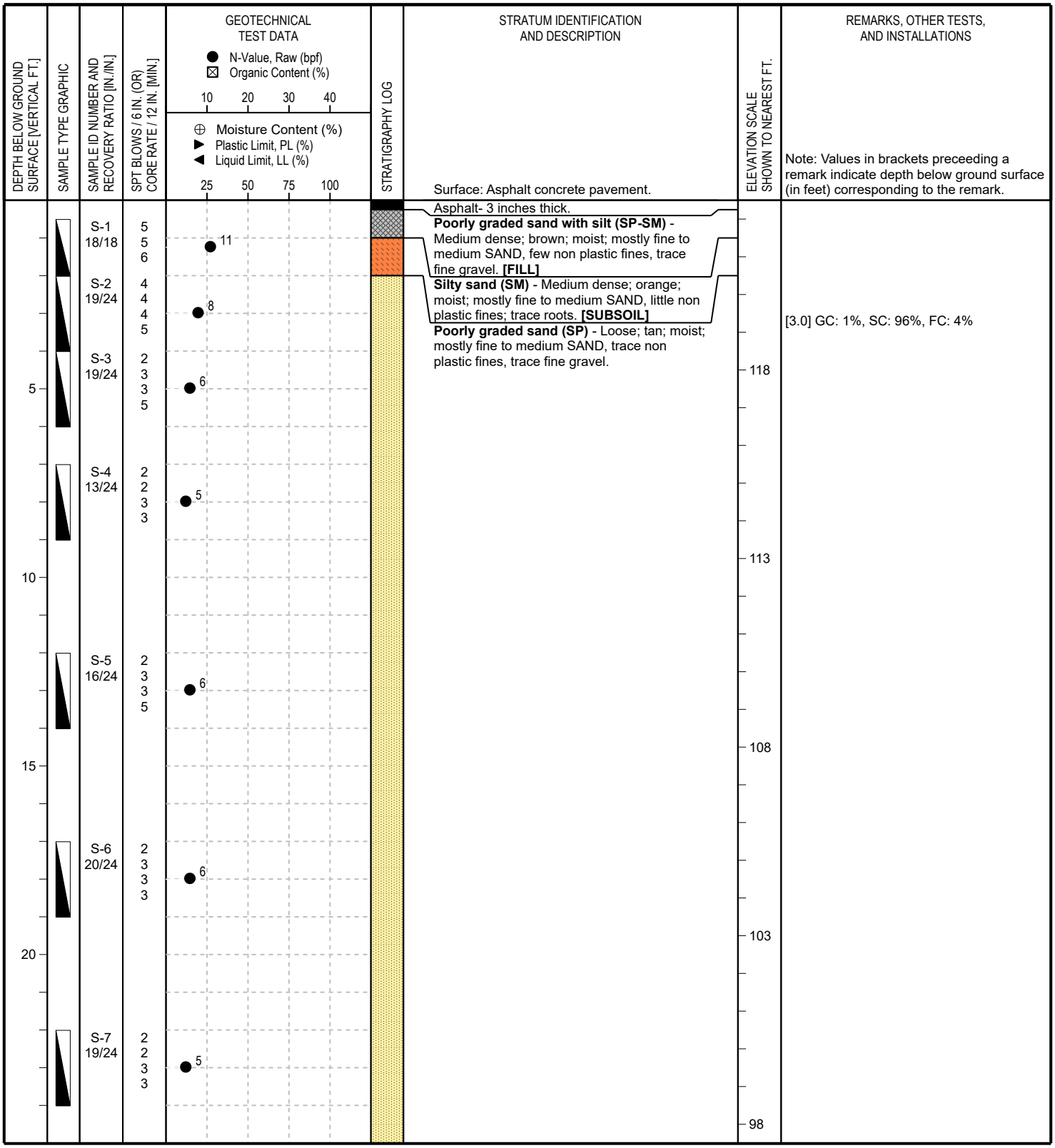
Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	122.5 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2828056.7 ± / E:1048574.5 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings and Asphalt Patch	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	4 5 5 4	● 10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	3 5 6 6	● 11			93 88	
35		S-10 18/24	5 8 8 12	● 16			83	**Exploration ended at 39.0 ft.**
40							78	
45							73	
50								

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

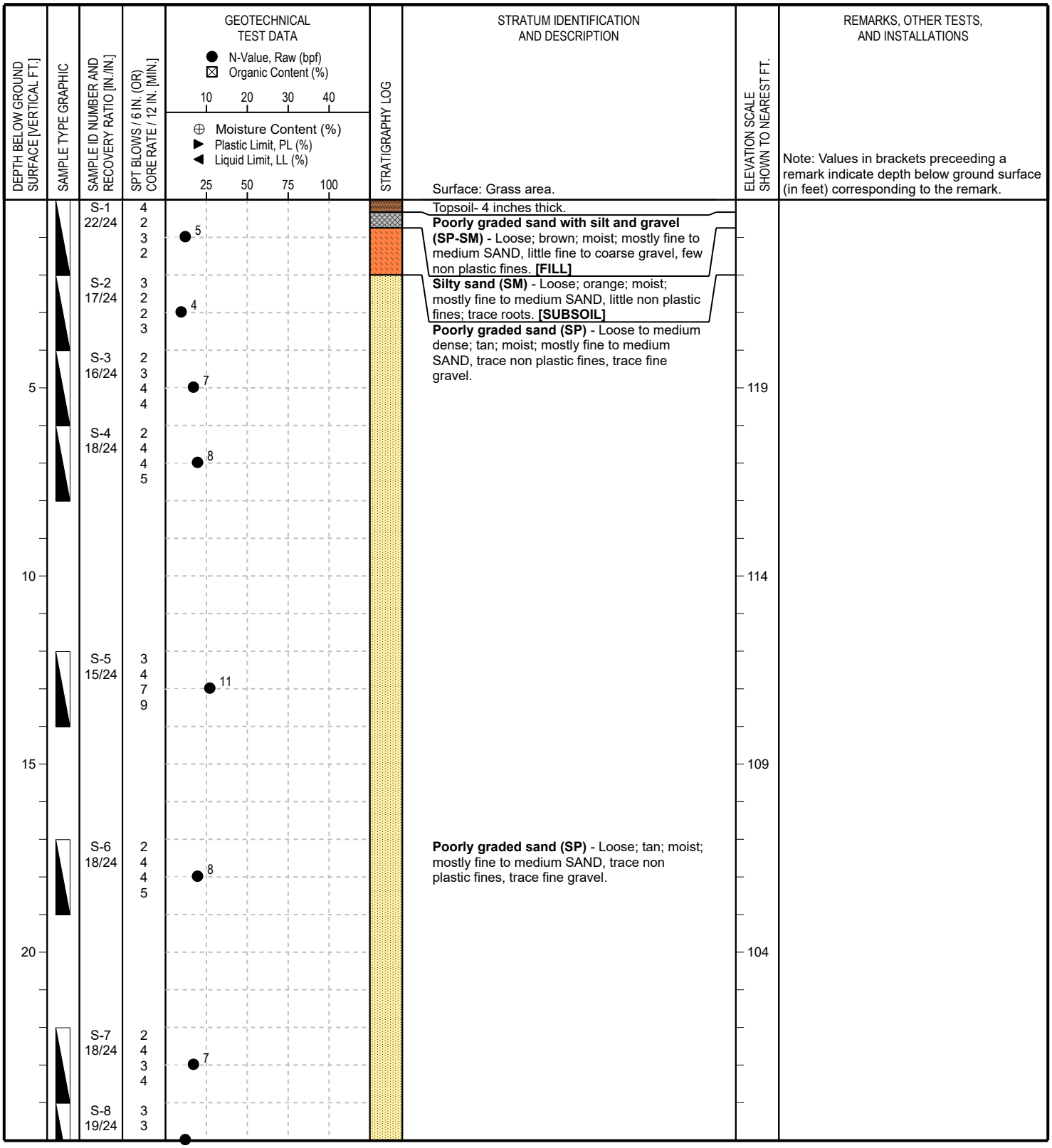
Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	34.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827922.3 ± / E:1048496.1 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			2 3			**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
		S-9 18/24	6 11 13 14	24		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							94	
		S-10 18/24	7 9 11 10	20				
								Exploration ended at 34.0 ft.
35							89	
40							84	
45							79	
50							74	

GEOTECHNICAL TEST DATA
- ● N-Value, Raw (bpf)
- ⊠ Organic Content (%)
- 10 20 30 40
- ⊕ Moisture Content (%)
- ▶ Plastic Limit, PL (%)
- ◀ Liquid Limit, LL (%)
- 5 25 50 75 100

Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.

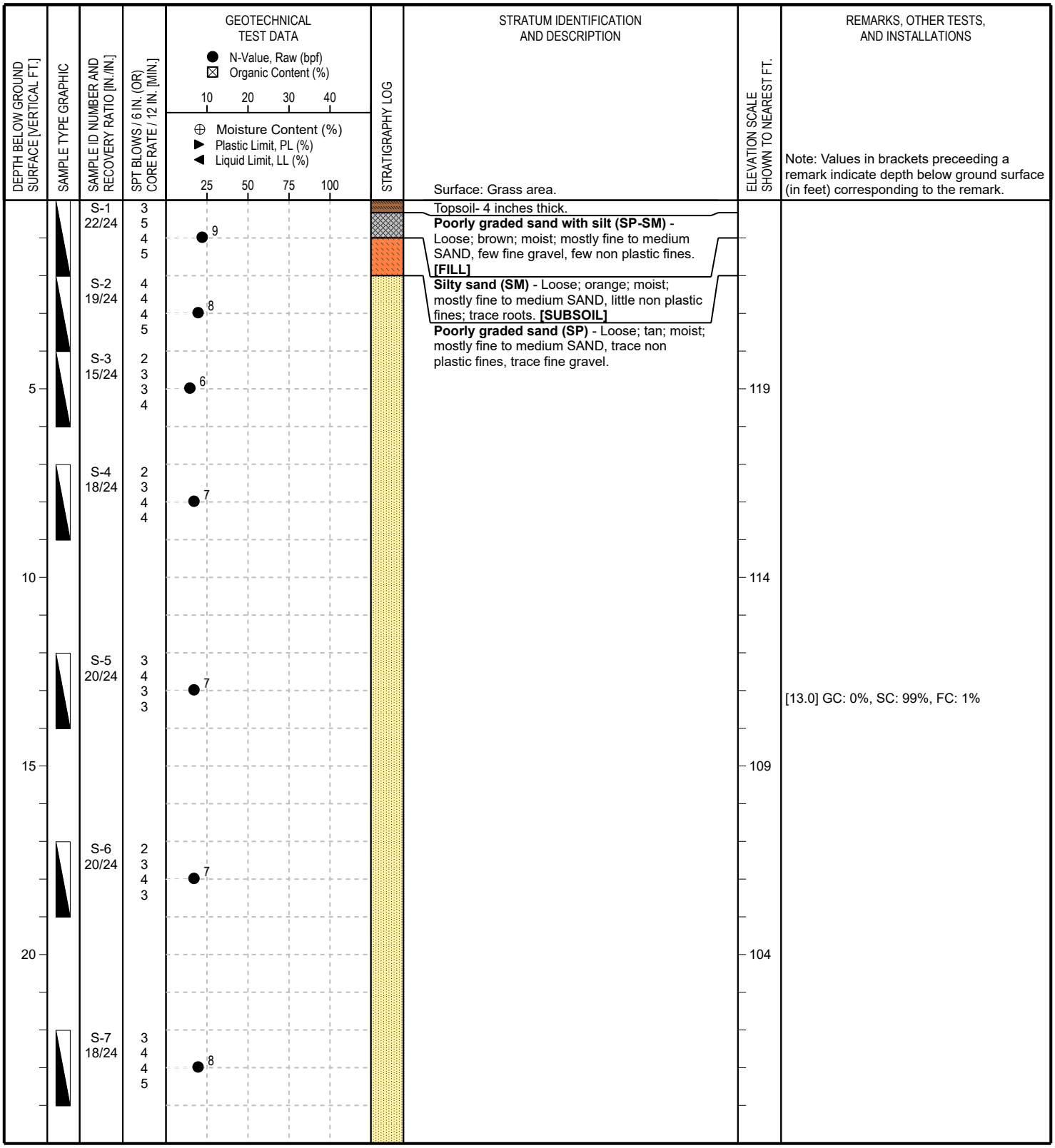
Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827852.4 ± / E:1048544.3 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	5 6 5 7	11		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	4 5 5 7	10			94	
		S-10 16/24	5 5 5 5	10				
35							89	
		S-11 18/24	3 4 5 7	9				
								Exploration ended at 39.0 ft.
40							84	
45							79	
50							74	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	122.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	29.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827945.1 ± / E:1048637.9 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings and Asphalt Patch	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Asphalt concrete pavement.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
						Asphalt- 3 inches thick.		
		S-1 17/18	5 6 6	12		**Poorly graded sand with silt and gravel (SP-SM)** - Medium dense; brown; moist; mostly fine to medium SAND, little fine gravel, few non plastic fines. **[FILL]**		
		S-2 19/24	4 5 5 5	10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
5		S-3 17/24	2 3 4 5	7			117	
		S-4 19/24	2 4 6 7	10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[8.0] GC: 1%, SC: 98%, FC: 1%
10							112	
		S-5 19/24	5 7 8 9	15				
15							107	
		S-6 15/24	3 5 5 8	10				
20							102	
		S-7 20/24	4 5 5 6	10				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 16/24	5 11 14 12	25		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							92	**Exploration ended at 29.0 ft.**
35							87	
40							82	
45							77	
50							72	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

4/15/2025
EMILY BEEBE SE
CHRIS LUCY EXC.

TH 1 NWE

Horizon	Munsell	Depth
FILL		0-12"
C	10YR 5/8 MS	12"-101"

TH 2 NWE

FILL		0-18"
C	10YR 5/8 MS	18"-105"

TH 3 NWE

FILL		0-4
B	10YR 5/6 LS	4-12
C1	10YR 5/8 MS	12-62
C2	10YR 7/3 MS	

TH 4 (#1) NWE

FILL		0-10"
C	10YR 5/6 MS	10-120"

TH 5

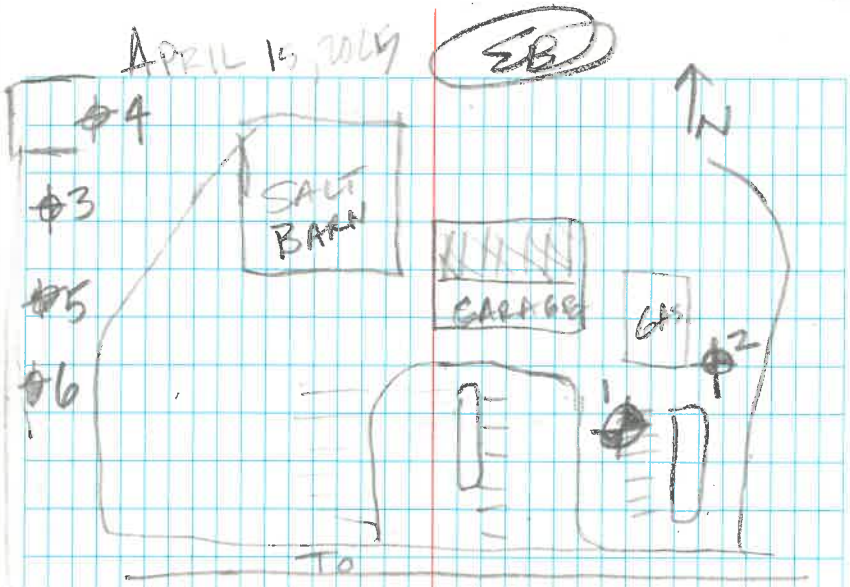
FILL NWE →		0-4
B	10YR 5/6 LS	4-13
C	10YR 5/8 MS	13-110

TH 6 NWE

FILL		0-10"
E+B	10YR 5/6 LS	10"-29"
C	10YR 5/8 MS	29"-126"

NWE = No GROUND WATER ENCOUNTERED

APRIL 15 2025 EB



Weston & Sampson

Department of Public Works

TEST PIT ID: TP-1

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 15.0 ft. , Width: 10.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 8.0 ft.**	FINAL DEPTH:	**8.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828049 ± / E:1048355 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; common brick and metal fencing debris. **[FILL]**		
			1 inch topsoil layer		
5				116	
					Caving at 8.0 ft. (exploration ended).

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-2

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

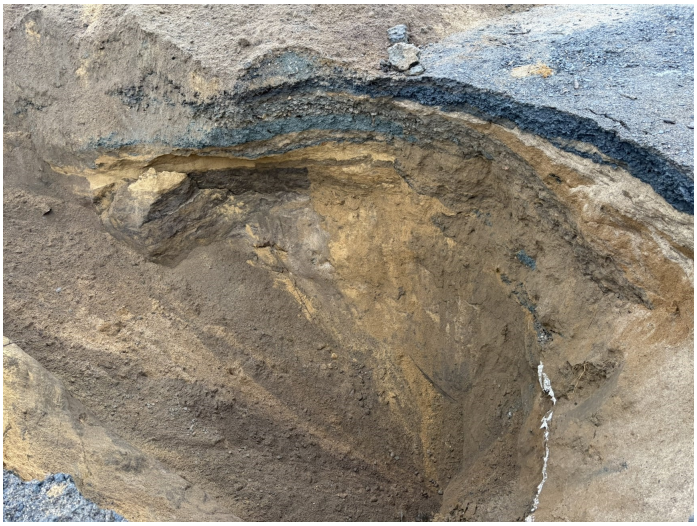
CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 30, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 16.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 9.0 ft.**	FINAL DEPTH:	**9.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828090 ± / E:1048427 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**	117	
5	G		*White plastic liner observed in west sidewall*		
				112	***Caving at 9.0 ft. (exploration ended).***

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-3

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 17.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**9.5 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828100 ± / E:1048466 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]** **Poorly graded sand with silt (SP-SM)** - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (metal, glass, plastic, roots). **[FILL]** *1 inch topsoil layer* *2 inch topsoil layer*		
5				117	
	G		**Silty sand (SM)** - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, trace fine gravel, trace non plastic fines.		
				112	**Exploration ended at 9.5 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-4

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 13.0 ft. , Width: 8.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**5.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828152 ± / E:1048561 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (metal, plastic, roots). **[FILL]**		
	G		Topsoil- 2 inches thick.		
			Silty sand (SM) - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, few fine to coarse gravel, trace non plastic fines.		
5				116	**Exploration ended at 5.0 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
18"	Ap - Sand (2.5Y 4/3) 0% Gravel and 0% Cobbles Single Grain
72"	B_w - Sand (7.5YR 6/8) 0% Gravel and 0% Cobbles Single Grain
120"	C- Sand (10YR 8/4) 0% Gravel and 0% Cobbles Single Grain
	- End of Exploration - Groundwater was observed and exploration was ended.

NOTES:

1. No GW Observed

TEST PIT NUMBER

TP-100

Weston & Sampson℠

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION



NOTES:

1. No GW Observed

TEST PIT NUMBER
TP-100

Weston & Sampson℠

APPENDIX B

TRUOR DPW FACILITY
TRURO, MA

Pre-Development Conditions vs. Post-Development Conditions									
Pre-Development Flows					**Post-Development Flows**				
Storm Event	2-year storm	10-year storm	25-year storm	100-year storm	Storm Event	2-year storm	10-year storm	25-year storm	100-year storm
	3.20 in	4.72 in	5.89 in	8.24 in		3.20 in	4.72 in	5.89 in	8.24 in
Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)
POA 1	2.67	4.77	6.42	9.73	POI 1	0.00	0.00	0.03	0.18
Offiste - Woods Meetinghouse Road					*Offiste - East*				
POA 2	1.26	2.60	3.70	6.01	POI 2	0.82	1.69	2.79	4.47
Offsite - Woods Town Hall Road					*Offsite - North*				



NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.

2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)
- PAVEMENT, HSG A (CN=98)
- GRAVEL, HSG A (CN=96)

PLAN

SCALE: 1" = 50'

0 50 100 150

SCALE: 1" = 50'

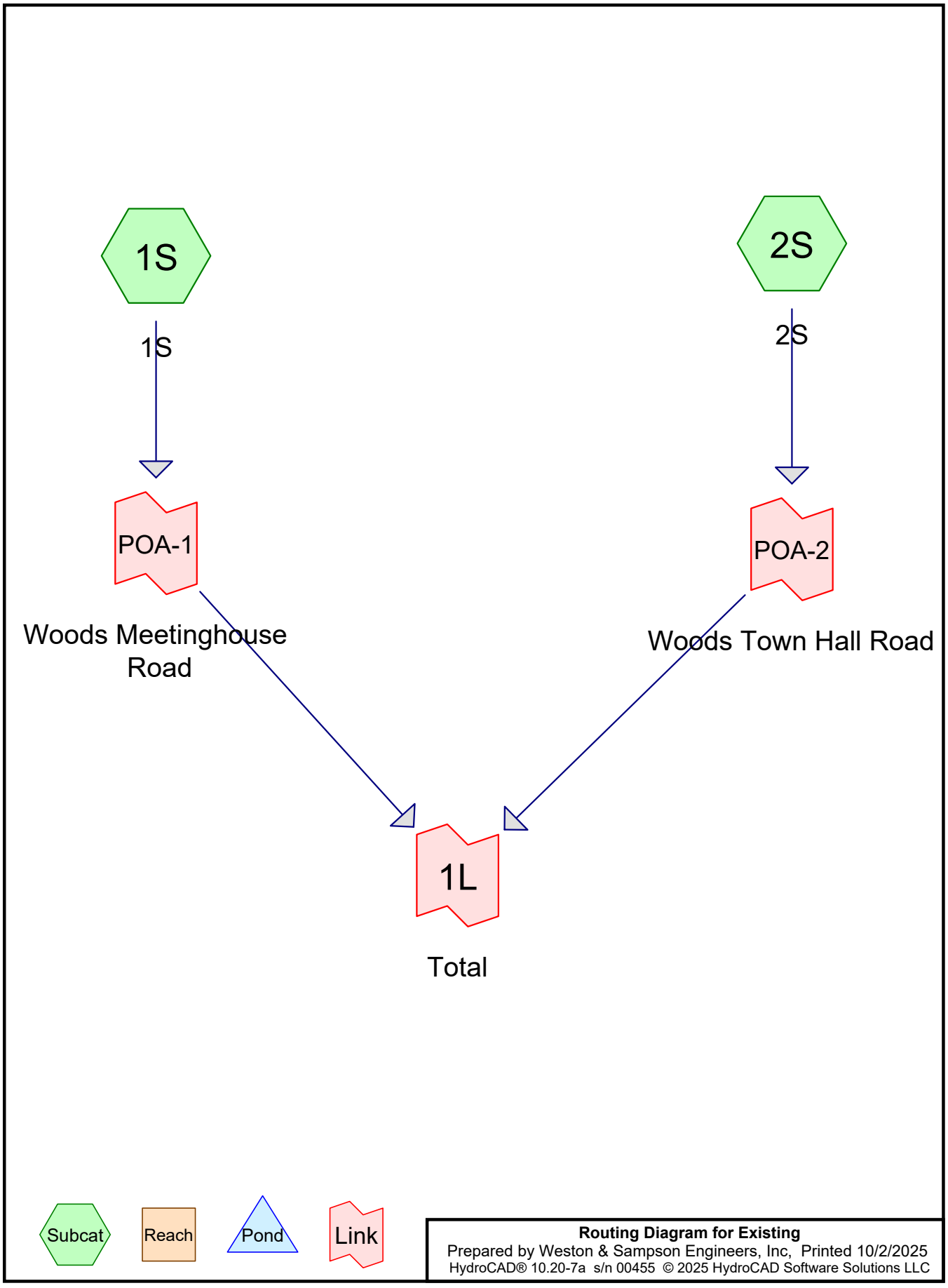
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
EXISTING CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Pre-Development.dwg



Routing Diagram for Existing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/2/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
22,770	39	>75% Grass cover, Good, HSG A (1S, 2S)
31,180	96	Gravel surface, HSG A (1S, 2S)
37,852	98	Paved parking, HSG A (1S, 2S)
11,888	98	Roofs, HSG A (1S, 2S)
7,433	30	Woods, Good, HSG A (1S, 2S)
111,123	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
22,770	0	0	0	0	22,770	>75% Grass cover, Good	
31,180	0	0	0	0	31,180	Gravel surface	
37,852	0	0	0	0	37,852	Paved parking	
11,888	0	0	0	0	11,888	Roofs	
7,433	0	0	0	0	7,433	Woods, Good	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=1.68"
Tc=10.0 min CN=84 Runoff=2.67 cfs 9,589 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=76 Runoff=1.26 cfs 4,102 cf

Link 1L: Total Inflow=3.79 cfs 13,691 cf
Primary=3.79 cfs 13,691 cf

Link POA-1: Woods Meetinghouse Road Inflow=2.67 cfs 9,589 cf
Primary=2.67 cfs 9,589 cf

Link POA-2: Woods Town Hall Road Inflow=1.26 cfs 4,102 cf
Primary=1.26 cfs 4,102 cf

Total Runoff Area = 111,123 sf Runoff Volume = 13,691 cf Average Runoff Depth = 1.48"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

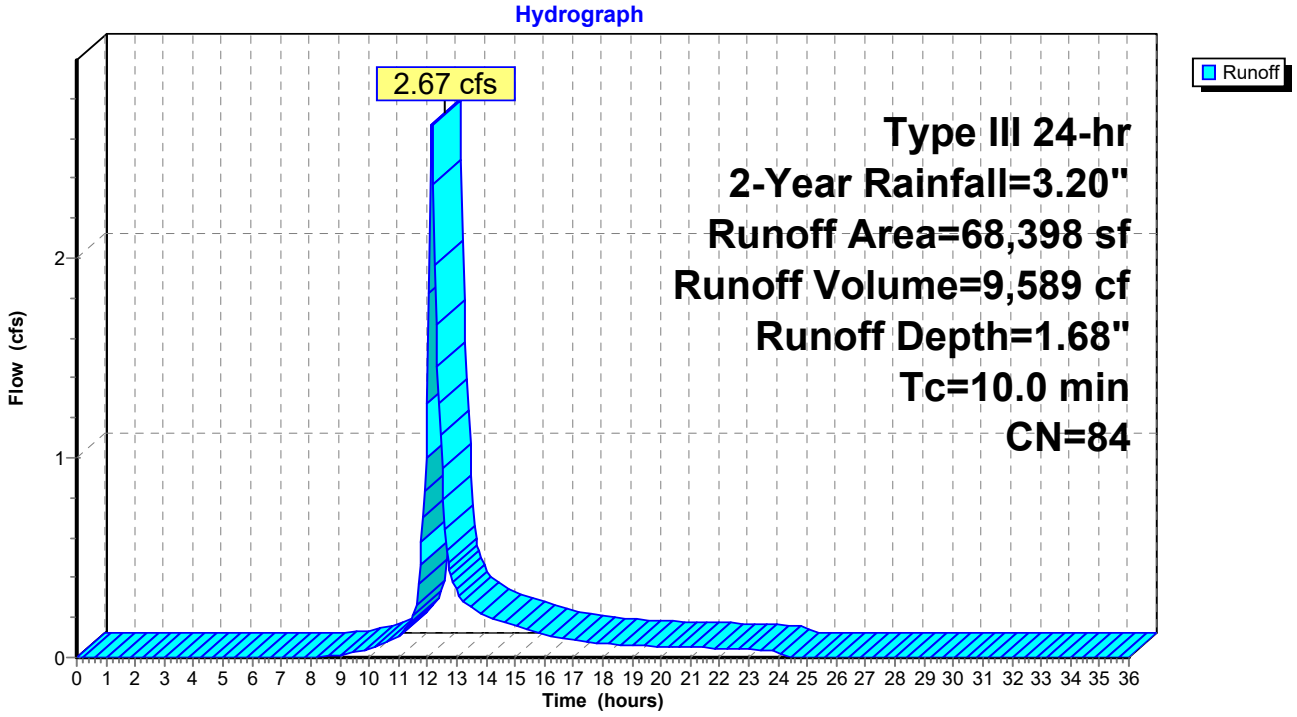
Runoff = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Depth= 1.68"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

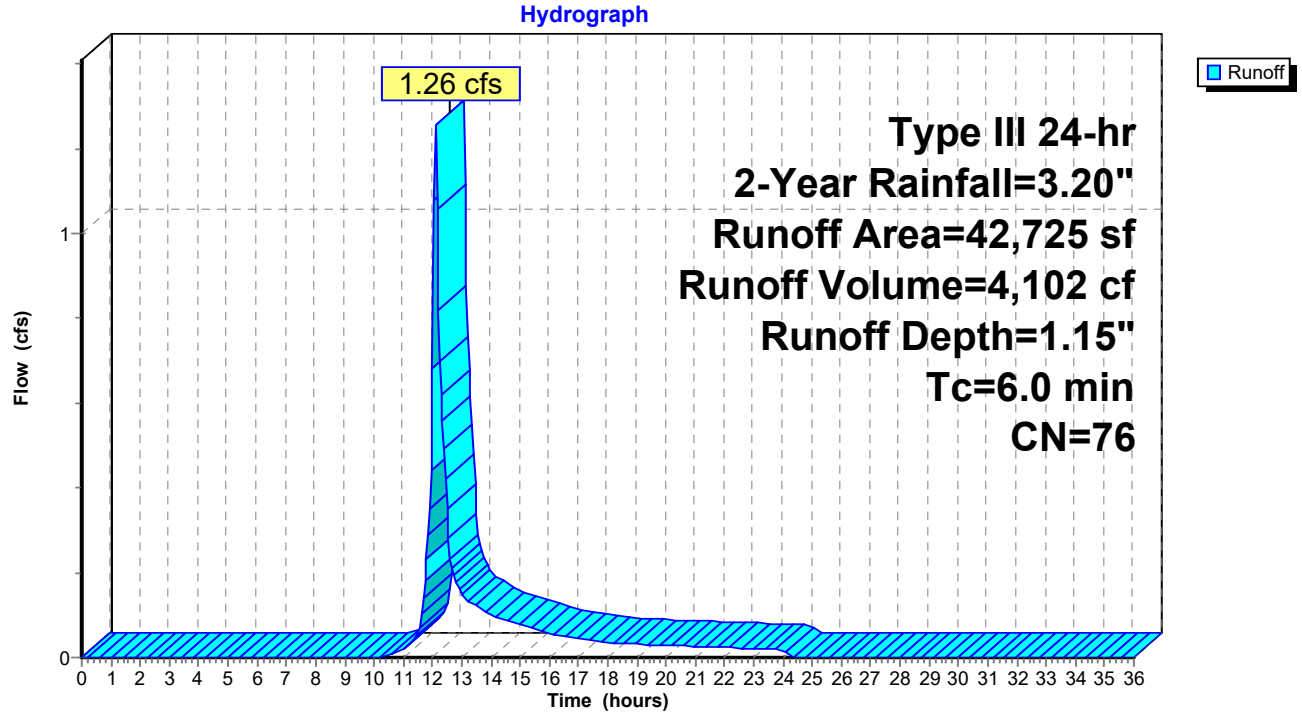
Runoff = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Depth= 1.15"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

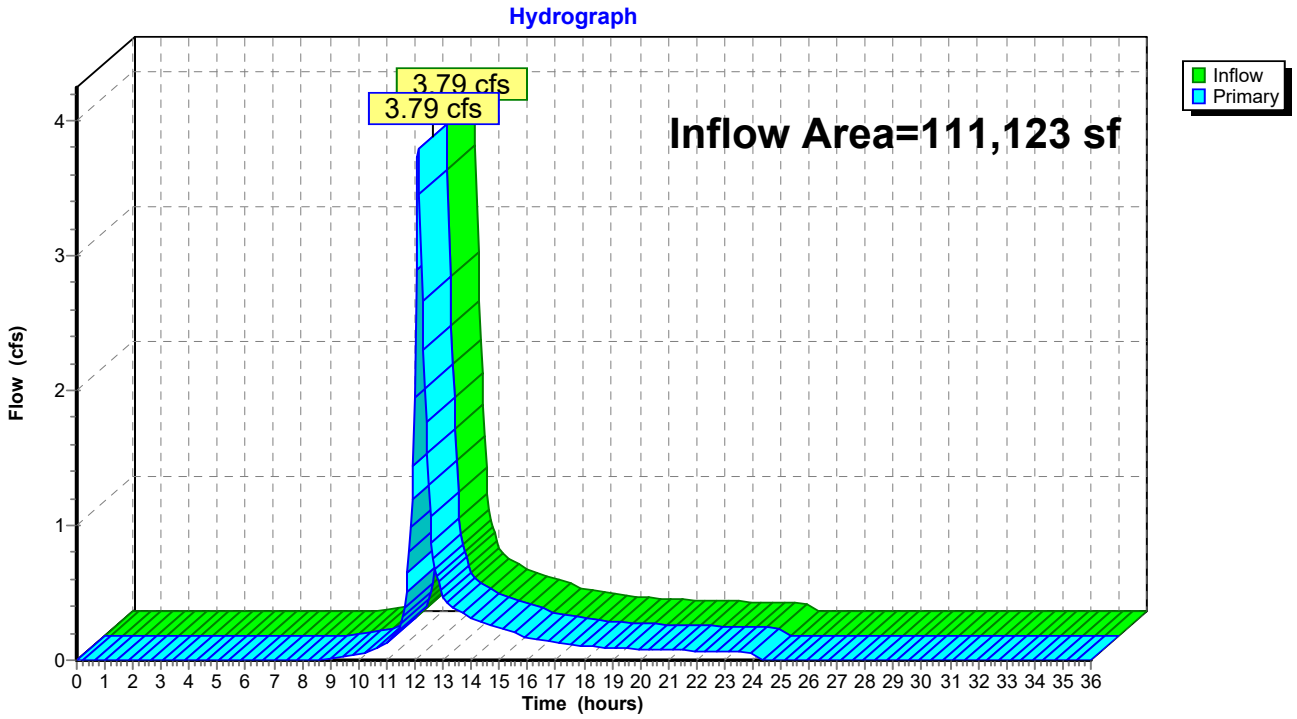


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 1.48" for 2-Year event
Inflow = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf
Primary = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

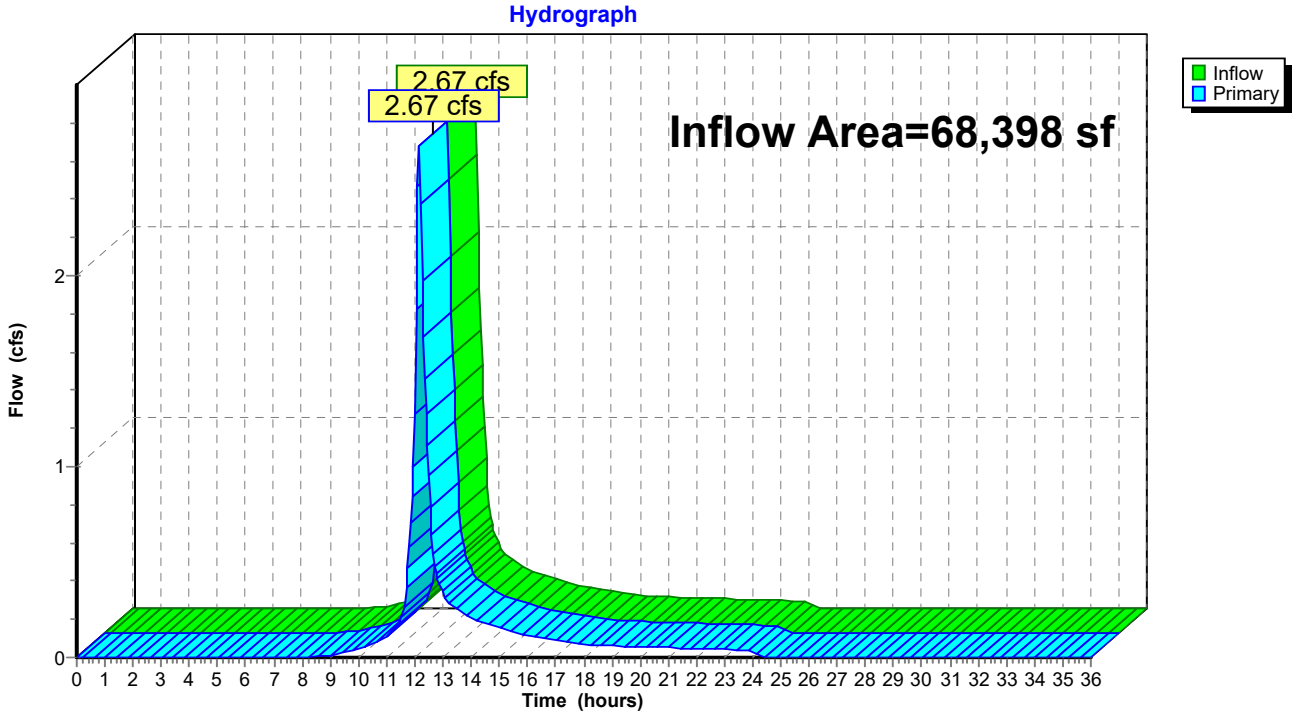


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 1.68" for 2-Year event
Inflow = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf
Primary = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

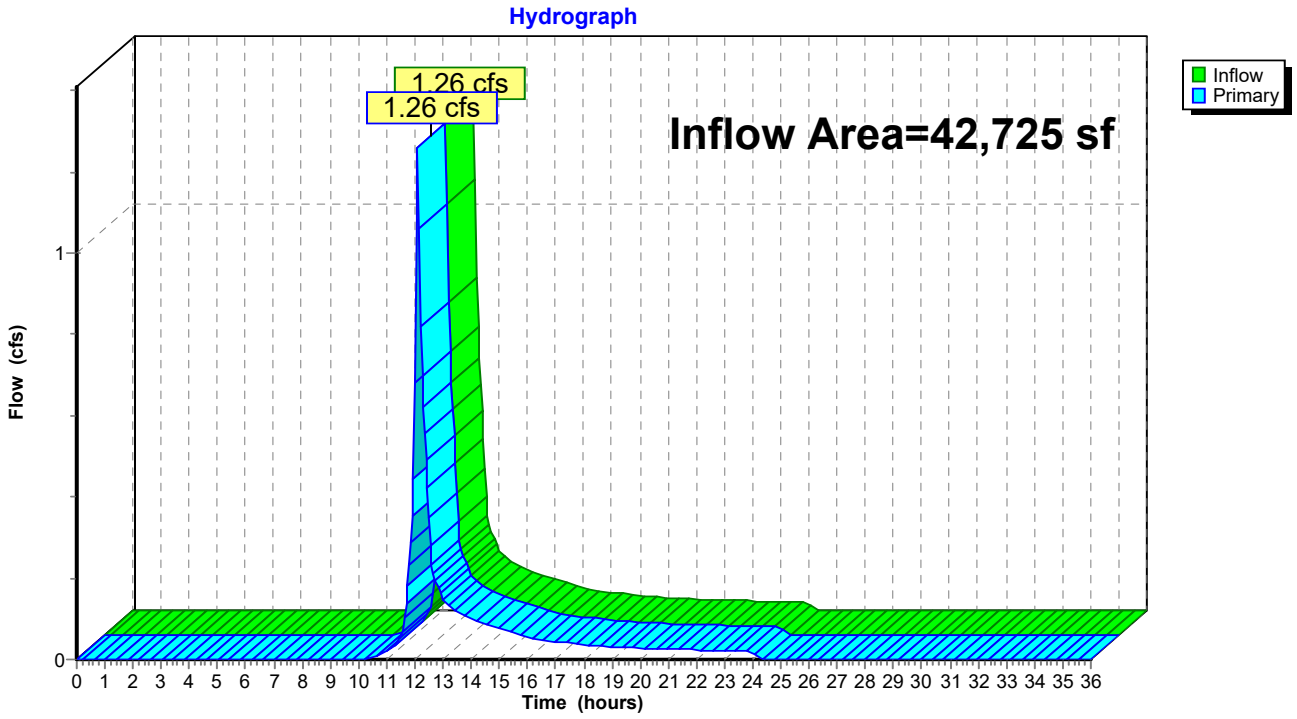


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 1.15" for 2-Year event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf
Primary = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=3.02"
Tc=10.0 min CN=84 Runoff=4.77 cfs 17,187 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=76 Runoff=2.60 cfs 8,213 cf

Link 1L: Total Inflow=7.17 cfs 25,400 cf
Primary=7.17 cfs 25,400 cf

Link POA-1: Woods Meetinghouse Road Inflow=4.77 cfs 17,187 cf
Primary=4.77 cfs 17,187 cf

Link POA-2: Woods Town Hall Road Inflow=2.60 cfs 8,213 cf
Primary=2.60 cfs 8,213 cf

Total Runoff Area = 111,123 sf Runoff Volume = 25,400 cf Average Runoff Depth = 2.74"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

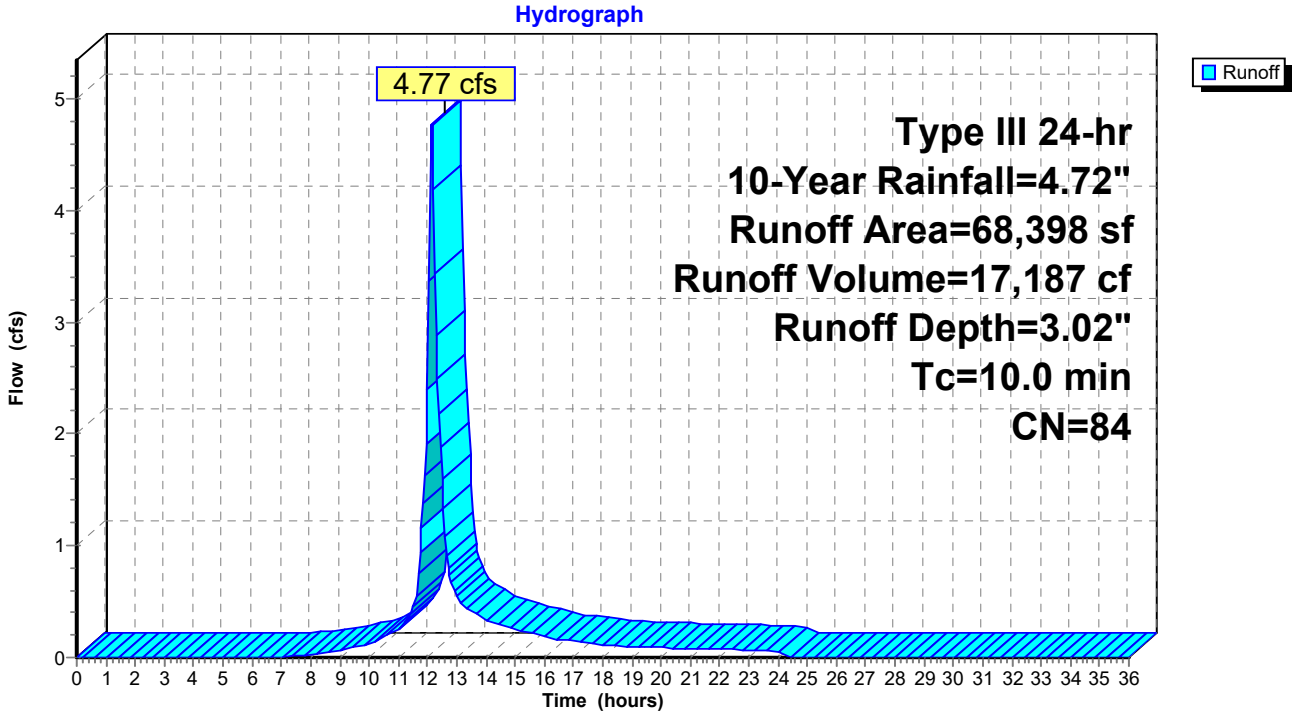
Runoff = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Depth= 3.02"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

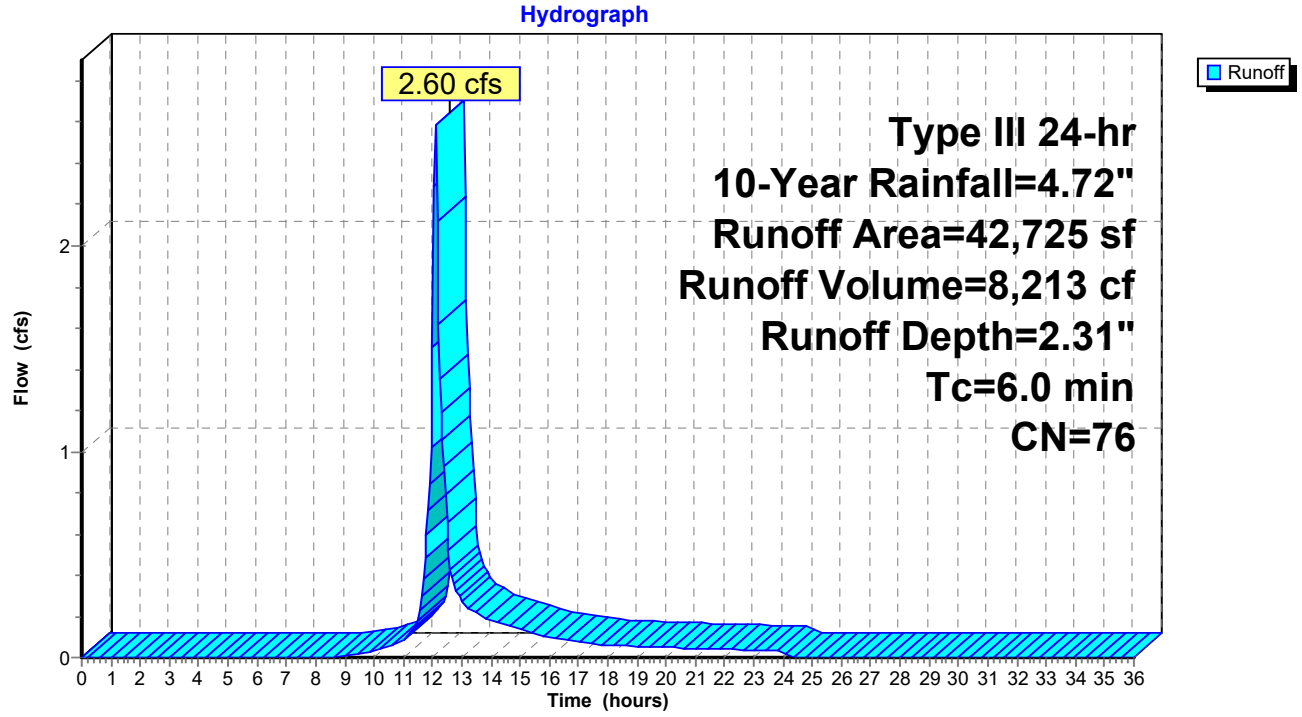
Runoff = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Depth= 2.31"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

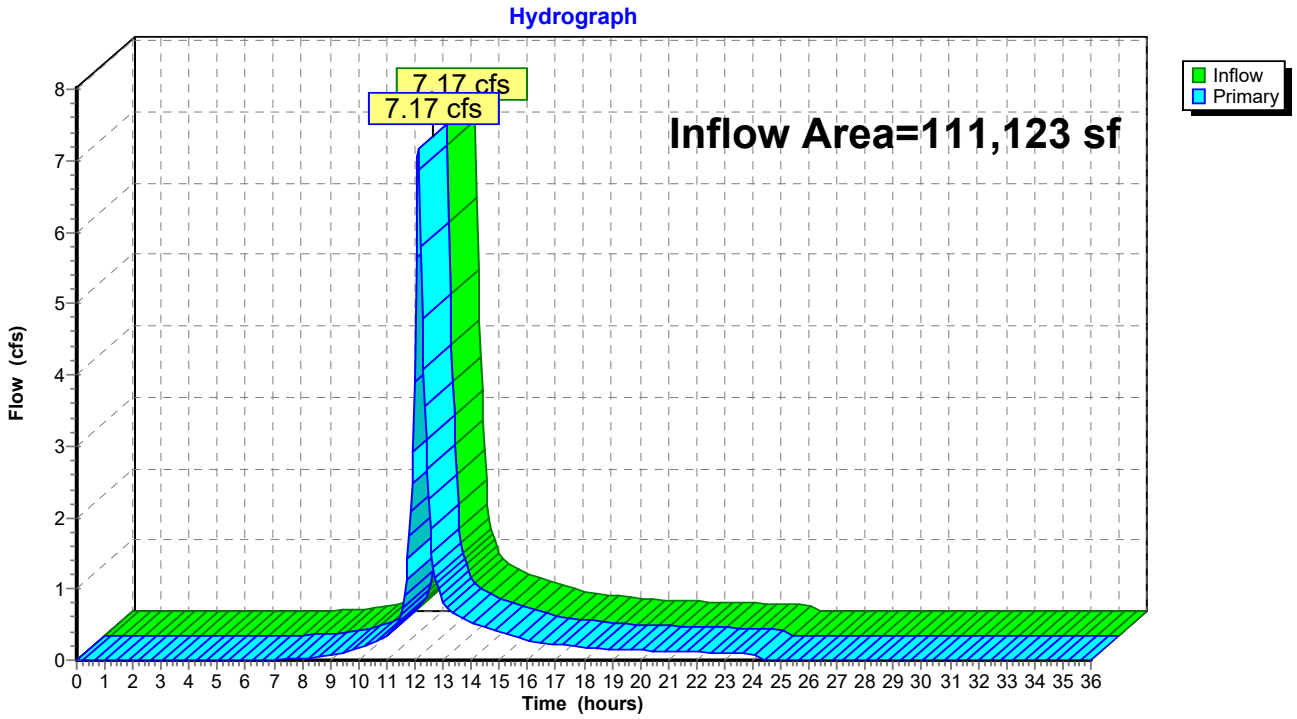


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 2.74" for 10-Year event
Inflow = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf
Primary = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

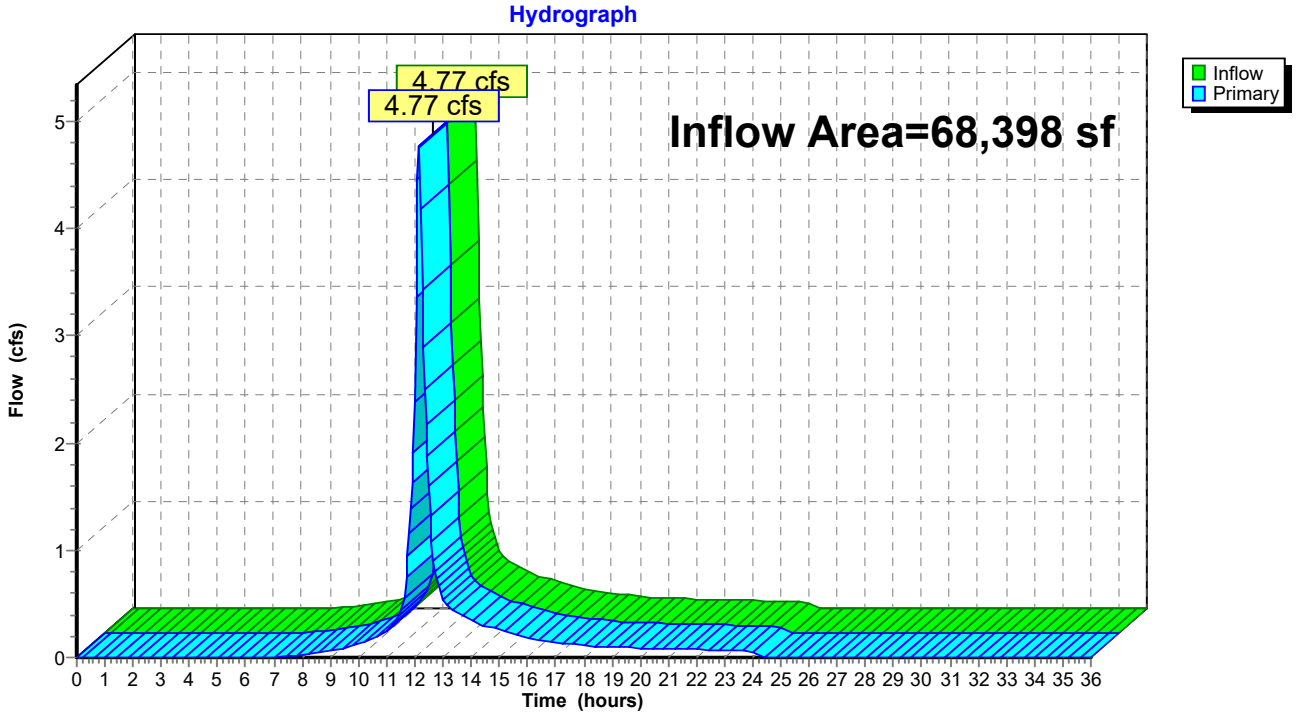


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf
Primary = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

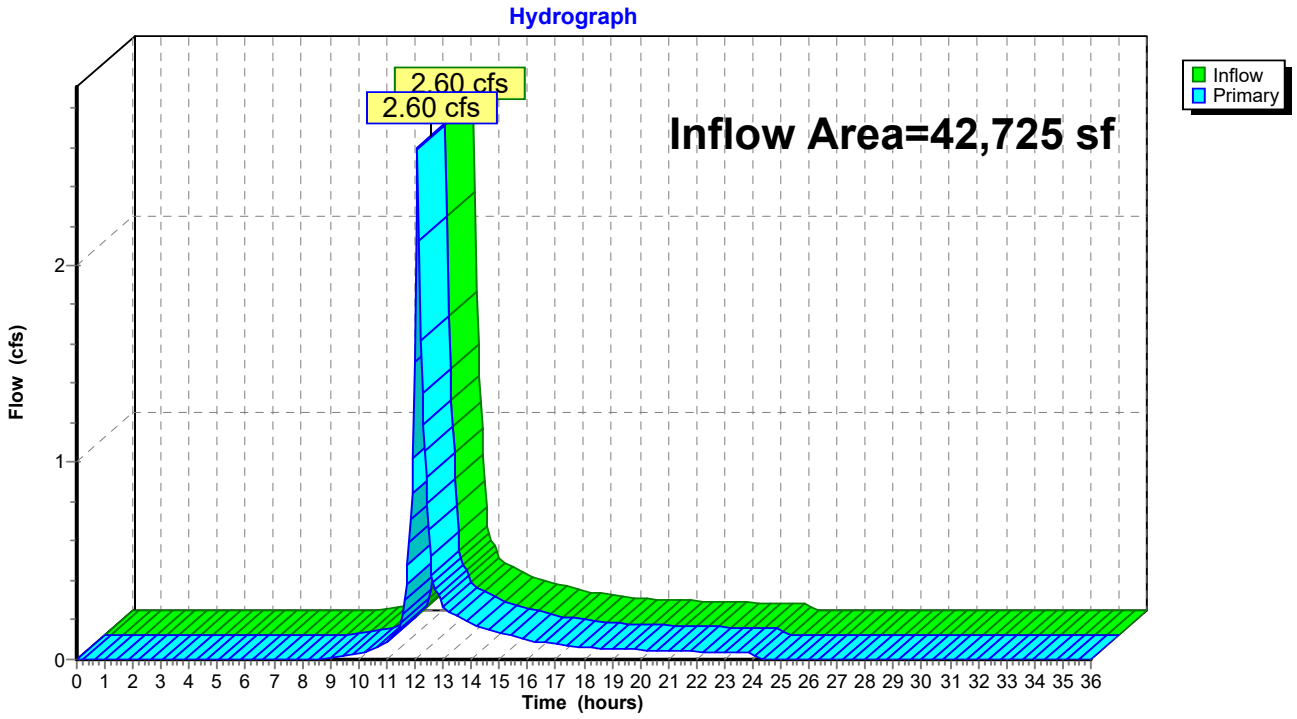


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 2.31" for 10-Year event
Inflow = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf
Primary = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=4.09"
Tc=10.0 min CN=84 Runoff=6.42 cfs 23,333 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=76 Runoff=3.70 cfs 11,697 cf

Link 1L: Total Inflow=9.85 cfs 35,031 cf
Primary=9.85 cfs 35,031 cf

Link POA-1: Woods Meetinghouse Road Inflow=6.42 cfs 23,333 cf
Primary=6.42 cfs 23,333 cf

Link POA-2: Woods Town Hall Road Inflow=3.70 cfs 11,697 cf
Primary=3.70 cfs 11,697 cf

Total Runoff Area = 111,123 sf Runoff Volume = 35,031 cf Average Runoff Depth = 3.78"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

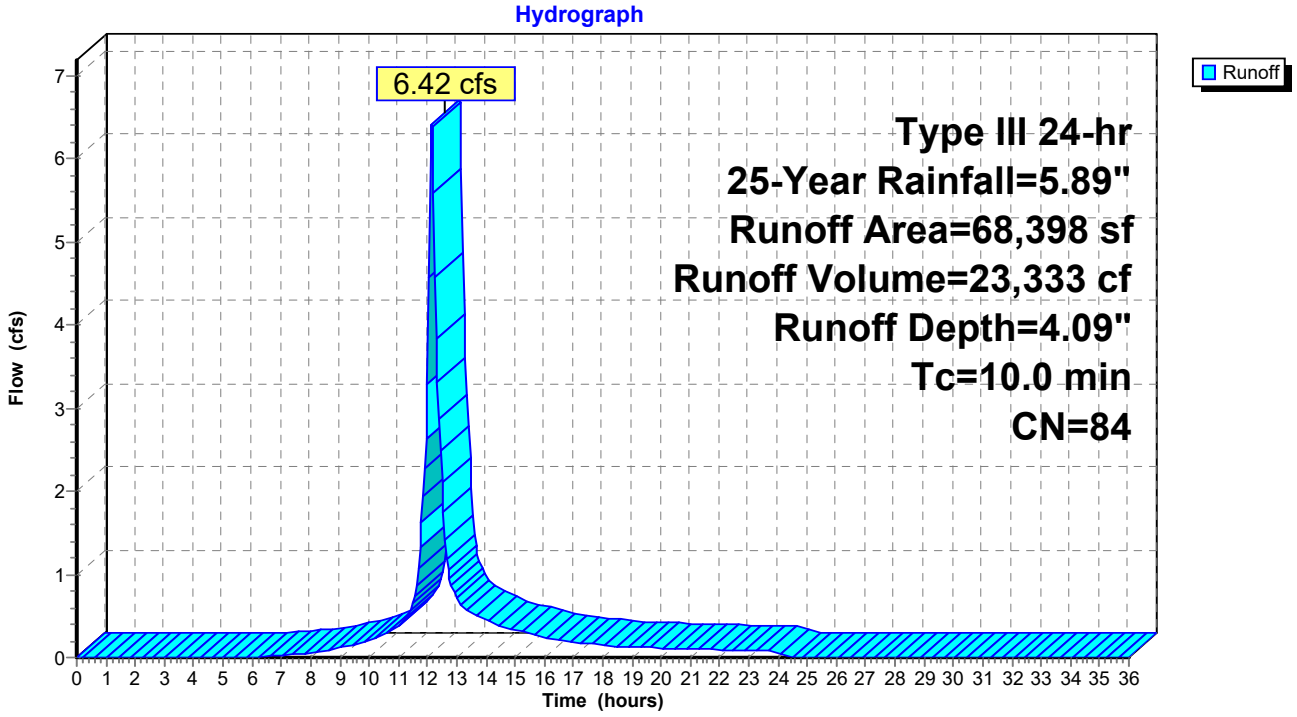
Runoff = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Depth= 4.09"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

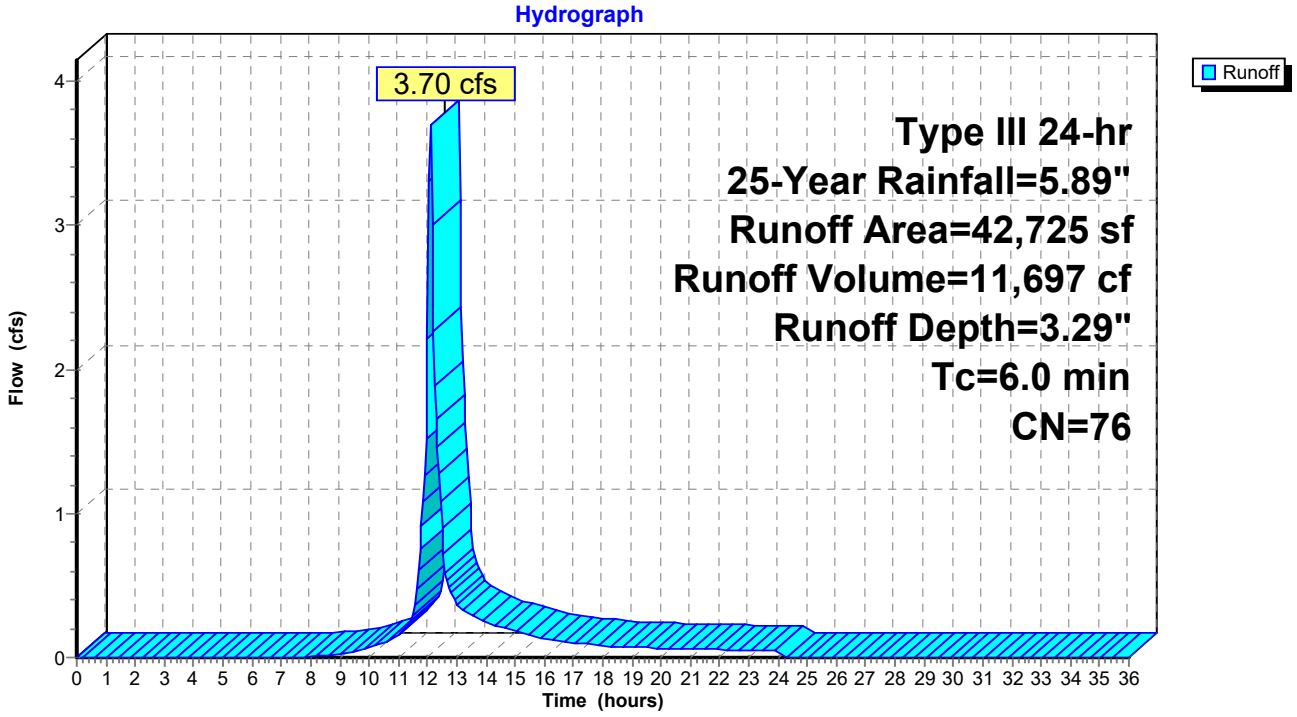
Runoff = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Depth= 3.29"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

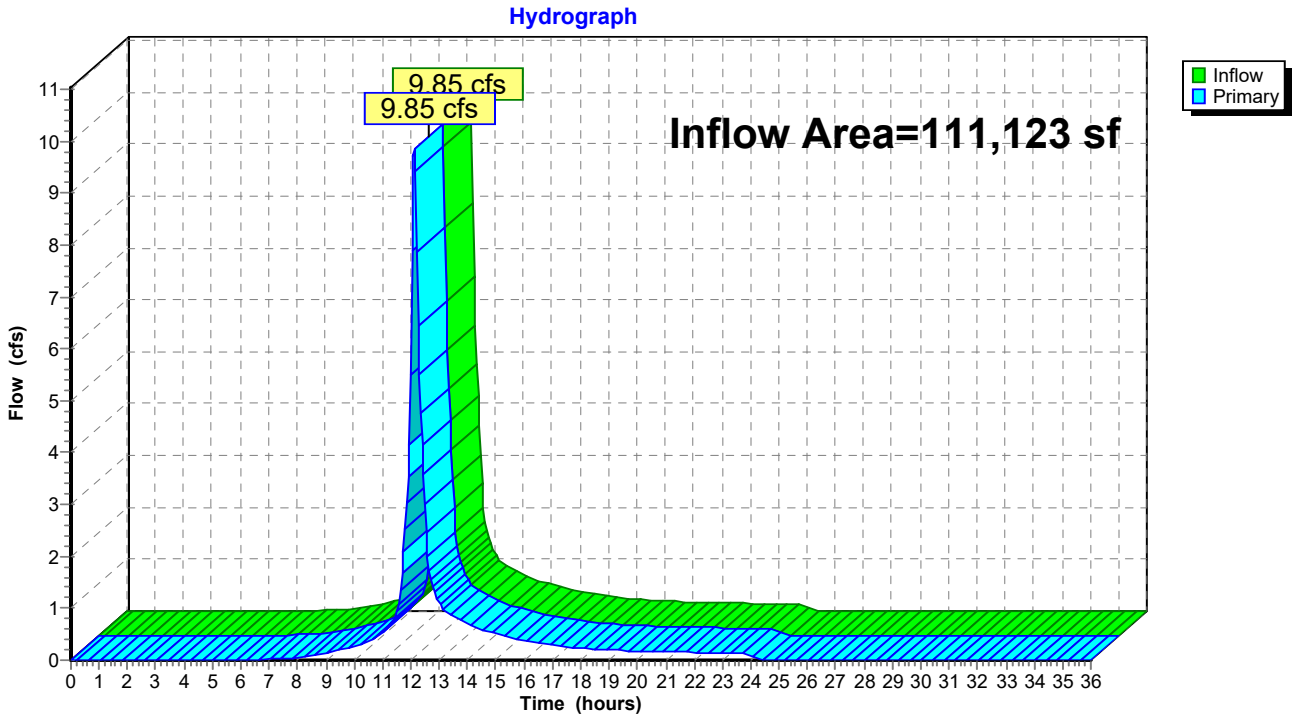


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf
Primary = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

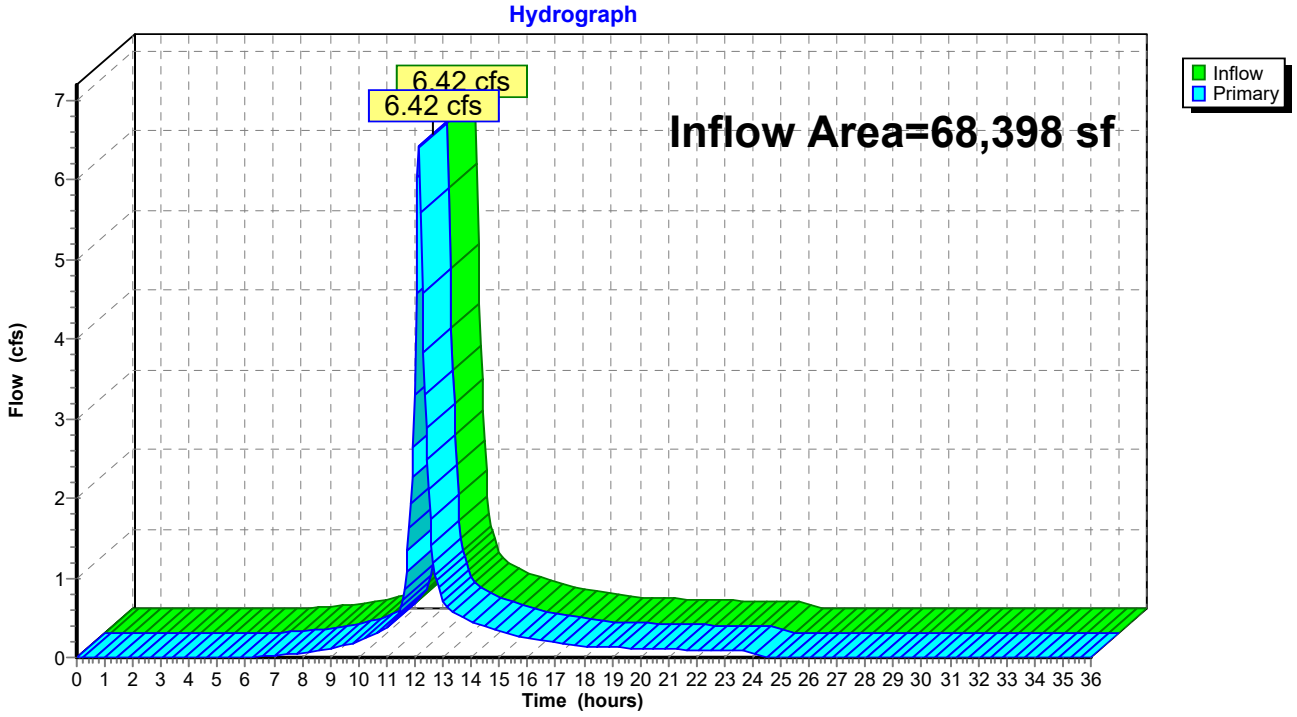


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 4.09" for 25-Year event
Inflow = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf
Primary = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

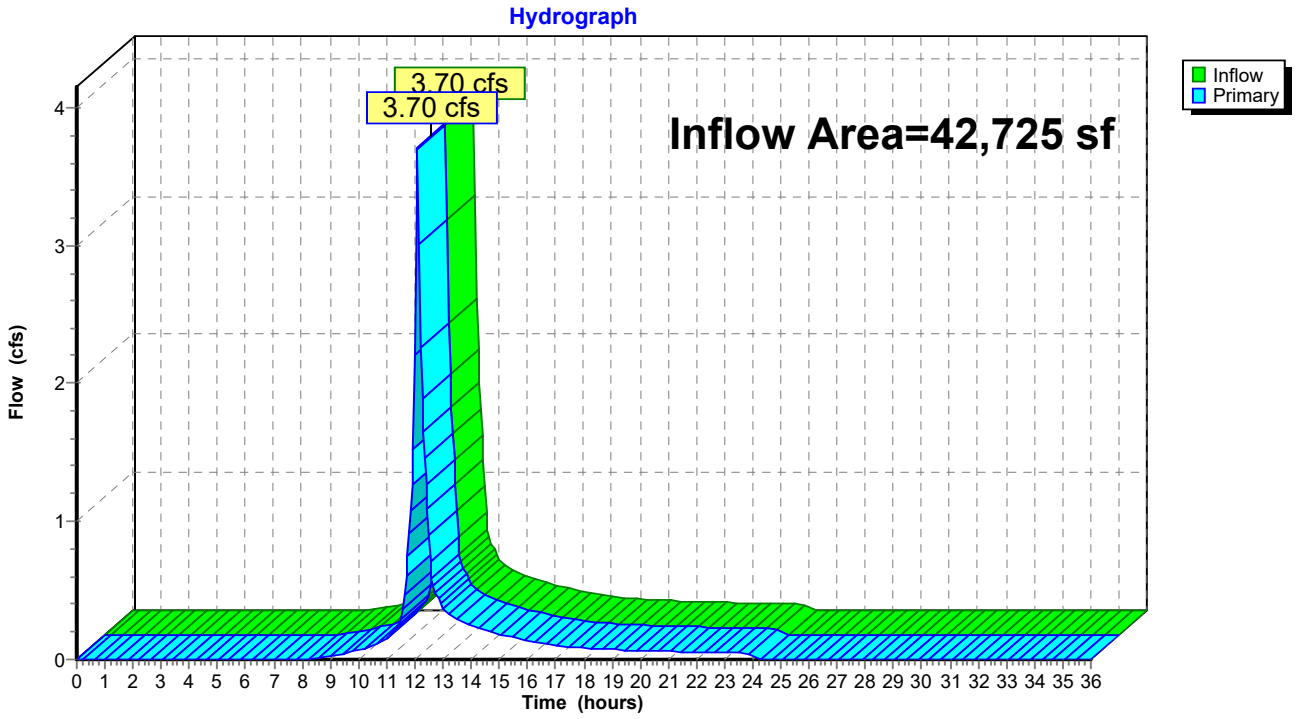


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 3.29" for 25-Year event
Inflow = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf
Primary = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=6.33"
Tc=10.0 min CN=84 Runoff=9.73 cfs 36,056 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=5.38"
Tc=6.0 min CN=76 Runoff=6.01 cfs 19,144 cf

Link 1L: Total Inflow=15.33 cfs 55,200 cf
Primary=15.33 cfs 55,200 cf

Link POA-1: Woods Meetinghouse Road Inflow=9.73 cfs 36,056 cf
Primary=9.73 cfs 36,056 cf

Link POA-2: Woods Town Hall Road Inflow=6.01 cfs 19,144 cf
Primary=6.01 cfs 19,144 cf

Total Runoff Area = 111,123 sf Runoff Volume = 55,200 cf Average Runoff Depth = 5.96"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

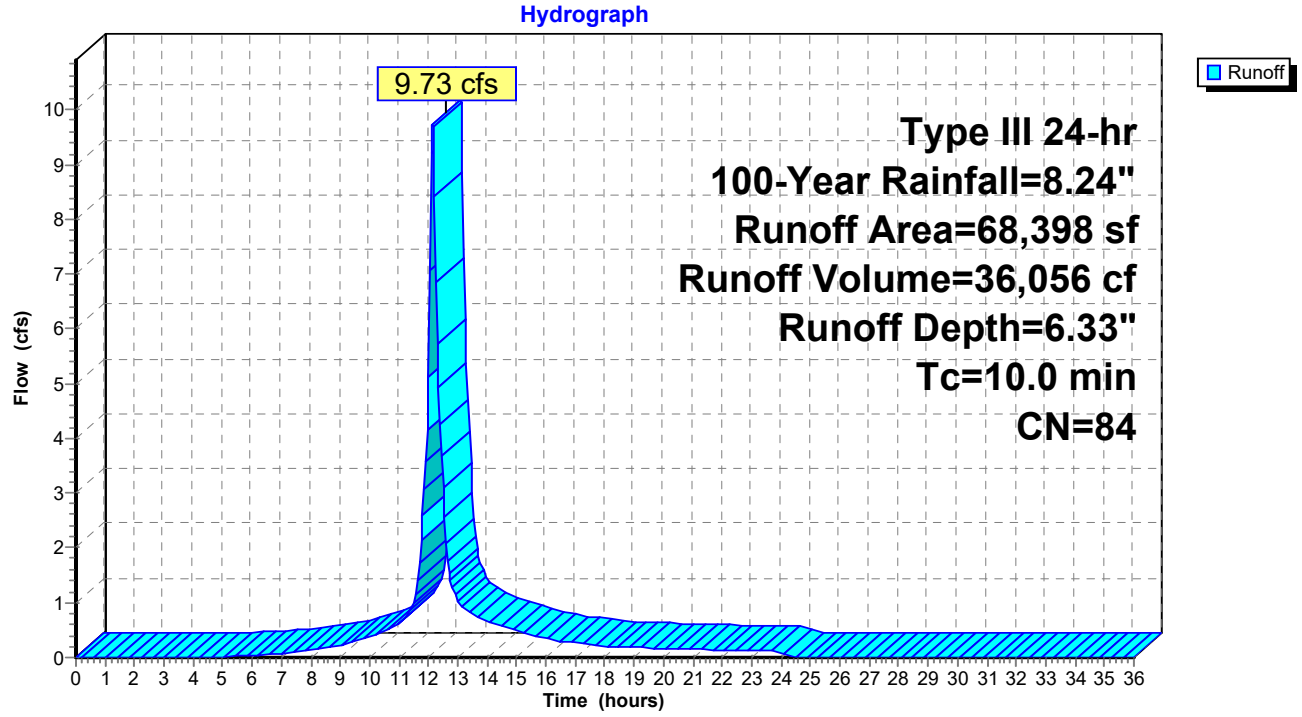
Runoff = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Depth= 6.33"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

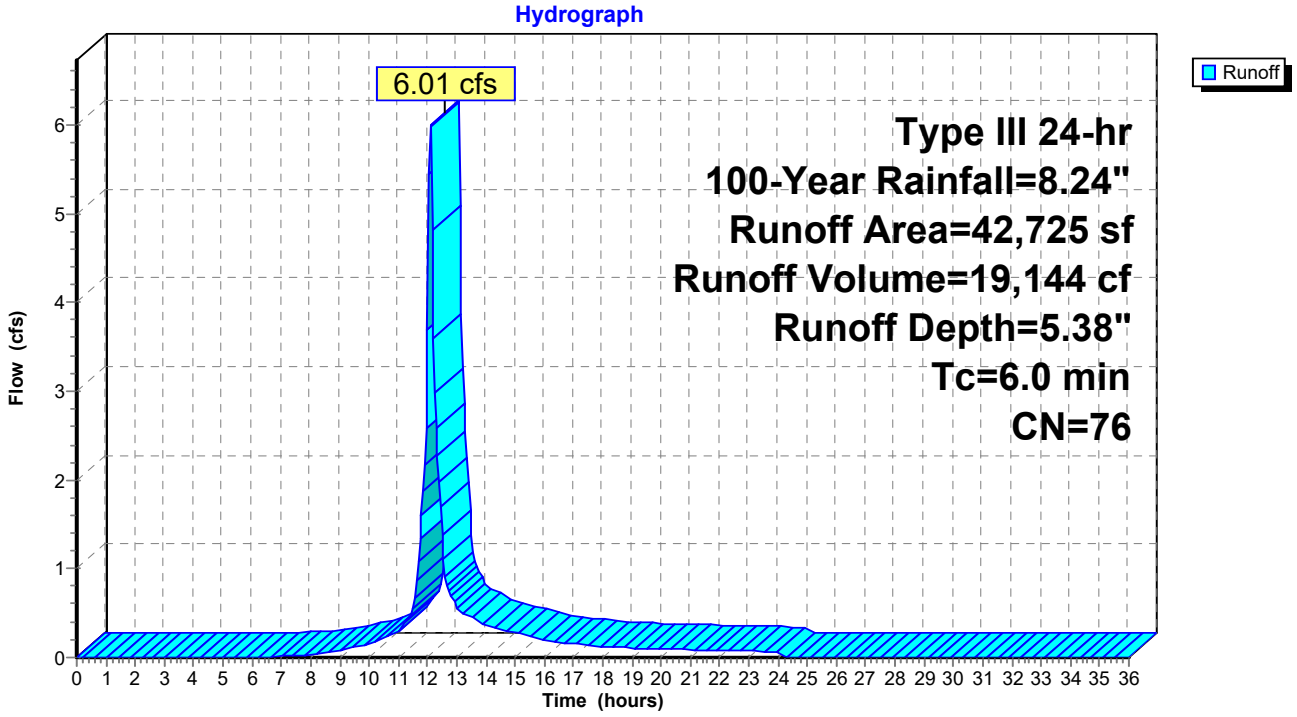
Runoff = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Depth= 5.38"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

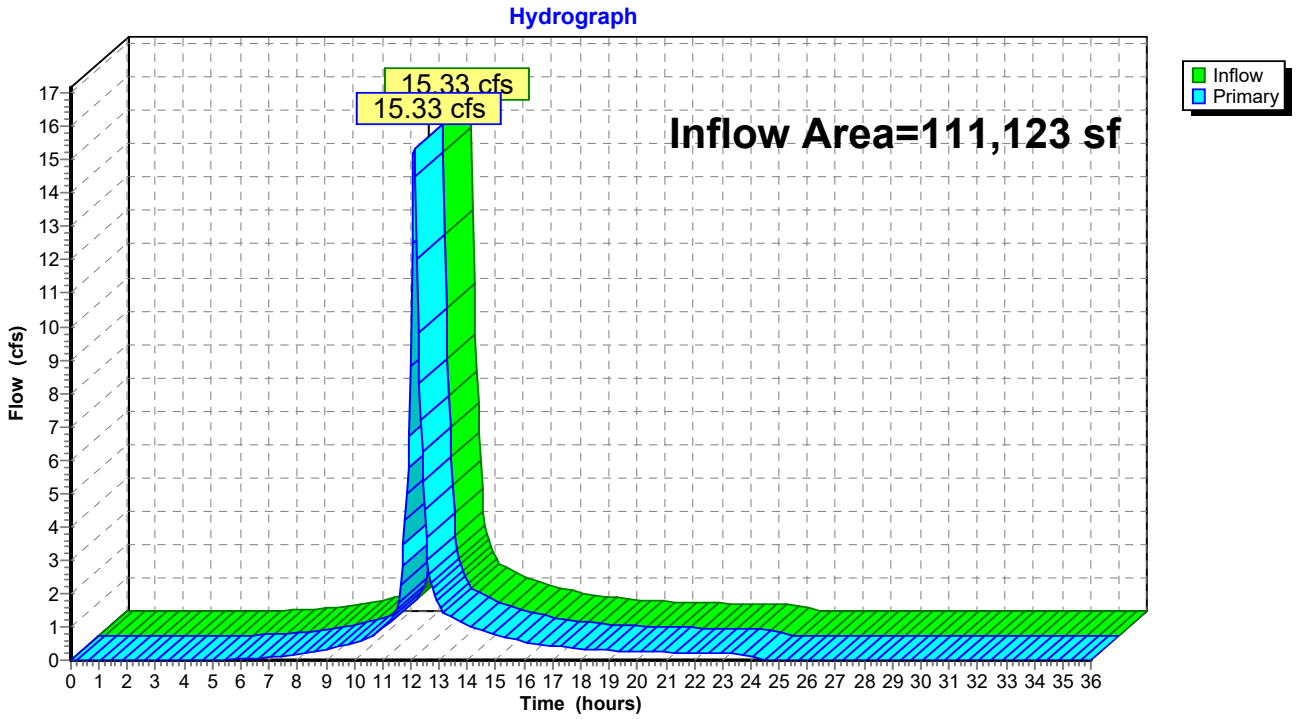


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 5.96" for 100-Year event
Inflow = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf
Primary = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

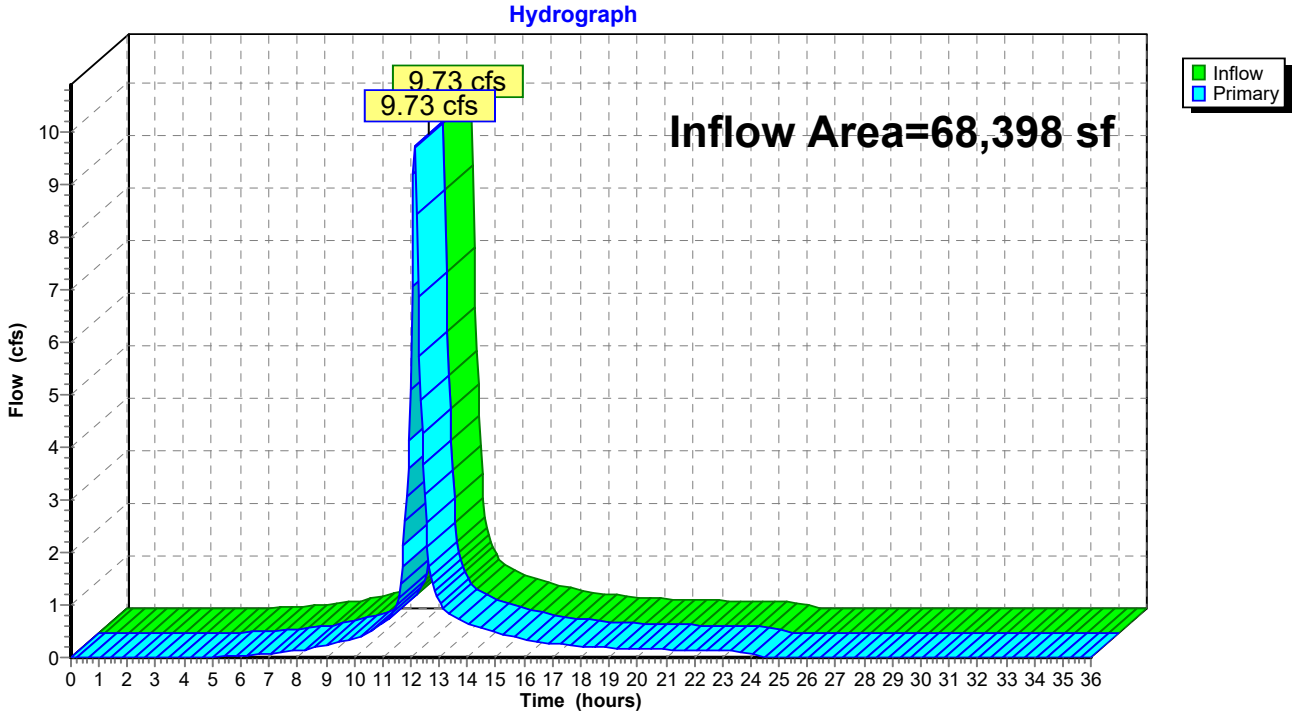


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 6.33" for 100-Year event
Inflow = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf
Primary = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

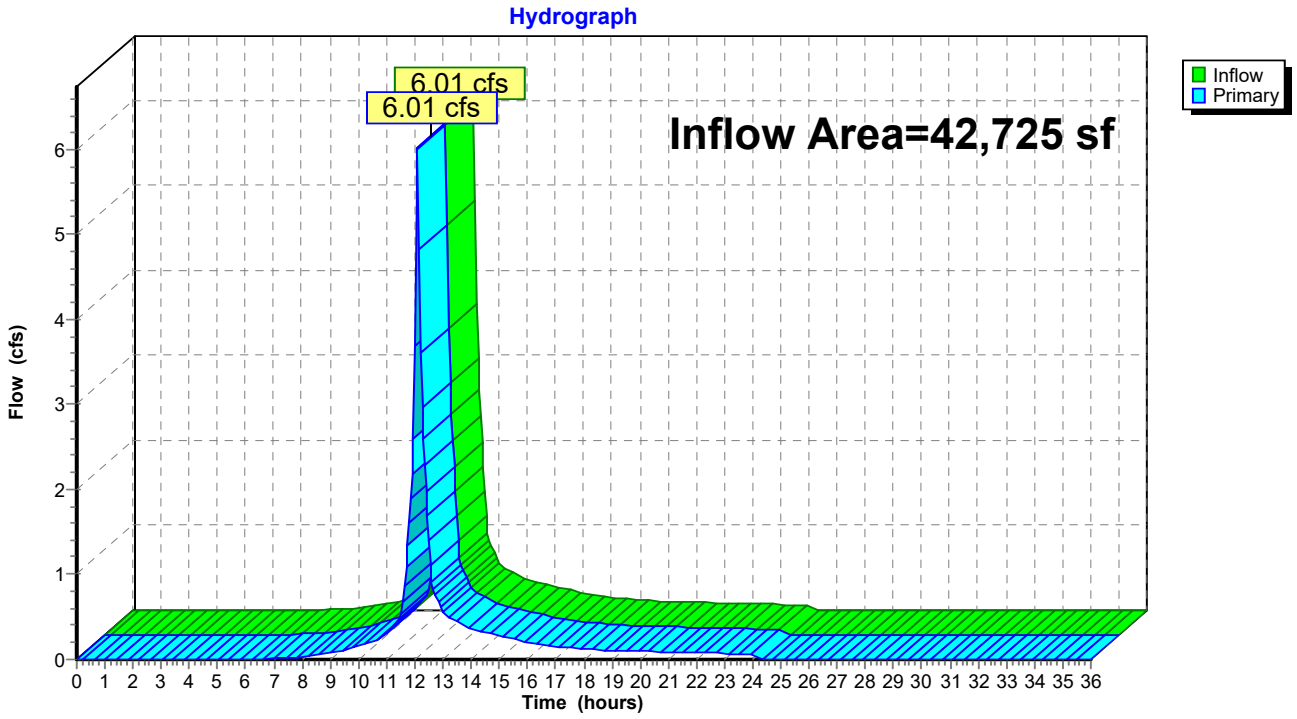


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 5.38" for 100-Year event
Inflow = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf
Primary = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road





NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.
2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- PAVEMENT, HSG A (CN=98)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)

PLAN

SCALE: 1" = 50'

0 50 100 150 200

SCALE: 1" = 50'

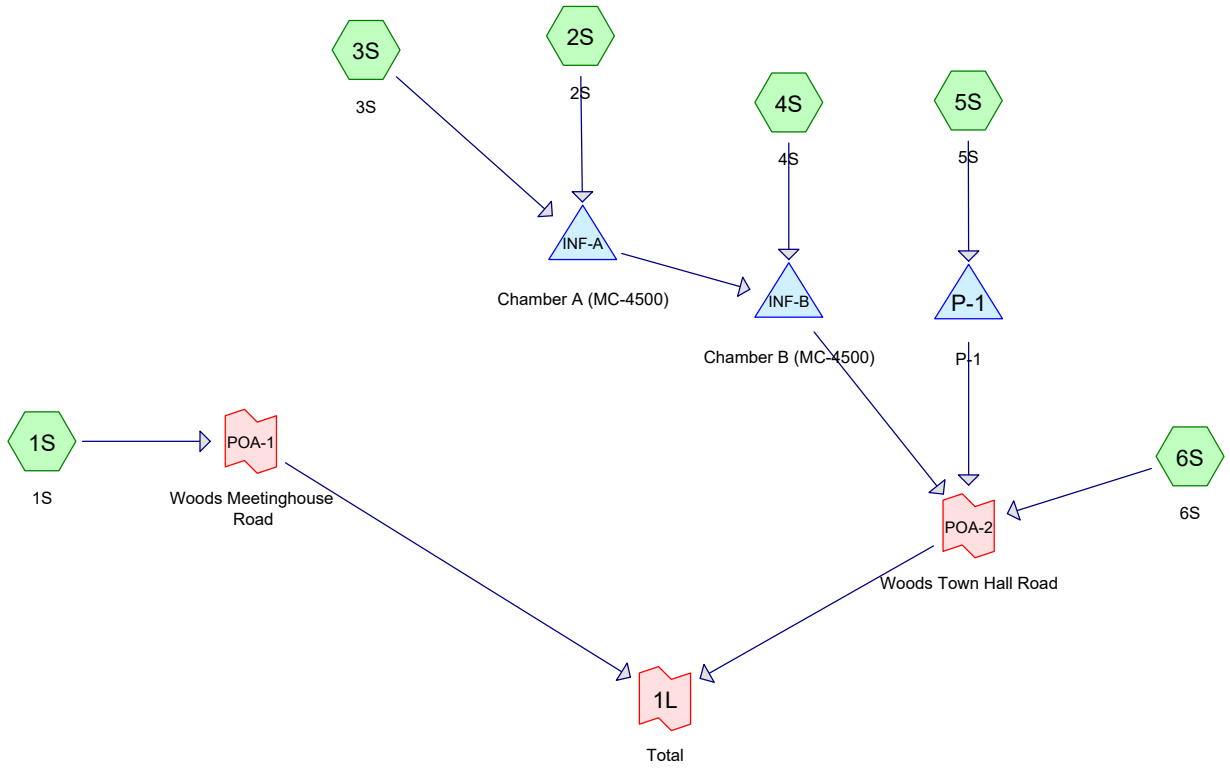
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
PROPOSED CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Post-Development.dwg



Subcat Reach Pond Link

Routing Diagram for Proposed

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
21,209	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 5S, 6S)
59,465	98	Paved parking, HSG A (2S, 3S, 4S, 6S)
30,449	98	Roofs, HSG A (2S, 3S, 4S, 5S)
111,123	**87**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S, 3S, 4S, 5S, 6S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
21,209	0	0	0	0	21,209	>75% Grass cover, Good	
59,465	0	0	0	0	59,465	Paved parking	
30,449	0	0	0	0	30,449	Roofs	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	
3	P-1	119.00	118.00	53.0	0.0189	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.00"
Tc=10.0 min CN=39 Runoff=0.00 cfs 0 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=2.75"
Tc=10.0 min CN=96 Runoff=2.10 cfs 8,083 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=2.45"
Tc=10.0 min CN=93 Runoff=0.69 cfs 2,554 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=98 Runoff=1.60 cfs 5,695 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=1.21"
Tc=6.0 min CN=77 Runoff=0.35 cfs 1,138 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=80 Runoff=0.72 cfs 2,284 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=116.46' Storage=3,372 cf Inflow=2.79 cfs 10,638 cf
Discarded=0.40 cfs 10,638 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 10,638 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.08' Storage=1,061 cf Inflow=1.60 cfs 5,695 cf
Discarded=0.43 cfs 5,695 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 5,695 cf

Pond P-1: P-1 Peak Elev=120.41' Storage=213 cf Inflow=0.35 cfs 1,138 cf
Outflow=0.11 cfs 1,138 cf

Link 1L: Total Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-2: Woods Town Hall Road Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Total Runoff Area = 111,123 sf Runoff Volume = 19,755 cf Average Runoff Depth = 2.13"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

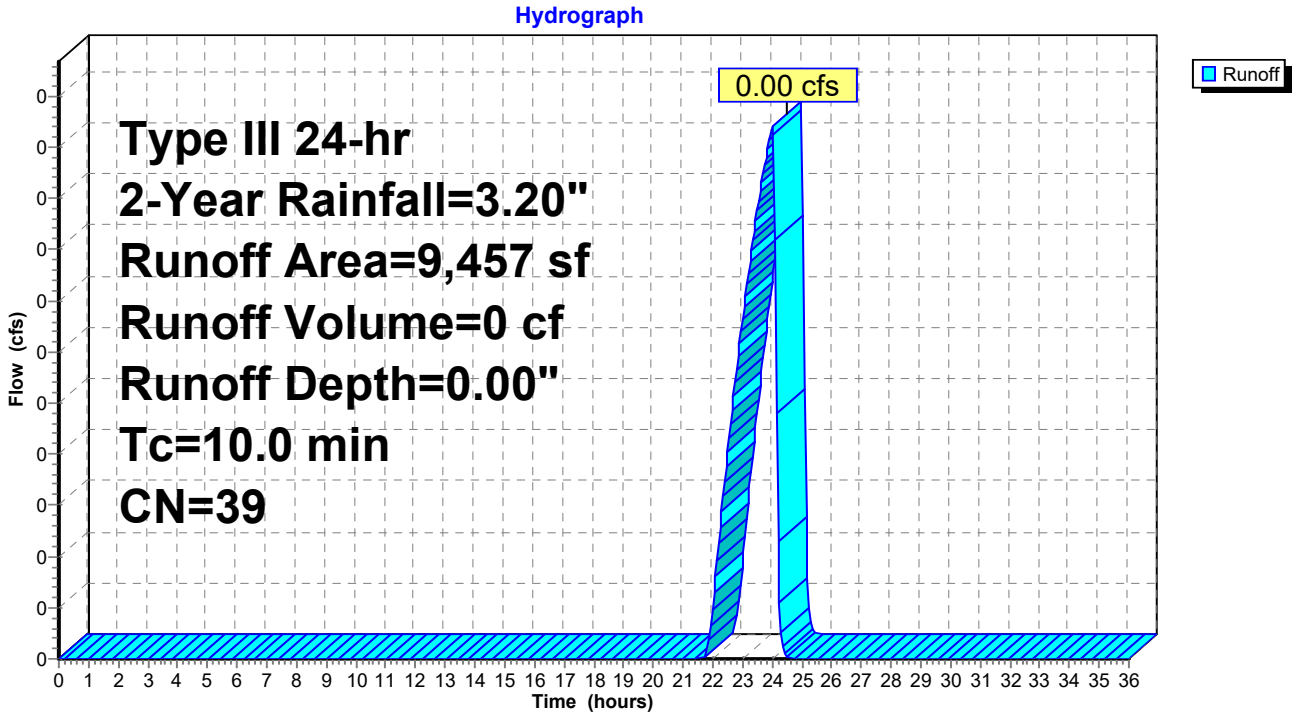
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

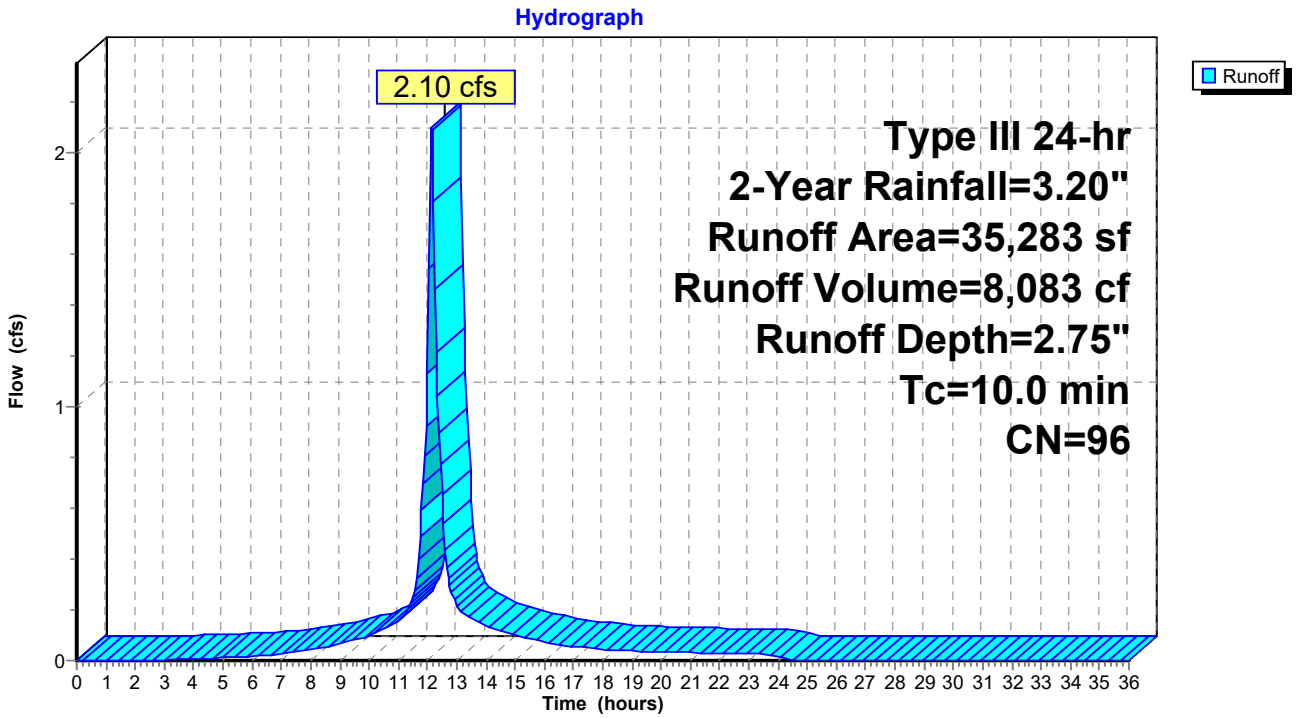
Runoff = 2.10 cfs @ 12.14 hrs, Volume= 8,083 cf, Depth= 2.75"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

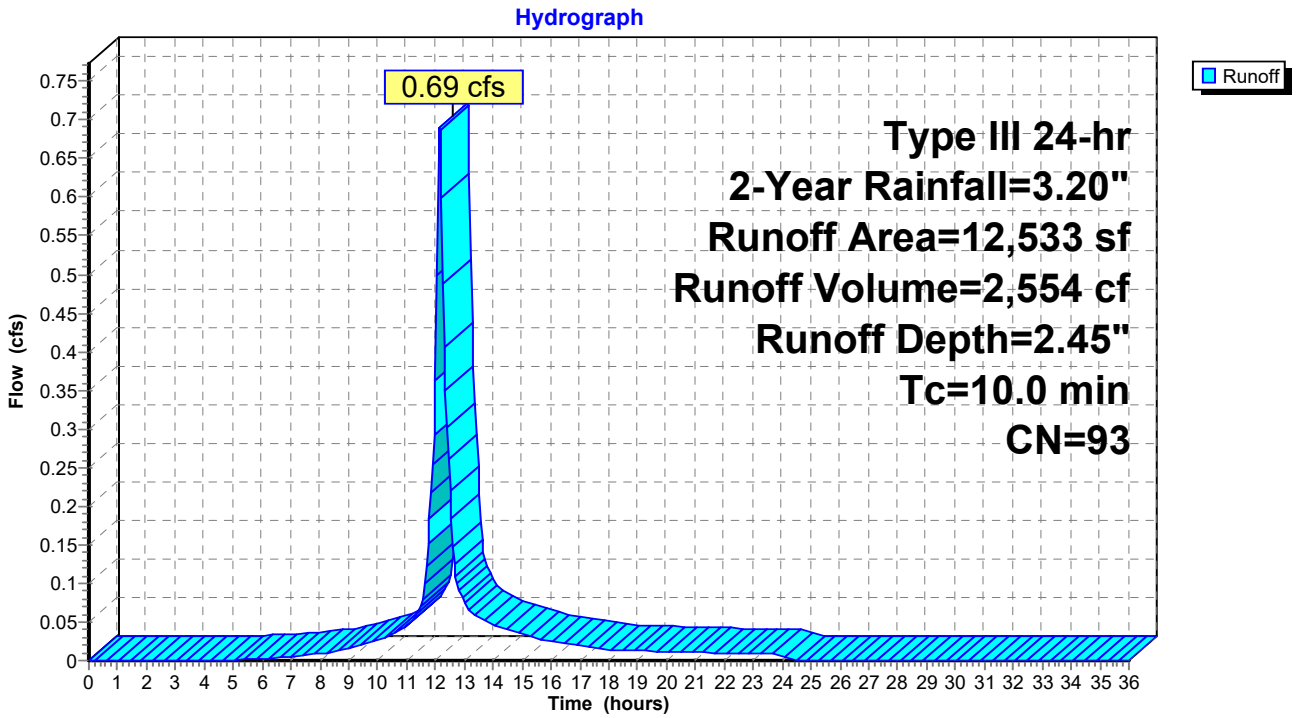
Runoff = 0.69 cfs @ 12.14 hrs, Volume= 2,554 cf, Depth= 2.45"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

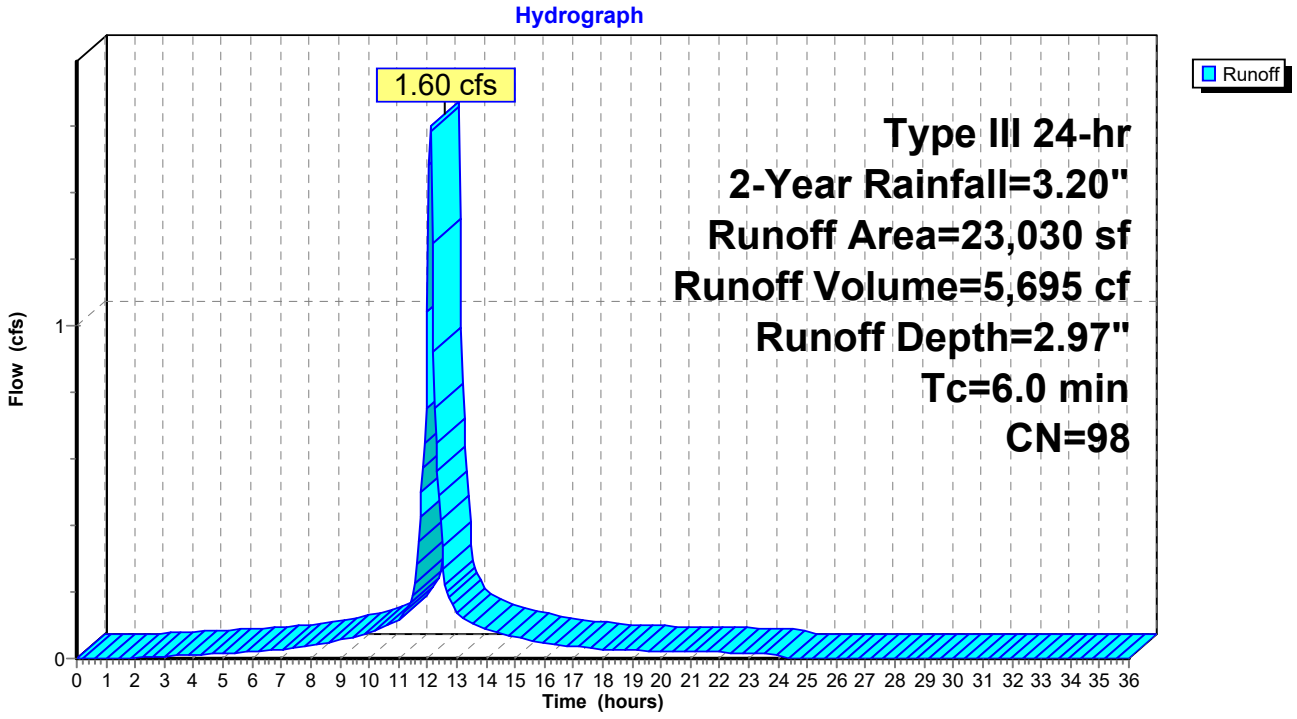
Runoff = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf, Depth= 2.97"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

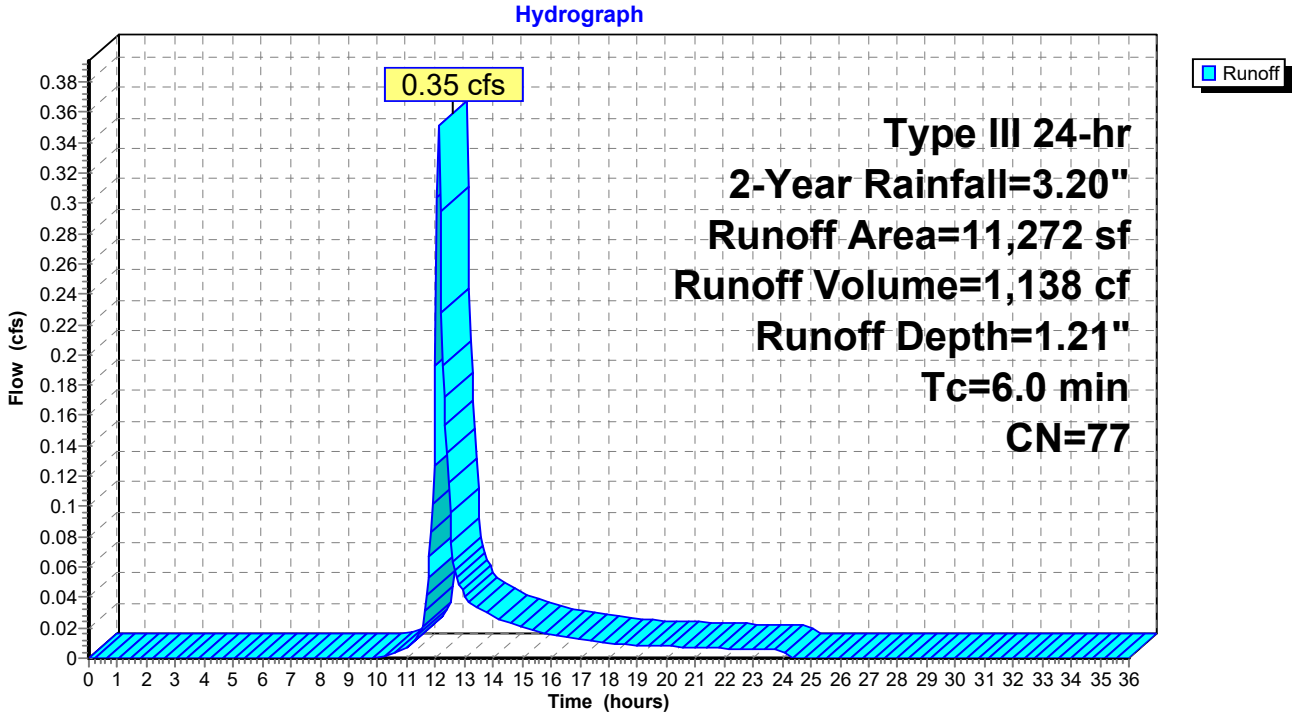
Runoff = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf, Depth= 1.21"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

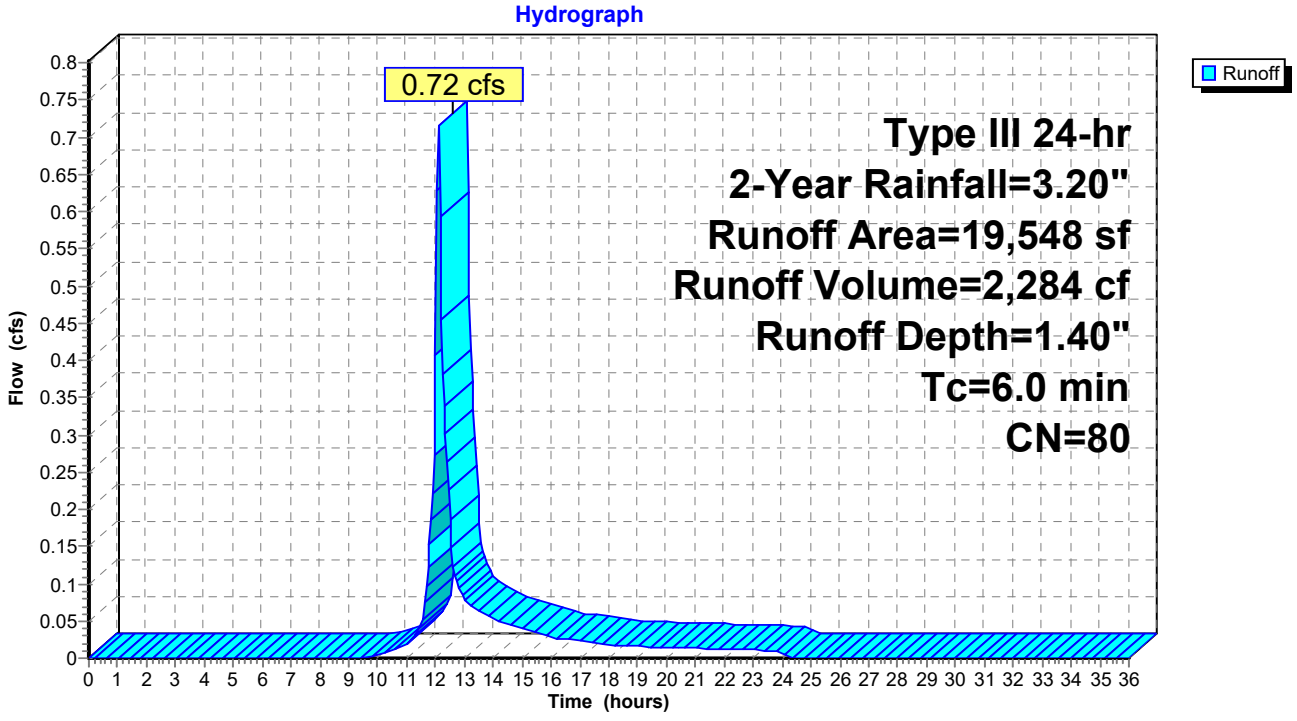
Runoff = 0.72 cfs @ 12.10 hrs, Volume= 2,284 cf, Depth= 1.40"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 2.67" for 2-Year event
Inflow = 2.79 cfs @ 12.14 hrs, Volume= 10,638 cf
Outflow = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf, Atten= 86%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 116.46' @ 12.74 hrs Surf.Area= 2,092 sf Storage= 3,372 cf

Plug-Flow detention time= 55.6 min calculated for 10,638 cf (100% of inflow)
Center-of-Mass det. time= 55.6 min (837.8 - 782.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.70 hrs HW=114.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

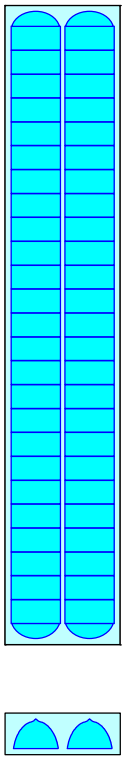
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

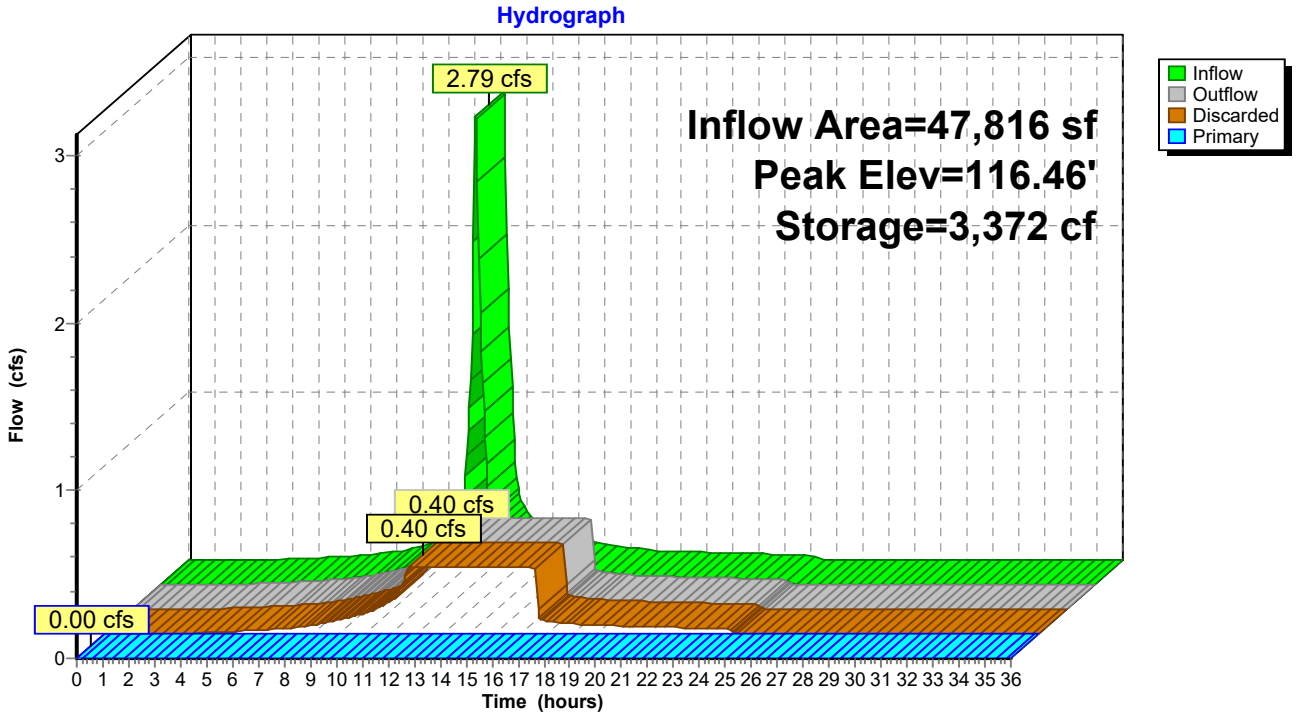
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 0.96" for 2-Year event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf
Outflow = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf, Atten= 73%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.08' @ 12.44 hrs Surf.Area= 2,268 sf Storage= 1,061 cf

Plug-Flow detention time= 12.3 min calculated for 5,687 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (768.7 - 756.4)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.80 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

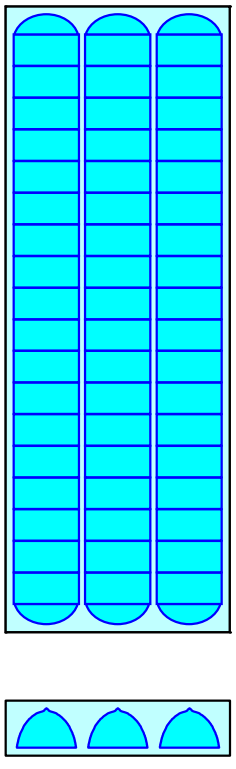
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

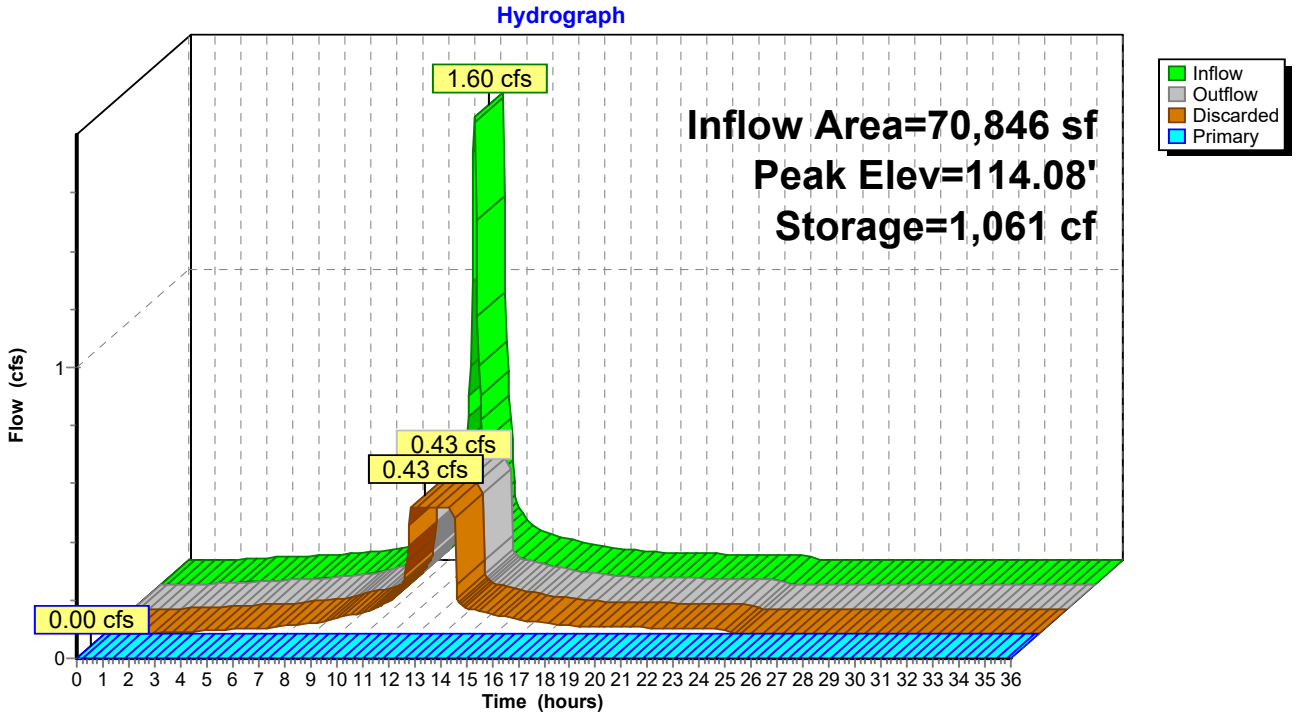
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 1.21" for 2-Year event
Inflow = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf
Outflow = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf, Atten= 68%, Lag= 21.6 min
Primary = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.41' @ 12.46 hrs Surf.Area= 589 sf Storage= 213 cf

Plug-Flow detention time= 11.3 min calculated for 1,137 cf (100% of inflow)
Center-of-Mass det. time= 11.2 min (863.6 - 852.4)

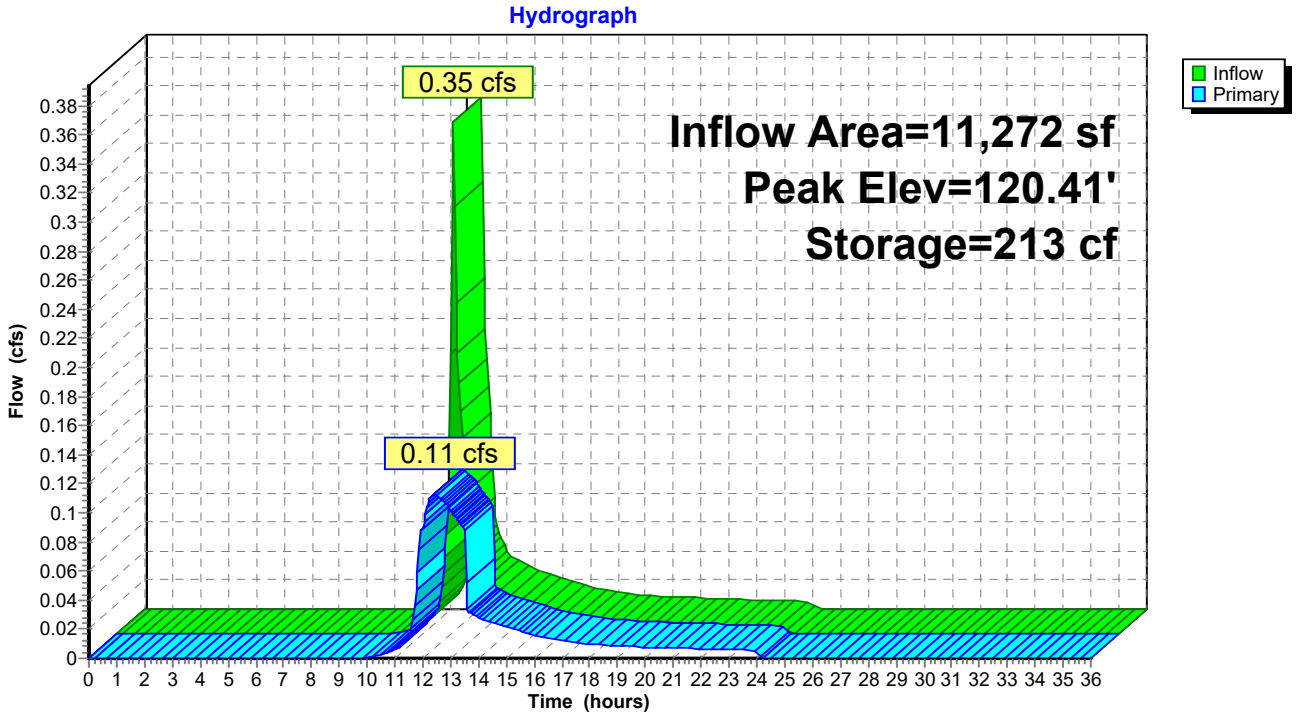
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 12.46 hrs HW=120.41' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.11 cfs)
└─**2=Culvert** (Passes 0.00 cfs of 2.85 cfs potential flow)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond P-1: P-1

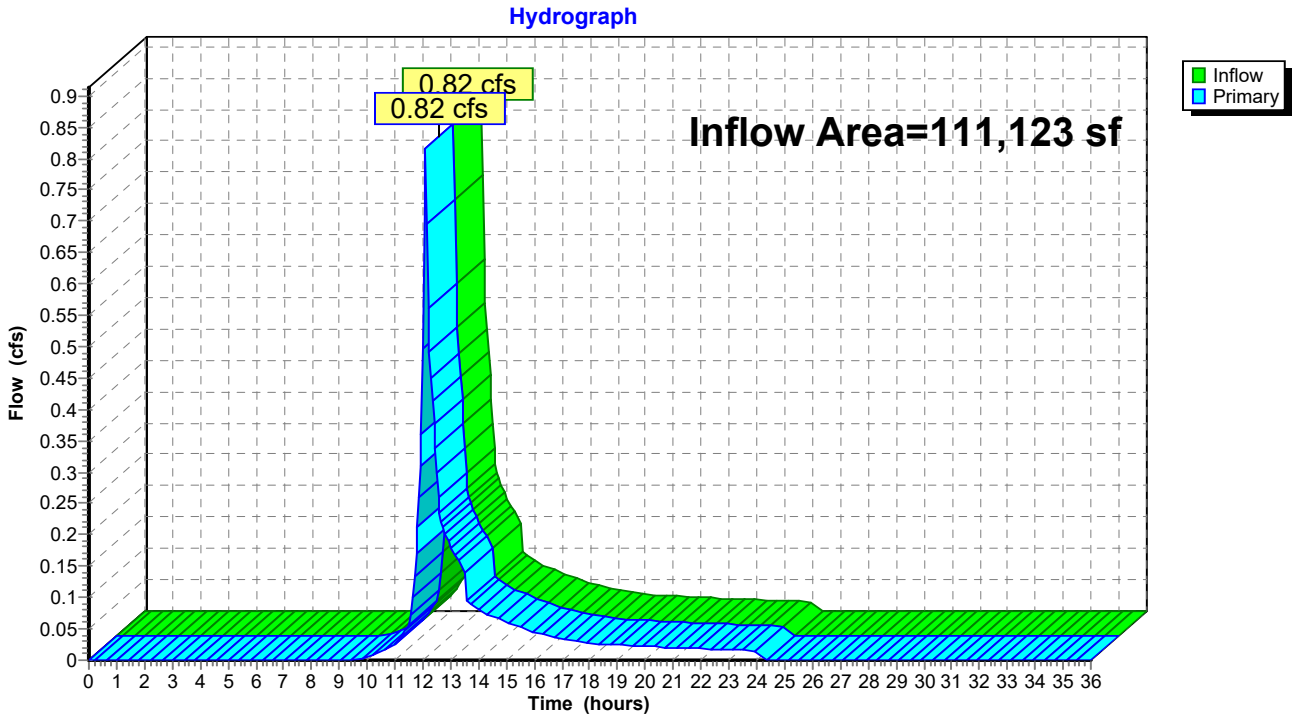

Hydrograph
Inflow
Primary
0.35 cfs
0.11 cfs
Inflow Area=11,272 sf
Peak Elev=120.41'
Storage=213 cf
Flow (cfs)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38
Time (hours)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

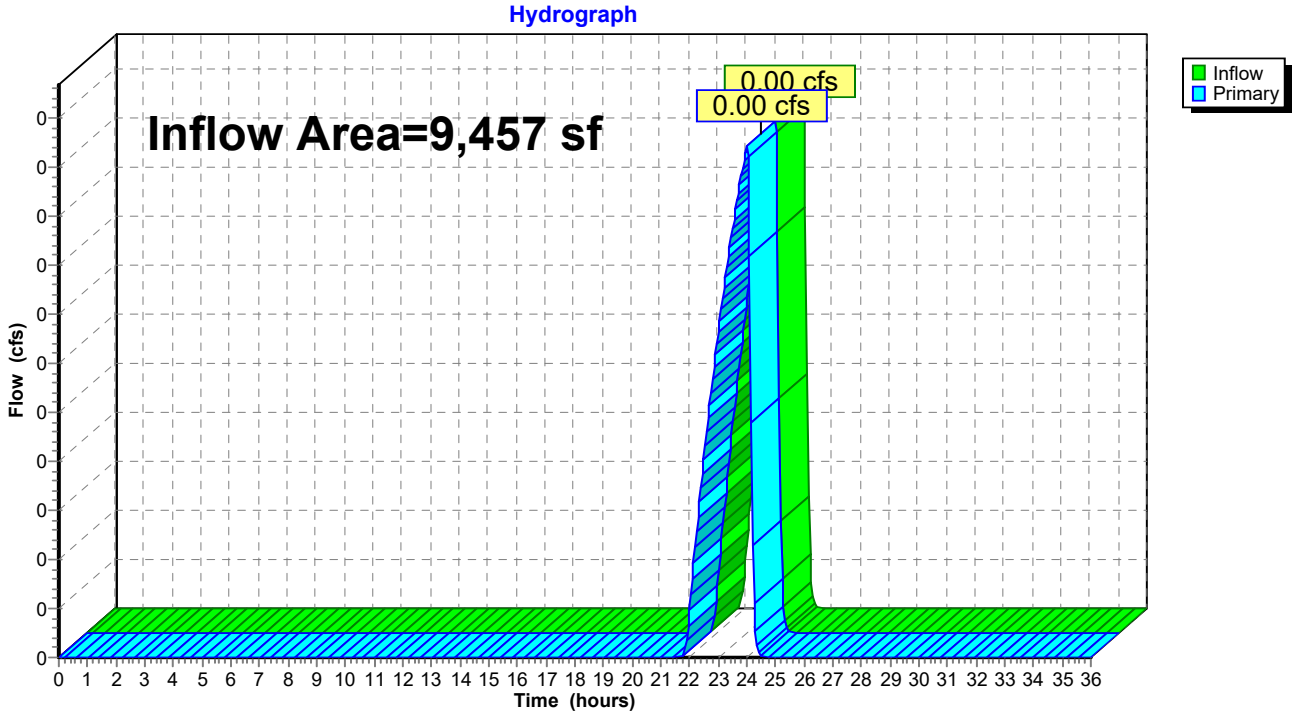


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

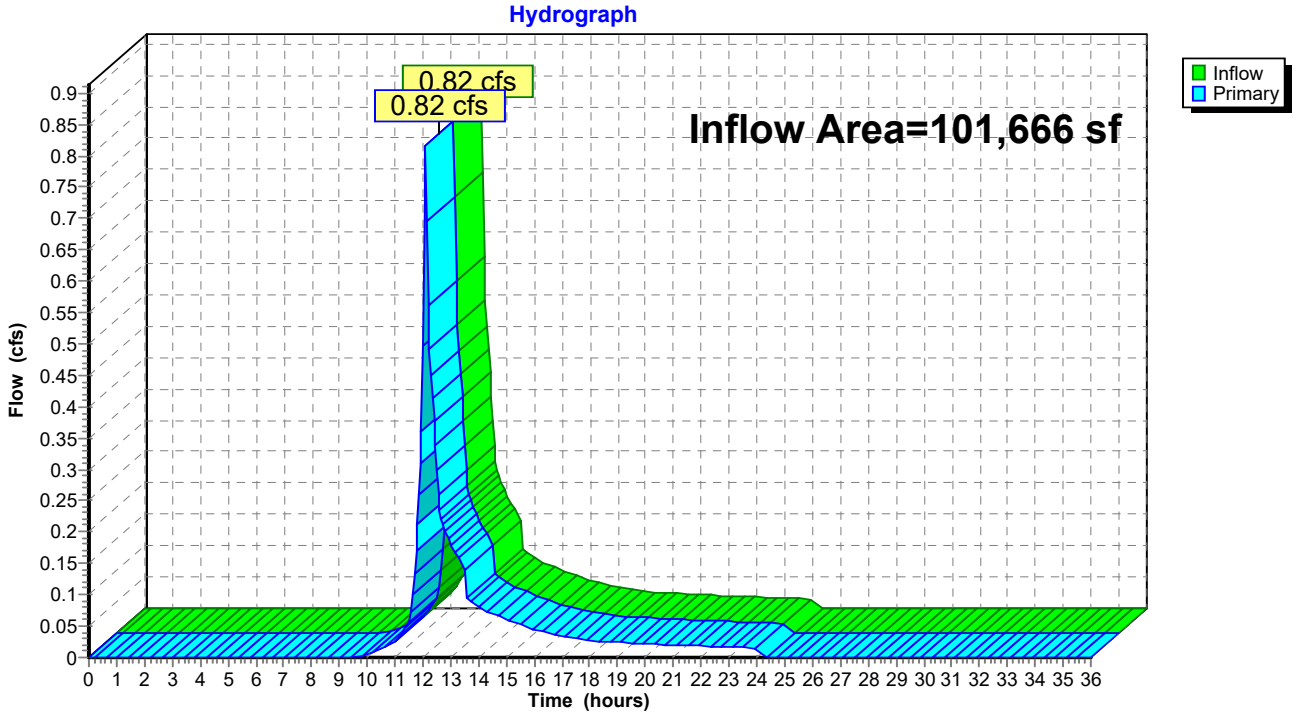


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.40" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.15"
Tc=10.0 min CN=39 Runoff=0.00 cfs 116 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=4.25"
Tc=10.0 min CN=96 Runoff=3.18 cfs 12,509 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=3.92"
Tc=10.0 min CN=93 Runoff=1.08 cfs 4,097 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=4.48"
Tc=6.0 min CN=98 Runoff=2.38 cfs 8,605 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=2.39"
Tc=6.0 min CN=77 Runoff=0.71 cfs 2,246 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=2.65"
Tc=6.0 min CN=80 Runoff=1.37 cfs 4,317 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=118.23' Storage=6,190 cf Inflow=4.26 cfs 16,606 cf
Discarded=0.40 cfs 16,606 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 16,606 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.64' Storage=2,140 cf Inflow=2.38 cfs 8,605 cf
Discarded=0.43 cfs 8,605 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 8,605 cf

Pond P-1: P-1 Peak Elev=120.63' Storage=349 cf Inflow=0.71 cfs 2,246 cf
Outflow=0.58 cfs 2,246 cf

Link 1L: Total Inflow=1.69 cfs 6,678 cf
Primary=1.69 cfs 6,678 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 116 cf
Primary=0.00 cfs 116 cf

Link POA-2: Woods Town Hall Road Inflow=1.69 cfs 6,562 cf
Primary=1.69 cfs 6,562 cf

Total Runoff Area = 111,123 sf Runoff Volume = 31,890 cf Average Runoff Depth = 3.44"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

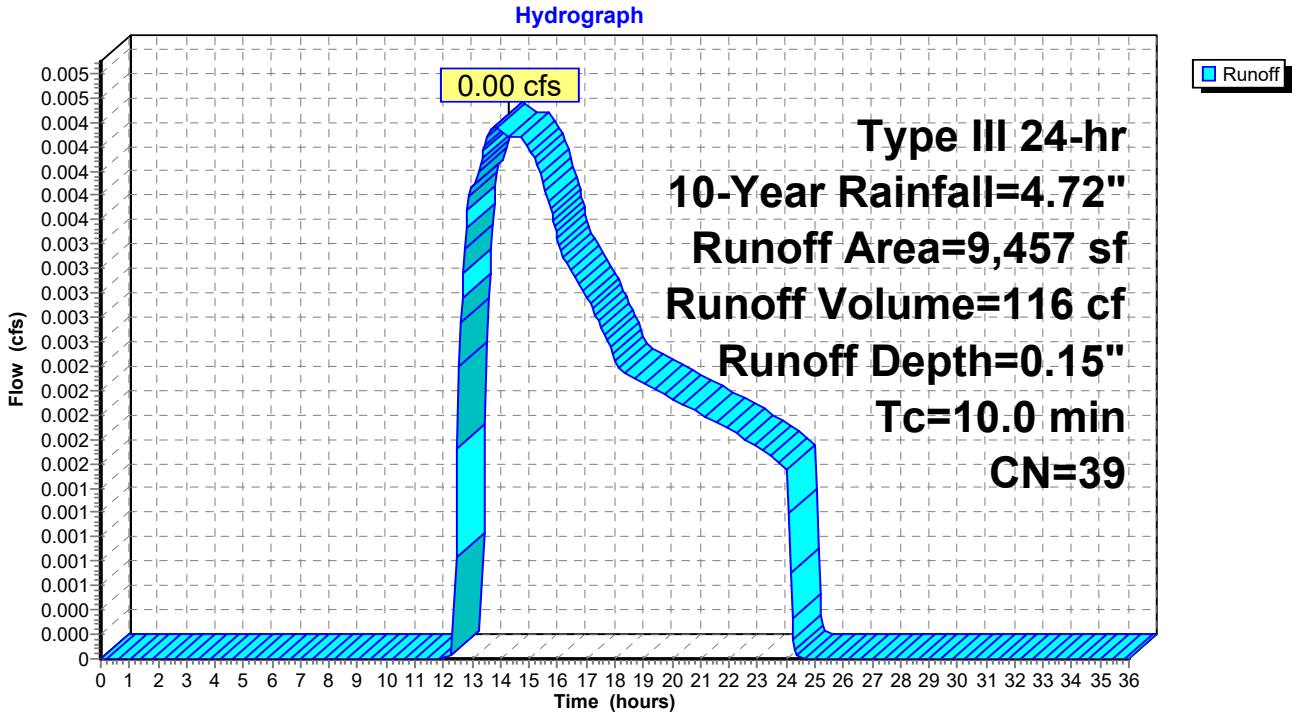
Runoff = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Depth= 0.15"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

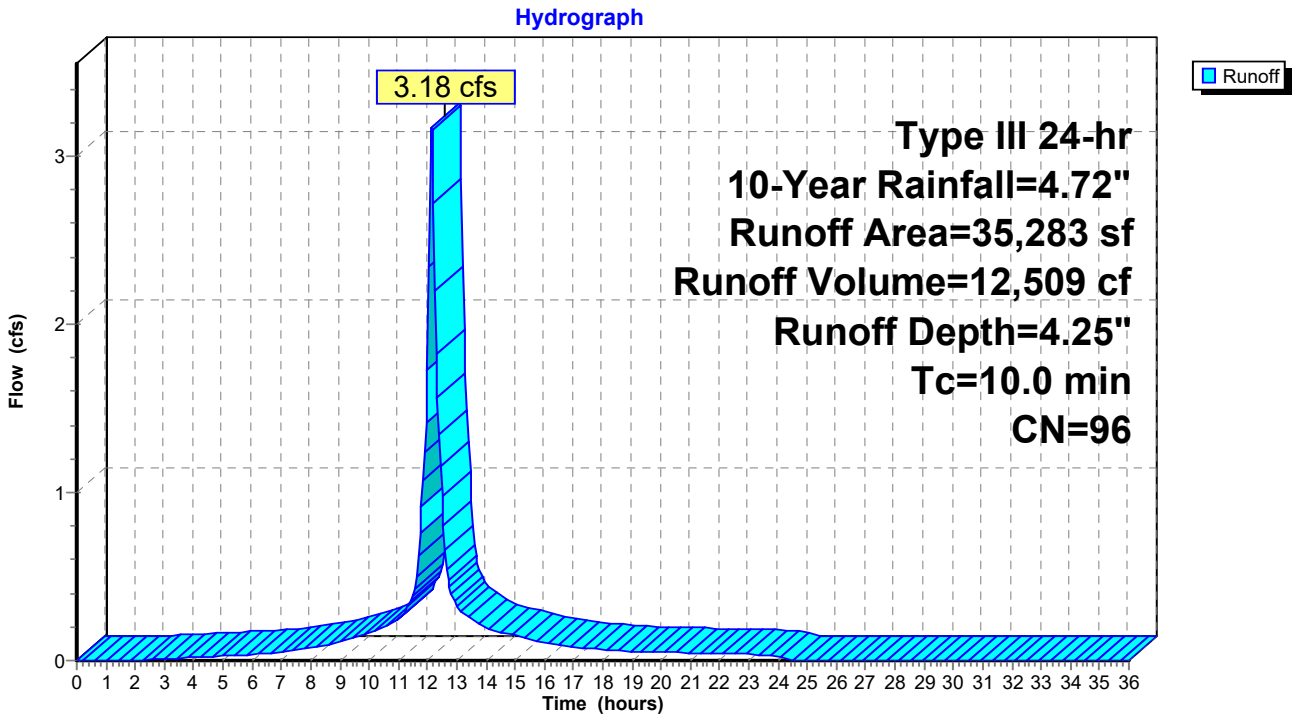
Runoff = 3.18 cfs @ 12.14 hrs, Volume= 12,509 cf, Depth= 4.25"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

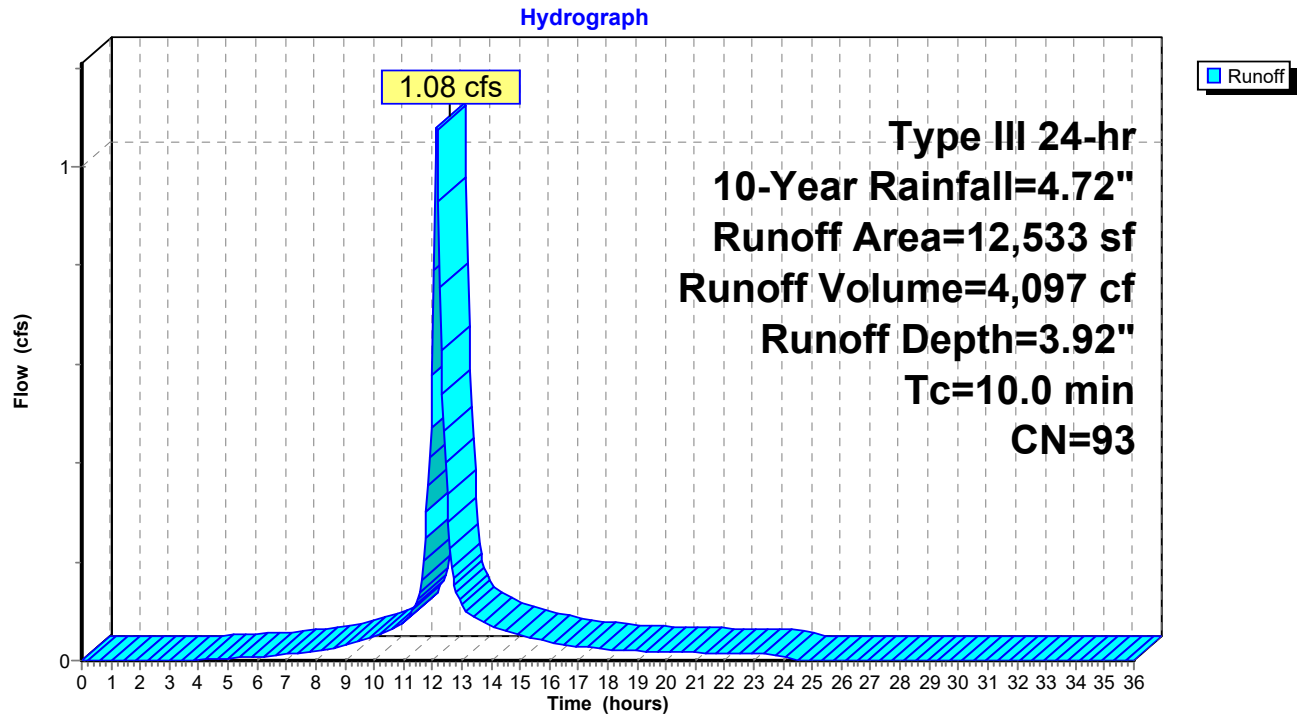
Runoff = 1.08 cfs @ 12.14 hrs, Volume= 4,097 cf, Depth= 3.92"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

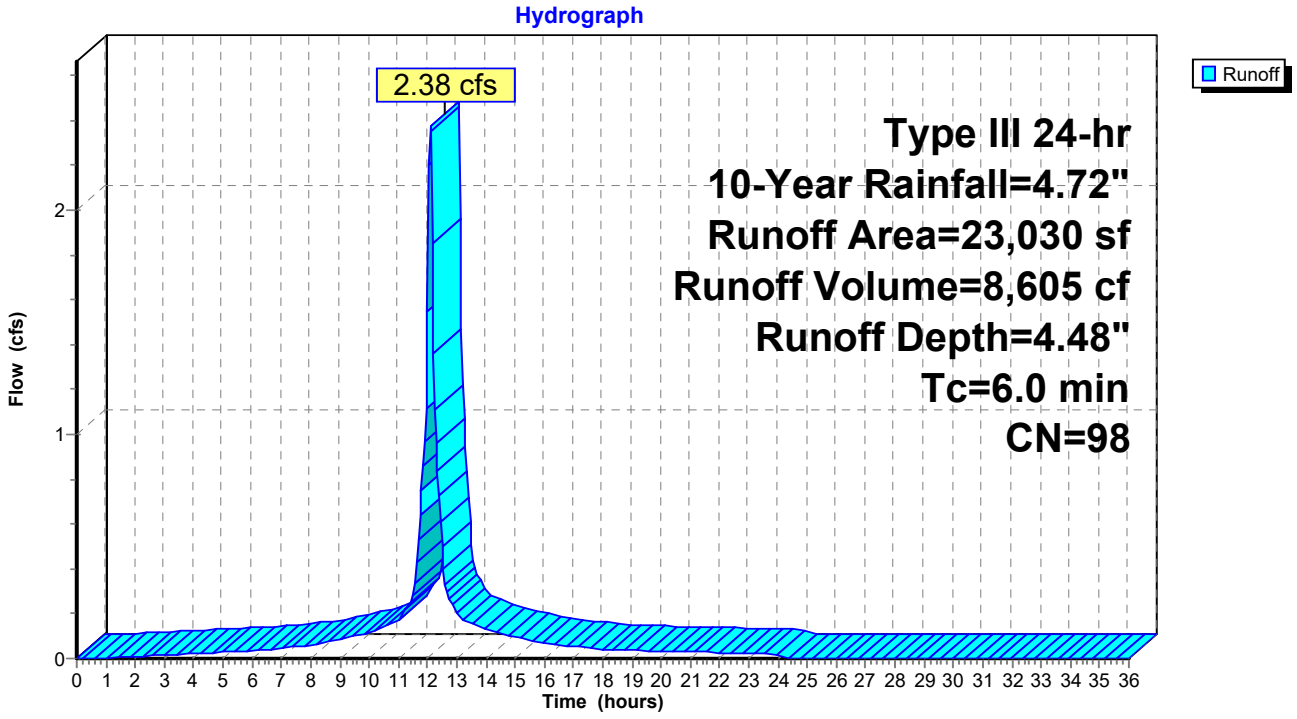
Runoff = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf, Depth= 4.48"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

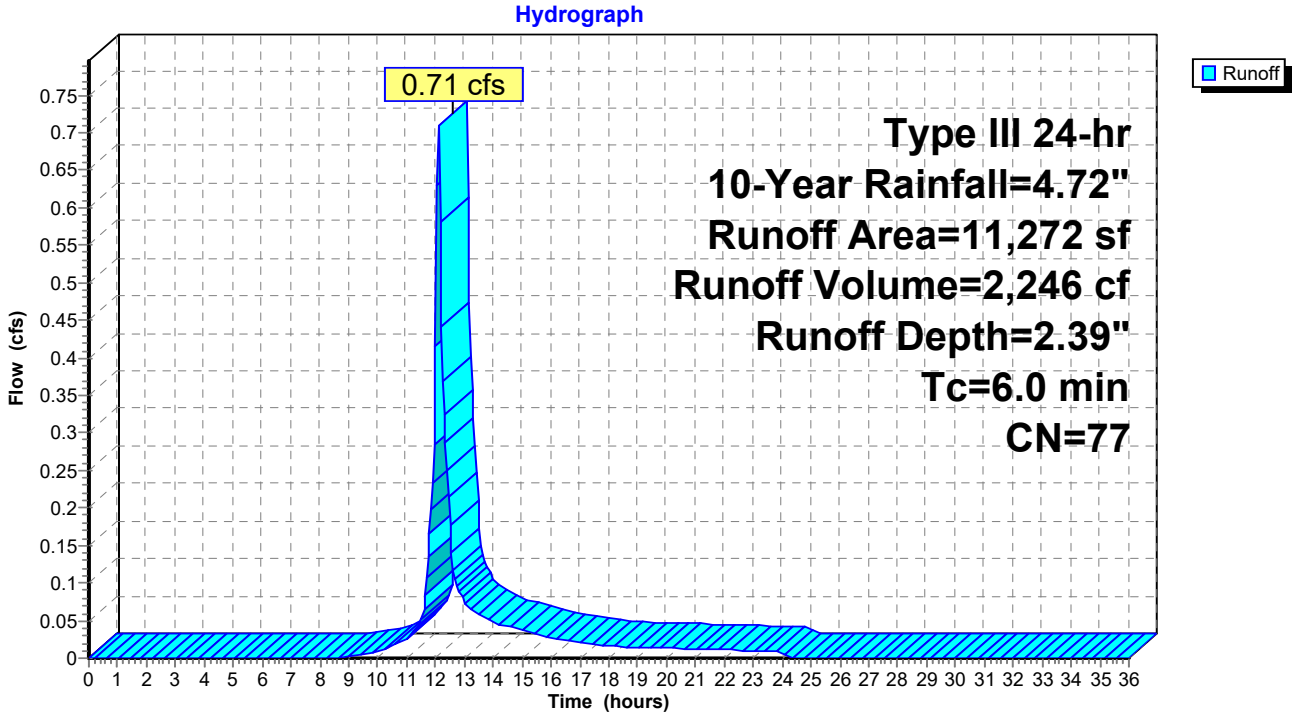
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf, Depth= 2.39"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

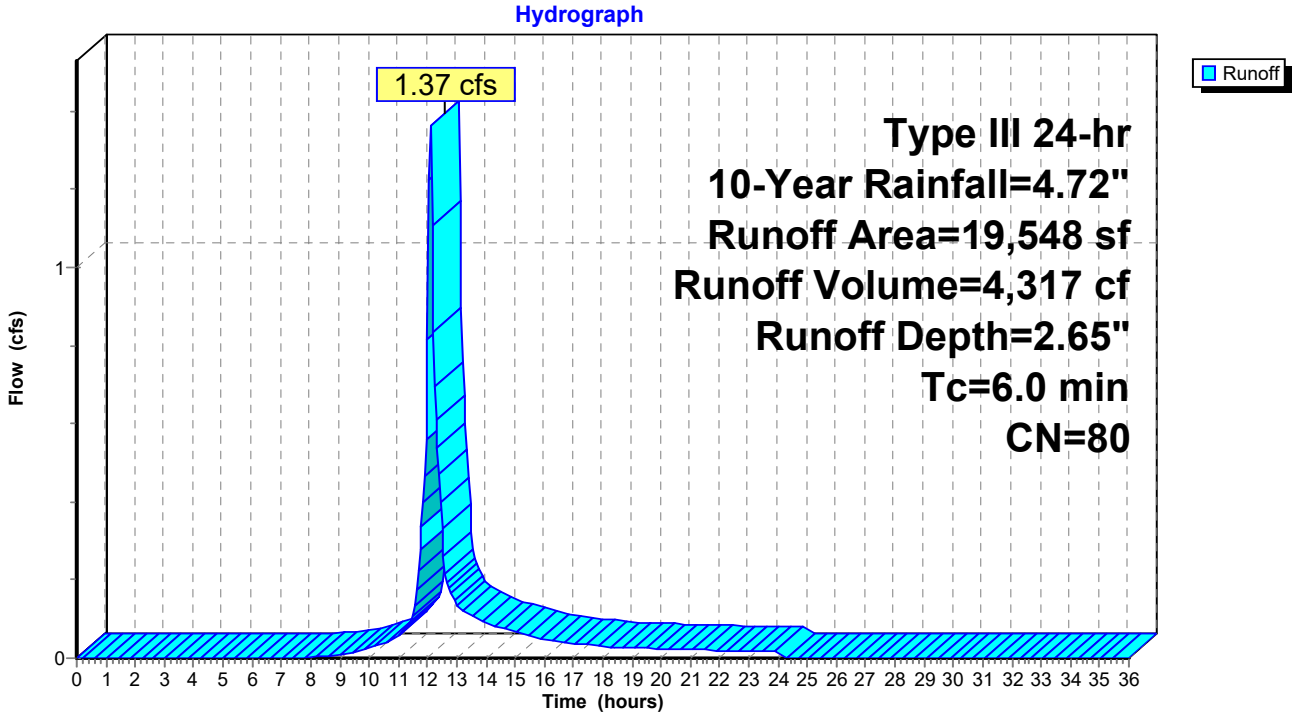
Runoff = 1.37 cfs @ 12.09 hrs, Volume= 4,317 cf, Depth= 2.65"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 4.17" for 10-Year event
Inflow = 4.26 cfs @ 12.14 hrs, Volume= 16,606 cf
Outflow = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf, Atten= 91%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.23' @ 13.11 hrs Surf.Area= 2,092 sf Storage= 6,190 cf

Plug-Flow detention time= 114.9 min calculated for 16,606 cf (100% of inflow)
Center-of-Mass det. time= 114.9 min (886.4 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.35 hrs HW=114.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

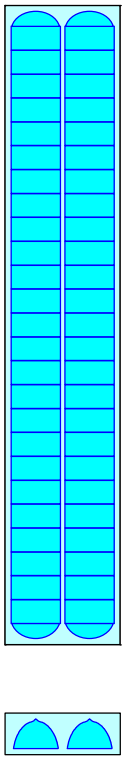
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

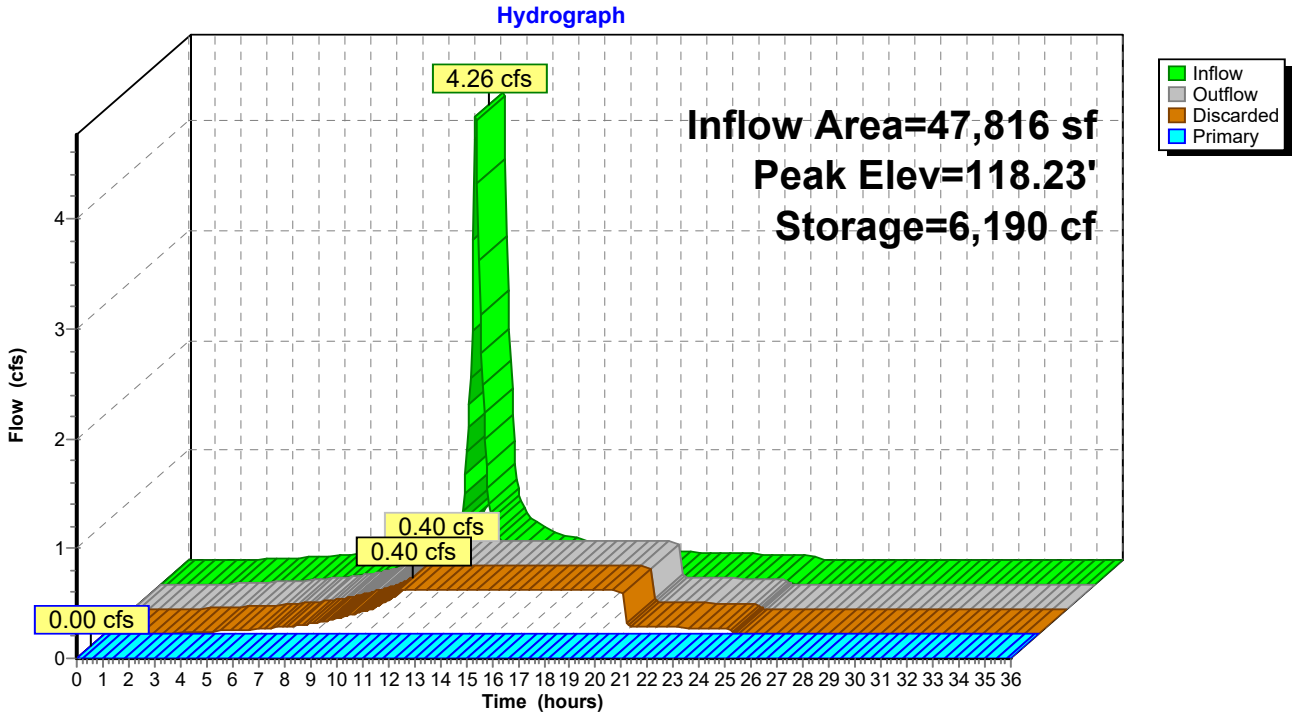
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf
Outflow = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf, Atten= 82%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.64' @ 12.53 hrs Surf.Area= 2,268 sf Storage= 2,140 cf

Plug-Flow detention time= 26.5 min calculated for 8,593 cf (100% of inflow)
Center-of-Mass det. time= 26.5 min (775.5 - 749.0)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.70 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

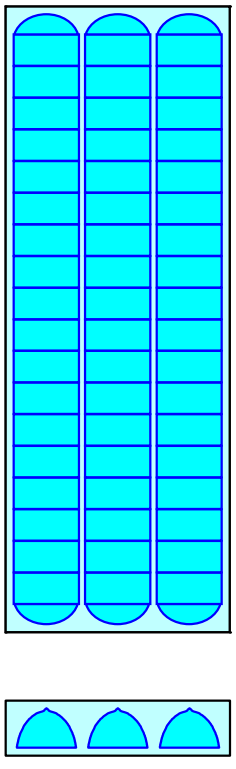
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

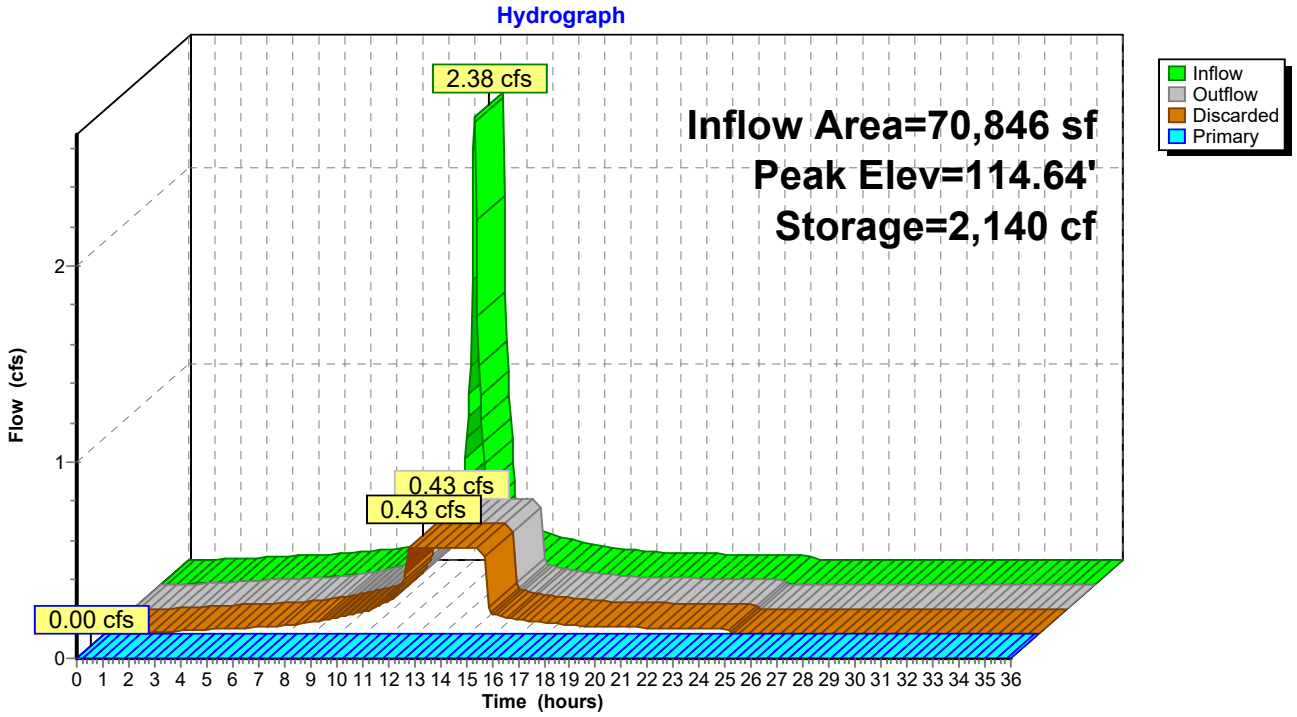
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf
Outflow = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf, Atten= 18%, Lag= 4.5 min
Primary = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.63' @ 12.17 hrs Surf.Area= 668 sf Storage= 349 cf

Plug-Flow detention time= 13.1 min calculated for 2,242 cf (100% of inflow)
Center-of-Mass det. time= 13.1 min (845.5 - 832.4)

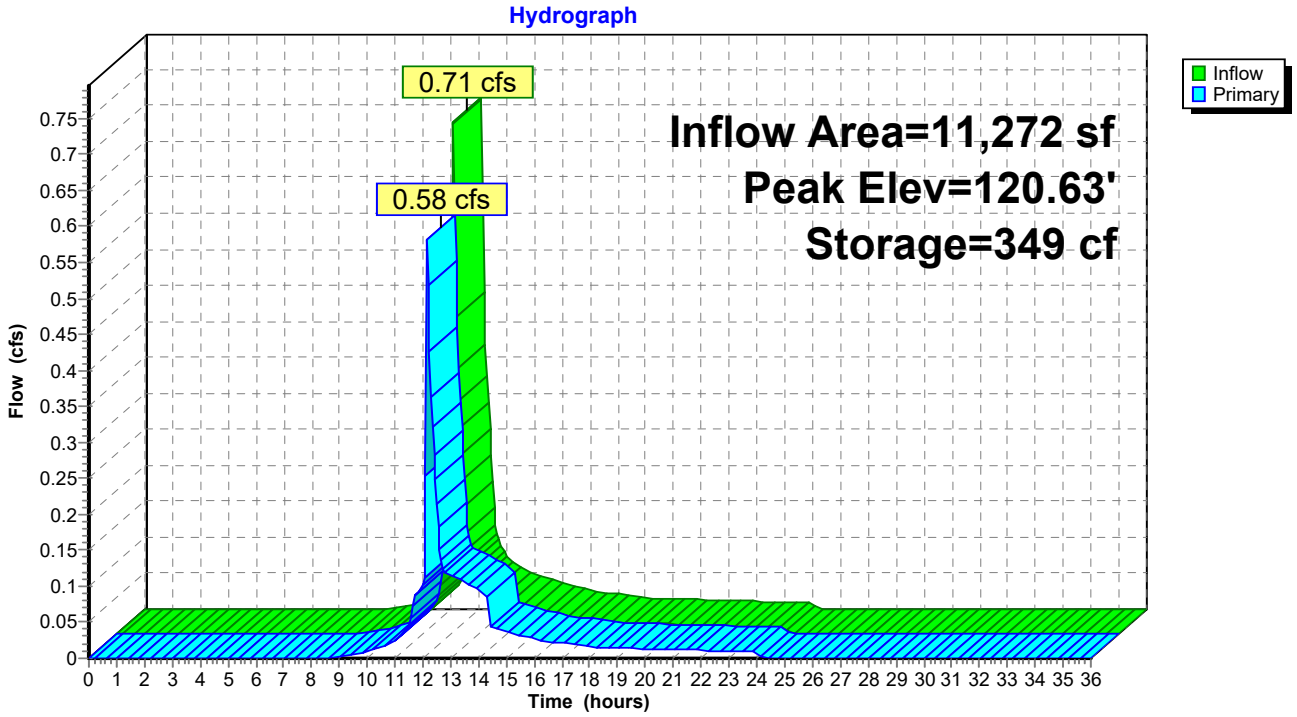
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.54 cfs @ 12.17 hrs HW=120.62' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.13 cfs)
└—**2=Culvert** (Passes 0.41 cfs of 3.16 cfs potential flow)
↑—**3=Orifice/Grate** (Weir Controls 0.41 cfs @ 1.12 fps)

Pond P-1: P-1

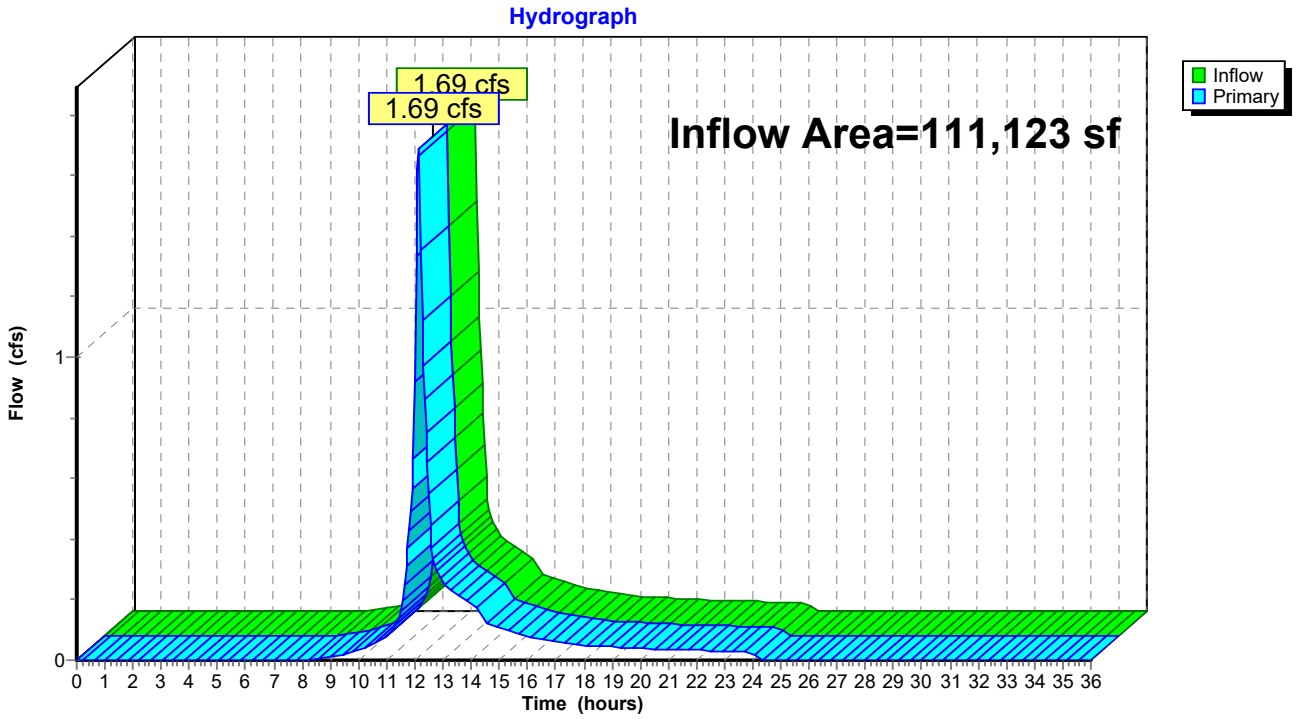

Hydrograph
0.71 cfs
0.58 cfs
Inflow Area=11,272 sf
Peak Elev=120.63'
Storage=349 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.72" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

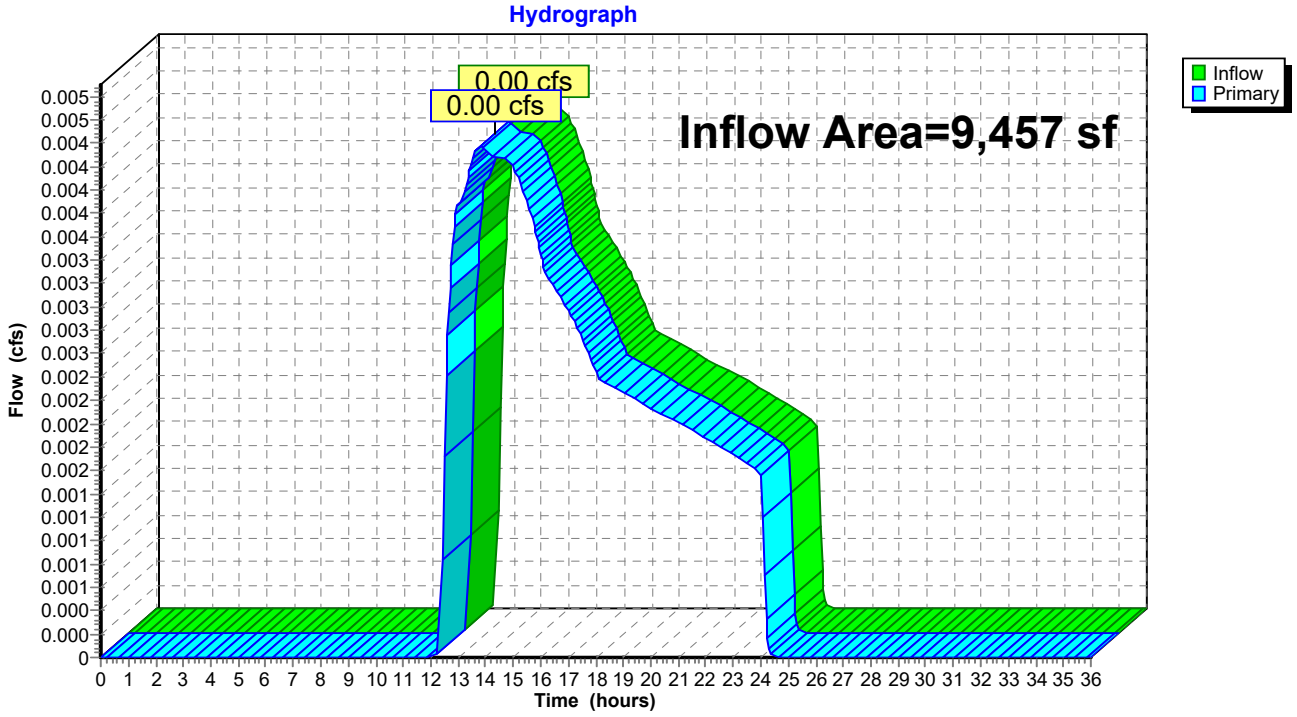


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.15" for 10-Year event
Inflow = 0.00 cfs @ 13.81 hrs, Volume= 116 cf
Primary = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

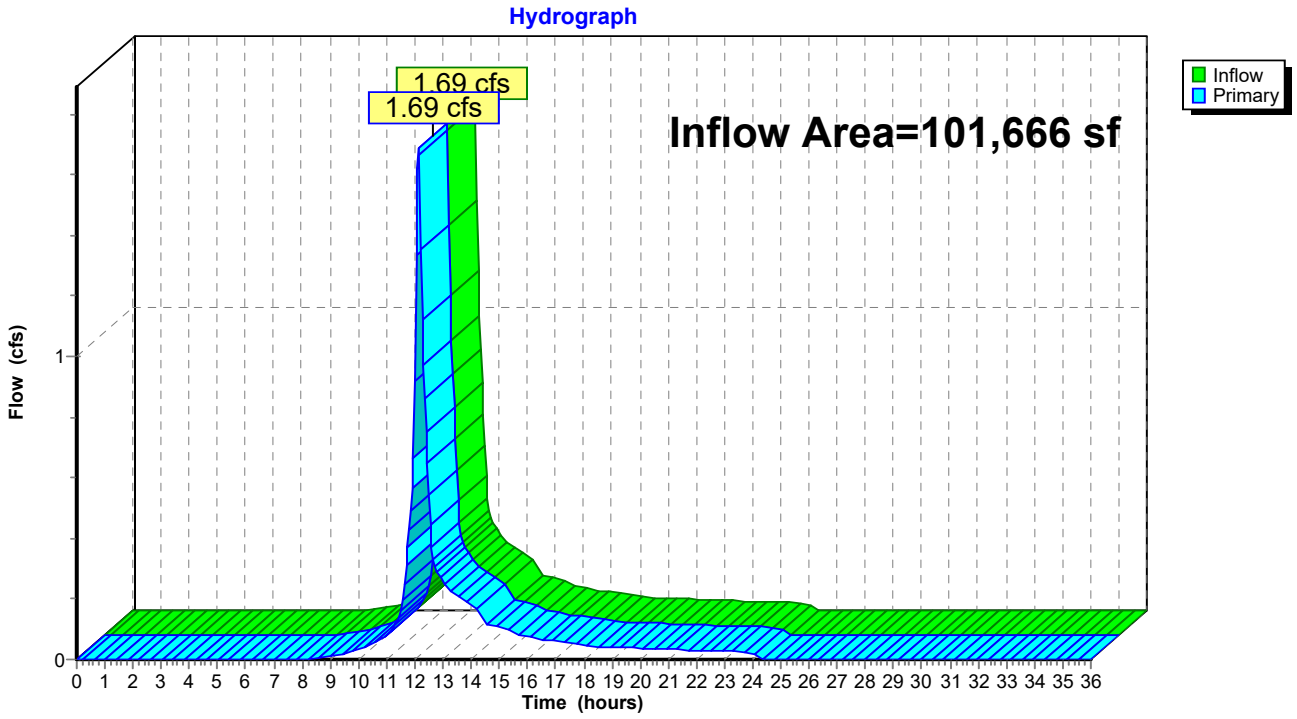


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.77" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.41"
Tc=10.0 min CN=39 Runoff=0.03 cfs 327 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=5.42"
Tc=10.0 min CN=96 Runoff=4.00 cfs 15,930 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=5.07"
Tc=10.0 min CN=93 Runoff=1.38 cfs 5,299 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=5.65"
Tc=6.0 min CN=98 Runoff=2.98 cfs 10,847 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=3.38"
Tc=6.0 min CN=77 Runoff=1.01 cfs 3,178 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=80 Runoff=1.89 cfs 5,998 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=119.53' Storage=7,879 cf Inflow=5.37 cfs 21,229 cf
Discarded=0.40 cfs 20,083 cf Primary=0.58 cfs 1,146 cf Outflow=0.98 cfs 21,229 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=115.46' Storage=3,667 cf Inflow=2.98 cfs 11,993 cf
Discarded=0.43 cfs 11,993 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 11,993 cf

Pond P-1: P-1 Peak Elev=120.68' Storage=387 cf Inflow=1.01 cfs 3,178 cf
Outflow=0.93 cfs 3,178 cf

Link 1L: Total Inflow=2.79 cfs 9,503 cf
Primary=2.79 cfs 9,503 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.03 cfs 327 cf
Primary=0.03 cfs 327 cf

Link POA-2: Woods Town Hall Road Inflow=2.79 cfs 9,176 cf
Primary=2.79 cfs 9,176 cf

Total Runoff Area = 111,123 sf Runoff Volume = 41,579 cf Average Runoff Depth = 4.49"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

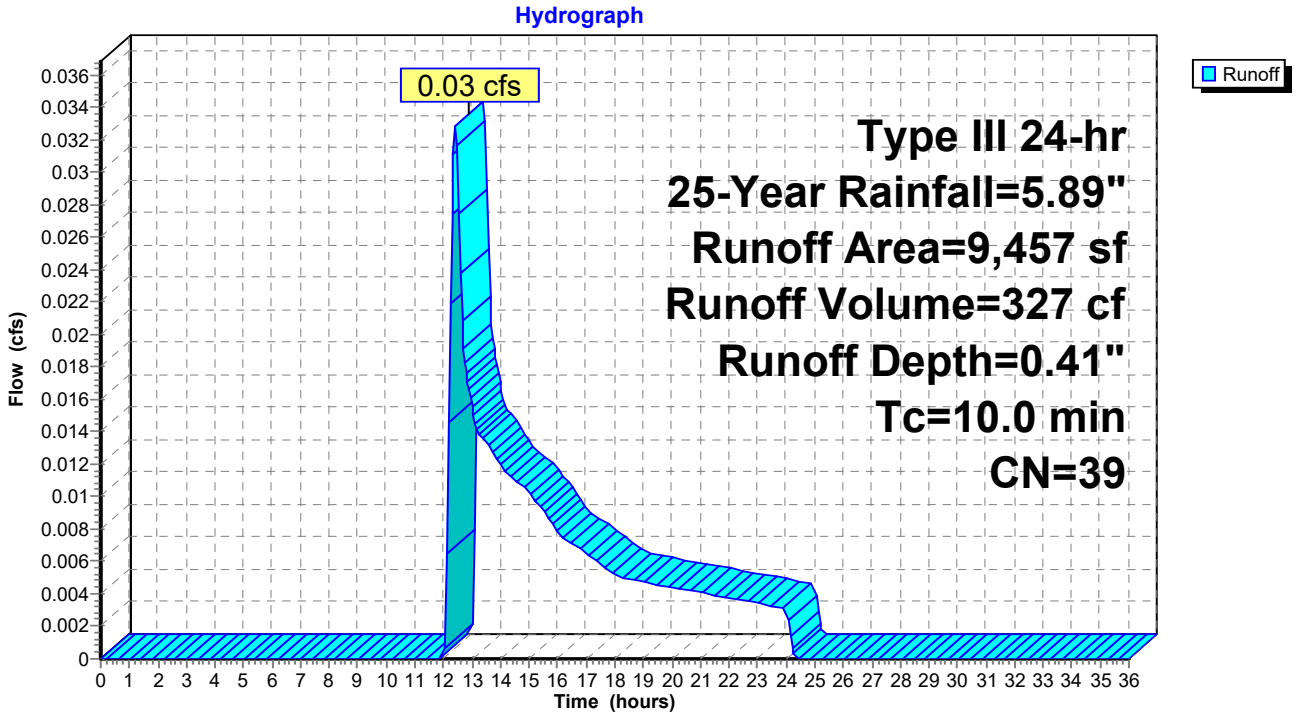
Runoff = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Depth= 0.41"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

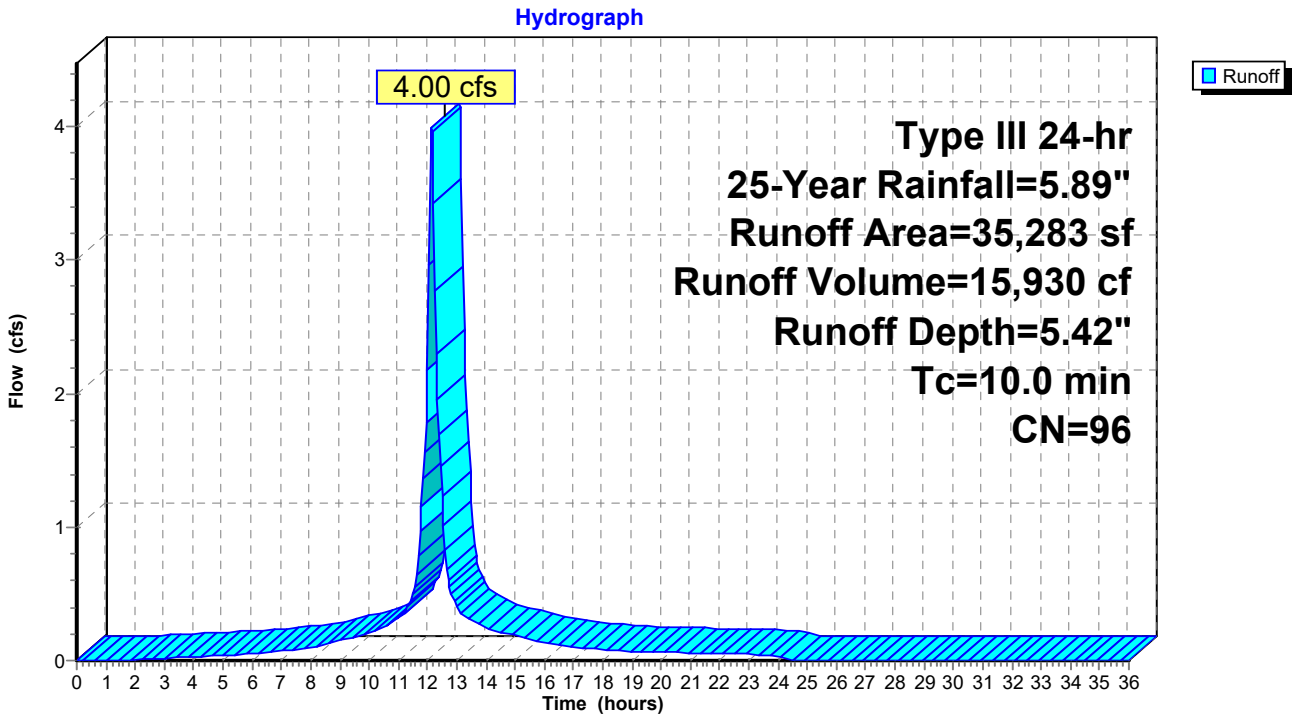
Runoff = 4.00 cfs @ 12.14 hrs, Volume= 15,930 cf, Depth= 5.42"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

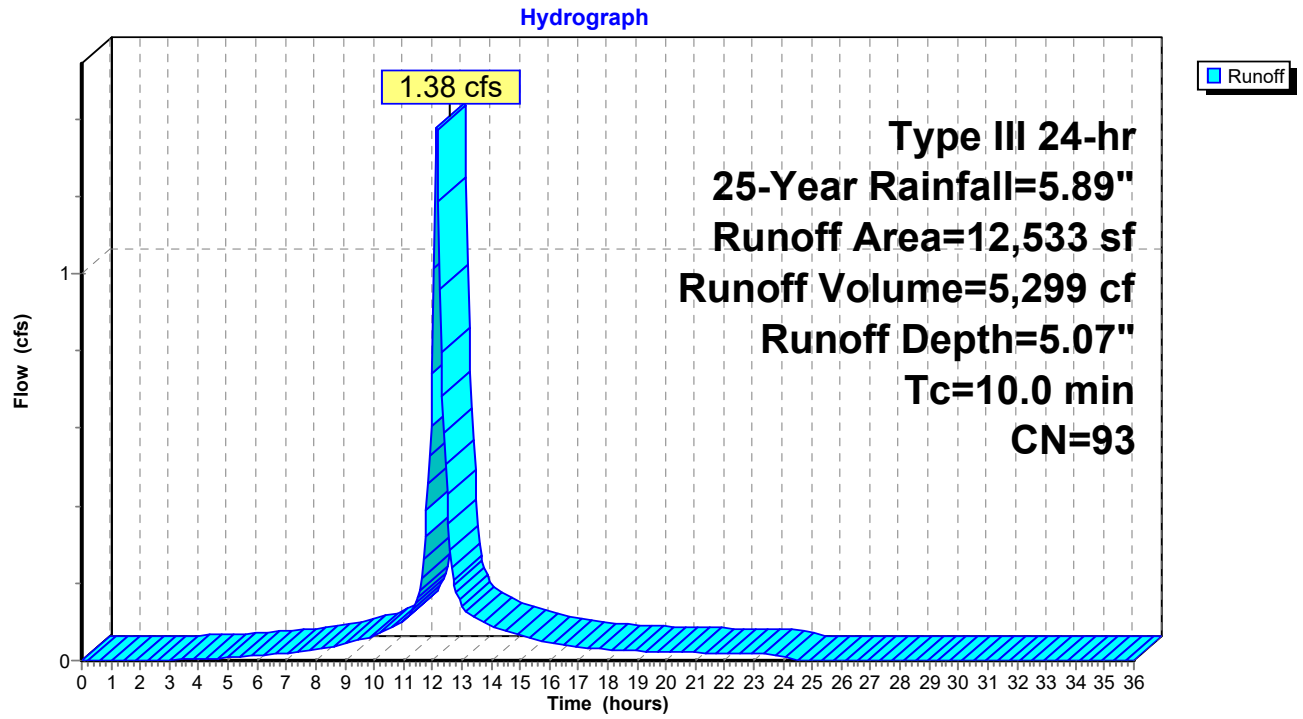
Runoff = 1.38 cfs @ 12.14 hrs, Volume= 5,299 cf, Depth= 5.07"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

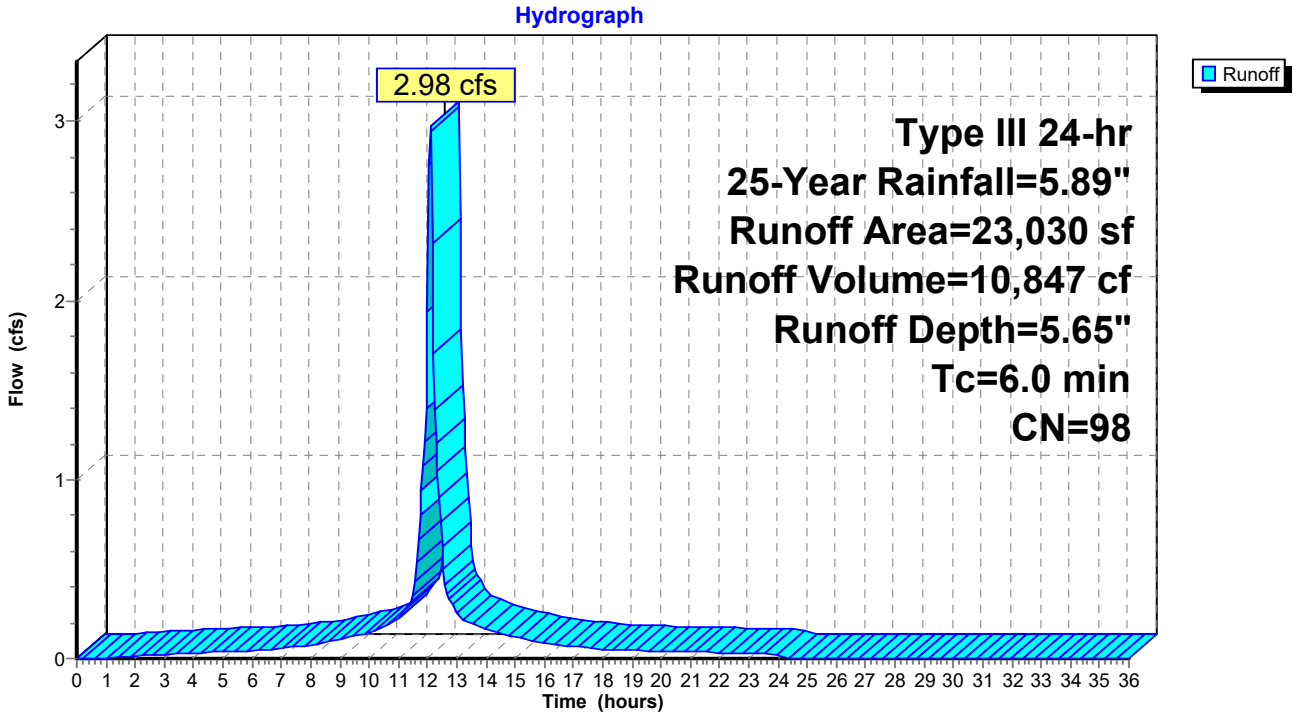
Runoff = 2.98 cfs @ 12.09 hrs, Volume= 10,847 cf, Depth= 5.65"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

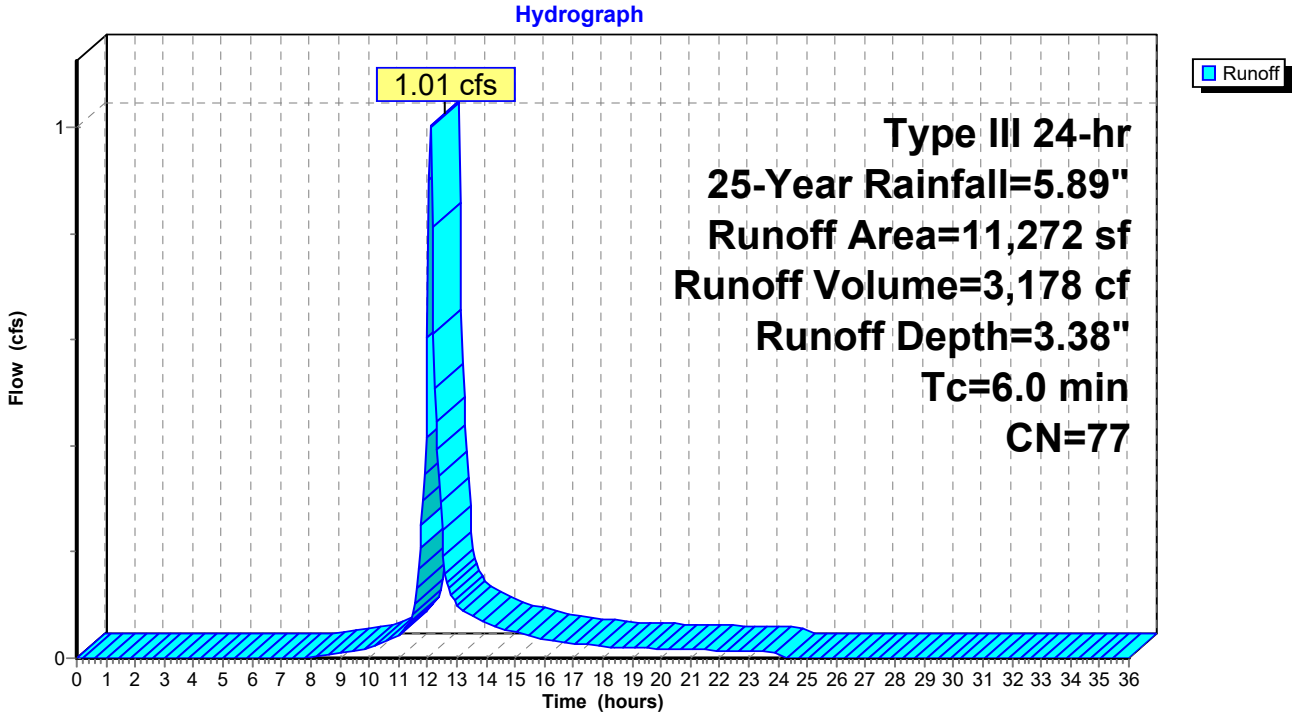
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf, Depth= 3.38"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

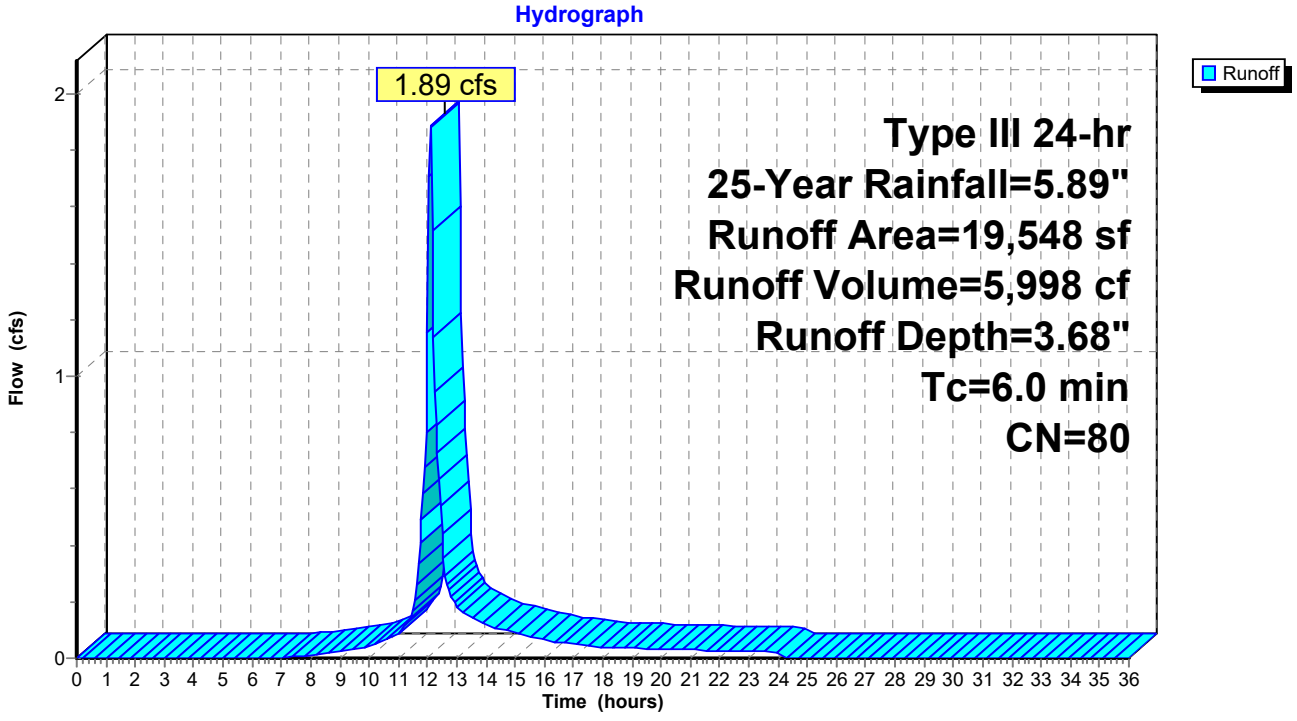
Runoff = 1.89 cfs @ 12.09 hrs, Volume= 5,998 cf, Depth= 3.68"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 5.33" for 25-Year event
Inflow = 5.37 cfs @ 12.14 hrs, Volume= 21,229 cf
Outflow = 0.98 cfs @ 12.64 hrs, Volume= 21,229 cf, Atten= 82%, Lag= 30.3 min
Discarded = 0.40 cfs @ 10.95 hrs, Volume= 20,083 cf
Primary = 0.58 cfs @ 12.64 hrs, Volume= 1,146 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 119.53' @ 12.64 hrs Surf.Area= 2,092 sf Storage= 7,879 cf

Plug-Flow detention time= 139.0 min calculated for 21,200 cf (100% of inflow)
Center-of-Mass det. time= 138.8 min (904.8 - 766.1)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.95 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.58 cfs @ 12.64 hrs HW=119.53' (Free Discharge)
└**2=Culvert** (Inlet Controls 0.58 cfs @ 1.77 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 0.58 cfs of 3.81 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

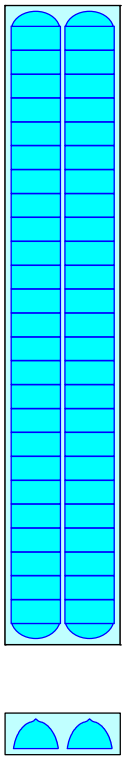
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

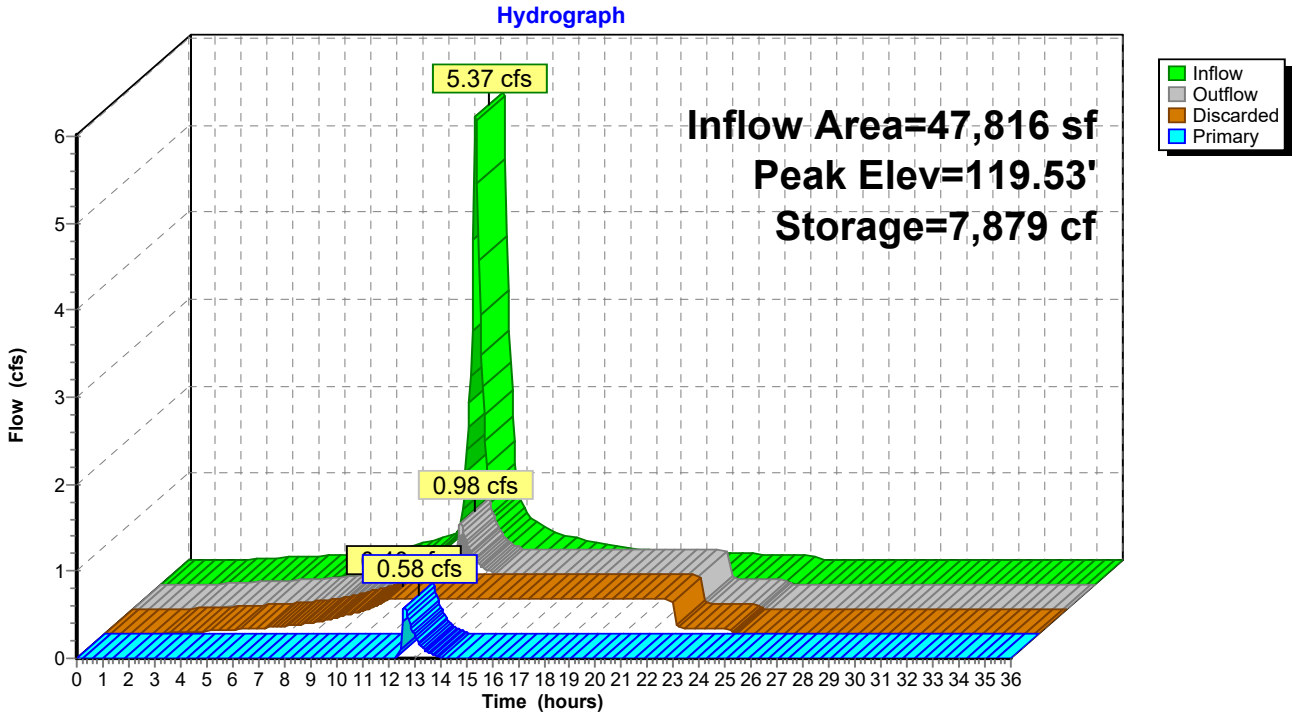
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 2.03" for 25-Year event
Inflow = 2.98 cfs @ 12.09 hrs, Volume= 11,993 cf
Outflow = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf, Atten= 85%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.46' @ 13.12 hrs Surf.Area= 2,268 sf Storage= 3,667 cf

Plug-Flow detention time= 55.6 min calculated for 11,993 cf (100% of inflow)
Center-of-Mass det. time= 55.5 min (803.7 - 748.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.65 hrs HW=113.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

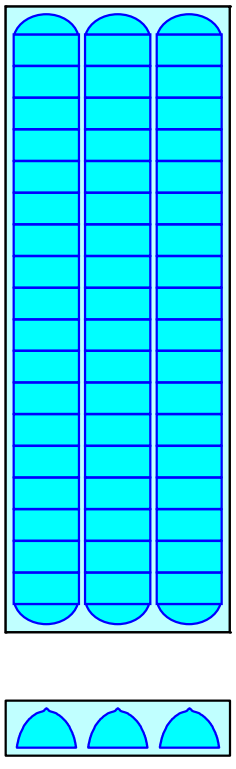
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

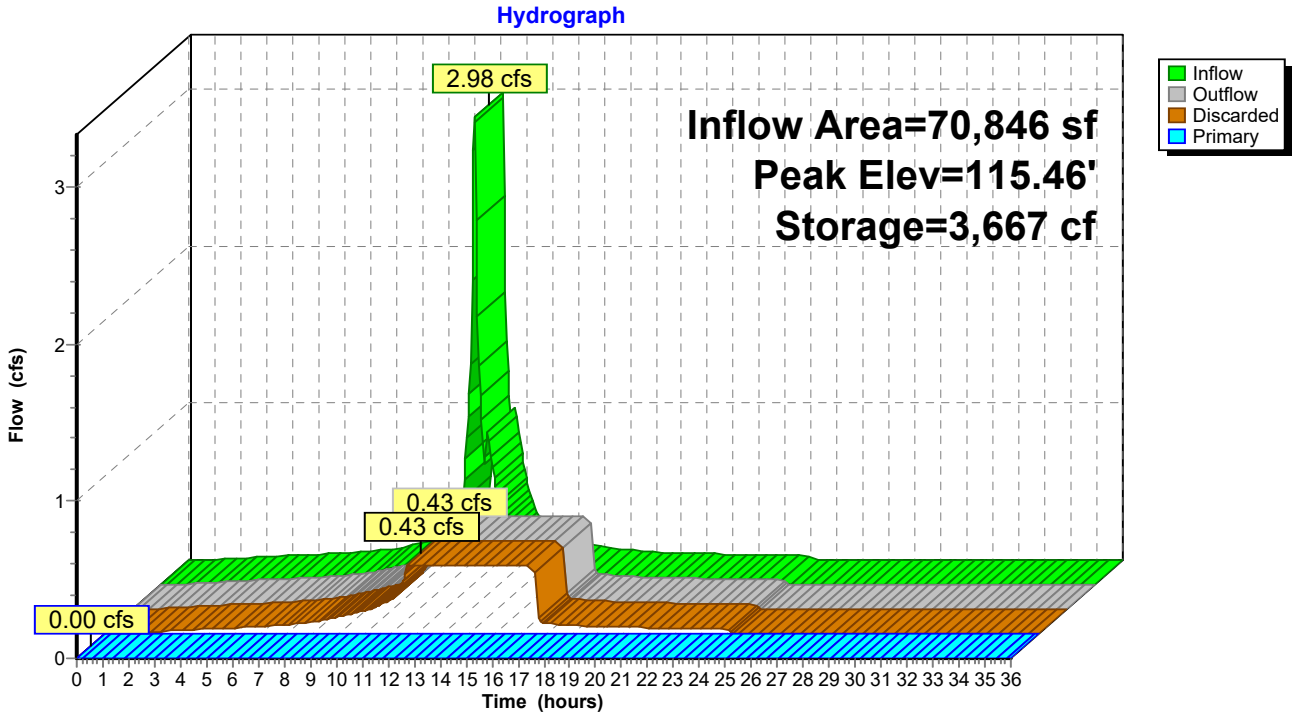
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 3.38" for 25-Year event
Inflow = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf
Outflow = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf, Atten= 8%, Lag= 2.1 min
Primary = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.68' @ 12.13 hrs Surf.Area= 689 sf Storage= 387 cf

Plug-Flow detention time= 12.5 min calculated for 3,174 cf (100% of inflow)
Center-of-Mass det. time= 12.5 min (834.9 - 822.4)

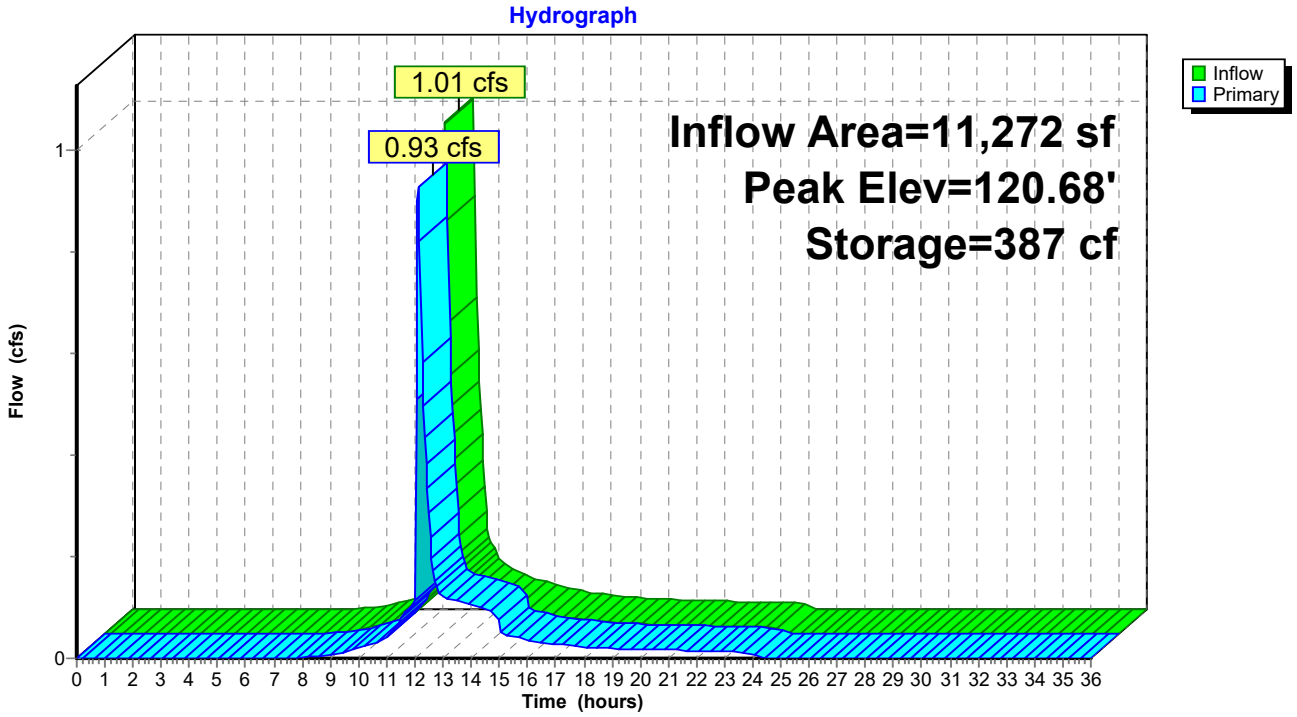
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.13 hrs HW=120.68' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **2=Culvert** (Passes 0.77 cfs of 3.24 cfs potential flow)
  - **3=Orifice/Grate** (Weir Controls 0.77 cfs @ 1.38 fps)

Pond P-1: P-1

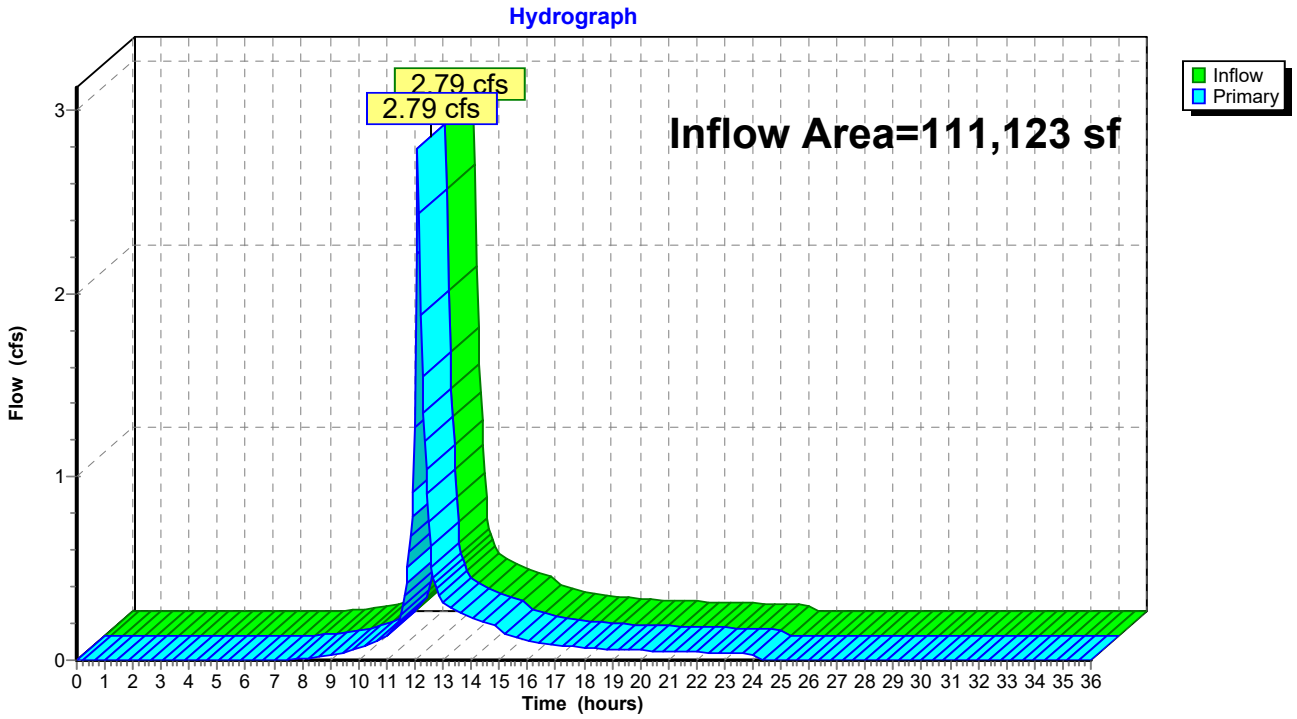

Hydrograph
1.01 cfs
0.93 cfs
Inflow Area=11,272 sf
Peak Elev=120.68'
Storage=387 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 1.03" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

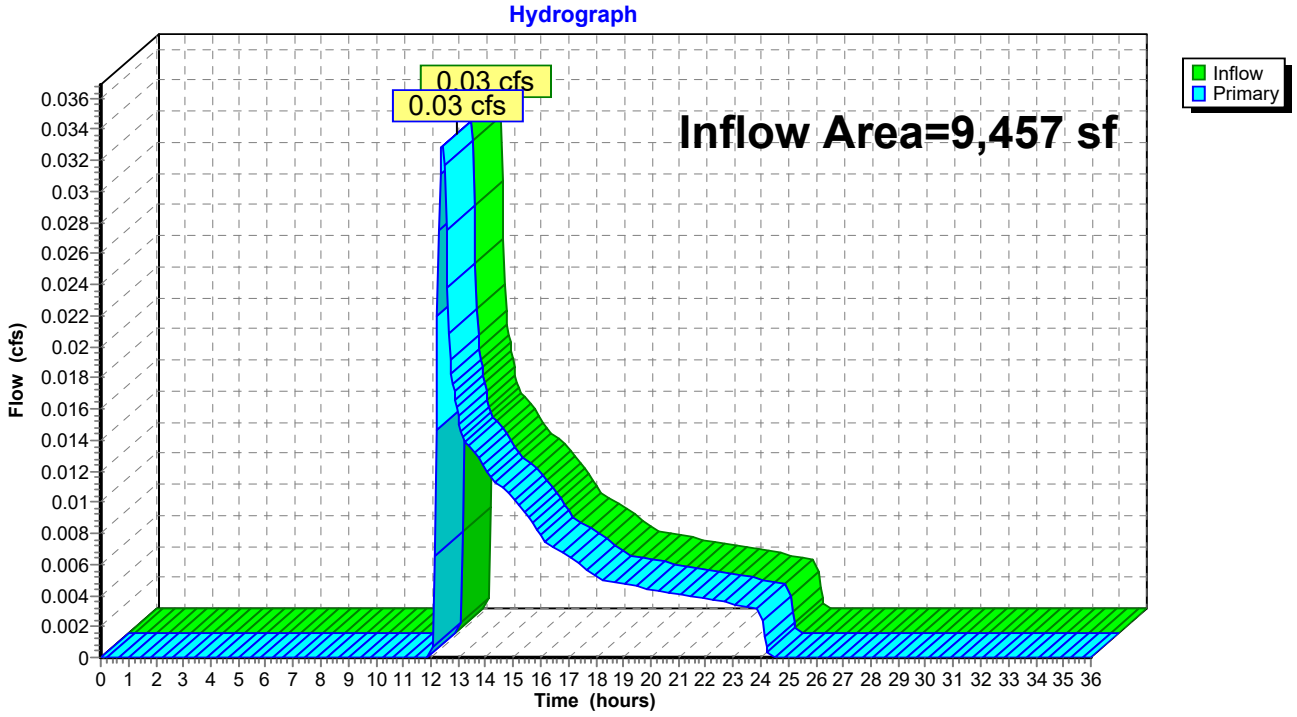


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.41" for 25-Year event
Inflow = 0.03 cfs @ 12.42 hrs, Volume= 327 cf
Primary = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

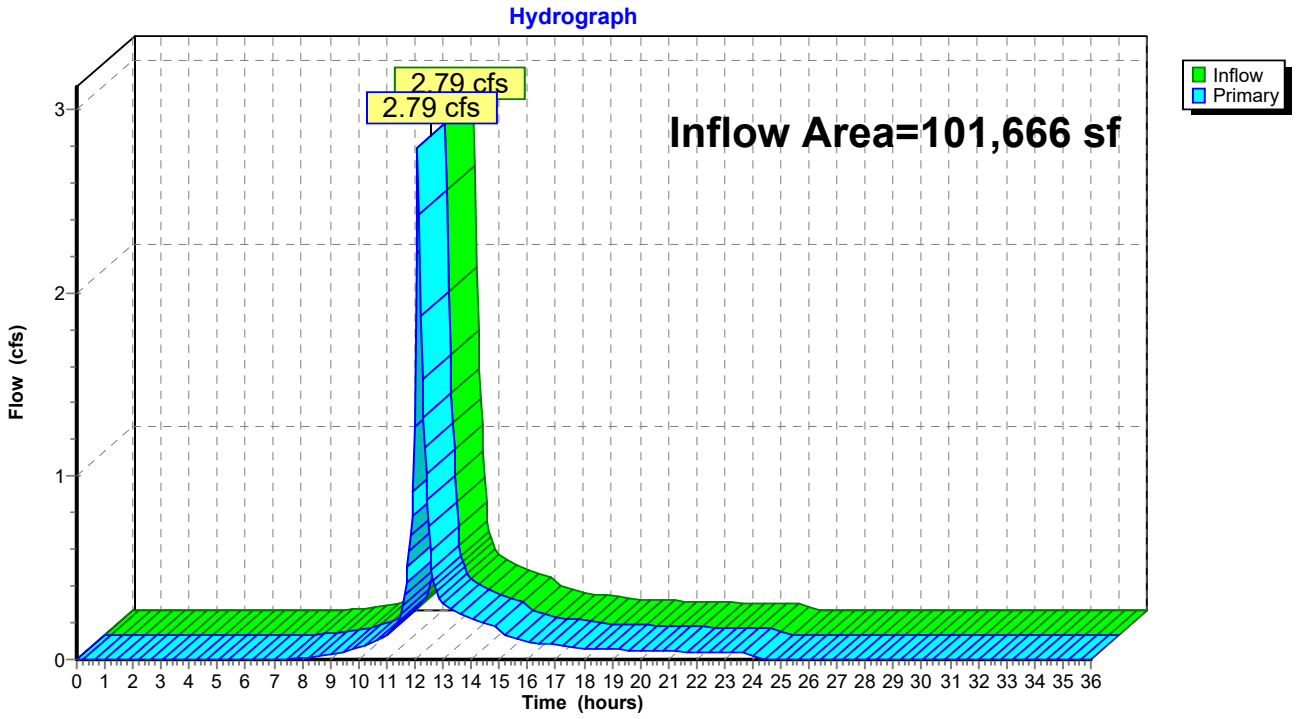


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 1.08" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=1.26"
Tc=10.0 min CN=39 Runoff=0.18 cfs 992 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=7.76"
Tc=10.0 min CN=96 Runoff=5.63 cfs 22,817 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=7.40"
Tc=10.0 min CN=93 Runoff=1.97 cfs 7,730 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=8.00"
Tc=6.0 min CN=98 Runoff=4.18 cfs 15,353 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=77 Runoff=1.62 cfs 5,162 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=80 Runoff=2.96 cfs 9,530 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=120.89' Storage=9,043 cf Inflow=7.60 cfs 30,547 cf
Discarded=0.40 cfs 23,666 cf Primary=3.39 cfs 6,881 cf Outflow=3.79 cfs 30,547 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=118.47' Storage=8,490 cf Inflow=4.98 cfs 22,234 cf
Discarded=0.43 cfs 19,265 cf Primary=2.83 cfs 2,969 cf Outflow=3.26 cfs 22,234 cf

Pond P-1: P-1 Peak Elev=120.77' Storage=447 cf Inflow=1.62 cfs 5,162 cf
Outflow=1.55 cfs 5,162 cf

Link 1L: Total Inflow=4.60 cfs 18,653 cf
Primary=4.60 cfs 18,653 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.18 cfs 992 cf
Primary=0.18 cfs 992 cf

Link POA-2: Woods Town Hall Road Inflow=4.47 cfs 17,661 cf
Primary=4.47 cfs 17,661 cf

Total Runoff Area = 111,123 sf Runoff Volume = 61,584 cf Average Runoff Depth = 6.65"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

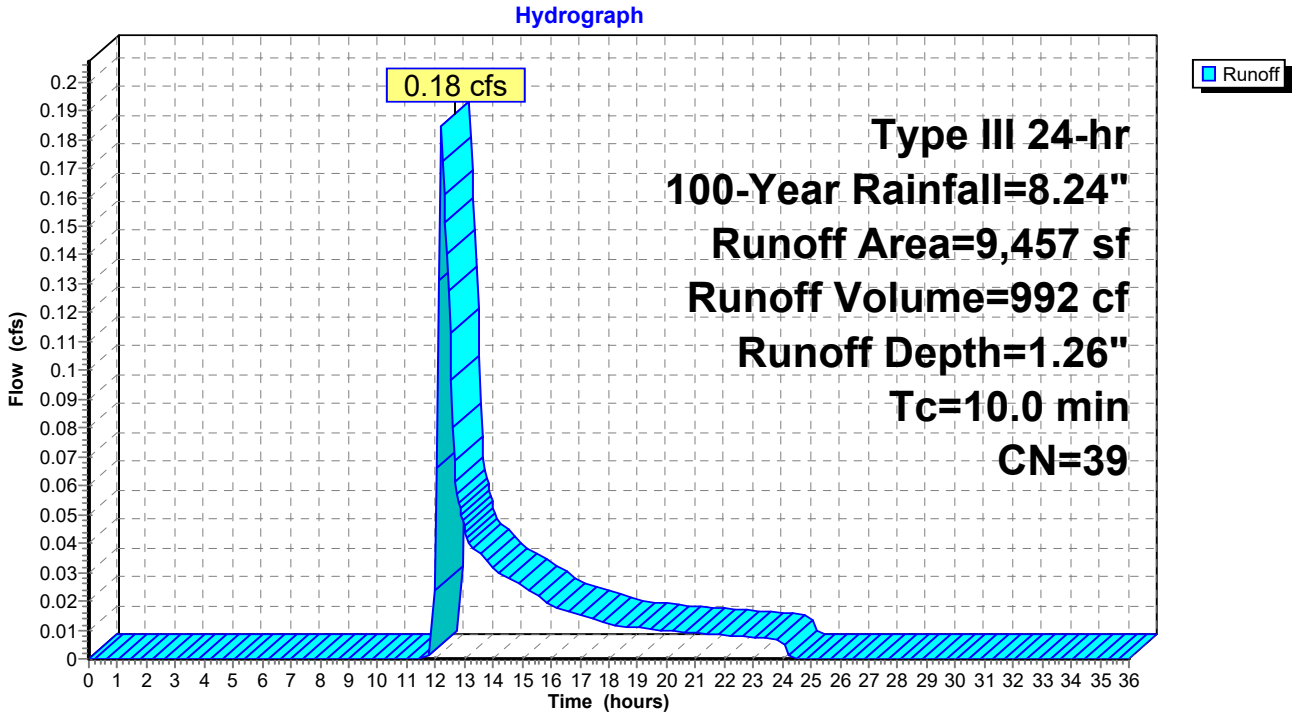
Runoff = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Depth= 1.26"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

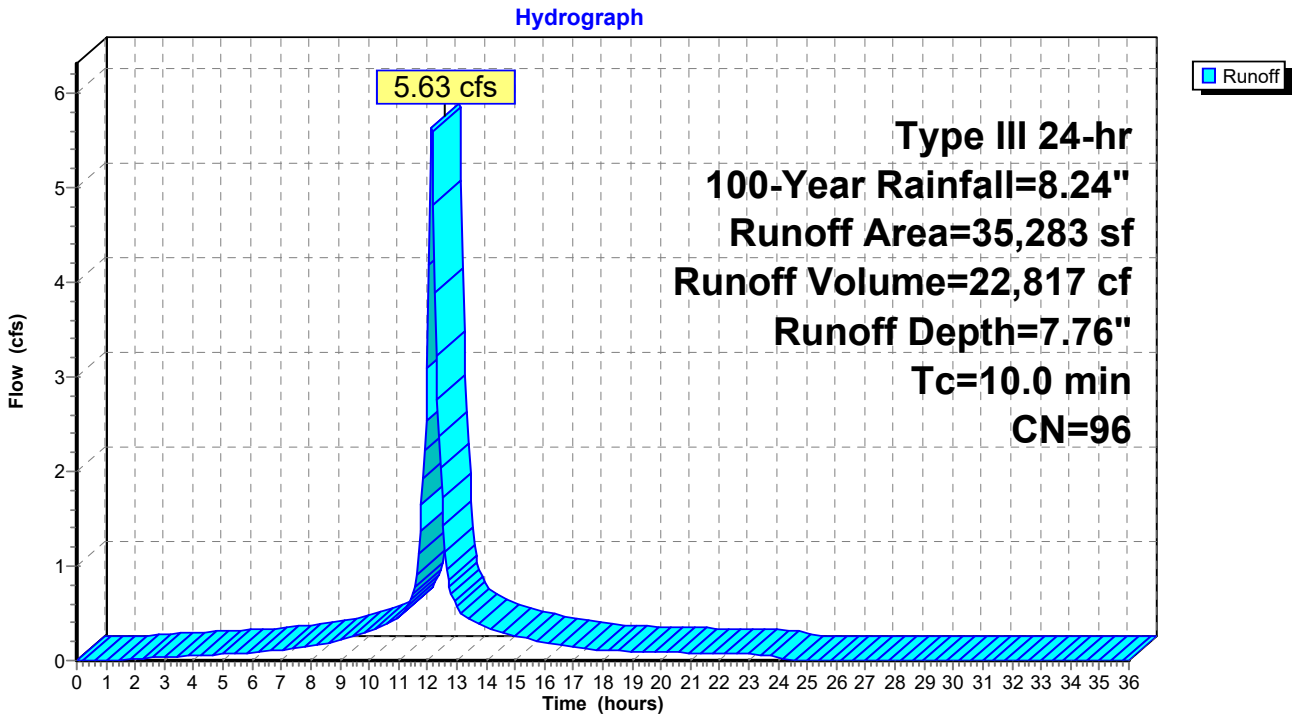
Runoff = 5.63 cfs @ 12.14 hrs, Volume= 22,817 cf, Depth= 7.76"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

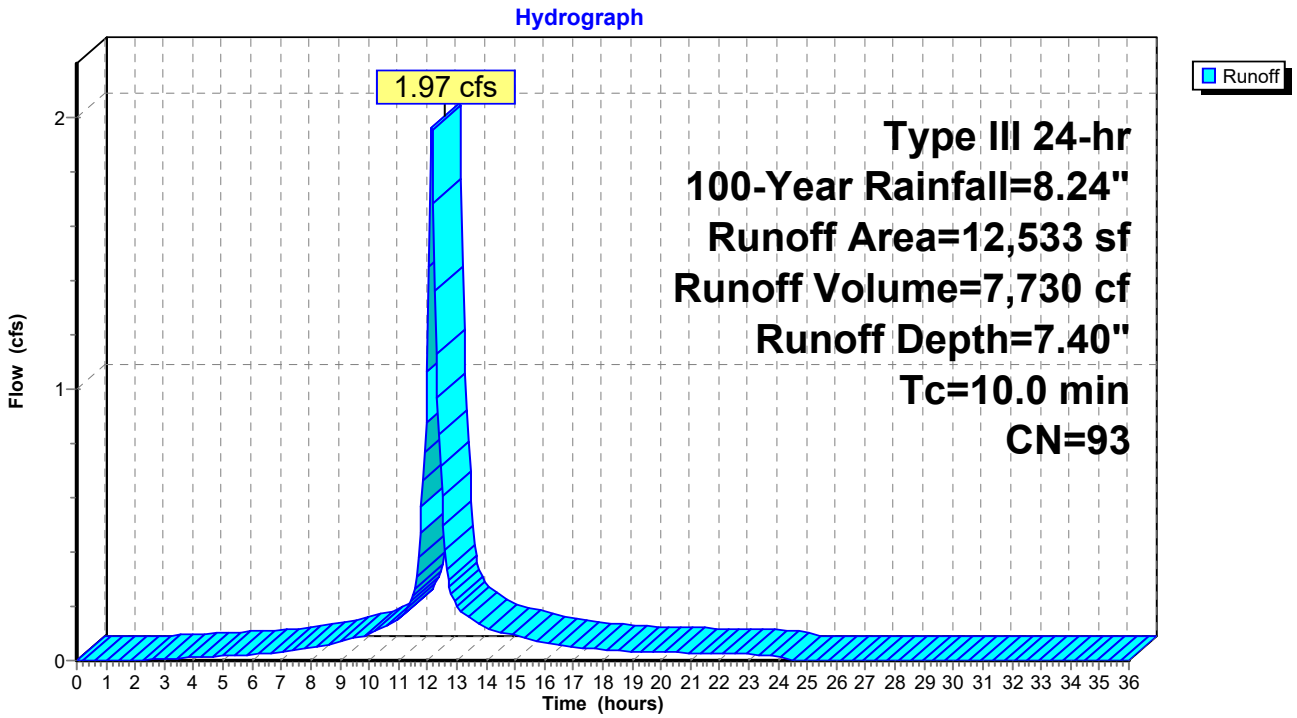
Runoff = 1.97 cfs @ 12.14 hrs, Volume= 7,730 cf, Depth= 7.40"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

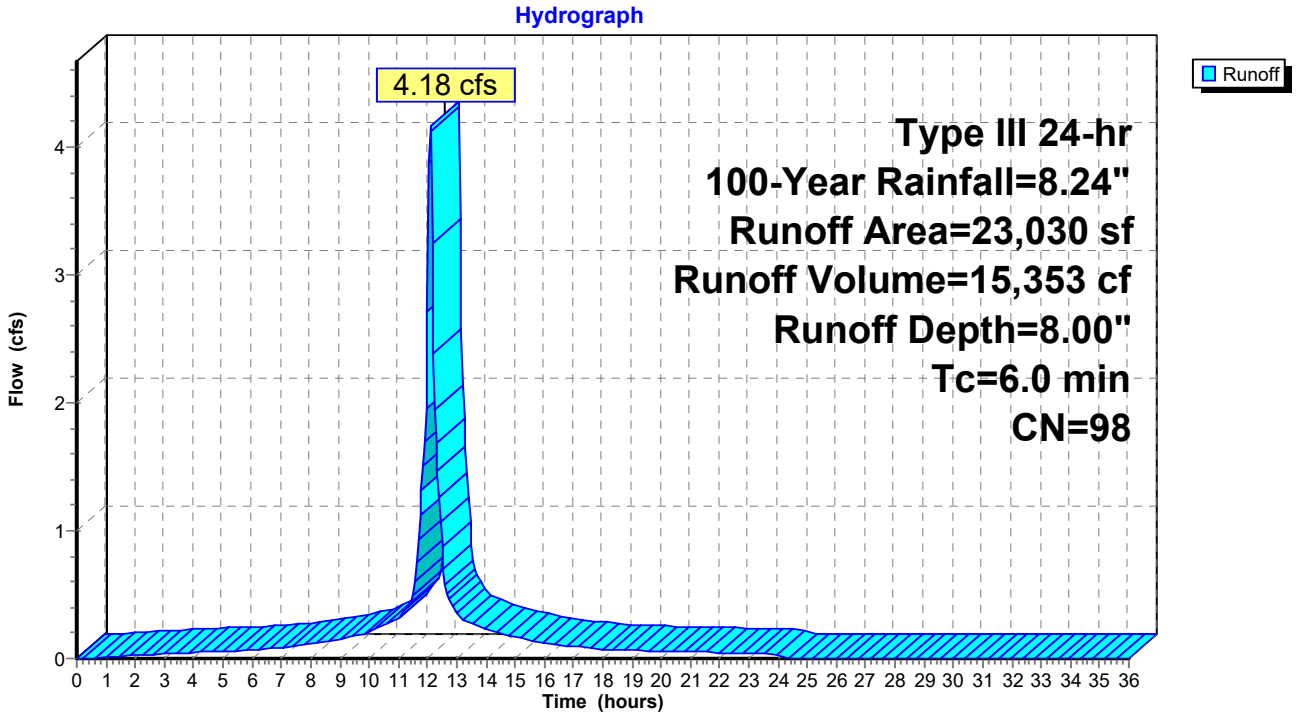
Runoff = 4.18 cfs @ 12.09 hrs, Volume= 15,353 cf, Depth= 8.00"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

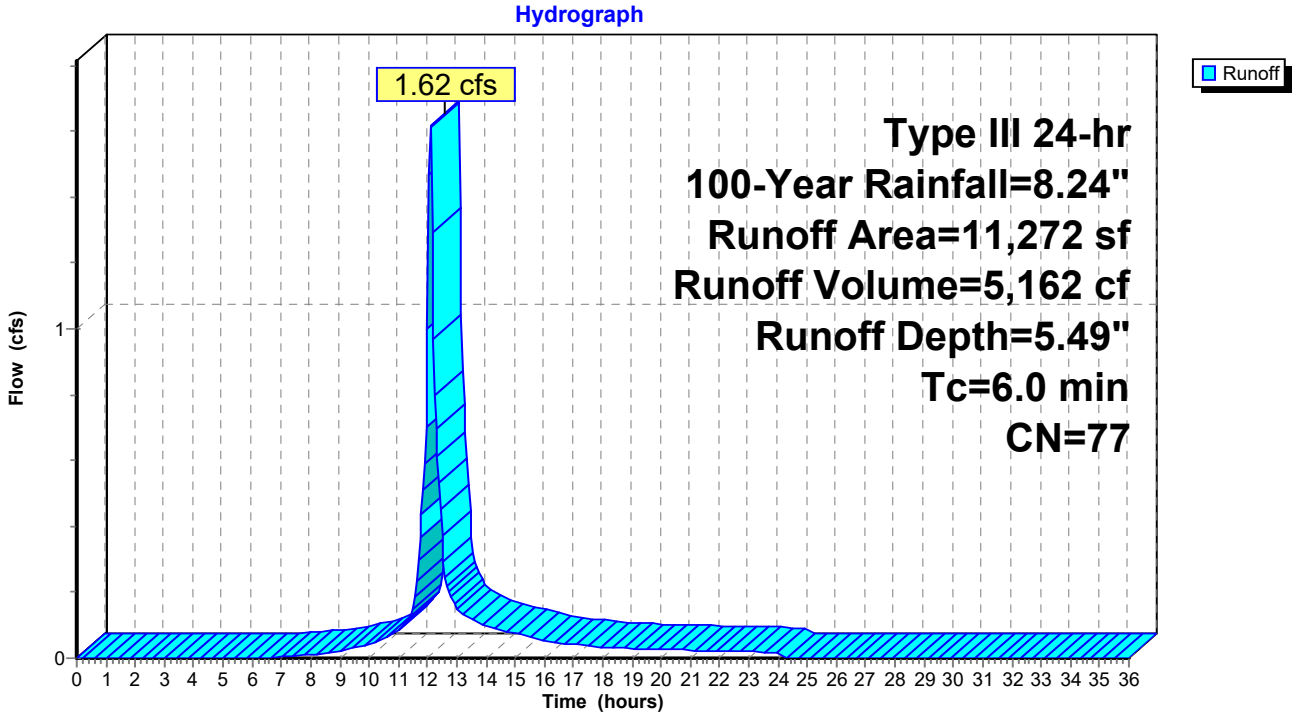
Runoff = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf, Depth= 5.49"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

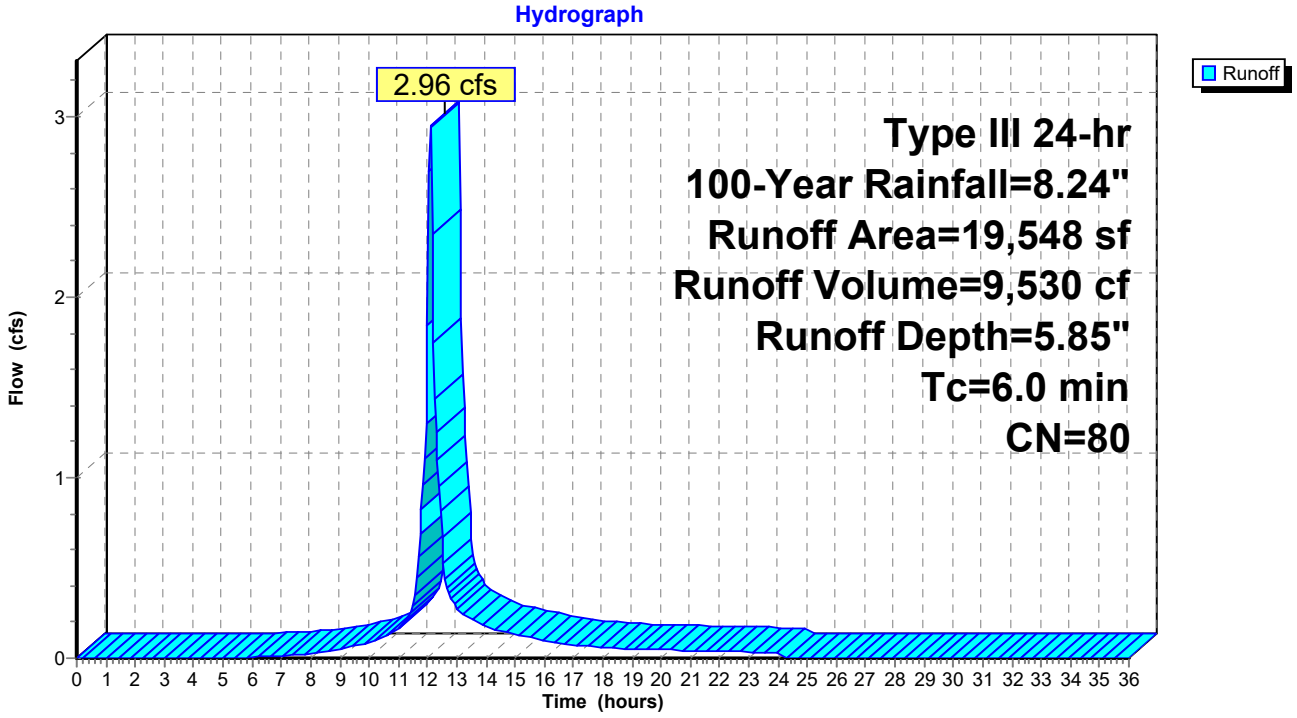
Runoff = 2.96 cfs @ 12.09 hrs, Volume= 9,530 cf, Depth= 5.85"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 7.67" for 100-Year event
Inflow = 7.60 cfs @ 12.14 hrs, Volume= 30,547 cf
Outflow = 3.79 cfs @ 12.35 hrs, Volume= 30,547 cf, Atten= 50%, Lag= 12.9 min
Discarded = 0.40 cfs @ 10.05 hrs, Volume= 23,666 cf
Primary = 3.39 cfs @ 12.35 hrs, Volume= 6,881 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.89' @ 12.35 hrs Surf.Area= 2,092 sf Storage= 9,043 cf

Plug-Flow detention time= 119.8 min calculated for 30,504 cf (100% of inflow)
Center-of-Mass det. time= 119.7 min (878.4 - 758.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.05 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=3.39 cfs @ 12.35 hrs HW=120.89' (Free Discharge)
└**2=Culvert** (Inlet Controls 3.39 cfs @ 4.31 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 3.39 cfs of 34.80 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

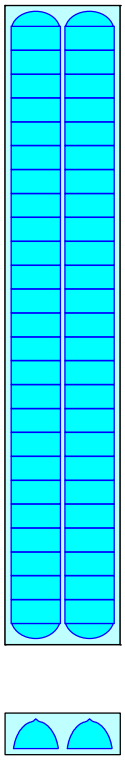
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

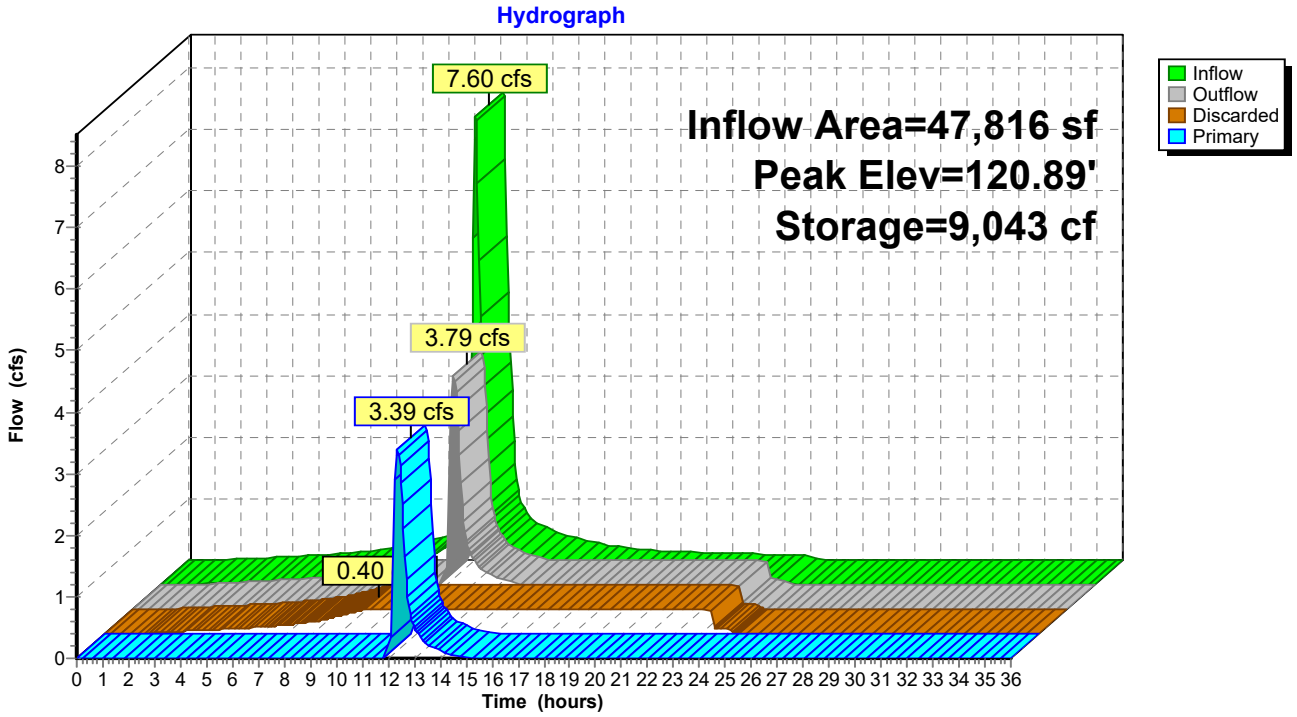
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 3.77" for 100-Year event
Inflow = 4.98 cfs @ 12.30 hrs, Volume= 22,234 cf
Outflow = 3.26 cfs @ 12.57 hrs, Volume= 22,234 cf, Atten= 35%, Lag= 16.4 min
Discarded = 0.43 cfs @ 11.45 hrs, Volume= 19,265 cf
Primary = 2.83 cfs @ 12.57 hrs, Volume= 2,969 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.47' @ 12.57 hrs Surf.Area= 2,268 sf Storage= 8,490 cf

Plug-Flow detention time= 123.7 min calculated for 22,203 cf (100% of inflow)
Center-of-Mass det. time= 123.6 min (870.2 - 746.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.45 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=2.53 cfs @ 12.57 hrs HW=118.44' (Free Discharge)
└**2=Culvert** (Passes 2.53 cfs of 3.71 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.53 cfs @ 1.76 fps)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

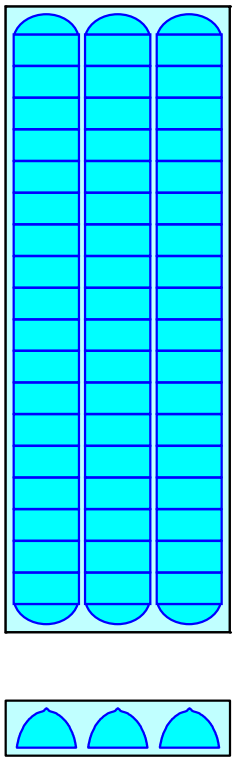
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

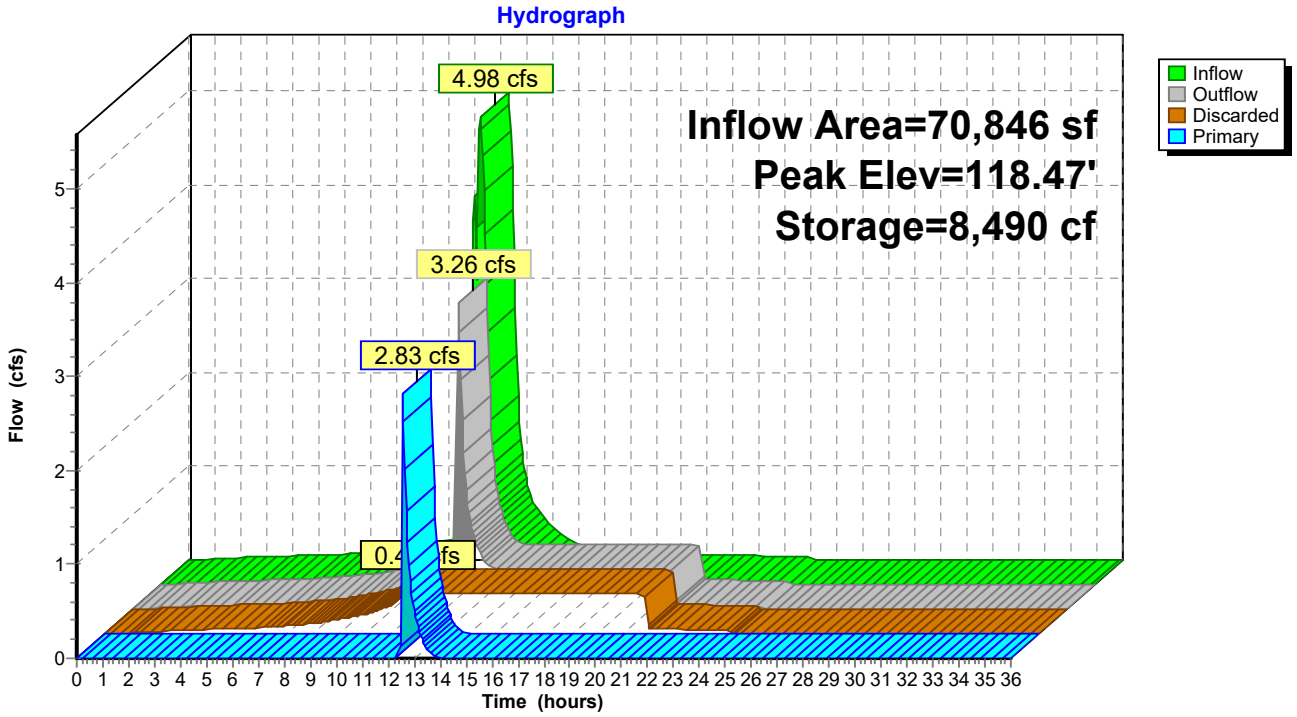
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 5.49" for 100-Year event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf
Outflow = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf, Atten= 4%, Lag= 1.5 min
Primary = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.77' @ 12.12 hrs Surf.Area= 722 sf Storage= 447 cf

Plug-Flow detention time= 12.3 min calculated for 5,154 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (820.8 - 808.6)

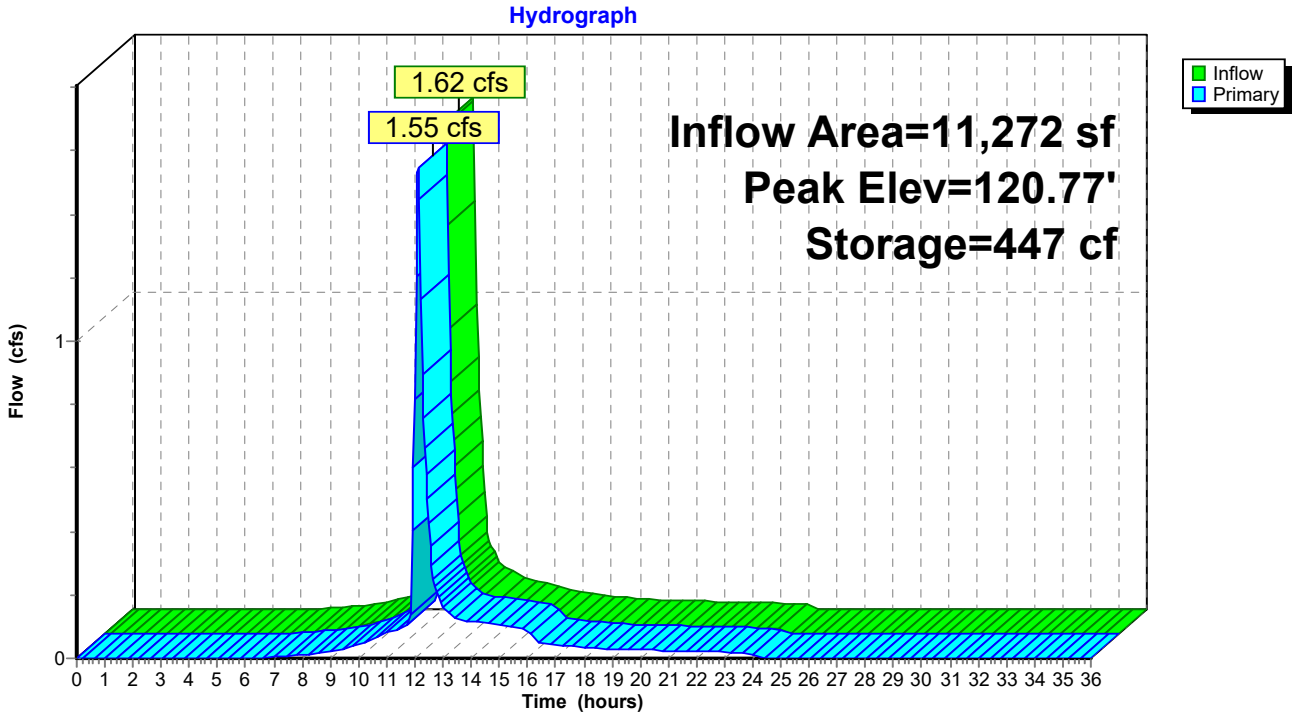
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.51 cfs @ 12.11 hrs HW=120.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.14 cfs)
└**2=Culvert** (Passes 1.37 cfs of 3.35 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.37 cfs @ 1.67 fps)

Pond P-1: P-1

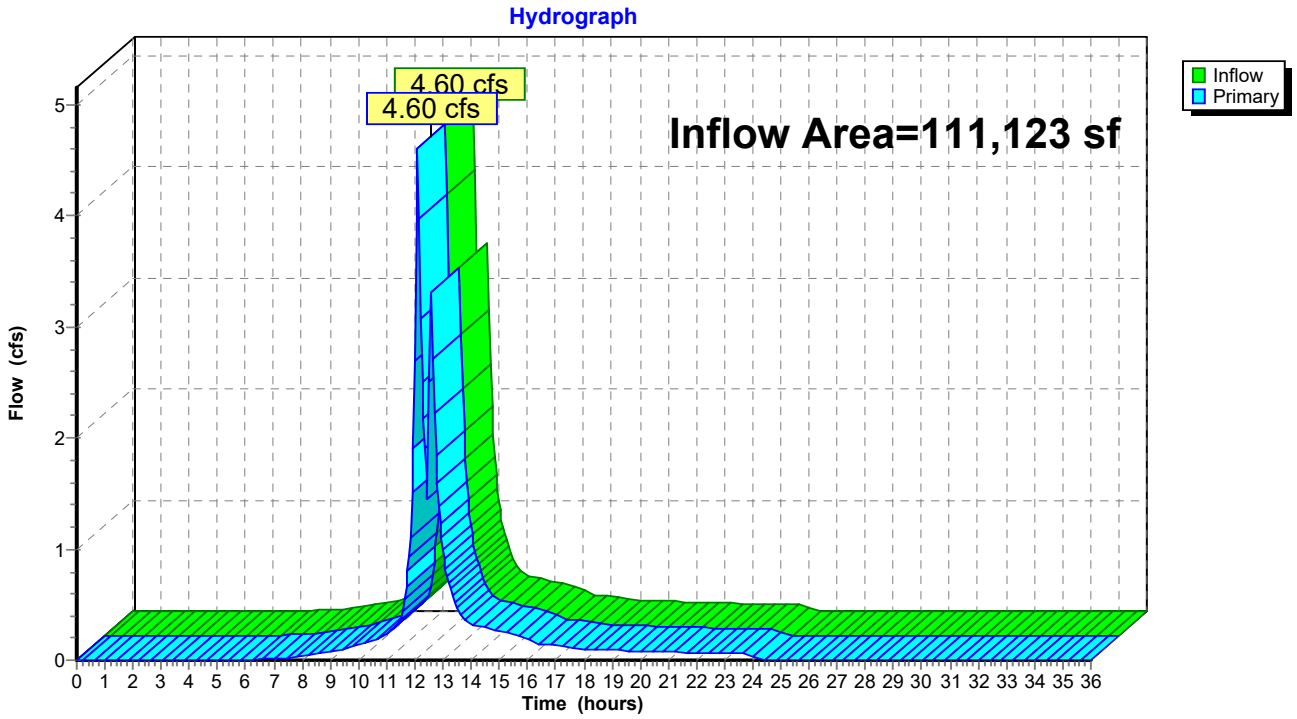

Hydrograph
1.62 cfs
1.55 cfs
Inflow Area=11,272 sf
Peak Elev=120.77'
Storage=447 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 2.01" for 100-Year event
Inflow = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf
Primary = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

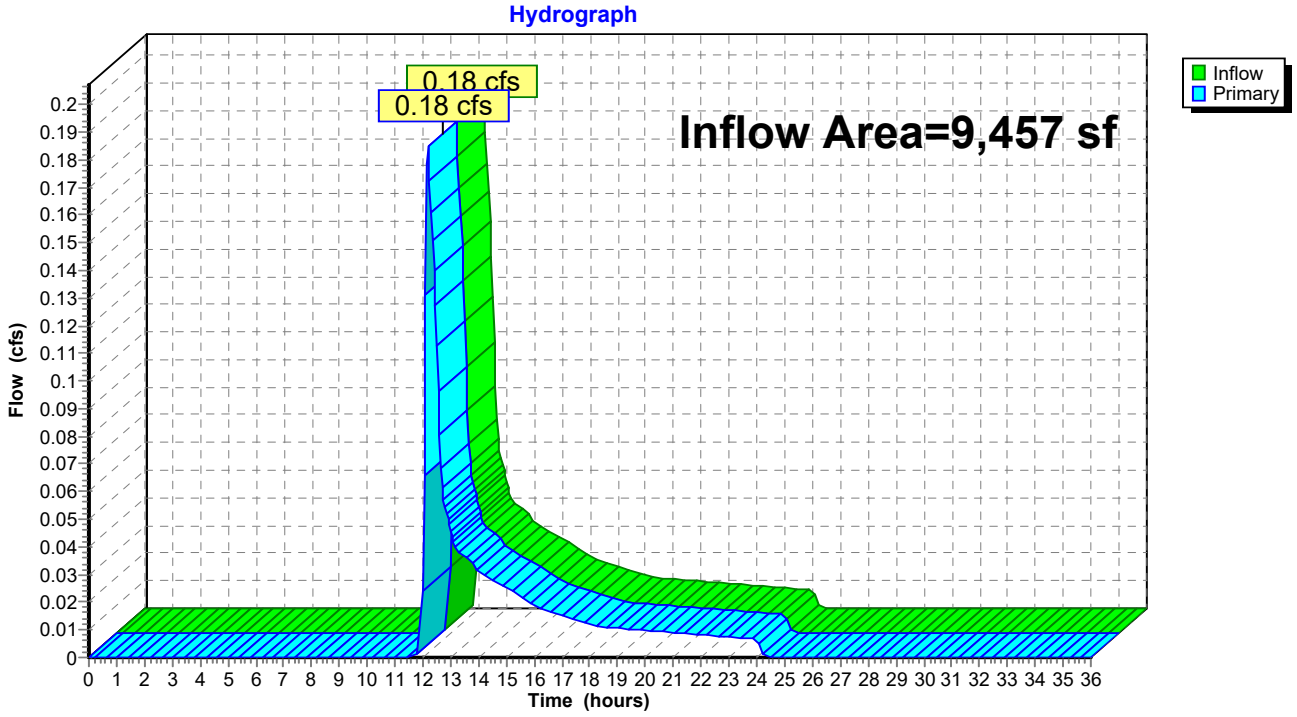


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 1.26" for 100-Year event
Inflow = 0.18 cfs @ 12.19 hrs, Volume= 992 cf
Primary = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

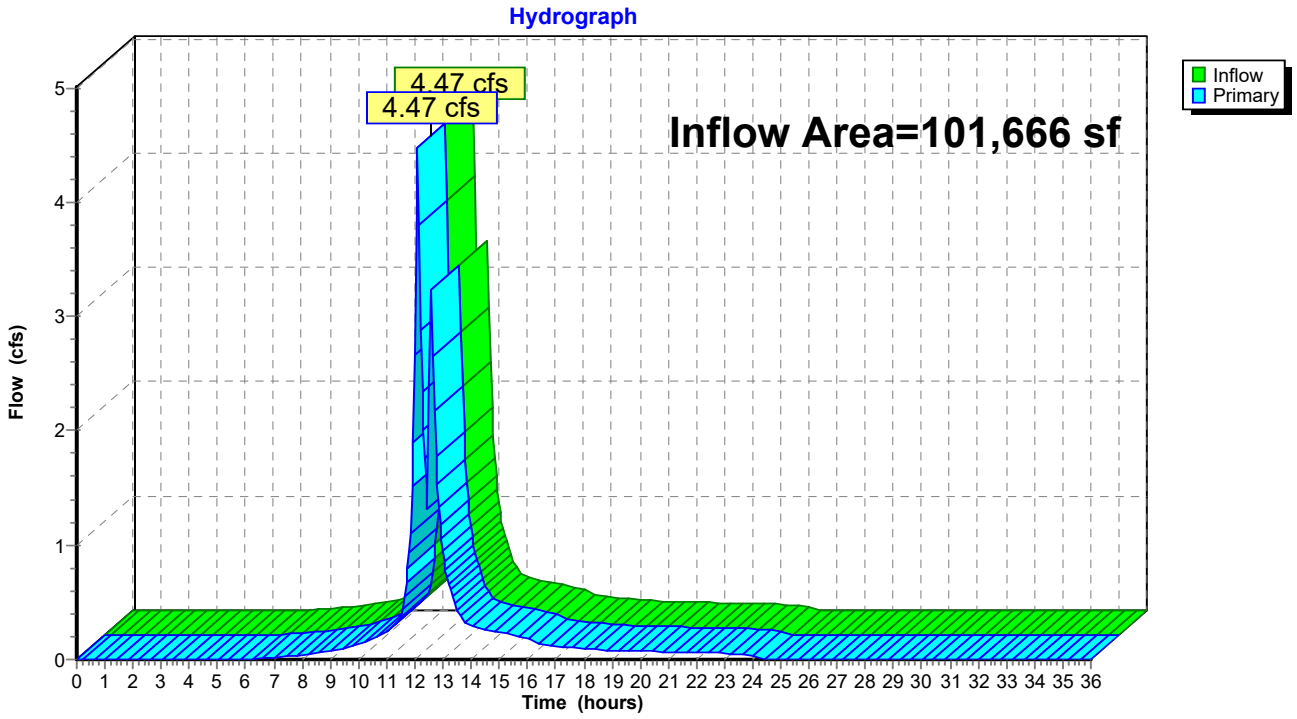


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 2.08" for 100-Year event
Inflow = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf
Primary = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



APPENDIX C

TRURO DPW FACILITY
RECHARGE CALCULATION

REQUIRED RECHARGE

Area Summary	
	Area (SF)*
Existing Impervious	80,920
Proposed Impervious	89,914
Required Recharge Area *(Proposed - Existing)*	8,994

* Areas retrieved from HydroCAD

Note: Site consists of HSG A soils.

Hydrologic Soil Group Summary		
Group	Target Depth Factor (in)	Area (SF)
A	0.6	8,994
B	0.35	0
C	0.25	0
D	0.1	0

Required Recharge (*Rv*) Calculation:

Rv = Target Depth Factor x Δ Impervious Area
Rv = 0.6 x (1/12) x 8,994
Rv = 450 CF

PROPOSED RECHARGE SUMMARY

Detailed calculations on following pages

Location	Volume (CF)
Field A Chambers	7,441
Field B Chambers	8,086
Total	15,527

Rv = 450 CF
Provided recharge = 15,527 CF

Recharge Requirement is exceeded.

PROPOSED RECHARGE

Underground Infiltration Chambers - INF-A
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD)	5,467.30	CF	(50 chambers+end caps)
Available Stone Storage (from HydroCAD)	3,670.60	CF	
Overall System Area	2092.31	SF	
Bottom of Chamber Elevation	115.00	FT	
Weir elevation	119.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**7,441.00**	**CF**	
Stone and Chamber recharge volume	**7,441**	**CF**	

Underground Infiltration Chambers - INF-B
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD	5,964.70	CF	(54 chambers+ end caps)
Available Stone Storage (from HydroCAD	3,963.50	CF	
Overall System Area	2267.75	SF	
Bottom of Chamber Elevation	114.00	FT	
Weir elevation	118.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**8,086.00**	**CF**	
Stone and Chamber recharge volume	**8,086**	**CF**	

TRURO DPW FACILITY
DRAWDOWN CALCULATION

-- MAXIMUM DRAWDOWN TIME IS 72 HOURS --

Time to drawdown calculation

$$\text{Time} = \frac{Rv}{k * \text{bottom area}}$$

where,

Rv =	storage volume
k =	saturated hydraulic conductivity rate
bottom area =	average surface storage area of recharge structure

PROPOSED STORAGE DRAWDOWN CALCULATIONS

Leaching Chambers - Field A			
Net storage volume		7,441	CF
Bottom area		2,092	SF
k		8.27	in/hr
	Time =	5.16	hours
Proposed drawdown time is acceptable.			

Leaching Chambers - Field B			
Net storage volume		8,086	CF
Bottom area		2,268	SF
k		8.27	in/hr
	Time =	5.17	hours
Proposed drawdown time is acceptable.			

TRURO DPW FACILITY
WATER QUALITY VOLUME CALCULATION

As stated in the Stormwater Handbook, for a LUHPPL, the required water quality volume equals 1.0 inch of runoff times the total impervious area of the post-development site.

TOTAL STORAGE PROVIDED		
Field A Storage =	7,441	CF
Field B Storage =	8,086	CF
Total Storage Provided =	15,527	CF

WQV CALCULATION		
Proposed Impervious Area =	89,914	SF
1" Water Quality Storage		
89,914 sf x 1" x 1'/12"=	7,493	CF

Proposed recharge exceeds the 1 inch water quality volume requirements.

Truro DPW
2-Oct-25
OUTLET PROTECTION CALCULATIONS

Proposed Plunge Pool FE-1 (P-1)
Preformed Scour Hole (Type 1)
Equation 11.35 CTDOT Drainage Manual

100-Year Storm:

Primary Outflow	1.55	cfs
Culvert	1.37	cfs

D_{50} Sizing:

TW = Tailwater =	1	feet (assumed)
Rp = Pipe Diameter =	1	feet
Q_{100} = 100-year design peak flow =	1.55	c.f.s.
F = depth of riprap = 0.5Rp =	1	feet

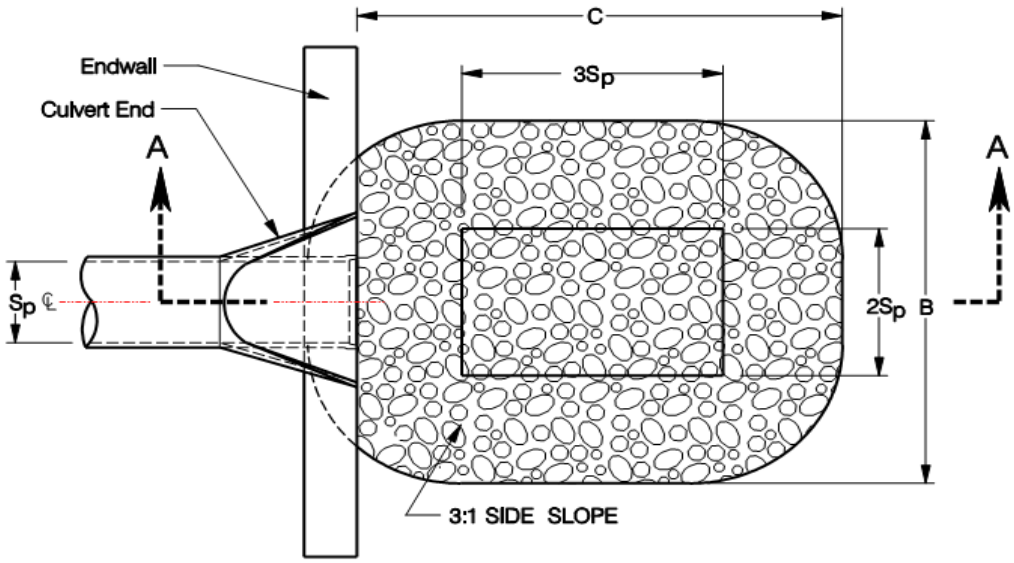
$$D_{50} = \left[\frac{0.0125Rp^2}{Tw}\right] x \left[\frac{Q_{10}}{Rp^{2.5}}\right]^{1.33}$$

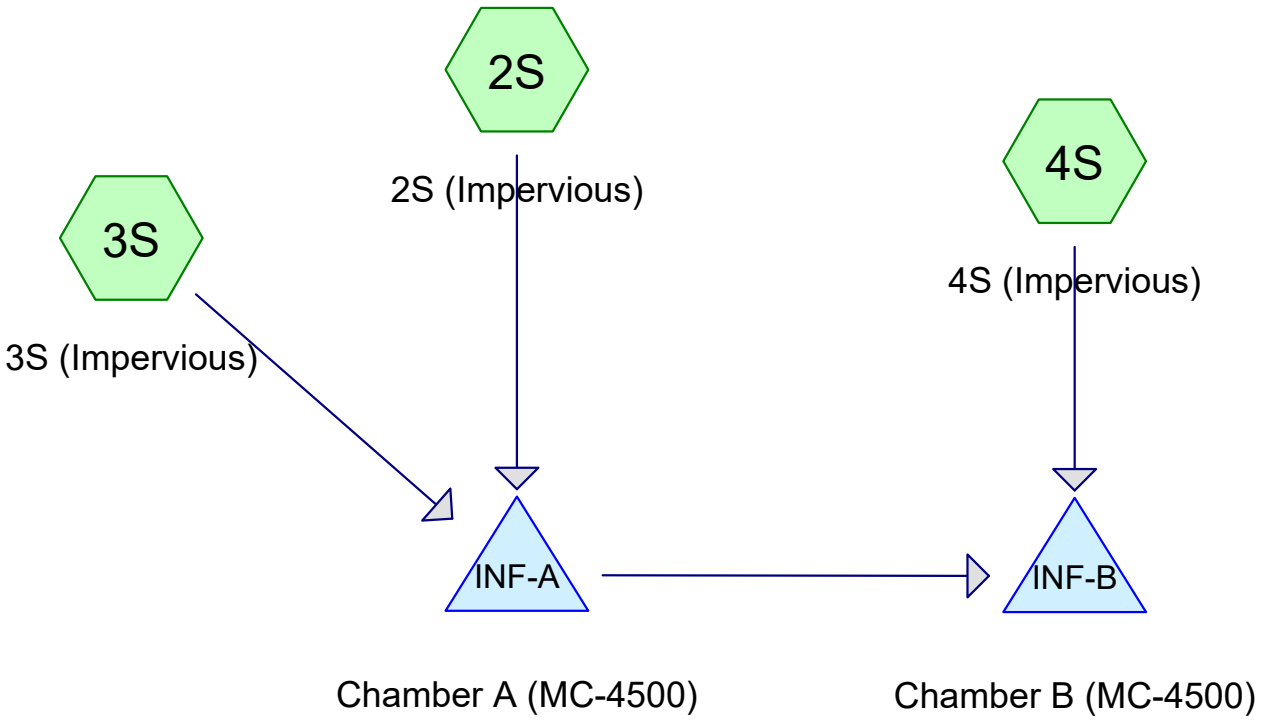
D_{50} = 0.02 feet = 0.27 inches

CT: Use Modified Riprap
MA: Use Modified Rockfill (M2.02.4)

Outlet Protection Dimensions:
Based on table 11-14.1 CTDOT Drainage Manual

Sp = Rp = inside diameter	Sp = 1.0'
Basin Depression (ft)	F = 0.5Rp = 0.5'
Basin Length (ft)	**C** = 3Sp + 6F = **6.0'**
Basin Width (ft)	**B** = 2Sp + 6F = **5.0'**





Subcat Reach Pond Link

Routing Diagram for Isolator Row Sizing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1"	Type III 24-hr		Default	24.00	1	1.00	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
45,788	98	Paved parking, HSG A (2S, 3S, 4S)
23,167	98	Roofs, HSG A (2S, 3S, 4S)
68,955	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
68,955	HSG A	2S, 3S, 4S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
68,955		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchmen Numbers
45,788	0	0	0	0	45,788	Paved parking	2
23,167	0	0	0	0	23,167	Roofs	2
68,955	**0**	**0**	**0**	**0**	**68,955**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment2S: 2S (Impervious) Runoff Area=34,378 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.61 cfs 2,266 cf

Subcatchment3S: 3S (Impervious) Runoff Area=11,547 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.20 cfs 761 cf

Subcatchment4S: 4S (Impervious) Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.46 cfs 1,518 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=115.25' Storage=676 cf Inflow=0.81 cfs 3,027 cf
Discarded=0.21 cfs 3,027 cf Primary=0.00 cfs 0 cf Outflow=0.21 cfs 3,027 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=113.72' Storage=236 cf Inflow=0.46 cfs 1,518 cf
Discarded=0.16 cfs 1,518 cf Primary=0.00 cfs 0 cf Outflow=0.16 cfs 1,518 cf

Total Runoff Area = 68,955 sf Runoff Volume = 4,545 cf Average Runoff Depth = 0.79"
0.00% Pervious = 0 sf 100.00% Impervious = 68,955 sf

Summary for Subcatchment 2S: 2S (Impervious)

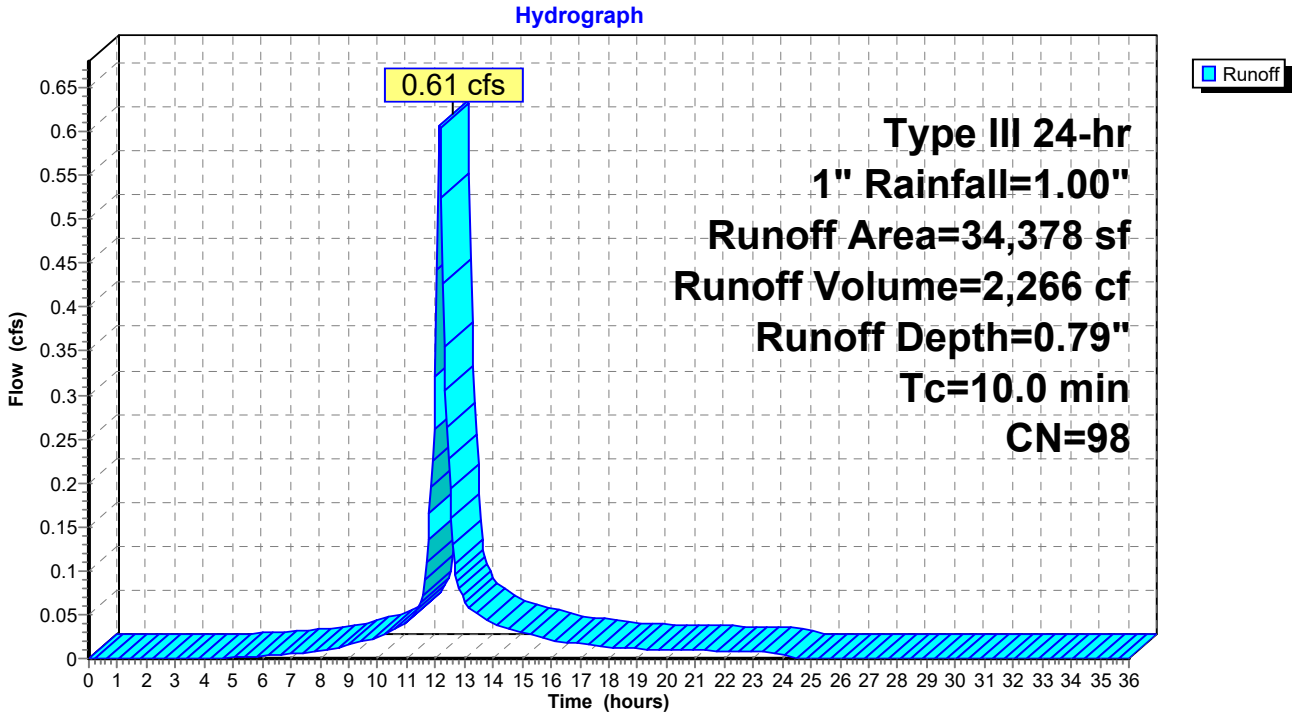
Runoff = 0.61 cfs @ 12.14 hrs, Volume= 2,266 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
9,175	98	Roofs, HSG A
34,378	98	Weighted Average
34,378		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S (Impervious)



Summary for Subcatchment 3S: 3S (Impervious)

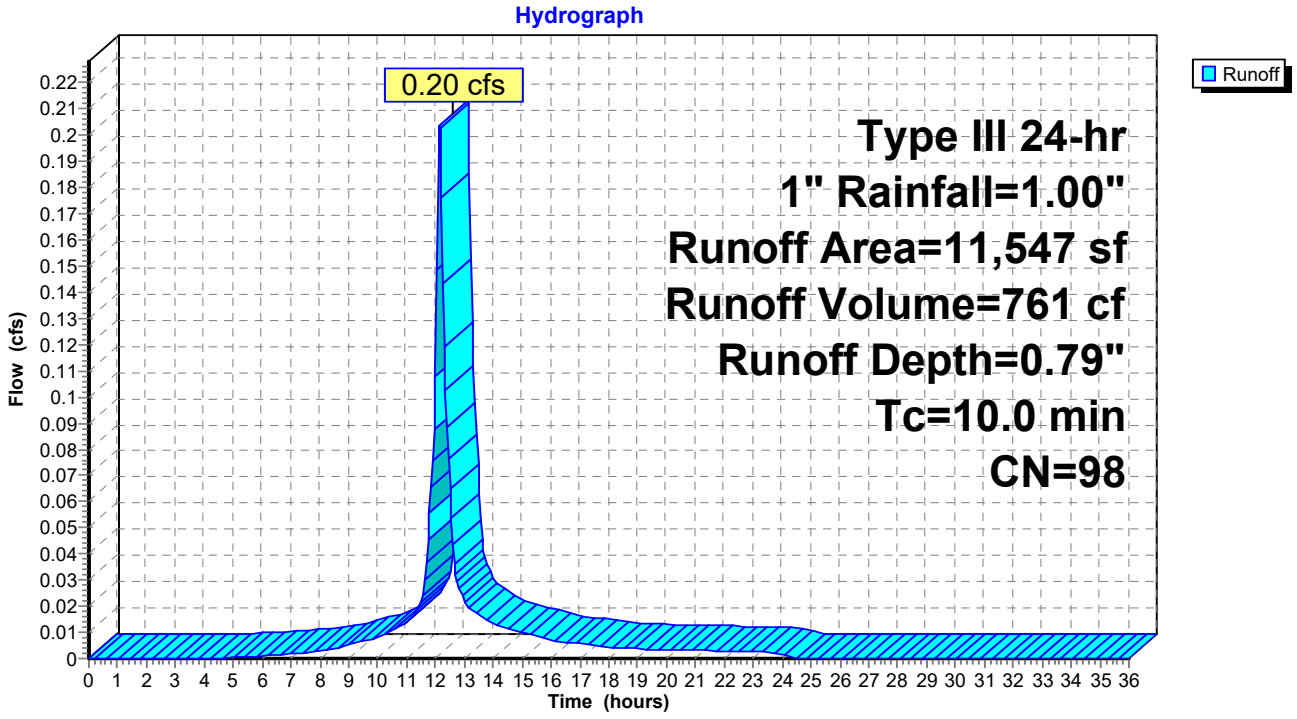
Runoff = 0.20 cfs @ 12.14 hrs, Volume= 761 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
4,030	98	Roofs, HSG A
11,547	98	Weighted Average
11,547		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S (Impervious)



Summary for Subcatchment 4S: 4S (Impervious)

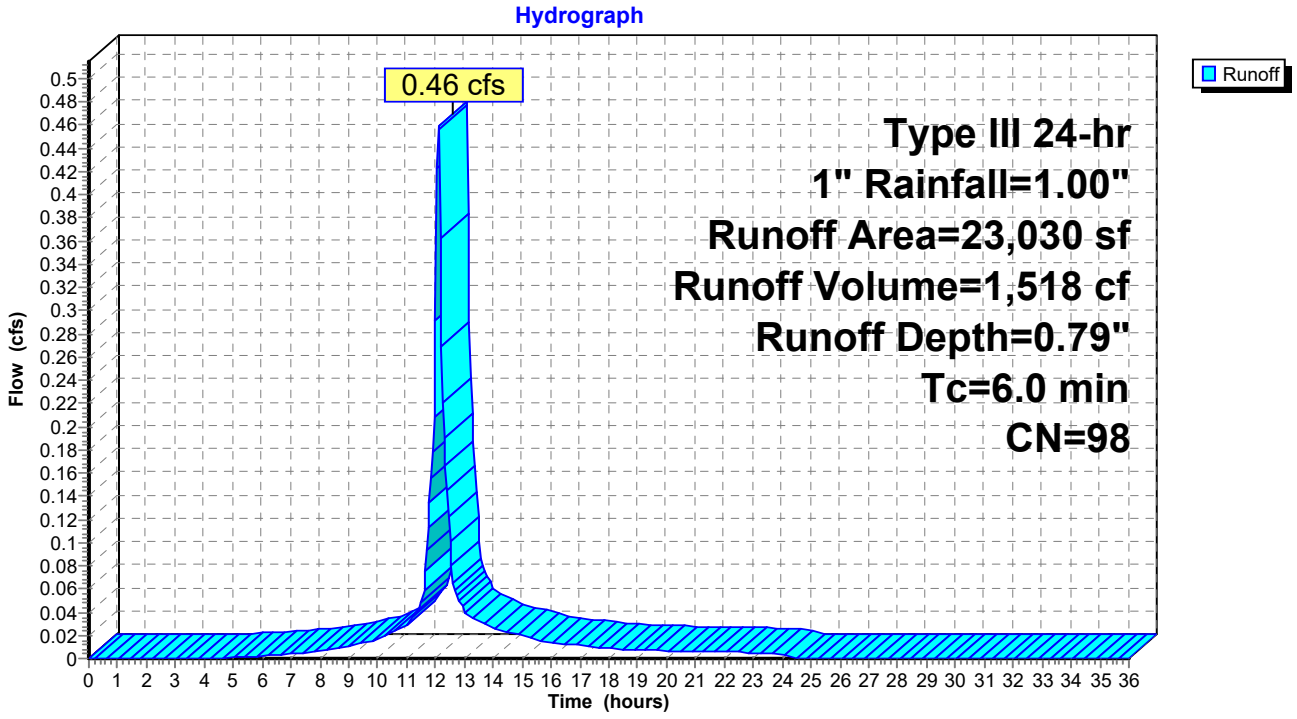
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf, Depth= 0.79"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S (Impervious)



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 45,925 sf,100.00% Impervious, Inflow Depth = 0.79" for 1" event
Inflow = 0.81 cfs @ 12.14 hrs, Volume= 3,027 cf
Outflow = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf, Atten= 74%, Lag= 0.0 min
Discarded = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.25' @ 12.55 hrs Surf.Area= 1,113 sf Storage= 676 cf

Plug-Flow detention time= 17.4 min calculated for 3,023 cf (100% of inflow)
Center-of-Mass det. time= 17.4 min (809.0 - 791.6)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	2,024 cf	**10.33'W x 107.74'L x 7.00'H Field B** 7,793 cf Overall - 2,734 cf Embedded = 5,060 cf x 40.0% Voids
#2B	115.00'	2,734 cf	**ADS_StormTech MC-4500 +Cap** x 25 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		4,758 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.21 cfs @ 11.85 hrs HW=114.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

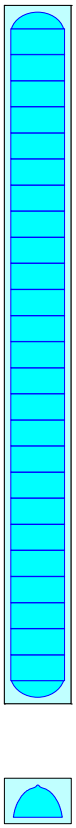
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

25 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 2,733.7 cf Chamber Storage

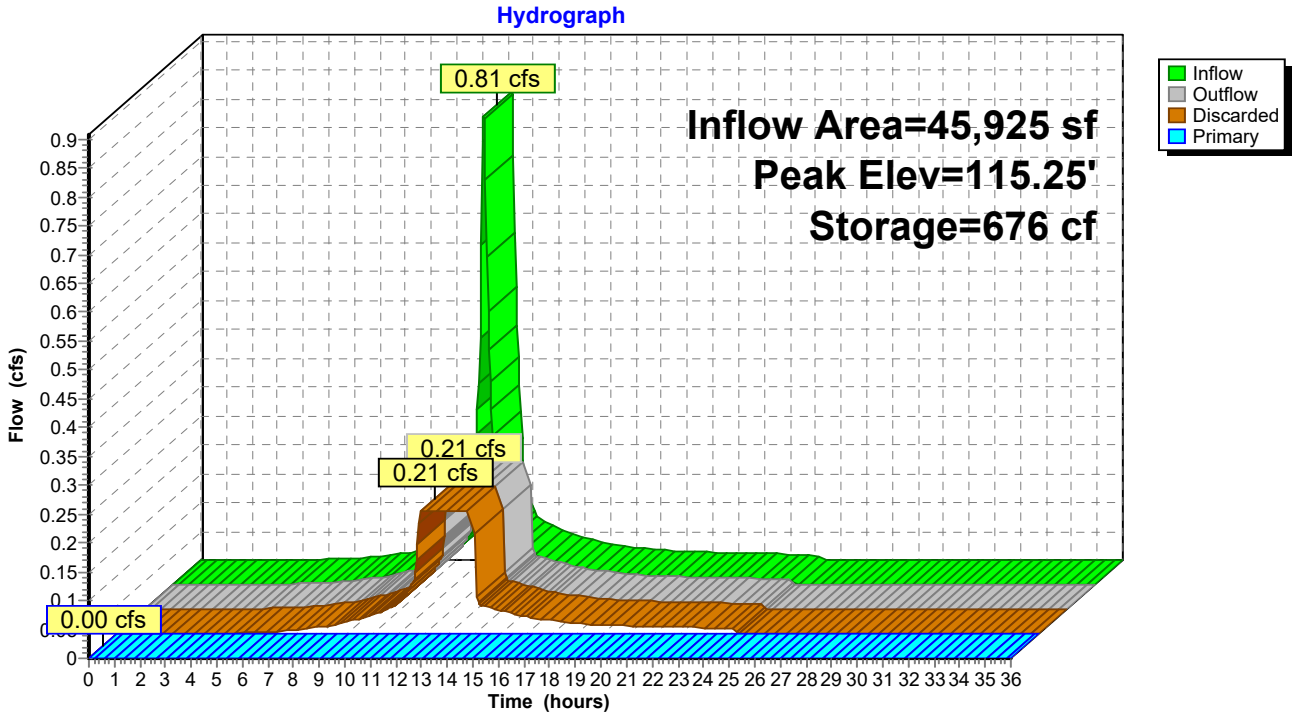
7,793.3 cf Field - 2,733.7 cf Chambers = 5,059.7 cf Stone x 40.0% Voids = 2,023.9 cf Stone Storage

Chamber Storage + Stone Storage = 4,757.5 cf = 0.109 af
Overall Storage Efficiency = 61.0%
Overall System Size = 107.74' x 10.33' x 7.00'

25 Chambers
288.6 cy Field
187.4 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 68,955 sf,100.00% Impervious, Inflow Depth = 0.26" for 1" event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf
Outflow = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf, Atten= 66%, Lag= 0.0 min
Discarded = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to nonexistent node POA-2

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 113.72' @ 12.37 hrs Surf.Area= 822 sf Storage= 236 cf

Plug-Flow detention time= 8.1 min calculated for 1,516 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (795.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	1,507 cf	**10.33'W x 79.57'L x 7.00'H Field B** 5,755 cf Overall - 1,988 cf Embedded = 3,767 cf x 40.0% Voids
#2B	114.00'	1,988 cf	**ADS_StormTech MC-4500 +Cap** x 18 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		3,495 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.16 cfs @ 11.90 hrs HW=113.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

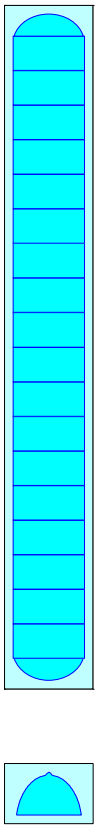
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

18 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 1,988.2 cf Chamber Storage

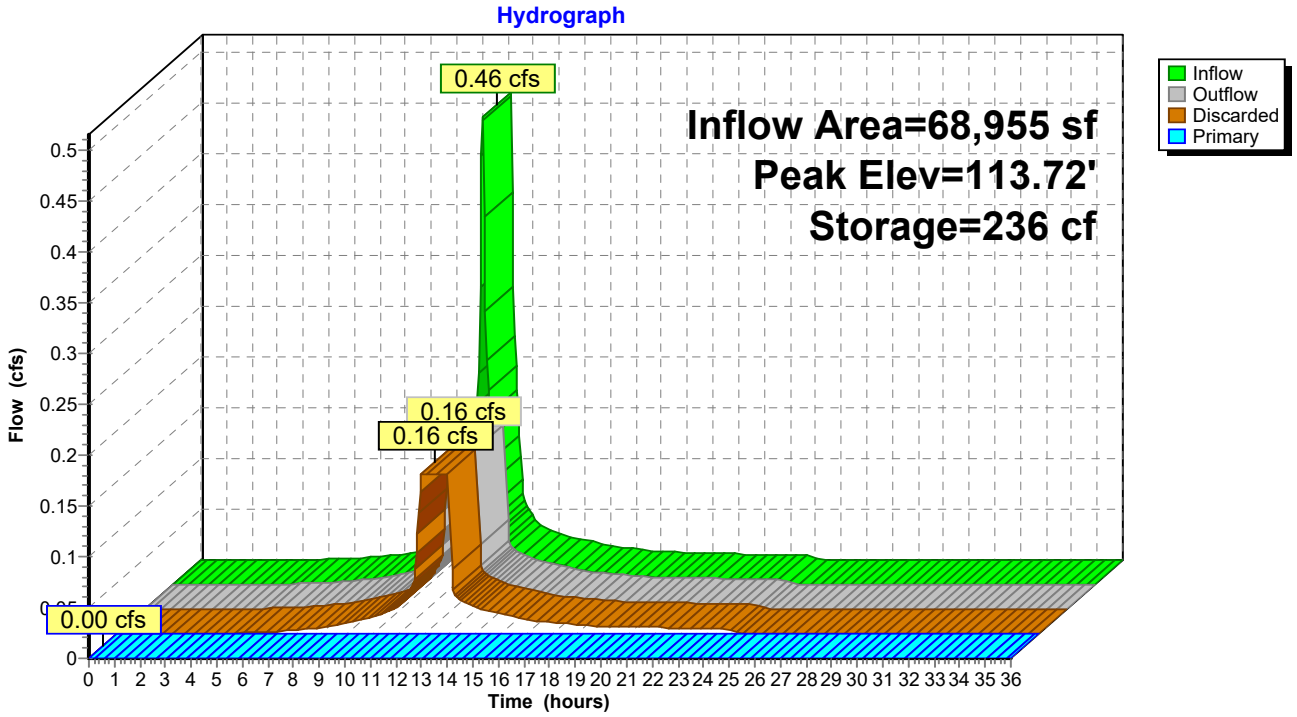
5,755.3 cf Field - 1,988.2 cf Chambers = 3,767.1 cf Stone x 40.0% Voids = 1,506.8 cf Stone Storage

Chamber Storage + Stone Storage = 3,495.1 cf = 0.080 af
Overall Storage Efficiency = 60.7%
Overall System Size = 79.57' x 10.33' x 7.00'

18 Chambers
213.2 cy Field
139.5 cy Stone



Pond INF-B: Chamber B (MC-4500)



INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Pre-Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%

Total TSS Removal = 47%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Pretreatment rate is above 44% prior to Infiltration BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
Subsurface Infiltration Chambers	80.0%	53.4%	43%	11%
	0.0%	10.7%	0%	11%

Total TSS Removal = 89%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (P-1)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95.0%
Infiltration Pond	80.0%	95.0%	76%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%

Total TSS Removal = 81%

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

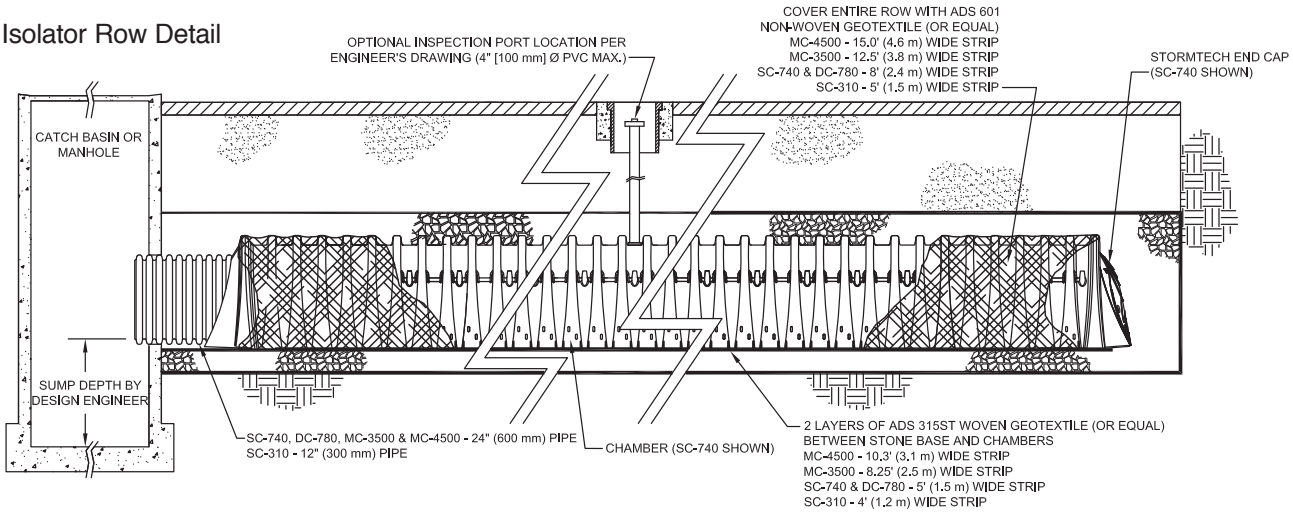
Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

StormTech and Stormwater Quality

StormTech's patented Isolator™ Row is a row of chambers wrapped in a geotextile which filters the stormwater trapping pollutants in the row. The Isolator Row provides a way to inspect and maintain the system.

Isolator Row Detail



Note: For many applications, the non-woven geotextile over the DC-780, MC-3500 and MC-4500 Isolator Row chambers can be eliminated or substituted with the AASHTO Class 1 woven geotextile. Contact your StormTech representative for assistance.

Isolator Row Field Verification Testing at the University of New Hampshire Stormwater Center

- Field testing (TARP tier II protocol) of the Isolator Row has been ongoing since December 2006.
- Removal efficiencies for TSS have improved as the filter cake has built up on the bottom fabric of the Isolator Row.
- Current data shows a TSS removal efficiency which exceeds 80%.

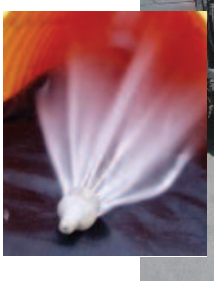


Removal Efficiency Results:

- Total Suspended Solids = 80%
- Phosphorous = 49%
- Total Petroleum Hydrocarbons = 90%
- Zinc = 53%

This system achieves a removal efficiency of 80% for TSS which meets most municipal recommended levels for water quality treatment.





Inspection and Maintenance

The Isolator Row can be inspected through the upstream manhole or optional inspection port.

Maintenance is easily accomplished with the JetVac process.

The frequency of inspection and maintenance varies by location. Contact StormTech for assistance with inspection and maintenance scheduling.

StormTech Isolator Row

UNH EXCERPT STARTS HERE



The StormTech Isolator Row is an effective filtration/infiltration system best suited to locations where space is at a premium and the system's relatively expensive installation cost can be offset by increasing available space for development.

About the StormTech Isolator Row

The StormTech Isolator Row is a manufactured system designed to provide subsurface water quality treatment and easy access for maintenance. It is typically used to remove pollution from runoff before it flows into unlined infiltration chambers designed for detention and water quantity control. The Isolator Row consists of a series of StormTech chambers installed over a layer of woven geotextile, which sits on a crushed stone infiltration bed surrounded with filter fabric. The bed is directly connected to an upstream manhole for maintenance access and large storm bypass. At UNHSC, the Isolator Row has met a TSS median annual removal standard of 80 percent, and exhibited an enhanced capacity to remove phosphorus. The Isolator Row is well suited for urban environments where space is at a premium.

Implementation

The StormTech Isolator Row is part of a class of manufactured, subsurface filtration/infiltration systems that are being used more and more throughout the United States. In general, these systems are best suited to locations where above ground space is at a premium. They are often used in urban areas, where they are located beneath parking lots and other infrastructure. As with any infiltration system, care must be taken when locating these systems near pollution hotspots, or where seasonal high groundwater levels may lead to groundwater contamination. In such cases, if installed, the systems should be lined to prevent infiltration into groundwater, and outfitted with subdrains that discharge to the surface. Designs for the StormTech Isolator Row are available from the manufacturer.

System Performance

Cost & Maintenance

While subsurface HDPE systems such as the Isolator Row tend to be more expensive than conventional stormwater treatments like retention ponds, the costs are ameliorated by the increase in available space for development. The cost to install a StormTech Isolator Row system large enough to treat runoff from one acre of impervious surface was $34,000 in 2006.

In more than two years of operation, the system is at less than 50 percent of its recommended maintenance trigger point. Maintenance should be conducted when the sediment in the chambers reaches approximately three inches in depth according to recommendations from the manufacturer. Sediment accumulation can be monitored through inspection ports. When maintenance is needed, the entire row can be

Fast Facts

CATEGORY / BMP TYPE
Filtration, Infiltration, Manufactured Treatment Device

UNIT OPERATIONS & PROCESSES
Hydrologic (Flow Alteration)

Water Quality: Physical (Sedimentation, Filtration) & Chemical (Sorption)

DESIGN SOURCE
StormTech, LLC

BASIC DIMENSIONS
Chamber: 51" wide X 30" high X 85.4" long

SPECIFICATIONS
Catchment Area: 1 acre
Water Quality Flow: 1 cfs
Water Quality Volume: 3,300 cf

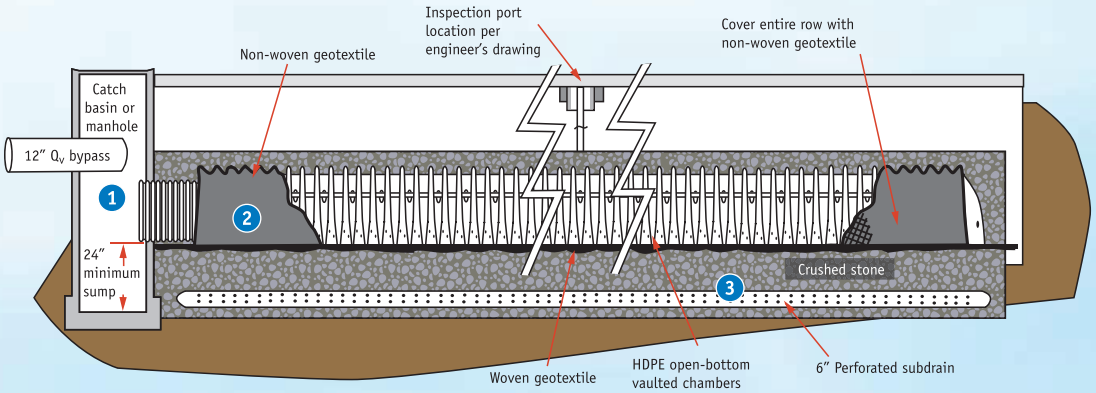
INSTALLATION COST
$34,000 per acre treated

MAINTENANCE
Maintenance Sensitivity: Low
Inspections: High
Sediment Removal: Moderate

How the System Works

WATER QUALITY TREATMENT PROCESS ▼

1. Runoff flows into the Isolator Row chambers from a catchbasin or pipe.
2. Runoff slowly passes from the chambers through a woven geotextile fabric and into the crushed stone reservoir below the system. The runoff passes through the fabric, leaving behind sediments and associated contaminants through the physical unit operations of filtration and sedimentation. As an organic filter cake develops over the fabric, phosphorus is also removed via the chemical process of sorption.
3. Filtered runoff collects in a perforated subdrain and returns to a storm drain system, infiltrates into the subgrade, or is discharged to the surface.



washed clean through an access manhole and by a hydro-jet with sediment removed by vactoring (vacuuming). Entry into the system is considered a confined space entry and requires trained personnel and equipment.

During two years of evaluation at UNHSC, the Isolator Row has accumulated, at most, one and one half inches of sediment in its chambers. As a result, researchers have not performed maintenance on the system. The Isolator Row presents an interesting opportunity to study the relationship between maintenance and performance. Researchers have observed enhanced phosphorus removal as the system develops an organic filter cake between the chambers and the woven geotextile fabric that lies beneath them. This enhancement is tempered by the likelihood that, as the filter cake continues to grow, hydraulic efficiency will decline and more runoff will bypass the system untreated until maintenance is performed. Analyses are underway to develop maintenance recommendations that balance and optimize the water quality and water quantity management abilities of this system.

Cold Climate

This system's water quality treatment and volume control capacity remained strong in all seasons, reinforcing the conclusion that filtration and infiltration systems perform well, even in cold climates.

Water Quality Treatment

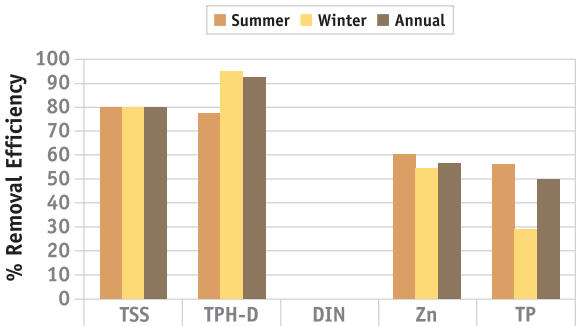
The StormTech Isolator Row system does a good job of reducing the concentration of common pollutants associated with stormwater performance assessment with the exception of nitrogen. It generally meets EPA's recommended level of removal for total suspended solids, and meets regional ambient water quality criteria for heavy metals and petroleum hydrocarbons. The system has a capacity to achieve modest levels of total phosphorus removal, which may be enhanced over time. (See Cost & Maintenance Section.) The lack of nitrogen treatment is typical for non-vegetated aerobic systems. Nutrient load reduction would be further increased through volume reduction by infiltration. Like all other systems monitored at UNHSC, it does not provide chloride removal.

The chart at top right reflects the system's performance in removing total suspended solids, total petroleum hydrocarbons, dissolved inorganic nitrogen, total phosphorus, and zinc. Values represent results recorded over a two-year monitoring period, with the data further divided into summer and winter components.

Water Quantity Control

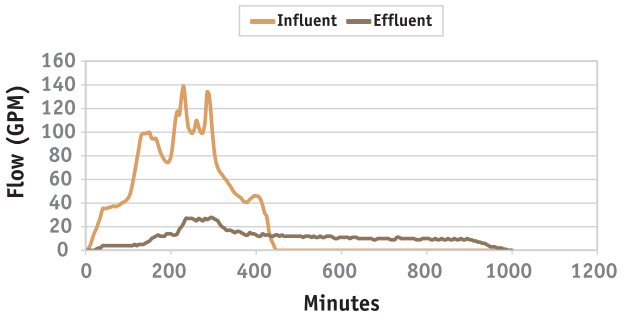
Like other infiltration and filtration systems, the StormTech Isolator Row system exhibits the capacity to reduce peak flows and could be used to reduce runoff volume in appropriate soils, such as those belonging to groups "A" or "B." The figure at bottom right provides information on peak flow reduction and lag times for the system.

POLLUTANT REMOVAL: 2006–2008



Median Annual Influent Event Mean Concentrations (EMC) in mg/L				
48	860 ug/L	.2	.04	.08

HYDRAULIC PERFORMANCE



	Winter	Summer	Annual Average
Average Peak Flow Reduction	71%	81%	76%
Average Lag Time (minutes)	358	190	274

SYSTEM DESIGN

The StormTech Isolator Row is designed to provide subsurface water quality treatment for small storms. The manufacturer adapts the system's design in accordance with local watershed conditions and target treatment objectives.

Chamber units are made of high-density polyethylene (HDPE) pipe and are designed to bear loads consistent with those experienced by parking lots. The UNHSC chamber dimensions are 51 x 30 x 85.4 inches and can be linked together to form linear rows up to 200 feet long. The chambers are laid over woven geotextile, which rests on an infiltration base composed of one foot of three quarter inch crushed stone. The entire excavation is then wrapped in nonwoven geotextile to protect the system from the migration of fine particles from the surrounding soil.

A three- to five-foot separation from seasonal high groundwater table (as designated by regulations) is necessary to minimize the potential for groundwater contamination. Stormwater flows of up to one cubic foot per second (cfs) enter the system through an upstream manhole or other flow diverter. This is representative of flow-based sizing of a BMP common for devices that have limited detention or storage. Such devices are often better described by a maximum treatable flow rate as opposed to a treatment volume.

A bypass is incorporated in the StormTech system where flows exceeding the design rate are bypassed around the device and flow directly into adjacent chambers that can be sized to treat the CP_v and Q_p. Because of the bypass design, maintenance requirements are extremely important. A poorly maintained device would bypass prematurely into the unlined chamber systems and eventually clog subsurface soils resulting in system failure.

APPENDIX D

To meet the requirements of Standard 4 of the Massachusetts Stormwater Handbook, this Long-Term Pollution Prevention Plan is provided to identify the proper procedures of practices for source control and pollution prevention.

STORAGE AND HANDLING OF OIL AND OTHER HAZARDOUS MATERIALS

All oil products and other hazardous materials stored in quantities greater than or equal to 55 gallons will be stored in double walled tanks or provided with other means of secondary containment.

The handling/use of oil and vehicle maintenance fluids will be conducted in the vehicle maintenance and/or shop area of the facility, which will be equipped with floor drains connected to an oil/gas/sand separator prior to discharge to a tight tank.

VEHICLE STORAGE AND WASHING

Vehicles will be stored within the building. Areas under cover or out in the open will be monitored for any potential contamination to the infiltration system or resource areas. Vehicle washing will be performed in the vehicle wash bay of the facility. Wash water will be collected by floor drains located within the wash bay and will be piped to a tight tank. The exterior knock down pad for rinsing vehicles will be treated with a deep sump hooded catch basin and a water quality structure prior to infiltration. This vehicle rinsing area will be registered with the DEP in accordance with the Underground Injection Control (UIC) regulations.

OPERATION AND MAINTENANCE OF STORMWATER CONTROL STRUCTURES

Included in this Appendix is the Operation and Maintenance plan for this site, which includes street sweeping of the paved areas and periodic removal of sediment from catch basins and other stormwater structures. The Department of Public Works will be responsible for the implementation of the plan.

MATERIAL STORAGE AREA

The material storage bins will be inspected and maintained, as required, to prevent erosion or any potential contamination to the infiltration system or resource areas.

LANDSCAPING

The landscaped areas will be maintained by the Department of Public Works. Fertilizers, if stored on site, will be stored under cover and no fertilizers will be stored within the buffer zone.

PET WASTE MANAGEMENT

It is not expected that pets will be accessing the facility; therefore, it is not necessary to design to manage pet waste.

SEPTIC SYSTEM

Wastewater will be generated in the building. This system will be constructed, operated, and maintained in accordance with Title V regulations. Discharges of industrial wastewater will not be permitted to the septic system and will be limited to tight tanks, as described above.

DE-ICING & SNOW DISPOSAL

The DPW intends to utilize salt and sand to treat the paved surfaces of the driveways and main circulation areas during snow and ice events. Salt will be stored inside the proposed salt shed on site. Snow storage will consist of pushing snow into grassed areas along the perimeter of the property.

SECTION 1 – INTRODUCTION

The project consists of construction of a new public works facility in Truro, MA. The new facility will be constructed on the site currently occupied by the existing public works facility, located at 24 Town Hall Road in Truro, MA. The work includes clearing and grubbing, pavement removal, construction of a pre-engineered metal building and salt storage structure, full-depth pavement construction and curbing, new closed drainage system, site utilities, new sidewalks, pavement markings, signage, loam and seed, plantings, and other incidental work.

As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no disturbance to the wetland resource is created during the construction of these repairs.

SECTION 2 – CONSTRUCTION PERIOD POLLUTION PREVENTION MEASURES

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the Wetlands Protection Act (WPA) and MassDEP Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. All recommended control practices will comply with the standards set in the MassDEP Stormwater Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

To minimize disturbed areas, all work will be completed within well-defined work limits. These work limits are shown on the site plans included with this submission. The Contractor shall not disturb native vegetation in any undisturbed area without prior approval from the Engineer. The Contractor will be responsible to make sure that all workers know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

The Contractor will be required to install compost filter tubes between the work area and the wetland resource area.

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during the project. The soils will be exposed for no longer that one week.

2.4 Proper storage and cover of any stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site, or areas to be cleared as a part of this project, and shall require written approval of the Engineer.

Adequate measures for erosion and sediment control such as the placement of compost filter tubes around the downstream perimeter of stockpiles, and in front of water body, shall be employed to protect any downstream areas from siltation.

The Engineer may designate an area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control lines as described in Section 5 will be utilized to ensure that no sedimentation occurs outside the perimeter of the work area.

2.6 Storm Drain Inlet Protection

Catch basin protection will be implemented for all catch basins affected by the work area. Inlet sediment control will be placed within the catch basin to minimize sediment loading into the catch basin.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor all erosion control measures. Whenever necessary, the Contractor will clear all sediment from the compost filter tubes. Daily monitoring should be conducted using the attached Inspection Form.

2.8 Material Handling and Waste Management

All materials stored on-site will be stored in a neat, orderly manner in appropriate containers. All materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer.

All waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for all waste removal. Manufacturer's recommendations for proper use and disposal will be followed for all materials.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own plants, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site oil-absorbing mats will be placed under all equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site except to remove sediments prior to transport from the site.

SECTION 3 – SPILL PREVENTION AND CONTROL PLAN

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

All workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification is to the DEP. The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms, or all of the above, to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site

personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above-mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4 – CONTACT INFORMATION/RESPONSIBLE PARTIES

Owner/Operator:
Jarrod Cabral, Director
Dept. of Public Works
17 Town Hall Road
Truro, MA 02666
508-349-2140

Engineer:
Alyssa Peck, PE
Weston & Sampson, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
800-SAMPSON

Site Inspector:
TBD

Contractor:
TBD

SECTION 5 – EROSION AND SEDIMENTATION CONTROL

Erosion and Sedimentation Control details and layout can be found in the attached plan set. In addition, a technical specification (Environmental Protection) has been included with this report, which details all Erosion and Sedimentation controls.

SECTION 6 – SITE DEVELOPMENT PLAN

The Site Development Plan is included in the attached plan set.

SECTION 7 – OPERATION AND MAINTENANCE OF EROSION CONTROL

The erosion control measures will be installed as detailed in the technical specification. Environmental Protection. If there is a failure to the controls, the Contractor will be required to stop work until the failure is repaired.

Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8 – OPERATION AND MAINTENANCE OF EROSION CONTROL

During construction the erosion and sedimentation controls will be inspected daily. Once the contractor is selected, an on-site inspector will be selected to work closely with the Engineer to ensure that all erosion and sedimentation controls are in place and working properly. An Inspection Form is included.

Inspection Form

Inspected By: _____ Date: _____Time:_____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

Specific location, current weather conditions, and action to be taken:

_____

_____

_____

_____

_____

Other Comments:

_____

_____

Pending the actions noted above I certify that the site is in compliance with the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.

Signature:_____ Date: _____

SECTION I – PURPOSE/INTENT

The purpose of this document is to provide for the health, safety, and general welfare of the citizens of Truro, Massachusetts through the regulation of non-stormwater discharges into existing outstanding resource areas near the proposed public works facility site to the maximum extent practicable, as required by federal and state law. This document establishes methods for controlling the introduction of pollutants into existing outstanding resource areas to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

SECTION II - DEFINITIONS

For the purposes of this statement, the following shall mean:

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to the Massachusetts Erosion and Sedimentation Control Act or NPDES Construction Permits. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Connection: An illegal connection is defined as either of the following:

a. Any pipe, open channel, drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the outstanding resource area including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water, regardless of whether said drain or connection has been previously allowed, permitted, or approved by an authorized enforcement agency; or
b. Any pipe, open channel, drain or conveyance connected to the Town of Truro storm water treatment system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit Discharge: Any direct or indirect non-stormwater discharge to the Town of Truro stormwater treatment system, except as exempted in Section II of this ordinance.

Industrial Activity: Activities subject to NPDES Industrial Permits as defined in 40CFR, Section 122.26 (b) (14).

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit: A permit issued by MassDEP under authority delegated pursuant to 33 USC § 1342 (b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Town of Truro Stormwater Treatment System: Any facility, owned or maintained by the town, designed or used for collecting and/or conveying stormwater, including but not limited to roads with drainage systems, Town of Truro streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, infiltration, retention and detention basins, natural and man-made or altered drainage channels, reservoirs, and other drainage structures.

Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Person: Any individual, association, organization, partnership, firm, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of the State, interstate body, or any other legal entity.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents (biodegradable or otherwise); degreasers; cleaning chemicals; non-hazardous liquid and solid wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; concrete and cement; and noxious or offensive matter of any kind.

Pollution: Contamination or other alteration of any water's physical, chemical, or biological properties by addition of any constituent including but not limited to a change in temperature, taste, color, turbidity, or odor of such waters, or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, welfare, or environment, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

Wastewater: Any water or other liquid discharged from a facility, that has been used, as for washing, flushing, or in a manufacturing process, and so contains waste products.

SECTION III - PROHIBITIONS

Prohibition of Illicit Discharges:

No person shall throw, drain, or otherwise discharge, cause or allow others under its control to throw, drain, or otherwise discharge into the Town of Truro stormwater treatment system or watercourses any materials, including but not limited to, any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct, or continuance of any illicit discharge to the storm drain system is prohibited except as described as follows:

1. Water line flushing performed by a government agency, other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, natural riparian habitat or wetland flows, and any other water source not containing pollutants;

2. Discharges or flows from firefighting, and other discharges specified in writing by the Town of Truro as being necessary to protect public health and safety;

3. Dye testing is an allowable discharge, but requires a verbal notification to the Town of Truro prior to the time of the test;

4. Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for a discharge to the Town of Truro stormwater treatment system.

SECTION IV – INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Town of Truro Department of Public Works prior to allowing discharges to the Arlington stormwater treatment system.

SECTION V – NOTIFICATION OF SPILLS AND ACCIDENTAL DISCHARGES

Notwithstanding other requirements of law, as soon as any person responsible for a facility, activity or operation, or responsible for emergency response for a facility, activity or operation has information of any known or suspected release of pollutants or non-stormwater discharges from that facility, activity, or operation which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the Town of Truro stormwater treatment system, State Waters, or Waters of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release so as to minimize the effects of the discharge. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Town of Truro Department of Public Works in person or by phone no later than the next business day, including the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice, via certified mail return receipt requested addressed to the Town of Truro Department of Public Works within three (3) business days of the initial notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

IN WITNESS WHEREOF the parties hereto have executed copies of this Agreement on the 15th day of October, 2025.

Jarrod Cabral, Director
Department of Public Works

Operation and Maintenance Plan

Truro New Department of Public Works Facility

SECTION 1 – INTRODUCTION

The following document has been written to comply with the stormwater guidelines set forth by the Massachusetts Department of Environmental Protection (MassDEP). The intent of these guidelines is to encourage Low Impact Development techniques to improve the quality of the stormwater runoff. These techniques, also known as Best Management Practices (BMPs) collect, store, and treat the runoff before discharging to adjacent environmental resources.

SECTION 2 - PURPOSE

This Operation and Maintenance Plan (O&M Plan) is intended to provide a mechanism for the consistent inspection and maintenance of each BMP installed on the project site. Included in this O&M Plan is a description of each BMP type and an inspection form for each BMP. The Town of Truro is the owner and operator of the system and is responsible for its upkeep and maintenance. This work will be funded on an annual basis through the Town's operating budget. The estimated budget to maintain these BMPs utilizing the Department of Public Works workforce and equipment is approximately $10,000 per year. This budget assumes that Town equipment will be utilized, and no additional equipment rental is required.

In the event the Town sells the property, it is the Town's responsibility to transfer this plan, as well as the past three years of operation and maintenance records, to the new property owner. The Owner shall also notify the planning board or its agent of the changes in ownership or assignment of financial responsibility.

SECTION 3 – BMP DESCRIPTION AND LOCATIONS

3.1 Street Sweeping

Street sweeping consists of using a street sweeping machine to clean impervious areas of accumulated sediment, debris, and trash at the parking areas surrounding the public works facility.

3.2 Deep Sump Hooded Catch Basins

Deep sump catch basins utilizing catch basin hoods will be located throughout the site and used as pre-treatment before entering the infiltration systems or other Town stormwater infrastructure. The deep sump catch basins are designed to remove trash, debris, hydrocarbons, and coarse sediment from the stormwater runoff.

3.3 Outlet Control Structure

The outlet control structures are used to control discharges from captured stormwater. They release the water in a controlled manner to control peak discharges.

3.4 Drain Manholes

Drain Manholes will be located throughout the site and used to convey and redirect stormwater collected from deep sump catch basins. They allow for access, connection points, and change-in-

direction points in the underground drainage system.

3.5 Surface Infiltration Pond

There will be surface infiltration pond located on the site. The surface infiltration pond was designed for storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration

3.6 Subsurface Infiltration chambers

There will be four subsurface infiltration systems built on site that will receive and treat stormwater. The infiltration chambers are designed to be constructed upon a layer of crushed stone to promote infiltration of stormwater. The storage provided by the chambers assist with mitigation of peak rate run off and pollutant removal.

SECTION 4 – INSPECTION, MAINTENANCE, AND SCHEDULE

4.1 Street Sweeping

Street sweeping shall be performed on all impervious surfaces on a quarterly basis, with sweeping performed primarily in the spring and fall. Street sweeping shall be performed using a high efficiency vacuum street sweeping machine or a regenerative air sweeper. A mechanical rotary broom sweeper may be used if sweeping is performed on a monthly basis.

In the event of contamination by a spill or other means, all street sweeping cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, street sweeping cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.2 Deep Sump Hooded Catch Basins and Outlet Control Structures

Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons. Sediments must be removed whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. The structures should be cleaned a minimum of four times per year regardless of the amount of sediment in the basin. The site is considered a land use with a higher potential pollutant load, therefore if catch basins are found to be filled to capacity with sediment during a cleaning, the frequency of cleaning shall be increased. Catch basins and outlet control structures shall be cleaned with clamshell buckets or by hand tools where necessary. Catch basin hoods shall be inspected annually. Open and close the access hatch and flush or rod the anti-siphon device to ensure proper operation.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance

with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, catch basin cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.3 Drain Manholes

Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins. Remove all accumulated sediments and debris, and dispose of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, manhole cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.4 Surface Infiltration Pond

The surface infiltration pond shall be inspected monthly in the first year and every six months thereafter. Maintenance of vegetation after establishment shall include pruning and weeding to maintain appearance. Weeding is especially important during the plant establishment period, when vegetation cover is not 100 percent yet, but some weeding will likely always be needed. Some plant replacement (at least 5 to 10 percent of the original plantings) during the first few years after planting may be necessary, in case some of the plants that were originally planted die. All accumulated sediment and debris in the infiltration pond should be removed and disposed of according to local, state and federal regulations. Trash removal is important for prevention of mosquitoes.

4.5 Subsurface Infiltration Chambers

The isolation row in the subsurface structures shall be inspected every six months during the first year, and annually thereafter. Inspection may be conducted from the surface using inspection ports. A stadia rod may be inserted to determine the depth of sediment. If upon visual inspection it is found that sediment has accumulated to an average depth exceeding 3-inches, cleanout is required. Cleaning out of the isolator row may be performed with a JetVac process as recommended by the manufacturer as shown in Attachment D Isolator row documentation

4.6 Inspections and Record Keeping

- An inspection form should be filled out every time maintenance work is performed.

- A binder should be kept at the Public Works Facility that contains all the completed inspection forms and any other related materials.

- A review of all Operation & Maintenance actions should take place annually to ensure that these Stormwater BMPs are being taken care of in the manner described in this Operation & Maintenance Plan.

- All operation and maintenance log forms for the last three years, at a minimum, shall be kept on site at the Public Works Facility.

The inspection and maintenance schedule may be refined in the future based on the findings and results of this operation and maintenance program or policy.

SECTION 5 – GENERAL GOOD HOUSEKEEPING PRACTICES

All non-hazardous waste shall be stored in designated trash or recycling containers onsite for periodic collection by the local trash collector. The owner shall have maintenance staff who monitor the site for the accumulation of trash. Any trash that is seen onsite shall immediately be collected and placed into designated trash or recycling containers. The owner's maintenance staff shall make an inspection of the site once per week at minimum.

SECTION 6 - ANNUAL REPORTING

The owner must keep annual reports regarding the inspection and maintenance of the BMPs at the Public Works Facility. The reports must include:

1. Description of the conditions of the BMPs
2. Description of maintenance performed
3. Receipts for maintenance performed

SECTION 7 – OWNER MAINTENANCE AGREEMENT

The stormwater management system shall be owned and maintained by the following party:

Jarrod Cabral
Director of Public Works
17 Town Hall Road
Truro, MA 02666

The owner of the stormwater management system has reviewed and understands the contents of this Stormwater Operation and Maintenance Plan. The signature below constitutes the owner's commitment to maintain the stormwater system in accordance with this plan.

Signature: 

Jarrod Cabral, DPW Director

☐ Street Sweeping

Frequency: Quarterly average, primarily in the spring and fall if using a high efficiency vacuum sweeper or regenerative air sweeper. Monthly, if using a mechanical rotary broom sweeper.

Location: Parking Lots and Driveways

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Sweep all impervious areas, including parking lots, driveways, and roadways using high efficiency vacuum street sweeping machine, regenerative air sweeper, or mechanical rotary broom sweeper. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations

☐ Deep Sump Catch Basins & Outlet Control Structures

Frequency: Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year or whenever the depth of the deposits is greater than or equal to one half the depth from the bottom of the invert to the lowest pipe in the structure. Open and close hood and check anti-siphon vent for clogging.

☐ Drain Manholes

Frequency: Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year at a minimum, or whenever catch basins are inspected. Remove sediment and debris. All debris, and sediments should be disposed of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

☐ Surface Infiltration Pond

Frequency: The infiltration pond shall be inspected every semi-annually

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions:

As needed

- Prune and weed to maintain appearance
- Stabilize or replace mulch when erosion is evident
- Remove trash and debris
- Mow filter strip
- Renew mulch to replace that which has broken down into organic matter
- Replace vegetation whenever percent cover of acceptable vegetation falls below 90 percent or project specific performance requirements are not met. If vegetation suffers for no apparent reason, consult with horticulturist and/or test soil as needed.

Semi-annually

- Inspect inflow points for clogging (off-line systems) and remove any sediment
- Inspect filter strip/grass channel for erosion or gullying and sod as necessary
- Herbaceous vegetation and shrubs should be inspected to evaluate their health and replanted as appropriate
- Remove any dead or severely diseased vegetation

Annually in fall

- Inspect and remove any sediment and debris build-up.
- Inspect inflow points and bioretention surface for build-up of road sand associated with spring melt period, remove as necessary and replant areas that have been impacted by sand/salt build up.

Annually in spring

- Cut back and remove previous years plant material and remove accumulated leaves if needed.

☐ Subsurface Infiltration Chambers

Frequency: The Subsurface Infiltration Chambers should be inspected every six months during the first year and annually thereafter.

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

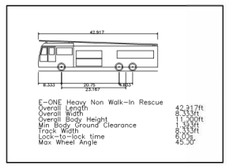
Actions Taken: _____
_____
_____

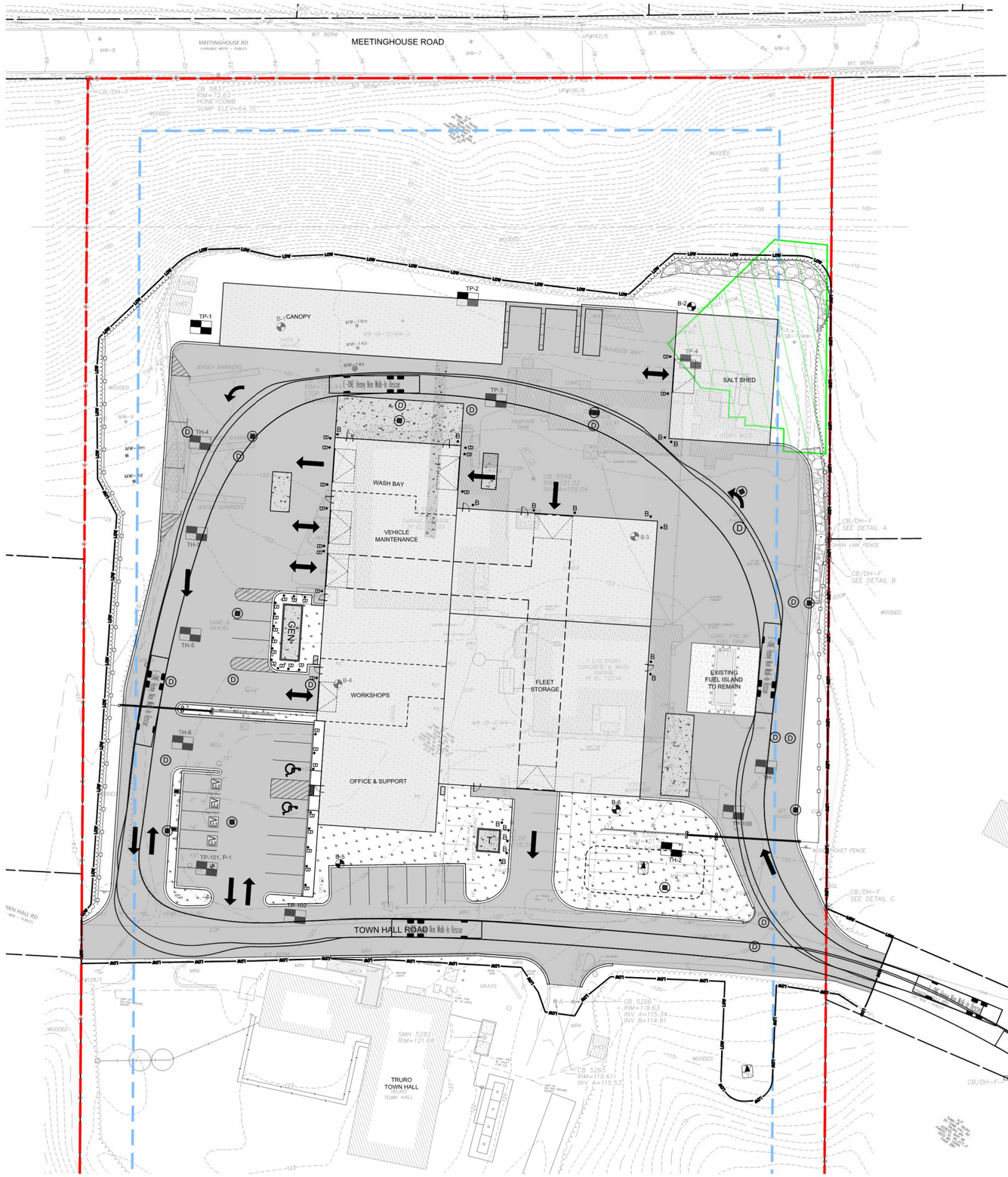
Instructions: Inspect underground isolation rows of chambers via manholes or inspection ports. Use reverse water jet to pull sediment back into manhole. Remove sediment, and dispose of in accordance with local, state, and federal regulations.

Check that the subsurface infiltration chambers are draining completely within 72 hours of rain events. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations.

Appendix C

Truck Turning Circulation Plans





0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

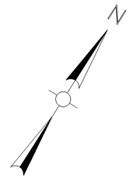
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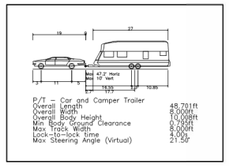
TRUCK TURNING PLAN
FIRE TRUCK CIRCULATION

Sheet Number:

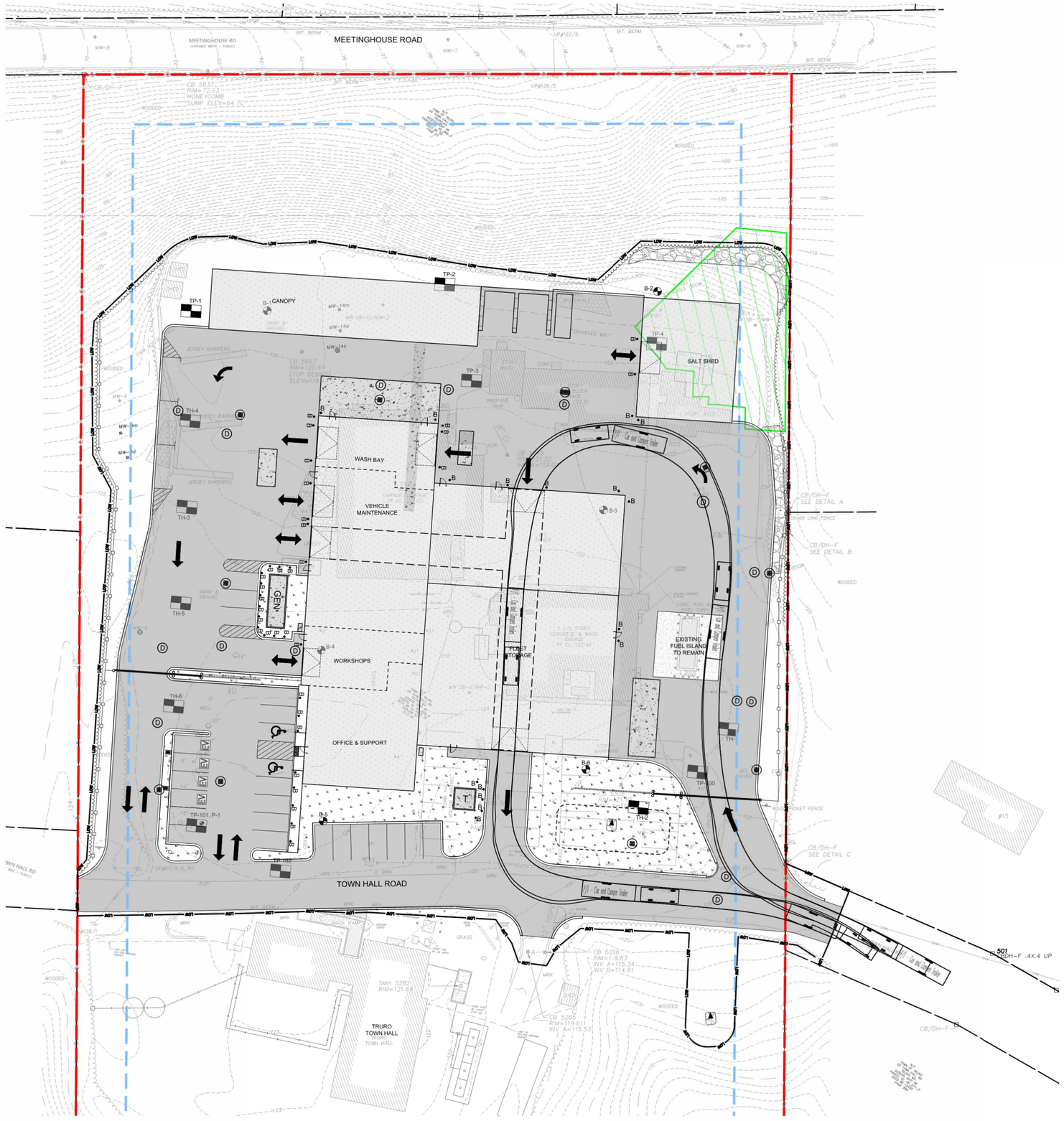
FIG.1

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P/T – Car and Camper Trailer	
Overall Length	48.781ft
Overall Width	8.000ft
Overall Body Height	10.098ft
Min Body Ground Clearance	0.755ft
Max Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	21.50°



0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
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Consultants:

Revisions:

No.	Date	Description

COA:

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PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

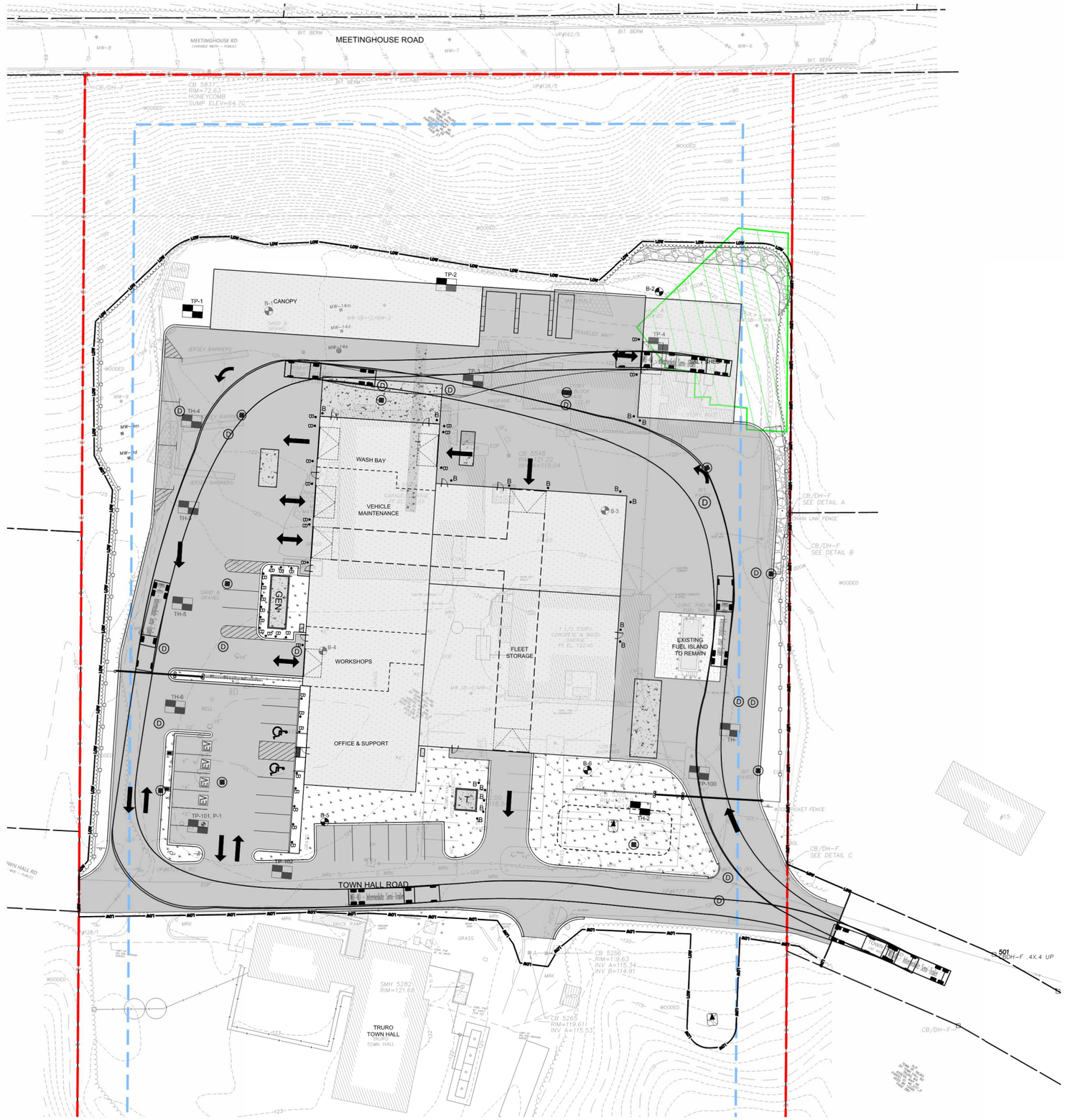
Drawing Title:

TRUCK TURNING PLAN "TRASH COMPACTOR"

Sheet Number:

FIG.2

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
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www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

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Scale: AS NOTED

Date:	10-16-2025
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W&S Project No.:ENG24 - 1552
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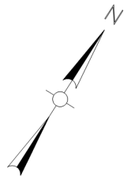
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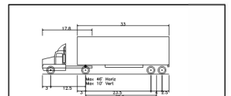
TRUCK TURNING PLAN
WB-40
SALT SHED

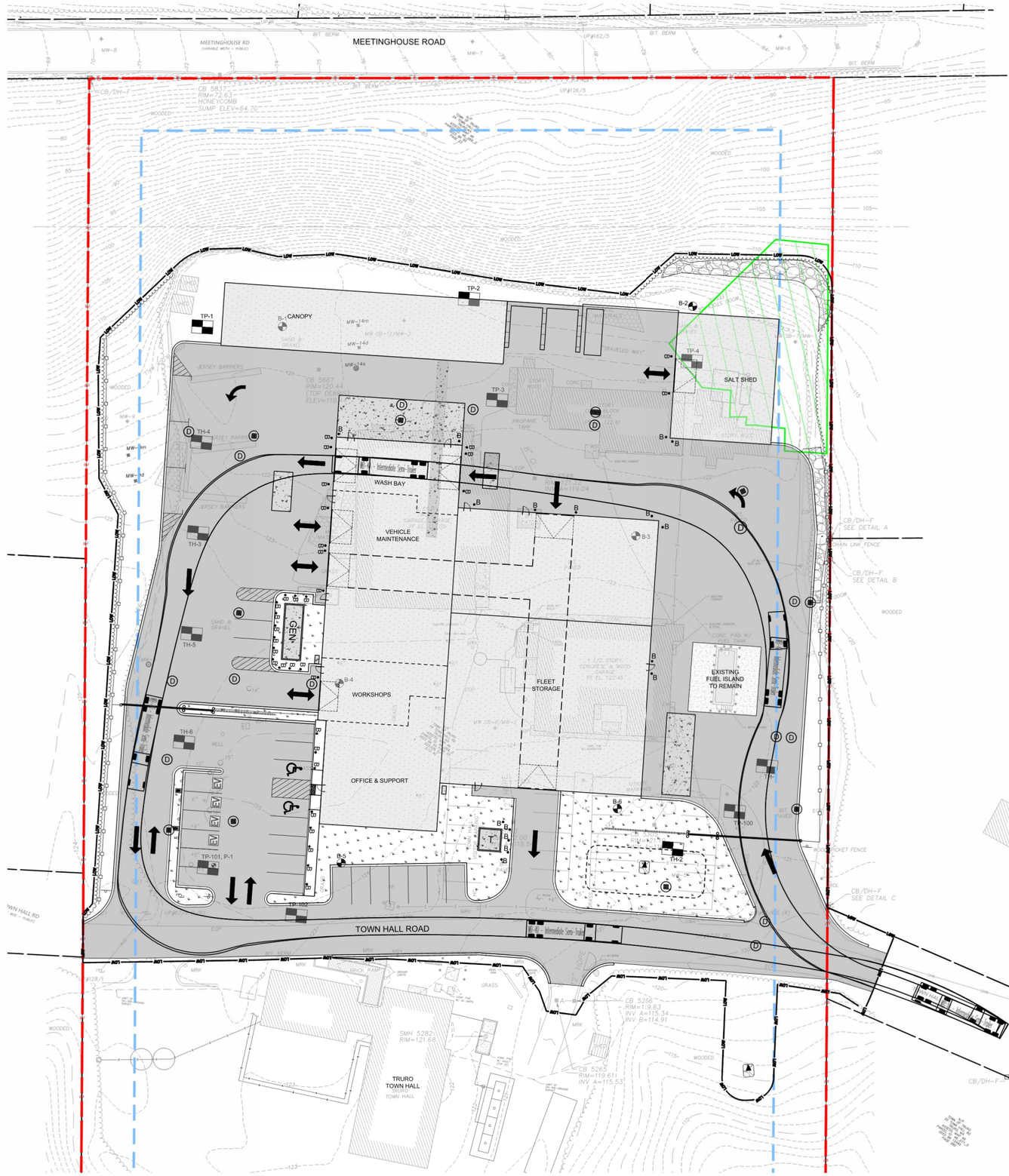
Sheet Number:

FIG.3

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN
WB-40
WASH BAY

Sheet Number:

FIG.4

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Project:

TOWN of TRURO, MA
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Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN (SU-30) THROUGH INTERIOR FLEET MAINTENANCE

Sheet Number:

FIG.5

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Appendix D

Project Cost Estimate

Design Development Cost Estimate

New Department of Public Works Facility

17 Town Hall

Truro, Ma

Prepared by:

TCi Construction Cost Estimating

Post Office Box 1988

North Falmouth, Ma 02556

www.tortoraconsulting.com

p 781-275-5511

Prepared for:

Weston and Sampson

October 28, 2025

New Department of Public Works Facility
Truro, Ma

Design Development Cost Estimate

28-Oct-25

MAIN CONSTRUCTION COST SUMMARY

	Building GSF	$/sf	Estimated Construction Cost
BASE ESTIMATE	21,040	$1,197.01	$25,185,021
TOTAL DD BASE CONSTRUCTION COSTS	**21,040**	**$1,197.01**	**$25,185,021**

Alternates

1. Add 5,000 SF Fleet storage	add	**$1,450,650**
2. Add 4,050 SF Detached Cold Storage building	add	**$1,938,573**

QUALIFICATIONS

This Schematic Design cost estimate was produced from drawings prepared by Weston and Sampson and their design team dated October 4, 2025.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes bid received 1st quarter 2026. Phased construction starting June 2026

Bidding conditions are expected to be chapter 149 public bidding to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures. The project is expected to be bid and construction start there after with one continuous phase.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

All professional fees and insurance
All Furnishings, Fixtures and Equipment not identified
Items identified in the design as Not In Contract (NIC)
Items identified in the design as by others
Special foundations (unless indicated by design engineers)
Utility company back charges, including work required off-site
Work to City streets and sidewalks, (except as noted in this estimate)
Construction or occupancy phasing or off hours' work, (except as noted in this estimate)
Off hours
Ledge & contaminated soils
Building Permit
Temporary trailer rentals and or renovations to vehicle maintenace
Demolition of buildings except vehicle maintenance for temp usage
Sliding entry gates

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*Filed Sub-Bids (includes contingencies)*	*BASE ESTIMATE*	*21,040 $/sf*
DIV. 2 DEMOLITION			
020500 Demolition		$48,000	*$2.28*
024500 Hazardous Material Abatement		$20,000	*$0.95*
DIV. 3 CONCRETE			
033000 Cast-in-Place Concrete		$1,307,685	*$62.15*
DIV. 4 MASONRY			
042000 Unit Masonry - FSB	**$350,817**	$307,734	*$14.63*
DIV. 5 METALS			
055000 Metal Fabrications - FSB	**$269,872**	$236,730	*$11.25*
DIV. 6 WOODS & PLASTICS			
061000 Rough Carpentry		$121,930	*$5.80*
064020 Interior Architectural Woodwork		$33,910	*$1.61*
DIV. 7 THERMAL & MOISTURE PROTECTION			
072100 Thermal Insulation		$103,100	*$4.90*
072700 Air Barriers & Waterproofing - FSB	**$220,511**	$103,655	*$4.93*
074600 Cement Board Siding and Trim		$56,400	*$2.68*
075400 Membrane Roofing		$0	*$0.00*
075450 Through-wall flashing		$0	*$0.00*
077200 Roof Accessories		$8,400	*$0.40*
078410 Penetration Firestopping		$6,312	*$0.30*
079200 Joint Sealants		$89,776	*$4.27*
DIV. 8 DOORS & WINDOWS			
081110 Doors and Frames		$104,900	*$4.99*
083110 Access Doors and Frames		$0	*$0.00*
083310 Overhead Coiling Doors		$214,000	*$10.17*
084110 Aluminum Windows		$51,600	*$2.45*
084500 Aluminum Storefront and Curtainwall		$7,500	*$0.36*
084550 Skylights		$0	*$0.00*
084555 Sunshades		$0	*$0.00*
084600 Translucent Windows		$106,575	*$5.07*
087100 Door Hardware		$63,600	*$3.02*
088000 Glazing		$9,000	*$0.43*
089000 Louvers and Vents		$10,000	*$0.48*
DIV. 9 FINISHES			
092110 Gypsum Board Assemblies		$509,190	*$24.20*
093000 Tiling - FSB	**$31,225**	$27,390	*$1.30*
095100 Acoustical Ceilings - FSB	**$31,920**	$28,000	*$1.33*
096510 Resilient Flooring and Accessories - FSB	**$29,138**	$25,560	*$1.21*
096550 Carpet		$4,800	*$0.23*
097300 Resinous flooring and base		$13,500	*$0.64*
099000 Painting and Coating - FSB	**$176,206**	$154,567	*$7.35*
DIV 10 SPECIALTIES			
101400 Signage		$17,000	*$0.81*
102800 Toilet Accessories		$8,213	*$0.39*
104400 Fire Protection Specialties		$1,500	*$0.07*
106500 Toilet Partitions		$2,900	*$0.14*
108500 Lockers		$19,250	*$0.91*
109400 Screen Partitions		$0	*$0.00*
109500 Fall Arrest		$20,000	*$0.95*
DIV. 11 EQUIPMENT			
113100 Appliances		$0	*$0.00*
118100 Industrial Equipment		$881,225	*$41.88*
DIV. 12 FURNISHINGS			
122110 Horizontal Louver Blinds		$4,800	*$0.23*
DIV. 13 SPECIAL CONSTRUCTION			
13100 Pre-fabricated Metal Building, Mezzanine Steel and Decking		$2,497,198	*$118.69*
13200 Fabric Structure Salt Shed Building		$285,000	*$13.55*

New Department of Public Works Facility
Truro, Ma

Design Development Cost Estimate

28-Oct-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*Filed Sub-Bids (includes contingencies)*	*BASE ESTIMATE*	*21,040 $/sf*
DIV. 21 FIRE SUPPRESSION			
210000 Fire Suppression - FSB	**$605,030**	$530,728	*$25.22*
DIV. 22 PLUMBING			
220000 Plumbing - FSB	**$1,092,348**	$958,200	*$45.54*
DIV. 23 HVAC			
220000 HVAC - FSB	**$3,660,581**	$3,211,036	*$152.62*
DIV. 26 ELECTRICAL			
260000 Electrical - FSB	**$2,178,728**	$1,911,165	*$90.83*
DIV. 31 EARTHWORK			
311000 Site Clearing		$197,270	*$9.38*
312000 Earthwork		$848,390	*$40.32*
312500 Erosion and Sedimentation Controls		$29,000	*$1.38*
315000 Ground Improvements		$0	*$0.00*
DIV. 32 EXTERIOR IMPROVEMENTS			
321216 Asphalt Paving		$379,500	*$18.04*
321213 Portland Cement Concrete Paving		$26,160	*$1.24*
321613 Curbs and Gutters		$37,800	*$1.80*
323100 Site Improvements		$102,150	*$4.86*
329000 Landscaping		$75,000	*$3.56*
DIV. 33 UTILITIES			
331000 On Site Water Distribution		$127,590	*$6.06*
331000 Off Site Well And Water Distribution		$538,750	*$25.61*
333000 Sanitary Sewerage Utilities		$264,100	*$12.55*
334000 Storm Drainage		$584,500	*$27.78*
335000 Gas		$0	*$0.00*
SUBTOTAL DIRECT (TRADE) COST		*$17,332,239*	*$823.78*
GENERAL CONDITIONS, REQUIREMENTS & GL INSURANCE (27 months phased)		$3,240,000	
BONDS	1.8%	$311,980	
GC - OVERHEAD & PROFIT	5%	$1,044,211	
DESIGN AND PRICING CONTINGENCY	7.5%	$1,644,632	
ESCALATION TO 1ST QUARTER 2026 BID	5%	$1,178,653	
OUTER CAPE PREMIUM		included in trades	
TARIFFS COST INCREASE ALLOWANCE	2.5%	$433,306	
TOTAL DD BASE CONSTRUCTION COSTS		**$25,185,021**	*$1,197.01*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	GROSS FLOOR AREA CALCULATION						
	Base footprint			**18,680**			
	Mezzanine			**2,360**			
	TOTAL GROSS FLOOR AREA (including mezzanine)				**21,040** ***gsf***		
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings						
03300	Formwork	**900**	sf	18.00	16,200		
03300	Re-bar	**3,180**	lbs	2.50	7,950		
03300	Concrete material	**53**	cy	190.00	10,070		
03300	Placing concrete	**53**	cy	40.00	2,120		
	Foundation walls						
03300	Formwork	**9,912**	sf	18.00	178,416		
03300	Re-bar	**17,340**	lbs	2.50	43,350		
03300	Concrete material	**289**	cy	190.00	54,910		
03300	Placing concrete	**289**	cy	40.00	11,560		
	3' -4" Back up knee walls						
03300	Formwork	**2,470**	sf	18.00	44,460		
03300	Re-bar	**2,040**	lbs	2.50	5,100		
03300	Concrete material	**34**	cy	190.00	6,460		
03300	Placing concrete	**34**	cy	40.00	1,360		
	4' -8" Back up knee walls						
03300	Formwork	**713**	sf	18.00	12,834		
03300	Re-bar	**600**	lbs	2.50	1,500		
03300	Concrete material	**10**	cy	190.00	1,900		
03300	Placing concrete	**10**	cy	40.00	400		
	5' -4" Back up knee walls						
03300	Formwork	**714**	sf	18.00	12,852		
03300	Re-bar	**600**	lbs	2.50	1,500		
03300	Concrete material	**10**	cy	190.00	1,900		
03300	Placing concrete	**10**	cy	40.00	400		
	F8 Column footings						
03300	Formwork	**720**	sf	18.00	12,960		
03300	Re-bar	**6,720**	lbs	2.50	16,800		
03300	Concrete material	**112**	cy	190.00	21,280		
03300	Placing concrete	**112**	cy	40.00	4,480		
	F10 Column footings						
03300	Formwork	**210**	sf	18.00	3,780		
03300	Re-bar	**2,460**	lbs	2.50	6,150		
03300	Concrete material	**41**	cy	190.00	7,790		
03300	Placing concrete	**41**	cy	40.00	1,640		
	F12 Column footings						
03300	Formwork	**96**	sf	18.00	1,728		
03300	Re-bar	**1,320**	lbs	2.50	3,300		
03300	Concrete material	**22**	cy	190.00	4,180		
03300	Placing concrete	**22**	cy	40.00	880		
	F14 Column footings						
03300	Formwork	**62**	sf	18.00	1,116		
03300	Re-bar	**1,020**	lbs	2.50	2,550		
03300	Concrete material	**17**	cy	190.00	3,230		
03300	Placing concrete	**17**	cy	40.00	680		
	F12x14 Column footings						
03300	Formwork	**540**	sf	18.00	9,720		
03300	Re-bar	**8,820**	lbs	2.50	22,050		
03300	Concrete material	**147**	cy	190.00	27,930		
03300	Placing concrete	**147**	cy	40.00	5,880		
	Piers						
03300	Formwork	**320**	sf	18.00	5,760		
03300	Re-bar	**1,500**	lbs	2.50	3,750		
03300	Concrete material	**25**	cy	190.00	4,750		
03300	Placing concrete	**25**	cy	40.00	1,000		
	SUBTOTAL					588,626	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	A1030 LOWEST FLOOR CONSTRUCTION						
	8" Slab on grade						
03300	Vapor barrier	**13,500**	sf	2.00	27,000		
03300	Reinforcing	**13,500**	sf	2.50	33,750		
03300	Concrete - 8" thick	**374**	cy	190.00	71,060		
03300	Placing concrete	**374**	cy	45.00	16,830		
03300	Finishing and curing concrete	**13,500**	sf	1.65	22,275		
03300	Control joints - saw cut	**13,500**	sf	0.50	6,750		
	6" Slab on grade						
03300	Vapor barrier	**4,400**	sf	2.00	8,800		
03300	Reinforcing	**4,400**	sf	1.50	6,600		
03300	Concrete - 6" thick	**90**	cy	190.00	17,100		
03300	Placing concrete	**90**	cy	45.00	4,050		
03300	Finishing and curing concrete	**4,400**	sf	1.65	7,260		
03300	Control joints - saw cut	**4,400**	sf	0.50	2,200		
	Miscellaneous						
07210	R10 - 25 PSI Rigid insulation at 4' horizontal	**520**	sf	5.00	2,600		
07210	R10 - 60 PSI Rigid insulation at 4' horizontal	**1,640**	sf	6.00	9,840		
07210	R15 - 60 PSI rigid insulation vertical	**3,320**	sf	6.00	19,920		
07210	R15 - 60 PSI rigid insulation underslab at maintenance	**3,600**	sf	6.00	21,600		
07270	Dampproofing of foundation walls	**3,720**	sf	4.00	14,880		
03300	4' haunch under CM walls	**40**	cy	350.00	14,000		
03300	Wash bay sump	**1**	ea	12,000.00	12,000		
03300	Fluid room sump	**1**	ea	5,000.00	5,000		
03300	Curbs, equipment Pads and supports	**1**	ls	7,500.00	7,500		
03300	Outer cape premium	**1**	ls	91,964.10	91,964		
	SUBTOTAL					422,979	
	TOTAL - FOUNDATIONS						***$1,011,605***
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Mezzanine Floor Structure - Steel:						
13100	W columns, beam, bracing, HSS tubes, L angles and Channels	**14**	tons	6,000.00	84,000		
	Mezzanine Floor Structure						
13100	Floor deck - 1 1/2'' deck	**2,360**	sf	5.50	12,980		
03300	WWF reinforcement	**2,360**	sf	2.00	4,720		
03300	2" Concrete Fill to metal deck	**29**	cy	195.00	5,655		
03300	Place and finish concrete	**2,360**	sf	2.00	4,720		
	Miscellaneous						
05500	Misc metals - overall added cost for FSB pricing	**21,040**	sf	6.00	126,240		
07841	Firestopping	**21,040**	sf	0.30	6,312		
13100	Outer cape premium	**1**	ls	9,698.00	9,698		
	SUBTOTAL					254,325	
	B1020 ROOF CONSTRUCTION						
	Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
13100	Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**18,680**	sf	115.00	2,148,200		
13100	Entry canopy structure and roof, gutters and downspouts	**200**	sf	125.00	25,000		
13100	Outer cape premium	**1**	ls	217,320.00	217,320		
	Miscellaneous						
06100	Entry canopy soffits - 1x4 T&G teak wd ceiling	**260**	sf	40.00	10,400		
05500	Overhead door openings	**6**	ea	1,500.00	9,000		
05500	Window openings	**240**	sf	12.00	2,880		
05500	Translucent window openings	**735**	sf	12.00	8,820		
	SUBTOTAL					2,421,620	
	TOTAL - SUPERSTRUCTURE						***$2,675,945***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B20 EXTERIOR CLOSURE						
	B2010 EXTERIOR WALLS						
	Admin exterior wall back-up						
09211	6" Metal stud, sheathing	**1,820**	sf	22.00	40,040		
09211	5/8" int gwb	**1,820**	sf	8.00	14,560		
09900	Paint	**1,820**	sf	2.00	3,640		
	CMU & Fiber cement						
07460	Fiber cement board lap siding	**1,410**	sf	40.00	56,400		
04200	CMU veneer	**2,050**	sf	55.00	112,750		
07270	Air barrier	**3,460**	sf	10.00	34,600		
07210	Rigid insulation	**2,050**	sf	6.00	12,300		
07270	Outer cape premium	**1**	ls	11,275.00	11,275		
	SUBTOTAL					285,565	
	B2020 WINDOWS						
	Storefront and windows						
84600	Translucent windows	**735**	sf	145.00	106,575		
84110	W - Aluminum windows (triple glazed)	**240**	sf	215.00	51,600		
08900	Louvers	**1**	ls	10,000.00	10,000		
07920	Backer rod & double sealant	**618**	lf	12.00	7,416		
06100	Wood blocking at openings	**618**	lf	10.00	6,180		
07920	Waterproofing - overall added cost for FSB pricing	**21,040**	sf	3.50	73,640		
	SUBTOTAL					255,411	
	B2030 EXTERIOR DOORS						
	Overhead doors						
08331	18x16 OHD	**2**	ea	28,800.00	57,600		
08331	16x16 OHD	**3**	ea	25,600.00	76,800		
08331	14x14 OHD	**1**	ea	19,600.00	19,600		
08331	16x16 OHD poly	**2**	ea	30,000.00	60,000		
	Man Doors						
08111	HM doors with half light/HM frame 3x7 HM	**9**	ea	2,500.00	22,500		
08111	HM flush doors/frame 6x7 HM	**1**	ea	3,500.00	3,500		
84500	CW-1- Alum entry and side/tran triple glazed	**1**	ea	7,500.00	7,500		
08710	Hardware	**12**	lvs	1,500.00	18,000		
	Misc						
09900	Paint	**12**	ea	200.00	2,400		
07920	Backer rod & double sealant	**360**	lf	12.00	4,320		
06100	Wood blocking at openings	**360**	lf	10.00	3,600		
	SUBTOTAL					275,820	
	TOTAL - EXTERIOR CLOSURE						***$816,796***
	B30 ROOFING						
	B3010 ROOF COVERINGS						
	All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
	SUBTOTAL					-	
	B3020 ROOF OPENINGS						
07720	Roof hatch and ladder	**1**	ea	6,750.00	6,750		
07720	Roof ladders	**1**	ea	1,650.00	1,650		
10950	Fall arrest system allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					28,400	
	TOTAL - ROOFING						**$28,400**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C10 INTERIOR CONSTRUCTION						
	C1010 PARTITIONS						
09211	1B Fur-out	**1,992**	sf	14.00	27,888		
09211	2B Fur-out	**1,332**	sf	15.00	19,980		
09211	3A GWB partition	**4,298**	sf	20.00	85,960		
09211	4B 2H GWB rated partition	**320**	sf	25.00	8,000		
09211	6A at Mezz	**1,888**	sf	22.00	41,536		
04200	8A 2HR walls	**1,316**	sf	36.00	47,376		
04200	8A CMU walls at FP rm	**420**	sf	34.00	14,280		
04200	8 CMU wall	**96**	sf	34.00	3,264		
04200	8A CMU walls under mezz	**1,617**	sf	34.00	54,978		
04200	8A CMU wall at wash equip	**840**	sf	34.00	28,560		
	18 - Wash bay separation walls						
04200	8" CMU wall to 8'	**480**	sf	35.00	16,800		
09211	6" metal stud and gwb each side	**1,200**	sf	22.00	26,400		
	F1 - Fire separation walls						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,600**	sf	25.00	40,000		
07210	3" closed cell spray foam	**1,600**	sf	10.00	16,000		
04200	4" CMU behind knee wall	**440**	sf	30.00	13,200		
07210	2" rigid behind knee wall	**440**	sf	6.00	2,640		
07270	AVB	**440**	sf	10.00	4,400		
	F2 - Fire separation walls						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,400**	sf	25.00	35,000		
07210	3" closed cell spray foam	**1,400**	sf	10.00	14,000		
07210	2" rigid behind knee wall	**700**	sf	6.00	4,200		
07270	AVB	**700**	sf	10.00	7,000		
	Misc						
06100	Rough blocking	**800**	lf	10.00	8,000		
09211	Outer cape premium - drywall	**1**	ls	28,476.40	28,476		
04200	Outer cape premium - masonry	**1**	ls	16,525.80	16,526		
	SUBTOTAL					564,464	
	C1020 INTERIOR DOORS						
	Doors and Frames						
08111	Single doors and frames	**26**	lvs	1,800.00	46,800		
08111	Double doors and frames	**6**	pr	3,200.00	19,200		
	Hardware						
08710	Hardware	**38**	lvs	1,200.00	45,600		
	Misc						
08800	Glazing to doors and frames	**180**	sf	50.00	9,000		
08111	Door sidelights	**12**	ea	800.00	9,600		
08111	HM1 window frames	**2**	ea	1,650.00	3,300		
09900	Paint HM frames	**40**	ea	200.00	8,000		
07920	Sealants & caulking	**40**	ea	110.00	4,400		
12211	Interior blinds	**6**	ea	200.00	1,200		
	SUBTOTAL					147,100	
	C1030 SPECIALTIES / MILLWORK						
06402	Restroom vanities	**10**	lf	475.00	4,750		
06402	Window sills	**64**	lf	65.00	4,160		
06402	Kitchen wall, base cabinets & counters	**20**	lf	700.00	14,000		
06402	Admin copy/file - base and wall cabinet & counter	**5**	lf	700.00	3,500		
06402	Misc millwork and finish carpentry	**1**	ls	7,500.00	7,500		
10140	Tack/white boards	**2**	ea	500.00	1,000		
	Lockers						
10850	Lockers	**16**	ea	950.00	15,200		
10850	Lockers benches	**1**	ea	750.00	750		
10850	ADA benches	**2**	ea	1,650.00	3,300		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Restrooms						
10650	Toilet partitions HC	**1**	ea	1,600.00	1,600		
10650	Toilet partitions Reg	**1**	ea	1,300.00	1,300		
10280	Soap disp	**4**	ea	30.00	120		
10280	Mirror	**4**	ea	285.00	1,140		
10280	Robe hook	**8**	ea	30.00	240		
10280	18" Grab bar	**3**	ea	150.00	450		
10280	42" Grab bar	**6**	ea	150.00	900		
10280	Shower seat and bars	**2**	ea	285.00	570		
10280	Wet gear hooks	**8**	ea	65.00	520		
10280	SRWR	**3**	ea	250.00	750		
10280	TTD	**4**	ea	110.00	440		
10280	SND	**4**	ea	165.00	660		
10280	PTD	**3**	ea	330.00	990		
10280	Hooks	**8**	ea	40.00	320		
10280	Shower curtain and rods	**3**	ea	276.00	828		
10280	Jan closet MB	**1**	ea	285.00	285		
	Miscellaneous						
06100	Plywood backers, locker bases and misc	**650**	sf	5.00	3,250		
10440	Fire extinguisher cabinets	**6**	ea	250.00	1,500		
10140	Town seal/ exterior signage	**1**	ls	8,500.00	8,500		
10140	Interior signage	**1**	ls	7,500.00	7,500		
	SUBTOTAL					86,023	
	TOTAL - INTERIOR CONSTRUCTION						***$797,587***
	C20 STAIRCASES						
	C2010 STAIR CONSTRUCTION						
05500	Mezzanine Stairs	**1**	ea	17,500.00	17,500		
05500	Mezzanine railings	**90**	lf	185.00	16,650		
05500	Gates	**1**	ea	1,250.00	1,250		
05500	Ladders	**1**	ea	1,250.00	1,250		
03300	Concrete material in pan infill	**1**	ea	1,200.00	1,200		
	SUBTOTAL					37,850	
	C2020 STAIR FINISHES						
09900	Paint to mezzanine stairs	**1**	ea	3,850.00	3,850		
09900	Paint to mezzanine rails/gates/ladder	**100**	lf	35.00	3,500		
	SUBTOTAL					7,350	
	TOTAL - STAIRCASES						***$45,200***
	C30 INTERIOR FINISHES						
	C3010 WALL FINISHES						
09900	Paint to GWB	**23,536**	sf	1.50	35,304		
09900	Paint to interior CMU	**9,498**	sf	2.50	23,745		
09300	Wall tile	**750**	sf	33.00	24,750		
06100	FRP to janitor closet	**200**	sf	15.00	3,000		
06100	Wash bay - 1/2" PVC panels	**3,500**	sf	25.00	87,500		
07270	Wash bay - AVB	**3,500**	sf	9.00	31,500		
09211	Exterior wall framing and column wraps	**2,850**	sf	18.00	51,300		
	SUBTOTAL					257,099	
	C3020 FLOOR FINISHES						
09651	LVT	**1,500**	sf	14.00	21,000		
09665	Carpet tile	**800**	sf	6.00	4,800		
09730	RF - Resinous Flooring	**750**	sf	18.00	13,500		
09900	SC - Sealed Concrete	**17,910**	sf	1.50	26,865		
09300	Tile	**80**	sf	33.00	2,640		
09651	Rubber base	**760**	lf	6.00	4,560		
09900	Line stripping	**600**	sf	5.00	3,000		
	SUBTOTAL					76,365	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C3030 CEILING FINISHES						
09510	A1 - ACT ceilings; 2' x 2'	**2,000**	sf	11.00	22,000		
09510	A2 - ACT ceilings; 2' x 2'	**500**	sf	12.00	6,000		
09211	G1 - GWB ceiling	**400**	sf	18.00	7,200		
09211	G2 - GWB ceiling	**475**	sf	22.00	10,450		
09211	G3 - GWB ceiling	**560**	lf	125.00	70,000		
09211	Drop gwb soffits	**40**	lf	60.00	2,400		
09900	Paint to GWB ceilings and soffits	**3,275**	sf	2.00	3,800		
09900	Exposed prefab metal columns and beams	**16,185**	sf	2.50	40,463		
	SUBTOTAL					162,313	
	TOTAL - INTERIOR FINISHES						***495,777***
	D20 PLUMBING						
	D20 PLUMBING						
	Equipment						
220000	Water Meter	**1**	ea	2,950.00	2,950		
220000	Backflow Preventor Assembly	**1**	ea	6,045.00	6,045		
220000	Water Pressure Regulator	**1**	ea	1,170.00	1,170		
220000	Heat Pump Water Heaters	**1**	ea	15,112.50	15,113		
220000	Hot Water Storage Tank	**1**	ea	7,020.00	7,020		
220000	Recirc Pump	**1**	ea	1,235.00	1,235		
220000	Expansion Tank	**1**	ea	455.00	455		
220000	Thermostatic Mixing Valve	**2**	ea	2,710.50	5,421		
220000	Oil/Water Seperator	**1**	ea	11,830.00	11,830		
220000	Air Compressor w/ Dryer	**1**	ea	31,083.00	31,083		
220000	Trap Primers	**6**	ea	425.00	2,550		
220000	Make Up Water Station	**1**	ea	1,140.00	1,140		
220000	Plumbing Specialties	**1**	ls	11,398.70	11,399		
220000	Equipment Connections	**18**	ea	845.00	15,210		
	Fixtures						
220000	Water Closets	**10**	ea	1,413.50	14,135		
220000	Urinal	**2**	ea	1,216.54	2,433		
220000	Lavatory	**10**	ea	1,292.50	12,925		
220000	Showers	**4**	ea	2,035.00	8,140		
220000	Sink - Mop	**2**	ea	1,292.50	2,585		
220000	Kitchen Sink	**1**	ea	1,527.54	1,528		
220000	Kitchen Sink Garbage Disposal	**1**	ea	780.00	780		
220000	Hand Sink	**1**	ea	1,235.00	1,235		
220000	Shop Sink	**1**	ea	4,810.00	4,810		
220000	Emergency Shower / Eyewash	**1**	ea	3,918.75	3,919		
220000	Bottle Fill Station	**1**	ea	2,887.50	2,888		
220000	Wall Hydrant	**6**	ea	357.50	2,145		
220000	Hose Bibbs	**3**	ea	258.50	776		
220000	Hose Stations	**4**	ea	884.00	3,536		
220000	Ice Machine Box	**1**	ea	181.50	182		
220000	Outlet Box	**1**	ea	287.64	288		
220000	Compressed Air Outlets	**12**	ea	294.87	3,538		
220000	Floor Drains	**9**	ea	654.50	5,891		
220000	Floor Sinks	**2**	ea	808.50	1,617		
220000	(2) Trench Drains	**33**	lf	158.50	5,231		
220000	Trench Drain Catch Basin	**1**	ea	1,365.00	1,365		
220000	Clean Outs	**1**	ea	262.00	262		
220000	Vent Thru Roof	**12**	ea	290.00	3,480		
220000	Hose Connection	**5**	ea	475.00	2,375		
220000	Compressed Air Equipment Connections	**5**	ea	475.00	2,375		
220000	Fixture Rough Ins	**40**	ea	624.00	24,960		
	Piping						
220000	Water Service	**25**	lf	168.32	4,208		
220000	Water - 1/2"	**600**	lf	39.00	23,400		
220000	Water - 3/4"	**500**	lf	42.25	21,125		
220000	Water - 1"	**300**	lf	48.75	14,625		
220000	Water - 1 1/4"	**150**	lf	53.95	8,093		
220000	Water - 1 1/2"	**120**	lf	59.80	7,176		
220000	Water - 2 1/2"	**200**	lf	71.50	14,300		
220000	UGSan - 2"	**70**	lf	94.25	6,598		
220000	UGSan - 4"	**200**	lf	130.00	26,000		
220000	San - 2"	**180**	lf	94.25	16,965		
220000	San - 3"	**110**	lf	123.50	13,585		
220000	San - 4"	**340**	lf	130.00	44,200		
220000	Vent - 1 1/2"	**60**	lf	76.05	4,563		
220000	Vent - 2"	**120**	lf	88.40	10,608		
220000	Vent - 2 1/2"	**60**	lf	94.25	5,655		
220000	Vent - 3"	**140**	lf	100.10	14,014		
220000	UGOil Vent - 2"	**60**	lf	113.75	6,825		
220000	UGOil Vent - 4"	**130**	lf	140.40	18,252		
220000	Oil Vent - 2"	**50**	lf	94.25	4,713		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
220000	UG Oil Waste - 4"	**600**	lf	140.40	84,240		
220000	UG Oil Waste - 6"	**300**	lf	166.40	49,920		
220000	Compressed Air- 1/2"	**120**	lf	41.60	4,992		
220000	Compressed Air - 3/4"	**800**	lf	45.50	36,400		
220000	Compressed Air - 1"	**150**	lf	51.35	7,703		
220000	Compressed Air - 1 1/2"	**150**	lf	58.50	8,775		
220000	Compressed Air - 2"	**100**	lf	71.50	7,150		
220000	Insulation	**1,895**	lf	13.98	26,492		
	Trade Requirements						
220000	Excavation & Backfill	**400**	cy	49.87	19,948		
220000	Project Supervision	**600**	hrs	130.00	78,000		
220000	Coordination	**400**	hrs	130.00	52,000		
220000	Outer cape premium	**1**	ls	86,654.50	86,655		
	SUBTOTAL					953,200	
	TOTAL - PLUMBING						***$953,200***
	D30 HVAC						
	D30 HVAC						
	Equipment						
230000	(2) Ground Source Geothermal Heat Pumps - GSHP 1 thru 2	**60**	tons	1,982.50	118,950		
230000	Geothermal Heat Exchanger - HX 1	**1**	ea	14,040.00	14,040		
230000	Geothermal Pumps - P 1A & B	**2**	ea	33,540.00	67,080		
230000	VFD - Geothermal Pumps P1 A & B	**2**	ea	26,520.00	53,040		
230000	Primary Loop Pumps - P 2A & B	**2**	ea	3,770.00	7,540		
230000	VFD - Primary Loop Pumps - P 2A & B	**2**	ea	2,080.00	4,160		
230000	Secondary Loop Pumps - P 3A & B	**2**	ea	3,282.50	6,565		
230000	VFD - Secondary Loop Pumps - P 3A & B	**2**	ea	3,120.00	6,240		
230000	Geothermal Pumps - P 4A & B	**2**	ea	5,915.00	11,830		
230000	VFD - Geothermal Pumps - P 4A & B	**2**	ea	3,120.00	6,240		
230000	Air Seperator - Geothermal	**2**	ea	5,460.00	10,920		
230000	Expansion Tank - Geothermal	**2**	ea	8,053.50	16,107		
230000	Buffer Tank - Geothermal	**1**	ea	17,290.00	17,290		
230000	Bypass Chemical Shot Feeder - Geothermal	**1**	ea	2,750.00	2,750		
230000	Glycol Feeder - Geothermal	**2**	ea	10,465.00	20,930		
230000	Glycol - Geothermal	**220**	gal	33.50	7,370		
230000	Radiant Manifold - Fleet Maintenance	**3**	ea	5,070.00	15,210		
230000	Radiant Floor Coverage - Fleet Maintenance Bay	**8,696**	sf	20.00	173,920		
230000	(1) Energy Recovery Unit - ERU 1	**2,500**	cfm	9.25	23,125		
230000	(2) Heat Recovery Unit - HRU 1 & 2	**4,275**	cfm	14.50	61,988		
230000	(1) Energy Recovery Unit - ERU 1	**750**	cfm	8.50	6,375		
230000	Fan Coil Units	**10**	ea	5,590.00	55,900		
230000	(1) Heating & Ventilation - HV 1	**2,500**	cfm	5.00	12,500		
230000	Gravity Ventilators	**6**	ea	5,785.00	34,710		
230000	(3) Louvers & Dampers - Outside & Exhaust	**20**	sf	205.00	4,100		
230000	Ductless Splt Heat Pump - HP/CU	**2**	ea	3,965.00	7,930		
230000	Exhaust Fan - EF 1	**3**	ea	4,940.00	14,820		
230000	Exhaust Fan - EF 2A	**3**	ea	3,120.00	9,360		
230000	Exhaust Fan - EF 2B	**3**	ea	2,145.00	6,435		
230000	Exhaust Fan - EF 3A	**1**	ea	5,980.00	5,980		
230000	Exhaust Fan - EF 3B & 3C	**2**	ea	7,215.00	14,430		
230000	Ceiling Fans	**3**	ea	7,865.00	23,595		
230000	Unit Heaters - UH 1 thru UH 5	**5**	ea	1,495.00	7,475		
230000	Unit Heaters - 6A thru 6C	**4**	ea	3,380.00	13,520		
230000	RGDs	**100**	ea	292.00	29,200		
	Geothermal Well Field						
230000	Geothermal Test Well				by others		
230000	Geothermal Wells	**15**	ea	16,500.00	247,500		
230000	Geothermal Manifold	**1**	ea	15,860.00	15,860		
230000	Geothermal Horizontal Piping to Manifold	**1,200**	lf	49.40	59,280		
230000	Geothermal Horizontal Piping from Manifold to Geo Mechanical Room	**400**	lf	110.50	44,200		
230000	Sediment and Water Handling	**1**	ls	20,000.00	20,000		
	Sheet Metal						
230000	Galvanized	**26,300**	lbs	17.35	456,305		
230000	Sheet Metal Specialties	**1**	ls	45,630.50	45,631		
230000	Equipment Connections	**1**	ls	14,040.00	14,040		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Piping						
230000	Dual Temp Water from GSHP to Equipment	**3,000**	lf	123.50	370,500		
230000	Hot Water	**360**	lf	65.00	23,400		
230000	Refrigerant Line Sets	**2**	ea	1,332.50	2,665		
230000	Condensate	**300**	lf	42.90	12,870		
230000	Geothermal Piping at GSHP Mechanical Room	**200**	lf	49.40	9,880		
230000	Dual Temp Specialties	**1**	ls	37,050.00	37,050		
230000	Hot Water Specialties	**1**	ls	2,340.00	2,340		
230000	Refrigerant Specialties	**1**	ls	666.25	666		
230000	Geothermal Specialties	**1**	ls	2,470.00	2,470		
230000	Equipment Connections	**1**	ls	22,750.00	22,750		
	Insulation						
230000	Sheet Metal - Galvi	**17,884**	sf	4.35	77,795		
230000	Piping	**3,860**	lf	19.85	76,621		
	Controls						
230000	ATC	**21,040**	sf	7.75	163,060		
230000	CO2/NO2 Monitoring	**21,040**	sf	3.00	63,120		
230000	BMS Network	**1**	ls	30,700.00	30,700		
230000	Network Integration	**1**	ls	10,150.00	10,150		
	Commissioning						
230000	Start Up	**280**	hrs	130.00	36,400		
230000	Testing, Adjusting, & Balancing	**320**	hrs	135.00	43,200		
230000	3rd Party Cx Assist	**240**	hrs	140.00	33,600		
	Trade Requirements						
230000	Project Supervision	**400**	hrs	130.00	52,000		
230000	Coordination	**200**	hrs	130.00	26,000		
230000	Crane	**1**	ls	12,500.00	12,500		
230000	Rigging	**80**	hrs	130.00	10,400		
230000	Outer cape premium	**1**	ls	291,457.80	291,458		
	SUBTOTAL					3,206,036	
	TOTAL - HVAC						***$3,206,036***
	D40 FIRE PROTECTION						
	D40 FIRE PROTECTION						
210000	FP service equipment, valves, compressors and misc	**1**	ls	20,000.00	20,000		
210000	Mains, branch and heads	**21,040**	sf	12.00	252,480		
210000	500 GMP Fire pump, 7 GMP jockey and turbine vault	**1**	ls	110,000.00	110,000		
210000	30,000 gal tank and piping assembly	**1**	ls	85,000.00	85,000		
210000	Hydraulic calculations, coordination and testing	**1**	ls	15,000.00	15,000		
210000	Outer cape premium	**1**	ls	48,248.00	48,248		
	SUBTOTAL					530,728	
	TOTAL - FIRE PROTECTION						***$530,728***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	D50 ELECTRICAL						
	D50 ELECTRICAL						
	Light Fixtures						
260000	Type LR22	**9**	ea	410.00	3,690		
260000	Type LS4	**8**	ea	320.00	2,560		
260000	Type LS8	**5**	ea	640.00	3,200		
260000	Type LR4	**6**	ea	615.00	3,690		
260000	Type LR6	**4**	ea	925.00	3,700		
260000	Type LR8	**4**	ea	1,200.00	4,800		
260000	Type LS4H	**1**	ea	340.00	340		
260000	Type LS8H	**29**	ea	580.00	16,820		
260000	Type LSV8	**9**	ea	580.00	5,220		
260000	Type LP1 Hi Bay	**20**	ea	425.00	8,500		
260000	Type LP8	**1**	ea	1,285.00	1,285		
260000	Type LP10	**3**	ea	1,550.00	4,650		
260000	Type RC1	**5**	ea	400.00	2,000		
260000	Type RC2	**8**	ea	400.00	3,200		
260000	Type RSH	**3**	ea	410.00	1,230		
260000	Exit	**14**	ea	400.00	5,600		
260000	Type SL3 Exter Wallpack	**8**	ea	475.00	3,800		
260000	Type SL4 Exter Wallpack	**10**	ea	1,000.00	10,000		
260000	Type UC	**12**	lf	130.00	1,560		
260000	Type LWS	**44**	lf	165.00	7,260		
260000	Addressable Luminaire Module	**115**	ea	90.00	10,350		
260000	Emergency Battery Ballast	**42**	ea	150.00	6,300		
	Branch Circuitry						
260000	3/4" Emt, 4#12	**5,389**	lf	20.00	107,780		
260000	MC Cable	**3,592**	lf	8.00	28,736		
260000	3/4" Emt, 4#10	**120**	lf	20.00	2,400		
260000	1" Emt, 4#8	**100**	lf	28.00	2,800		
260000	Plenum Cable	**2,770**	lf	1.50	4,155		
260000	Plug Load Controller Xmitters	**1**	ls	4,600.00	4,600		
260000	Core for Poke-Thru's	**8**	ea	55.00	440		
260000	Switches	**1**	ea	100.00	100		
260000	OS, VS Power Pack	**22**	ea	200.00	4,400		
260000	Lighting Wall Station L	**29**	ea	245.00	7,105		
260000	Master Lighting Wall Station M	**9**	ea	700.00	6,300		
260000	Occupancy Sensor clg	**27**	ea	275.00	7,425		
260000	Occupancy Sensor HB clg	**16**	ea	300.00	4,800		
260000	Duplex Receptacles	**31**	ea	100.00	3,100		
260000	Junc Boxes, Misc	**16**	ea	75.00	1,200		
260000	Receptacles GFI	**7**	ea	120.00	840		
260000	Receptacles Quad	**4**	ea	165.00	660		
260000	Receptacles I/O Module	**34**	ea	135.00	4,590		
260000	Receptacles Quad, I/O Module	**6**	ea	245.00	1,470		
260000	Floor Power Outlet, poke-thru	**4**	ea	440.00	1,760		
260000	Cond Pump Conn	**10**	ea	175.00	1,750		
260000	Receptacles GFI WP	**19**	ea	275.00	5,225		
260000	Receptacles 20/2A	**3**	ea	110.00	330		
260000	Receptacles 20/2A Tw Lk	**2**	ea	120.00	240		
260000	Receptacles Cord/Reel - Allow	**16**	ea	600.00	9,600		
260000	EPO	**6**	ea	245.00	1,470		
260000	Manual Snap Switch Starter, 120v	**35**	ea	200.00	7,000		
260000	30 Amp Receptacle	**3**	ea	145.00	435		
260000	50 Amp Receptacle	**1**	ea	220.00	220		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Power Circuitry						
260000	1/2" Emt, 2#14	**330**	lf	10.00	3,300		
260000	3/4" Emt, 4#12	**1,560**	lf	12.00	18,720		
260000	3/4" Emt, 2#18	**180**	lf	10.00	1,800		
260000	3/4" Emt, 4#10	**3,600**	lf	13.00	46,800		
260000	1" Emt, 4#8	**100**	lf	18.00	1,800		
260000	1" Emt, 4#6	**200**	lf	22.00	4,400		
260000	1 1/4" Emt, 4#4	**400**	lf	30.00	12,000		
260000	1 1/4" Emt, 4#2	**80**	lf	36.00	2,880		
260000	1 1/2" Emt, 4#1	**50**	lf	42.00	2,100		
260000	2" Emt, 4 3/0	**170**	lf	60.00	10,200		
260000	3" Emt, 4 350Mcm	**30**	lf	110.00	3,300		
260000	3 1/2" Emt, 4 500 Mcm	**30**	lf	145.00	4,350		
260000	4" Emt, 4 600 Mcm	**80**	lf	175.00	14,000		
260000	3/4" Rigid, 4#10	**100**	lf	25.00	2,500		
260000	2" Rigid, 4 1/0	**30**	lf	75.00	2,250		
260000	1" Pvc, 4#6 UG	**280**	lf	16.00	4,480		
260000	1" EMT Cdt. Future PV	**100**	lf	12.00	1,200		
260000	4" EMT Cdt. Future PV	**700**	lf	38.00	26,600		
260000	PV Power Pullbox, WP	**2**	ea	470.00	940		
260000	PV Comm Pullbox, WP	**2**	ea	275.00	550		
	Lightning Protection & Grounding						
260000	Lightning Protection Allowance	**1**	ls	20,000.00	20,000		
260000	Service Grounding	**1**	ls	4,500.00	4,500		
260000	MDF Grounding	**1**	ls	1,500.00	1,500		
	Power Equipment						
260000	100 Amp Panel Board	**4**	ea	4,200.00	16,800		
260000	225 Amp Panel Board	**9**	ea	6,250.00	56,250		
260000	225 Amp Panel Board, 2-Section	**2**	ea	12,000.00	24,000		
260000	800 Amp Distr Board	**1**	ea	20,000.00	20,000		
260000	1000 Amp Main Switchboard	**1**	ls	70,000.00	70,000		
260000	MMU Metering Cabinet	**1**	ea	8,400.00	8,400		
260000	CT's for MMU	**11**	ea	830.00	9,130		
260000	Lighting Control Panel - Allow	**1**	ea	5,400.00	5,400		
260000	SPD @ MDB	**1**	ea	2,700.00	2,700		
260000	SPD @ Panel	**18**	ea	1,000.00	18,000		
260000	Shunt Trip Adder	**3**	ea	450.00	1,350		
260000	30 Kva Transformer	**5**	ea	6,800.00	34,000		
260000	112 Kva Transformer	**2**	ea	11,000.00	22,000		
260000	Future PV Disc 800A	**1**	ea		-		
260000	Future PV Meter 800A	**1**	ea		-		
	Emergency Power						
260000	400KW Emergency Generator, diesel, WP	**1**	ea	150,000.00	150,000		
260000	100 Amp Encl Ckt Brkr, EG	**1**	ea	1,750.00	1,750		
260000	200 Amp Encl Ckt Brkr, EG	**1**	ea	2,500.00	2,500		
260000	400/250 Amp Encl Ckt Brkr, EG	**1**	ea	4,500.00	4,500		
260000	800 Amp Encl Ckt Brkr, EG	**1**	ea	8,500.00	8,500		
260000	EG Tap Box 1000A	**1**	ea	27,000.00	27,000		
260000	Manual Transfer Sw 100A	**1**	ea	5,300.00	5,300		
260000	Autotransfer Sw 100A, Byp Isol	**1**	ea	10,000.00	10,000		
260000	EG Cam Lock Conn 150A	**1**	ea	6,200.00	6,200		
260000	Manual Transfer Sw 200A	**1**	ea	7,000.00	7,000		
260000	Autotransfer Sw 800A	**1**	ea	21,000.00	21,000		
260000	EG Annunciator	**1**	ea	1,400.00	1,400		
260000	250KW Load Bank	**1**	ea	22,000.00	22,000		
260000	24KW UPS, Batteries - ALLOW	**1**	ls	25,000.00	25,000		
260000	200 Amp Disconnect, UPS	**1**	ea	2,210.00	2,210		
260000	Portable Generator	**NIC**					
260000	Install OH Door CP FBO	**8**	ea	340.00	2,720		
260000	Photo Eye Micro Sw MS (Door, FBO)	**40**	ea	90.00	3,600		
260000	OH Door Pushbutton Controller	**8**	ea	335.00	2,680		
260000	OH Door Traffic Light	**8**	ea	250.00	2,000		
260000	20/2 Amp Disconnect	**4**	ea	480.00	1,920		
260000	30/2 Amp Disconnect	**2**	ea	480.00	960		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
260000	30 Amp Disconnect OH Door	**8**	ea	650.00	5,200		
260000	30 Amp Disconnect	**16**	ea	650.00	10,400		
260000	60 Amp Disconnect	**1**	ea	1,100.00	1,100		
260000	100/2 Amp Disconnect	**1**	ea	1,200.00	1,200		
260000	100 Amp Disconnect	**3**	ea	1,500.00	4,500		
260000	Install Veh Exh CP FBO	**1**	ea	340.00	340		
260000	Pressure Sensor Backbox, stubup	**6**	ea	57.00	342		
260000	Install 10HP VFD FBO	**10**	ea	840.00	8,400		
260000	Install Jockey Pump Controller FBO	**1**	ea	1,200.00	1,200		
260000	Install Fire Pump Controller/ATS FBO	**1**	ea	2,600.00	2,600		
260000	Install Misc Sensor FBO	**3**	ea	90.00	270		
260000	Install Water Meter FBO	**1**	ea	175.00	175		
260000	Instal Misc CP FBO	**2**	ea	340.00	680		
260000	Instal Power Sujpply FBO	**1**	ea	100.00	100		
	Fire Alarm						
260000	3/4" Rigid, 3#10	**50**	lf	18.00	900		
260000	MC/ Teflon Cable	**2,920**	lf	6.00	17,520		
260000	FATC	**1**	ea	900.00	900		
260000	Pull Station	**12**	ea	185.00	2,220		
260000	Audible/Visual	**23**	ea	320.00	7,360		
260000	Audible/Visual WP	**1**	ea	380.00	380		
260000	Smoke Detector	**16**	ea	345.00	5,520		
260000	CO Detector	**4**	ea	345.00	1,380		
260000	WP Bell	**1**	ea	225.00	225		
260000	WP Beacon	**1**	ea	225.00	225		
260000	Annunciator	**1**	ea	1,750.00	1,750		
260000	Central Equipment FACP (filing, program, test)	**1**	ls	16,000.00	16,000		
260000	Fused Disc	**1**	ea	670.00	670		
260000	Communicator	**1**	ea	185.00	185		
260000	Misc Connections - Allow	**24**	ea	235.00	5,640		
260000	Master Box Radio, Antenna (allow)	**1**	ea	7,500.00	7,500		
260000	Knox Box	**2**	ea	300.00	600		
260000	SPD	**3**	ea	600.00	1,800		
260000	BDA Allowance ((2) Amps)	**1**	ls	65,000.00	65,000		
	Telecommunications System						
260000	MDF Racks, Terms, etc (PBX by others)	**1**	ls	10,000.00	10,000		
260000	CAT 6A Cable	**8,850**	lf	1.40	12,390		
260000	Main Ground Bar	**1**	ea	1,000.00	1,000		
260000	Ground Bar	**1**	ea	600.00	600		
260000	1" EMT, #1/0G	**100**	lf	16.00	1,600		
260000	2" EMT Cdt	**360**	lf	20.00	7,200		
260000	Roof Pene, Antenna Weatherhead	**4**	ea	530.00	2,120		
260000	2" Wall Sleeve	**6**	ea	100.00	600		
260000	4" Wall Sleeve	**4**	ea	110.00	440		
260000	24" Cable Tray (allow)	**220**	lf	40.00	8,800		
260000	J-Hook Pathway (allow)	**200**	lf	4.00	800		
260000	Tel Outlet w/ Stubup 1C	**9**	ea	57.00	513		
260000	WAP Outlet 2c AN	**10**	ea	57.00	570		
260000	TVC Outlet w/ Stubup 2C	**1**	ea	70.00	70		
260000	Tel/Data Outlet w/ Stubup 3C	**4**	ea	80.00	320		
260000	Floor Data Outlet 4C	**4**	ea	325.00	1,300		
260000	ARA Area Phone	**1**	ea	500.00	500		
260000	SRP	**1**	ea	500.00	500		
	Security System						
260000	3/4" Emt, 4#12	**260**	lf	10.00	2,600		
260000	Composite Cable	**1,560**	lf	2.00	3,120		
260000	Plenum Cable	**3,710**	lf	1.00	3,710		
260000	Coax Cable	**3,000**	lf	0.80	2,400		
260000	Access Control Central Eqpt	**1**	ea	10,000.00	10,000		
260000	CPU	**1**	ea	2,600.00	2,600		
260000	CCTV Monitoring/Recording Eqpt	**1**	ls	9,500.00	9,500		
260000	UPS, Rack Mtd	**1**	ls	3,000.00	3,000		
260000	Door Junc Box	**13**	ea	60.00	780		
260000	Door Contact Switch	**19**	ea	150.00	2,850		
260000	Overhead Door Contact Switch	**8**	ea	265.00	2,120		
260000	Request to Exit REX	**13**	ea	185.00	2,405		
260000	Card Reader	**13**	ea	625.00	8,125		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
260000	Motion Sensor	**9**	ea	450.00	4,050		
260000	Electric Lock EL	**13**	ea	425.00	5,525		
260000	Power Hinge EH	**13**	ea	425.00	5,525		
260000	PT Power Supply @ Door Locks	**13**	ea	350.00	4,550		
260000	TS Switch @ Doors	**13**	ea	150.00	1,950		
260000	CCTV Camera Fixed (allow)	**12**	ea	1,100.00	13,200		
260000	CCTV Camera, WP	**8**	ea	1,700.00	13,600		
	AV/Sound/PA/Intercom System						
260000	Plenum Cable	**250**	lf	1.25	313		
260000	Sound Rack	**1**	ea	5,300.00	5,300		
260000	Speaker	**2**	ea	225.00	450		
260000	Volume Control	**2**	ea	155.00	310		
260000	A/V System Roughin Allowance	**21,040**	sf	0.20	4,208		
	Misc						
260000	Temp Power and Lighting	**1**	ls	25,000.00	25,000		
260000	Misc Demo, Removals	**1**	ls	15,000.00	15,000		
260000	Startup, Testing, Commissioning	**1**	ls	25,000.00	25,000		
	SITE WORK						
	Site Lighting						
260000	Type SL1 Light Pole w/ 1-Fixt	**8**	ea	3,600.00	28,800		
260000	Type SL2 Light Pole w/ 2-Fixt	**1**	ea	4,500.00	4,500		
260000	Type SL6 Flagpole Light	**3**	ea	500.00	1,500		
260000	1" PVC, 3#8, #10 UG	**900**	lf	10.00	9,000		
260000	#10 Wire in Poles	**810**	lf	1.15	932		
260000	Site Lighting Controls	**1**	ls	3,500.00	3,500		
	EV Charging Stations						
260000	EV Charging Station	**2**	ea	5,500.00	11,000		
260000	1" PVC, 3#8, #10 UG	**300**	lf	10.00	3,000		
	Site Utilities						
260000	Utility Pole Riser	**1**	ls	3,500.00	3,500		
260000	4" PVC CDT UG (Pri)	**280**	lf	15.00	4,200		
260000	Utility Transformer Pad	**1**	ls	3,500.00	3,500		
260000	1000 Amp CT Cabinet	**1**	ea	9,200.00	9,200		
260000	4" PVC, 4 600 Mcm UG (Sec)	**650**	lf	160.00	104,000		
260000	4" PVC CDT UG (Spare)	**310**	lf	15.00	4,650		
260000	4" PVC, 4 600 Mcm UG (EG)	**190**	lf	160.00	30,400		
260000	4" PVC CDT UG (EG Spare)	**50**	lf	15.00	750		
260000	2" PVC, 4#1 (EG) UG	**390**	lf	30.00	11,700		
260000	1" PVC, EG Controls, 120v, UG	**150**	lf	9.00	1,350		
	Misc Power						
260000	Electric Handhole	**1**	ea	5,500.00	5,500		
	Telecommunications						
260000	Telecomm Utility Riser	**1**	ls	3,500.00	3,500		
260000	4" PVC (Tel,empty)	**720**	lf	15.00	10,800		
260000	1 1/4" Innderduct	**540**	lf	3.00	1,620		
	Misc						
260000	Temp Power	**1**	ls	6,000.00	6,000		
260000	Remove Exist Service, Xfmr, Fdrs, Eqpt	**1**	ls	2,500.00	2,500		
260000	Misc Site Demo	**1**	ls	3,000.00	3,000		
260000	Misc Eqpt Rentals	**1**	ls	2,500.00	2,500		
260000	Outer cape premium	**1**	ls	89,341.20	89,341		
	SUBTOTAL					1,876,165	
	TOTAL - ELECTRICAL						***$1,876,165***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	E20 FURNISHINGS						
	E2010 FIXED FURNISHINGS						
12211	Horizontal Louver Blinds/Blackout	**240**	sf	15.00	3,600		
11310	Kitchen appliances				by owner		
	SUBTOTAL					$3,600	
	E2020 MOVABLE FURNISHINGS						
	All movable furnishings to be provided and installed by owner					NIC	
	SUBTOTAL						
	TOTAL - FURNISHINGS						***$3,600***
	F10 INDUSTRIAL EQUIPMENT						
	Maintenance Equipment Schedule						
11810	CD-1 Wood Workbench with Casters 1 ERO N/A	**ERO**					
11810	CD-2 Steel Work Bench (72inx36in) (14,000 Lbs Capacity) 1 N 12 40 00	**1**	ea	1,037.30	1,037		
11810	CD-3 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	CD-4 Long Wood Workbench 1 N 12 40 00	**1**	ea	600.00	600		
11810	CD-5 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	850.00	850		
11810	CH-1 Carpentry Tool Drawer 1 ERO N/A	**ERO**					
11810	CH-2 Flammable Cabinet (Green)(60-Gallons) 1 ERO N/A	**ERO**					
11810	CH-3 Flammable Cabinet (45-Gallons) 1 ERO N/A	**ERO**					
11810	CH-4 Parts Shelving (6' x 2') 1 N 12 40 00	**1**	ea	1,005.40	1,005		
11810	CM-1 Miter Saw with Stand 1 ERO N/A	**ERO**					
11810	CM-2 Saw Horse 1 ERO N/A	**ERO**					
11810	CM-3 Pallet Jack 1 ERO N/A	**ERO**					
11810	CM-4 Portable Table Saw 1 ERO N/A	**ERO**					
11810	CM-5 Portable Dust Collector 1 N 12 40 00	**1**	ea	1,280.00	1,280		
11810	CM-6 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	MA-1 5 Ton Bridge Crane 1 N 14 22 13	**1**	ea	185,000.00	185,000		
11810	MB-1 18k Mobile Column 6 N 14 45 00	**6**	ea	65,000.00	390,000		
11810	MB-2 20K 2 Post Lift 1 N 14 45 00	**1**	ea	38,000.00	38,000		
11810	MC-1 2-Drum Spill Pallet 2 ERO 11 11 29	**ERO**					
11810	MC-2 55-Gallon Drum 10 NIC N/A	**NIC**					
11810	MC-3 Waste Oil Caddy 1 ERO N/A	**ERO**					
11810	MC-4 Grease Cart 1 ERO N/A	**ERO**					
11810	MC-5-9 Fluid storage	**1**	ls	95,000.00	95,000		
11810	MC-5 600-Gallon Bulk Fluids Tank (300G 15W-40/180G 0W-30/120G 0W-20) 1	**1**	ea		inc above		
11810	MC-6 400-Gallon Waste Oil Tank 1 N 11 11 29	**1**	ea		inc above		
11810	MC-7 Wall Mounted Lube Pumps 3 N 11 11 29	**3**	ea		inc above		
11810	MC-8 Lube Reel Bank (0W-20, 0W-30, 15W-40, Electric Reel, 1/2" Air) 1 N 11 1	**1**	ea		inc above		
11810	MC-9 Fluid Storage Room Sump Alarm 1 N 11 11 29	**1**	ea		inc above		
11810	MD-1 Metal Worktop 1 ERO N/A	**ERO**					
11810	MD-2 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	MD-3 Steel Work Bench on Casters 2 N 12 40 00	**2**	ea	2,800.00	5,600		
11810	MD-4 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	950.00	950		
11810	MF-1 Torch Cart 1 ERO N/A	**ERO**					
11810	MF-2 Lincoln AC225 Arc Welder 1 ERO N/A	**ERO**					
11810	MF-3 Miller Millermatic 252 1 ERO N/A	**ERO**					
11810	MF-4 Metabo HPT Hammer Cart 1 ERO N/A	**ERO**					
11810	MF-5 Thermal Dynamics Welder 1 ERO N/A	**ERO**					
11810	MF-6 Lincoln Welden Power 1 ERO N/A	**ERO**					
11810	MF-7 Lincoln SP-170T Arc Welder 1 ERO N/A	**ERO**					
11810	MF-8 Drill Press 1 ERO N/A	**ERO**					
11810	MF-9 Shop Press 1 ERO N/A	**ERO**					
11810	MF-10 Portable Weld Fume Extractor 1 NIC N/A	**NIC**					
11810	MF-11 Welding Screen 2 NIC N/A	**NIC**					
11810	MF-12 Oxygen/Acetylene Tank Storage Cage 2 N 12 40 00	**2**	ea	1,303.50	2,607		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
11810	MG-1 Tire Changer 1 ERO N/A	**ERO**					
11810	MG-2 Tire Balancer 1 ERO N/A	**ERO**					
11810	MG-3 Tire Storage Rack 2 N 12 40 00	**2**		220.00	440		
11810	MH-1 Snap-on Tool Box 1 ERO N/A	**ERO**					
11810	MH-2 MAC Tools Blue Cart 1 ERO N/A	**ERO**					
11810	MH-3 Wooden Cabinet (Glass Window) 1 ERO N/A	**ERO**					
11810	MH-4 Windshield Wiper Blade Rack 1 ERO N/A	**ERO**					
11810	MH-5 Nuts and Bolts Storage 4 ERO N/A	**ERO**					
11810	MH-6 Flammable Cabinet (60-Gallons) 1 ERO N/A	**ERO**					
11810	MH-7 Metal Cabinet 1 N 12 40 00	**1**	ea	1,450.00	1,450		
11810	MH-10 Cantilever Rack (Flat) 1 N 12 40 00	**1**	ea	2,310.00	2,310		
11810	MM-1 Tall Jack Stand 1 ERO N/A	**ERO**					
11810	MM-2 Small Jack Stands 8 ERO N/A	**ERO**					
11810	MM-3 Floor Jack 1 ERO N/A	**ERO**					
11810	MM-4 Chop Saw on Cart 1 ERO N/A	**ERO**					
11810	MM-5 Snap-on Battery Charger 1 ERO N/A	**ERO**					
11810	MM-6 Chain Sharpener 1 ERO N/A	**ERO**					
11810	MM-7 Heated Carpet Extractor 1 ERO N/A	**ERO**					
11810	MM-8 Parts Washer 1 N 12 40 00	**1**	ea	2,500.00	2,500		
11810	MM-9 Pedestal Grinder 2 N 12 40 00	**2**	ea	559.90	1,120		
11810	MM-10 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	SD-1 Drafting Table 1 ERO N/A	**ERO**					
11810	SD-2 Computer Desk 1 N 12 40 00	**1**		506.00	506		
11810	SH-1 Hanging Vinyl Storage 1 ERO N/A	**ERO**					
11810	SH-2 Parts Shelving (6' x 2') 2 N 12 40 00	**2**		800.00	1,600		
11810	SM-1 Vinyl Express Printer 1 ERO N/A	**ERO**					
	Mezzanine Industrial Equipment Schedule						
11810	ME-1 Hose Clamp Rack 2 ERO N/A	**ERO**					
11810	ME-2 Hydraulic Hose Bins 1 ERO N/A	**ERO**					
11810	ME-3 Hydraulic Hose Chop Saw 1 ERO N/A	**ERO**					
11810	ME-4 Hydraulic Hose Crimper 1 ERO N/A	**ERO**					
11810	ME-5 Steel Work Bench on Casters 1 N 12 40 00	**1**	ea	2,800.00	2,800		
11810	ME-6 Hydraulic Hose Reel Rack 2 N 12 40 00	**2**	ea	836.00	1,672		
11810	ME-7 Hydraulic Vertical Storage Cabinet 1 N 12 40 00	**1**	ea	1,556.50	1,557		
11810	MH-8 Parts Shelving (6' x 2') 12 N 12 40 00	**12**	ea	1,005.40	12,065		
11810	MH-9 Parts Shelving (6' x 2') 3 N 12 40 00 Reserved for existing sliding drawers	**3**	ea	1,005.40	3,016		
	Wash Bay						
11810	Manual high pressure wash and undercarriage wash	NIC					
11810	V-1 Manual Wash Pressure Plant 1 N 11 11 26	NIC					
11810	V-2 Manual Wash Control Panel 1 N 11 11 26	NIC					
11810	V-3 Festoons 2 N 11 11 26	NIC					
11810	V-4 Manual Wash On/Off Switch 2 N 11 11 26	NIC					
11810	V-5 Undercarriage Wash Pressure Plant 1 N 11 11 26	NIC					
11810	V-6 Undercarriage Wash Control Panel 1 N 11 11 26	NIC					
11810	V-7 Automatic Undercarriage Pre-Fab Trenches 2 N 11 11 26	**2**	ea	25,000.00	50,000		
11810	V-8 Automatic Undercarriage photo Eye 2 N 11 11 26	NIC					
11810	V-9 Automatic Wheel Washers 1 N 11 11 26	NIC					
11810	V-10 Vehicle Wash Guide Rails 1 N 11 11 26	NIC					
11810	V-11 Vehicle Wash Soap drum 1 N 11 11 26	NIC					
11810	V-12 Undercarriage Wash Control Station 2 N 11 11 26	**2**	ea	5,000.00	10,000		
11810	V-13 Vehicle Wash Pre-Treatment Tank (1500gal) 1 N 11 11 26	**1**	ea	20,000.00	20,000		
11810	V-14 Mobile Platform 1 N 11 11 26	NIC					
11810	V-15 Loop Detector 2 N 11 11 26	**2**	ea	7,500.00	15,000		
11810	V-16 Vehicle Wash Entry Traffic Light 1 N 11 11 26	NIC					
11810	V-17 Undercarriage Wash Status Light 1 N 11 11 26	NIC					
	Misc						
11810	Connect and or install ERO equipment	**200**	hrs	150.00	30,000		
	SUBTOTAL					881,225	
	TOTAL - INDUSTRIAL EQUIPMENT						***$881,225***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B SITEWORK						
	Building Demolition						
02050	Demolish and remove vehicle maintenance building only	**4,000**	sf	12.00	48,000		
02450	Haz-mat allowance	**4,000**	sf	5.00	20,000		
220000	Demo, cut and cap plumbing	**1**	ea	5,000.00	5,000		
230000	Demo, cut, cap and decommission HVAC	**1**	ea	5,000.00	5,000		
260000	Demo/make safe electrical	**1**	ea	5,000.00	5,000		
	SUBTOTAL					83,000	
	Site Demo & Prep						
312000	Mobilization	**1**	ea	7,500.00	7,500		
311000	Site fencing, gates, protection, barricades	**1**	ls	25,000.00	25,000		
311000	Stabilized Construction Entrance	**1**	ea	7,500.00	7,500		
312500	Compost filter tubes and silt fence	**1,500**	lf	19.00	28,500		
312500	Inlet protection	**2**	ea	250.00	500		
311000	Tree/stump removals	**27**	ea	500.00	13,500		
311000	Clear and grub	**28,800**	sf	0.90	25,920		
311000	Sawcut and remove paving & curbing	**37,500**	sf	0.85	31,875		
311000	Remove sand and gravel	**1,159**	cy	25.00	28,975		
311000	Remove flag pole and bollards	**1**	ls	2,500.00	2,500		
311000	Remove concrete walks, ramps, pads and misc items at building perimeter	**1**	ls	20,000.00	20,000		
311000	Remove drainage structures & piping	**2**	ea	3,500.00	7,000		
311000	Remove wells	**2**	ea	10,000.00	20,000		
311000	Remove septic systems	**1**	ls	15,000.00	15,000		
	SUBTOTAL					233,770	
	Earthwork						
312000	Strip topsoil	**625**	cy	15.00	9,375		
312000	Screen & Respread	**625**	cy	25.00	15,625		
312000	Site Cuts to Fills	**5,500**	cy	18.00	99,000		
312000	Remove unsuitable material under building and export	**3,200**	cy	45.00	144,000		
312000	Import structural fill under building	**3,200**	cy	60.00	192,000		
312000	Sloped riprap	**400**	cy	65.00	26,000		
312000	Easrthwork to support geothermal wells	**1,000**	cy	75.00	75,000		
	Structural excavation and backfill						
312000	Import 12" subbase for under slabs	**725**	cy	60.00	43,500		
312000	E&E foundation footing and walls	**1,250**	cy	25.00	31,250		
312000	E&B foundation column footings	**500**	cy	25.00	12,500		
	SUBTOTAL					648,250	
	Paving and curbing						
312000	12" Dense Grade at paving and walks	**2,296**	cy	60.00	137,760		
321216	Asphalt pavement	**62,000**	sf	6.00	372,000		
321216	Patch roads and connections	**1**	ls	7,500.00	7,500		
321613	Granite curbs	**100**	lf	58.00	5,800		
321613	Bitum berm	**1,600**	lf	20.00	32,000		
	SUBTOTAL					555,060	
	Storm						
334000	CB	**9**	ea	6,500.00	58,500		
334000	DMH	**12**	ea	8,500.00	102,000		
334000	YD	**1**	ea	4,500.00	4,500		
334000	OCS	**3**	ea	12,500.00	37,500		
334000	FE	**2**	ea	3,500.00	7,000		
334000	12" HDPE piping	**900**	lf	100.00	90,000		
334000	6" HDPE piping	**500**	lf	50.00	25,000		
334000	MC-4500 Storm water infiltration system (E,B, prep and manifolds)	**104**	ea	2,500.00	260,000		
	SUBTOTAL					584,500	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Water						
	Onsite water						
331000	8'' DI piping	**410**	lf	150.00	61,500		
331000	4'' DI piping	**200**	lf	95.00	19,000		
331000	4'' DI domestic water	**22**	lf	95.00	2,090		
331000	3,000 gal domestic water tank	**1**	lf	20,000.00	20,000		
331000	Connections, Ts, valves and hydrants	**1**	ls	25,000.00	25,000		
	SUBTOTAL					127,590	
	Offsite well						
331200	Offsite well assembly	**1**	ls	150,000.00	150,000		
331200	Mobilization/Demobilization	**1**	ls		inc above		
331200	Min. 8" Drilling (Overburden)	**30**	ft		inc above		
331200	Install temporary surface casing (Overburden)	**30**	ft		inc above		
331200	Cement Grout between temporary surface casing and 4” Permanent Casing	**30**	ft		inc above		
331200	Drill minimum 4” Borehole and sample	**160**	ft		inc above		
331200	Install 4” PVC threaded and coupled Casing	**150**	ft		inc above		
331200	Install 4” stainless steel, wire-wrapped screen	**10**	ft		inc above		
331200	Development (air lift)	**4**	hrs		inc above		
331200	Pumping Test/Rate Test (48-hr minimum)	**48**	hrs		inc above		
331200	Pitless Adaptor w/ Install & Connect	**1**	ea		inc above		
331200	Submersible Pump & Wiring	**1**	ea		inc above		
331200	Pump Column/Pipe w/ Connections	**150**	lf		inc above		
331200	Wellhead completion w/ cap	**1**	ea		inc above		
331200	In-line flow meter with totalizer	**1**	ea		inc above		
331200	Abandonment of existing Boyd Well(s)	**1**	ls		inc above		
	Piping						
331200	Meeting House crossing	**1**	ls	20,000.00	20,000		
331200	Mobilization/Demobilization	**1**	ls	7,500.00	7,500		
331200	Controls (in building/structure)	**1**	ls	10,000.00	10,000		
331200	Mechanical Components (in building/structure)	**1**	ls	15,000.00	15,000		
331200	Building/Structure (vault or shed)	**1**	ls	50,000.00	50,000		
331200	Electrical	**1**	ls	45,000.00	45,000		
331200	Treatment – Chlorination for potable only	**1**	ls	5,000.00	5,000		
331200	Backup generator – propane	**1**	ls	35,000.00	35,000		
331200	3-inch HDPE pipe & fittings from the well to Complex (800-2,600 lf)	**1,000**	lf	65.00	65,000		
331200	Hydrant	**2**	ea	4,500.00	9,000		
331200	2-inch blow off	**3**	ea	75.00	225		
331200	3-inch gate valve	**3**	ea	75.00	225		
331200	Demo, remove, excavate and backfill trenches	**1,000**	cy	45.00	45,000		
331200	Test pits	**3**	ea	600.00	1,800		
331200	Temp. and Final pavement patch	**2,000**	sf	25.00	50,000		
331200	Landscape restoration	**2,000**	sf	15.00	30,000		
	SUBTOTAL					538,750	
	Sanitary / Septic						
333000	Town hall tie in	**1**	ls	2,500.00	2,500		
333000	6'' PVC sewer	**186**	lf	100.00	18,600		
333000	Oil/Water separator	**1**	ls	10,000.00	10,000		
333000	5,000 gal tight tank	**1**	ls	20,000.00	20,000		
333000	SMH	**2**	ls	6,500.00	13,000		
333000	Septic system - two compartment 2,000 gal tanks, piping, 3 trenches and Nitogen removal	**1**	ls	200,000.00	200,000		
	SUBTOTAL					264,100	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Improvements						
323100	30' Sliding entry gate and access key pad				NIC		
323100	40' Sliding entry gate and access key pad				NIC		
323100	Parking signs	**8**	ea	250.00	2,000		
321213	Concrete walks	**400**	sf	15.00	6,000		
321213	Knockdown pad	**1,260**	sf	16.00	20,160		
323100	20x20 blocks walls at storage bins	**750**	sf	65.00	48,750		
323100	Parking space lines, symbols and hatching	**27**	ea	250.00	6,750		
323100	6' wood stockade fence	**470**	lf	95.00	44,650		
05500	Site bollards	**47**	ea	800.00	37,600		
03300	Transformer Pad	**1**	ea	5,000.00	5,000		
03300	Generator Pad	**1**	ea	8,500.00	8,500		
03300	Fire cistern Pad	**1**	ea	20,000.00	20,000		
03300	Tight tank Pad	**1**	ea	18,000.00	18,000		
03300	Dom water tank Pad	**1**	ea	9,000.00	9,000		
312000	E&B Elec/communication duct banks	**340**	lf	55.00	18,700		
03300	Encase duct banks in concrete	**50**	cy	350.00	17,500		
	SUBTOTAL					262,610	
	60' x 50' Salt Shed						
312000	Excavate and backfill	**3,000**	sf	10.00	30,000		
312000	8" crushed stone bedding under1'-6" mat slab	**103**	cy	60.00	6,180		
03300	1'-6" mat slab	**216**	cy	375.00	81,000		
03300	12'-4'' ht x 1'-6" thick perimeter walls	**140**	cy	950.00	133,000		
05500	2'-4" structural fill/stone under 8" slab	**259**	cy	60.00	15,540		
03300	8" slab	**79**	cy	375.00	29,625		
03300	PT framing and plywood at interior	**1,800**	sf	15.00	27,000		
13200	Structure - fabric roof structure	**3,000**	sf	95.00	285,000		
260000	Electrical - lighting and power	**3,000**	sf	10.00	30,000		
	SUBTOTAL					637,345	
	Landscaping						
329000	Landscaping allowance	**1**	ls	75,000.00	75,000		
	SUBTOTAL					75,000	
	TOTAL - SITEWORK						***4,009,975***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
GROSS FLOOR AREA CALCULATION						
Add 5,000 sf			**5,000**			
TOTAL GROSS FLOOR AREA				**5,000** ***gsf***		
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**130**	sf	18.00	2,340		
Re-bar	**480**	lbs	2.50	1,200		
Concrete material	**8**	cy	190.00	1,520		
Placing concrete	**8**	cy	40.00	320		
Foundation walls						
Formwork	**780**	sf	18.00	14,040		
Re-bar	**1,495**	lbs	2.50	3,738		
Concrete material	**23**	cy	190.00	4,370		
Placing concrete	**23**	cy	40.00	920		
Back up knee walls						
Formwork	**540**	sf	18.00	9,720		
Re-bar	**455**	lbs	2.50	1,138		
Concrete material	**7**	cy	190.00	1,330		
Placing concrete	**7**	cy	40.00	280		
12x14 Column footings						
Formwork	**260**	sf	18.00	4,680		
Re-bar	**2,475**	lbs	2.50	6,188		
Concrete material	**33**	cy	190.00	6,270		
Placing concrete	**33**	cy	40.00	1,320		
Piers						
Formwork	**32**	sf	18.00	576		
Re-bar	**75**	lbs	2.50	188		
Concrete material	**1**	cy	190.00	190		
Placing concrete	**1**	cy	40.00	40		
SUBTOTAL					60,368	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**5,000**	sf	2.00	10,000		
Reinforcing	**5,500**	sf	2.50	13,750		
Concrete - 8" thick	**132**	cy	190.00	25,080		
Placing concrete	**132**	cy	45.00	5,940		
Finishing and curing concrete	**5,000**	sf	1.65	8,250		
Control joints - saw cut	**5,500**	sf	0.50	2,750		
R10 - 25 PSI Rigid insulation at 4' horizontal	**260**	sf	5.00	1,300		
R10 - 60 PSI Rigid insulation at 4' horizontal	**260**	sf	6.00	1,560		
Dampproofing of foundation walls	**390**	sf	4.00	1,560		
SUBTOTAL					70,190	
TOTAL - FOUNDATIONS						***$130,558***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**5,000**	sf	110.00	550,000		
Outer cape premium	**1**	ls	55,000.00	55,000		
SUBTOTAL					605,000	
TOTAL - SUPERSTRUCTURE						***$605,000***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						**$2,500**
D20 PLUMBING						
D20 PLUMBING						
(2) Trench Drains	**34**	lf	158.50	5,389		
Trench Drain Catch Basin	**1**	ea	1,365.00	1,365		
Floor Drains	**1**	ea	654.50	655		
San - 4"	**200**	lf	130.00	26,000		
Vent - 2"	**100**	lf	88.40	8,840		
Water - 2 1/2"	**60**	lf	71.50	4,290		
Insulation	**60**	lf	13.98	839		
Excavation & Backfill	**100**	cy	49.87	4,987		
Project Supervision	**24**	hrs	130.00	3,120		
Coordination	**16**	hrs	130.00	2,080		
Outer cape premium	**1**	ls	5,756.50	5,757		
SUBTOTAL					63,322	
TOTAL - PLUMBING						***$63,322***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
D30 HVAC						
D30 HVAC						
Equipment						
Ceiling Fans	**1**	ea	7,865.00	7,865		
Unit Heaters - UH 7A thru 7F	**6**	ea	3,380.00	20,280		
Exhaust Fan - EF 4A, 4B, & 4C	**3**	ea	4,420.00	13,260		
Sheet Metal						
Galvanized	**300**	lbs	17.35	5,205		
Sheet Metal Specialties	**1**	ls	520.50	521		
Equipment Connections	**1**	ls	14,040.00	14,040		
Piping						
Hot Water	**360**	lf	65.00	23,400		
Hot Water Specialties	**1**	ls	2,340.00	2,340		
Equipment Connections	**1**	ls	2,600.00	2,600		
Insulation						
Sheet Metal	**204**	sf	4.35	887		
Piping	**360**	lf	19.85	7,146		
Controls						
Ceiling Fans	**1**	ea	1,210.00	1,210		
Unit Heaters	**6**	ea	1,210.00	7,260		
BMS Network	**1**	ls	3,540.00	3,540		
Network Integration	**1**	ls	1,770.00	1,770		
Commissioning						
Start Up	**16**	hrs	130.00	2,080		
Testing, Adjusting, & Balancing	**8**	hrs	135.00	1,080		
3rd Party Cx Assist	**8**	hrs	140.00	1,120		
Trade Requirements						
Project Supervision	**16**	hrs	130.00	2,080		
Coordination	**8**	hrs	130.00	1,040		
Rigging	**1**	ls	780.00	780		
Outer cape premium	**1**	ls	11,950.40	11,950		
SUBTOTAL					131,454	
TOTAL - HVAC						***$131,454***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**56**	ea	125.00	7,000		
Branch sprinkler piping with fittings & hangers	**672**	lf	38.00	25,536		
Main sprinkler piping with fittings & hangers	**100**	lf	60.00	6,000		
Hydraulic calculations, coordination and testing	**1**	ls	5,000.00	5,000		
Outer cape premium	**1**	ls	4,353.60	4,354		
SUBTOTAL					47,890	
TOTAL - FIRE PROTECTION						***$47,890***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Type LP1 Hi Bay	**15**	ea	425.00	6,375		
Addressable Luminaire Module	**15**	ea	90.00	1,350		
Branch Circuitry						
3/4" Emt, 4#12	**252**	lf	20.00	5,040		
MC Cable	**168**	lf	8.00	1,344		
Plenum Cable	**270**	lf	1.50	405		
OS, VS Power Pack	**3**	ea	200.00	600		
Occupancy Sensor HB clg	**6**	ea	310.00	1,860		
Receptacles GFI WP	**2**	ea	275.00	550		
Manual Snap Switch Starter, 120v	**1**	ea	200.00	200		

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add 5,000 SF Fleet storage						
Power Circuitry						
3/4" Emt, 4#10	**450**	lf	15.00	6,750		
Power Equipment						
30 Amp Disconnect	**3**	ea	675.00	2,025		
Install 10HP VFD FBO	**2**	ea	900.00	1,800		
Fire Alarm						
MC/ Teflon Cable	**120**	lf	6.00	720		
Audible/Visual	**2**	ea	330.00	660		
Misc Connections	**1**	ea	240.00	240		
Telecommunications System						
CAT 6A Cable	**600**	lf	1.35	810		
WAP Outlet 2c AN	**2**	ea	60.00	120		
Misc						
Outer cape premium	**1**	ls	3,084.90	3,085		
SUBTOTAL					33,934	
TOTAL - ELECTRICAL						***$33,934***
B SITEWORK						
Deduct paving	**(5,000)**	sf	5.00	(25,000)		
Over excavate foundation footprint and export	**741**	cy	30.00	22,230		
Import structural fill	**185**	cy	60.00	11,100		
Import 12" subbase for under slabs	**185**	cy	60.00	11,100		
Backfill foundation footing and walls	**74**	cy	25.00	1,850		
Backfill foundation column footings	**15**	cy	25.00	375		
SUBTOTAL					21,655	
TOTAL - SITEWORK						***21,655***
SUBTOTAL						***$1,036,313***
GENERAL CONDITIONS & REQUIREMENTS			15%			$155,447
BONDS			1.8%			$18,654
GC - OVERHEAD & PROFIT			5%			$51,816
DESIGN AND PRICING CONTINGENCY			7.5%			$94,667
ESCALATION TO 1ST QUARTER 2026			5%			$67,845
OUTER CAPE PREMIUM						included in trades
TARIFFS COST INCREASE ALLOWANCE			2.5%			$25,908
TOTAL - ALTERNATE 1						***$1,450,650***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**400**	sf	18.00	7,200		
Re-bar	**1,380**	lbs	2.50	3,450		
Concrete material	**23**	cy	190.00	4,370		
Placing concrete	**23**	cy	40.00	920		
Foundation walls						
Formwork	**3,756**	sf	18.00	67,608		
Re-bar	**7,150**	lbs	2.50	17,875		
Concrete material	**110**	cy	190.00	20,900		
Placing concrete	**110**	cy	40.00	4,400		
3'-4" Back up knee walls						
Formwork	**1,332**	sf	18.00	23,976		
Re-bar	**1,170**	lbs	2.50	2,925		
Concrete material	**18**	cy	190.00	3,420		
Placing concrete	**18**	cy	40.00	720		
F8 Column footings						
Formwork	**256**	sf	18.00	4,608		
Re-bar	**1,500**	lbs	2.50	3,750		
Concrete material	**20**	cy	190.00	3,800		
Placing concrete	**20**	cy	40.00	800		
F10 Column footings						
Formwork	**800**	sf	18.00	14,400		
Re-bar	**5,850**	lbs	2.50	14,625		
Concrete material	**78**	cy	190.00	14,820		
Placing concrete	**78**	cy	40.00	3,120		
Piers						
Formwork	**192**	sf	18.00	3,456		
Re-bar	**300**	lbs	2.50	750		
Concrete material	**4**	cy	190.00	760		
Placing concrete	**4**	cy	40.00	160		
Outer cape premium	**1**	ls	22,281.30	22,281		
SUBTOTAL					245,094	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**4,050**	sf	2.00	8,100		
Reinforcing	**4,050**	sf	2.50	10,125		
Concrete - 8" thick	**112**	cy	190.00	21,280		
Placing concrete	**112**	cy	45.00	5,040		
Finishing and curing concrete	**4,050**	sf	1.65	6,683		
Control joints - saw cut	**4,050**	sf	0.50	2,025		
Outer cape premium	**1**	ls	5,325.30	5,325		
SUBTOTAL					58,578	
TOTAL - FOUNDATIONS						***$303,672***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, metal panels walls and roof) :						
Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**4,050**	sf	115.00	465,750		
Outer cape premium	**1**	ls	46,575.00	46,575		
SUBTOTAL					512,325	
TOTAL - SUPERSTRUCTURE						***$512,325***
B20 EXTERIOR CLOSURE						
B2010 EXTERIOR WALLS						
CMU						
CMU veneer	**950**	sf	55.00	52,250		
Air barrier	**950**	sf	10.00	9,500		
Outer cape premium	**1**	ls	5,225.00	5,225		
SUBTOTAL					66,975	
B2020 WINDOWS						
Storefront and windows						
Translucent windows	**500**	sf	145.00	72,500		
Backer rod & double sealant	**230**	lf	12.00	2,760		
Wood blocking at openings	**230**	lf	10.00	2,300		
Waterproofing - overall added cost for FSB pricing	**4,050**	sf	3.50	14,175		
SUBTOTAL					91,735	
B2030 EXTERIOR DOORS						
Overhead doors						
22x16 OHD	**5**	ea	38,000.00	190,000		
Man Doors						
HM doors with half light/HM frame 3x7 HM	**1**	ea	2,500.00	2,500		
Hardware	**1**	lvs	1,500.00	1,500		
Misc						
Paint	**1**	ea	200.00	200		
Backer rod & double sealant	**30**	lf	12.00	360		
Wood blocking at openings	**30**	lf	10.00	300		
SUBTOTAL					194,860	
TOTAL - EXTERIOR CLOSURE						***$353,570***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						***$2,500***
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Floor drains allowance	**4,050**	sf	5.00	20,250		
SUBTOTAL					20,250	
TOTAL - PLUMBING						***$20,250***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
D30 HVAC						
D30 HVAC						
Ventilation allowance	**4,050**	sf	5.00	20,250		
SUBTOTAL					20,250	
TOTAL - HVAC						***$20,250***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
N/A						
SUBTOTAL					-	
TOTAL - FIRE PROTECTION						***$0***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Type LSV8	**20**	ea	575.00	11,500		
Exit	**1**	ea	400.00	400		
Addressable Luminaire Module	**20**	ea	90.00	1,800		
Emergency Battery Ballast	**3**	ea	150.00	450		
Branch Circuitry						
3/4" Emt, 4#12	**446**	lf	20.00	8,920		
MC Cable	**298**	lf	8.00	2,384		
Plenum Cable	**280**	lf	1.50	420		
OS, VS Power Pack	**2**	ea	200.00	400		
Lighting Wall Station L	**1**	ea	245.00	245		
Occupancy Sensor clg	**3**	ea	265.00	795		
Receptacles GFI WP	**8**	ea	275.00	2,200		
Power Circuitry						
3/4" Emt, 4#12	**800**	lf	13.00	10,400		
3/4" Emt, 4#10	**750**	lf	15.00	11,250		
1" Emt, 4#6	**10**	lf	24.00	240		
1 1/4" Emt, 4#2	**10**	lf	38.00	380		
2" Pvc, 4 3/0 UG	**180**	lf	55.00	9,900		
Power Equipment						
225 Amp Panel Board	**2**	ea	6,000.00	12,000		
SPD @ Panel	**1**	ea	1,000.00	1,000		
30 Kva Transformer	**1**	ea	7,000.00	7,000		
Install OH Door CP FBO	**5**	ea	350.00	1,750		
Photo Eye Micro Sw MS (Door, FBO)	**25**	ea	95.00	2,375		
OH Door Pushbutton Controller	**5**	ea	340.00	1,700		
OH Door Traffic Light	**5**	ea	275.00	1,375		
30 Amp Disconnect OH Door	**5**	ea	660.00	3,300		
Fire Alarm						
MC/ Teflon Cable	**200**	lf	6.00	1,200		
Audible/Visual	**2**	ea	325.00	650		
Smoke Detector	**2**	ea	350.00	700		
Misc						
Temp Power and Lighting	**1**	ls	3,500.00	3,500		
SUBTOTAL					98,234	
TOTAL - ELECTRICAL						***$98,234***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
2. Add 4,050 SF Detached Cold Storage building						
B SITEWORK						
Remove wells	**3**	ea	10,000.00	30,000		
Over excavate foundation footprint and export	**600**	cy	30.00	18,000		
Import structural fill	**150**	cy	60.00	9,000		
Import 12" subbase for under slabs	**150**	cy	60.00	9,000		
Backfill foundation footing and walls	**278**	cy	25.00	6,950		
Backfill foundation column footings	**45**	cy	25.00	1,125		
SUBTOTAL					74,075	
TOTAL - SITEWORK						***74,075***
SUBTOTAL						***$1,384,876***
GENERAL CONDITIONS & REQUIREMENTS				15%		$207,731
BONDS				1.8%		$24,928
GC - OVERHEAD & PROFIT				5%		$69,244
DESIGN AND PRICING CONTINGENCY				7.5%		$126,508
ESCALATION TO 1ST QUARTER 2026				5%		$90,664
OUTER CAPE PREMIUM						included in trades
TARIFF PREMIUM				2.5%		$34,622
TOTAL - ALTERNATE 2						***$1,938,573***

Appendix E

Certified Abutters List

RECEIVED
OCT 15 2025
ASSESSOR'S OFFICE
TOWN OF TRURO

TOWN OF TRURO

Assessors Office
Certified Abutters List
Request Form

DATE: October 15, 2025

NAME OF APPLICANT: Jarrod Cabral (Truro DPW Director)

NAME OF AGENT (if any): Della Donahue (Weston & Sampson)

MAILING ADDRESS: 100 Foxborough Blvd, Suite 250, Foxborough, MA 02035

CONTACT: HOME/CELL 508-203-4231 **EMAIL** donahue.della@wseinc.com

PROPERTY LOCATION: 17 Town Hall Road, Truro, MA 02666
(street address)

PROPERTY IDENTIFICATION NUMBER: MAP 46 **PARCEL** 269 **EXT.** _____
(*if condominium*)

ABUTTERS LIST NEEDED FOR:
(*please check **all** applicable*)

FEE: $15.00 per checked item
(*Fee must accompany the application unless other arrangements are made*)

X Board of Health[5]	Planning Board (PB)	Zoning Board of Appeals (ZBA)
___ Cape Cod Commission	___ Special Permit[1]	___ Special Permit[1]
___ Conservation Commission[4]	X Site Plan[2]	X Variance[1]
___ Licensing	___ Preliminary Subdivision[3]	
Type: _____	___ Definitive Subdivision[3]	

___ Other _____ ***(Fee: Inquire with Assessors)***
(*Please Specify*)

Note: Per M.G.L., processing may take up to 10 calendar days. Please plan accordingly.

THIS SECTION FOR ASSESSORS OFFICE USE ONLY

Date request received by Assessors: 10/15/2025 Date completed: 10/15/2025

List completed by: Laura Geiges Date paid: n/a Cash/Check n/a

[1]Abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line.

[2]Abutters to the subject property, abutters to the abutters, and owners of properties across the street from the subject property.

[3]Landowners immediately bordering the proposed subdivision, landowners immediately bordering the immediate abutters, and landowners located across the streets and ways bordering the proposed subdivision. Note: For Definitive Subdivision only, responsibility of applicant to notify abutters and produce evidence as required.

[4]All abutters within 300 feet of parcel, except Beach Point between Knowles Heights Road and Provincetown border, in which case it is all abutters within 100 feet. Note: Responsibility of applicant to notify abutters and produce evidence as required.

[5]Abutters sharing any boundary or corner in any direction – including land across a street, river or stream. Note: Responsibility of applicant to notify abutters and produce evidence as required.

TRURO ASSESSORS OFFICE
PO Box 2012 Truro, MA 02666
Telephone: (508) 214-0921
Fax: (508) 349-5506

Date: October 15, 2025

To: Weston & Sampson

From: Assessors Department

Certified Abutters List: 17 Town Hall Road (Map 46 Parcel 269)

Planning Board – Site Plan

Attached is a combined list of abutters for 17 Town Hall Road (Map 46 Parcel 269). The current owner is the Town of Truro.

The names and addresses of the abutters are as of Oct 10, 2025 according to the most recent documents received from the Barnstable County Registry of Deeds.

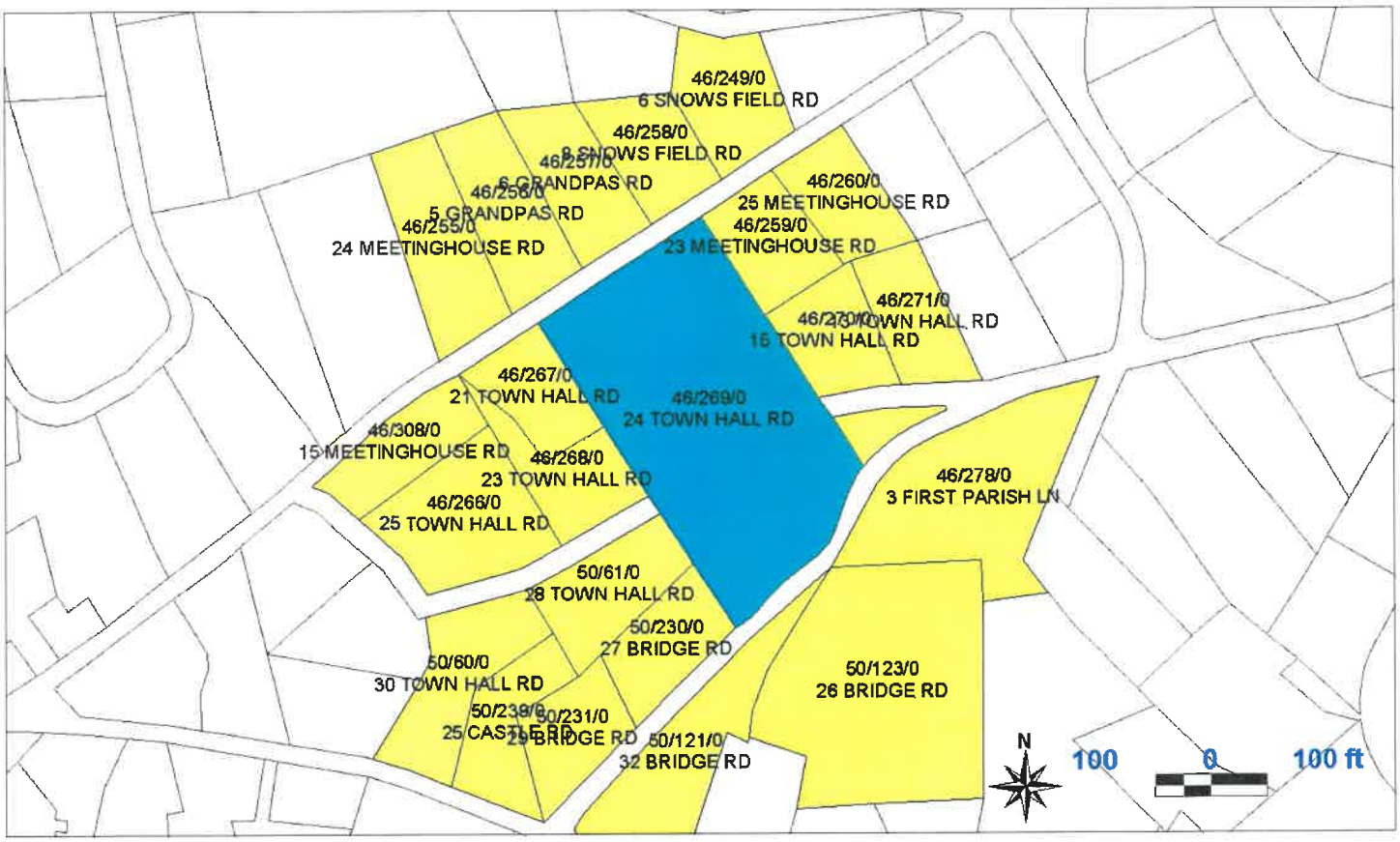
Certified by: _____

Laura Geiges
Assistant Assessor / Data Collector

17 Town Hall Road
Map 46 Parcel 269
Planning Board - Site Plan

TOWN OF TRURO, MA
BOARD OF ASSESSORS
P.O. BOX 2012, TRURO MA 02666

Custom Abutters List



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2466	46-249-0-R	REVOC TRST OF RICHARD H MORSE TRS: RICHARD H MORSE	6 SNOWS FIELD RD	2405 WEST 17TH STREET	WILMINGTON	DE	19806
2472	46-255-0-E	TRURO CONSERVATION TRUST TRS: TOM BOW, ET AL	24 MEETINGHOUSE RD	PO BOX 327	NO TRURO	MA	02652
2473	46-256-0-R	COLLINGS HARRY & MOON DANIEL B	5 GRANDPAS RD	326 DARTMOUTH STREET UNIT 5-7	BOSTON	MA	02116
2474	46-257-0-R	FADER PAUL & LAURIE K BROWN	6 GRANDPAS RD	875 NO WAKONDA ST	FLAGSTAFF	AZ	86004
2475	46-258-0-R	ZIMMAN MICHAEL A & ROVNER ELLEN B	8 SNOWS FIELD RD	315 HIGHLAND AVE #303	SOMERVILLE	MA	02144
2476	46-259-0-R	DUNCOMBE STEPHEN R & RAILLA JEAN A	23 MEETINGHOUSE RD	110 BLEECKER ST #20D	NEW YORK	NY	10012-2105
2477	46-260-0-R	JACKSON NEIL & MARCELLA L	25 MEETINGHOUSE RD	30 MOUNTAIN VIEW DR	BELCHERTOWN	MA	01007
2483	46-266-0-R	GABEL CAROLYN & C/O TOWN HALL ROAD PARTNERS LL	25 TOWN HALL RD	11 COBBS RD	WEST HARTFORD	CT	06107
2484	46-267-0-R	CHRISTIAN TIMOTHY F & NATSUMI	21 TOWN HALL RD	35 SHADOW LN	LARCHMONT	NY	10538
2485	46-268-0-R	HELEN TALBOT MILLER TRUST & GABEL CAROLYN	23 TOWN HALL RD	11 COBBS RD	W HARTFORD	CT	06107
2487	46-270-0-R	MELANDER JOAN & JACQUELINE J	15 TOWN HALL RD	PO BOX 1092	TRURO	MA	02666
2488	46-271-0-R	NAGY ERIC S & NAGY TIMOTHY P	13 TOWN HALL RD	2323 WHIPPOORWILL ROAD	CHARLOTTESVILLE	VA	22901
2494	46-277-0-E	TOWN OF TRURO	20 TOWN HALL RD	PO BOX 2030	TRURO	MA	02666-2030
2495	46-278-0-E	FIRST CONGREGATIONAL PARISH	3 FIRST PARISH LN	PO BOX 149	TRURO	MA	02666-0905
2517	46-308-0-R	KEN FIELD TRUST TRS: KENNETH D FIELD	15 MEETINGHOUSE RD	108 PLEASANT ST, UNIT 3	CAMBRIDGE	MA	02139

LG 10/15/25

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2844	50-60-0-R	COLLIER PAUL & BALANDIS STEFANIE	30 TOWN HALL RD	30 INMAN ST UNIT D	CAMBRIDGE	MA	02139
2845	50-61-0-R	FROHN STEPHEN M ESTATE OF c/o JOHN FROHN III	28 TOWN HALL RD	15 SILVER ST	NORWOOD	MA	02062
2900	50-121-0-R	SNELL MICHAEL & PATRICIA ANN	32 BRIDGE RD	PO BOX 655	TRURO	MA	02666-0655
2902	50-123-0-E	TOWN OF TRURO	26 BRIDGE RD	PO BOX 2030	TRURO	MA	02666-2030
2997	50-230-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	27 BRIDGE RD	PO BOX 144	TRURO	MA	02666
2998	50-231-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	29 BRIDGE RD	22 BOYNTON ST	LYNN	MA	01904
3006	50-239-0-R	DICKEY THOMAS R & NEWTON LYNNE	25 CASTLE RD	PO BOX 903	TRURO	MA	02666-0903

LG 10/15/25

46-249-0-R

REVOC TRST OF RICHARD H MORSE
TRS: RICHARD H MORSE
2405 WEST 17TH STREET
WILMINGTON, DE 19806

46-255-0-E

TRURO CONSERVATION TRUST
TRS: TOM BOW, ET AL
PO BOX 327
NO TRURO, MA 02652

46-256-0-R

COLLINGS HARRY & MOON DANIEL B
326 DARTMOUTH STREET
UNIT 5-7
BOSTON, MA 02116

46-257-0-R

FADER PAUL & LAURIE K BROWN
875 NO WAKONDA ST
FLAGSTAFF, AZ 86004

46-258-0-R

ZIMMAN MICHAEL A &
ROVNER ELLEN B
315 HIGHLAND AVE #303
SOMERVILLE, MA 02144

46-259-0-R

DUNCOMBE STEPHEN R &
RAILLA JEAN A
110 BLEECKER ST #20D
NEW YORK, NY 10012-2105

46-260-0-R

JACKSON NEIL & MARCELLA L
30 MOUNTAIN VIEW DR
BELCHERTOWN, MA 01007

46-266-0-R

GABEL CAROLYN &
C/O TOWN HALL ROAD PARTNERS LL
11 COBBS RD
WEST HARTFORD, CT 06107

46-267-0-R

CHRISTIAN TIMOTHY F & NATSUMI
35 SHADOW LN
LARCHMONT, NY 10538

46-268-0-R

HELEN TALBOT MILLER TRUST &
GABEL CAROLYN
11 COBBS RD
W HARTFORD, CT 06107

46-269-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-270-0-R

MELANDER JOAN & JACQUELINE J
PO BOX 1092
TRURO, MA 02666

46-271-0-R

NAGY ERIC S & NAGY TIMOTHY P
2323 WHIPPOORWILL ROAD
CHARLOTTESVILLE, VA 22901

46-277-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-278-0-E

FIRST CONGREGATIONAL PARISH
PO BOX 149
TRURO, MA 02666-0905

46-308-0-R

KEN FIELD TRUST
TRS: KENNETH D FIELD
108 PLEASANT ST, UNIT 3
CAMBRIDGE, MA 02139

50-60-0-R

COLLIER PAUL &
BALANDIS STEFANIE
30 INMAN ST UNIT D
CAMBRIDGE, MA 02139

50-61-0-R

FROHN STEPHEN M ESTATE OF
c/o JOHN FROHN III
15 SILVER ST
NORWOOD, MA 02062

50-121-0-R

SNELL MICHAEL & PATRICIA ANN
PO BOX 655
TRURO, MA 02666-0655

50-123-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

50-230-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
PO BOX 144
TRURO, MA 02666

50-231-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
22 BOYNTON ST
LYNN, MA 01904

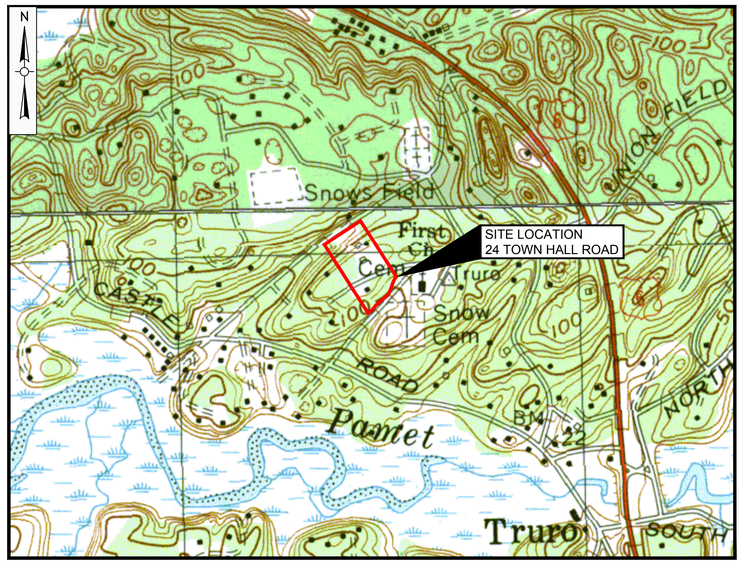
50-239-0-R

DICKEY THOMAS R & NEWTON LYNNE
PO BOX 903
TRURO, MA 02666-0903

LG 10/15/25

Appendix F

Project Site & Building Plans



LOCUS MAP

SCALE: 1" = 500', NORTH AMERICAN DATUM 27 (NAD27)

TOWN OF TRURO, MASSACHUSETTS

NEW DEPARTMENT OF PUBLIC WORKS FACILITY

PLANNING BOARD SITE PLAN REVIEW

ALYSSA K. PECK CIVIL No. 49074 REGISTERED PROFESSIONAL ENGINEER
10-16-25

OCTOBER 16, 2025
ISSUED FOR PERMITTING ONLY
-NOT FOR CONSTRUCTION-

24 TOWN HALL ROAD
TRURO, MA 02666

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE
1	C000	COVER SHEET
2	C001	GENERAL NOTES & LEGEND
3	C101	EXISTING CONDITIONS PLAN I
4	C101	EXISTING CONDITIONS PLAN II
5	C201	SITE PREPARATION & EROSION CONTROL/ DEMOLITION PLAN
6	C301	SITE LAYOUT & MATERIALS PLAN
7	C401	GRADING & DRAINAGE PLAN
8	C501	UTILITY PLAN
9	C601	SITE DETAILS I
10	C602	SITE DETAILS II
11	C603	SITE DETAILS III
12	C604	SITE DETAILS IV
13	C605	SITE DETAILS V
14	C606	SITE DETAILS VI
15	C607	SITE DETAILS VII
16	GT100	GEOTHERMAL WELL DETAILS
17	LC001	SITE PHOTOMETRIC CALCULATION - BASE BID
18	LC002	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1
19	LC003	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1 & #2
20	LC004	PHOTOMETRIC DETAILS AND SCHEDULES
21	A101	OVERALL FLOOR PLAN - BASE
22	A101A	OVERALL FLOOR PLAN - BID ALT 1
23	A102	OVERALL MEZZANINE PLAN - BASE
24	A102A	OVERALL MEZZANINE PLAN - BID ALT 1
25	A106	BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS
26	A201	EXTERIOR ELEVATIONS - BASE
27	A201A	EXTERIOR ELEVATIONS - BID ALT 1
28	A231	EXTERIOR 3D VIEWS - BASE
29	A1011	SALT SHED PLANS & ELEVATIONS

PARKING SUMMARY TABLE

	PARKING REQUIRED PER ZONING REGS	PARKING REQUIRED PER STAFFING COUNTS	PARKING PROVIDED
DPW	27	27	27

PARKING CALCULATIONS:

1. EXISTING PARKING COUNT = 27 SPACES
2. PROPOSED DPW SQUARE FOOTAGE:
   - TOTAL BUILDING GSF: 23,520 SF
   - **ADMIN/OFFICE/SHOP AREA ONLY GSF: 4,550 SF**
3. PROPOSED DPW = 1 space per employee maximum shift, plus1 space per each 3 seats in area of public assembly [30.9.8]
   - 27 SPACES PROVIDED
   - DPW STAFF COUNT = 27 (3 ADMIN, 9 DPW STAFF, 3 TRANSFER STATION STAFF, 12 CONTRACTOR SPACES)

521 CMR 23.2.1 REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES

1. PROPOSED DPW:
   - 27 TOTAL SPACES PROVIDED
   - 2 ACCESSIBLE SPACES PROVIDED [2 REQUIRED FOR (26-50)]

ZONING DIMENSIONAL TABLE

Zoning District: R - Residential

DIMENSION	Required	Existing	Proposed
Min. Lot Frontage (ft.)	33,750	5.14 Acres	5.14 Acres
Min. Lot Frontage (ft.)	150	355	355
Min. Front Yard (ft.) (To Town Hall Road)	25	88.4	33.6
Min. Side Yard (ft.)	25	29.0	25.2
Max.Building Height (ft.)	2 stories, 30	n/a	33'-5 ½"

LOT COVERAGE TABLE

	EXISTING		PROPOSED	
Area Description	**Area (sf)**		**Area (sf)**	
DPW				
Buildings	11,892		30,446	
Pavement*	38,579		55,256	
Gravel	31,180		0	
Concrete Sidewalk	0		420	
Concrete Pads	500		2,399	
Fuel Island	1,077		1,077	
DPW TOTAL	**83,229**		**89,599**	
Town Hall (Town Hall is not included in the limit of work)				
Buildings	4,405		4,405	
Pavement	8,072		8,072	
Brick Sidewalk	1,751		1,751	
Concrete Pads	228		228	
Town Hall TOTAL	**14,457**		**14,457**	
PARCEL TOTAL	**97,685**	**43.71%**	**104,055**	**46.56%**
Total Parcel Area (sf)	**223,506**			

*DPW Pavement includes the pavement within Town Hall Road.

Weston & Sampson SM

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035

APPLICANT:

JARROD CABRAL, DPW DIRECTOR
17 TOWN HALL ROAD
TRURO, MA 02666-2030

OWNER:
TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

File No.
ENG24-1552

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\\westoncad\WMS_Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\C000 COVER.dwg

GENERAL NOTES

1. THE INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC. THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
6. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
7. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
8. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
9. ALL WORK SHOWN ON THE PLANS AS BOLD SHALL REPRESENT PROPOSED WORK. THE TERM "PROPOSED (PROP)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)", OR REMOVE, RELOCATE, RESET, (R,R&R).
10. ALL KNOWN EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND ARE INDICATED ON THE PLANS.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
12. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
13. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
14. EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
15. TREES AND SHRUBS WITHIN THE LIMITS OF WORK SHALL BE REMOVED ONLY UPON THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
16. NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
17. THE CONTRACTOR SHALL REMOVE ALL SURFACE VEGETATION PRIOR TO GRADING THE SITE. TEMPORARY EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS (INCLUDING SILT FENCE AND COMPOSITE FILTER TUBES) SHALL BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT WHICH COST SHALL BE INCIDENTAL TO THE PROJECT.
18. ALL SURPLUS AND/OR UNSUITABLE MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 02 61 00.16 - HANDLING, TRANSPORTATION, REUSE AND OFF-SITE DISPOSAL OF EXCAVATED MATERIAL. SUITABLE SOIL EXCAVATION AS PART OF THE PROJECT MUST MEET ONE OR MORE OF THE MATERIAL REQUIREMENTS SPECIFIED IN 31 00 00 - EARTHWORK. ON-SITE FILL MATERIALS, WHICH DO NOT CONFORM TO SECTION 31 00 00, SHALL NOT BE USED BELOW ANY STRUCTURES. IF THE CONTRACTOR PROPOSES TO USE THE EXISTING FILL ON SITE BELOW PAVEMENT AREAS, OR FOR THE EARTHEN BERM, IT MUST BE DEMONSTRATED THAT THE FILL MEETS THE REQUIREMENTS PER 31 00 00. ALL EXCAVATED FILL MATERIAL WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH SECTION 02 61 00.16.
19. CONTRACTOR IS RESPONSIBLE FOR STAKING CONSTRUCTION BASELINES IN FIELD. NO CONSTRUCTION WILL BE PERFORMED WITHOUT THE PROPOSED BASELINES AND LAYOUTS APPROVED BY THE ENGINEER.
20. NO FILL SHALL CONTAIN HAZARDOUS MATERIALS.
21. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND PERIMETER OF WORK AREA (LIMIT OF WORK). FENCE SHALL NOT IMPEDE TRAVEL WAYS.
22. ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
23. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
24. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
25. THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND SIDEWALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
26. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
27. CONTRACTOR SHALL DEWATER AS NECESSARY TO PERFORM THE PROPOSED WORK. SEE SPECIFICATION SECTION 00 31 32 SUBSURFACE DATA).
28. THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD PRIOR TO THE START OF SITE CLEARING OR CONSTRUCTION.
29. DEEP SUMP CATCH BASINS AND STORMWATER BASIN SHALL BE CLEANED FOLLOWING CONSTRUCTION AND SHALL FOLLOW THE OPERATION AND MAINTENANCE PLAN THEREAFTER.
30. HAULING OF EARTH MATERIALS TO AND FROM THE SITE SHALL BE RESTRICTED TO THE HOURS OF 7 AM TO 4 PM MONDAY THROUGH FRIDAY.
31. ANY BOULDERS 3 CY OR SMALLER SHALL BE CONSIDERED UNDOCUMENTED FILL AND SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE TOWN.
32. WORK ON SATURDAYS SHALL ONLY BE CONDUCTED IF PRIOR WRITTEN PERMISSION IS PROVIDED BY THE OWNER.
33. THE TERM "AS DIRECTED" AS USED IN THE CONTRACT DRAWINGS SHALL BE REPLACED WITH "AS REQUIRED".

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE TOWN OF TRURO WETLANDS PROTECTION REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
5. ALL CATCH BASINS, DRAIN GRATES, AND CURB INLETS WITHIN OR ADJACENT TO THE PROJECT LIMITS SHALL BE PROTECTED WITH INLET SEDIMENT CONTROL DURING THE ENTIRE DURATION OF CONSTRUCTION.
6. SEDIMENT CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
7. ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
8. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
9. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC/PRIVATE ROADS.

GRADING, UTILITIES & DRAINAGE NOTES

1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE TOWN OF TRURO.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED GRAVEL SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
5. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
6. ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF PERCENT (1.5%) AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 5% MAX.
7. MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.
8. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
9. THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
10. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
11. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
12. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
13. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
14. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.
15. FOR STRUCTURE REMODELING (REMOD), CONSTRUCTION METHODS SHALL FOLLOW MASSACHUSETTS DOT STANDARD SPEC. LATEST EDITION (SECTION 220).

DEMOLITION & SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
3. UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL OR CRUSHED AND PROCESSED ROCK IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW. RE-USE OF ON-SITE MATERIALS SHALL BE EVALUATED ON A CASE-BY-CASE BASIS BY THE GEOTECHNICAL ENGINEER.
7. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
8. 'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
9. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
12. THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LAYOUT & MATERIALS NOTES

1. REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEETS C100 & C101).
2. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
3. ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY OWNER".
4. THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
5. THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 521, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
6. ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
7. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
11. THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED
12. ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO LOAM BORROW AND HYDROMULCH SEEDED LAWN.
13. REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
CB	CB	CATCH BASIN
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		WETLAND
WG	WG	WATER GATE
PM	PM	PARKING METER
	OH	OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
	D	UNDERGROUND DRAIN PIPE
	E	UNDERGROUND ELECTRIC DUCT
	G	UNDERGROUND GAS MAIN
	S	UNDERGROUND SEWER MAIN
	T T	UNDERGROUND TELEPHONE DUCT
	W	UNDERGROUND WATER MAIN
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
X X X		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49974
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
PERMITTING
NOT RELEASED FOR CONSTRUCTION

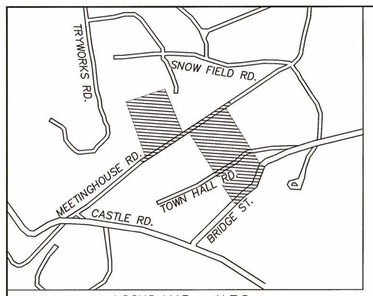
Scale:

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:
GENERAL NOTES & LEGEND

Sheet Number:
C001

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LOCUS MAP – N.T.S.

MASS STATE PLANE (NAD83)

PLAN REFERENCES:

PB 174 PG 83
PB 174 PG 85
PB 213 PG 45
PB 215 PG 69
PB 316 PG 60
PB 368 PG 100
PB 378 PG 19
PB 551 PG 12

NOTES:

1) THE INFORMATION SHOWN HEREON IS BASED ON AN ON–THE–GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC.

2) THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK.

3) THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK. DIFFERENTIAL LEVELING WAS PERFORMED BETWEEN THE BENCHMARKS SHOWN HERON AND SELECT ALPHA SURVEY CONTROL POINTS UTILIZING A SOKKIA DIGITAL LEVEL & BAR–CODED ROD.

5) THE SUBJECT PREMISES DOES NOT LIE WITHIN A FEMA FLOOD ZONE BASED UPON FLOOD INSURANCE RATE MAP NUMBERS 25001C0231J WITH AN EFFECTIVE DATE OF 7/16/2014.

6) THE PROPERTY LINES SHOWN HEREON ARE BASED ON CITED PLANS AND DEEDS AND AN ON–THE–GROUND SURVEY. THE BOUNDARIES WERE ESTABLISHED UTILIZING PRIMACODE'S TRANSFORM PROGRAM TO OBTAIN A "BEST FIT" TO MONUMENTS LOCATED IN THE FIELD.

7) THIS PLAN AND THE ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWN ASSESSOR'S RECORDS. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE ABSTRACT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.

8) TOPOGRAPHICAL CONTOURS SHOWN ON 22 & 24 MEETING HOUSE RD. TAKEN FROM 2021 USGS LIDAR: CENTRAL EASTERN MASSACHUSETTS..

UTILITY NOTES:

1) UTILITIES SHOWN HEREON ARE DERIVED FROM RECORD PLANS AND FIELD OBSERVATIONS MADE BY ALPHA SURVEY BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024.

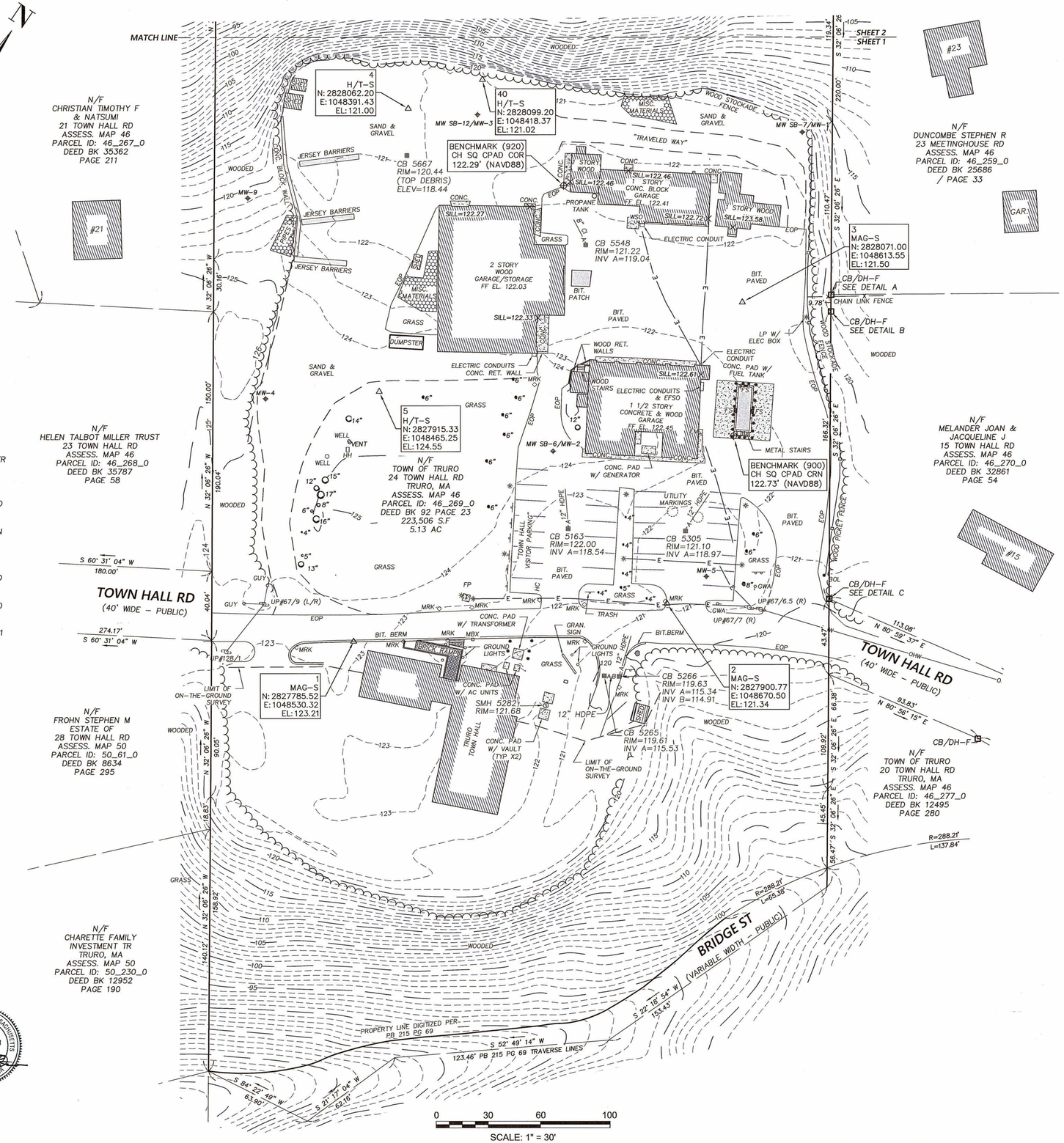
2) ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

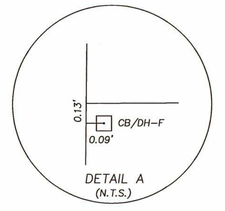
3) UTILITY RESPONSES HAVE NOT BEEN RECEIVED FOR:
BARNSTABLE COUNTY IT
EVERSOURCE FIBER

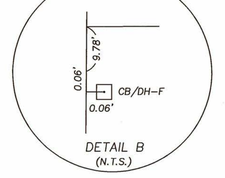
COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

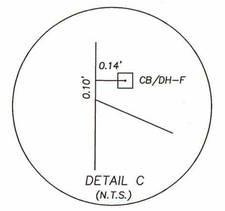
James E. Peterson
REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/04/24
DATE









DRAWING LEGEND

WATER SHUT OFF	WSO
ELECTRIC METER	E
UTILITY POLE	
GUY WIRE ANCHOR	GUY
SEWER MANHOLE	S
CATCH BASIN	
HAND HOLE	HH
HYDRANT	
BOLLARD	
LIGHT POLE	
FLOODLIGHT	
TREE (SIZE INCHES)	
MONITORING WELL	MW#
GAS LINE	G
TELEPHONE LINE	T
DRAIN LINE	D
SEWER LINE	S
ELECTRIC LINE	E
WATER LINE	W
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X
TREELINE	
RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
SPOT GRADE	X 100.00
FOUND	–F
RECORD	(R)
STONE BOUND	SB
CONCRETE BOUND	CB
DRILL HOLE	DH
IRON PIPE	IP
IRON ROD	IR
PARKER–KALON NAIL	PK
MAG NAIL	MAG
BENCHMARK	
TRAVERSE (CONTROL) POINT	
SIGN	
REFLECTIVE ROAD MARKER	MRK
SPLICE BOX	SBOX
EMERGENCY FUEL SHUT OFF	EFSO
FUEL SERVICE PUMP	FS
FLAG POLE	FP

DATE	REVISION
11–21–2024	REVISED TO UPDATE MONITORING WELL DESIGNATIONS
12–04–2024	REVISED TO ADD ADDITIONAL MW LOCATIONS

SCALE 1"=30' | DRAWN GA/LB | FIELD PP/KG | CHECKED JEP

PREPARED BY
ALPHA SURVEY GROUP, LLC
695 WAREHAM STREET
MIDDLEBOROUGH, MA 02346
T: (508) 295-5595
F: (508) 295-5535
WWW.ALPHALS.COM

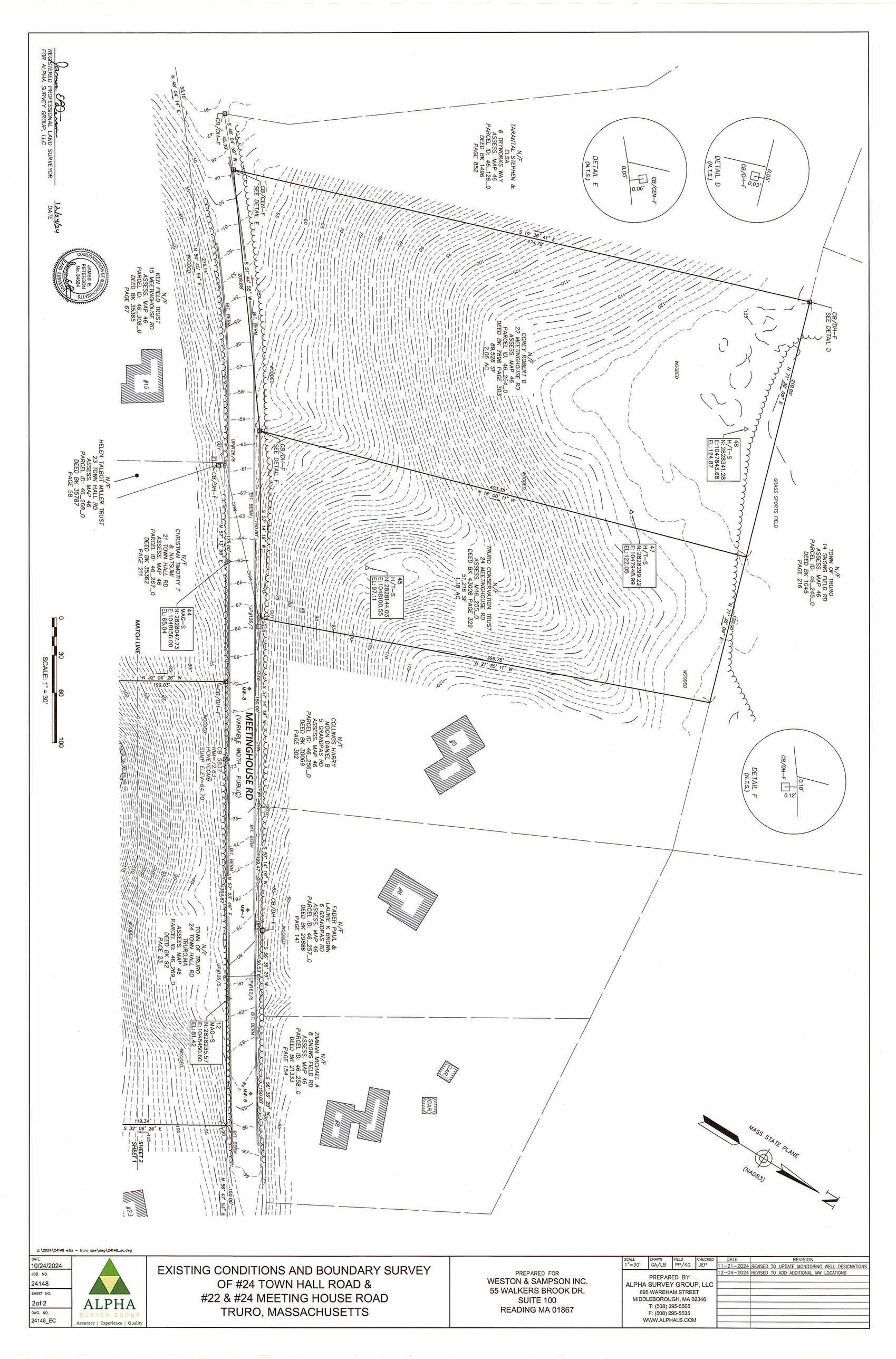
PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

z:\2024\24148 wbs – truro dpw\dwg\24148_ec.dwg

DATE	JOB. NO.	SHEET NO.	DWG. NO.
10/24/2024	24148	1of 2	24148_EC



REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/4/24
DATE

COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

z:\2024\24148 wbs – truro dpw\dwg\24148_ec.dwg

DATE	10/24/2024
JOB. NO.	24148
SHEET NO.	2of 2
DWG. NO.	24148_EC

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD & #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

SCALE	DRAWN	FIELD	CHECKED
1"=30'	GA/LB	PP/KG	JEP

PREPARED BY
ALPHA SURVEY GROUP, LLC
695 WAREHAM STREET
MIDDLEBOROUGH, MA 02346
T: (508) 295-5505
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WWW.ALPHALS.COM

DATE	REVISION
11-21-2024	REVISED TO UPDATE MONITORING WELL DESIGNATIONS
12-04-2024	REVISED TO ADD ADDITIONAL MW LOCATIONS

SITE NOTES

1. ALL EXISTING PIPES TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION SECTION 02 41 13.29 "ABANDONMENT OF SEWER AND DRAINS."
2. ALL EXISTING UTILITIES, PIPES, STRUCTURES, OBSERVATION WELLS, ETC. SHALL BE ABANDONED AS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL COORDINATE REMOVAL OF MATERIAL STOCKPILES WITH THE TRURO DPW. TOWN SHALL REMOVE MATERIAL STOCKPILES IN ADVANCE OF THE WORK.
4. ALL UTILITIES AND DRAINAGE STRUCTURES BELOW PROPOSED FOOTPRINT OF BUILDINGS MUST BE REMOVED IN THEIR ENTIRETY.
5. REMOVAL OF CONCRETE WALLS SHALL INCLUDE ALL ASSOCIATED FOUNDATIONS.
6. UTILITIES FOR SITE AMENITIES INCLUDING LIGHT POLES AND BUILDINGS SCHEDULED TO BE DEMOLISHED SHALL BE DISCONNECTED AND MADE SAFE AT THE POWER SOURCE BY THE ELECTRICAL FILED SUB-BIDDER. SITE CONTRACTOR TO REMOVE AMENITIES INCLUDING THE DISCONNECTED UTILITIES FEEDING THE AMENITIES.
7. ALL VOIDS CREATED BY REMOVAL OF EXISTING ELEMENTS SHALL BE BACKFILLED WITH GRAVEL BORROW IN ACCORDANCE WITH 31 00 00 EARTHWORK.
8. CONTRACTOR SHALL BE AWARE THAT THE EXISTING LIMIT OF BITUMINOUS CONCRETE IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LIMITS PRIOR TO BIDDING. ALL EXISTING BITUMINOUS CONCRETE SHALL BE REMOVED TO COMPLETE THE PROPOSED WORK WITHOUT ADJUSTMENT TO COMPENSATION.
9. SEDIMENTATION CONTROL DEVICES WITHIN THE TOWN'S RIGHT OF WAY, MUST BE MAINTAINED, INSPECTED, CLEANED AND REPLACED AS NECESSARY TO PREVENT POSSIBLE FLOODING ISSUES DURING RAIN EVENTS. ONCE ALL WORK IS DONE, ANY SEDIMENTATION CONTROL DEVICES MUST BE REMOVED BY THE CONTRACTOR AS SOON AS POSSIBLE.
10. CONTRACTOR SHALL CORDON OFF THE INFILTRATION POND AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILES MATERIALS FROM COMPACTING THE SUBGRADE SOILS. SEE PLAN C401 GRADING & DRAINAGE PLAN FOR POND LOCATION.
11. CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS TO ENSURE CONTINUOUS OPERATION OF THE EXISTING FUEL ISLAND AND COORDINATE ANY CONSTRUCTION ACTIVITIES THAT MIGHT TEMPORARILY INTERFERE WITH OPERATION WITH THE TOWN.

SITE PREPARATION LEGEND

- STABILIZED CONST ENTRANCE
- STRUCTURES TO BE DEMOLISHED AND REMOVED FROM SITE
- GRAVEL SURFACE TO BE REMOVED
- PAVEMENT TO BE REMOVED
- LIMITS OF TREE CLEARING
- EXISTING BUILDING/STRUCTURE TO REMAIN
- TEMPORARY CONSTRUCTION FENCE
- SILT FENCE
- COMPOST FILTER TUBING
- LIMIT OF WORK
- TREE REMOVAL
- INLET PROTECTION



0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49974
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:

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Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:

SITE PREPARATION AND EROSION CONTROL PLAN & DEMOLITION PLAN

Sheet Number:

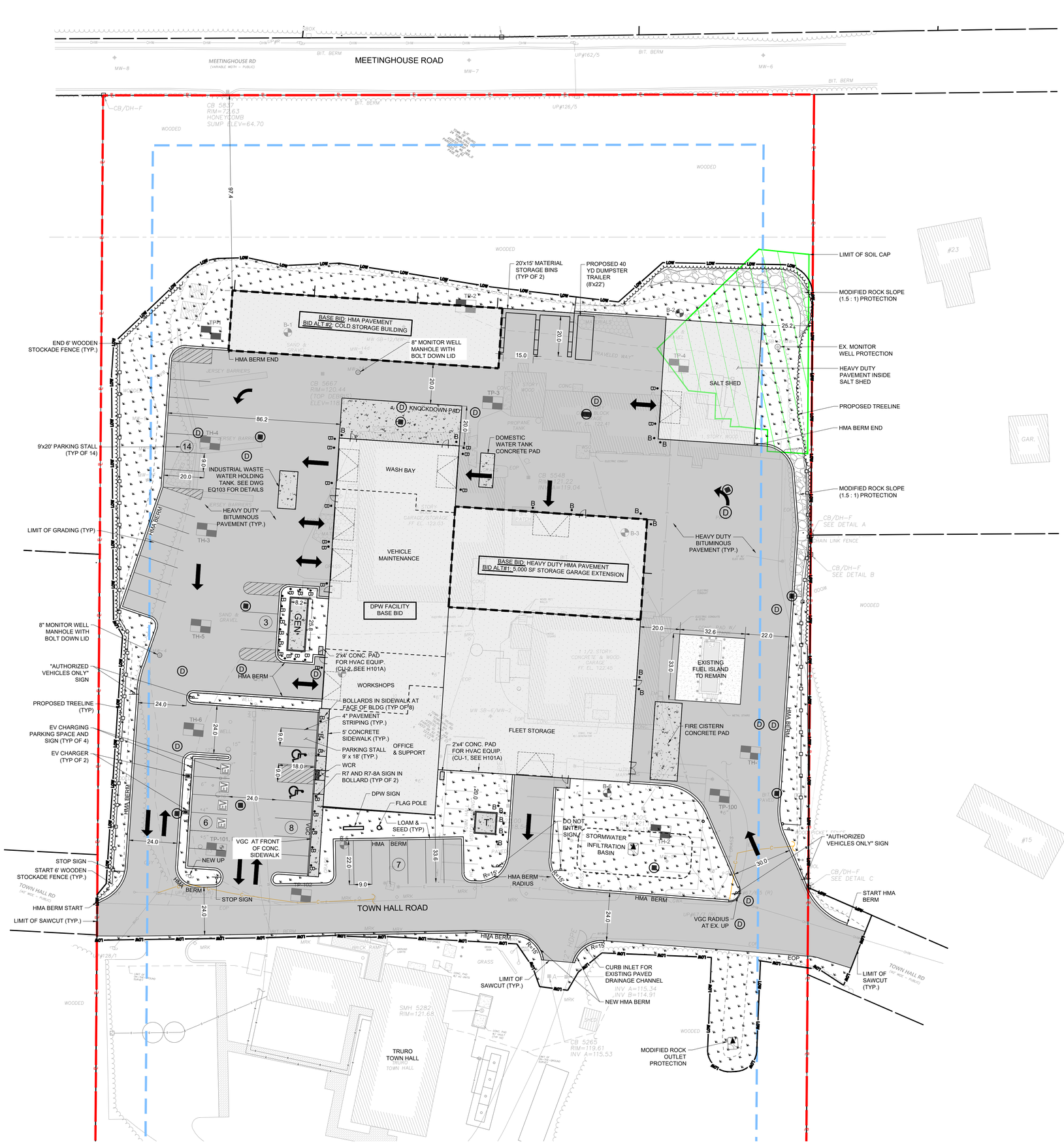
C201

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NOTE:
1. THE CONTRACTOR SHALL GIVE TWENTY-FOUR (24) HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
2. DIRECTIONAL ARROWS ARE SHOWN FOR INFORMATION ONLY TO SHOW THE DIRECTION OF TRAFFIC ON SITE. THEY DO NOT INDICATE PAVEMENT MARKINGS.
3. GRANITE CURB SHALL BE TYPE VA-4 UNLESS OTHERWISE IDENTIFIED.
4. PROVIDE NEW HOT MIX ASPHALT PAVEMENT BETWEEN ALL PROPOSED CURB LINES & BUILDINGS, (INCLUDING UP TO SAWCUT LIMITS) AND BETWEEN PROPOSED RETAINING WALLS, CURB LINES & BUILDING.
5. CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION SIGNAGE AS REQUIRED FOR CONTROL OF TRAFFIC AND PEDESTRIANS.
6. CONTRACTOR SHALL PATCH EXISTING PAVED AREAS WITH HMA FOLLOWING UTILITY INSTALLATION.
7. ALL BACKFILL MATERIAL BELOW PROPOSED BUILDINGS SHALL CONSIST OF STRUCTURAL AGGREGATE BACKFILL OR PROCESSED GRAVEL PER SPECIFICATION SECTION 31 00 00-EARTHWORK.

LEGEND

- BITUMINOUS PAVEMENT
- CONCRETE
- LOAM & SEED/PLANTINGS (SEE LANDSCAPE PLAN)
- MODIFIED ROCKFILL
- LOW — LIMIT OF WORK



0 20 50 100
SCALE: 1" = 20'

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Consultants:

Revisions:

No.	Date	Description
1.	11/5/25	SUPPLEMENTAL FILING

COA:

Seal:
ALYSSA K. PECK CIVIL No. 49974 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
11.5.25

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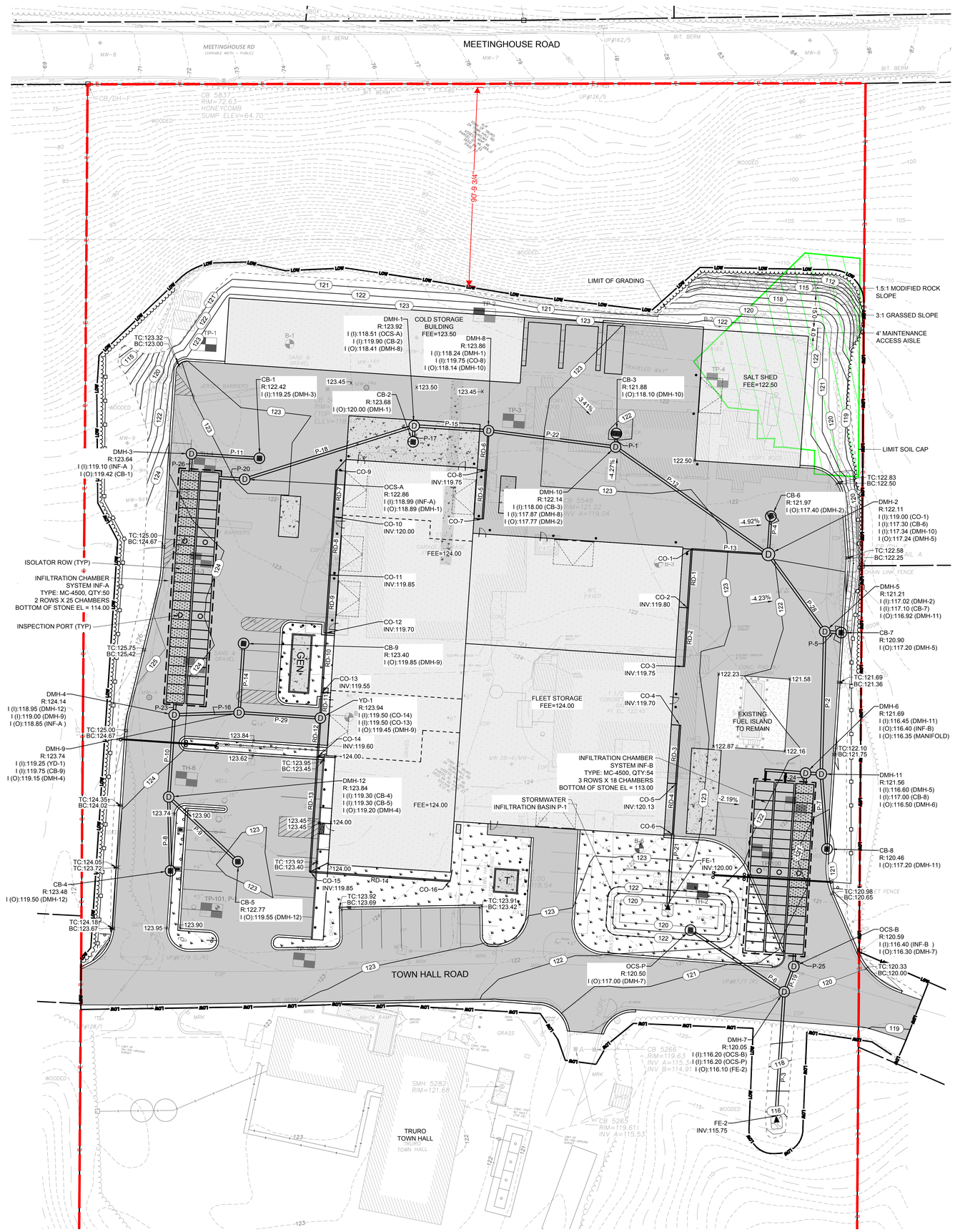
Drawing Title:
SITE LAYOUT & MATERIALS PLAN

Sheet Number:
C301

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PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
MANIFOLD	12" HDPE	17-LF	0.006	116.35	116.25
P-1	12" HDPE	2-LF	0.016	118.10	118.00
P-2	12" HDPE	61-LF	0.005	116.92	116.60
P-3	12" HDPE	53-LF	0.006	116.10	115.75
P-4	12" HDPE	13-LF	0.006	117.40	117.30
P-5	12" HDPE	4-LF	0.013	117.20	117.10
P-6	12" HDPE	47-LF	0.016	117.00	116.20
P-7	12" HDPE	30-LF	0.006	117.20	117.00
P-8	12" HDPE	30-LF	0.006	119.50	119.30
P-9	12" HDPE	39-LF	0.006	119.55	119.30
P-10	12" HDPE	34-LF	0.007	119.20	118.95
P-11	12" HDPE	27-LF	0.005	119.42	119.25
P-12	12" HDPE	81-LF	0.005	117.77	117.34
P-13	6" HDPE	31-LF	0.017	119.60	119.00
P-14	12" HDPE	28-LF	0.003	119.85	119.75
P-15	12" HDPE	30-LF	0.005	118.41	118.24
P-16	12" HDPE	26-LF	0.005	119.15	119.00
P-17	12" HDPE	3-LF	0.014	120.00	119.90
P-18	12" HDPE	77-LF	0.005	118.89	118.51
P-19	12" HDPE	8-LF	0.008	116.30	116.20
P-20	12" HDPE	8-LF	0.009	119.10	118.99
P-21	12" HDPE	30-LF	0.004	120.13	120.00
P-22	12" HDPE	54-LF	0.005	118.14	117.87
P-23	12" HDPE	1-LF	0.009	118.85	118.80
P-24	12" HDPE	1-LF	0.000	116.40	116.40
P-25	12" HDPE	2-LF	0.000	116.40	116.40
P-26	12" HDPE	4-LF	0.006	119.15	119.10
P-27	12" HDPE	3-LF	0.007	116.50	116.45
P-28	12" HDPE	39-LF	0.005	117.24	117.02
P-29	12" HDPE	33-LF	0.005	119.45	119.25

PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
RD-1	6" HDPE	23-LF	0.002	119.85	119.80
RD-2	6" HDPE	23-LF	0.002	119.80	119.75
RD-3	6" HDPE	23-LF	0.002	119.75	119.70
RD-4	6" HDPE	19-LF	0.005	120.25	120.13
RD-5	6" HDPE	18-LF	0.000	119.75	119.75
RD-6	6" HDPE	14-LF	0.000	119.75	119.75
RD-7	6" HDPE	17-LF	0.005	120.10	120.00
RD-8	6" HDPE	23-LF	0.006	120.00	119.85
RD-9	6" HDPE	23-LF	0.006	119.85	119.70
RD-10	6" HDPE	23-LF	0.006	119.70	119.55
RD-11	6" HDPE	8-LF	0.004	119.55	119.50
RD-12	6" HDPE	14-LF	0.006	119.60	119.50
RD-13	6" HDPE	49-LF	0.005	119.85	119.60
RD-14	6" HDPE	60-LF	0.005	120.15	119.85



NOTES:

1. ALL EXISTING EARTHWORK MATERIALS, (EXCEPT FOR STOCKPILED FILL MATERIALS SHOWN ON C101) MAY BE INCORPORATED IN THE WORK AND USED FOR BACKFILL IF MATERIALS MEET 31 00 00 EARTHWORK SPECIFICATION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR TESTING OF EXISTING MATERIAL FOR POTENTIAL REUSE ON SITE. IF MATERIAL DOES NOT MEET MATERIAL REQUIREMENTS LISTED IN 31 00 00 FOR REUSE ON SITE, THEN THE CONTRACTOR SHALL REMOVE AND DISPOSE OF MATERIAL AND IMPORT NEW MATERIAL AS NEEDED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE TOWN. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BACKFILL MATERIALS AS NEEDED AND AS SPECIFIED IN SECTION 31 00 00 EARTHWORK. NO ON-SITE BACKFILL MATERIAL MAY BE USED AS PIPE TRENCH BACKFILL OR BELOW THE BUILDING SLAB AND FOUNDATION, UNLESS IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, ALL DRAIN MANHOLES SHALL BE 4' DIAMETER.
3. ALL RIM ELEVATIONS SHALL BE FLUSH WITH FINISH GRADE.
4. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
5. DUMPSTER PADS SHALL SLOPE AT A MINIMUM 2% INTO THE PAVED AREA.
6. ALL CATCH BASINS SHALL BE SET FLUSH AGAINST THE GRANITE CURBING.
7. EROSION CONTROL FABRIC SHALL BE USED FOR ALL SLOPES 3:1 OR STEEPER PER 32 91 19 SEEDING.
8. REFER TO EXISTING CONDITIONS PLAN FOR BENCHMARK LOCATIONS.
9. REFER TO UTILITY PLAN FOR PROPOSED UTILITY LOCATIONS AND COORDINATE ACCORDINGLY WITH ALL GRADING AND DRAINAGE WORK.
10. UNLESS NOTED AS TOP OF CURB (TOC), ALL SPOT ELEVATIONS ARE SHOWN AS THE BOTTOM OF CURB OR BOTTOM OF WALL ELEVATION. TOP OF CURB ELEVATIONS ARE 6" HIGHER THAN BOTTOM OF CURB.
11. GRASSED AREAS ADJOINING THE BUILDING SHALL SLOPE AWAY FROM THE BUILDING AT A 1% MINIMUM SLOPE.

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Drawing Title:
GRADING & DRAINAGE PLAN

Sheet Number:
C401

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NOTES:

1. THE G.C. IS RESPONSIBLE FOR EXCAVATION AND BACKFILL FOR ALL UNDERGROUND UTILITIES WITHIN THE BUILDING. COORDINATE LOCATIONS, ROUTING, DEPTH, ETC. WITH EACH SUBCONTRACTOR.
2. THE G.C. SHALL COORDINATE BOLLARD LOCATIONS FOR ELECTRICAL TRANSFORMER WITH UTILITY COMPANY PRIOR TO INSTALLATION.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE G.C. SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE G.C. FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE G.C. AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE G.C. SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER.
5. THE G.C. IS RESPONSIBLE FOR ADJUSTING HORIZONTAL AND VERTICAL ALIGNMENT OF PROPOSED UTILITIES AS REQUIRED TO COMPLETE THE PROPOSED DRAINAGE AND SEWER WORK.
6. THE G.C. SHALL PROVIDE ALL NECESSARY FITTINGS TO ACHIEVE WATER SERVICE LAYOUT AS SHOWN ON THE DRAWINGS.
7. THE G.C. IS RESPONSIBLE FOR PROVIDING PROPER TRANSITION MATERIAL AND FITTINGS TO PROVIDE A TIGHT TRANSITION FROM DISSIMILAR PIPE MATERIALS FROM PLUMBING & FIRE PROTECTION WORK TO G.C. WORK.
8. THE G.C. SHALL BE RESPONSIBLE FOR THE EXCAVATION, SAND PIPE BEDDING, AND BACKFILL OF THE GAS LINE. THE PIPE INSTALLATION WILL BE THE RESPONSIBILITY OF THE GAS COMPANY FROM THE MAIN TO THE METER. THE GAS COMPANY WILL DETERMINE IN THE FIELD THE EXACT LOCATION FOR PROPER CONNECTION TO THE EXISTING GAS MAIN.
9. THE G.C. IS RESPONSIBLE FOR EXCAVATION, BACKFILL, CONCRETE ENCASEMENT, AND REINFORCEMENT FOR ALL UNDERGROUND CONDUITS/DUCTBANKS, HANDHOLES, PLUMBING, AND FIRE PROTECTION WORK. COORDINATE LIMITS OF WORK WITH FP, P, E, AND TC DRAWINGS FOR WORK NOT SHOWN ON THIS DRAWING.

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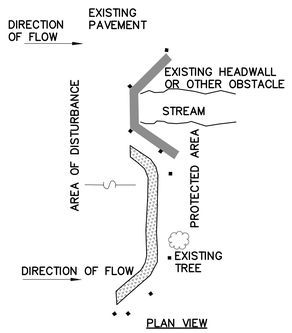
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Drawing Title:
UTILITY PLAN

Sheet Number:
C501

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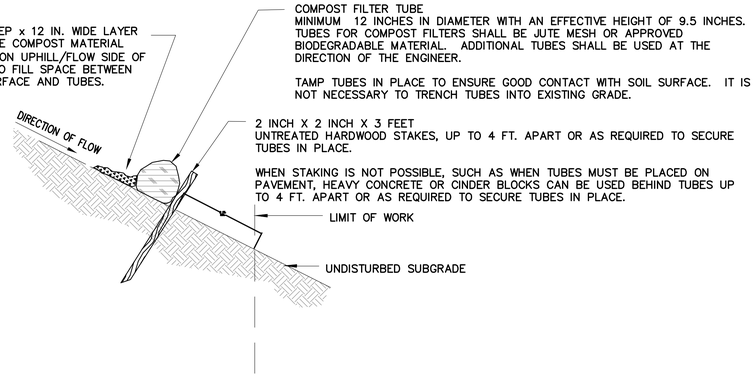
PLAN VIEW

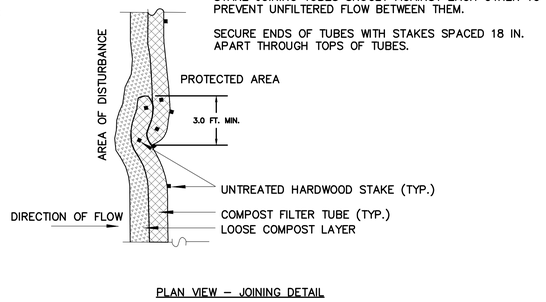
PLACING TUBES AGAINST THE UPHILL SIDE OF WELL– ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN–OFF.

GENERAL NOTES:

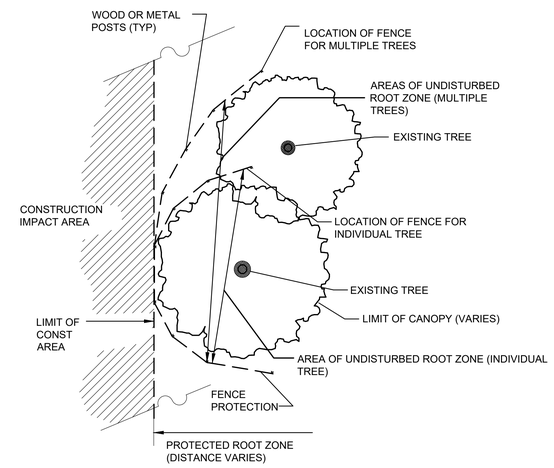
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN–OFF.
5. MULCH MATERIAL FOR THE FILTER TUBES SHALL BE WEED–FREE STRAW, WOOD EXCELSIOR, OR WOOD CHIPS, OR COIR. STRAW SHALL BE WEED FREE AND DERIVED FROM THRESHING OF GRAIN CROP.



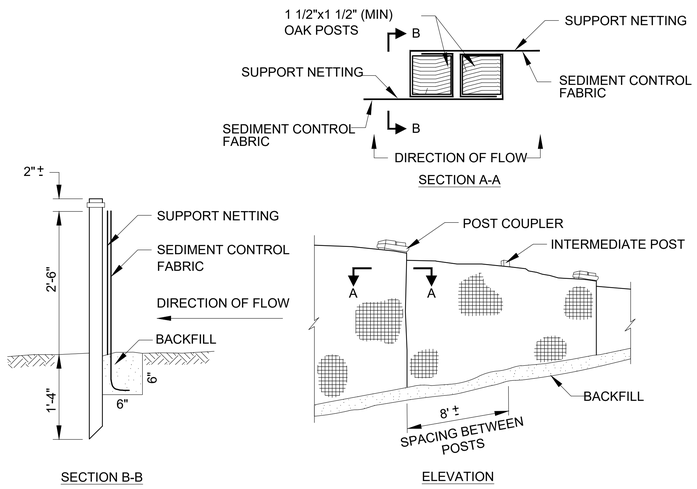


PLAN VIEW – JOINING DETAIL

1 EROSION CONTROL MEASURE: SINGLE COMPOST FILTER TUBE DETAIL
SCALE: N.T.S.

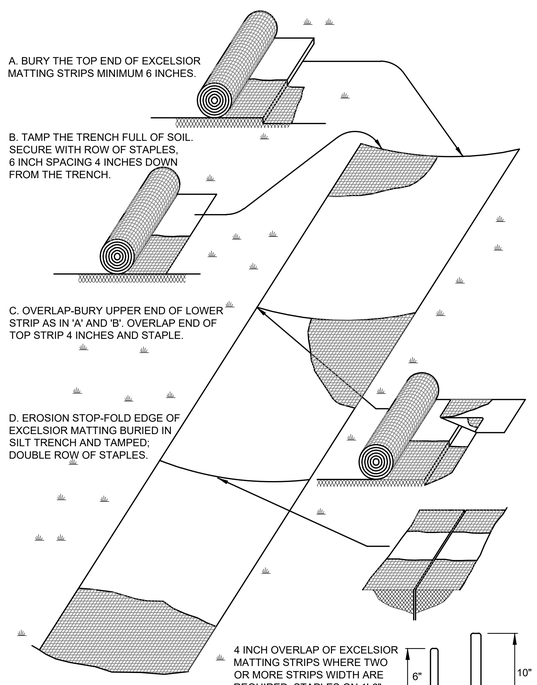


PLAN VIEW



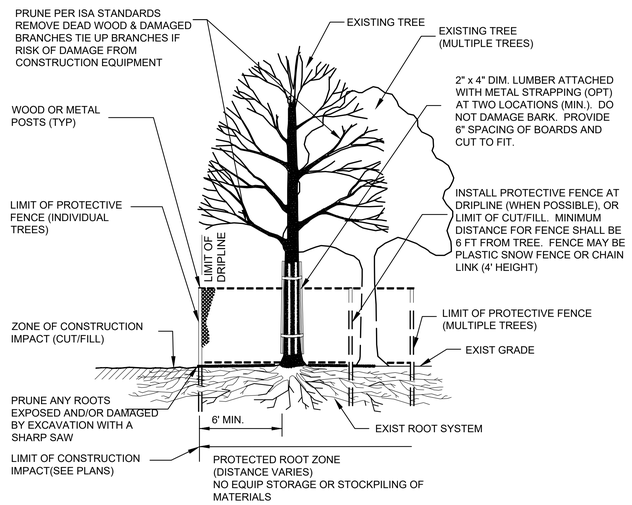
2 SILT FENCE DETAIL
SCALE: N.T.S.

1. EROSION CONTROL MEASURES SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
2. AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
3. IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDES EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
4. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
5. TEMPORARY SILT CONTROLS SHALL BE PLACED AS SHOWN ON THE PLAN. PERMANENTLY STABILIZE EACH COMPLETED SEGMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REMOVE TEMPORARY SILT CONTROLS AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS.
7. SILT CONTROLS SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SILT AND DEBRIS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
9. OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADE. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS NEEDED.
11. SILT CONTROLS SHALL BE REMOVED UPON THE SATISFACTORY COMPLETION OF ALL WORK SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
12. SITE PERIMETER SHALL HAVE COMPOST FILTER TUBES INSTALLED AS SHOWN ON C201.

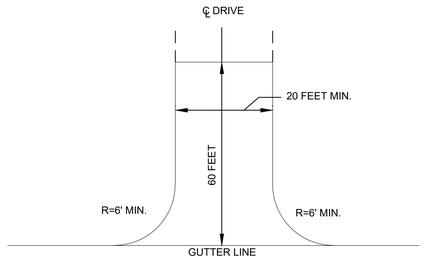


3 EROSION CONTROL BLANKET
SCALE: N.T.S.

NOTE:
JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS



4 EXISTING TREE PROTECTION
SCALE: N.T.S.

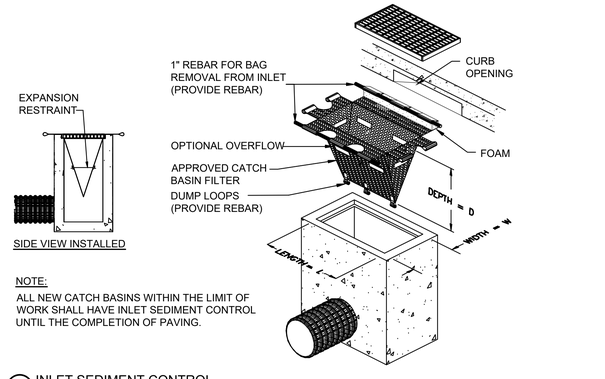


PLAN

NOTES:

1. AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE PLACED AT EACH ENTRANCE TO THE SITE, THROUGHOUT CONSTRUCTION ACTIVITIES.
2. THE LOCATION OF THE CONSTRUCTION ENTRANCE(S) SHALL BE APPROVED BY THE OWNER PRIOR TO PLACEMENT.
3. CONSTRUCTION ENTRANCE(S) SHALL CONSIST OF 2" CRUSHED STONE PLACED AT A DEPTH OF A MINIMUM 8 INCHES PLACED OVER GEOTEXTILE FABRIC.
4. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION AND ALL NECESSARY MAINTENANCE OF ALL ENTRANCES.
5. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO THE STREET, AS WELL MAINTENANCE OF EROSION CONTROL MEASURES.

5 STABILIZED TEMPORARY CONSTRUCTION ENTRANCE
SCALE: N.T.S.



NOTE:
ALL NEW CATCH BASINS WITHIN THE LIMIT OF WORK SHALL HAVE INLET SEDIMENT CONTROL UNTIL THE COMPLETION OF PAVING.

6 INLET SEDIMENT CONTROL
SCALE: N.T.S.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

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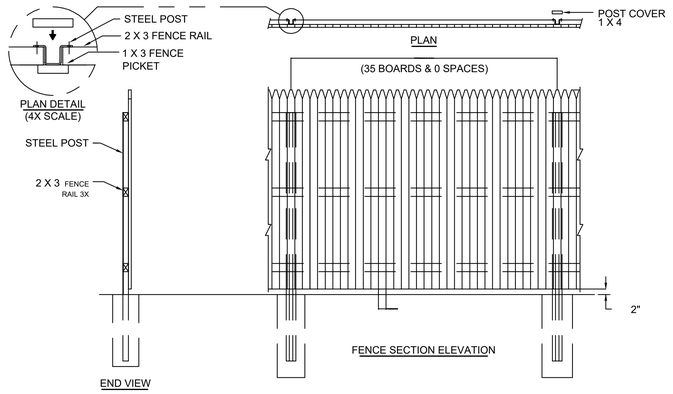
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Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP
W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:
SITE DETAILS I

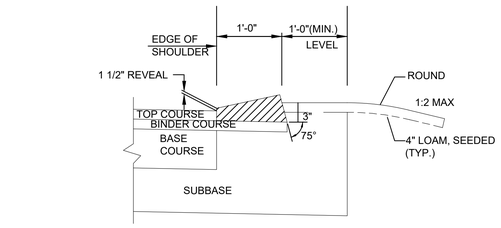
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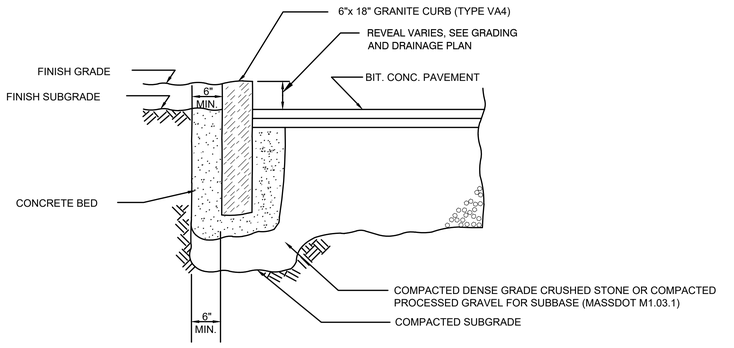


NOTES:
1. FOOTING WIDTH TO BE 10" [254MM]. MINIMUM DEPTH 30" [762MM].
2. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

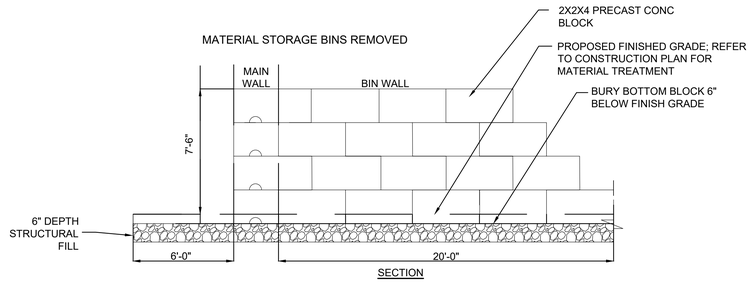
1 WOOD STOCKADE DETAIL
SCALE: N.T.S.



2 HMA BERM
SCALE: N.T.S.



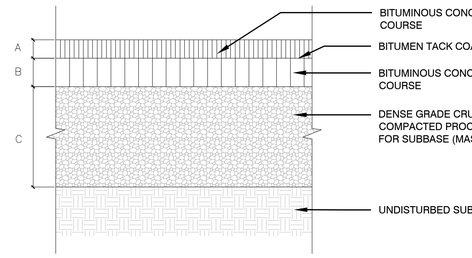
3 GRANITE CURB DETAIL
SCALE: N.T.S.



NOTES:

1. PRECAST BLOCKS SHALL BE INTERLOCKING AT ALL INTERSECTING WALLS.
2. PAINTING CONTRACTOR SHALL PAINT A 4" MARKER AT 6' ABOVE FINISHED GRADE ALONG THE INTERIOR PERIMETER OF EACH BULK MATERIAL STORAGE BIN.
3. CONTRACTOR SHALL PROVIDE A SIGN IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATION SECTION 828. THE SIGN SHALL BE 8 INCHES TALL AND HAVE LETTERING SIMILAR TO STREET NAME SIGN TYPE D3, AS DESCRIBED IN THE MUTCD (LATEST EDITION). THE SIGN SHALL STATE "MAXIMUM FILL HEIGHT 6 FEET" FOR EACH STORAGE BIN.
4. 2"Wx8"Lx1/2" THICK GALVAN. STEEL PLATE BOLTED TO EACH BLOCK AT VERTICAL JOINT. (TYP) PLATE PROVIDED AND INSTALLED BY G.C. PROVIDE PRE-DRILLED HOLES FOR SELF TAPPING CONCRETE SCREWS.
5. THE CONTRACTOR SHALL SUBMIT WALL DESIGN STAMPED BY A MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER. THE SUBMITTAL MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

4 PRECAST CONCRETE BLOCK STORAGE BIN WALL DETAIL
SCALE: N.T.S.

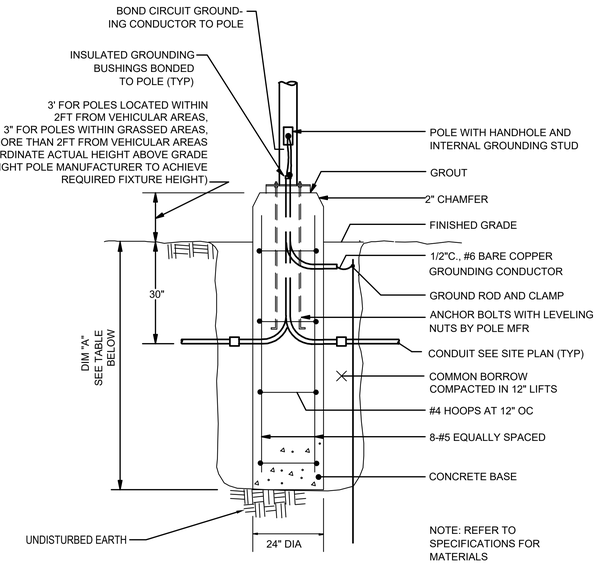


PAVEMENT DEPTH SCHEDULE

	TOP (A)	BINDER (B)	BASE COURSE (C)
HEAVY DUTY	2.0"	3.0"	16"

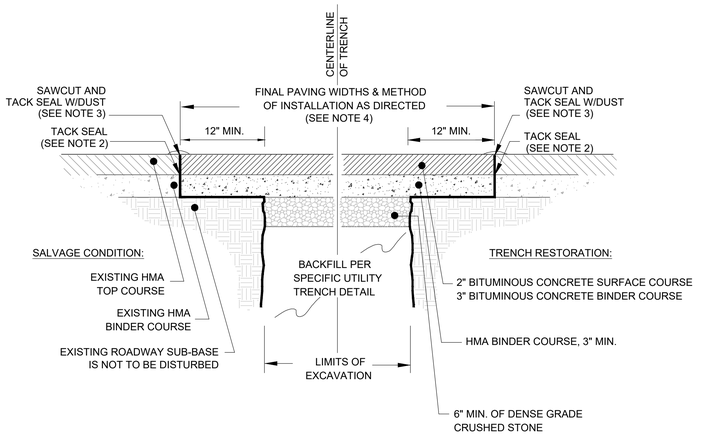
5 TYPICAL PAVEMENT SECTION DETAIL
SCALE: N.T.S.

NOTES:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.



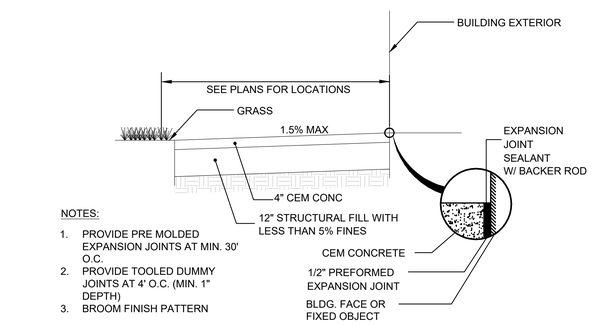
POLE HEIGHT	DIMENSION "A"
10' TO 20'	4'-6"
20' TO 30'	5'-6"
30' TO 40'	6'-6"

6 LIGHT POLE FOUNDATION DETAIL
SCALE: N.T.S.



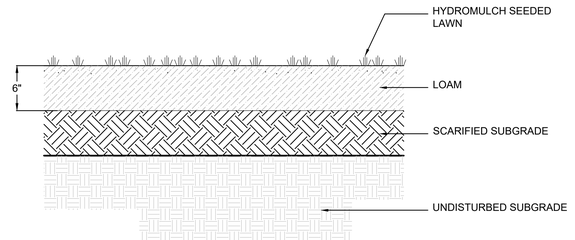
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
2. ALL EXPOSED HMA IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE TOWN.

7 TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL
SCALE: N.T.S.



NOTES:
1. PROVIDE PRE MOLDED EXPANSION JOINTS AT MIN. 30' O.C.
2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C. (MIN. 1" DEPTH)
3. BROOM FINISH PATTERN

8 CEMENT CONCRETE WALK
SCALE: N.T.S.



9 LOAM & SEED
SCALE: N.T.S.

NOTES:
1. REFER TO THE LANDSCAPING PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF LOAM AND SEED AREAS.

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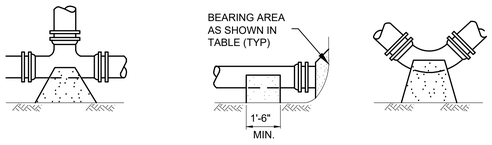
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Drawing Title:
SITE DETAILS II

Sheet Number:
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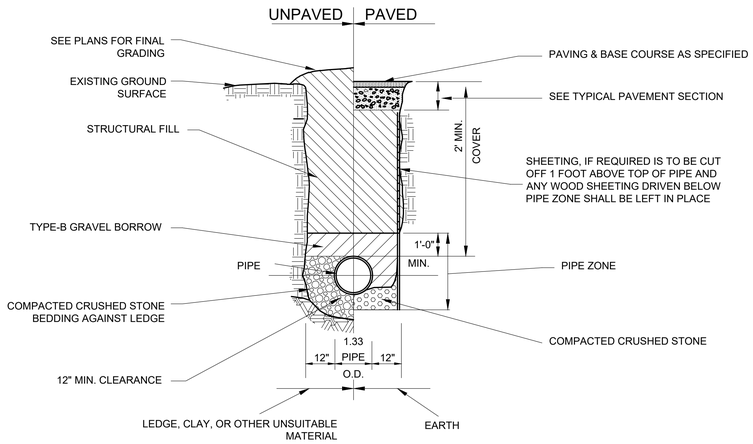


TEE DETAIL (PLAN VIEW) | CAP DETAIL (PLUG SIMILAR) (SECTION VIEW) | BEND DETAIL (PLAN VIEW)

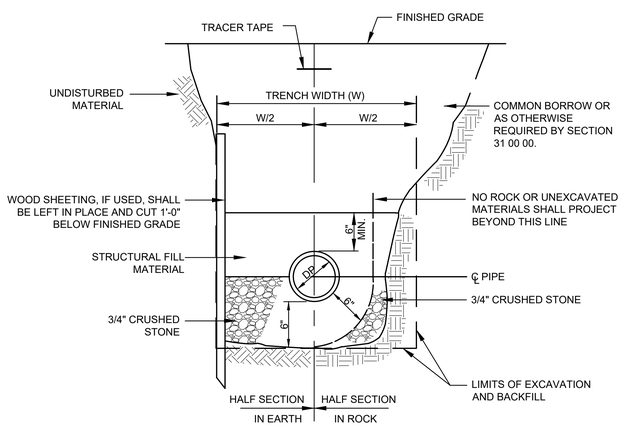
TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS				
SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2
16"	20	15	8	4
20"	36	24	13	7

NOTES: 1. ALL WATER MAIN FITTINGS SHALL HAVE CONCRETE BACKING FOR
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF

1 CONCRETE THRUST RESTRAINT FOR FITTINGS
SCALE: N.T.S.

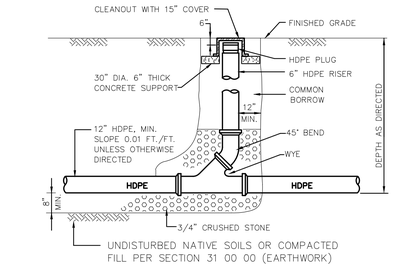


4 TYPICAL STORM DRAIN TRENCH DETAIL
SCALE: N.T.S.



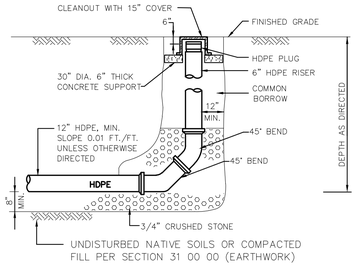
DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	TO 4"	5'-0"

8 SEWER TRENCH DETAIL
SCALE: N.T.S.



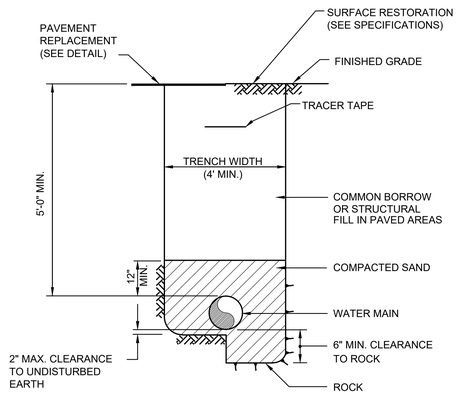
2 WYE CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED

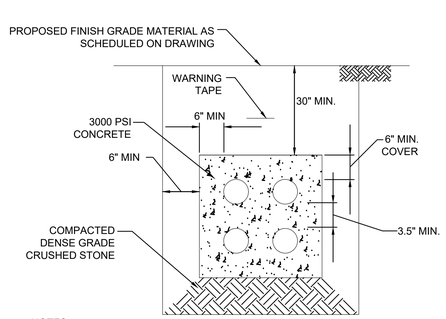


3 END CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED



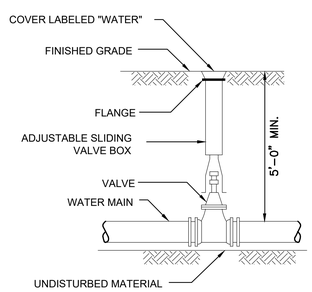
5 WATER MAIN TRENCH DETAIL
SCALE: N.T.S.



NOTES:

1. G.C. IS RESPONSIBLE FOR EXCAVATION, CONCRETE ENCASEMENT, REINFORCEMENT AND BACKFILL. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONDUITS & SPACERS. SEE E-SERIES DRAWINGS FOR DUCTBANK REINFORCEMENT REQUIREMENTS.
2. PROVIDE REINFORCEMENT PER LOCAL UTILITY COMPANY REQUIREMENTS.
3. QUANTITY & SIZE OF CONDUITS VARY. DUCTBANK SIZE SHALL BE ADJUSTED BASED ON CONDUIT TYPES & SIZES IDENTIFIED ON THE E-SERIES DRAWINGS.
4. CONTRACTOR SHALL COORDINATE DEPTH OF PROPOSED DUCTBANK WITH PROPOSED UTILITY & DRAINAGE SYSTEMS TO AVOID CONFLICTS.
5. BACKFILL AROUND DUCTBANK WITH GRAVEL BORROW BACKFILL MATERIAL.

7 ELECTRIC/COMMUNICATION DUCTBANK DETAIL
SCALE: N.T.S.



NOTES:
1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE.
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS.
3. REINFORCED CONCRETE COLLAR REQUIRED WHEN INSTALLED IN PAVED SURFACE.

9 VALVE AND BOX DETAIL
SCALE: N.T.S.

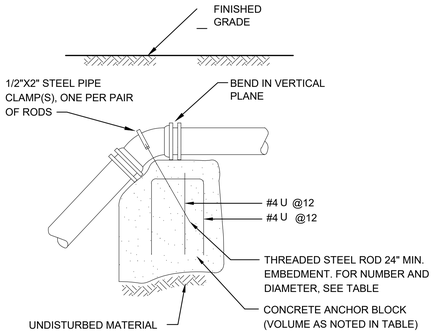


TABLE OF DIMENSIONS FOR ANCHOR BLOCKS		NO. AND SIZE OF THREADED RODS	
BEND SIZE	Volume	NO.	DIAM.
6"-22.5°	0.6 C.Y.	2	1/2"
6"-45°	1.0 C.Y.	2	1/2"
8"-22.5°	1.0 C.Y.	2	1/2"
8"-45°	1.8 C.Y.	2	3/4"
12"-22.5°	2.5 C.Y.	2	3/4"
12" 45°	4.0 C.Y.	4	3/4"

6 ANCHOR BLOCK DETAIL
SCALE: N.T.S.

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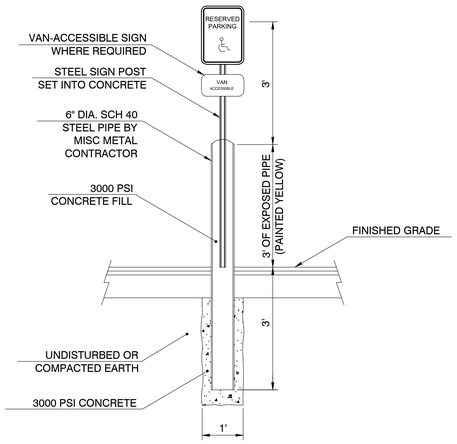
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Approved By: AP

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W&S File No.: -

Drawing Title:
SITE DETAILS III

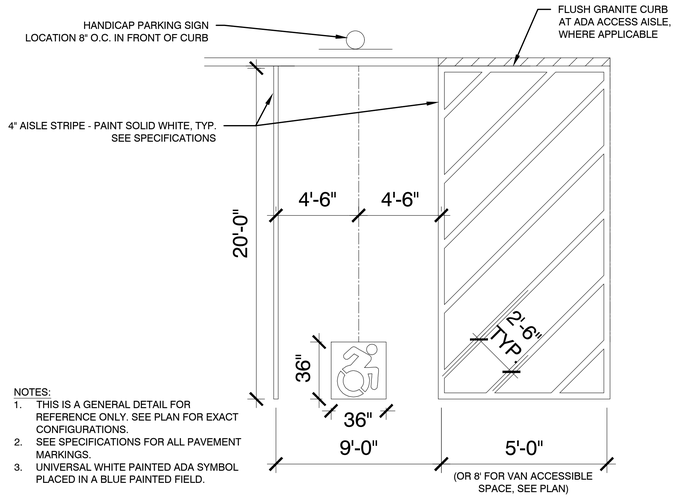
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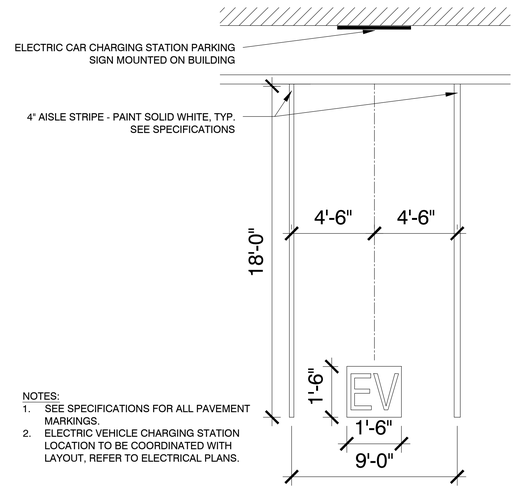
NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 1' FROM EDGE OF PARKING.
2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

1 ACCESSIBLE SIGN IN BOLLARD
SCALE: N.T.S.



NOTES:
1. THIS IS A GENERAL DETAIL FOR REFERENCE ONLY. SEE PLAN FOR EXACT CONFIGURATIONS.
2. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
3. UNIVERSAL WHITE PAINTED ADA SYMBOL PLACED IN A BLUE PAINTED FIELD.

2 HANDICAP PARKING SPACE MARKING
SCALE: N.T.S.

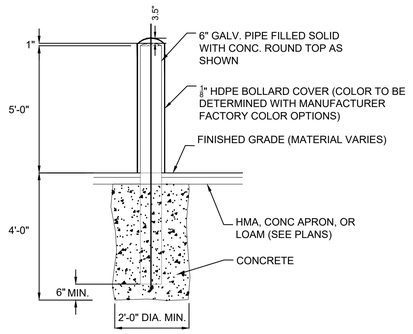


NOTES:
1. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
2. ELECTRIC VEHICLE CHARGING STATION LOCATION TO BE COORDINATED WITH LAYOUT, REFER TO ELECTRICAL PLANS.

3 EV CHARGING PARKING SPACE MARKING
SCALE: N.T.S.

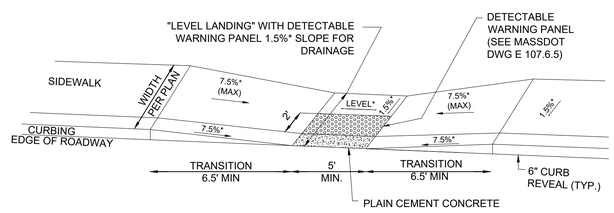
NOTES:
1. FULL EXCAVATION DEPTH EQUALS LENGTH OF FOUNDATION TUBE PLUS. 1'-0".
2. CONFIRM LOCATION OF FLAGPOLE IN FIELD.
3. DETAIL PROVIDED FOR ILLUSTRATION ONLY. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN TO MEET PROJECT SOIL CONDITIONS.

4 FLAGPOLE DETAIL
SCALE: N.T.S.



NOTES:
1. SEE C103 SERIES FOR BOLLARD LOCATIONS.
2. BOLLARD FOUNDATION CONCRETE TO BE 3000 PSI MIN.
3. EXACT LOCATION TO BE DETERMINED IN THE FIELD AND APPROVED BY TOWN BEFORE INSTALLATION.
4. 6" GALVANIZED PIPE PROVIDED BY MISC. METALS CONTRACTOR. INSTALLATION AND CONCRETE BY GENERAL CONTRACTOR.
5. HDPE BOLLARD SLEEVE WITH 6 1/8" DIAMETER TO BE INSTALLED OVER STEEL BOLLARD USING TWO FOAM EXPANSION STRIPS.

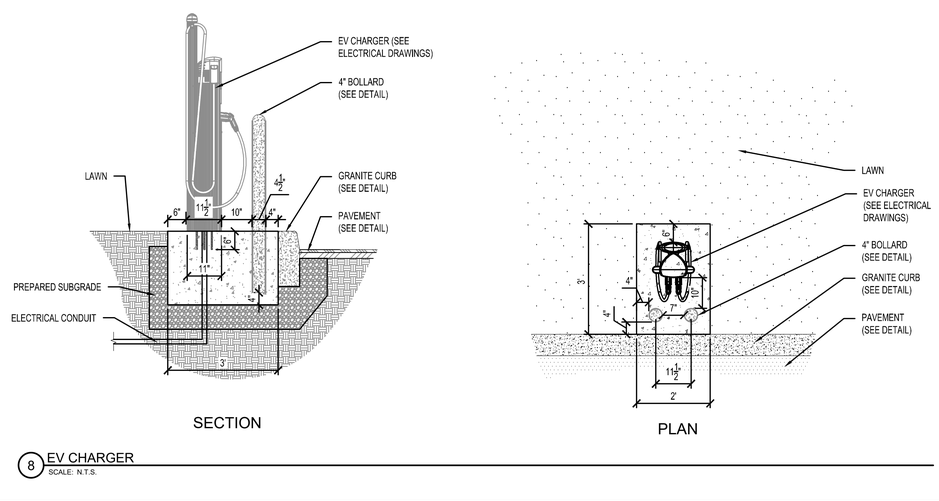
5 EXTERIOR STEEL PIPE BOLLARD
SCALE: N.T.S.



6 WHEEL CHAIR RAMP (TYPE B)
SCALE: N.T.S.

IDENTIFICATION NUMBER	TEXT	PANEL SIZE: WIDTH	PANEL SIZE: HEIGHT	PANEL SIZE: CORNER RADII	PANEL SIZE: BORDER WIDTH	PANEL SIZE: MARGIN WIDTH	NUMERALS & LETTERS: NUM. IN.	NUMERALS & LETTERS: UPPER CASE	NUMERALS & LETTERS: LOWER CASE	NUMERALS & LETTERS: SERIES	COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED
R1-1	STOP	30"	30"	SEE MUTCD, INCLUDING STANDARD HIGHWAY SIGNS, LATEST EDITION							WHITE ON RED	2	5.16	P5-1 2
R7-8MA	HANDICAPPED PARKING MASS. GEN. LAWS CH. 90 SEC. 2A VIOLATORS SUBJECT TO $100 FINE	12"	18"								WHITE ON BLUE	1	1.50	P5-1 1
R7-8b	VAN ACCESSIBLE	12"	6"								WHITE ON BLUE	1	0.50	P5-1 0
R5-11	AUTHORIZED VEHICLES ONLY	24"	18"								BLACK ON WHITE	1	3.00	P5-1 1
CUSTOM	CHARGING STATION ELECTRIC VEHICLE PARKING ONLY CHARGING	12"	18"								WHITE ON GREEN	4	6.0	P5-1 4

7 PERMANENT TRAFFIC SIGN SUMMARY
SCALE: N.T.S.



8 EV CHARGER
SCALE: N.T.S.

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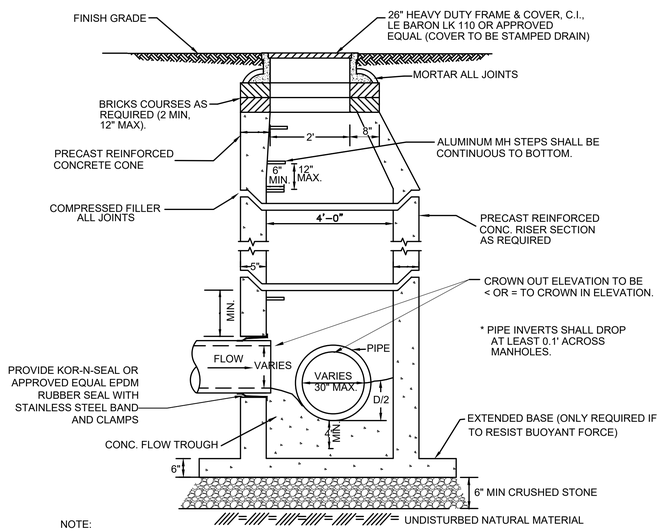
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Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP
W&S Project No.: ENG24 - 1552
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Drawing Title:
SITE DETAILS IV

Sheet Number:
C604

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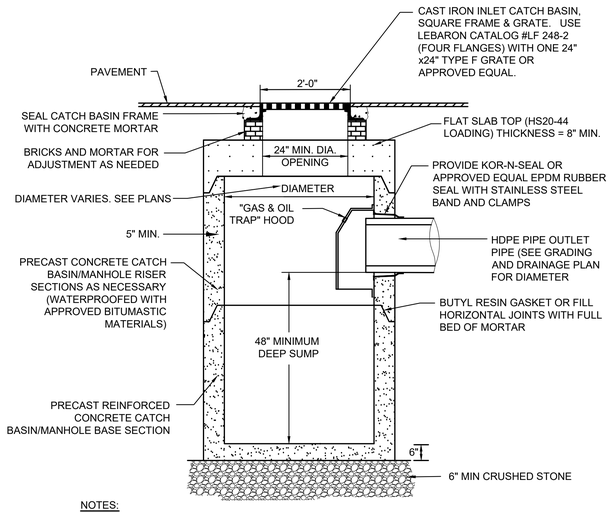


NOTE:

1. THE DRAIN MANHOLE SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.

2. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

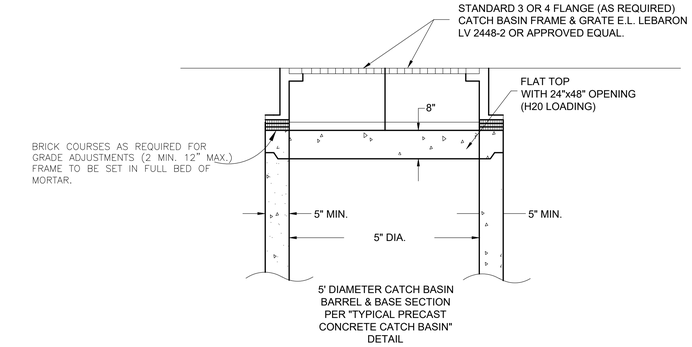
1 TYPICAL PRECAST CONCRETE MANHOLE
SCALE: N.T.S.



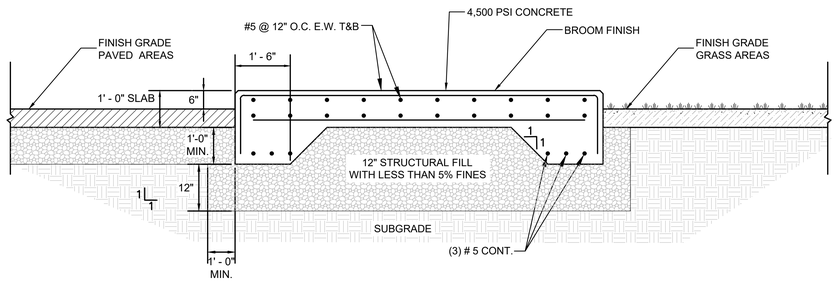
NOTES:

1. FOR DOUBLE CATCH BASINS, STRUCTURE SHALL BE 5' IN DIAMETER.
2. THE CATCH BASIN SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.
3. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

2 STANDARD CATCH BASIN
SCALE: N.T.S.



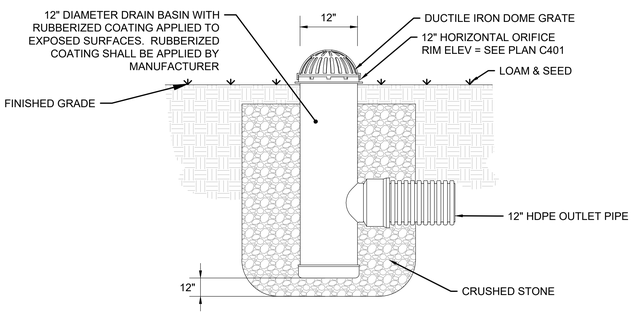
3 DOUBLE GRATE CATCH BASIN
SCALE: N.T.S.



NOTES:

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL CONCRETE PADS.
2. SEE LAYOUT AND GRADING PLANS FOR FINISH GRADE
3. COORDINATE WITH ALL CONTRACTORS AND ADJUST PAD LOCATIONS AND DIMENSIONS IN FIELD
4. SLABS 8" OR LESS IN THICKNESS SHALL HAVE ONE LAYER OF REINFORCING PLACED IN THE TOP ONE THIRD OF THE SLAB.
5. THE EXACT SIZE, SHAPE AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PAD(S) SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR EQUIPMENT. ANCHOR BOLTS, WHERE REQUIRED, SHALL BE SIZED AND LOCATED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE CAULK WITH POLYSULFIDE SEALANT AND PREFORMED JOINT FILLER WHERE EQUIPMENT PADS ADJOIN THE BUILDING.
7. EQUIPMENT PAD DETAIL SHALL BE USE FOR, BUT NOT LIMITED TO, THE ELECTRICAL TRANSFORMER PAD, EMERGENCY GENERATOR PAD, GAS METER PADS, AND CONEX STORAGE PAD.
8. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR CONDUIT PENETRATIONS IN EQUIPMENT PADS

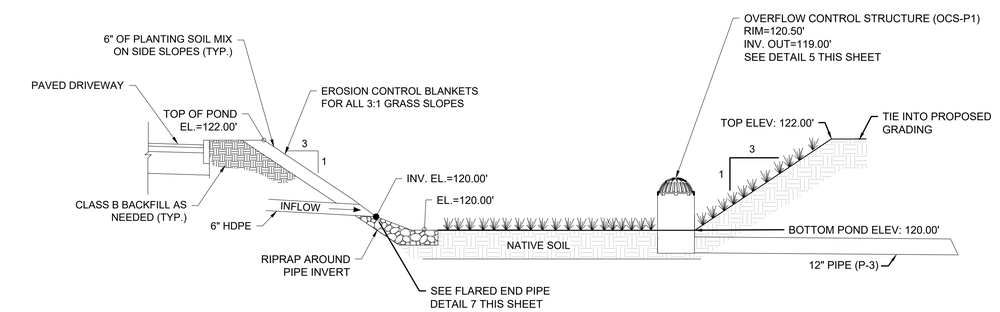
4 TYPICAL EQUIPMENT PAD DETAIL
SCALE: N.T.S.



5 OVERFLOW CONTROL STRUCTURE (OCS-P1)
SCALE: N.T.S.

NOTES:

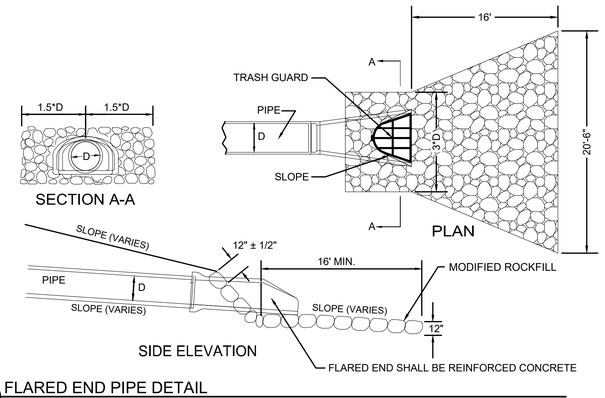
1. OUTLET CONTROL STRUCTURE SHALL BE AS MANUFACTURED BY NYLOPLAST OR APPROVED EQUAL.
2. OUTLET CONTROL STRUCTURE SHALL HAVE 2' DEEP SUMPS.



NOTES:

1. CROSS SECTION IS SCHEMATIC ONLY AND IS MEANT TO DISPLAY THE PATH OF TRAVEL FOR WATER.
2. SEE LANDSCAPE PLAN FOR PLANTING REQUIREMENTS.
3. ALL UNDOCUMENTED FILL SHALL BE REMOVED FROM BENEATH INFILTRATION BASIN DOWN TO NATIVE SOILS.

6 INFILTRATION BASIN P-1 SCHEMATIC DETAIL
SCALE: N.T.S.



7 FLARED END PIPE DETAIL
SCALE: N.T.S.

Project:
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:

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Approved By:	AP
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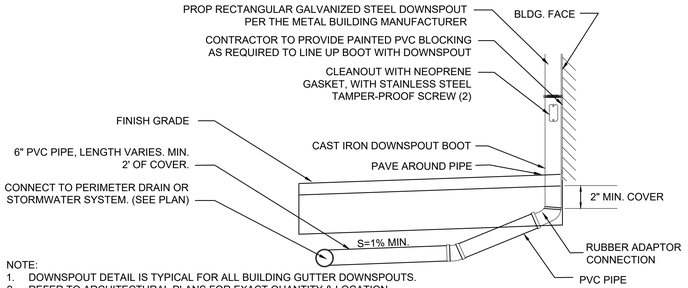
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SITE DETAILS V

Sheet Number:

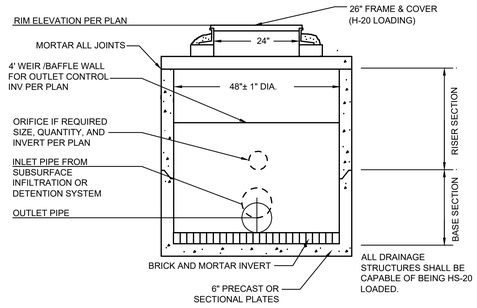
C605

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NOTE:
1. DOWNSPOUT DETAIL IS TYPICAL FOR ALL BUILDING GUTTER DOWNSPOUTS.
2. REFER TO ARCHITECTURAL PLANS FOR EXACT QUANTITY & LOCATION.
3. COORDINATE WITH CIVIL SITE PLANS FOR CONNECTIONS TO STORM SYSTEM.
4. PROVIDE A DOWNSPOUT BOOT AT EACH DOWNSPOUT TO ALLOW THE RECTANGULAR DOWNSPOUT TO TRANSITION TO THE ROUND CAST IRON RECEPTOR PIPE.
5. PAINT DOWNSPOUT ADAPTER BY PAINTING SUBCONTRACTOR. COLOR AS SELECTED BY THE ARCHITECT (CONFIRMED BY OWNER).
6. DOWNSPOUT ADAPTER SHALL BE MANUFACTURED BY J.R. HOE AND SONS, NEENAH FOUNDRY, PIEDMONT MANUFACTURING OR APPROVED EQUAL.

1 GUTTER DOWNSPOUT CONNECTION DETAIL (EXTERNAL)
SCALE: N.T.S.



2 OCS FOR INFILTRATION SYSTEMS INF-A, AND INF-B
SCALE: N.T.S.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

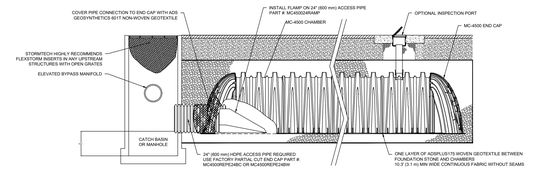
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

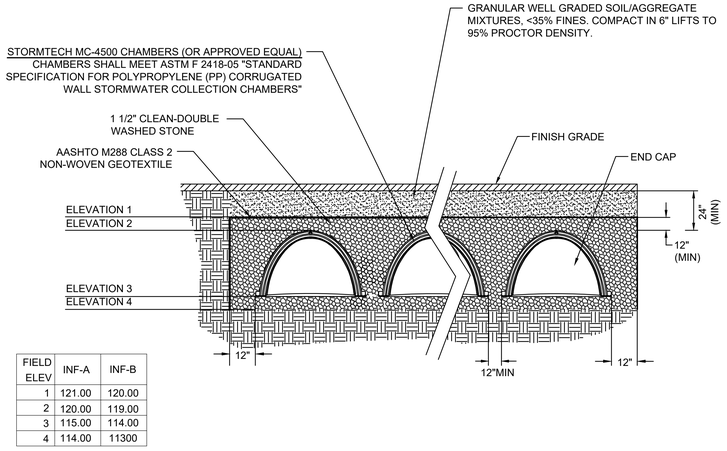
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



3 ISOLATOR ROW
SCALE: N.T.S.

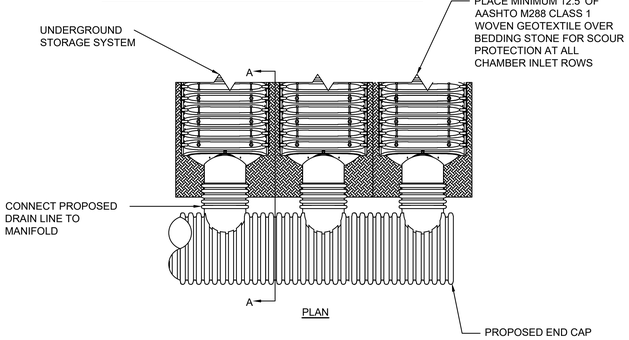
Table 5 - Standard Distances From Base of Chamber to Invert of Inlet and Outlet Manifolds on StormTech MC-4500 End Caps

	Pipe Diameter	Inv. (IN)	Inv. (MM)
TOP	12" (300 mm)	35.69	907
	15" (375 mm)	32.72	831
	18" (450 mm)	29.36	746
	24" (600 mm)	23.05	585
BOTTOM	12" (750 mm)	1.55	34
	15" (900 mm)	1.7	43
	18" (1050 mm)	1.97	50
	24" (1200 mm)	2.26	57

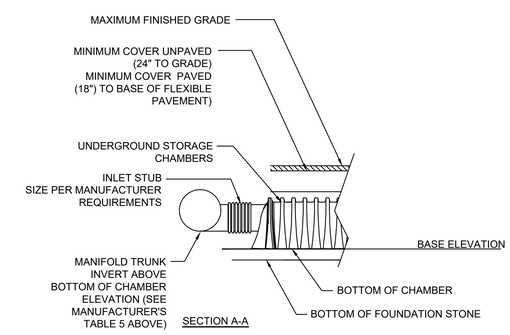


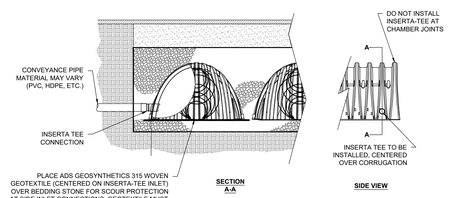
FIELD ELEV	INF-A	INF-B
1	121.00	120.00
2	120.00	119.00
3	115.00	114.00
4	114.00	11300

4 INFILTRATION/RECHARGE CHAMBER - SECTION
SCALE: N.T.S.



5 INFILTRATION/RECHARGE CHAMBER - MANIFOLD CONNECTION
SCALE: N.T.S.

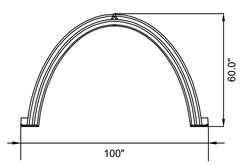




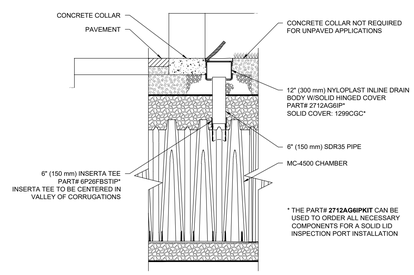
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.
CONTACT STORMTECH FOR MORE INFORMATION.

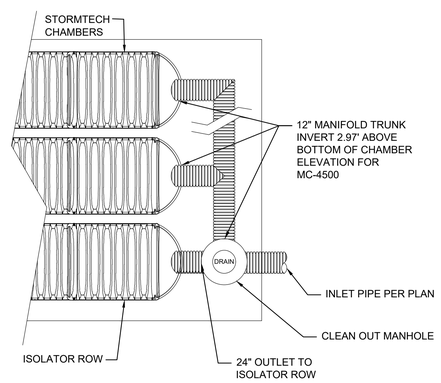
6 INSERTA TEE DETAIL
SCALE: N.T.S.



7 CHAMBER UNIT DETAIL
SCALE: N.T.S.



8 6" PVC INSPECTION PORT DETAIL
SCALE: N.T.S.



9 INFILTRATION CHAMBER CONNECTION TO ISOLATOR ROW AND MANIFOLD
SCALE: N.T.S.

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Revisions:

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COA:

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COMMONWEALTH OF MASSACHUSETTS ALYSSA K. PECK CIVIL No. 49074 REGISTERED PROFESSIONAL ENGINEER
10-16-25

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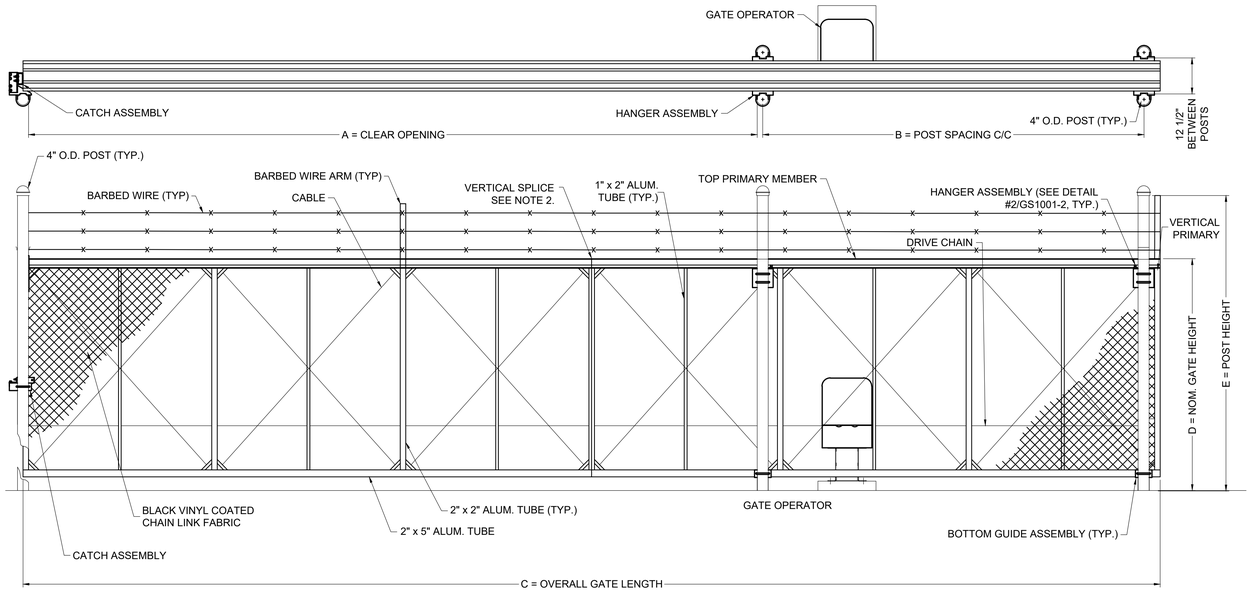
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Drawing Title:
CIVIL DETAILS VI

Sheet Number:
C606

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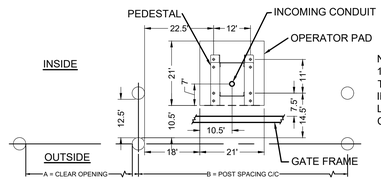


NOTES:

1. ALL FITTINGS PROVIDED FOR 4" O.D. POSTS. OTHER SIZES ARE AVAILABLE UPON REQUEST.
2. FOR GATES THAT REQUIRE TWO PIECE FABRICATION, A 5" ALUMINUM CHANNEL WILL BE SUBSTITUTED FOR THE 2" x 5" ALUM. TUBE, AND A VERTICAL SPLICE WILL BE ADDED.
3. POWDER COATED BLACK.
4. THE CONTRACTOR SHALL SUBMIT FINAL GATE FOUNDATION DESIGNS STAMPED BY A MASSACHUSETTS PE.

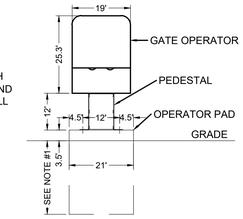
GATE DIMENSIONS		
A	30'	40'
B	14'-7"	19'-7"
C	45'-6"	55'-6"
D	8'-0"	8'-0"
E	9'-6"	9'-6"

1 CANTILEVER SLIDE GATE WITH BARBED WIRE
SCALE: N.T.S.

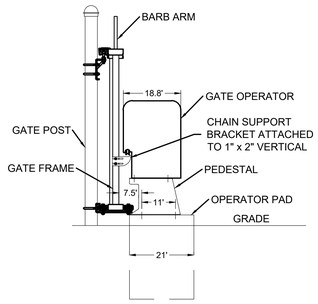


NOTES:
1) OPERATOR PAD DEPTH TO BE MINIMUM OF 24" AND IN ACCORDANCE WITH ALL LOCAL CODES AND SOIL CONDITIONS.

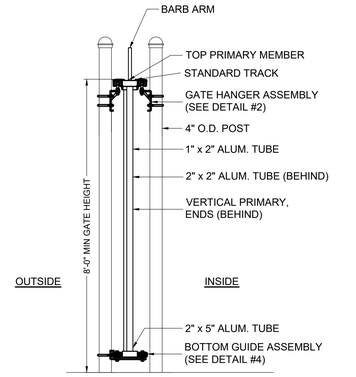
2 SLIDE GATE OPERATOR PAD LAYOUT PLAN
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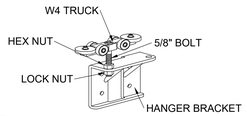
3 SLIDE GATE OPERATOR FRONT ELEVATION
SCALE: N.T.S.



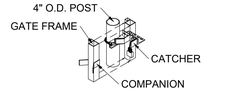
4 SLIDE GATE OPERATOR SIDE ELEVATION
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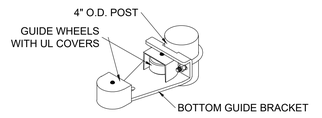
5 SLIDE GATE ASSEMBLY SECTION
SCALE: N.T.S.



6 SLIDE GATE HANGER
SCALE: N.T.S.



7 SLIDE GATE CATCH ASSEMBLY
SCALE: N.T.S.



8 SLIDE GATE BOTTOM GUIDE
SCALE: N.T.S.

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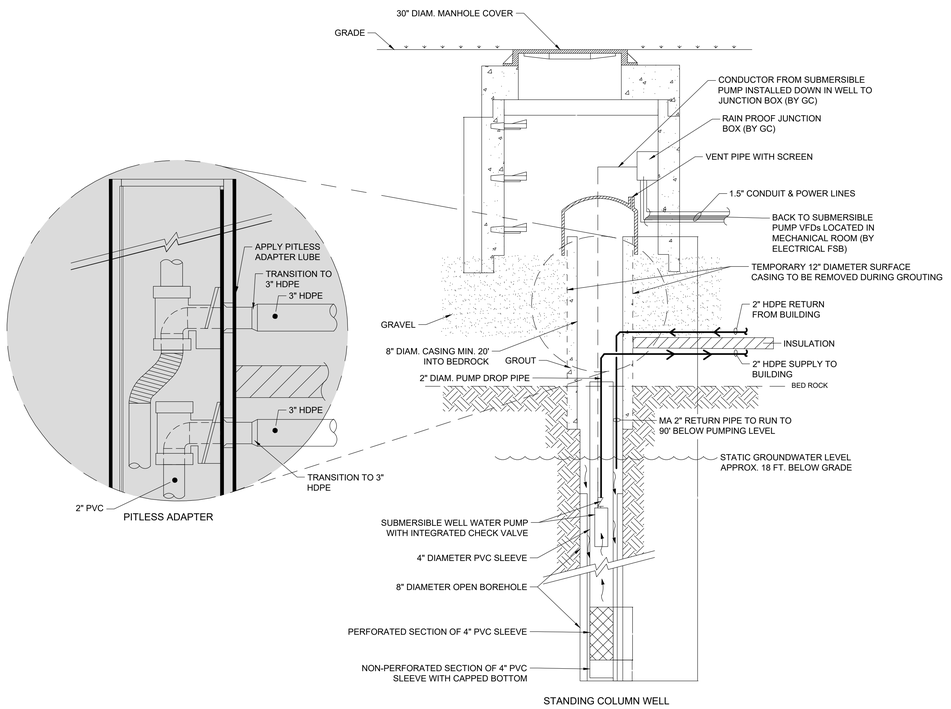
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C607

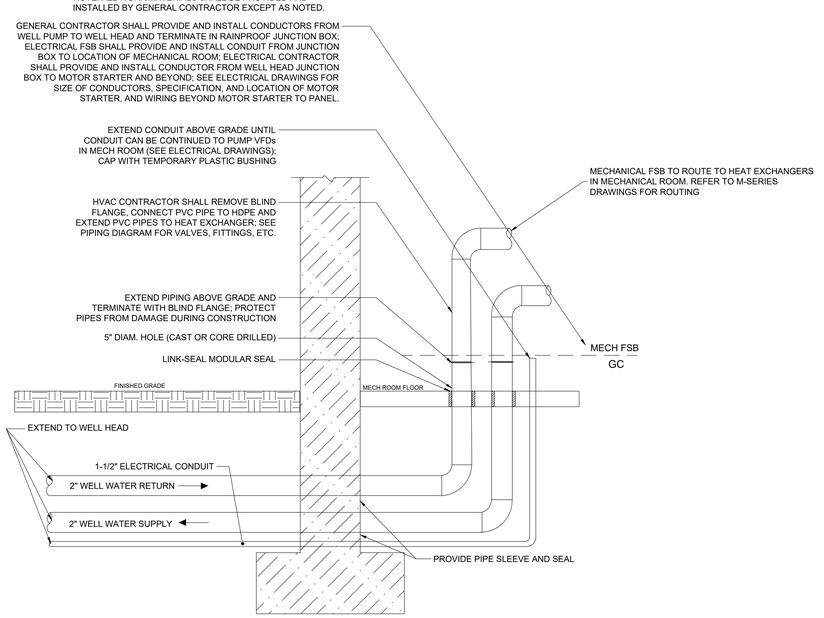
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1 STANDING COLUMN WELL DETAIL
SCALE: N.T.S.

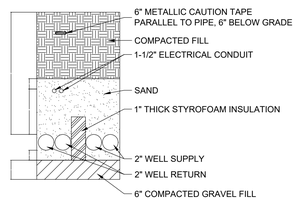
NOTE: ALL WORK/MATERIALS SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR EXCEPT AS NOTED.

GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTORS FROM WELL PUMP TO WELL HEAD AND TERMINATE IN RAINPROOF JUNCTION BOX; ELECTRICAL FSB SHALL PROVIDE AND INSTALL CONDUIT FROM JUNCTION BOX TO LOCATION OF MECHANICAL ROOM; ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTOR FROM WELL HEAD JUNCTION BOX TO MOTOR STARTER AND BEYOND; SEE ELECTRICAL DRAWINGS FOR SIZE OF CONDUCTORS, SPECIFICATION, AND LOCATION OF MOTOR STARTER, AND WIRING BEYOND MOTOR STARTER TO PANEL.



NOTE: SEE CIVIL PLANS FOR WATER SUPPLY, WATER RETURN, AND CONDUIT ROUTING OUTSIDE OF BUILDING. SEE MECHANICAL PLANS FOR ROUTING INSIDE BUILDING.

WELL WATER PIPING DETAIL
N.T.S.



2 WELL PIPE BURIAL DETAIL
SCALE: N.T.S.

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Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
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NOT RELEASED FOR CONSTRUCTION

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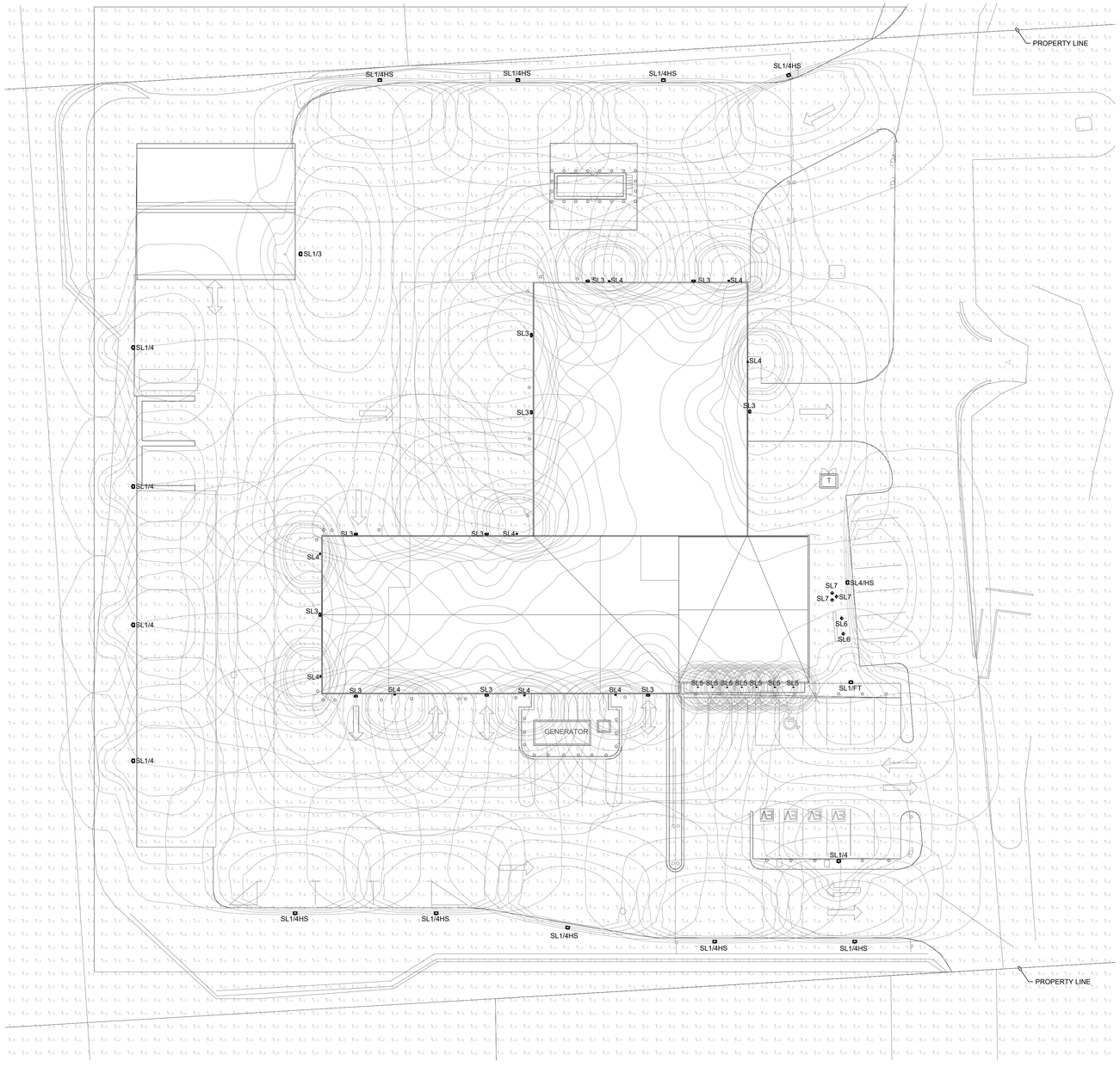
Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

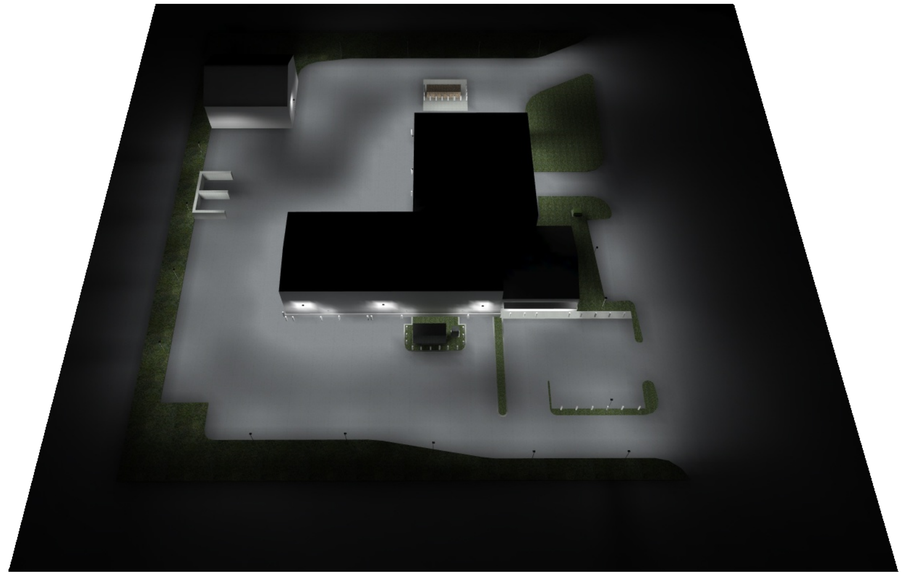
Drawing Title:
GEOTHERMAL WELL DETAILS

Sheet Number:
GT100

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1 LC001 SITE PHOTOMETRIC CALCULATION (BASE BID)
SCALE: 1" = 20'-0"



2 LC001 SITE PHOTOMETRIC (BASE BID) - RENDERING
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL ROAD
TRURO, MA 02666

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Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
DAVID M. PEREIRA
No. 49310
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER

Issued For:

SITE PLAN REVIEW

Scale: NTS

Key Plan:

NORTH

Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

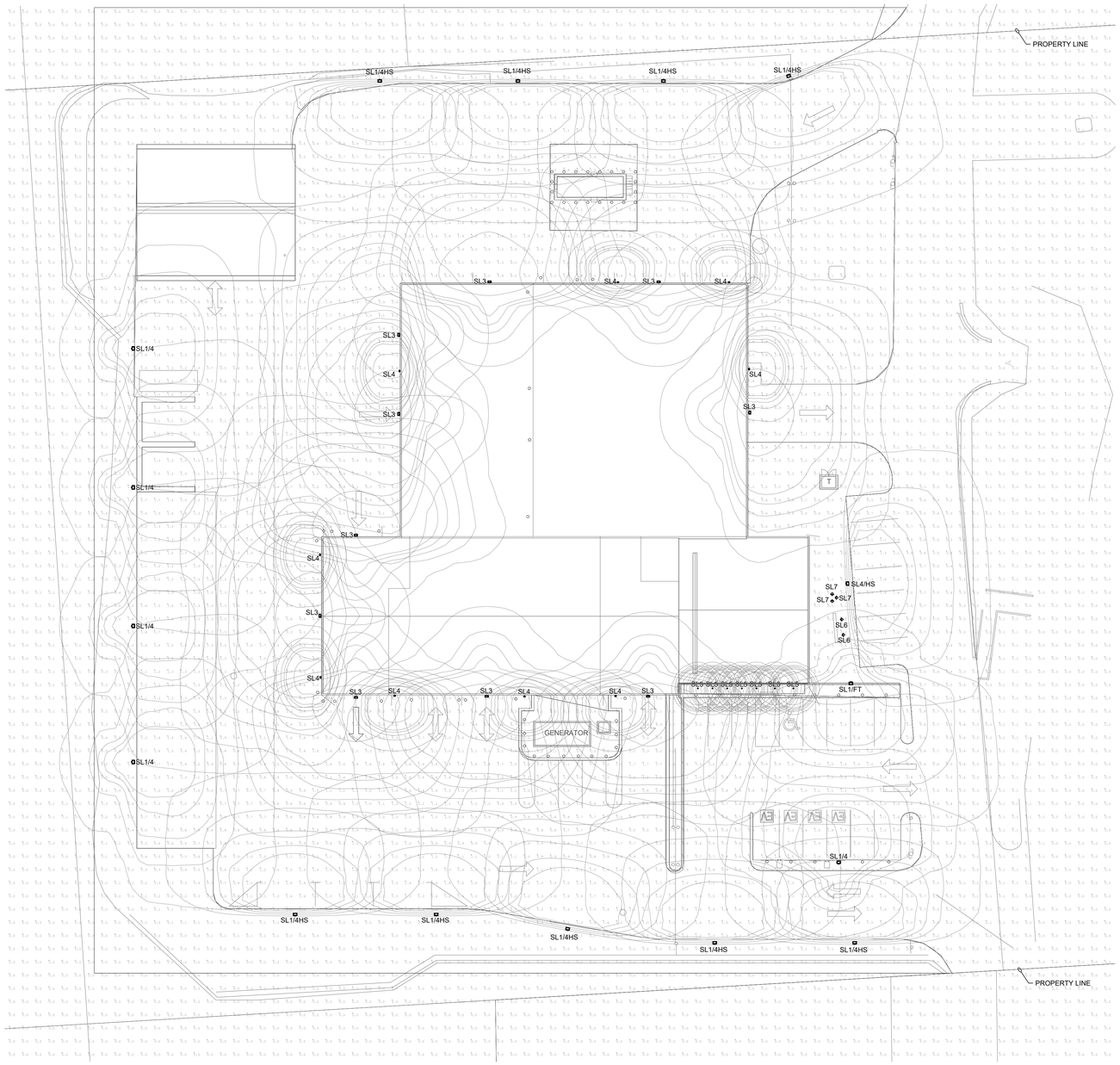
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SITE PHOTOMETRIC CALCULATION BASE BID

Sheet Number:

LC001

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1 LC002 SITE PHOTOMETRIC CALCULATION (BASE BID WITH BID ALT #1)
SCALE: 1" = 20'-0"



2 LC002 SITE PHOTOMETRIC (BASE BID WITH BID ALT #1) - RENDERING
SCALE: NONE

Project:
TOWN of TRURO, MA
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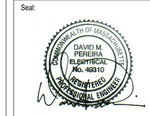
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Revisions:

No.	Date	Description

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SITE PLAN REVIEW

Scale: NTS

Key Plan:



Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

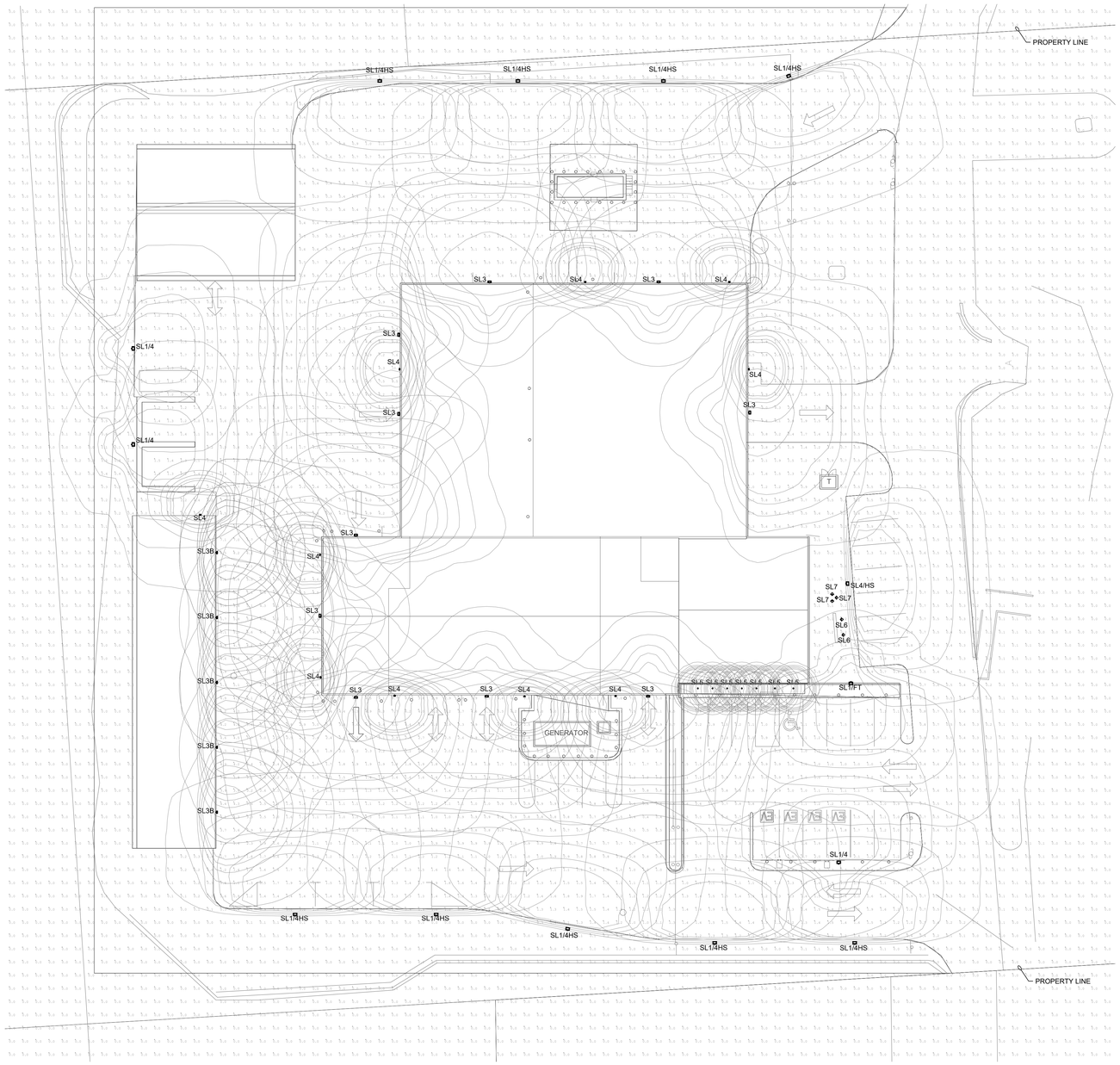
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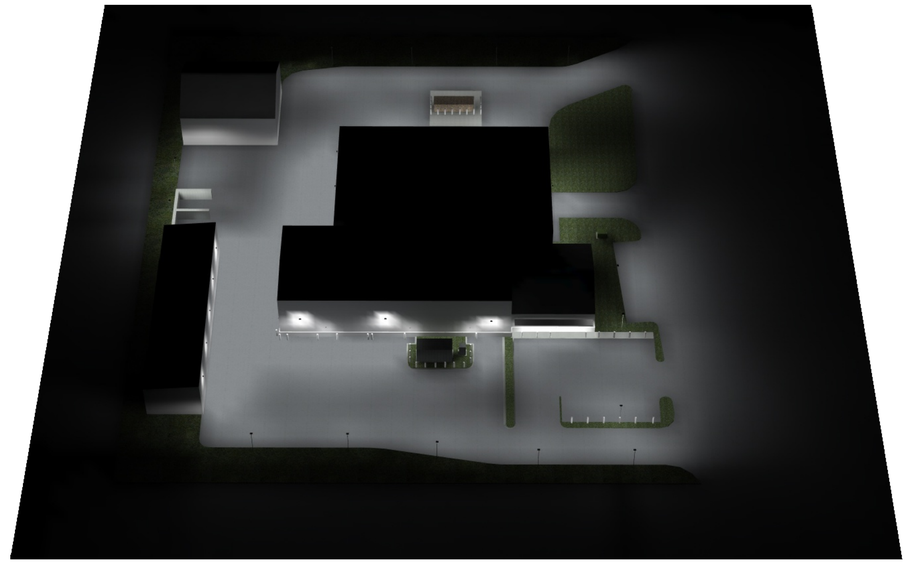
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1 LC003 SITE PHOTOMETRIC CALCULATION (BASE BID WITH BID ALT #1 & #2)
SCALE: 1" = 20'-0"



2 LC003 SITE PHOTOMETRIC (BASE BID WITH BID ALT #1 & #2) - RENDERING
SCALE: NONE

Project:
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Revisions:

No.	Date	Description

COA:

Seal:

DAVID M. PEREIRA
ELECTRICAL
No. 46910
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

Issued For:

SITE PLAN REVIEW

Scale: NTS

Key Plan:

NORTH

Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

SITE PHOTOMETRIC CALCULATION BASE BID WITH BID ALT 1 & 2

Sheet Number:

LC003

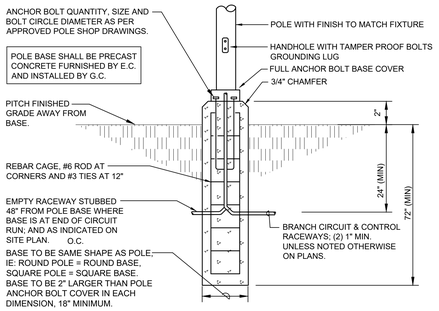
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LIGHTING FIXTURE SCHEDULE

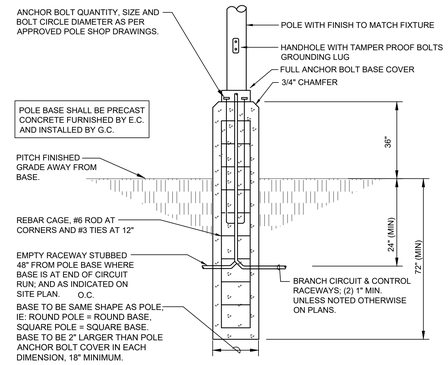
TYPE	MANUFACTURER	MODEL / SERIES NUMBER	MTG.	VOLTAGE	LIGHTING SOURCE			DESCRIPTION	MOUNTING HEIGHT ABOVE FINISHED GRADE (A.F.G)
					LUMENS	WATTS	SOURCE/CCT		
SL1/3	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-T3M-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4597	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE III DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL1/4	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-T4M-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4666	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE IV DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL1/4HS	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-BLC4-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	3454	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ TYPE IV DISTRIBUTION WITH INTEGRAL HOUSE SIDE SHIELD OPTICS MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15-0") A.F.G.
SL1/FT	LITHONIA LIGHTING	DSX0 LED-P1-30K-80CRI-TFTM-MVOLT-RPA+ 15' ROUND TAPERED ALUMINUM POLE	POLE	UNIVERSAL	4896	33	LED/3000K	SINGLE HEAD POLE FIXTURE W/ FORWARD THROW DISTRIBUTION MOUNTED ON ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS	(15'-0") A.F.G.
SL3	LITHONIA LIGHTING	WDGE3 LED-P1-30K-80CRI-R4-MVOLT-SRM	W	UNIVERSAL	7133	52	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A TYPE IV DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(15'-0" to 17'-0") A.F.G.
SL3B	LITHONIA LIGHTING	WDGE2 LED-P3-40K-80CRI-VF-MVOLT-SRM	W	UNIVERSAL	3015	23	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A FORWARD THROW DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(18'-0") A.F.G.
SL4	LITHONIA LIGHTING	WDGE1 LED-P1-40K-80CRI-VF-MVOLT-SRM	W	UNIVERSAL	1122	10	LED/3000K	LED WALL MOUNTED WEDGE FIXTURE WITH A FORWARD THROW DISTRIBUTION, SUITABLE FOR EXTERIOR APPLICATIONS AND CAPABLE OF 0-10V DIMMING.	(9'-0") A.F.G.
SL5	GOTHAM	EVO4-30K-10-XX-XX-LSS-MWD-MVOLT-GZ10	R	UNIVERSAL	1001	8.8	LED/3000K	4" APERTURE LED DOWN LIGHT FIXTURE WITH SEMI-SPECULAR FINISH AND 0-10V DIMMING CAPABILITY. FIXTURE HAS 45 DEGREE DISTRIBUTION.	CANOPY
SL6	ECOSENSE	F080-1S-MO-30-80-40-XX-XX-C RISE-PERMA-POST-19	IG	UNIVERSAL	761	7.5	LED/3000K	LED GRADE STAKE MOUNTED IP66 RATED FIXTURE PROVIDED WITH MOUNT FOR ADJUSTABLE OPTICS.	ON-GRADE
SL7	TARGETTI	KPL-41-ZM-L2-30+1DU2XX+1DUXXX+ 1DU2530+1E2495+1E2496+1E0388+XX	OG	UNIVERSAL	2384	35	LED/3000K	LED IP68 RATED FIXTURE SUITABLE FOR USE IN GRADE. FIXTURE CAPABLE OF ADJUSTING BOTH DISTRIBUTION ANGLE AND AIMING.	IN-GRADE

MOUNTING DESIGNATIONS

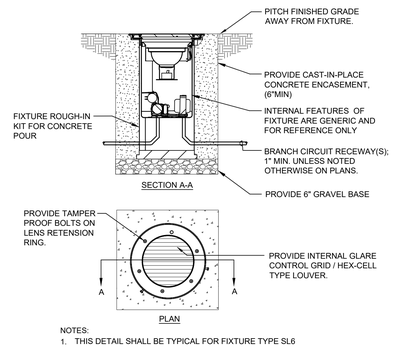
POLE	POLE	U	UNIVERSAL
BOL	BOLLARD	W	WALL
R	RECESSED	S	SURFACE
OG	ON GRADE	IG	IN GRADE



1 LC004 SITE POLE DETAIL (BEHIND CURBING WITHIN PARKING AREA)
SCALE: NONE

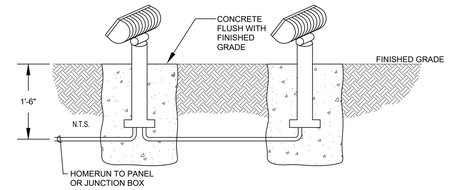


2 LC004 SITE POLE DETAIL (WITHIN PARKING AREA)
SCALE: NONE



NOTES:
1. THIS DETAIL SHALL BE TYPICAL FOR FIXTURE TYPE SL6

3 LC004 IN-GRADE SITE LIGHT DETAIL (FLAGPOLE)
SCALE: NONE



4 LC004 ON-GRADE SITE LIGHT DETAIL (SITE SIGN)
SCALE: NONE



5 LC004 POLE MOUNTED AREA LIGHTING FIXTURE
SCALE: NONE



6 LC004 WALL MOUNTED EGRESS DOOR AND STORAGE BUILDING FIXTURE
SCALE: NONE



7 LC004 WALL MOUNTED STORAGE BUILDING FIXTURE
SCALE: NONE



8 LC004 RECESSED CANOPY LIGHTING FIXTURE
SCALE: NONE



9 LC004 IN-GRADE FLAGPOLE FIXTURE
SCALE: NONE



10 LC004 ON-GRADE SITE SIGN FIXTURE
SCALE: NONE

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Revisions:

No.	Date	Description

COA:

Seal:

COMMONWEALTH OF MASSACHUSETTS
DAVID M. PEREIRA
ELECTRICAL
No. 60310
REGISTERED PROFESSIONAL ENGINEER

Issued For:
SITE PLAN REVIEW

Scale: NTS

Key Plan:

NORTH

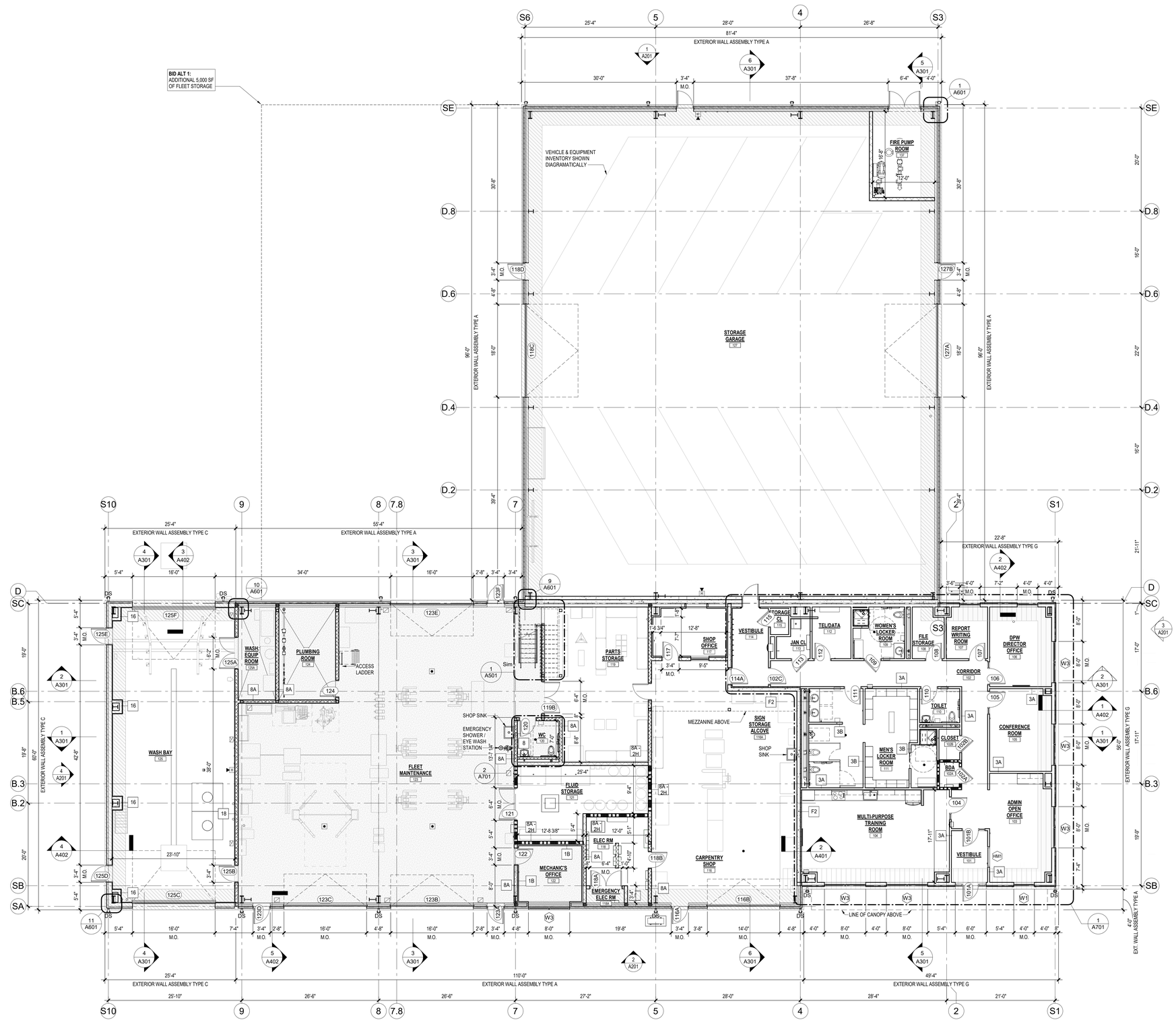
Date:	10/15/25
Drawn By:	JGD
Reviewed By:	DMP
Approved By:	DMP
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
PHOTOMETRIC DETAILS AND SCHEDULES

Sheet Number:
LC004

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BID ALT 1:
ADDITIONAL 5,000 SF
OF FLEET STORAGE



1 FIRST FLOOR PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE EQ DRAWINGS FOR MORE INFO.
2. FURNITURE SHOWN FOR INFORMATION ONLY (N.I.C.). SEE FURNITURE PLAN A921 FOR MORE INFO.
3. F.E. = FIRE EXTINGUISHER.
   F.E.C = FIRE EXTINGUISHER CABINET
   - BRACKET MOUNTED
   - CABINET MOUNTED (SEMI-RECESSED)
4. ALL INTERIOR DIMENSIONS ARE TAKEN FROM FACE OF GYPSUM WALL BOARD TO FACE OF GYPSUM WALL BOARD OR FACE OF CMU UNLESS SPECIFICALLY NOTED OTHERWISE.
5. SEE SHEET A012 FOR PLUMBING FIXTURE SCHEDULE / MOUNTING HEIGHTS.
6. BOLLARDS:
   - EB: EXTERIOR BOLLARD, 6" DIAMETER (SEE CIVIL DWGS)
   - IB: INTERIOR BOLLARD, 6" DIAMETER (SEE DETAIL X / AXXX)
7. FUME SEPARATION PARTITION, SEE A031 - FUME SEPARATION ASSEMBLY, TYPE F1 AND F2.
8. BOX-OUT DIMENSIONS AT STRUCTURAL COLUMNS ARE APPROXIMATE. GENERAL CONTRACTOR TO INSTALL TIGHT TO STRUCTURE, TYPICAL.
9. NOT ALL TV / MONITOR LOCATIONS ARE SHOWN. COORDINATE PROPOSED LOCATIONS WITH ELECTRICAL &TELECOMMUNICATIONS DRAWINGS. PROVIDE BLOCKING AT EACH LOCATION ACCORDINGLY.
10. CG — CORNER GUARD, SEE A901 FOR LOCATIONS.

UNDERSLAB RIGID INSULATION LEGEND:

A) ADMINISTRATION RIGID INSULATION
- STANDARD COMPRESSIVE STRENGTH - 25 PSI
- R-10, 4'-0" HORIZONTAL FROM FOUNDATION WALL INWARDS
- R-15 DOWN TO TOP OF FOODTING ON EXTERIOR SIDE OF FOUNDATION WALL

B) VEHICLE STORAGE, SHOPS RIGID INSULATION
- HIGH COMPRESSIVE STRENGTH - 60 PSI
- R-10, 4'0" HORIZONTAL FROM FOUNDATION WALLS INWARDS
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

C) MAINTENANCE BAY RIGID INSULATION
- HIGH COMPRESIVE STRENGTH - 60 PSI
- COMPLETELY UNDER SLAB
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

Project:
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375 Corner Road, Suite D
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Revisions:

No.	Date	Description

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

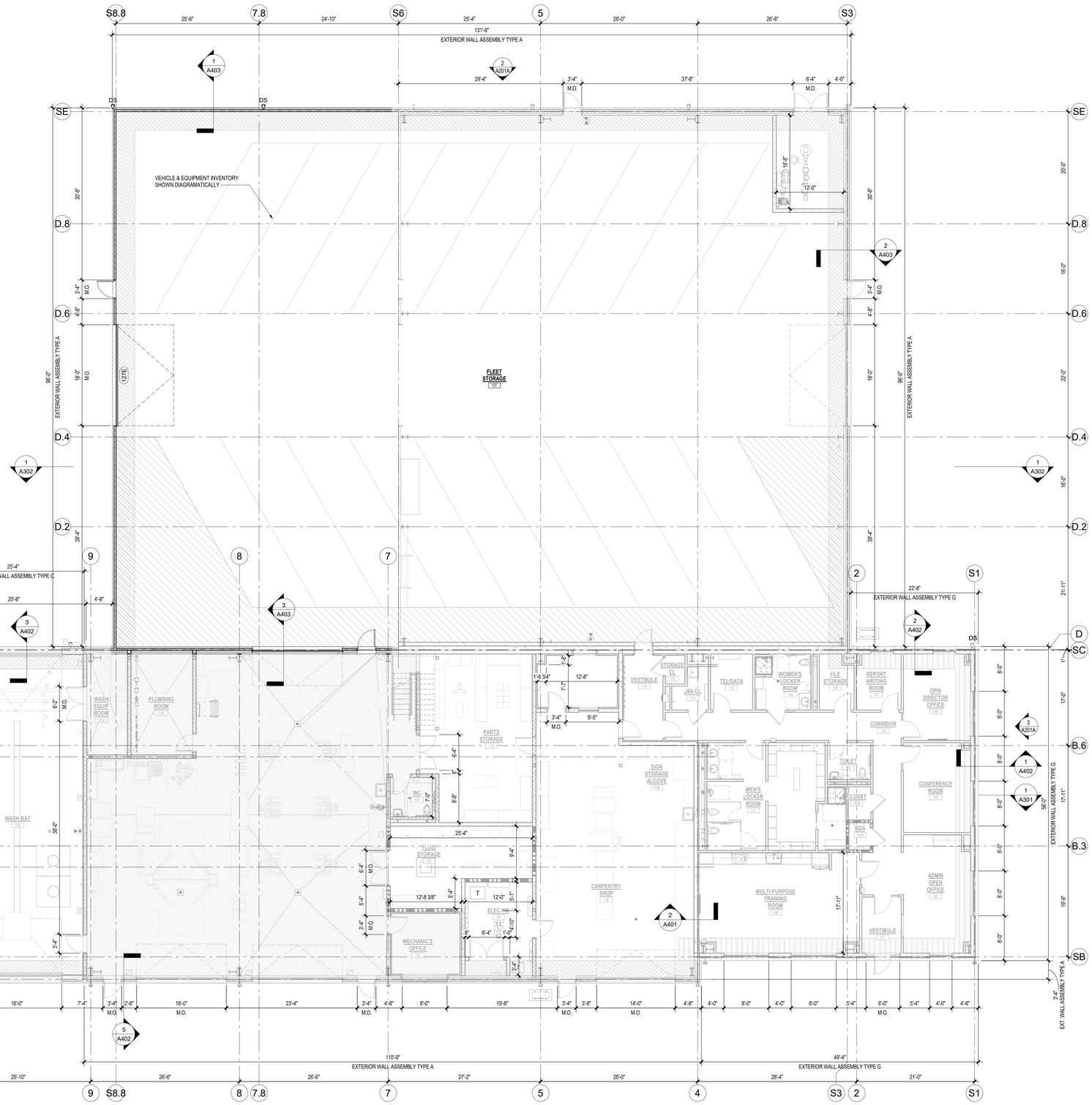
Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
OVERALL FLOOR PLAN - BASE

Sheet Number:
A101

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1 FIRST FLOOR PLAN
1/8" = 1'-0" 5/ A106

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

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REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
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W&S Project No.:	ENG24-1552
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OVERALL FLOOR PLAN - BID ALT 1

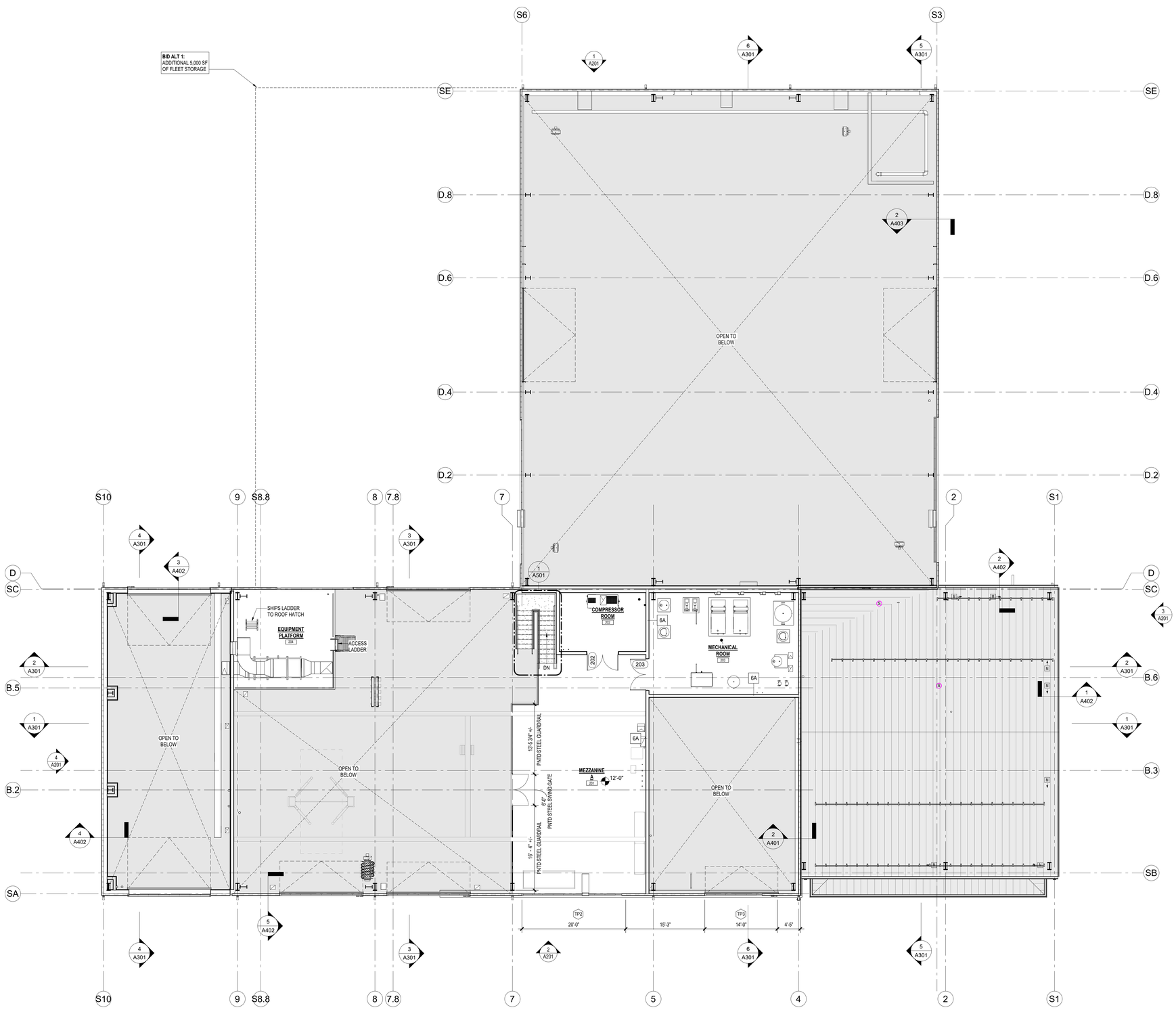
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A101A

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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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Scale: 1/8" = 1'-0"

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W&S File No.:	XXX

Drawing Title:

OVERALL MEZZANINE PLAN - BASE

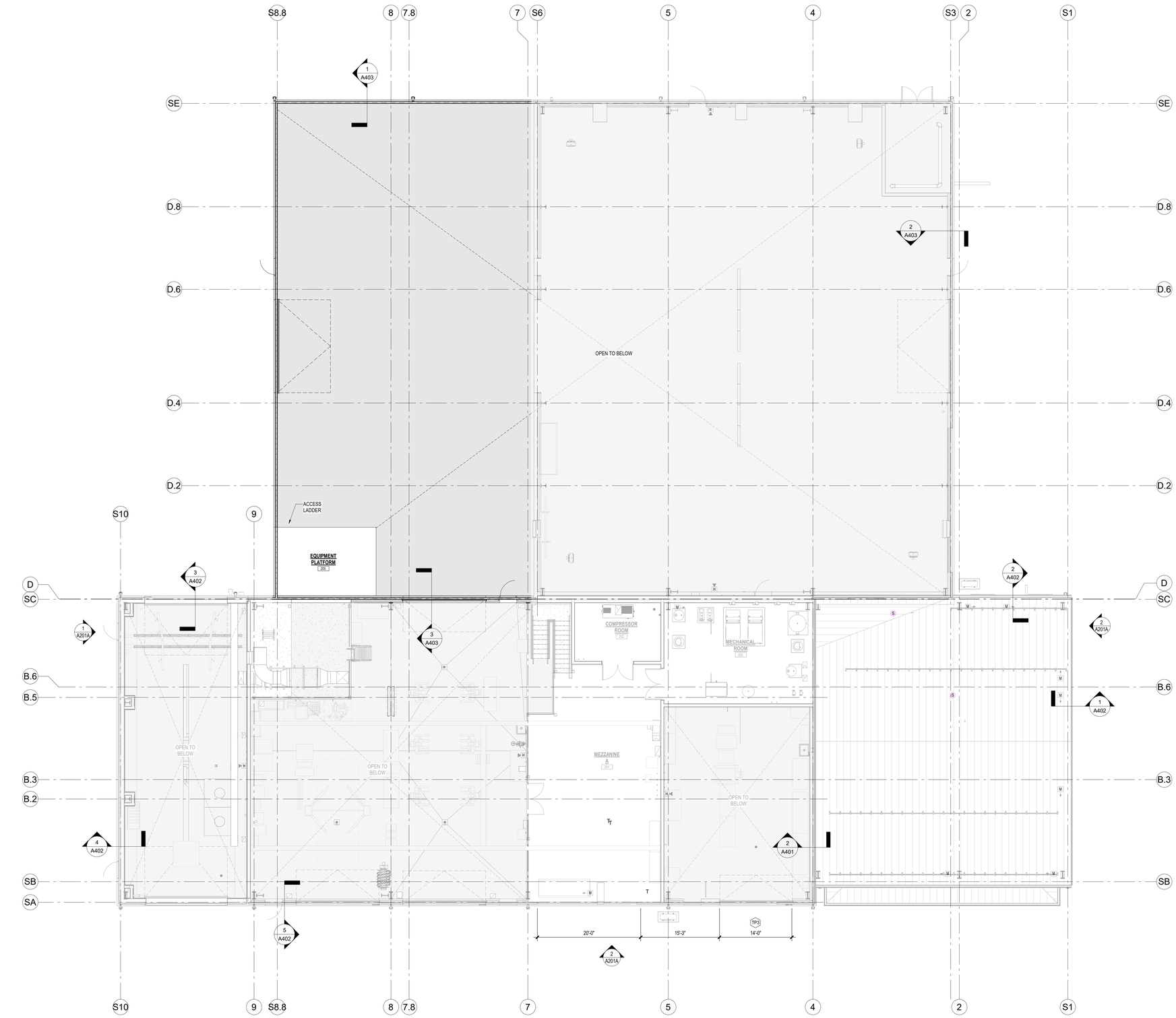
Sheet Number:

A102

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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0" 1/ A201

SCALE: 1/8" = 1'-0"

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Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
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www.westonandsampson.com

Consultants:

GGD Consulting Engineers, Inc.
375 Corner Road, Suite D
Darmouth, MA 02747
(508) 998-0883

Revisions:

No.	Date	Description

COA:

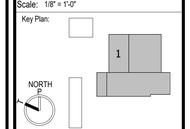
Seal:

Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:



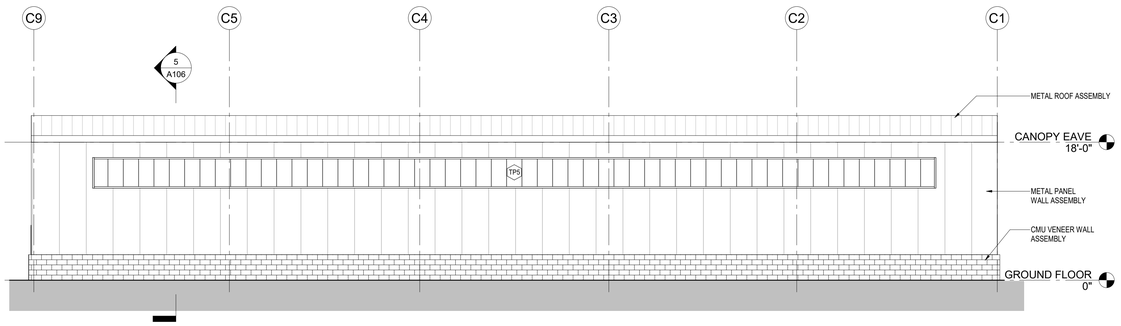
Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

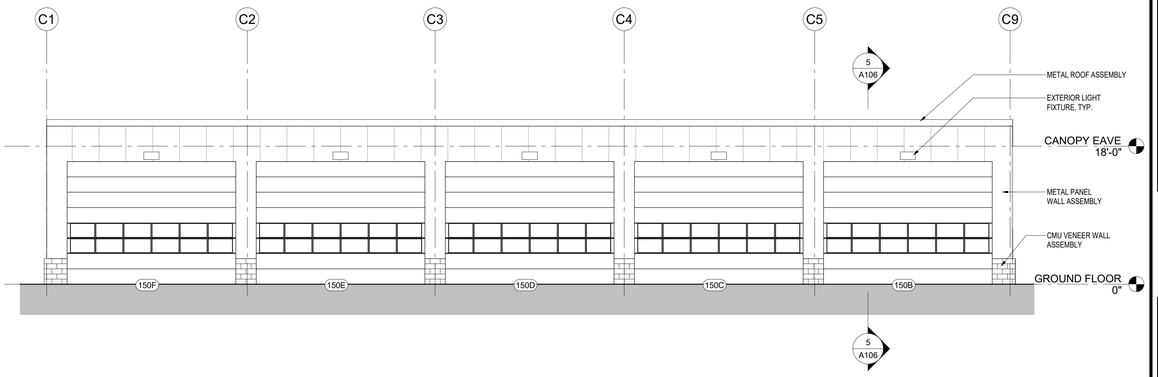
OVERALL MEZZANINE PLAN - BID ALT 1

Sheet Number:

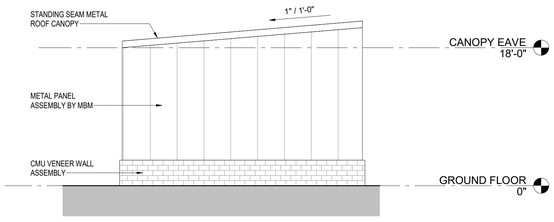
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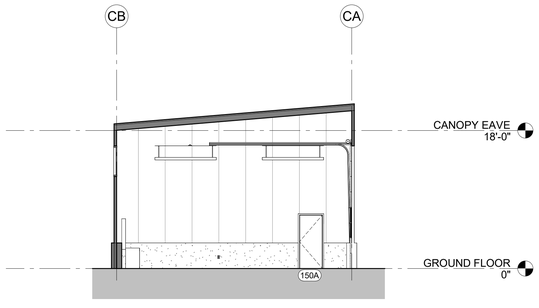
7 NORTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



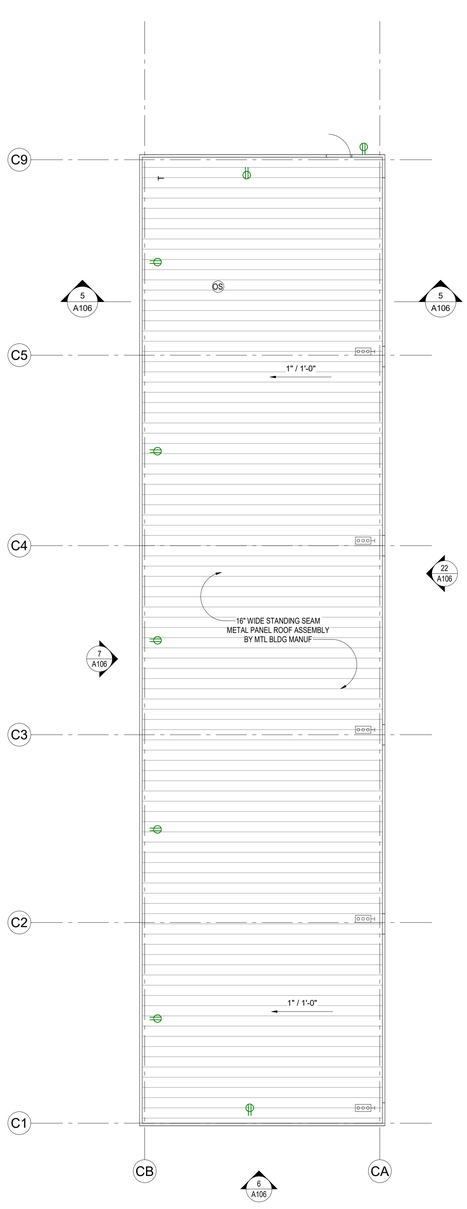
22 SOUTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



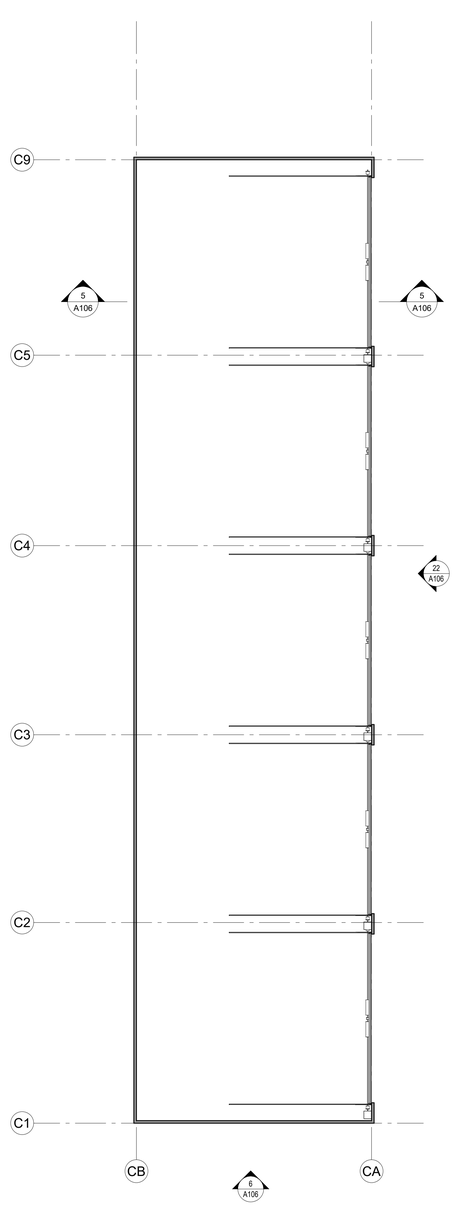
6 WEST ELEVATION - STORAGE CANOPY
1/8" = 1'-0"



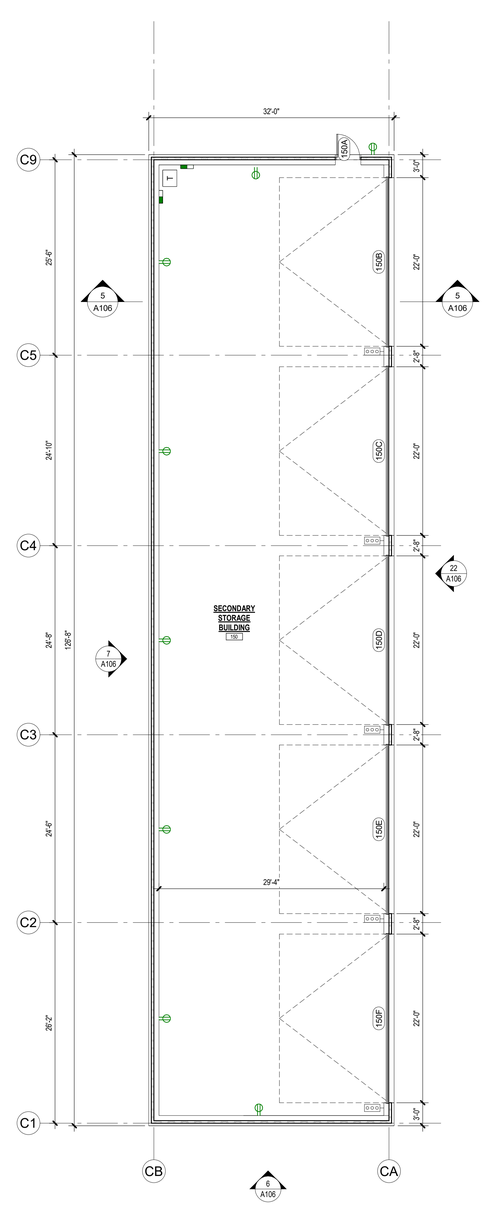
5 BUILDING SECTION - STORAGE CANOPY
1/8" = 1'-0"



4 ROOF PLAN - STORAGE CANOPY
1/8" = 1'-0"



3 RCP - STORAGE CANOPY
1/8" = 1'-0"



1 FLOOR PLAN - STORAGE CANOPY
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

Project:
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Consultants:

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Revisions:

No.	Date	Description

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

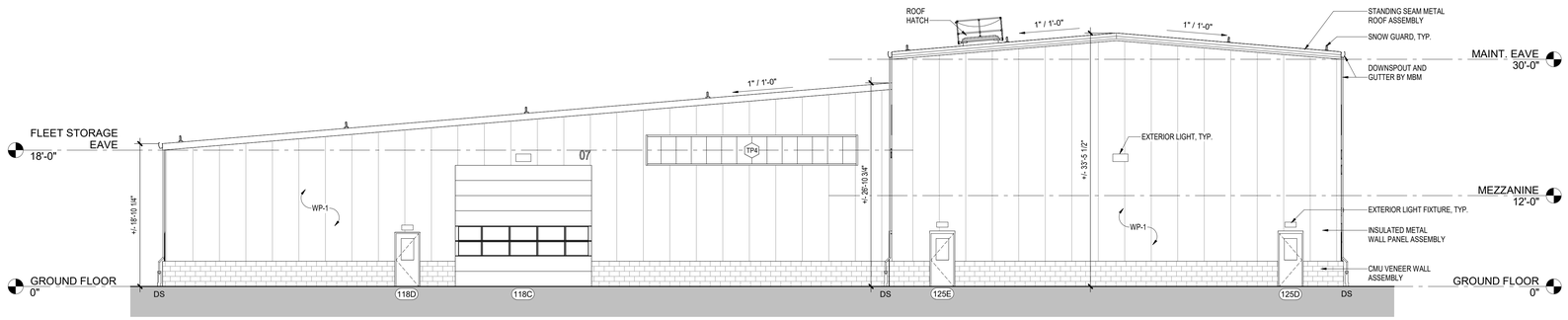
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BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS

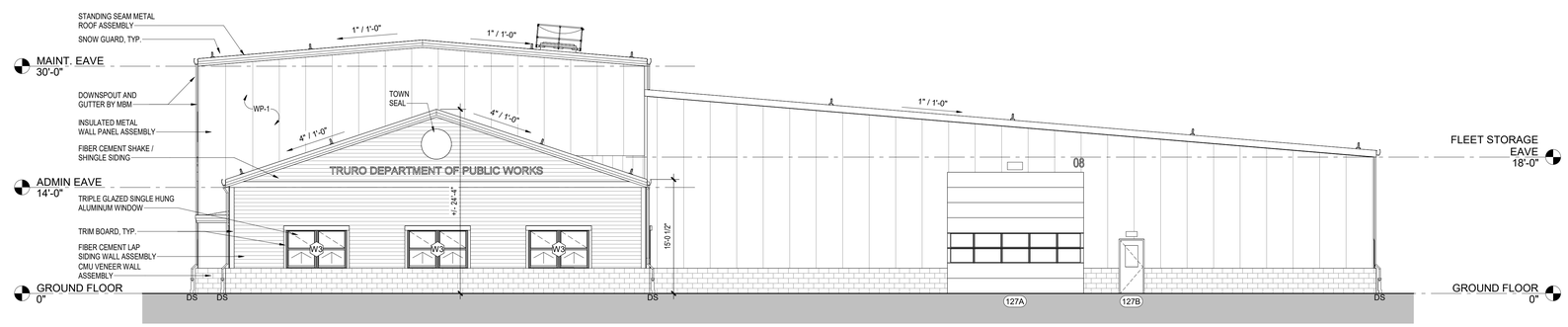
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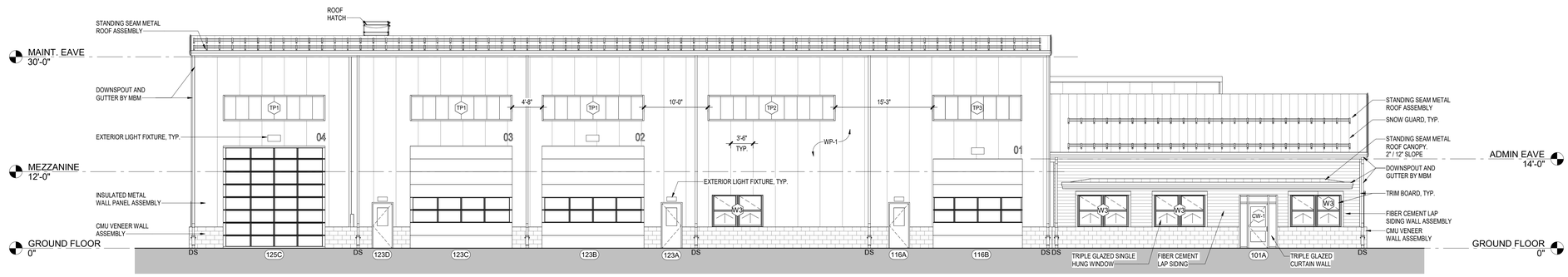
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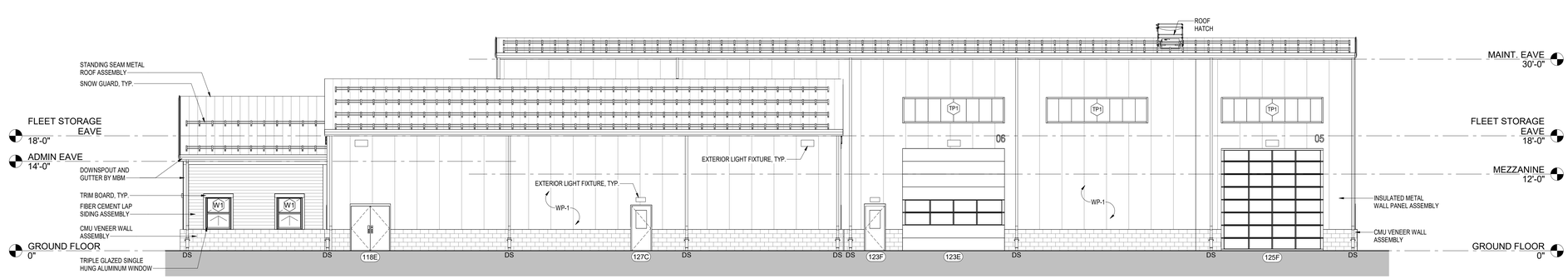
4 NORTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



3 SOUTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



2 WEST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



1 EAST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101

0" 4" 8" 16"
SCALE: 1/8" = 1'-0"

WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1, INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION - REFER TO X / AXXX FOR ADDITIONAL INFO

TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

FIBER CEMENT SHINGLE / SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
2. FOR MOCK-UP REQUIREMENTS, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

EXTERIOR ELEVATIONS - BASE BID

Sheet Number:

A201

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WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1,
INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION
- REFER TO X / AXXX FOR ADDITIONAL INFO

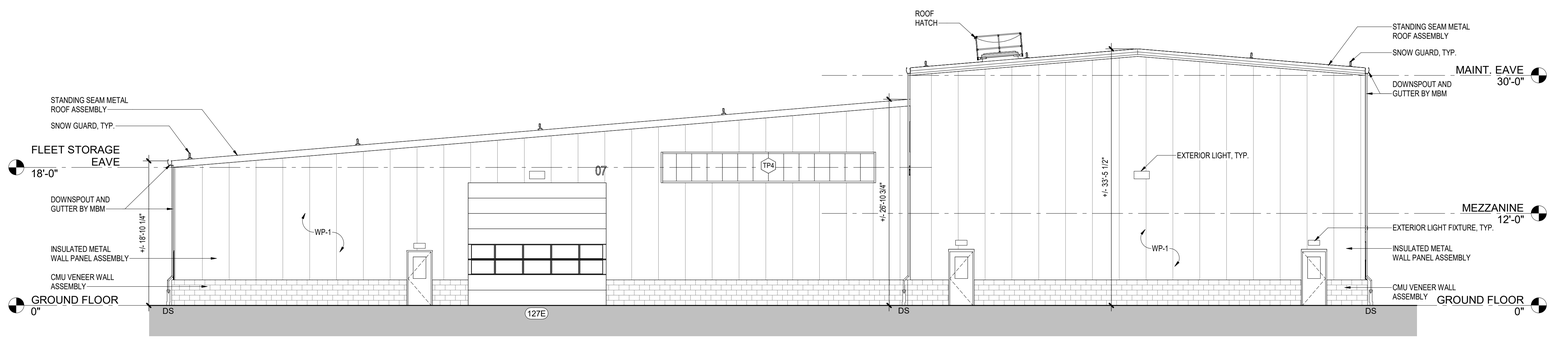
TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

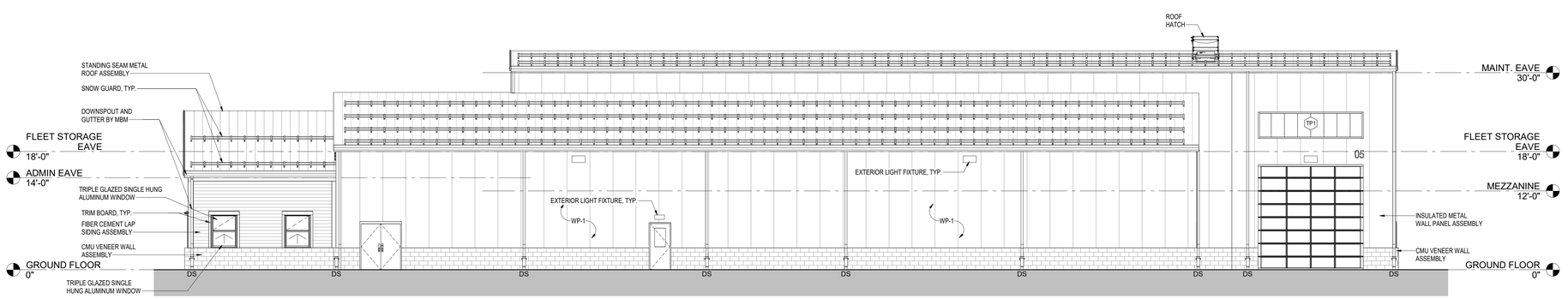
FIBER CEMENT SHINGLE /
SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
2. FOR MOCK-UP REQUIREMENTS, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



1 NORTH EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0"



2 EAST EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0" 1/ A101A

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

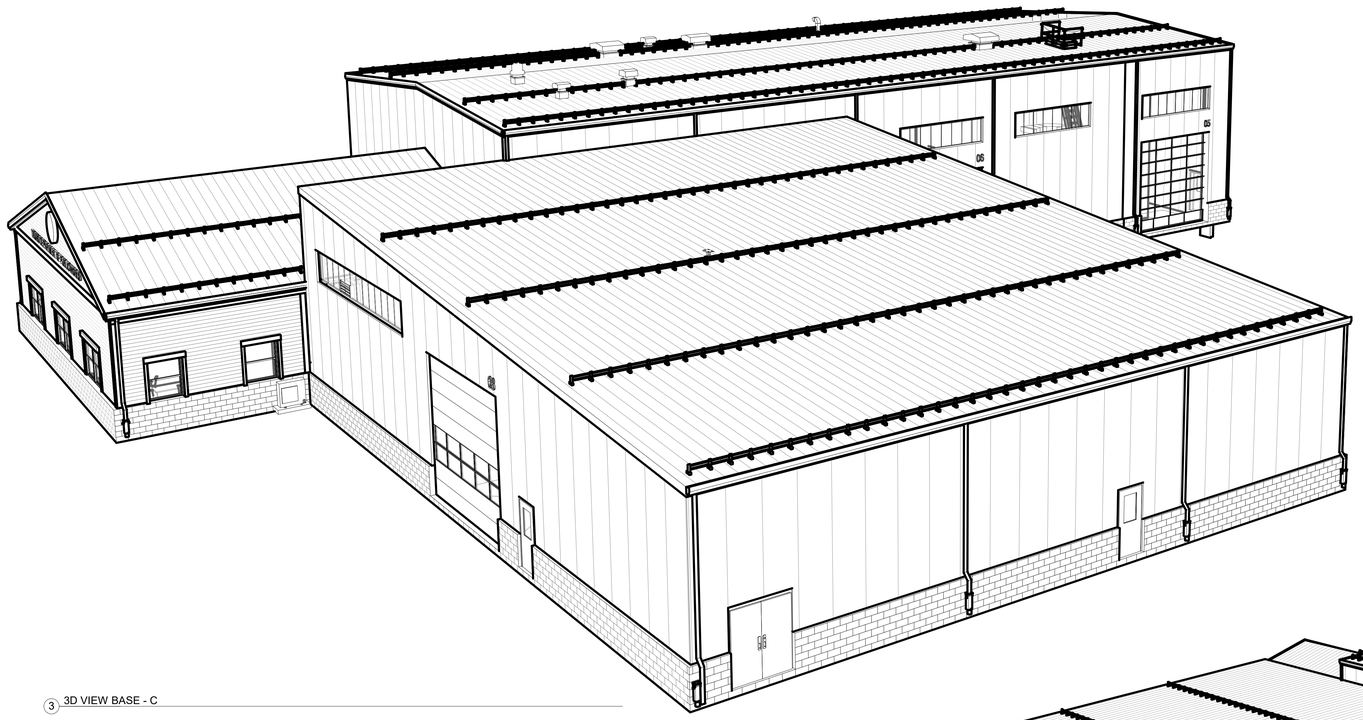
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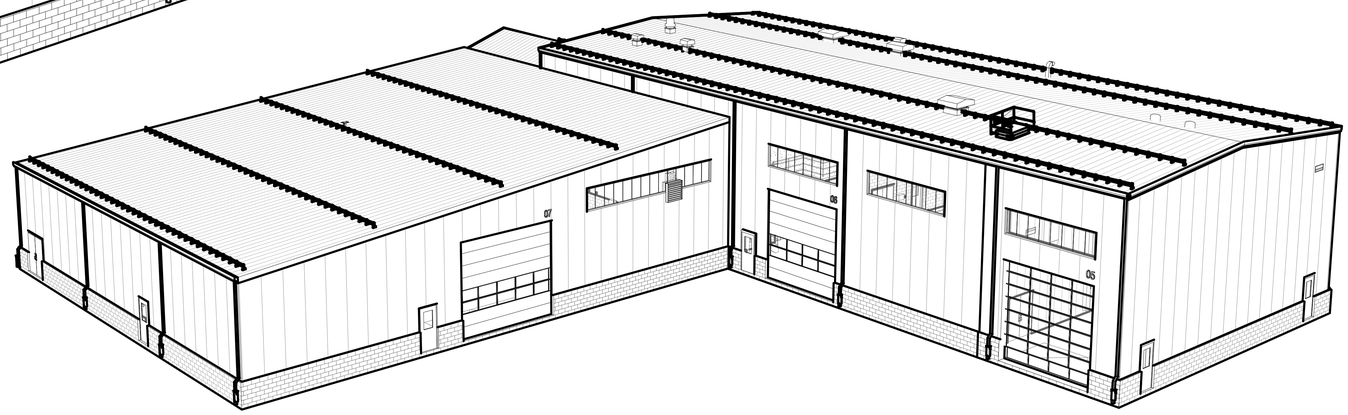
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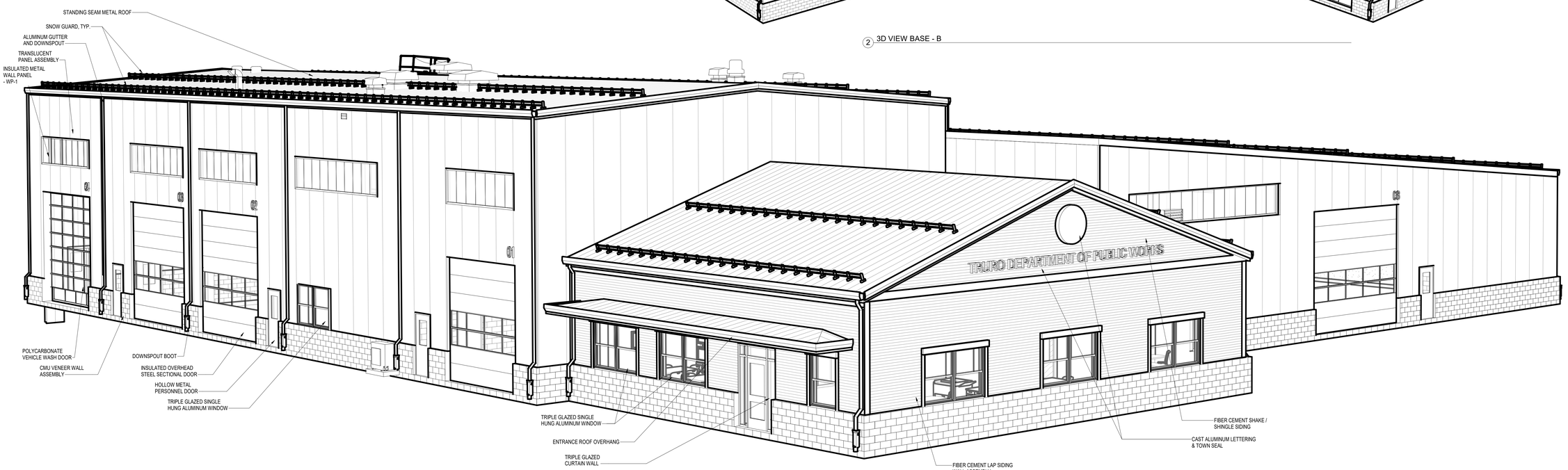
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3 3D VIEW BASE - C



2 3D VIEW BASE - B



1 3D VIEW BASE - A

NOTE: 3D VIEWS ARE PROVIDED FOR REFERENCE ONLY. REFER TO PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEDULES FOR BUILDING REQUIREMENTS.

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Project:
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SITE PLAN REVIEW

Scale: NTS

Key Plan:

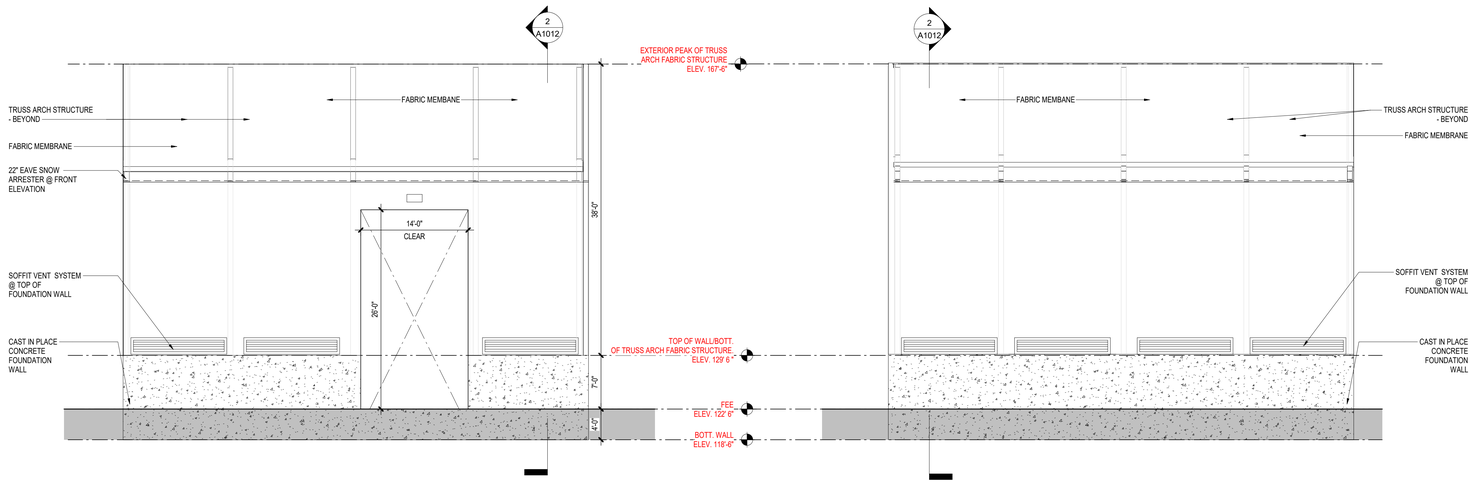
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Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR 3D VIEWS - BASE

Sheet Number:
A231

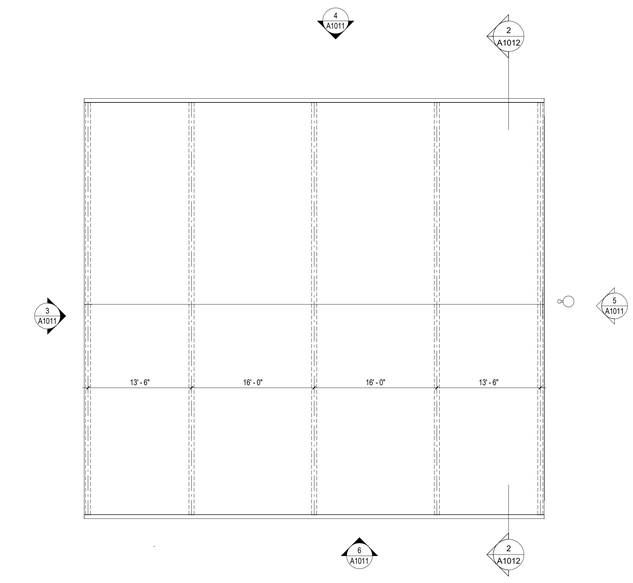
GENERAL SALT SHED NOTES:

1. COLUMN LINE SPACING SHOWN FOR NEW TRUSS ARCH FRAMING AND WOOD SIDE WALL IS DIAGRAMMATIC ONLY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE STRUCTURE TO MEET ALL CURRENT CODES. FINAL QUANTITY OF TRUSS ARCH FRAMES AND COLUMN LINE SPACING SHALL BE DETERMINED BY THE SALT SHED MANUFACTURER. FINAL COLUMN LINE LOCATIONS ARE SUBJECT TO ENGINEER REVIEW. THE ADDITION OR DELETION OF TRUSS ARCH FRAMES BASED ON THE FINAL DESIGN BY THE BUILDING MANUFACTURER SHALL NOT BE CAUSE FOR A CHANGE IN THE CONTRACTOR PRICE.
2. CONTRACTOR SHALL SUBMIT DETAILED CONNECTION DRAWINGS FOR THE MEMBRANE AND WOOD SIDE WALL COVERED FRAME STRUCTURE AND CAST-IN-PLACE CONCRETE WALLS STAMPED BY A LICENSED MASSACHUSETTS STRUCTURAL ENGINEER.
3. THE PT PLYWOOD PROTECTION WALL (INSIDE FACE OF SIDE AND BACK WALLS) SHALL CONSIST OF 3/4" PT PLYWOOD MOUNTED TO 1/2" STRAPPING AT 16" O.C. INSTALLED VERTICALLY FASTENED TO THE CONCRETE BLOCKS WITH NON- CORROSIVE FASTENERS (STAINLESS STEEL). PLYWOOD SHALL STOP 12" FORM THE FLOOR TO ALLOW SALT TO FALL OUT FROM BEHIND THE WALL.

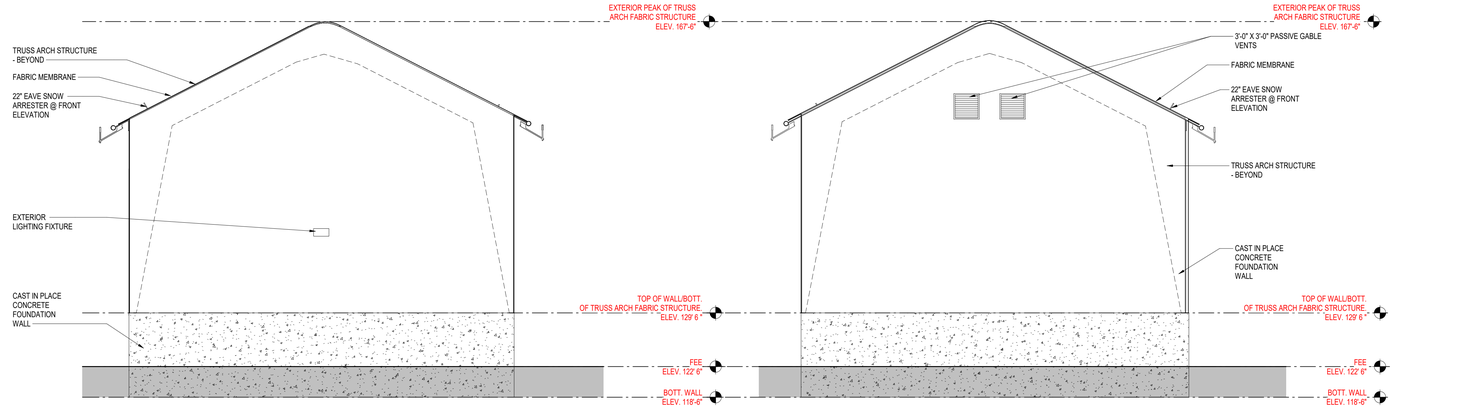


6 SALT SHED ELEVATION 4
1/8" = 1'-0" 1/ A1011

4 SALT SHED ELEVATION 2
1/8" = 1'-0" 1/ A1011

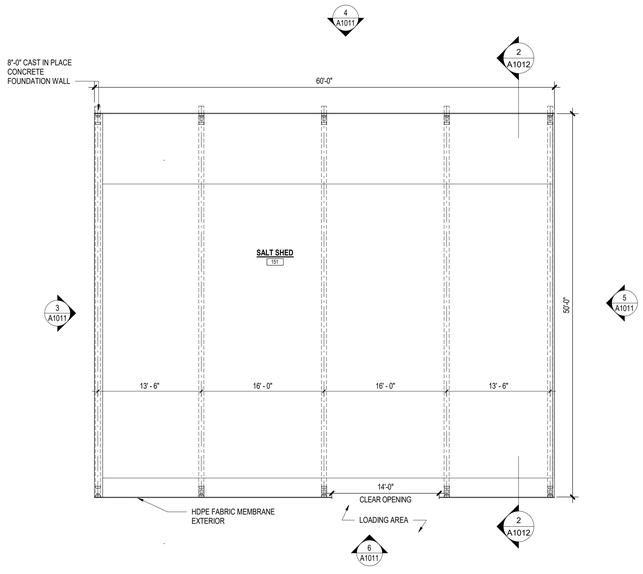


2 SALT SHED ROOF PLAN
1/8" = 1'-0" 5/ A106



5 SALT SHED ELEVATION 1
1/8" = 1'-0" 1/ A101

3 SALT SHED ELEVATION 3
1/8" = 1'-0" 1/ A1011



1 SALT SHED FLOOR PLAN
1/8" = 1'-0" 5/ A106

Project:
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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	FS
Reviewed By:	DRD
Approved By:	JRC
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

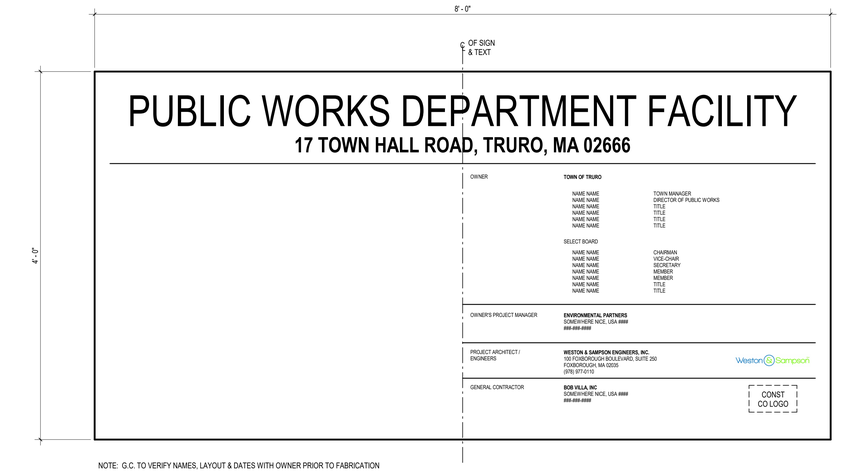
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SALT SHED PLANS & ELEVATIONS

Sheet Number:

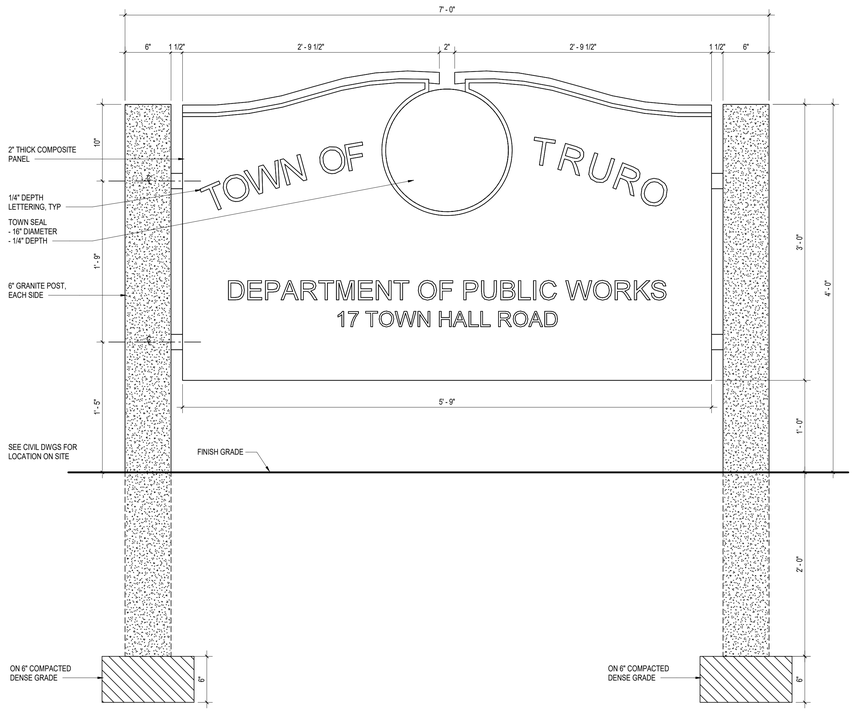
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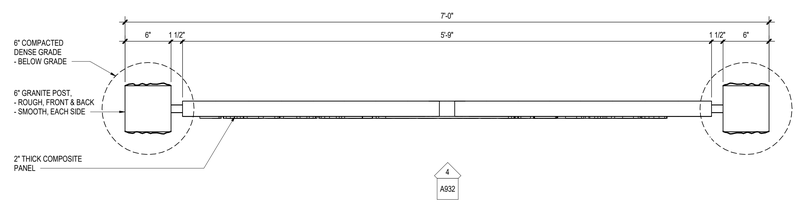


NOTE: G.C. TO VERIFY NAMES, LAYOUT & DATES WITH OWNER PRIOR TO FABRICATION

1 CONSTRUCTION SIGNAGE
1 1/2" = 1'-0"



4 DPW FACILITY SIGNAGE - FRONT ELEVATION
1 1/2" = 1'-0" 3/ A932



3 DPW FACILITY SIGNAGE - PLAN VIEW
1 1/2" = 1'-0"

0' 6" 1' 2'
SCALE: 1 1/2" = 1'-0"

Project:
TOWN of TRURO, MA
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TRURO, MA 02666

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Revisions:

No.	Date	Description

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Seal:

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SITE PLAN REVIEW

Scale: 1 1/2" = 1'-0"

Key Plan:

Date:	NOVEMBER 5, 2025
Drawn By:	DRD
Reviewed By:	DRD
Approved By:	JRC
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR SIGNAGE

Sheet Number:
A932

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Weston & Sampson

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100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

REPORT

October 20, 2025

TOWN OF
Truro
MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS FACILITY

APPLICATION FOR PLANNING BOARD SITE PLAN REVIEW



October 20, 2025

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

Truro Planning Board
24 Town Hall Road
Truro, MA 02666

WSE Project No. ENG24-1552

Re: **Application for Site Plan Review & Special Permit**
17 Town Hall Road
Truro Department of Public Works Facility

Dear Member of the Board,

On behalf of the Town of Truro, Weston & Sampson Engineers, Inc. is pleased to present an application for Planning Board Review of a new Department of Public Works Facility located at 17 Town Hall Road. We have provided ten (10) copies of a Site Plan Review (SPR) Package to fulfill the requirements of Truro's Rules and Regulations. An electronic copy of the SPR Package has also been submitted via email. The filing includes the following material in support of this application:

Appendix A:	Commercial Site Plan Review Application Form
Appendix B:	Stormwater Report
Appendix C:	Truck Turning Circulation Plans
Appendix D:	Project Cost Estimate
Appendix E:	Certified Abutters List
Appendix F:	Project Site & Building Plans

Project Overview

The proposed project is to be located at the current site of Truro's Department of Public Works. The proposed facility design includes a base building of approximately 18,680 square foot building footprint. The program includes offices, support administrative spaces, staff facilities, a carpentry shop, fleet maintenance, a wash bay, utility rooms, and fleet storage.

Site components include employee and visitor parking area, salt shed, generator, transformer, stormwater drainage, a septic treatment (nitrogen removal) and disposal system, a 5,000 gallon tight tank for fleet maintenance operations, a fire pump room and 30,000 gallon cistern, a geothermal wellfield, an underground 3,000 gallon storage tank for domestic water, and a Public Water System (PWS) drinking well and water line from an adjacent property (22 & 24 Meetinghouse Road). Refer to Appendix F for the site and building plans.

There are two design alternates as follows:

- **Alternate 1**: A 5,000 square foot extension of attached fleet storage garage to provide additional storage space for DPW vehicles and equipment.

- **Alternate 2**: A detached, standalone cold storage building on the north edge of the project site measuring 32' x 126'-8", approximately 4,050 square feet.

The Facility will accommodate fifteen (15) full-time employees; three (3) of which primarily work out of the Transfer Station, but who may use the Facility during training events. Consistent with the Town's sustainability goals, the facility will be an all-electric building supported by geothermal heating and cooling systems, a rooftop with solar-ready infrastructure and a parking lot with electric vehicle (EV) charging-ready infrastructure.

The proposed project is seeking funding at the 2026 Spring Town meeting. If successful, construction will begin in the Summer 2026. The construction of the proposed project is requested to be phased to allow for on-site DPW operations to remain during the first phase of construction. Once Phase 1 is completed, the remaining existing buildings will be demolished, and Phase 2 will take place to complete the construction. The time required to complete project with phased construction is approximately 27 months. Refer to Appendix D for the proposed project's schematic design-level cost estimate (note: the base design and design alternates have changed slightly since the schematic design phase). We will be submitting an updated, design development-level cost estimate to the Town by the beginning of November.

On behalf of the Applicant, Weston & Sampson respectfully requests the following items:

- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 30.9.G.4 pertaining to the requirement for Parking Stall Dimensions. The proposed parking stalls are 9-feet wide by 18-feet long; whereas the referenced bylaw requires 9-feet wide by 20-feet long. The request is being made so that the parking lot design could maximize stall quantity and fit a landscape island, access road and side yard fencing while still maintaining some buffer along the property line and minimizing impacts on the abutters.
- A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 70.3.F.16 pertaining to the requirement for a bicycle rack.

In addition to the above mentioned waivers, the applicant is also seeking a variance from Section 50.1.A pertaining to the maximum building height requirement. This variance request is being filed in a separate application seeking a special permit through the Board of Appeals.

The attached application was prepared in accordance with the standards and recommendations provided in Truro's Zoning Bylaws. If you have any questions or would like to discuss this further, please do not hesitate to contact me at (508) 203-4231 or donahue.della@wseinc.com.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Della Donahue
Project Manager

Appendix A

Commercial Site Plan Review
Application Form

Town of Truro Planning Board

P.O. Box 2030, Truro, MA 02666

APPLICATION FOR COMMERCIAL SITE PLAN REVIEW

To the Town Clerk and the Planning Board of the Town of Truro, MA Date 10/20/2025

The undersigned hereby files an application with the Truro Planning Board for the following:

☒ ***Site Plan Review*** pursuant to §70 of the Truro Zoning Bylaw

☐ ***Waiver of Site Plan Review*** pursuant to §70.9 of the Truro Zoning Bylaw
(Note: Site Plan Review shall not be waived in the Seashore District)

1. General Information

Description of Property and Proposed Project The project consists of site improvements and a new, consolidated DPW facility. The proposed building includes administrative offices, staff facilities, a carpentry shop, fleet maintenance bays, a vehicle wash bay, a fleet storage garage, utility rooms, and mezzanine storage spaces. The project also includes site components like an exterior knock-down pad, material storage bins and a salt shed. The existing fuel station will remain.

Property Address 17 Town Hall Road, Truro, MA 02666 Map(s) and Parcel(s) 46-269-0

Registry of Deeds title reference: Book 92, Page 23, or Certificate of Title Number N/A and Land Ct. Lot # N/A and Plan # N/A

Applicant's Name Town of Truro

Applicant's Legal Mailing Address 24 Town Hall Road, PO Box 2030, Truro, MA 02666

Applicant's Phone(s), Fax and Email ksclark@truro-ma.gov

Applicant is one of the following: *(please check appropriate box)*

*Written Permission of the owner is required for submittal of this application.

☒ Owner ☐ Prospective Buyer* ☐ Other*

Owner's Name and Address Town of Truro (Kelly Clark, Town Manager), P.O. BOX 2030, Truro, MA 02666

Representative's Name and Address Weston & Sampson - 100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Representative's Phone(s), Fax and Email (508) 203-4231; donahue.della@wseinc.com

2. Waiver(s) Request – The Planning Board may, upon the request of the applicant, pursuant to §70.3.E, waive requirements of §70.3.D, provided that in the opinion of the Planning Board such a waiver would not be detrimental to the public interest, cause the Town any expense, or be inconsistent with the intent and purpose of this Bylaw. A request for a waiver by the applicant shall be accompanied by a reasonable explanation as to why the waiver is being requested. If multiple waivers are requested, the applicant shall explain why each waiver is requested.

- The applicant is ***advised*** to consult with the Building Commissioner, Planning Department, Conservation Department, and/or Health Department prior to submitting this application.

Signature(s)

Della Donahue
Applicant(s)/Representative *Printed* Name(s)

Della Donahue
Applicant(s)/Representative *Signature(s)*

Kelly S. Clark
Owner(s) *Printed* Name(s) or written permission

Kelly S. Clark
Owner(s) *Signature(s)* or written permission

Your signature on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
D. Procedures and Plan Requirements				
1a.	An original and 9 copies of the Application for Site Plan Review	X		
1b.	10 copies of the required plans and other required information including this Checklist	X		
1c.	Completed Criteria Review	X		
1d.	Certified copy of the abutters list obtained from the Truro Assessors Office	X		
1e.	3 copies of drainage calculations stamped by a Professional Engineer	X		
1f.	Applicable filing fee		X	waived
1g.	Any other information that may be applicable or required by the Planning Board	X		truck turning simulations
	Site Plans			
2a.	Site Plans shall be prepared, signed and stamped by a Registered Land Surveyor and Professional Engineer	X		
2b.	Site Plans shall be prepared at a scale of one inch equals forty feet (1"=40') or larger		X	Scale 1"= 20', for detail readability
3a.	General - Submitted plans shall contain the following:			
3a. 1	North Arrow/Location Map: A north arrow and a locus plan containing sufficient information to locate the subject property, such as streets bounding or providing access to the property.	X		
3a. 2	Zoning Information: All applicable Zoning Bylaw information regarding the site's development, both existing and proposed. This information shall be placed in a table format which must list all parking; setbacks; percent of lot coverage, broken down by parking, walkways, building(s), etc.; number of dwelling units; total amount of square feet; size of signs, and any other applicable zoning information necessary for the proper review of the site plan.	X		See C000 Cover Sheet
	Existing:	X		See C100 & C101 Alpha Survey Plans
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Size of signs	X		
	Any other applicable zoning information necessary for the proper review of the site plan	X		See C000 Cover Sheet
	Proposed:			
	All parking	X		
	All setbacks	X		
	Percent (%) of lot coverage broken down by parking, walkways, building(s), etc.	X		See C000 Cover Sheet
	Number of dwelling units	X		
	Total amount of square feet	X		
	Size of signs	X		See Detail 7/ Sheet C604
	Any other applicable zoning information necessary for the proper review of the site plan	X		See Zoning Dimensioal Table on C000 Cover Sheet
3a. 3	Assessor and Deed Information: The Truro Assessors Atlas Map(s) and Parcel(s) numbers and all plan and deed references.	X		See C100 & C101 Alpha Survey Plans
3a. 4	Graphic Scale	X		
3a. 5	Title Block - Including:	X		
	Name and description of the project	X		
	Address of the property	X		
	Names of the record owner(s) and the applicant(s)		X	See C000 Cover Sheet
	Date of the preparation of the plan(s) and subsequent revision dates	X		
3a. 6	Legend of all symbols	X		See Sheets C001, C100 & C10
3b.	Existing Conditions Plan - showing the following:			
3b. 1	Total area and dimensions of the lot shown on a surveyed plan conforming to the requirements of the Barnstable County Registry of Deeds.	X		See C100 & C101 Alpha Survey Plans
3b. 2	Location of existing buildings (including the number of stories, overall height in feet, and gross floor area in square feet of all existing buildings), parking, drives, walks, lighting service areas, all utilities, drainage facilities, easements, and other appurtenances, including setbacks from property lines.	X		
	Location of existing buildings	X		
	Number of stories	X		

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
	Overall height in feet	X		
	Gross floor area in square feet		X	
	Parking	X		
	Drives	X		
	Walks	X		
	Lighting service areas	X		
	All utilities	X		
	Draining facilities	X		
	Easements	X		
	Other appurtenances	X		
	Setback from property lines	X		See Zoning Dimensioal Table on C000 Cover Sheet
3b. 3	Existing contours based on two foot (2') contour intervals.	X		
3b. 4	General location of trees having a caliper of ten (10) inches or more diameter at breast height (DBH), all resource areas as defined in M.G.L. Chapter 131, Section 40, landscaping and other significant natural features.	X		See C100 & C101 Alpha Survey Plans
3b. 5	Respective floor areas and/or square footage of existing uses of buildings and/or the property.		X	
3b. 6	Existing location(s) of any freestanding sign(s).	X		
3b. 7	National Flood Insurance Program flood hazard elevation.		X	Site is not located within a FEMA Flood Hazard Zone
3b. 8	Massachusetts Natural Heritage Endangered Species Act jurisdiction.		X	N/A
3c.	Proposed Conditions Plan - showing the following:			
3c. 1	Building Location: Identification of all building(s) to be located on the site. The number of stories, overall height in feet and gross floor area in square feet of all buildings shall be indicated.	X		
3c. 2	Building Elevation: A drawing(s) of the exterior of all building(s), as viewed from all sides, including dimensions, at a scale of no smaller than 1/8” = 1’-0”. This drawing must be at least 8" x 11" in size.	X		See sheets A106, A201 A201A, and A1011

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 3	Location of Parking/Walkways: Identification of the location of all parking and walkways, including curb cuts that will be used for site access from adjacent roadways or access points. Parking shall be consistent with the requirements outlined in §30.9.	X		
3c. 4	Easements/Legal Conditions: Identification of legal encumbrances(s), including easements, that are related to the site's physical development, and a listing of any condition(s) placed upon the site by the Zoning Board of Appeals, Planning Board, Conservation Commission, Board of Health or any other public body or agency with the authority to place conditions on the site's development.		X	See C100 & C101 Alpha Survey Plan notes, there are no known easements at the site.
3c. 5	Stormwater Drainage: All storm water drainage facilities utilized by the site shall be shown on the site plan. Storm water drainage calculations, which support the design of the control facilities shown on the plan, shall be calculated using a 2, 10, and 50-year storm events.	X		See Sheet C401 Grading & Drainage Plan and Appendix B for the accompanying Stormwater Report
3c. 6	Grades: Topography and a grading plan of the site.	X		
3c. 7	Location of Walls: Identification of the location, height, length, and materials to be used for all retaining walls to be located on the site.		X	No retaining wall are proposed on site.
3c. 8	Signs: Identification of the location, height and materials to be used for all signs to be located on the site. Signs will be reviewed using the Town of Truro Sign Code section of the zoning bylaw.	X		See Detail 7/ Sheet C604 for the Permanent Traffic Sign Summary Table.
3c. 9	Location of Streets/Drives: Identification of all streets and driveways including the type and dimensions of curbs and gutters. Distances to all the nearest streets and/or curb cuts shall be shown for both sides of any street which is adjacent to the site.	X		
3c. 10	Outdoor Storage/Display Areas: Identification of the location and type of outdoor storage and display areas on the site.	X		
3c. 11	Refuse Areas: Identification of the location of each outdoor refuse storage area, including the method of storage and screening. All refuse areas must be fully enclosed.		X	No dumpster enclosure area is proposed on site.

70.3 - COMMERCIAL SITE PLAN REVIEW CHECKLIST - Applicant

Address: 24 Town Hall Road **Applicant Name:** Town of Truro **Date:** 10/20/2025.

No.	Requirement	Included	Not Included	Explanation, if needed
3c. 12	Lighting Facilities: Identification of all illumination, including numbers and locations, indicating the direction and the degree of illumination offered by the lighting facilities and including specifications of the light fixture(s) to be used. (Also see General Bylaws Ch. IV §6.)	X		See Sheets LC001, LC002, LC003, and LC004 for the proposed Lighting Plans.
3c. 13	Location of Wetlands and Other Resource Areas: All resource areas as defined in M.G.L. Chapter 131, Section 40. (If applicable, the applicant shall file a Notice of Intent with the Truro Conservation Commission concurrently with the application to the Planning Board for Site Plan Review.)	X		There are no wetlands on or adjacent to the site. The existing conditions survey locates the existing ground water supply well on site.
3c. 14	Location and Description of Utilities. Identification of all utilities, including sewer line locations and profiles and storm drainage systems.	X		See Sheet C501 Utility Plan.
3c. 15	Parking and Driveway Cross Section: a cross section identifying the proposed construction of driveways and parking areas on the site.	X		See Detail 5/ Sheet C602 for the Pavement Section Detail.
3c. 16	Limit of work area (area to be disturbed during construction, including parking and storage of vehicles and equipment) and work staging area(s).	X		See Sheet C201.
3d.	Proposed landscape schedule for, and identification of, the location of all perimeter and interior landscaping – showing the following:		X	Proposed Landscaping includes loam & seed only.
	Proposed paving materials for walkways	X		
	Fences	X		
	Stonewalls		X	No stonewalls are proposed on site.
	All planting materials to be placed on the site	X		
	All existing trees over 10 inches diameter at breast height (DBH) to be saved or removed shall be shown on the site plan	X		See Sheet C201.
3e.	Building Plans – at a scale of no less than 1/8" = 1'-0" showing the following:	X		See sheets A101, A101A, A201, A201A, A106, and A1011
3e. 1	Elevations showing exterior materials and features including but not limited to doors, windows, trim, roof, lighting and including the height of the building(s).	X		
3e. 2	Floor plans with dimensions.	X		
3f.	Project Estimate:	X		
	Estimated date of initiation	X		refer to cover letter / project overview
	Estimated time required to complete the proposed project and any and all phases thereof	X		refer to cover letter / project overview
	Written cost estimate with a breakdown of the building(s) and all site improvements	X		See Appendix D for SD Cost Estimate

ADDRESSING THE REVIEW CRITERIA

§ 70.1 PURPOSE

The purpose of Site Plan Review for Commercial Development and for Residential Development is to protect the health, safety, convenience and general welfare of the inhabitants of the Town. It provides for a review of plans for uses and structures which may have significant impacts, both within the site and in relation to adjacent properties and streets; including the potential impact on public services and infrastructure; pedestrian and vehicular traffic; significant environmental and historic resources; abutting properties; and community character and ambiance.

Instructions: Please provide the Planning Board with a short explanation of how your application meets each of the review criteria of §70.3F of the Truro Zoning Bylaw. If you require extra space for your answers, please attach the additional information to your application in no more than two pages. This is to provide the Planning Board with an overview of your rationale prior to the meeting.

§70.3F – REVIEW CRITERIA/DESIGN GUIDELINES

The Planning Board will review applications and their supporting information based on the following:

1. The proposal is in conformity with all applicable provisions of the Zoning Bylaw because:
   The project has been designed to conform with applicable provisions of the Zoning Bylaw with the exception of the two waivers requested herein, and the variance being sought by Special Permit through the Board of Appeals.

2. The proposal provides for the protection of abutting properties and the surrounding area from detrimental site characteristics and from adverse impact from excessive noise, dust, smoke, or vibration higher than levels previously experienced from permitted uses because:

   The proposed site is designed to provide enhanced protection for abutting properties and the surrounding area, mitigating detrimental site characteristics and reducing adverse impacts beyond current levels. Because it is the location of existing operations, the new design incorporates improvements for greater protection. Key enhancements include: relocating most outdoor operations indoors; orienting the salt shed door inward toward the DPW yard; using proposed structures to shield operations; ensuring compliance with current lighting codes; installing perimeter fencing along the side yards; and adding other features intended to benefit neighboring properties and the surrounding area.

3. The proposal provides for the protection of adjacent properties and the night sky from intrusive lighting, including parking lot and building exterior lighting. Lighting must be consistent with Chapter IV, Section 6 of the General Bylaws of the Town of Truro because:

   Specified site light fixtures will be provided as dark sky compliant and will be provided with house side shields to project lighting away from property lines to maintain 0-foot candle level at the property line, meeting or exceeding the General Bylaws. Refer to Appendix F for Lighting / Photometric Site Calculation plans (will be provided in a supplemental filing).

4. The proposal provides for the protection of significant or important natural, historic, or scenic features because:

   The existing property provides no significant or important natural or scenic features. Because of the age of building(s), the Town will be filling out a permit for demolition, and the Building Commissioner will determine if a review will be required from the Historic Commission.

5. The building sites shall minimize obstruction of scenic views from publicly accessible locations; minimize tree, vegetation, and soil removal and grade changes; and maximize open space retention because:

   The site is the current site of DPW operations and therefore has no scenic views. Further, the project involves minimal tree, vegetation, and soil removal and grade changes. Refer to the plan sheet Cover Page in Appendix F for the Lot Coverage Table which indicates that the lot coverage is being increased by 2.85 % compared to existing for a total of 46.56%.

6. The proposal adequately provides for refuse disposal because:

   The site has a dumpster that is routinely transported by Town's forces to the Town's transfer station.

7. The proposed sewage disposal and water supply systems within and adjacent to the site shall be adequate to serve the proposed use because:

   The project proposes a new septic system and nitrogen removal system sized for both the proposed DPW and existing Town Hall.
   The existing well serves both the current DPW and Town Hall and has experienced minor contamination. This project proposes a new drinking water well and force main from an adjacent lot, 22 and 24 Meetinghouse Road, for both the new DPW and existing Town Hall that will improve water quality. This well is currently being permitted with MassDEP.

8. The proposed drainage system within the site shall be adequate to handle the runoff resulting from the development. Drainage run-off from the project shall not: damage any existing wellfield(s) or public water supply; damage adjoining property; overload, silt up or contaminate any marsh, swamp, bog, pond, stream, or other body of water; or interfere with the functioning of any vernal pool because:

   The proposed drainage system is designed to meet current MassDEP standards and local bylaws. Refer to Appendix B for the stormwater design report.

9. A soil erosion plan shall adequately protect all steep slopes within the site and control runoff to adjacent properties and streets both during and after construction because:

   Refer to Appendix F, Sheet C201, for construction activities, and refer to Sheet C401 for long term stormwater management design.

10. The proposal shall provide for structural and/or landscaped screening or buffers for storage areas, loading docks, dumpsters, rooftop or other exposed equipment, parking areas, utility buildings and similar features viewed from street frontages and residentially used or zoned premises because:

    The proposed facility enhances screening and buffering from operations through the addition of a stockade fence along the side property lines abutting residential uses. These side yards are generally maintaining the same level of natural vegetative screening as currently experienced. The rear yard will maintain its natural vegetative buffer of approximately 90 feet. The front of operations will be consistent with current operations.

11. Buildings and structures within the subject site shall relate harmoniously to each other in architectural style, site location, and building exits and entrances. Building scale, massing, materials, and detailing should be compatible with the surrounding area because:

    The proposed architectural style of the DPW's lower, administrative mass relates to the architectural style of the Town Hall across the street. The larger masses of the other building blocks are due to functionality or framing type (pre-engineered metal buildings). The mass of the fleet storage garage is minimized as much as possible, and the vehicle maintenance is strategically located further back on the project site.

12. Electric, telephone, cable, and other such utility lines and equipment shall be placed underground because:

    All new electric, telephone, and cable utility lines will be placed underground, feeding from an existing utility pole located on the property.

13. The project shall not place excessive demands on Town services because:

    The proposed project has no change in staffing or operations, and therefore will not place excessive demands on Town services. Additionally, the proposed facility will improve the DPW’s ability to respond to demands and serve the community more efficiently.

14. The location and number of curb cuts shall be minimized to reduce turning movements and hazardous exits and entrances. Where appropriate and allowable, access to adjoining properties shall be provided. Joint access driveways between adjoining properties shall be encouraged because:

The new DPW facility's layout has been designed with appropriate exits and entrances from the property access road to enhance safety through proper turning movements of anticipated vehicles. Refer to Appendix C to see Truck Turning Circulation Plans.

15. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent and other ways serving the project shall be maximized. Traffic patterns for vehicles and pedestrians must show safe and adequate circulation within and access to and from the site because:

The DPW project has been designed for safe vehicular traffic including: Counter-clockwise truck circulation for site lines and visibility, visitor parking and pedestrian traffic contained within the front of the DPW site for separation of operations from the public, and security gates for separation of operations from the public.

16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s) because:

The site includes an existing bicycle rack at Town Hall located on this property. As a formality this application is requesting a waiver of the bicycle rack at this building.

Appendix B

Stormwater Report

Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
tel: 508.698.3034

STORMWATER MANAGEMENT REPORT

October 2025

TOWN OF
Truro
MASSACHUSETTS

Department of Public Works
24 Town Hall Road

PREPARED FOR:
TOWN OF TRURO

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NRCS SOIL MAP & DESCRIPTION

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PROPOSED DRAINAGE AREA MAP

PROPOSED HYDROCAD MODEL

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OPERATIONS AND MAINTENANCE PLAN

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

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



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

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

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

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

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

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

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

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

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

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature



10·16·25
Signature and Date

Checklist

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

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

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

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☐ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☐ Other (describe): _____

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

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

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

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

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☒ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☒ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☒ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☒ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

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

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☒ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☒ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☒ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☒ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

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

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Applicant/Project Name: Town of Truro – Department of Public Works

Project Address: 24 Town Hall Road, Truro, MA

Application Prepared by:
Firm: Weston & Sampson, Inc.
Registered PE: Alyssa Peck, PE

NARRATIVE

Project Description

The Town of Truro proposes the reconstruction of the existing Department of Public Works (DPW) facility located at 24 Town Hall Road in Truro, Massachusetts. The proposed project is located at the existing Truro DPW property (the Site) which occupies approximately 2.72 acres of a 5.13-acre irregular shaped parcel of land identified as Assessors Map ID 46-269-0.

In addition to Truro DPW, the property also houses Truro Town Hall. The existing DPW buildings and parking areas are situated in the northern portion of the parcel, north of Town Hall Road. Town Hall and the Town Hall parking lot are situated in the southern portion of the parcel, south of Town Hall Road. The site is bordered by Meeting House Road to the north, single-family residential properties to the east and west, and Bridge Street to the south. The grade beyond the developed section of the DPW drops approximately 40 feet down to Meeting House Road. The grade beyond the developed section of Town Hall drops approximately 45 feet to Bridge Street.

The existing DPW Facility includes four main buildings and a parking lot that accommodates 27 parking stalls. The buildings include a 1.5-story DPW garage building with an approximate footprint of 3,370 square feet, a 2-story wooden storage garage with an approximate footprint of 5,390 square feet, a 1-story DPW administration building with an approximate footprint of 2,050 square feet, and a 1-story DPW office building with an approximate footprint of 750 square feet. There are several smaller sheds and non-covered material storage bins located around the DPW site. The ground surface at the site is mostly comprised of asphalt pavement around existing buildings and a packed sand/gravel area northwest of the buildings.

The existing Town Hall portion of the site includes one main Town Hall building with an approximate building footprint of 4,315 square feet and a parking lot that accommodates 15 parking stalls. The subsurface utilities include several stormwater dry wells, water, a public ground water supply well, and three septic systems, two for the DPW campus and one for the Town Hall. MassGIS indicates there are no wetlands located on, or within, 100 feet of the Site.

The existing project site is located within a DEP approved Zone I and Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards. The existing Public Water Supply Well is to be decommissioned and, as part of a separate project, a new water supply well will be installed on the adjacent property at 22-24 Meting House Road. A new water line from the new well will be installed to connect to the new DPW Facility and existing Town Hall building. With

the new location of the new water supply well, the DPW Facility will no longer be located in a MassDEP approved Zone I (100-foot radius of the new public water supply well), but a portion of the site will remain located within an Interim Wellhead Protection Area (IWPA) (500-foot radius of the new well).

The proposed project includes the construction of a new, approximately 23,520 square foot, 1-story Department of Public Works (DPW) building, a 4,050 square foot cold storage building, and a 2,880 square foot Salt Shed. The DPW building will include administration/engineering areas, equipment repair shops, wash bay, and vehicle storage areas. Additional proposed site improvements include newly paved circulation, parking spaces for 27 vehicles, utility and stormwater improvements to support the new DPW Facility, and ancillary landscape improvements.

Stormwater Management:

The proposed project will incorporate Stormwater Best Management Practices (BMPs) in compliance with the MassDEP Stormwater Management Standards and Truro Stormwater Regulations.

The approach to stormwater management for the project consists of maintaining existing drainage patterns, minimizing stormwater runoff to off-site areas, and installing structural BMPs to provide water quality treatment, groundwater recharge, and attenuation of peak flows. To achieve this, the runoff from the driveways, parking, and circulation areas will be conveyed to proposed deep sump catch basins equipped with “gas and oil” hood traps and isolator rows of the subsurface infiltration chamber systems. These BMPs will provide the required pre-treatment to the stormwater runoff before discharging to the proposed underground infiltration chamber system, which will provide additional water quality treatment and allow the stormwater to recharge into the ground. The roof runoff from the proposed buildings will discharge into the proposed underground infiltration chambers directly, where it will recharge into the ground.

Stormwater Design

Weston & Sampson utilized HydroCAD computer software to model the stormwater runoff for 2-year, 10-year, 25-year, and 100-year 24-hour storm events. The rainfall amounts used for the analysis were based on the extreme precipitation tables obtained from the Northeast Regional Climate Center. The rainfall depths were 3.20 inches, 4.72 inches, 5.89 inches, and 8.24 inches, respectively.

Soil information was obtained from the Natural Resources Conservation Service (NRCS) Barnstable County Web Soil Survey. The soil survey indicated Carver Coarse sand (3-8 percent slopes) within developed portions of the site, surrounded by Carver Coarse Sand (15-35 percent slopes) in the undeveloped portions of the site. As a result, Hydrologic Group A was assigned to the soils within the project area for the purposes of hydrologic calculations. The soil map and descriptions are included in Appendix A.

In addition to information gathered from Web Soil Survey, test pits (TH-1 through TH-5, and TP-100) were performed in the location of the proposed Infiltration Chamber System A and B, and Pond 1 to confirm soil information obtained from Web Soil Survey and to determine the feasibility of infiltration and respective infiltration rates. The test pits were excavated to approximately 4 feet below the proposed bottom of infiltration BMPs, resulting in an overall depth ranging from 10 to 12 feet below the ground surface. No groundwater was encountered in any of the performed test pits. Along with

test pits, several borings conducted for geotechnical purposes were performed within the vicinity of proposed Infiltration Chambers A and B and Stormwater Infiltration Basin, which show soil characteristics consistent with findings of borings and test pits performed throughout the site with very little variability. In summary, the test pit and boring logs indicate sand to depths below the proposed infiltration; therefore, a Rawl's rate of 8.27 inches per hour was used for the design of infiltration BMPs. Complete test pit and boring logs are included in Appendix A.

Existing Drainage Conditions

The existing DPW Facility and Town Hall are located at a topographical high point, bordered by steep slopes down to the northern and southern portions of the parcel. Existing ground surface elevations at the proposed DPW Site are generally flat, ranging from elevations 120 to 124.

The existing conditions in the project area of the site consist of approximately 80,920 square feet of impervious and gravel surface, comprised of the buildings, storage structures, and circulation areas including driveways and parking areas. The perimeter of the site is grassed/wooded and totals an approximate 111,123 square feet site.

Based on the existing drainage pattern, two existing Points of Analysis (POA) were delineated based on the existing topography of the site, shown graphically in Appendix B. The northern portion of the site discharges to POA-1, which includes steep-sloped, wooded ground down to Meeting House Road. A southern portion of the site discharges to a POA-2, which includes steep-sloped, wooded ground down to Bridge Street.

POA-1
Drainage Areas: 1S includes the rear portion of the site, the existing DPW buildings and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells, which the maintenance/performance condition is unknown. The stormwater from this area sheet flows toward the rear of the DPW toward POA-1.

POA-2
Drainage Areas: 1S includes the front portion of the site, the front DPW building and paved/gravel areas. There is no drainage infrastructure in this area except for a few dry wells whose maintenance/performance condition are unknown. The stormwater from this area sheet flows across Town Hall Road towards catch basins located within the Town Hall exit driveway of the wooden area to the right of the Town Hall, towards POA-2.

Proposed Drainage Conditions

In the proposed condition the amount of impervious surface on site will increase to approximately 89,914 square feet. To mitigate the runoff from the additional impervious surface in the proposed condition, a series of underground chamber infiltration systems is proposed. The infiltration systems will ensure that proposed runoff rates will not exceed the existing rate of runoff. The stormwater runoff from the paved areas will be directed into deep sump catch basins and conveyed to the isolator rows prior to discharge to proposed infiltration systems.

Similar to the existing condition, the runoff from the Site discharges to two distinct Points of Analysis: POA-1 and POA-2, and six drainage areas (1S, 2S, 3S, 4S, 5S, and 6S) which are graphically shown on Hydrology Map – Proposed Conditions in Appendix B.

POA-1
Area 1S includes the grassed and modified rock sloped areas surrounding the rear portion of the Site between the new DPW Facility and the adjacent wooded area. No additional stormwater treatment is proposed for this area.

POA-2
Areas 2S and 3S include the roof area of the proposed cold storage building, a portion of the roofed area of the DPW Facility and Salt Shed and paved circulation areas. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-A).

Area 4S includes a portion of the roof area of the proposed fleet storage building and Salt Shed, and paved circulation area around the existing fuel island. Stormwater from the paved areas will be collected via deep sump catch basins and will be treated by isolator rows prior to discharge into Underground Infiltration Chamber System A (INF-B).

Area 5S includes a portion of the roof area of the proposed fleet storage building and the grassed island which houses the stormwater infiltration basin (P-1). The roof runoff from the building will discharge directly into the stormwater infiltration basin without pre-treatment as permitted under the MA Stormwater Regulations. Stormwater discharge from the stormwater infiltration basin will outlet across Town Hall Road to a plunge pool outfall to POA-2.

Area 6S includes Town Hall Road and small areas of lawn between the new DPW and the proposed seven parking stalls along Town Hall Road. This area will remain similar to the existing conditions with the exception of the new parking stalls and limited widening of Town Hall Road to achieve a minimum parking aisle of 24' (required for 2-way traffic). Town Hall Road and the DPW entrance drive will be repaved to minimize erosion along the edge of the driveway and to direct stormwater to POA-2. No additional stormwater treatment is proposed for this area, as this area is considered a redevelopment.

Best Management Practices (BMPs) and Low Impact Development (LID) Measures

Low Impact Development (LID) Measures will be incorporated, where possible, into this project. Unlike the existing condition, the proposed redevelopment provides sediment and oil removal, peak rate attenuation, and groundwater recharge. The BMPs used in this project are described below.

Deep Sump Hooded Catch Basins
The catch basins are to be constructed with a sump (minimum 4 feet) and oil/debris traps to prevent the discharge of sediments and floating contaminants.

Stormwater Infiltration Basin
This basin (P1) accepts flow from the roof area of the proposed Fleet Storage building; it offers storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration.

Underground Infiltration Chambers
These infiltration areas will store and/or attenuate runoff from the storm events and allow for exfiltration of runoff and recharge of groundwater.

Below is an explanation of MassDEP Stormwater Standards 1-10 as they apply to the Town of Truro Public Works Facility project:

STANDARD 1 – NO NEW UNTREATED DISCHARGES

The proposed project will create no new untreated discharges.

The proposed project was designed to mimic existing conditions as much as possible and improve the conditions to the maximum extent practicable. Supporting information and computations demonstrating that no new untreated discharges will result from the project are presented through compliance with Standards 4 through 6.

The project does not propose to discharge any untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. Additionally, the proposed design attenuates stormwater such that discharge rates will be lower than existing conditions. Discharges have been designed to prevent scouring and erosion of downstream surfaces. Therefore, the Project complies with Standard 1.

STANDARD 2 – PEAK RATE ATTENUATION

The Project has been designed to fully comply with standard 2.

The rainfall-runoff response of the Site under existing and proposed conditions was analyzed for storm events with recurrence intervals of 2-, 10-, 25-, and 100-years. The stormwater management system is designed to attenuate peak discharge rates for each of the analyzed design storm events in compliance with Standard 2. Please refer to the comparison of the pre- and post-development discharge rates table in Appendix B.

STANDARD 3 – RECHARGE

The impervious area within the proposed project limits will increase after construction, but with the designed improvements, recharge will be provided in the two underground infiltration chamber systems. The recharge volume provided under post-development conditions is greater than the recharge volume required by MassDEP's Stormwater Management Standards. The minimum required recharge volume is computed to be 8,994 cubic feet based on a project located within Hydrologic soil group A. The proposed infiltration BMPs result in a total recharge volume of 15,527 cubic feet. The proposed infiltration BMPs all drain within 72 hours.

The recharge requirement calculation is included in Appendix C and illustrates compliance with the current MassDEP Stormwater Management Standards.

STANDARD 4 – WATER QUALITY

For the redevelopment portion of the project, Standard 4 is required to be met only to the maximum extent practicable. Stormwater from all new impervious areas will be directed into at least one drainage structure for treatment or recharged through the sandy soils into the ground. Stormwater runoff from all paved areas of the site will be directed through deep sump catch basins and isolator rows before infiltrating in the underground chambers. All drainage features have been adequately sized to mimic existing conditions and promote recharge to groundwater.

In compliance with Standard 4, a Long-Term Pollution Plan and Stormwater Operation and Maintenance Plan is included in Appendix D.

STANDARD 5 – LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS (LUHPPLs)

Because the use of the property will involve maintenance of vehicles, storage of oils and anti-freeze, and snow storage; the land use has the potential for higher pollutant loads. A Long-Term Pollution Prevention Plan (included in Appendix D) identifies proper procedures of practices for source control and pollution prevention due to the site specific LUHPPL. The 44% TSS removal pre-treatment will be achieved prior to discharging any runoff from the proposed paved areas. This requirement will be achieved using a treatment train of deep sump catch basins, and isolator rows prior to discharging into subsurface infiltration chamber systems, combined with incorporating non-structural BMPs such as street sweeping. TSS removal worksheets documenting compliance are included in Appendix C of this report.

STANDARD 6 – CRITICAL AREAS

The existing project site is located within a DEP approved Zone I and an Interim Wellhead Protection Area (IWPA), which are considered Critical Areas under MassDEP's Stormwater Management Standards. Stormwater discharges near or to any critical areas require specific source control and pollution prevention management. The stormwater management system treatment train is designed for the more stringent 1-inch water quality volume as documented in Standard 4 above. The selected stormwater BMPs are consistent with Table CA3 in the Stormwater Management Handbook. A minimum 44% TSS removal pretreatment is also provided prior to infiltration BMPs.

STANDARD 7 – REDEVELOPMENTS AND OTHER PROJECTS SUBJECT TO THE STANDARDS ONLY TO THE MAXIMUM EXTENT PRACTICABLE

The new and expanded areas of impervious surfaces meet all standards for new development.

STANDARD 8 – CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENT CONTROL

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is included in Appendix D of this report. To ensure that the work incorporates the performance standards recommended in MassDEP's Stormwater Management Standards, necessary erosion and sedimentation control measures will be utilized during construction. These measures include compost filter tubes, catch basin protection, and a stabilized construction entrance, as depicted on

the site plans. In addition, the contractor will be required to produce the SWPPP prior to any land disturbance since this project is resulting in over 1 acre of land disturbance.

STANDARD 9 – OPERATION AND MAINTENANCE PLAN

An Operations and Maintenance Plan is provided in Appendix D of this report. Town of Truro DPW will be responsible for the operation and maintenance of the proposed drainage system.

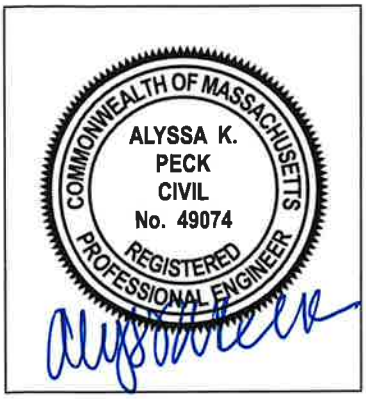
STANDARD 10 – PROHIBITION OF ILLICIT DISCHARGES

Illicit discharges will be prevented on the site through the use of spill/discharge prevention measures, along with good housekeeping and BMPs, and in accordance with the Long-Term Pollution Prevention Plan and O&M plan. A draft copy of the Illicit Discharge Compliance Statement has been developed for this site and is included in Appendix D. A signed Illicit Discharge Compliance Statement will be submitted prior to discharging stormwater to the post-construction stormwater BMPs.

REGISTERED PROFESSIONAL ENGINEER'S CERTIFICATION

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

Registered Professional Engineer Block and Signature



10.16.25

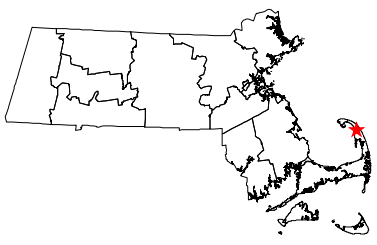
Signature and Date

APPENDIX A



Weston & Sampson

FIGURE 1
LOCUS MAP
TRURO DPW
17 TOWN HALL ROAD
TRURO, MA
BARNSTABLE COUNTY



SCALE IN FEET

0 1000 2000

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\07-DesignMaterials\02-Geotechnical\CAD\Truro DPW - Figure 1 - Locus Map.dwg

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N
W E
S

200 100 0 200 Feet

Coastal Zone

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- Hydrologic Connection

Streams
- Perennial Stream
- Intermittent Stream

DEP Wetland Areas
- Marsh/Bog
- Wooded marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune
- Article 97 Land
- ACECs

NHESP Estimated Habitats of Rare Wildlife
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species

NHESP Certified Vernal Pools
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Cold Water Fisheries

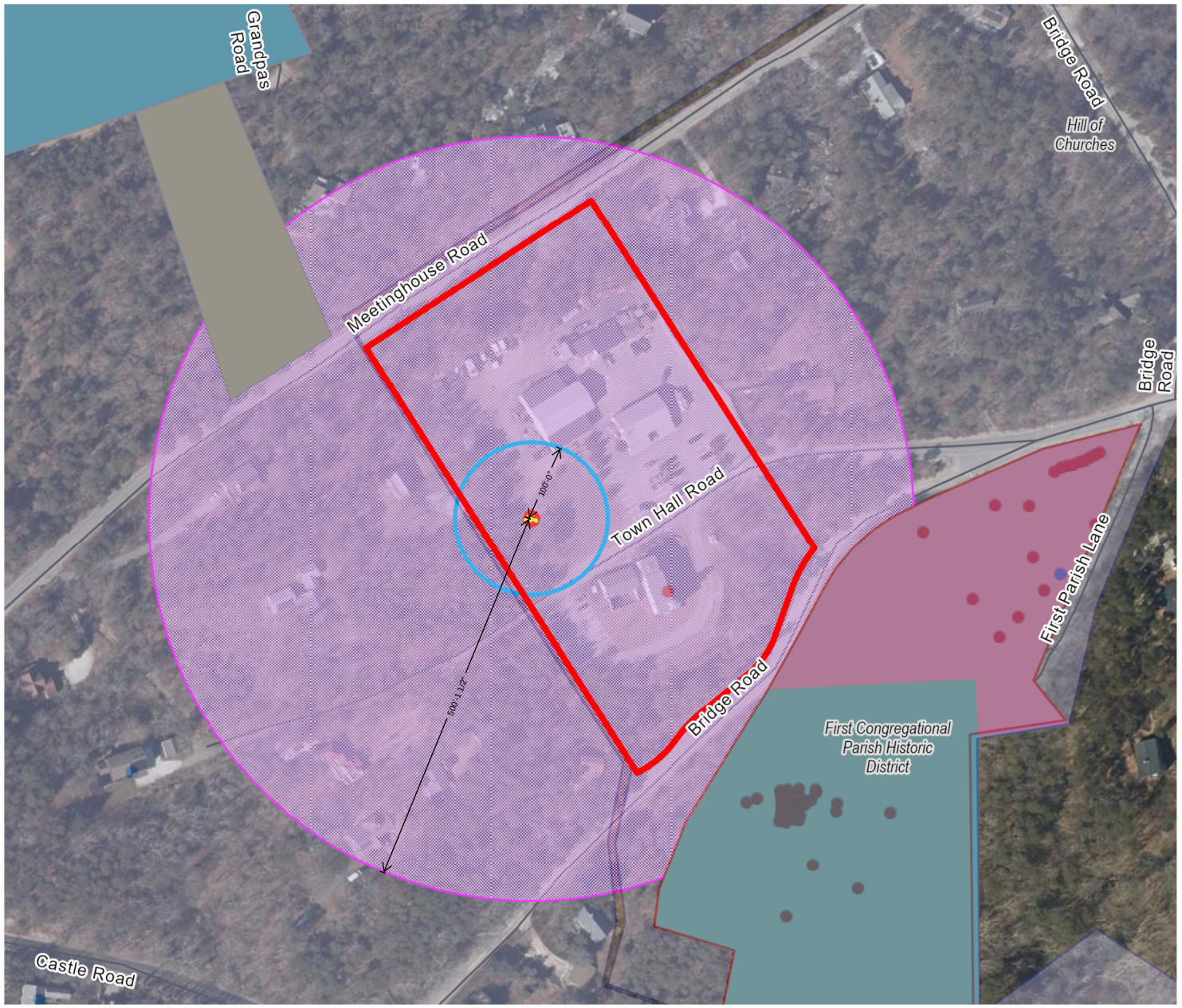
Outstanding Resource Waters
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

FEMA National Flood Hazard Layer
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included

FIGURE 1

24 Town Hall Road
Truro, MA
Environmental
Receptors Map

Weston & Sampson



Castle Hill Snow Village Area

N
W E
S

200 100 0 200
Feet

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Legend

- Work Area
- MassHistoric Commission Inventory (Points)
  - National Register of Historic Places ✓
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Inventory (Areas)
  - National Register of Historic Places
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property
- MassHistoric Commission Towns
  - Survey Pending
  - No Survey Pending
- Type II Surfacewater Discharge Permit
- AUL Sites
- Tier Classified Sites
  - TIERI
  - TIERII
  - TIER1D
- Protected and Recreation Open Space
  - State-State Dispute
  - State-Non-Profit Dispute
  - State-Municipal Dispute
  - State-Private Dispute
  - Private-Private Dispute
  - Public Non-Profit
- County
- Federal
- Conservation Organization
- Land Trust
- Municipal
- Private Non-Profit
- Other
- Private
- State
- Unknown
- <all other values>
- Public Water Supplies
  - Community Groundwater Source
  - Surface Water Intake
  - Non-Community Groundwater Source ✓
  - Emergency Surface Water
  - DEP Approved Zone I ✓
  - DEP Approved Zone II
  - IWPA ✓
- Surface Water Protection Areas
  - Surface Water Protection Areas - Zone A
  - Surface Water Protection Areas - Zone B
  - Surface Water Protection Areas - Zone C
  - DEP Approved Zone I
- BWP Landfills by Status
  - Inactive
  - Closed
  - Active

FIGURE 2

24 Town Hall Road
Truro, MA

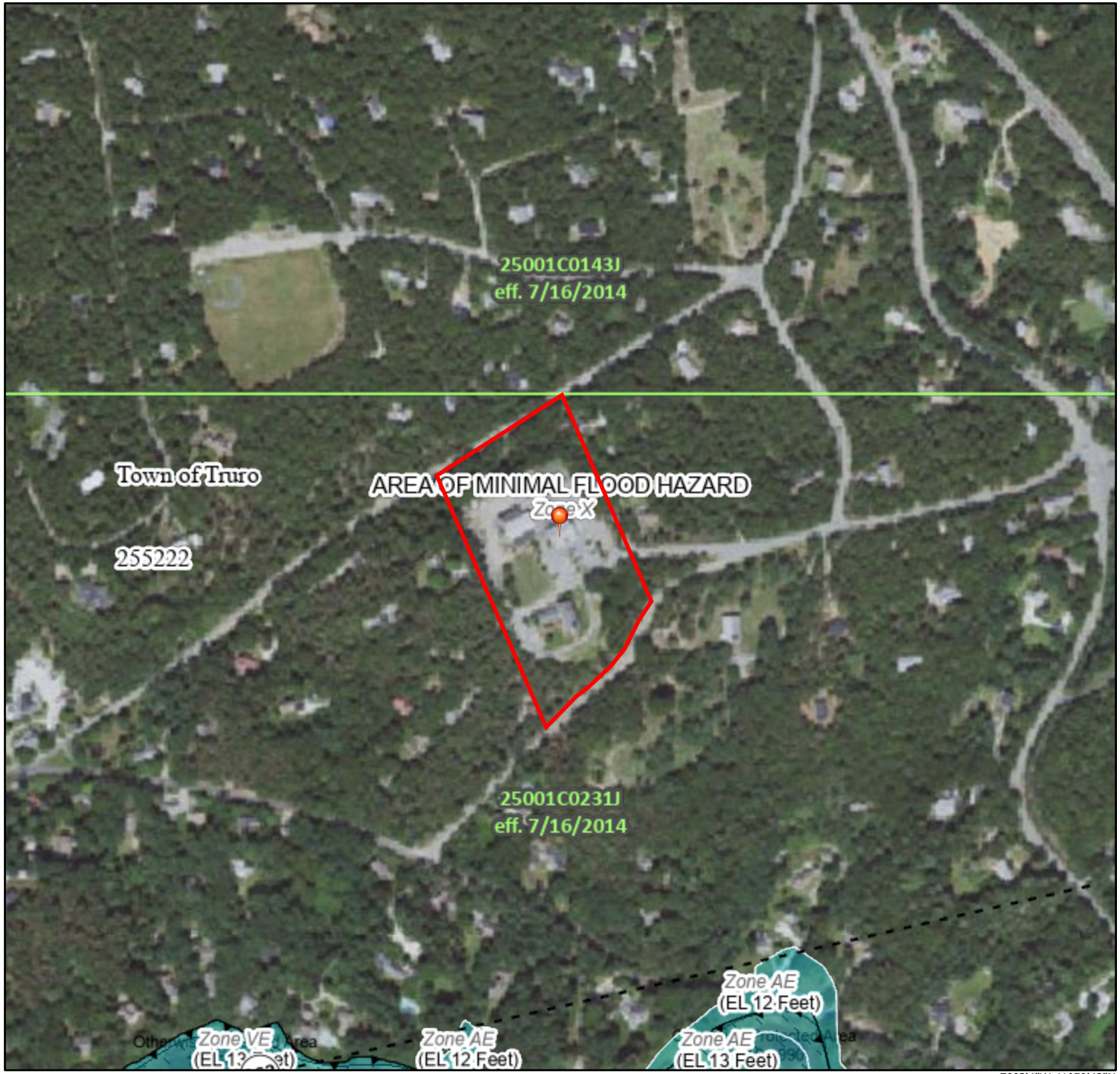
Human Receptor Map

Weston & Sampson

National Flood Hazard Layer FIRMette

FEMA

70°3'41"W 42°0'10"N



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

1:6,000

70°3'4"W 41°59'43"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2025 at 8:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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


70° 3' 27" W
70° 3' 18" W
412400
412430
412460
412490
412520
412550
412580
412610
42° 0' 1" N
41° 59' 51" N
4650350
4650320
4650290
4650260
4650230
4650200
4650170
4650140
4650110
4650080
Meetinghouse Rd
252D
252B
Driveway
Town Hall Rd
Bridge St
Soil Map may not be valid at this scale.
Map Scale: 1:1,430 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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

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

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

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

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

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

Soil Survey Area: Barnstable County, Massachusetts
Survey Area Data: Version 23, Sep 17, 2024

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

Date(s) aerial images were photographed: Jun 10, 2022—Jun 30, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
252B	Carver coarse sand, 3 to 8 percent slopes	A	4.0	87.5%
252D	Carver coarse sand, 15 to 35 percent slopes	A	0.6	12.5%
Totals for Area of Interest			**4.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

CONTRACTOR:	**Desmond Well Drilling, Inc.**	BORING LOCATION:	**See Attached Figure**	DATE START:	**April 16, 2025**
FOREMAN:	**Pat Desmond**	ADVANCE METHOD:	**Hollow-Stem Auger Drilling**	DATE FINISH:	**April 16, 2025**
LOGGED BY:	**Aaron Chabot**	AUGER DIAMETER:	**4-1/4" ID (Stem), 7-5/8" OD (Flights)**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Stephen Spink**	SUPPORT CASING:	**N/A**	FINAL DEPTH:	**39.0 ft.**
EQUIPMENT:	**CME 45, Truck Mounted**	CORING METHOD:	**N/A**	GRID COORDS:	**N:2828052.0 ± / E:1048383.8 ±**
SPT HAMMER:	**Automatic (140-lb.)**	BACKFILL MATERIAL:	**Drill Cuttings**	GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
					Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	S-1 21/24	2 3 3 3	6		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
	S-2 12/24	2 2 2 1	4				[3.0] GC: 9%, SC: 83%, FC: 8%
	S-3 14/24	1 1 1 2	2				
5						116	
	S-4 19/24	2 2 1 2	3				
	S-5 16/24	1 1 1 1	2		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace wood. **[FILL]**		
10						111	
	S-6 18/24	1 2 1 1	3		**Poorly graded sand with silt (SP-SM)** - Very loose to loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (ceramic, glass). **[FILL]**		
	S-7 18/24	1 2 3 4	5				
	S-8 12/24	3 4 5 7	9		**Poorly graded sand with gravel (SP)** - Loose; tan with orange; moist; mostly fine to medium SAND, little fine to coarse gravel, trace non plastic fines.		
15						106	
	S-9 18/24	3 3 2 3	5		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[17.0] GC: 0%, SC: 98%, FC: 2%
20						101	
	S-10 15/24	5 7 8 9	15				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-1

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-11 19/24	4 4 5 8	● 9		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-12 19/24	5 7 7 11	● 14		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
35							86	
		S-13 15/24	4 7 9 11	● 16				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	121.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2828167.6 ± / E:1048540.8 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-1 19/24	2 2 1 2	3		**Poorly graded sand with silt (SP-SM)** - Very loose; brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace asphalt. **[FILL]**		
		S-2 13/24	2 1 2 2	3		**Silty sand (SM)** - Very loose; brown; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[FILL]**		
		S-3 14/24	2 2 4 4	6		**Silty sand (SM)** - Loose; orange; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[SUBSOIL]**		
5		S-4 19/24	2 3 2 4	5		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.	116	[7.0] GC: 1%, SC: 98%, FC: 2%
10		S-5 12/24	2 2 3 3	5			111	
15		S-6 19/24	2 2 2 2	4			106	
20		S-7 17/24	2 4 3 3	7		*Coarse gravel*	101	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-2

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 20/24	4 5 5 6	● 10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							91	
		S-9 20/24	2 4 4 4	● 8				
35							86	
		S-10 13/24	5 7 10 12	● 17				
40							81	**Exploration ended at 39.0 ft.**
45							76	
50							71	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

WSE Project: ENG24-1552

CONTRACTOR:	**Desmond Well Drilling, Inc.**	BORING LOCATION:	**See Attached Figure**	DATE START:	**April 15, 2025**
FOREMAN:	**Pat Desmond**	ADVANCE METHOD:	**Hollow-Stem Auger Drilling**	DATE FINISH:	**April 15, 2025**
LOGGED BY:	**Aaron Chabot**	AUGER DIAMETER:	**4-1/4" ID (Stem), 7-5/8" OD (Flights)**	GROUND EL:	**122.5 ± (NAVD88)**
CHECKED BY:	**Stephen Spink**	SUPPORT CASING:	**N/A**	FINAL DEPTH:	**39.0 ft.**
EQUIPMENT:	**CME 45, Truck Mounted**	CORING METHOD:	**N/A**	GRID COORDS:	**N:2828056.7 ± / E:1048574.5 ±**
SPT HAMMER:	**Automatic (140-lb.)**	BACKFILL MATERIAL:	**Drill Cuttings and Asphalt Patch**	GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Asphalt concrete pavement.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
						Asphalt- 3 inches thick.		
		S-1 18/18	5 5 6	11		**Poorly graded sand with silt (SP-SM)** - Medium dense; brown; moist; mostly fine to medium SAND, few non plastic fines, trace fine gravel. **[FILL]**		
		S-2 19/24	4 4 4 5	8		**Silty sand (SM)** - Medium dense; orange; moist; mostly fine to medium SAND, little non plastic fines; trace roots. **[SUBSOIL]**		[3.0] GC: 1%, SC: 96%, FC: 4%
5		S-3 19/24	2 3 3 5	6		**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.	118	
		S-4 13/24	2 2 3 3	5				
10							113	
		S-5 16/24	2 3 3 5	6				
15							108	
		S-6 20/24	2 3 3 3	6				
20							103	
		S-7 19/24	2 2 3 3	5				
							98	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-3

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	4 5 5 4	● 10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	3 5 6 6	● 11			93 88	
35		S-10 18/24	5 8 8 12	● 16			83	**Exploration ended at 39.0 ft.**
40							78	
45							73	
50								

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

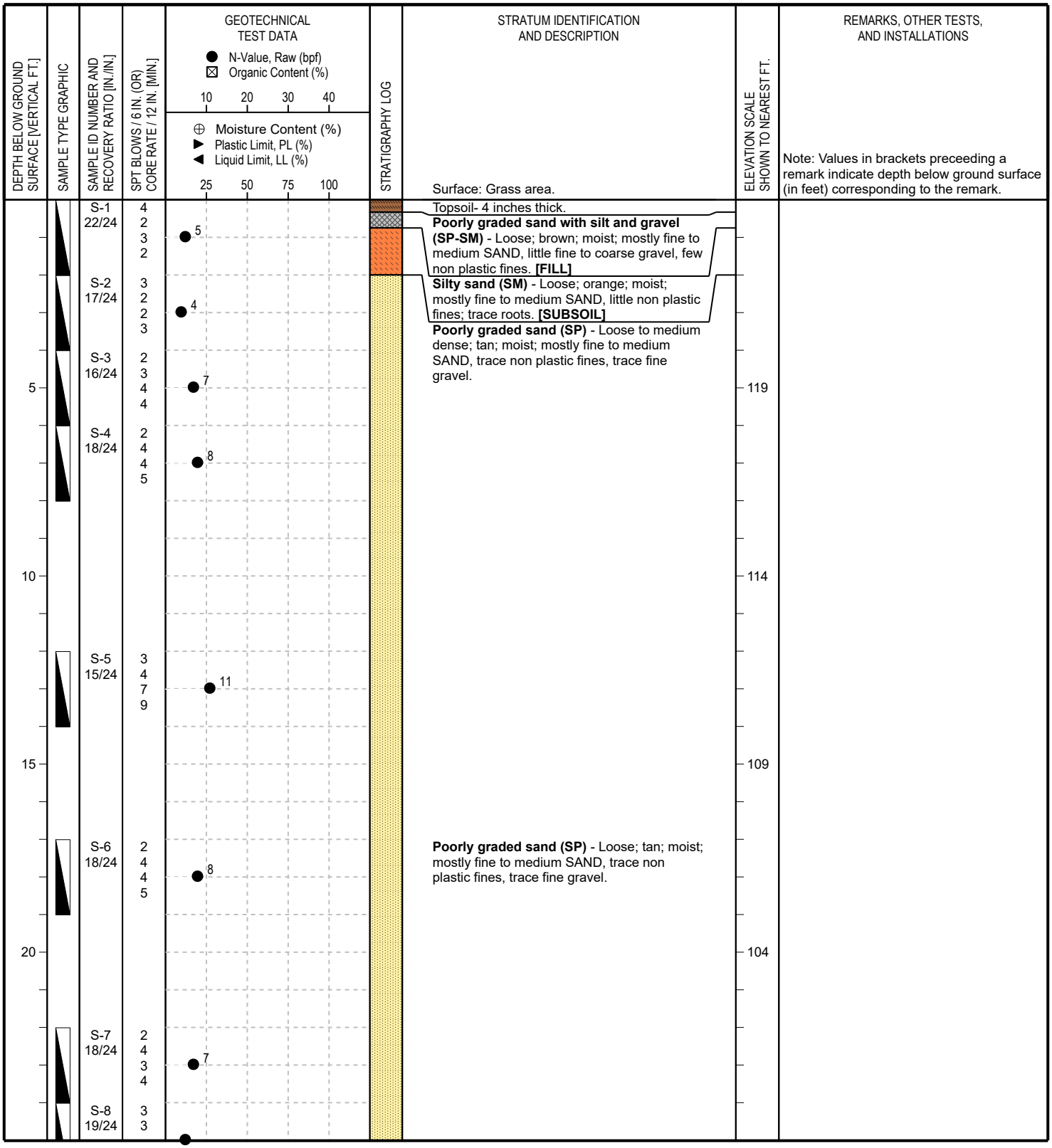
Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	34.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827922.3 ± / E:1048496.1 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-4

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			2 3			**Poorly graded sand (SP)** - Loose; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
		S-9 18/24	6 11 13 14	24		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							94	
		S-10 18/24	7 9 11 10	20				
								Exploration ended at 34.0 ft.
35							89	
40							84	
45							79	
50							74	

GEOTECHNICAL TEST DATA
- ● N-Value, Raw (bpf)
- ⊠ Organic Content (%)
- 10 20 30 40
- ⊕ Moisture Content (%)
- ▶ Plastic Limit, PL (%)
- ◀ Liquid Limit, LL (%)
- 5 25 50 75 100

Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.

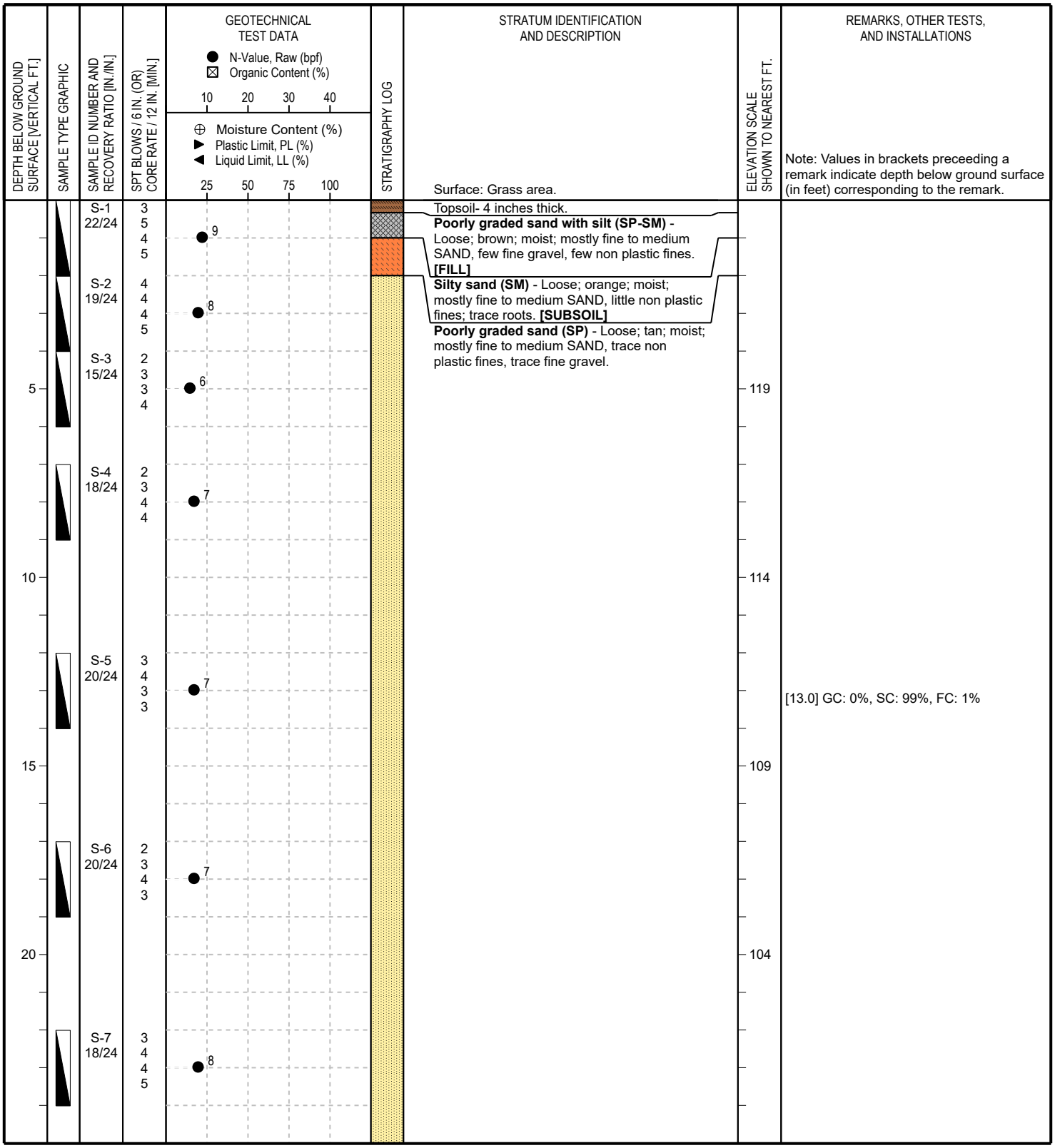
Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 15, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 15, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	124.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	39.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827852.4 ± / E:1048544.3 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (MA)



Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-5

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 19/24	5 6 5 7	11		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30		S-9 20/24	4 5 5 7	10			94	
		S-10 16/24	5 5 5 5	10				
35							89	
		S-11 18/24	3 4 5 7	9				
								Exploration ended at 39.0 ft.
40							84	
45							79	
50							74	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

WSE Project: ENG24-1552

CONTRACTOR:	Desmond Well Drilling, Inc.	BORING LOCATION:	See Attached Figure	DATE START:	April 16, 2025
FOREMAN:	Pat Desmond	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	April 16, 2025
LOGGED BY:	Aaron Chabot	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	122.0 ± (NAVD88)
CHECKED BY:	Stephen Spink	SUPPORT CASING:	N/A	FINAL DEPTH:	29.0 ft.
EQUIPMENT:	CME 45, Truck Mounted	CORING METHOD:	N/A	GRID COORDS:	N:2827945.1 ± / E:1048637.9 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings and Asphalt Patch	GRID SYSTEM:	NAD83 State Plane (MA)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA (N-Value, Raw (bpf); Organic Content (%); Moisture Content (%); Plastic Limit, PL (%); Liquid Limit, LL (%))	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
						Surface: Asphalt concrete pavement.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
						Asphalt- 3 inches thick.		
		S-1 17/18	5 6 6	12		**Poorly graded sand with silt and gravel (SP-SM)** - Medium dense; brown; moist; mostly fine to medium SAND, little fine gravel, few non plastic fines. **[FILL]**		
		S-2 19/24	4 5 5 5	10		**Poorly graded sand (SP)** - Loose to medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
5		S-3 17/24	2 3 4 5	7			117	
		S-4 19/24	2 4 6 7	10		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		[8.0] GC: 1%, SC: 98%, FC: 1%
10							112	
		S-5 19/24	5 7 8 9	15				
15							107	
		S-6 15/24	3 5 5 8	10				
20							102	
		S-7 20/24	4 5 5 6	10				

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-1552

Department of Public Works
17 Town Hall Road, Truro, MA

BORING ID: B-6

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	GEOTECHNICAL TEST DATA	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
				● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100				Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
		S-8 16/24	5 11 14 12	25		**Poorly graded sand (SP)** - Medium dense; tan; moist; mostly fine to medium SAND, trace non plastic fines, trace fine gravel.		
30							92	**Exploration ended at 29.0 ft.**
35							87	
40							82	
45							77	
50							72	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

4/15/2025
EMILY BEEBE SE
CHRIS LUCY EXC.

TH 1 NWE

Horizon	Munsell	Depth
FILL		0-12"
C	10YR 5/8 MS	12"-101"

TH 2 NWE

FILL		0-18"
C	10YR 5/8 MS	18"-105"

TH 3 NWE

FILL		0-4
B	10YR 5/6 LS	4-12
C1	10YR 5/8 MS	12-62
C2	10YR 7/3 MS	

TH 4 (#1) NWE

FILL		0-10"
C	10YR 5/6 MS	10-120"

TH 5

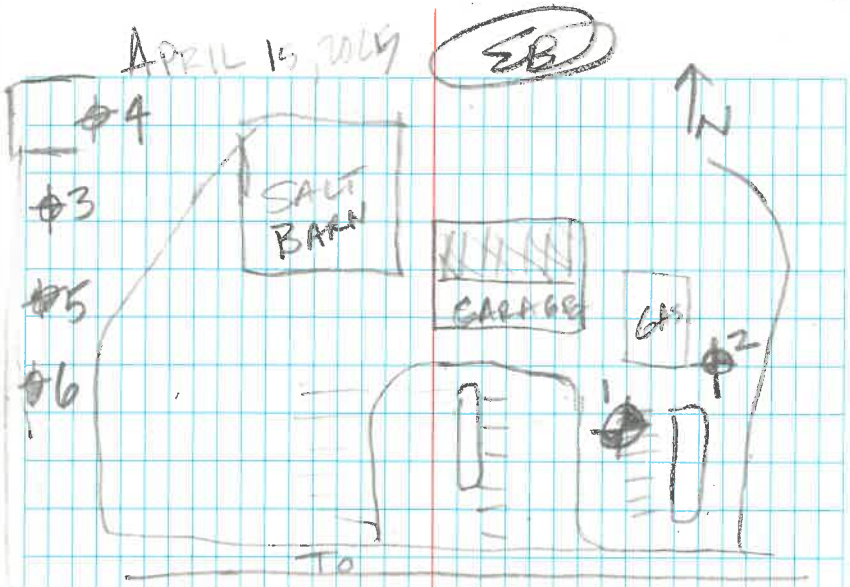
FILL NWE →		0-4
B	10YR 5/6 LS	4-13
C	10YR 5/8 MS	13-110

TH 6 NWE

FILL		0-10"
E+B	10YR 5/6 LS	10"-29"
C	10YR 5/8 MS	29"-126"

NWE = No GROUND WATER ENCOUNTERED

APRIL 15 2025 EB



Weston & Sampson

Department of Public Works

TEST PIT ID: TP-1

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 15.0 ft. , Width: 10.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 8.0 ft.**	FINAL DEPTH:	**8.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828049 ± / E:1048355 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; common brick and metal fencing debris. **[FILL]**		
			1 inch topsoil layer		
5				116	
					Caving at 8.0 ft. (exploration ended).

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-2

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

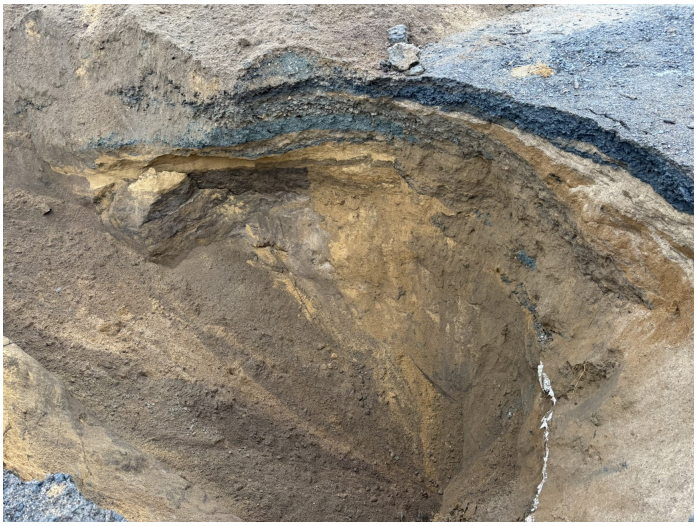
CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 30, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 16.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**Moderate Caving Below 9.0 ft.**	FINAL DEPTH:	**9.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828090 ± / E:1048427 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
	G		**Poorly graded sand (SP)** - Light brown; moist; mostly fine to coarse SAND, trace non plastic fines; trace debris (glass, brick). **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (plastic, roots). **[FILL]**	117	
5	G		*White plastic liner observed in west sidewall*		
				112	***Caving at 9.0 ft. (exploration ended).***

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Sidewall

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-3

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 17.0 ft. , Width: 9.0 ft.**	DATE FINISH:	**September 30, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.5 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**9.5 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828100 ± / E:1048466 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]** **Poorly graded sand with silt (SP-SM)** - Dark brown; moist; mostly fine to medium SAND, few fine to coarse gravel, few non plastic fines; trace debris (metal, glass, plastic, roots). **[FILL]** *1 inch topsoil layer* *2 inch topsoil layer*		
5				117	
	G		**Silty sand (SM)** - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, trace fine gravel, trace non plastic fines.		
				112	**Exploration ended at 9.5 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

Department of Public Works

TEST PIT ID: TP-4

WSE Project: ENG24-1552

17 Town Hall Road, Truro, MA

CONTRACTOR:	**Excavated by Town DPW**	TEST PIT LOCATION:	**See Attached Figure**	DATE START:	**September 25, 2025**
OPERATOR:	**Chris Lucy**	PLAN DIMENSIONS:	**Length: 13.0 ft. , Width: 8.0 ft.**	DATE FINISH:	**September 25, 2025**
LOGGED BY:	**Kathryn Lennon**	SEEPAGE REMARKS:	**No Seepage Observed**	GROUND EL:	**121.0 ± (NAVD88)**
CHECKED BY:	**Aaron Chabot**	CAVING REMARKS:	**No Caving Observed**	FINAL DEPTH:	**5.0 ft.**
EQUIPMENT:	**130G John Deere Excavator**	BACKFILL MATERIAL:	**Excavated Soil**	GRID COORDS:	**N:2828152 ± / E:1048561 ±**
BUCKET TYPE:	**Toothed, 24-in. (6.4 cubic-ft.)**	OTHER COMMENTS:		GRID SYSTEM:	**NAD83 State Plane (MA)**

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
			Surface: Bare soil, no vegetation.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G		**Poorly graded gravel with silt and sand (GP-GM)** - Dark gray; moist; mostly fine to coarse GRAVEL, some fine to coarse sand, few non plastic fines. **[FILL]**		
			Poorly graded sand with silt (SP-SM) - Dark brown; moist; mostly fine to medium SAND, few fine gravel, few non plastic fines; trace debris (metal, plastic, roots). **[FILL]**		
	G		Topsoil- 2 inches thick.		
			Silty sand (SM) - Orange with light brown; moist; mostly fine to medium SAND, little non plastic fines, few fine gravel; trace roots. **[SUBSOIL]**		
	G		**Poorly graded sand (SP)** - Light brown to tan; mostly fine to coarse SAND, few fine to coarse gravel, trace non plastic fines.		
5				116	**Exploration ended at 5.0 ft.**

TEST PIT PHOTOGRAPHS



Excavated Soil Pile



TP Overview

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
18"	Ap - Sand (2.5Y 4/3) 0% Gravel and 0% Cobbles Single Grain
72"	B_w - Sand (7.5YR 6/8) 0% Gravel and 0% Cobbles Single Grain
120"	C- Sand (10YR 8/4) 0% Gravel and 0% Cobbles Single Grain
	- End of Exploration - Groundwater was observed and exploration was ended.

NOTES:

1. No GW Observed

TEST PIT NUMBER

TP-100

Weston & Sampson℠

TEST PIT LOG

PROJECT NAME/NO.	Town of Truro Public Works Facility			**TEST PIT NUMBER**	
LOCATION	24 Town Hall Road			TP-100	
CLIENT	Town of Truro			GROUND SURFACE	
OPERATOR	Town of Truro			ELEVATION	see plan
OBSERVED BY	Kyle Merchant	DATE	10/2/25	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	see notes

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION



NOTES:

1. No GW Observed

TEST PIT NUMBER
TP-100

Weston & Sampson℠

APPENDIX B

TRUOR DPW FACILITY
TRURO, MA

Pre-Development Conditions vs. Post-Development Conditions									
Pre-Development Flows					**Post-Development Flows**				
Storm Event	2-year storm	10-year storm	25-year storm	100-year storm	Storm Event	2-year storm	10-year storm	25-year storm	100-year storm
	3.20 in	4.72 in	5.89 in	8.24 in		3.20 in	4.72 in	5.89 in	8.24 in
Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)
POA 1	2.67	4.77	6.42	9.73	POI 1	0.00	0.00	0.03	0.18
Offiste - Woods Meetinghouse Road					*Offiste - East*				
POA 2	1.26	2.60	3.70	6.01	POI 2	0.82	1.69	2.79	4.47
Offsite - Woods Town Hall Road					*Offsite - North*				



NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.

2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)
- PAVEMENT, HSG A (CN=98)
- GRAVEL, HSG A (CN=96)

PLAN

SCALE: 1" = 50'

0 50 100 150

SCALE: 1" = 50'

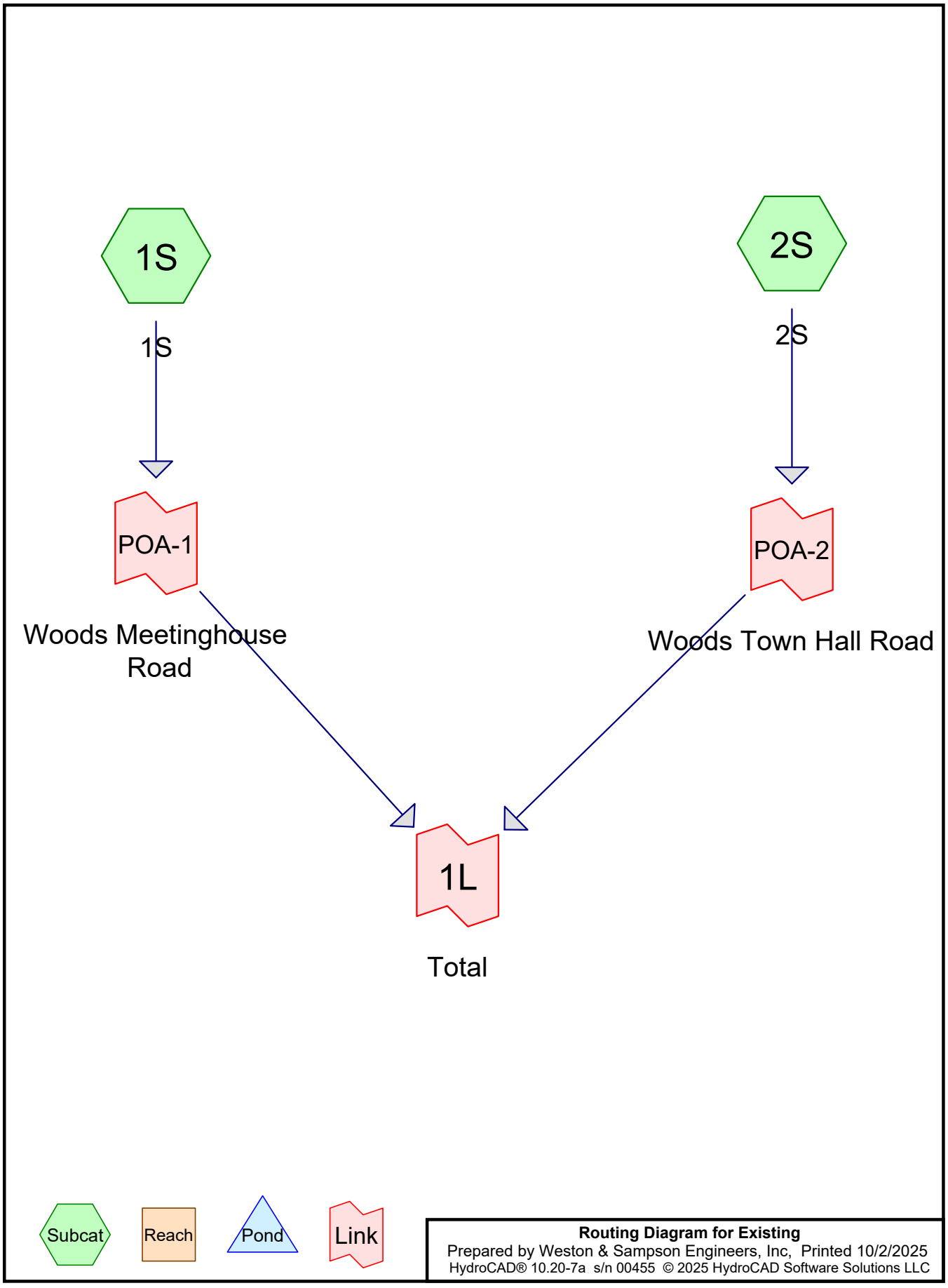
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
EXISTING CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Pre-Development.dwg



Routing Diagram for Existing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/2/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
22,770	39	>75% Grass cover, Good, HSG A (1S, 2S)
31,180	96	Gravel surface, HSG A (1S, 2S)
37,852	98	Paved parking, HSG A (1S, 2S)
11,888	98	Roofs, HSG A (1S, 2S)
7,433	30	Woods, Good, HSG A (1S, 2S)
111,123	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
22,770	0	0	0	0	22,770	>75% Grass cover, Good	
31,180	0	0	0	0	31,180	Gravel surface	
37,852	0	0	0	0	37,852	Paved parking	
11,888	0	0	0	0	11,888	Roofs	
7,433	0	0	0	0	7,433	Woods, Good	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=1.68"
Tc=10.0 min CN=84 Runoff=2.67 cfs 9,589 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=76 Runoff=1.26 cfs 4,102 cf

Link 1L: Total Inflow=3.79 cfs 13,691 cf
Primary=3.79 cfs 13,691 cf

Link POA-1: Woods Meetinghouse Road Inflow=2.67 cfs 9,589 cf
Primary=2.67 cfs 9,589 cf

Link POA-2: Woods Town Hall Road Inflow=1.26 cfs 4,102 cf
Primary=1.26 cfs 4,102 cf

Total Runoff Area = 111,123 sf Runoff Volume = 13,691 cf Average Runoff Depth = 1.48"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

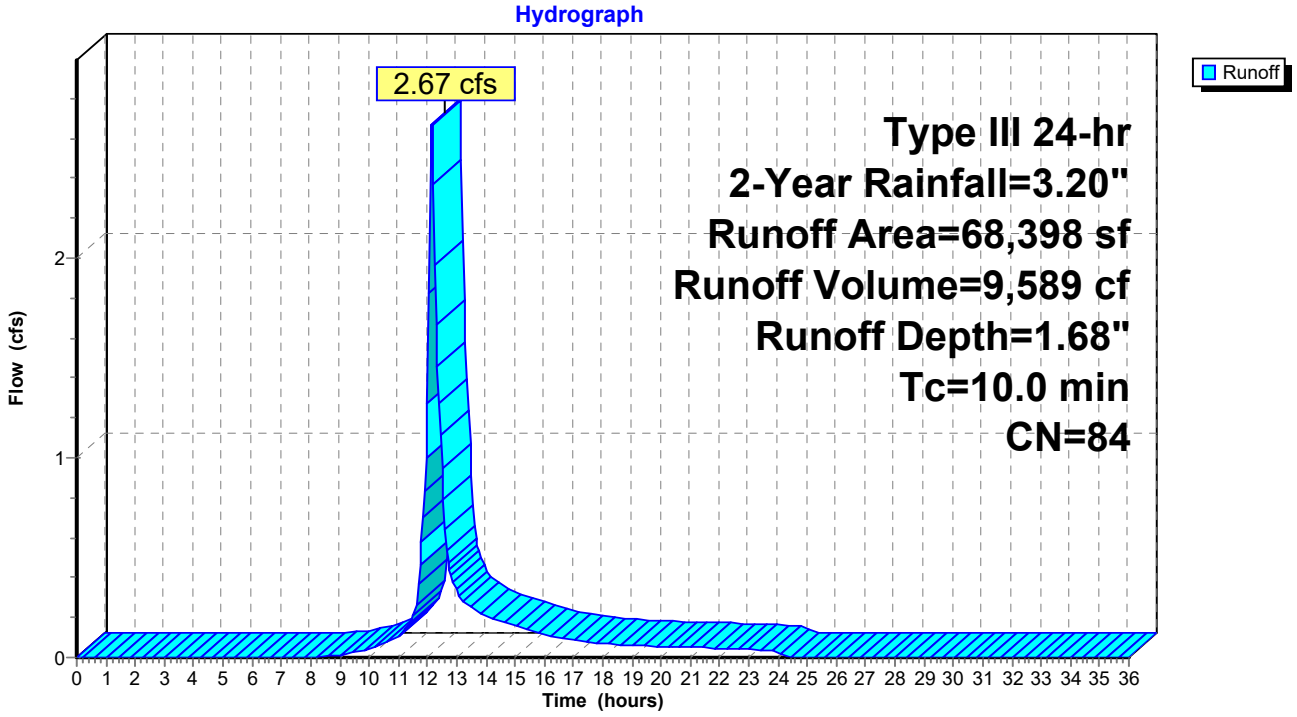
Runoff = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Depth= 1.68"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

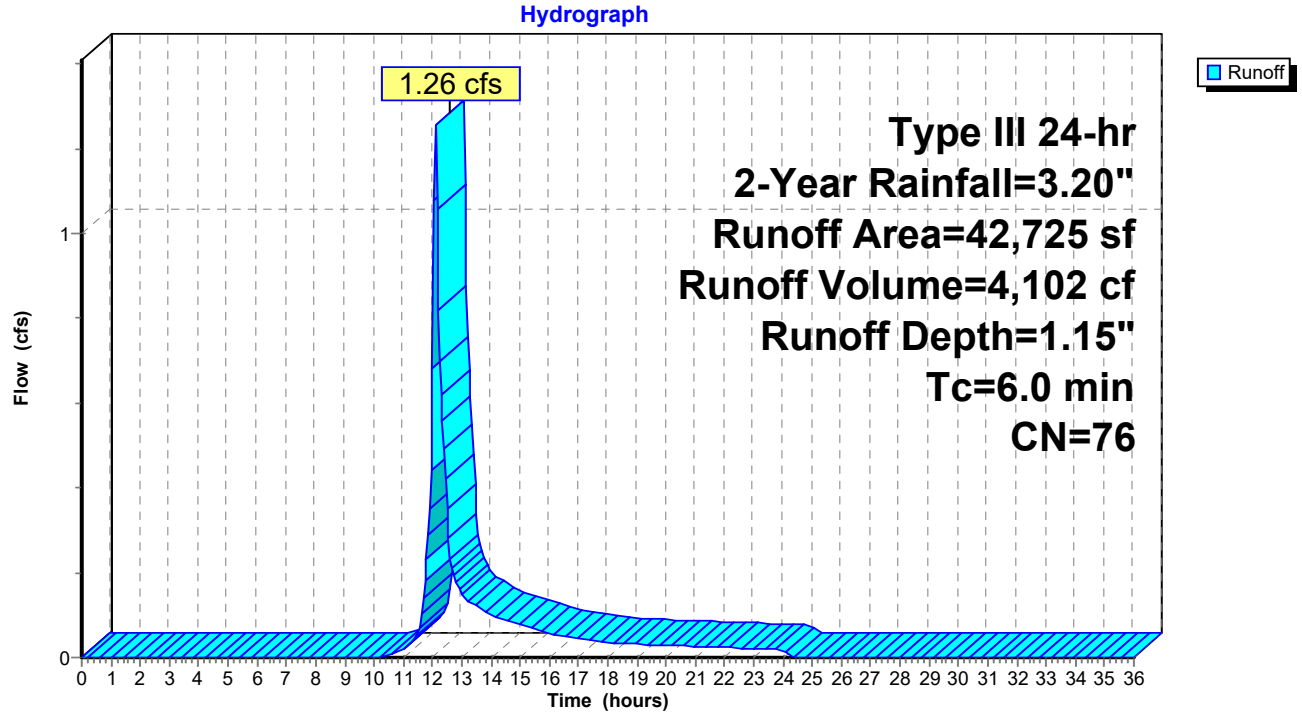
Runoff = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Depth= 1.15"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

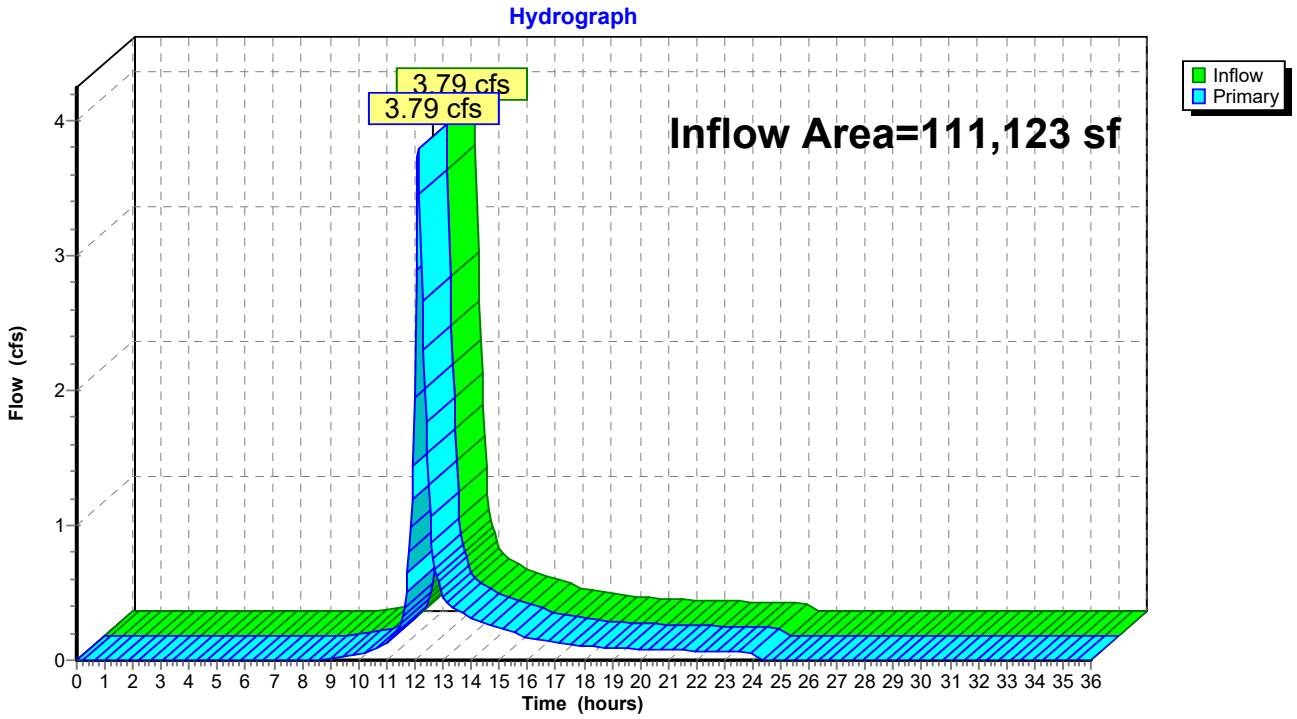


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 1.48" for 2-Year event
Inflow = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf
Primary = 3.79 cfs @ 12.13 hrs, Volume= 13,691 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

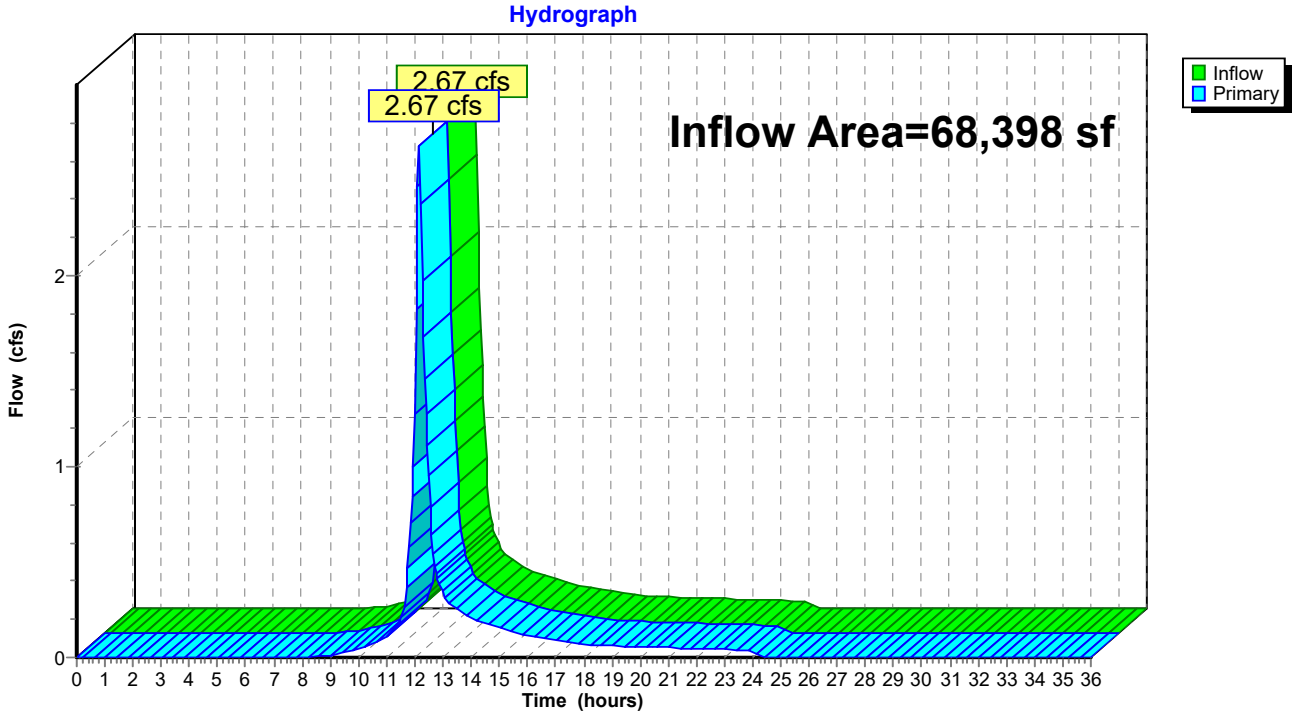


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 1.68" for 2-Year event
Inflow = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf
Primary = 2.67 cfs @ 12.15 hrs, Volume= 9,589 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

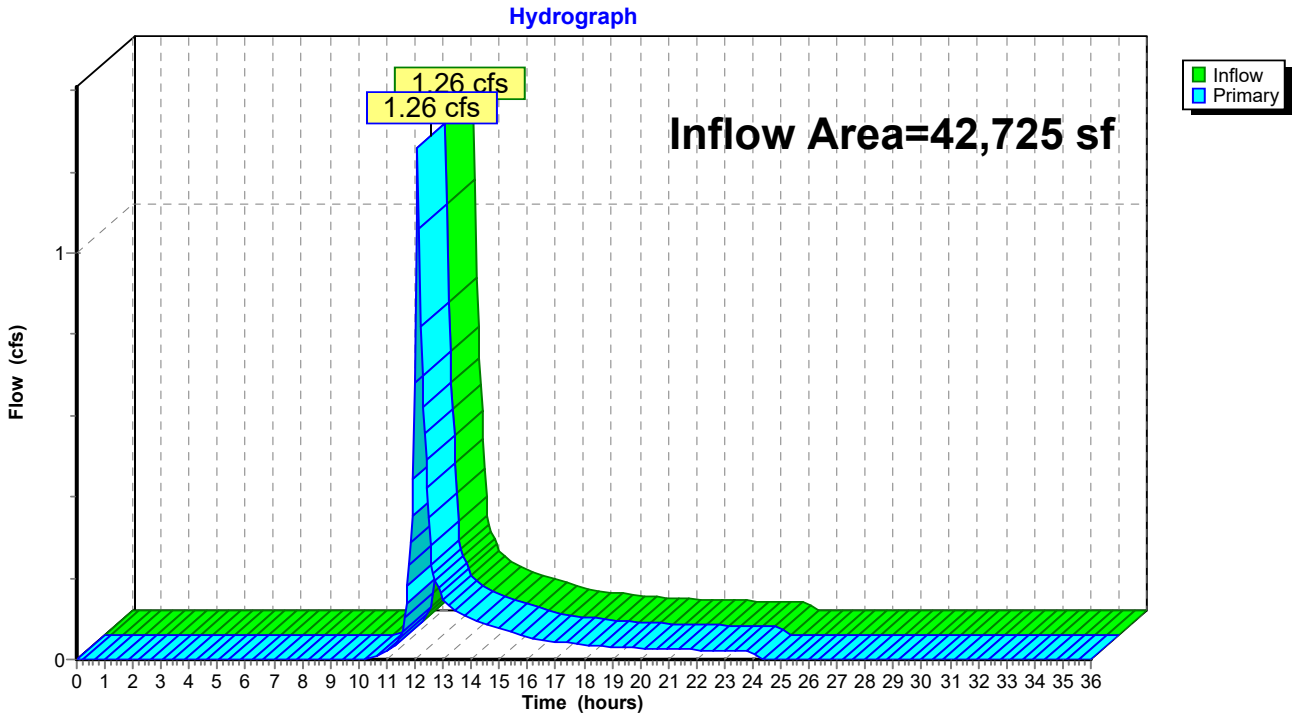


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 1.15" for 2-Year event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf
Primary = 1.26 cfs @ 12.10 hrs, Volume= 4,102 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=3.02"
Tc=10.0 min CN=84 Runoff=4.77 cfs 17,187 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=76 Runoff=2.60 cfs 8,213 cf

Link 1L: Total Inflow=7.17 cfs 25,400 cf
Primary=7.17 cfs 25,400 cf

Link POA-1: Woods Meetinghouse Road Inflow=4.77 cfs 17,187 cf
Primary=4.77 cfs 17,187 cf

Link POA-2: Woods Town Hall Road Inflow=2.60 cfs 8,213 cf
Primary=2.60 cfs 8,213 cf

Total Runoff Area = 111,123 sf Runoff Volume = 25,400 cf Average Runoff Depth = 2.74"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

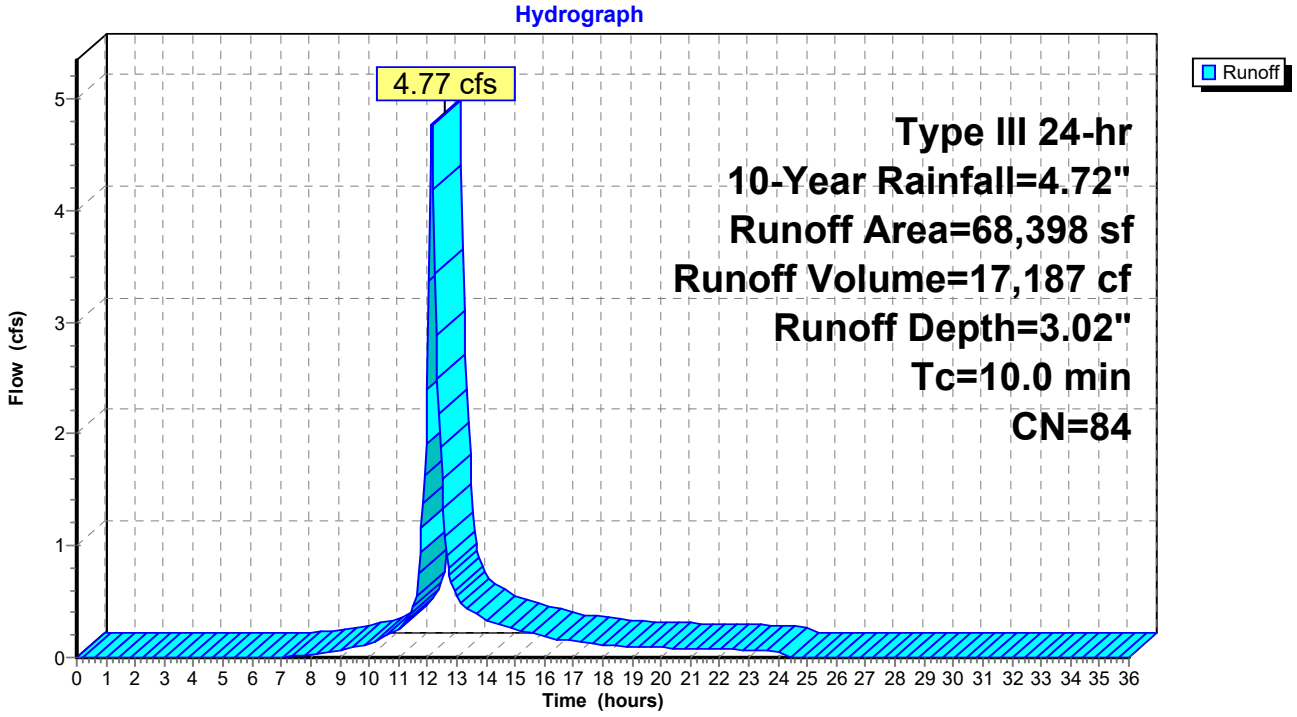
Runoff = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Depth= 3.02"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

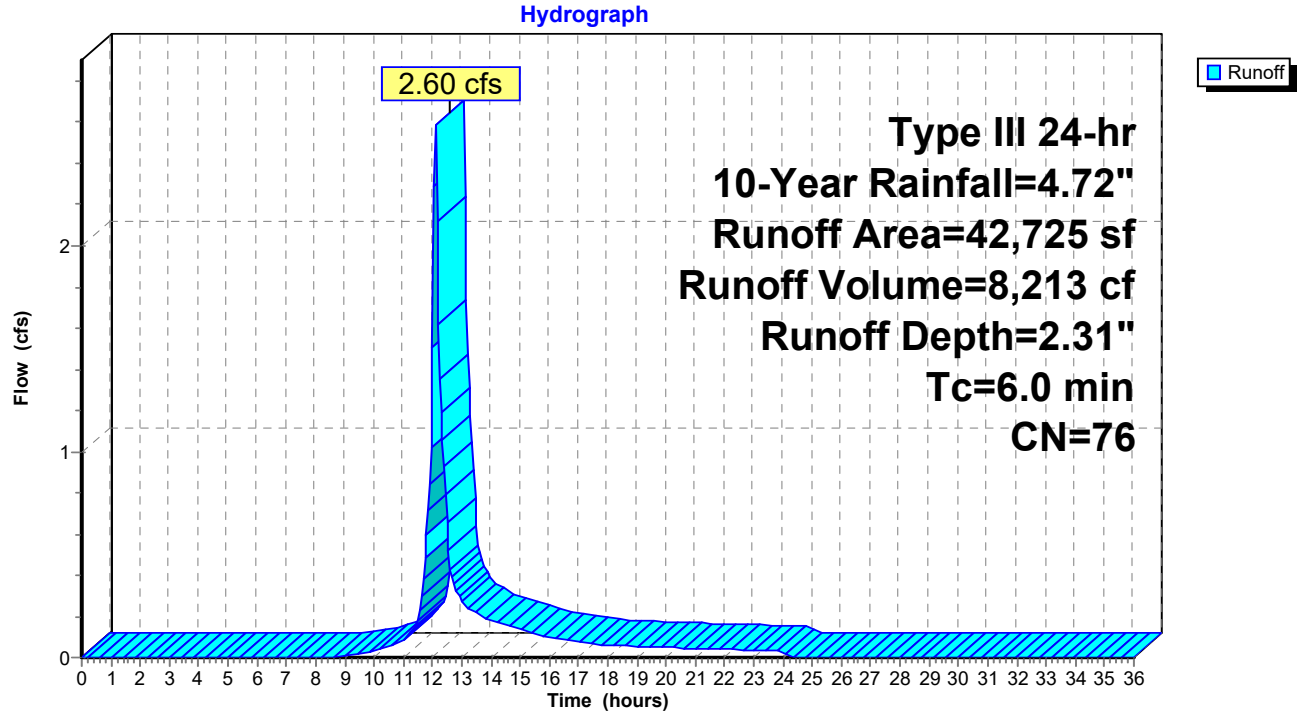
Runoff = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Depth= 2.31"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

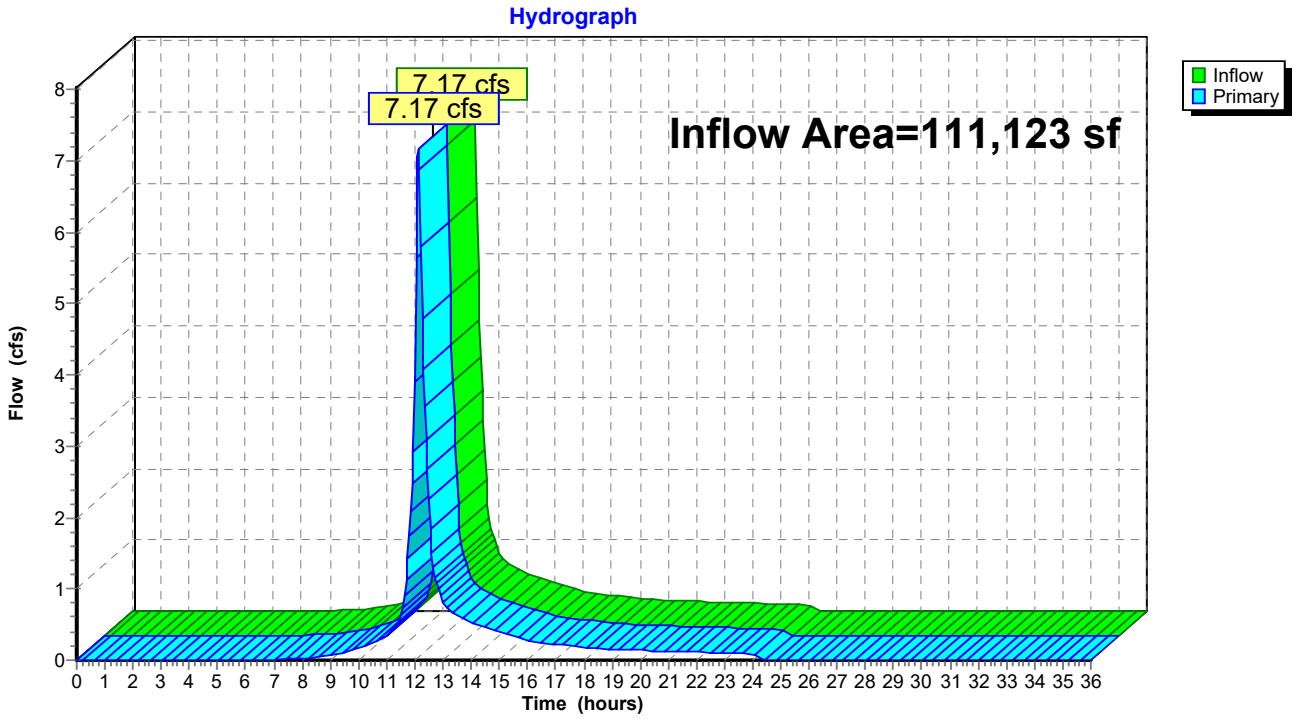


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 2.74" for 10-Year event
Inflow = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf
Primary = 7.17 cfs @ 12.12 hrs, Volume= 25,400 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

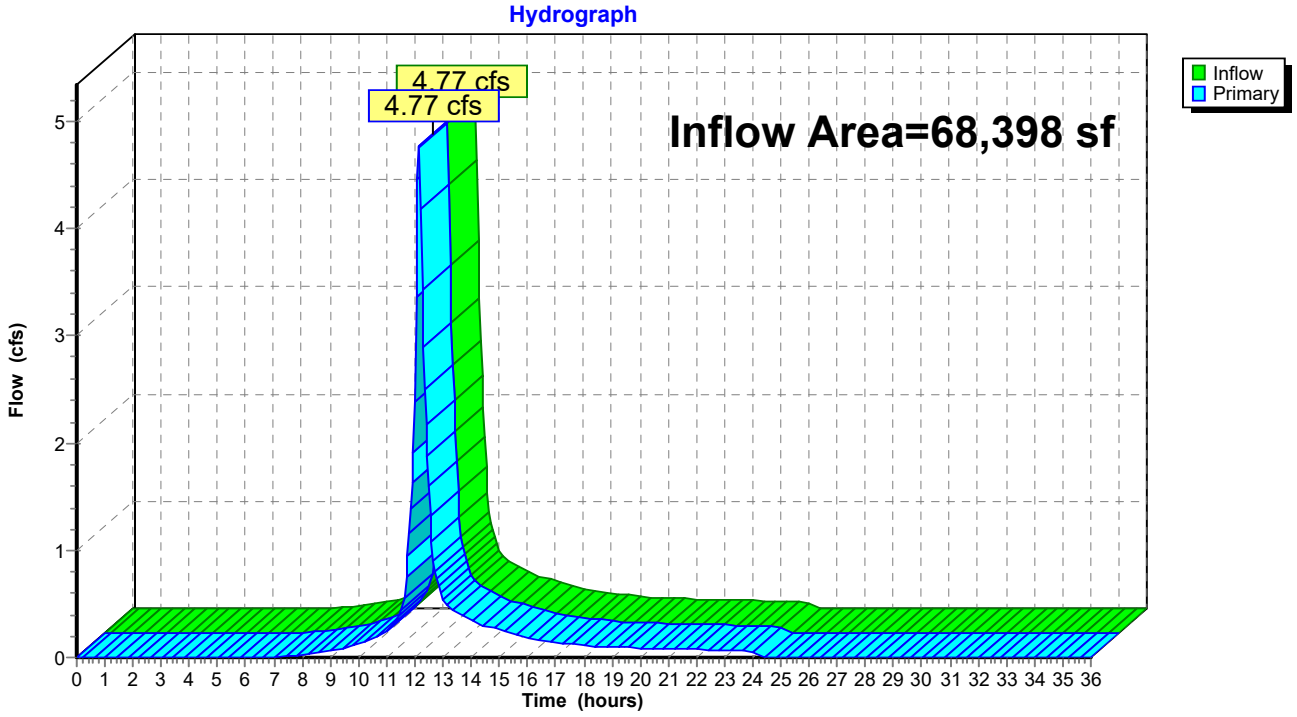


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf
Primary = 4.77 cfs @ 12.14 hrs, Volume= 17,187 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

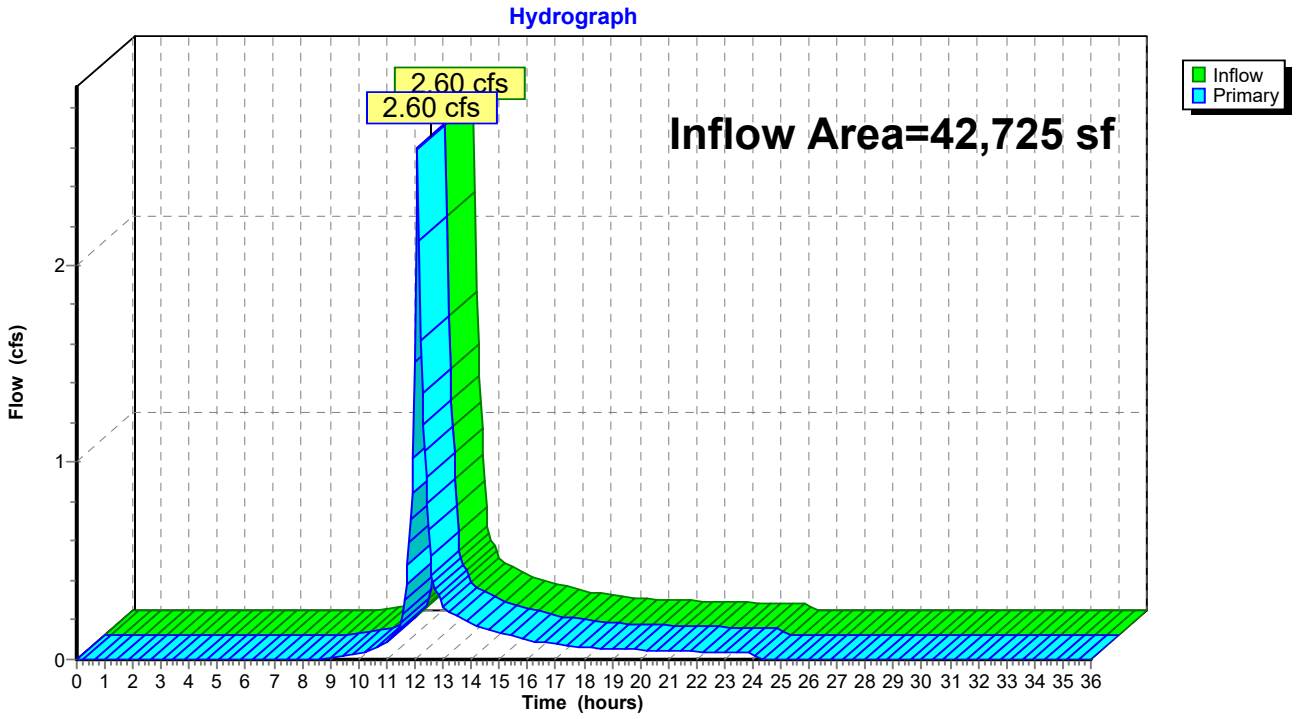


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 2.31" for 10-Year event
Inflow = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf
Primary = 2.60 cfs @ 12.09 hrs, Volume= 8,213 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=4.09"
Tc=10.0 min CN=84 Runoff=6.42 cfs 23,333 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=76 Runoff=3.70 cfs 11,697 cf

Link 1L: Total Inflow=9.85 cfs 35,031 cf
Primary=9.85 cfs 35,031 cf

Link POA-1: Woods Meetinghouse Road Inflow=6.42 cfs 23,333 cf
Primary=6.42 cfs 23,333 cf

Link POA-2: Woods Town Hall Road Inflow=3.70 cfs 11,697 cf
Primary=3.70 cfs 11,697 cf

Total Runoff Area = 111,123 sf Runoff Volume = 35,031 cf Average Runoff Depth = 3.78"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

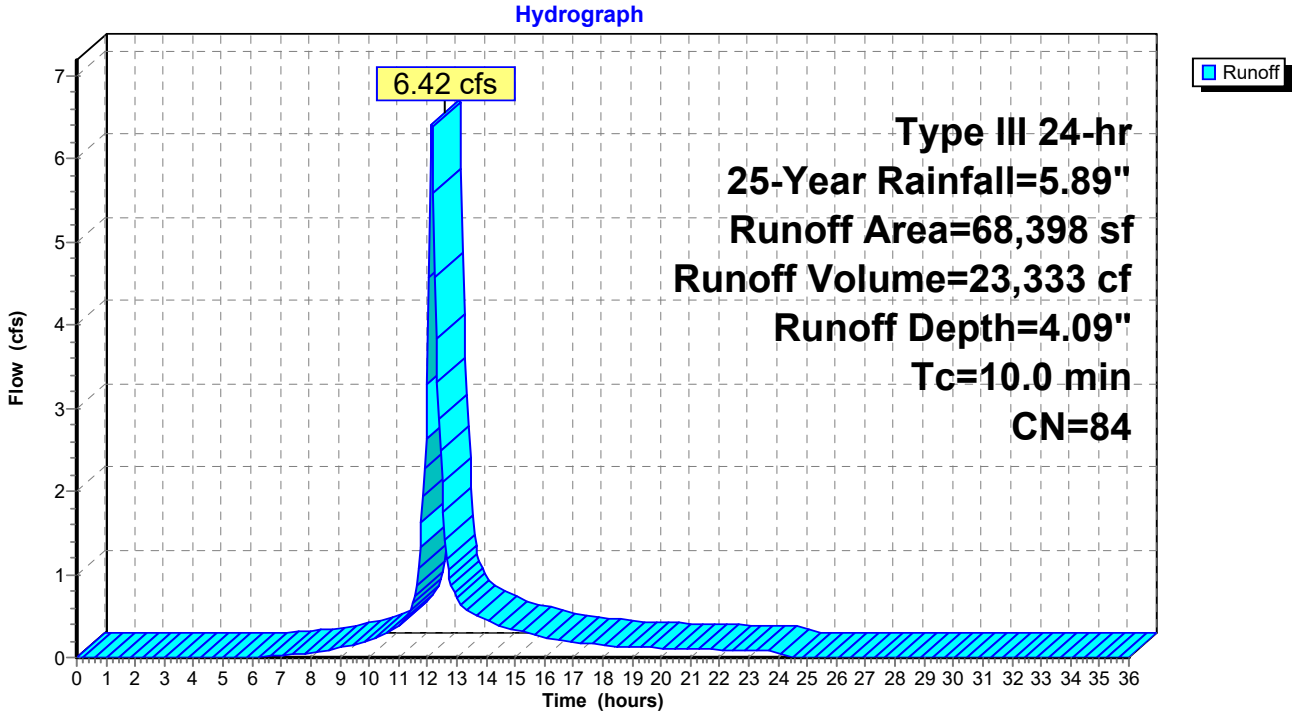
Runoff = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Depth= 4.09"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

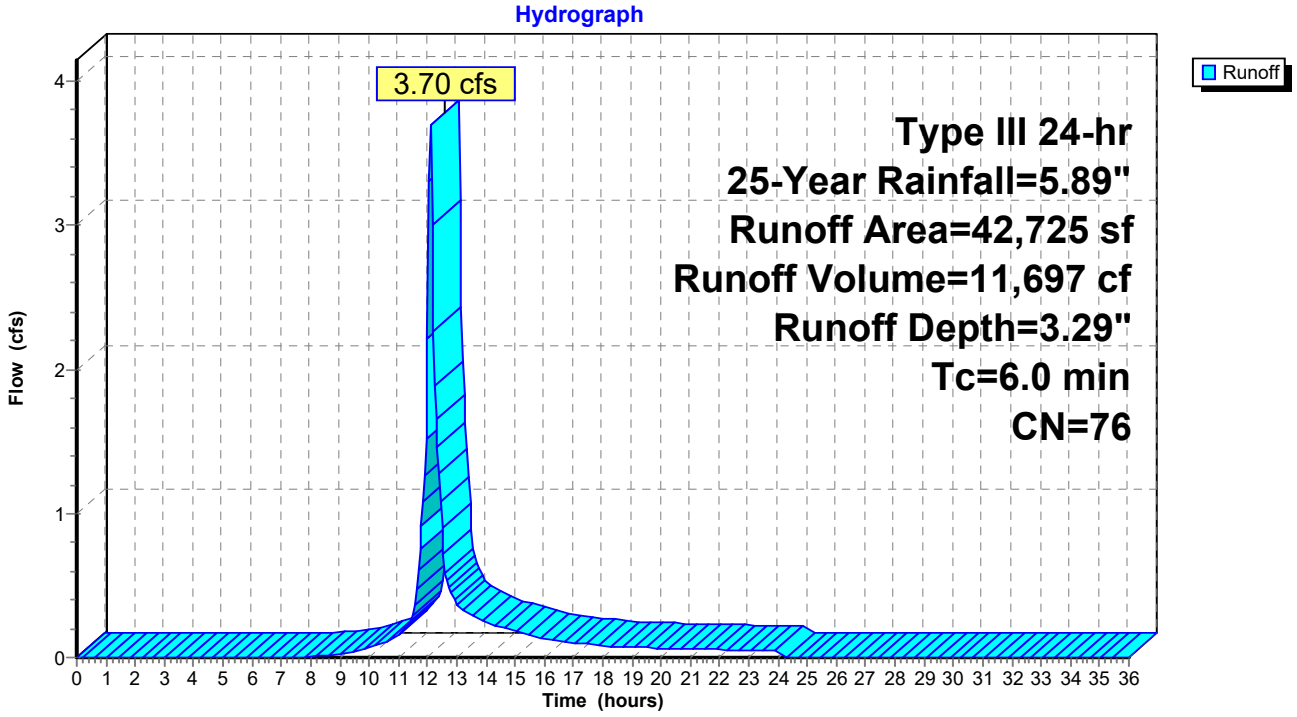
Runoff = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Depth= 3.29"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

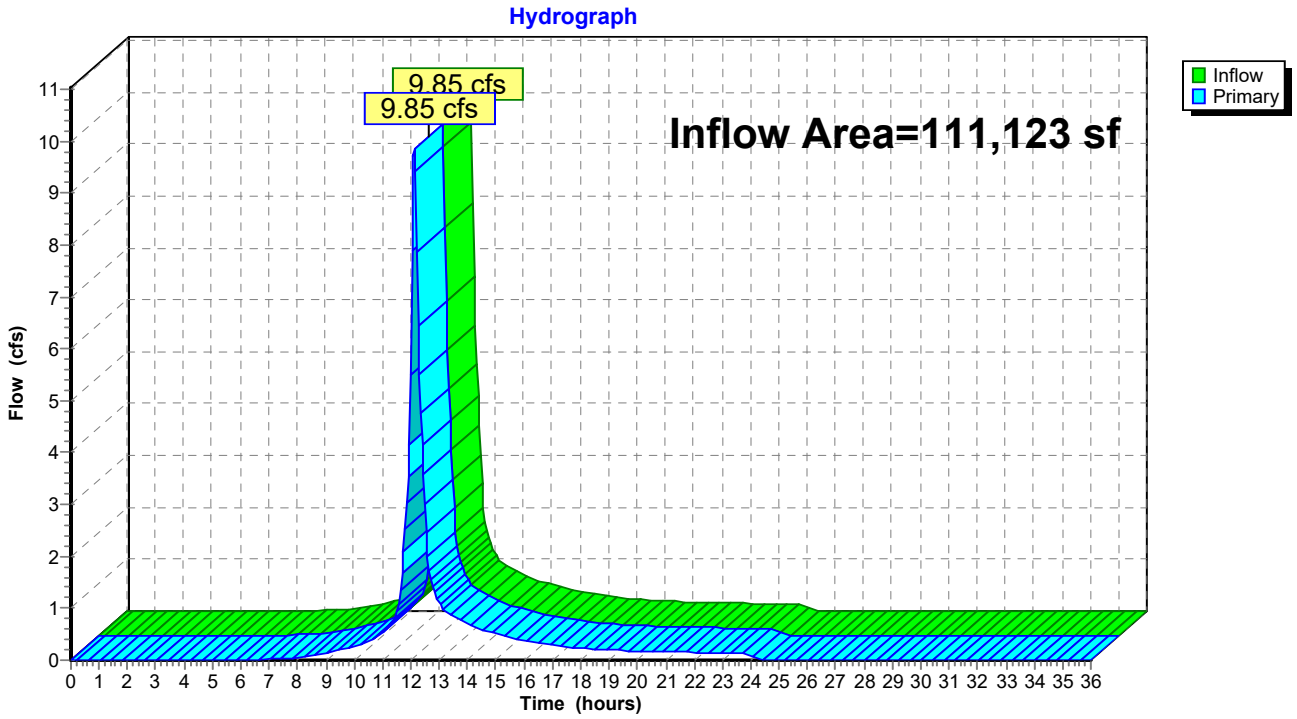


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf
Primary = 9.85 cfs @ 12.12 hrs, Volume= 35,031 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

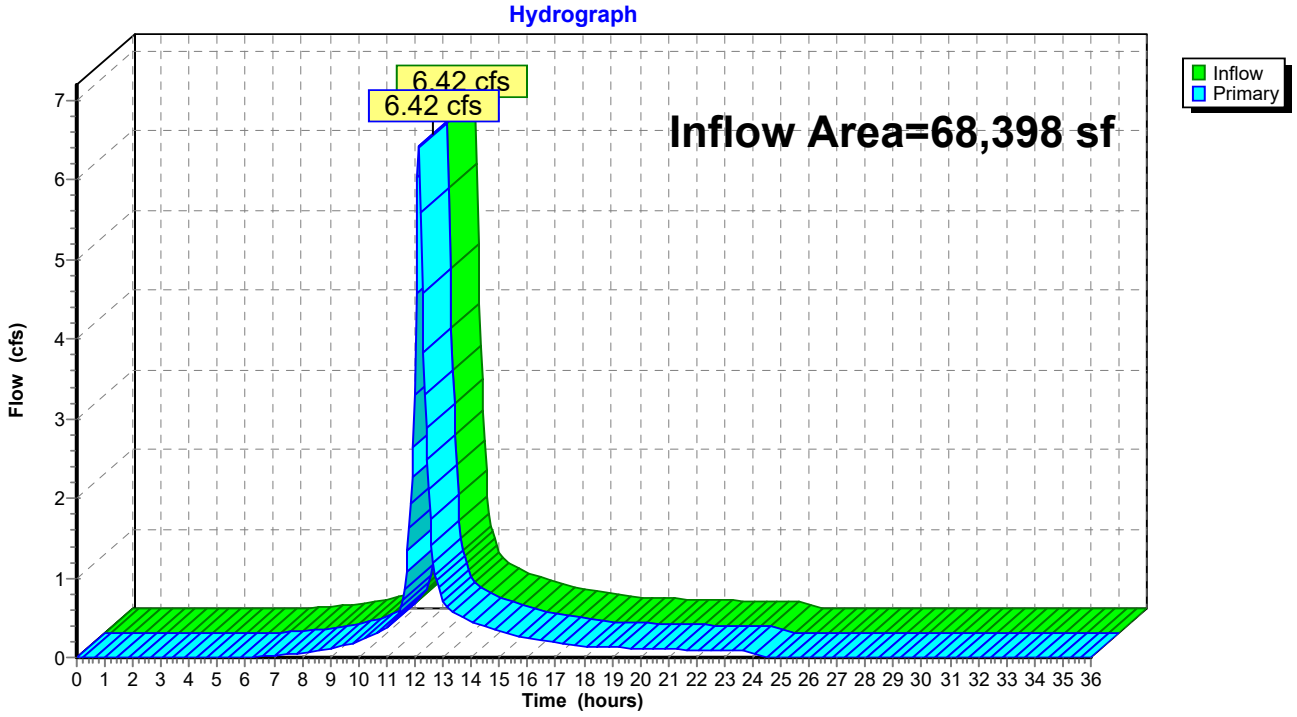


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 4.09" for 25-Year event
Inflow = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf
Primary = 6.42 cfs @ 12.14 hrs, Volume= 23,333 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

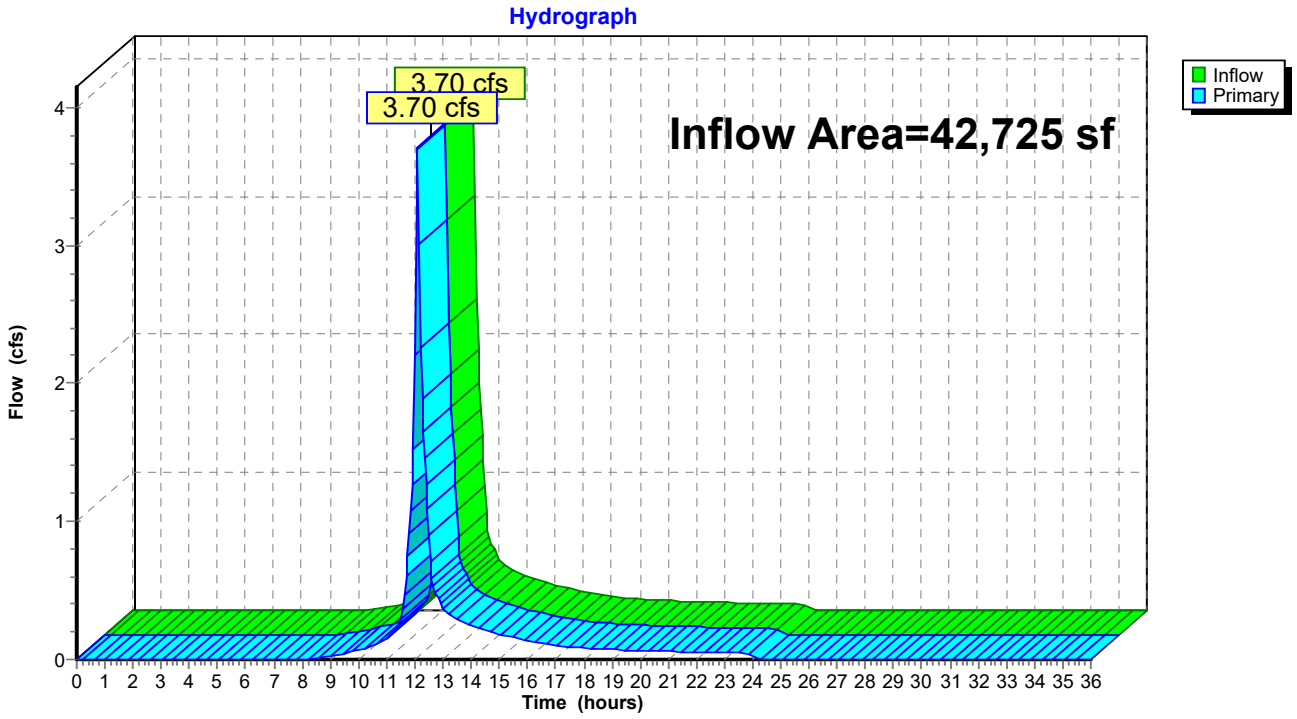


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 3.29" for 25-Year event
Inflow = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf
Primary = 3.70 cfs @ 12.09 hrs, Volume= 11,697 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=68,398 sf 37.56% Impervious Runoff Depth=6.33"
Tc=10.0 min CN=84 Runoff=9.73 cfs 36,056 cf

Subcatchment2S: 2S Runoff Area=42,725 sf 56.30% Impervious Runoff Depth=5.38"
Tc=6.0 min CN=76 Runoff=6.01 cfs 19,144 cf

Link 1L: Total Inflow=15.33 cfs 55,200 cf
Primary=15.33 cfs 55,200 cf

Link POA-1: Woods Meetinghouse Road Inflow=9.73 cfs 36,056 cf
Primary=9.73 cfs 36,056 cf

Link POA-2: Woods Town Hall Road Inflow=6.01 cfs 19,144 cf
Primary=6.01 cfs 19,144 cf

Total Runoff Area = 111,123 sf Runoff Volume = 55,200 cf Average Runoff Depth = 5.96"
55.24% Pervious = 61,383 sf 44.76% Impervious = 49,740 sf

Summary for Subcatchment 1S: 1S

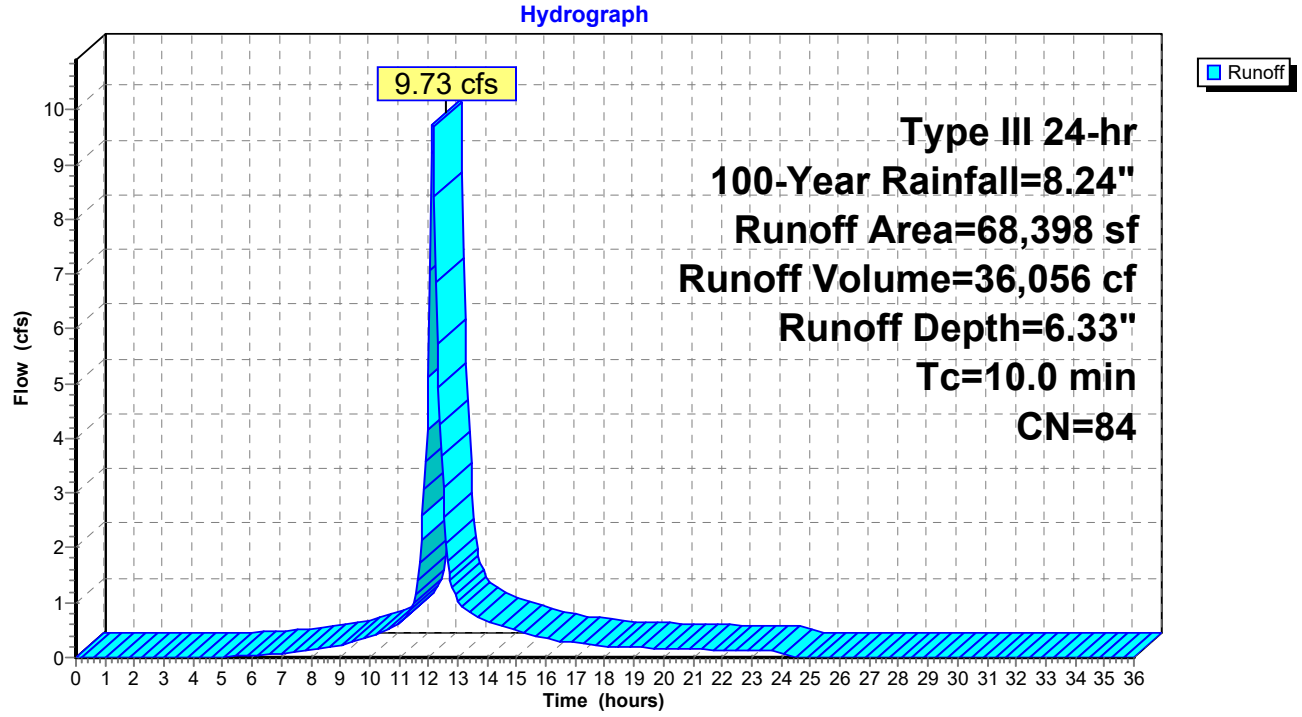
Runoff = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Depth= 6.33"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
8,378	39	>75% Grass cover, Good, HSG A
15,313	98	Paved parking, HSG A
28,324	96	Gravel surface, HSG A
6,009	30	Woods, Good, HSG A
10,374	98	Roofs, HSG A
68,398	84	Weighted Average
42,711		62.44% Pervious Area
25,687		37.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

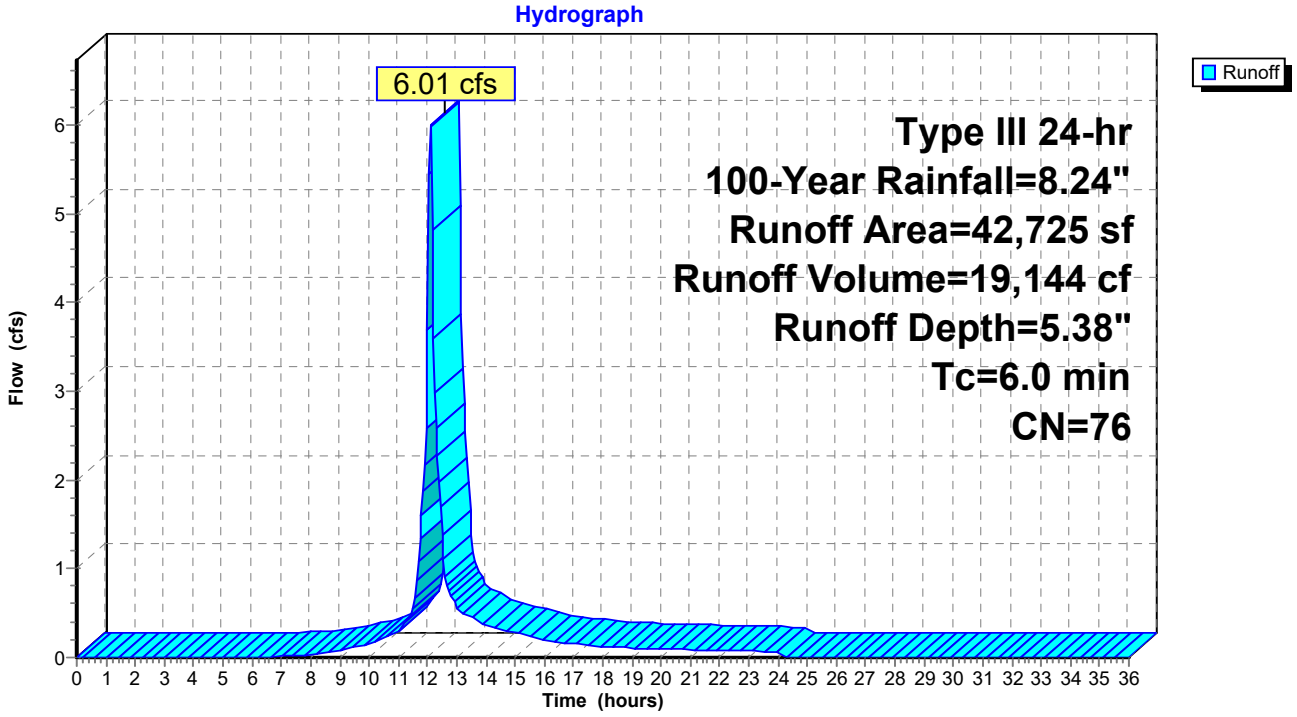
Runoff = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Depth= 5.38"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
14,392	39	>75% Grass cover, Good, HSG A
22,539	98	Paved parking, HSG A
1,424	30	Woods, Good, HSG A
2,856	96	Gravel surface, HSG A
1,514	98	Roofs, HSG A
42,725	76	Weighted Average
18,672		43.70% Pervious Area
24,053		56.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: 2S

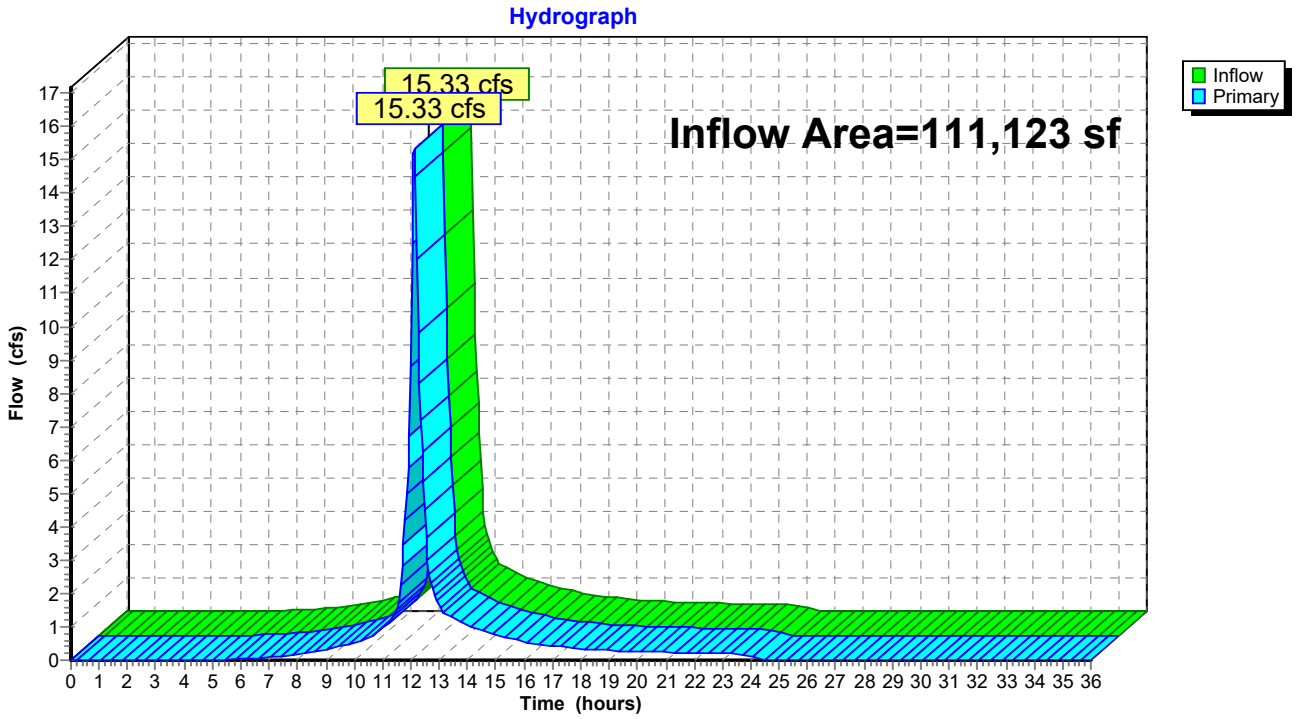


Summary for Link 1L: Total

Inflow Area = 111,123 sf, 44.76% Impervious, Inflow Depth = 5.96" for 100-Year event
Inflow = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf
Primary = 15.33 cfs @ 12.11 hrs, Volume= 55,200 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

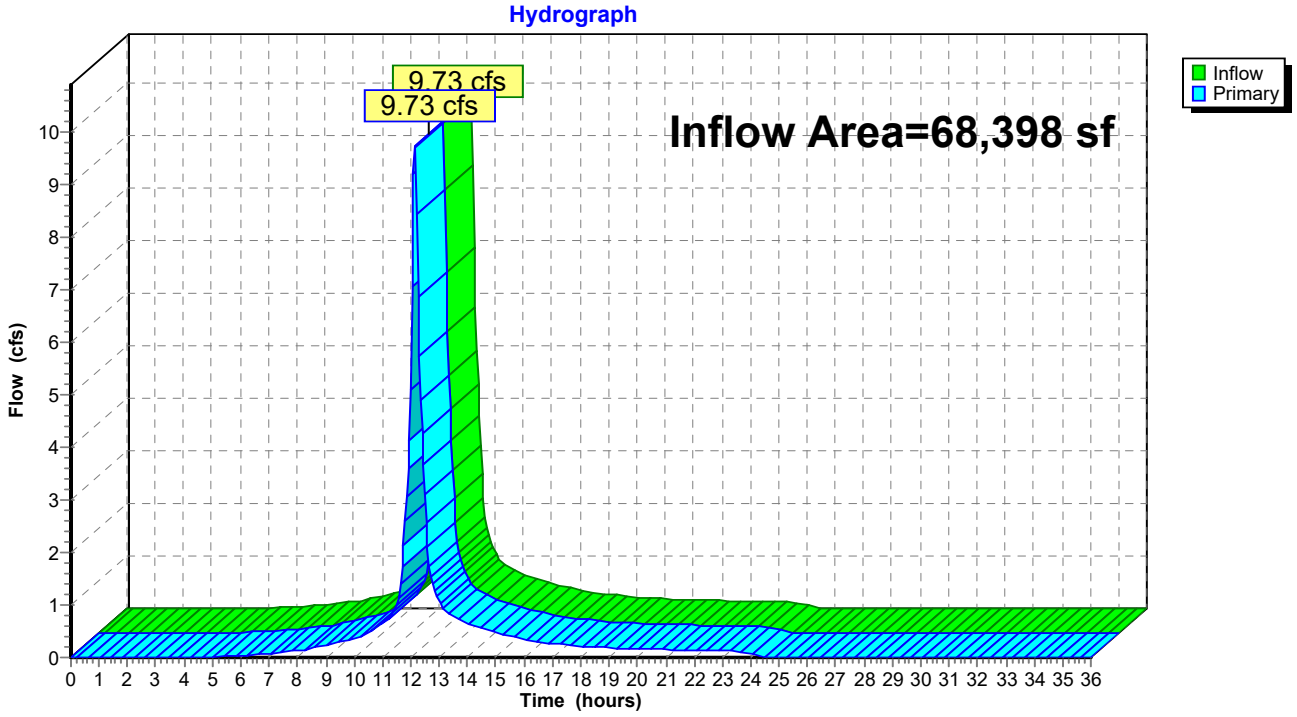


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 68,398 sf, 37.56% Impervious, Inflow Depth = 6.33" for 100-Year event
Inflow = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf
Primary = 9.73 cfs @ 12.14 hrs, Volume= 36,056 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

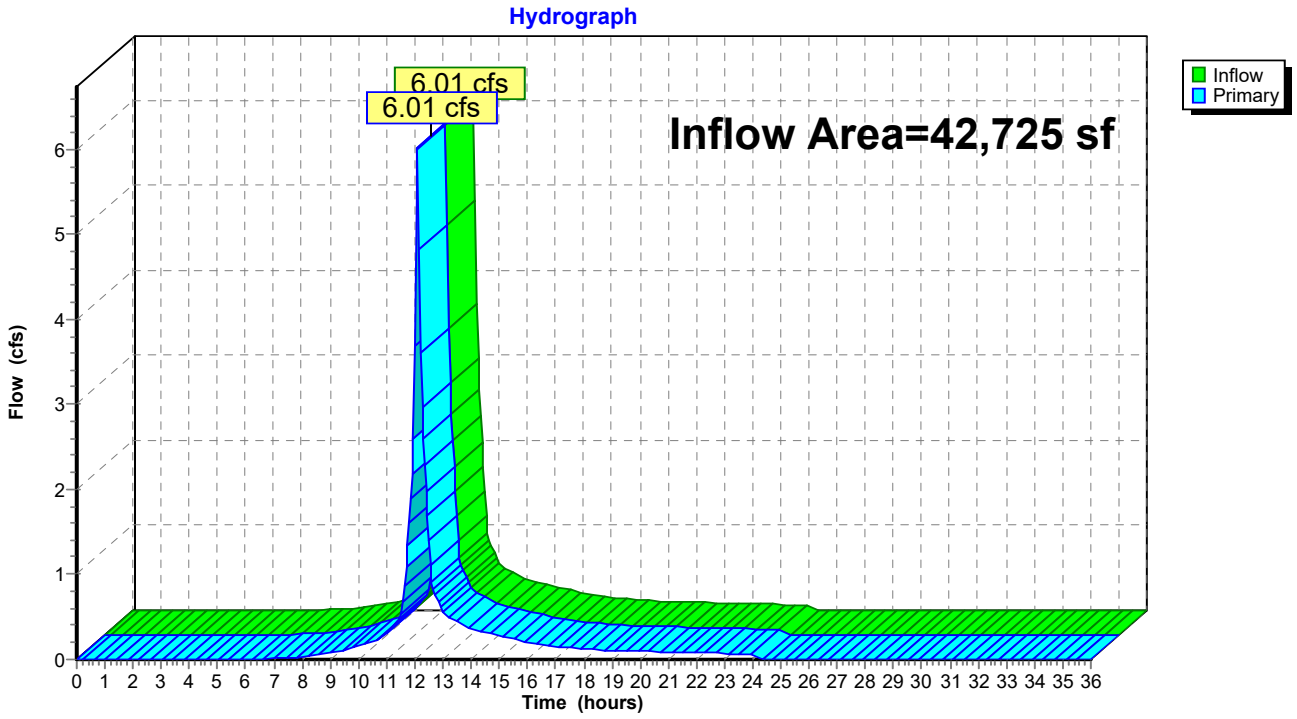


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 42,725 sf, 56.30% Impervious, Inflow Depth = 5.38" for 100-Year event
Inflow = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf
Primary = 6.01 cfs @ 12.09 hrs, Volume= 19,144 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road





NOTE:

1. FOR MODELING PURPOSES, MINIMUM TIME OF CONCENTRATIONS (Tc) IS 6 MINUTES FOR EACH SUBCAT.
2. THE SOIL GROUP CLASSIFICATION FOR THE ENTIRE SITE WAS DETERMINED TO BE HSG A BY USING TEST PIT AND BORING LOGS.

LEGEND

- BUILDING, HSG A (CN=98)
- WOODS, GOOD, HSG A (CN=30)
- PAVEMENT, HSG A (CN=98)
- >75% GRASS COVER, GOOD, HSG A: (CN=39)

PLAN

SCALE: 1" = 50'

0 50 100 150 200

SCALE: 1" = 50'

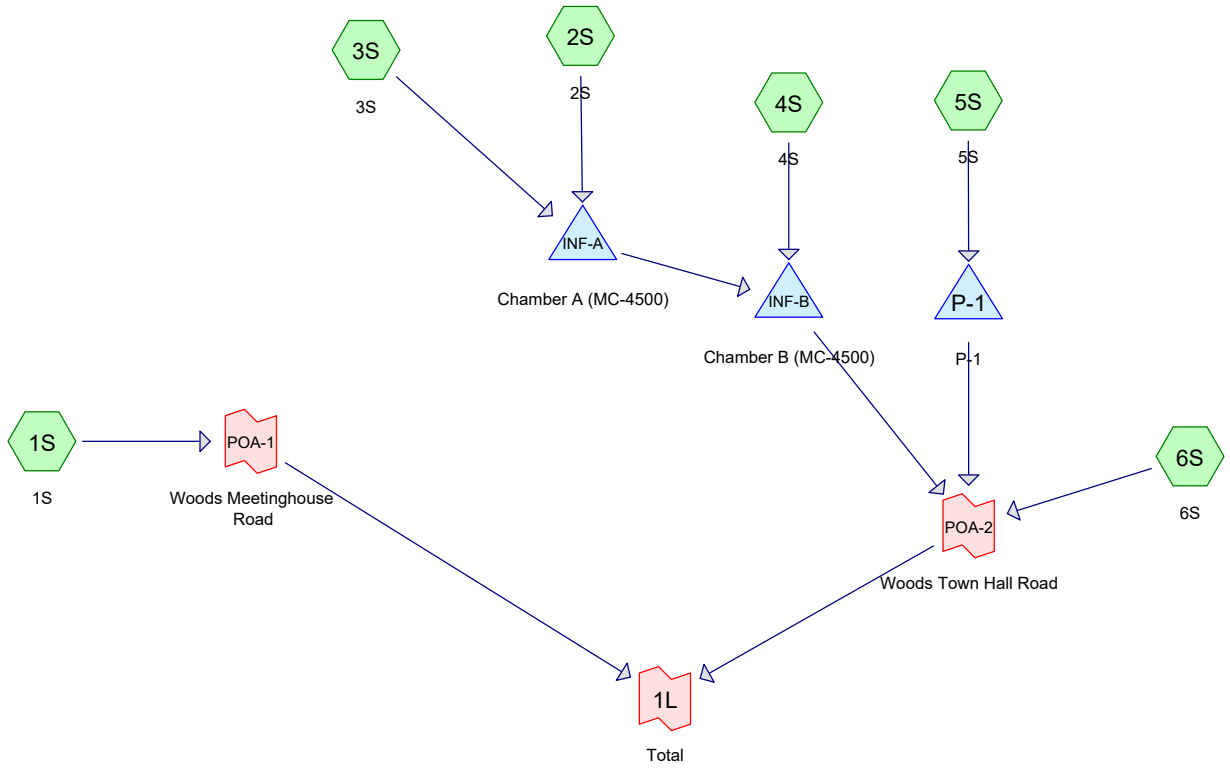
TOWN OF TRURO, MA
NEW DEPARTMENT OF PUBLIC WORKS FACILITY

HYDROLOGY MAP
PROPOSED CONDITIONS

DESIGNED BY: CTP	CHECKED BY: AP	DATE: OCT 2025

Weston & Sampson

\\wse03.local\WSE\Projects\MA\Truro MA\ENG24-1552_Truro Public Works Facility\06-BIM-CAD\01-Civil-Survey\Plan Set\Stormwater\Post-Development.dwg



Subcat Reach Pond Link

Routing Diagram for Proposed

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

HydroCAD® 10.20-7a s/n 00455 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.72	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.24	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
21,209	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 5S, 6S)
59,465	98	Paved parking, HSG A (2S, 3S, 4S, 6S)
30,449	98	Roofs, HSG A (2S, 3S, 4S, 5S)
111,123	**87**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
111,123	HSG A	1S, 2S, 3S, 4S, 5S, 6S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
111,123		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
21,209	0	0	0	0	21,209	>75% Grass cover, Good	
59,465	0	0	0	0	59,465	Paved parking	
30,449	0	0	0	0	30,449	Roofs	
111,123	**0**	**0**	**0**	**0**	**111,123**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	
3	P-1	119.00	118.00	53.0	0.0189	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.00"
Tc=10.0 min CN=39 Runoff=0.00 cfs 0 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=2.75"
Tc=10.0 min CN=96 Runoff=2.10 cfs 8,083 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=2.45"
Tc=10.0 min CN=93 Runoff=0.69 cfs 2,554 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=98 Runoff=1.60 cfs 5,695 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=1.21"
Tc=6.0 min CN=77 Runoff=0.35 cfs 1,138 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=80 Runoff=0.72 cfs 2,284 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=116.46' Storage=3,372 cf Inflow=2.79 cfs 10,638 cf
Discarded=0.40 cfs 10,638 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 10,638 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.08' Storage=1,061 cf Inflow=1.60 cfs 5,695 cf
Discarded=0.43 cfs 5,695 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 5,695 cf

Pond P-1: P-1 Peak Elev=120.41' Storage=213 cf Inflow=0.35 cfs 1,138 cf
Outflow=0.11 cfs 1,138 cf

Link 1L: Total Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link POA-2: Woods Town Hall Road Inflow=0.82 cfs 3,422 cf
Primary=0.82 cfs 3,422 cf

Total Runoff Area = 111,123 sf Runoff Volume = 19,755 cf Average Runoff Depth = 2.13"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

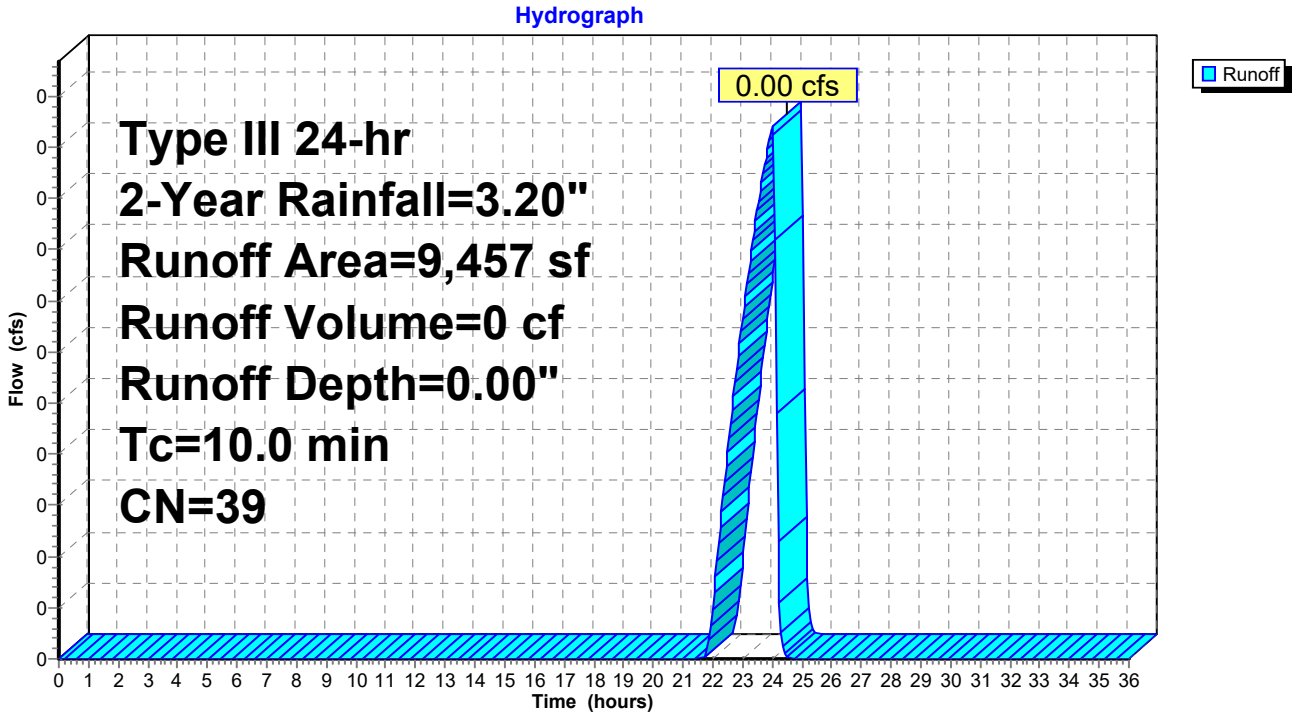
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

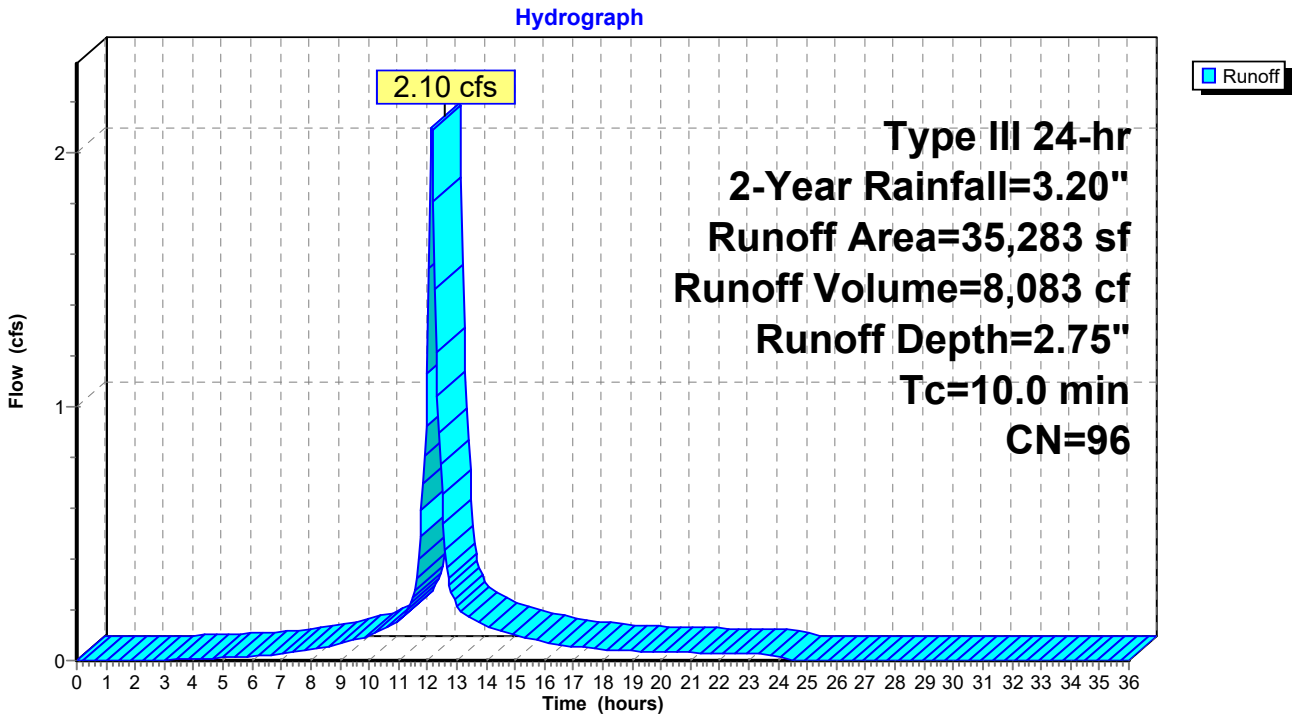
Runoff = 2.10 cfs @ 12.14 hrs, Volume= 8,083 cf, Depth= 2.75"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

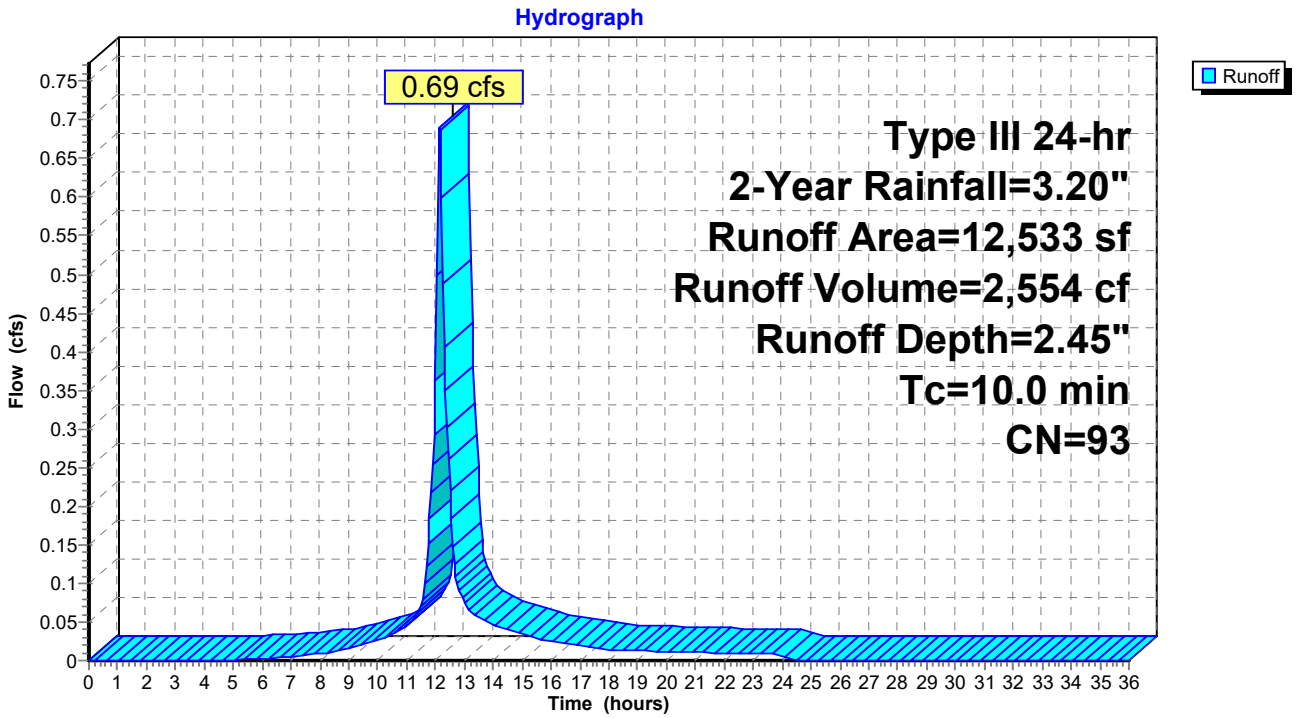
Runoff = 0.69 cfs @ 12.14 hrs, Volume= 2,554 cf, Depth= 2.45"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

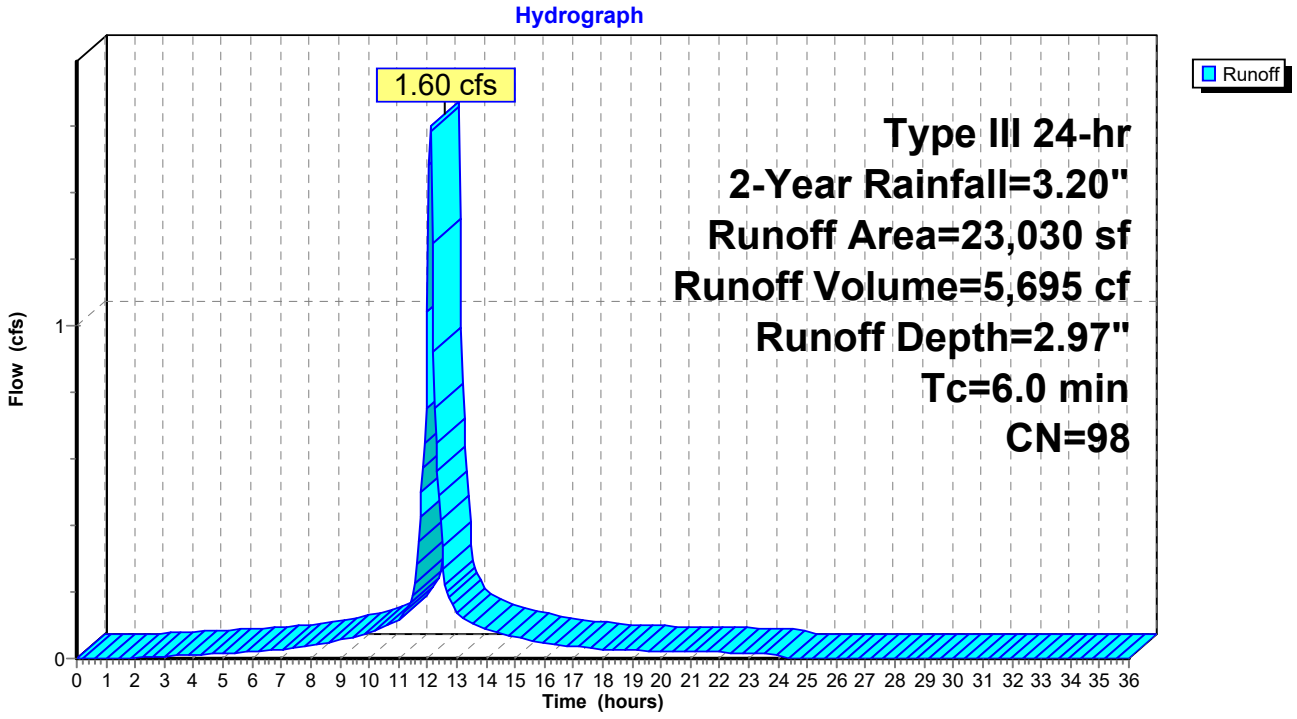
Runoff = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf, Depth= 2.97"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

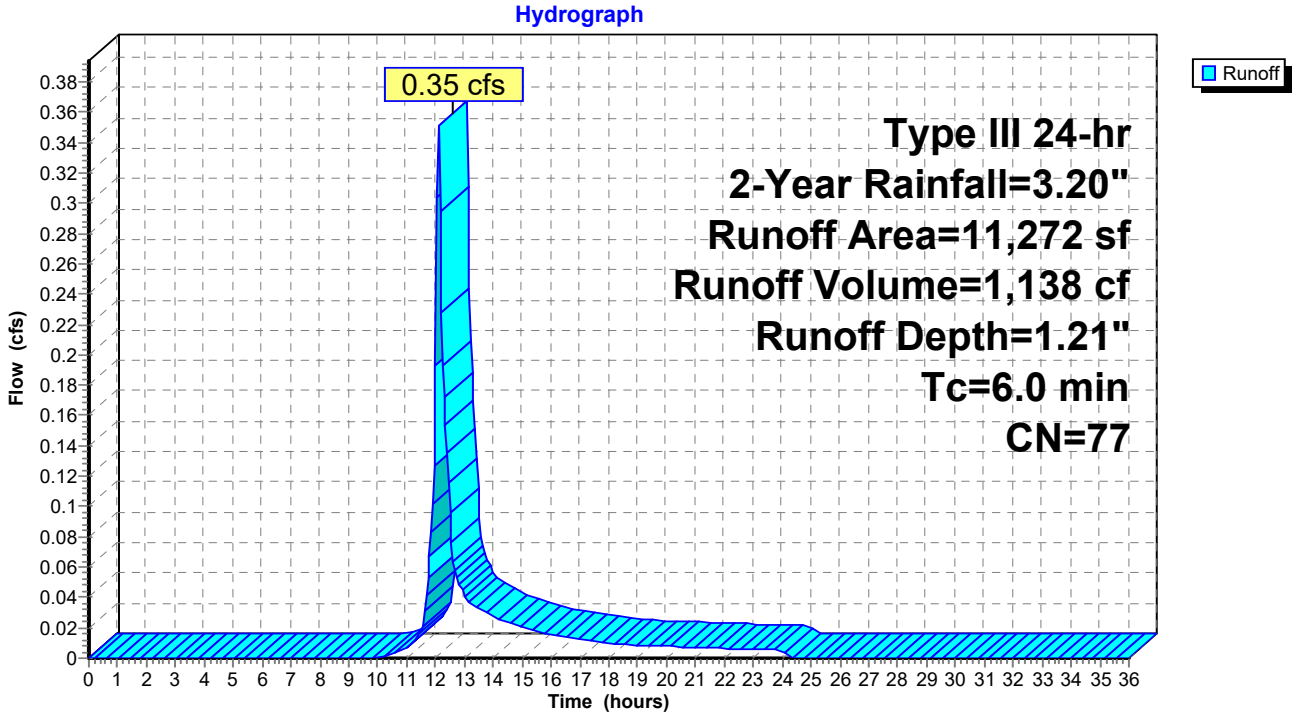
Runoff = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf, Depth= 1.21"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

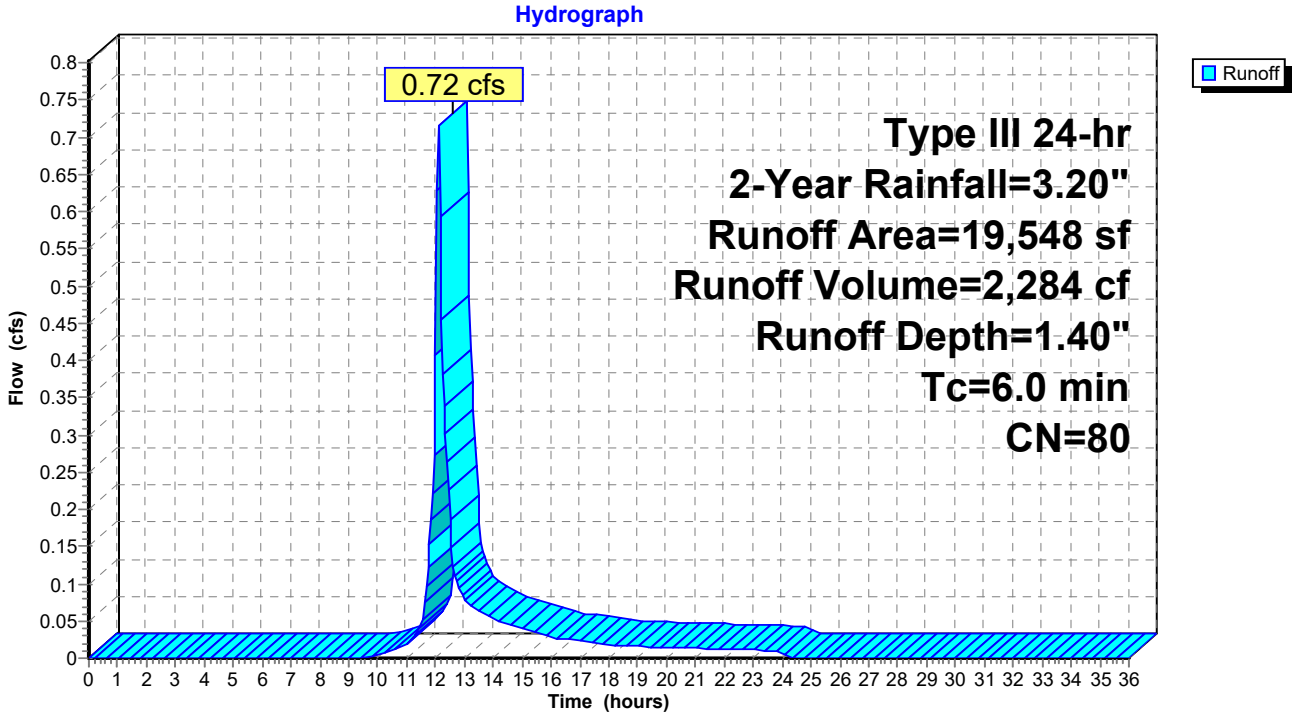
Runoff = 0.72 cfs @ 12.10 hrs, Volume= 2,284 cf, Depth= 1.40"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 2.67" for 2-Year event
Inflow = 2.79 cfs @ 12.14 hrs, Volume= 10,638 cf
Outflow = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf, Atten= 86%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.70 hrs, Volume= 10,638 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 116.46' @ 12.74 hrs Surf.Area= 2,092 sf Storage= 3,372 cf

Plug-Flow detention time= 55.6 min calculated for 10,638 cf (100% of inflow)
Center-of-Mass det. time= 55.6 min (837.8 - 782.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.70 hrs HW=114.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

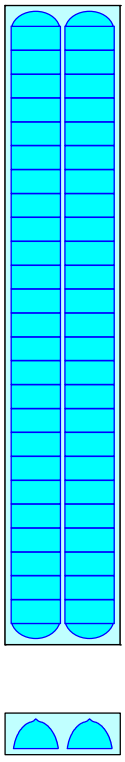
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

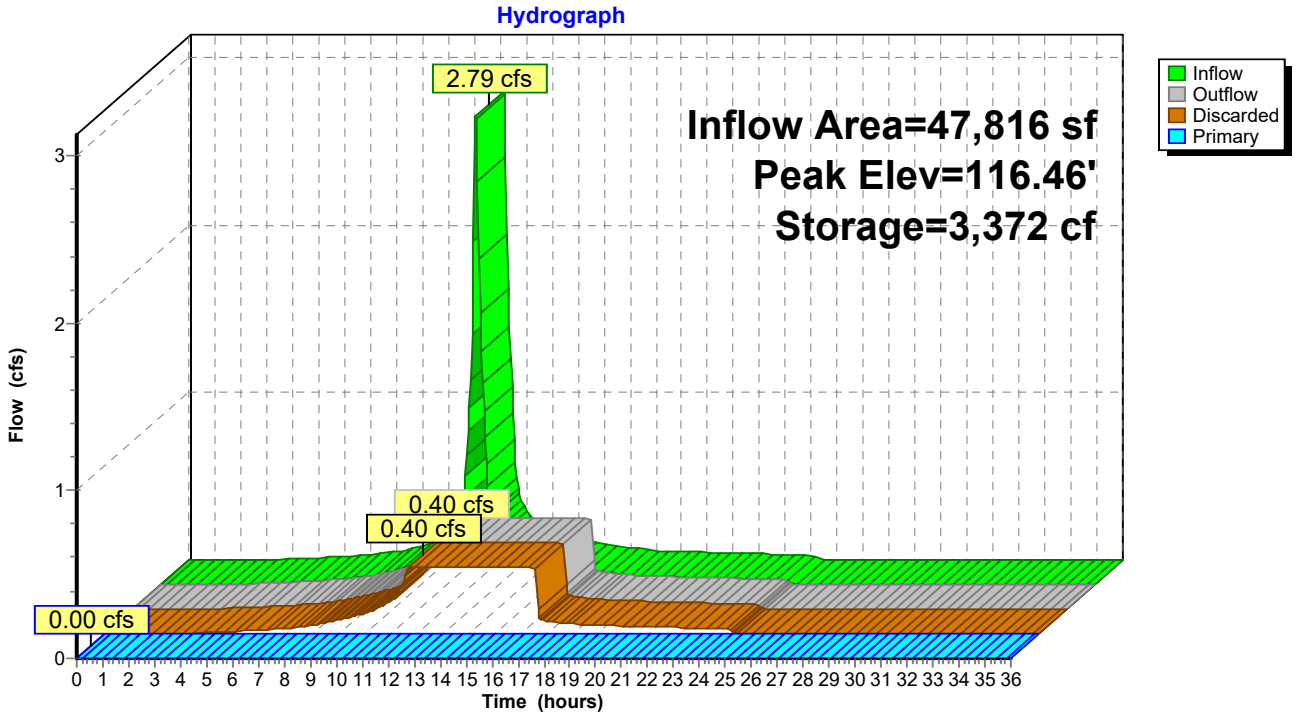
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 0.96" for 2-Year event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 5,695 cf
Outflow = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf, Atten= 73%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.80 hrs, Volume= 5,695 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.08' @ 12.44 hrs Surf.Area= 2,268 sf Storage= 1,061 cf

Plug-Flow detention time= 12.3 min calculated for 5,687 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (768.7 - 756.4)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.80 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

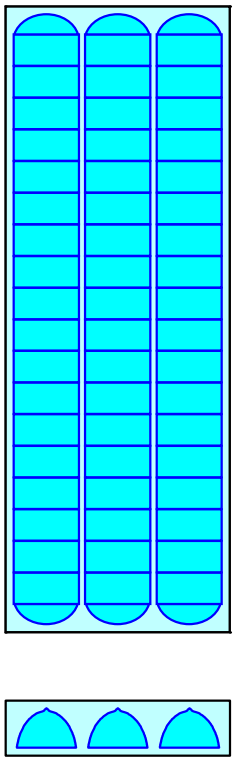
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

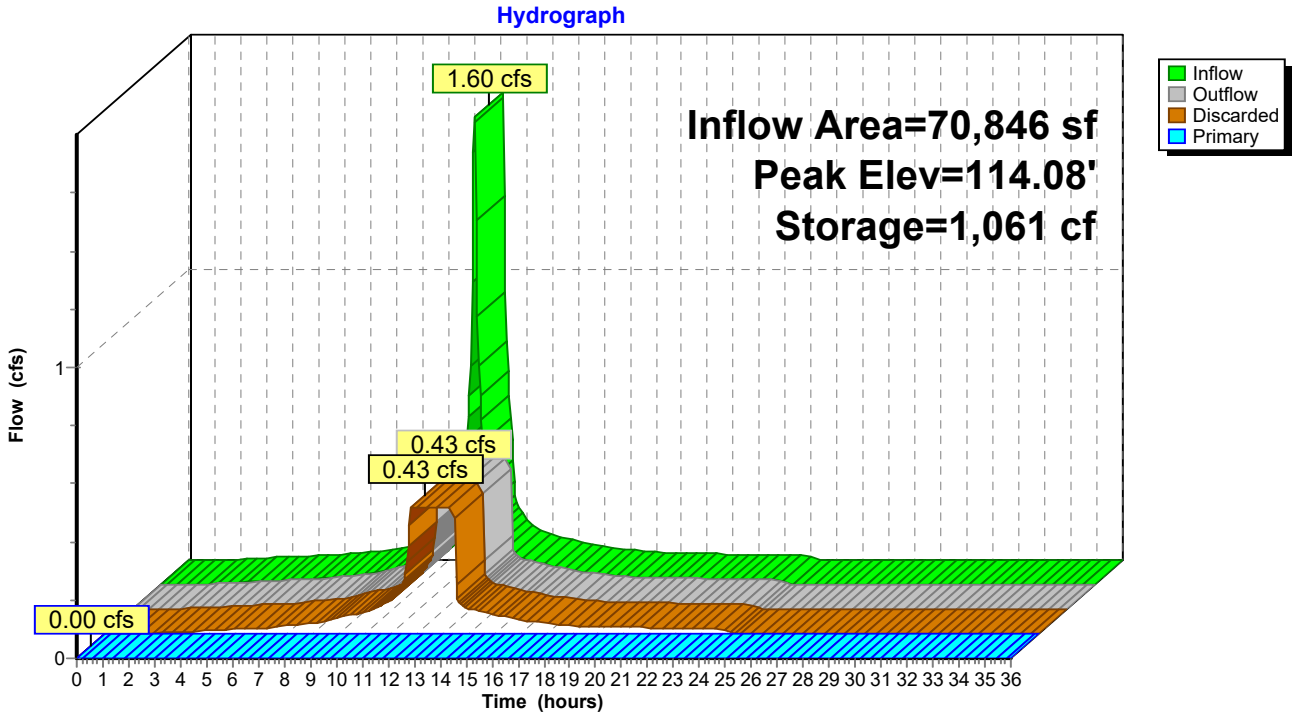
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 1.21" for 2-Year event
Inflow = 0.35 cfs @ 12.10 hrs, Volume= 1,138 cf
Outflow = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf, Atten= 68%, Lag= 21.6 min
Primary = 0.11 cfs @ 12.46 hrs, Volume= 1,138 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.41' @ 12.46 hrs Surf.Area= 589 sf Storage= 213 cf

Plug-Flow detention time= 11.3 min calculated for 1,137 cf (100% of inflow)
Center-of-Mass det. time= 11.2 min (863.6 - 852.4)

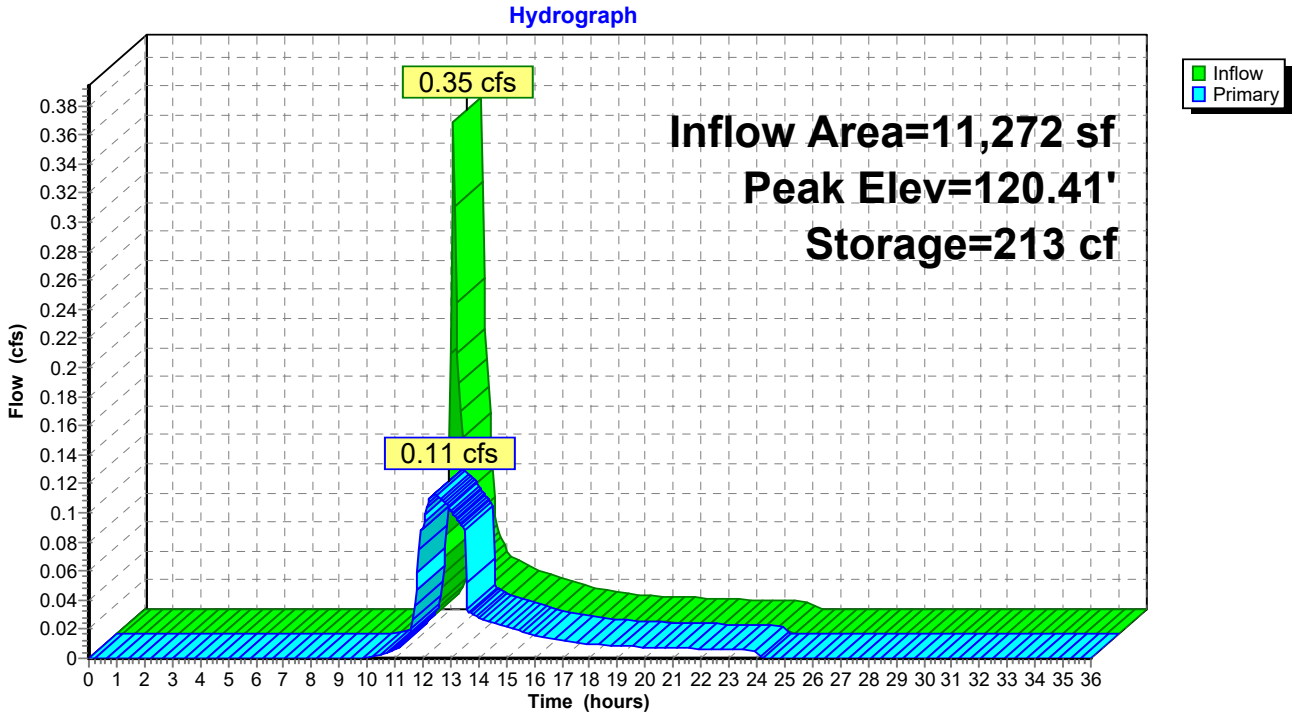
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 12.46 hrs HW=120.41' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.11 cfs)
└─**2=Culvert** (Passes 0.00 cfs of 2.85 cfs potential flow)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond P-1: P-1

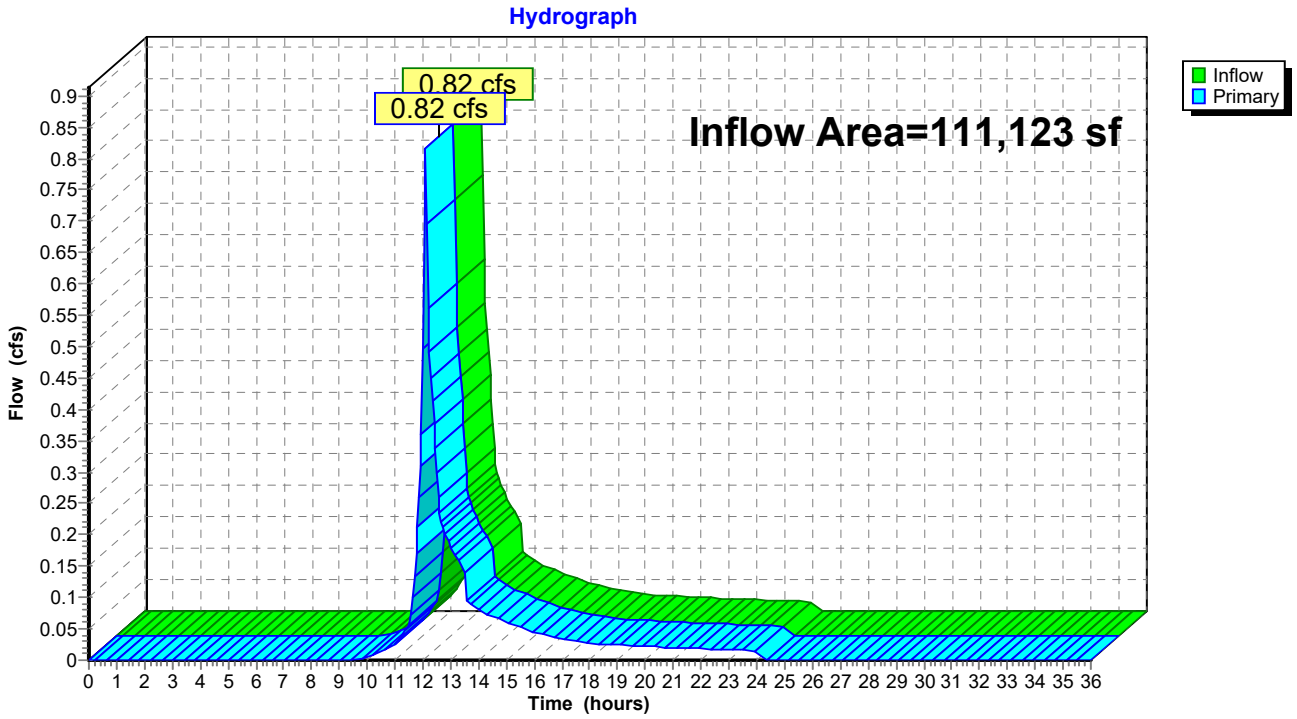

Hydrograph
Inflow
Primary
0.35 cfs
0.11 cfs
Inflow Area=11,272 sf
Peak Elev=120.41'
Storage=213 cf
Flow (cfs)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38
Time (hours)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.37" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

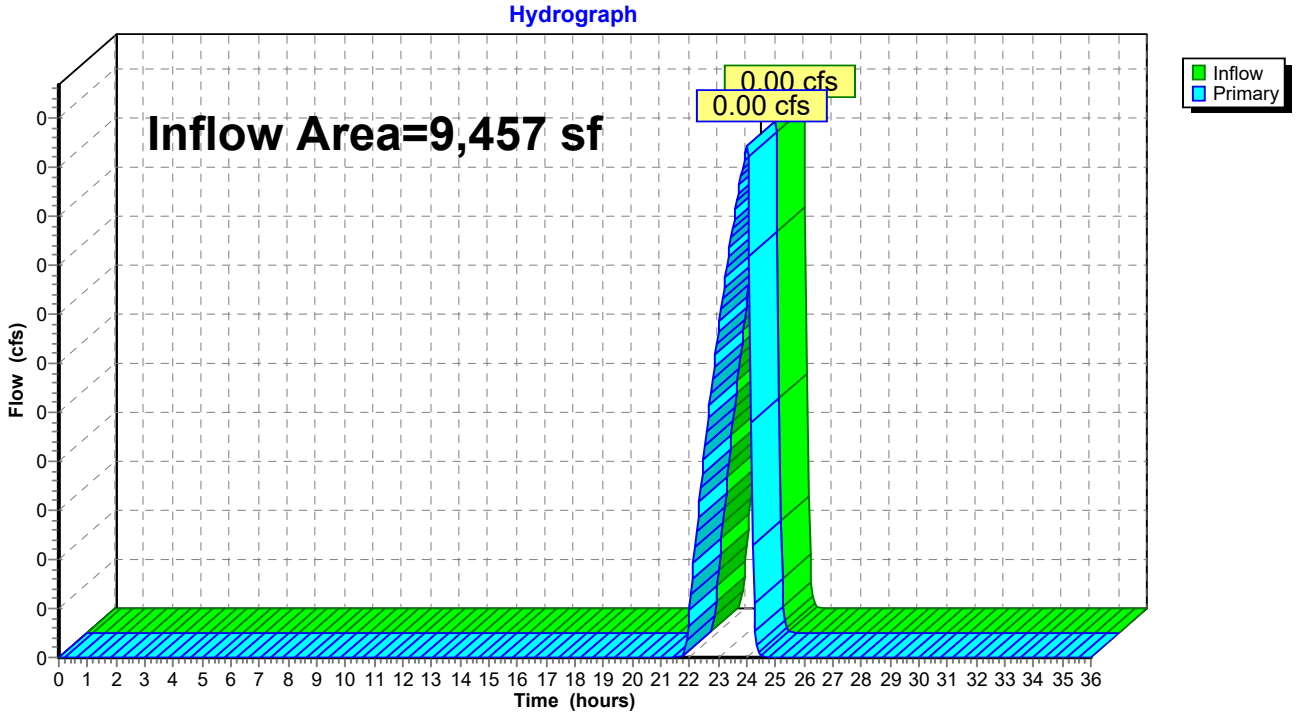


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

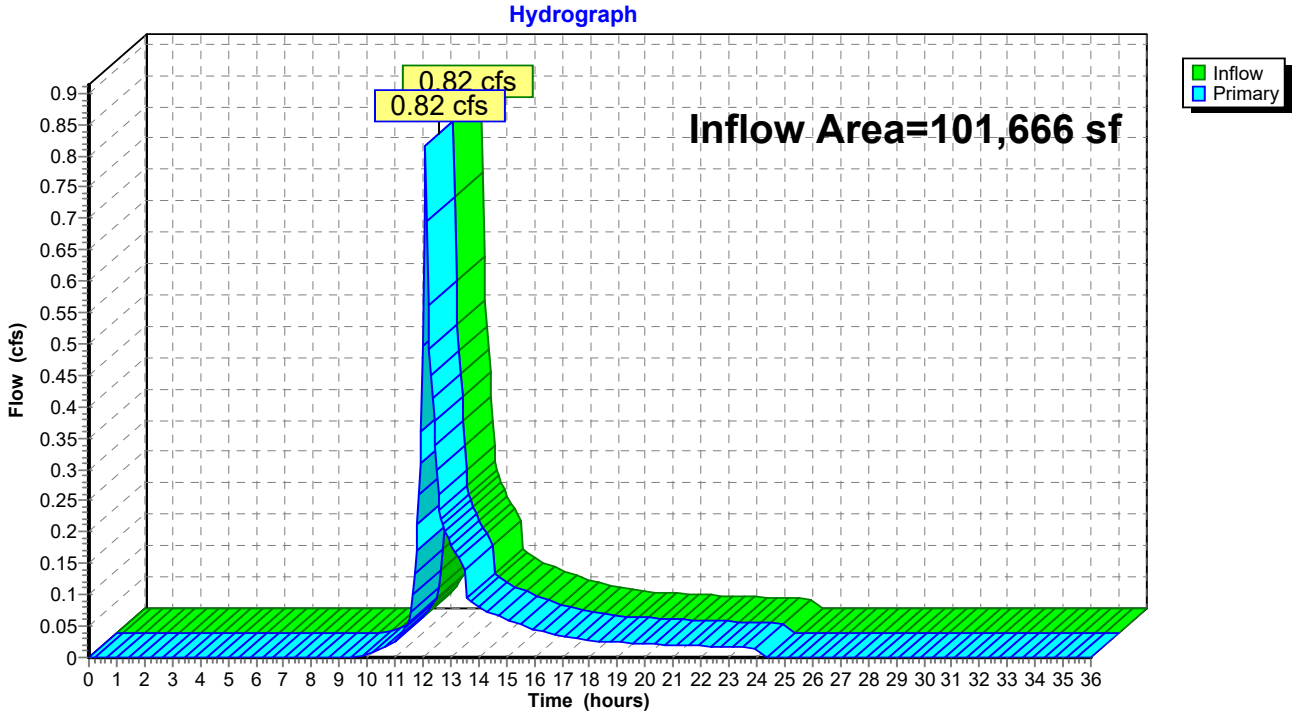


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.40" for 2-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf
Primary = 0.82 cfs @ 12.10 hrs, Volume= 3,422 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.15"
Tc=10.0 min CN=39 Runoff=0.00 cfs 116 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=4.25"
Tc=10.0 min CN=96 Runoff=3.18 cfs 12,509 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=3.92"
Tc=10.0 min CN=93 Runoff=1.08 cfs 4,097 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=4.48"
Tc=6.0 min CN=98 Runoff=2.38 cfs 8,605 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=2.39"
Tc=6.0 min CN=77 Runoff=0.71 cfs 2,246 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=2.65"
Tc=6.0 min CN=80 Runoff=1.37 cfs 4,317 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=118.23' Storage=6,190 cf Inflow=4.26 cfs 16,606 cf
Discarded=0.40 cfs 16,606 cf Primary=0.00 cfs 0 cf Outflow=0.40 cfs 16,606 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=114.64' Storage=2,140 cf Inflow=2.38 cfs 8,605 cf
Discarded=0.43 cfs 8,605 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 8,605 cf

Pond P-1: P-1 Peak Elev=120.63' Storage=349 cf Inflow=0.71 cfs 2,246 cf
Outflow=0.58 cfs 2,246 cf

Link 1L: Total Inflow=1.69 cfs 6,678 cf
Primary=1.69 cfs 6,678 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.00 cfs 116 cf
Primary=0.00 cfs 116 cf

Link POA-2: Woods Town Hall Road Inflow=1.69 cfs 6,562 cf
Primary=1.69 cfs 6,562 cf

Total Runoff Area = 111,123 sf Runoff Volume = 31,890 cf Average Runoff Depth = 3.44"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

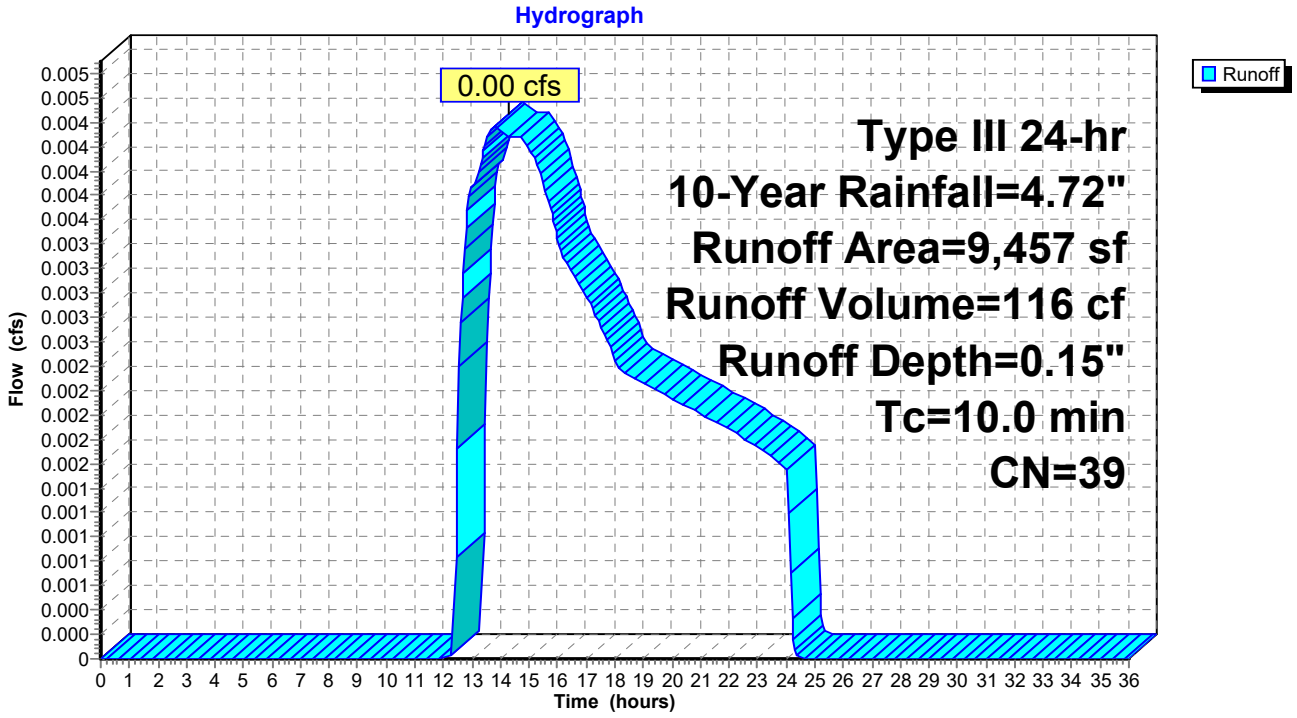
Runoff = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Depth= 0.15"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

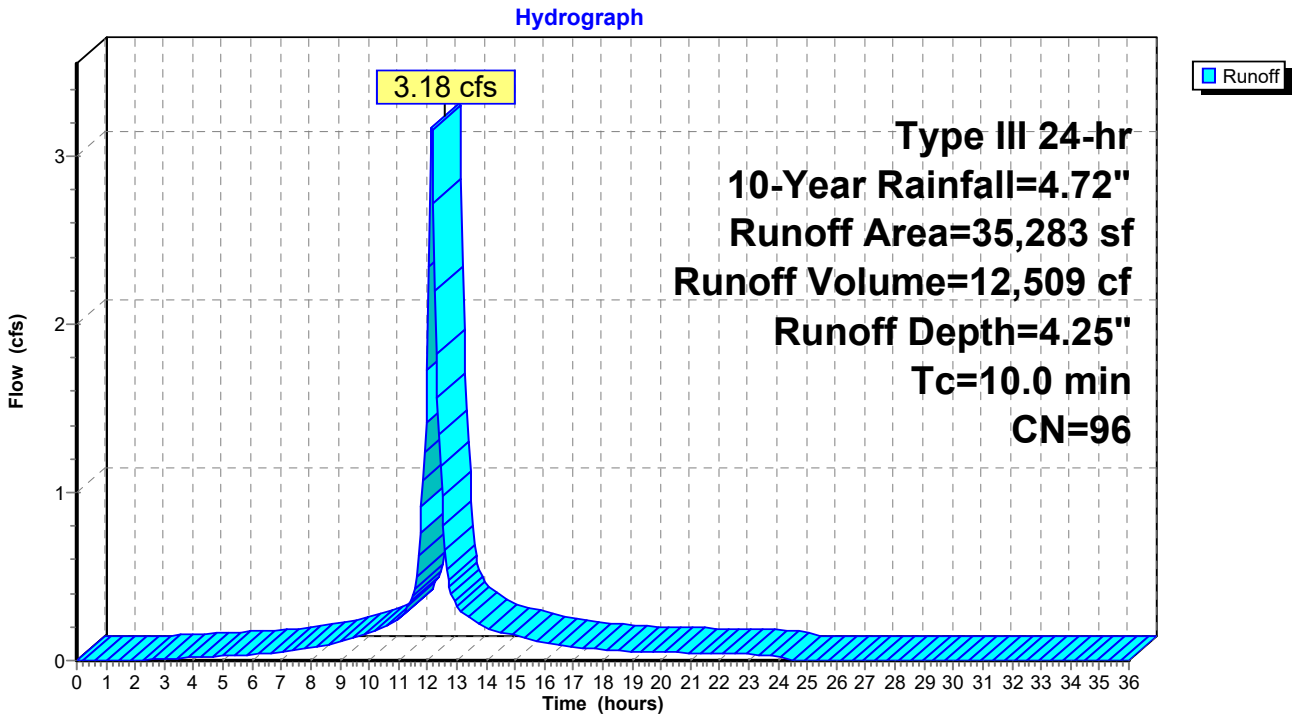
Runoff = 3.18 cfs @ 12.14 hrs, Volume= 12,509 cf, Depth= 4.25"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

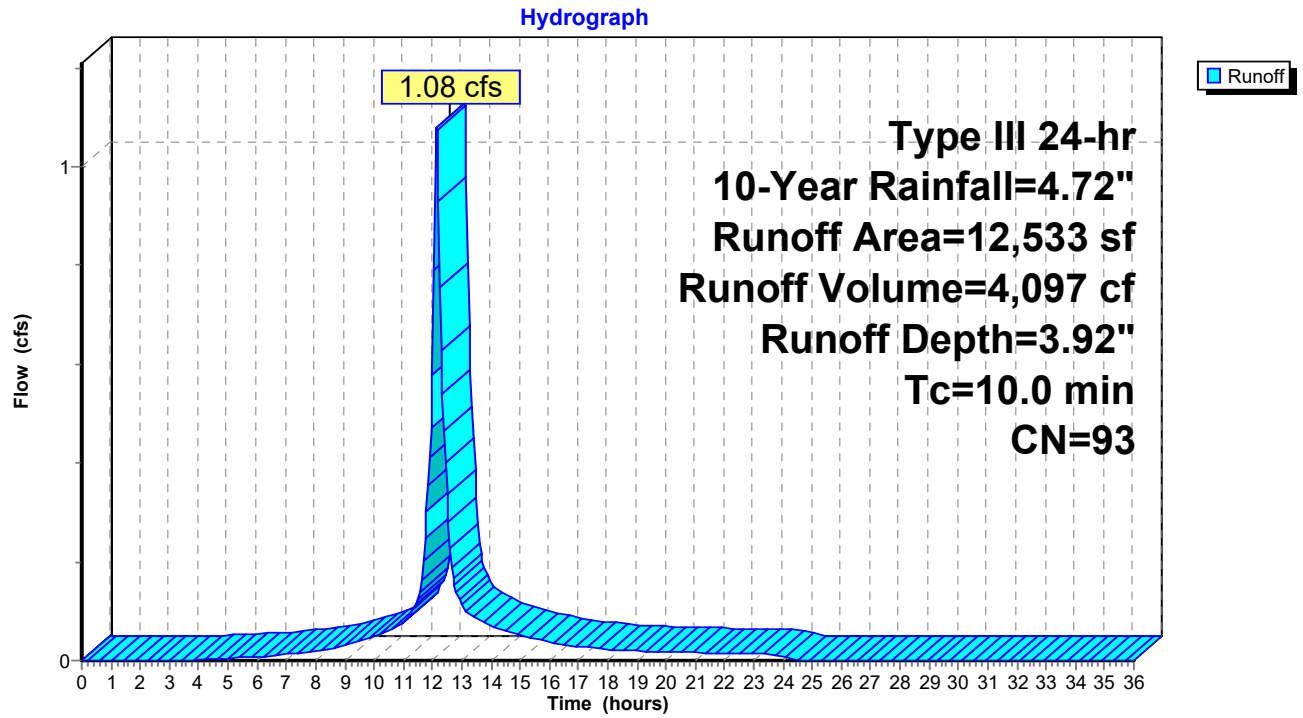
Runoff = 1.08 cfs @ 12.14 hrs, Volume= 4,097 cf, Depth= 3.92"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

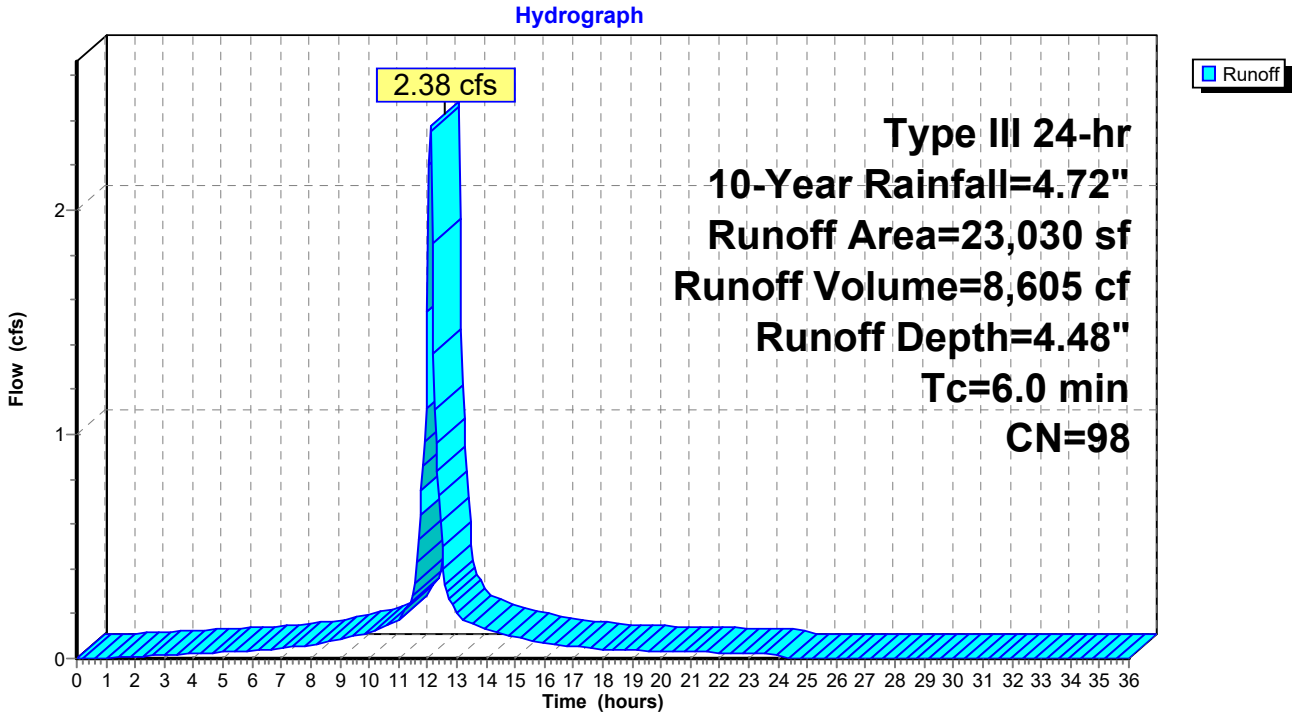
Runoff = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf, Depth= 4.48"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

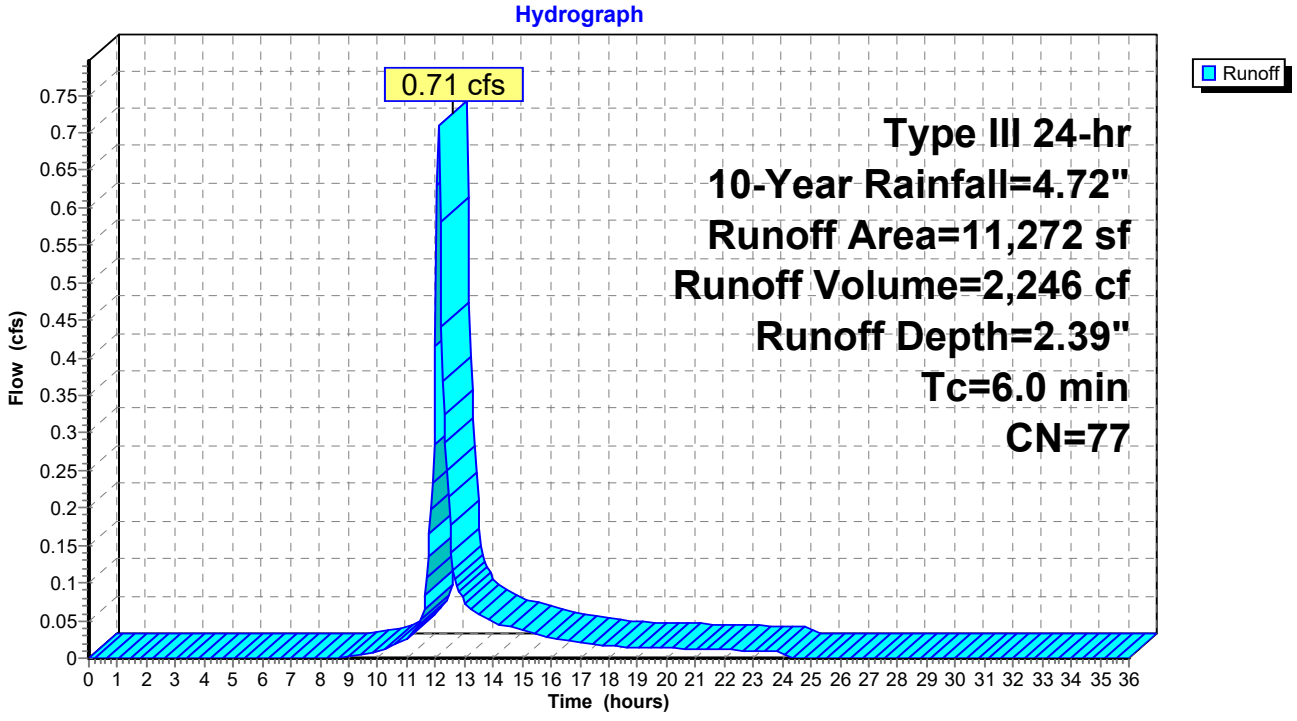
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf, Depth= 2.39"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

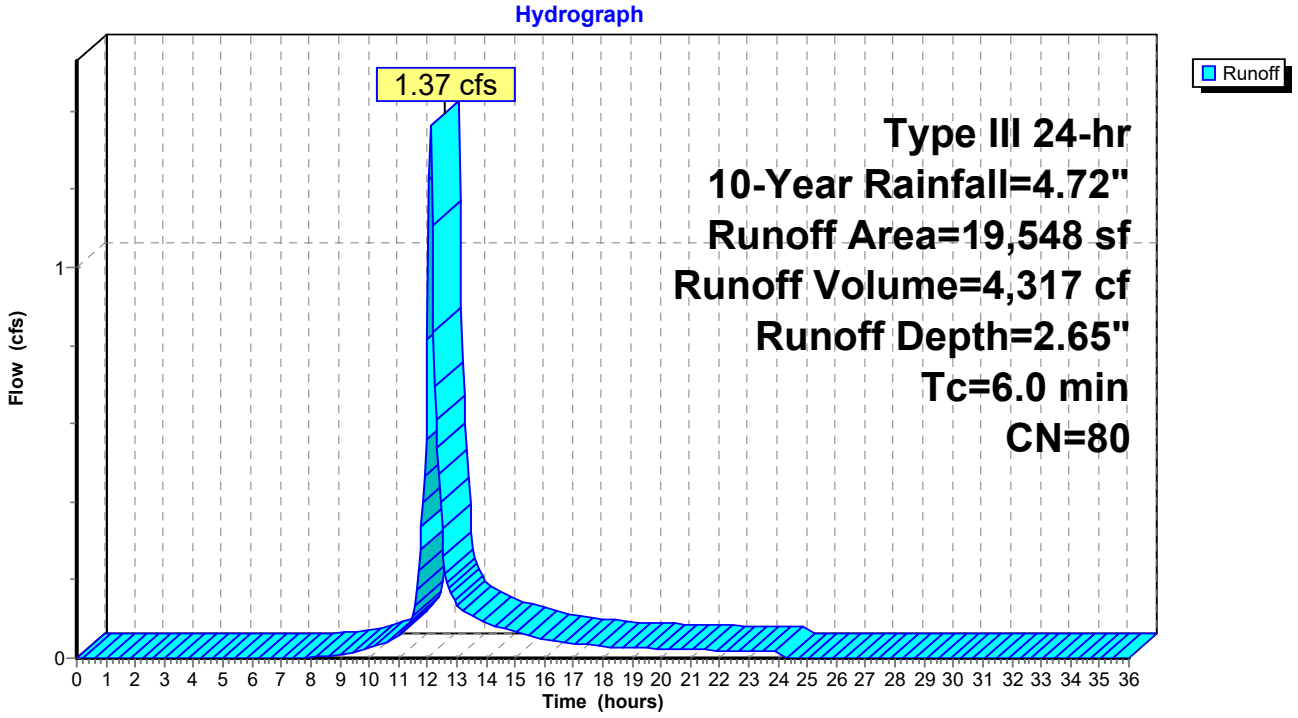
Runoff = 1.37 cfs @ 12.09 hrs, Volume= 4,317 cf, Depth= 2.65"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.72"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 4.17" for 10-Year event
Inflow = 4.26 cfs @ 12.14 hrs, Volume= 16,606 cf
Outflow = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf, Atten= 91%, Lag= 0.0 min
Discarded = 0.40 cfs @ 11.35 hrs, Volume= 16,606 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.23' @ 13.11 hrs Surf.Area= 2,092 sf Storage= 6,190 cf

Plug-Flow detention time= 114.9 min calculated for 16,606 cf (100% of inflow)
Center-of-Mass det. time= 114.9 min (886.4 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 11.35 hrs HW=114.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

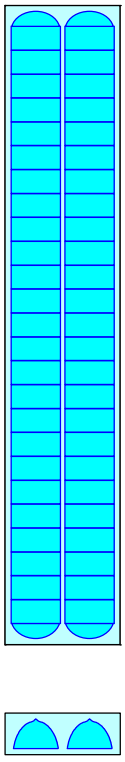
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

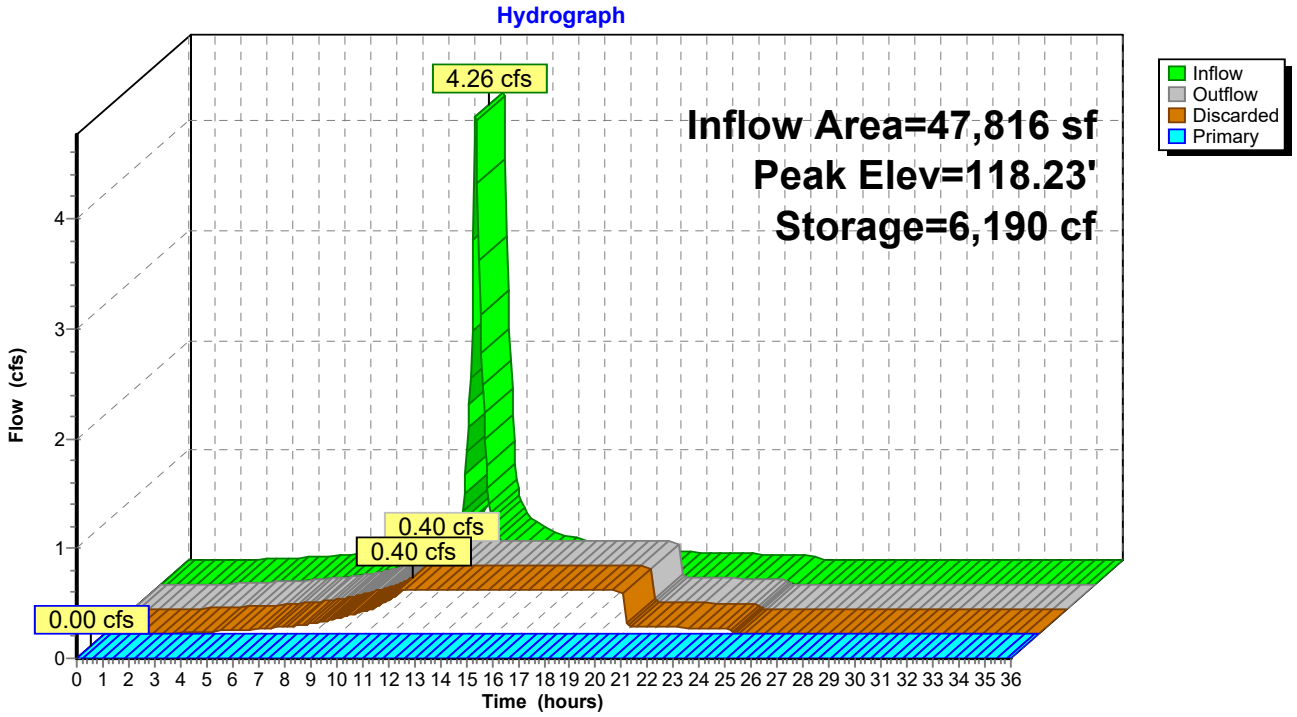
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 2.38 cfs @ 12.09 hrs, Volume= 8,605 cf
Outflow = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf, Atten= 82%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.70 hrs, Volume= 8,605 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 114.64' @ 12.53 hrs Surf.Area= 2,268 sf Storage= 2,140 cf

Plug-Flow detention time= 26.5 min calculated for 8,593 cf (100% of inflow)
Center-of-Mass det. time= 26.5 min (775.5 - 749.0)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.70 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

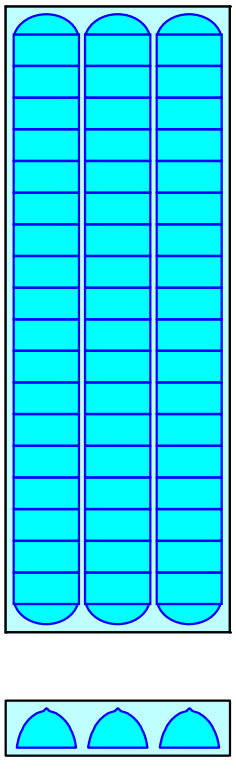
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

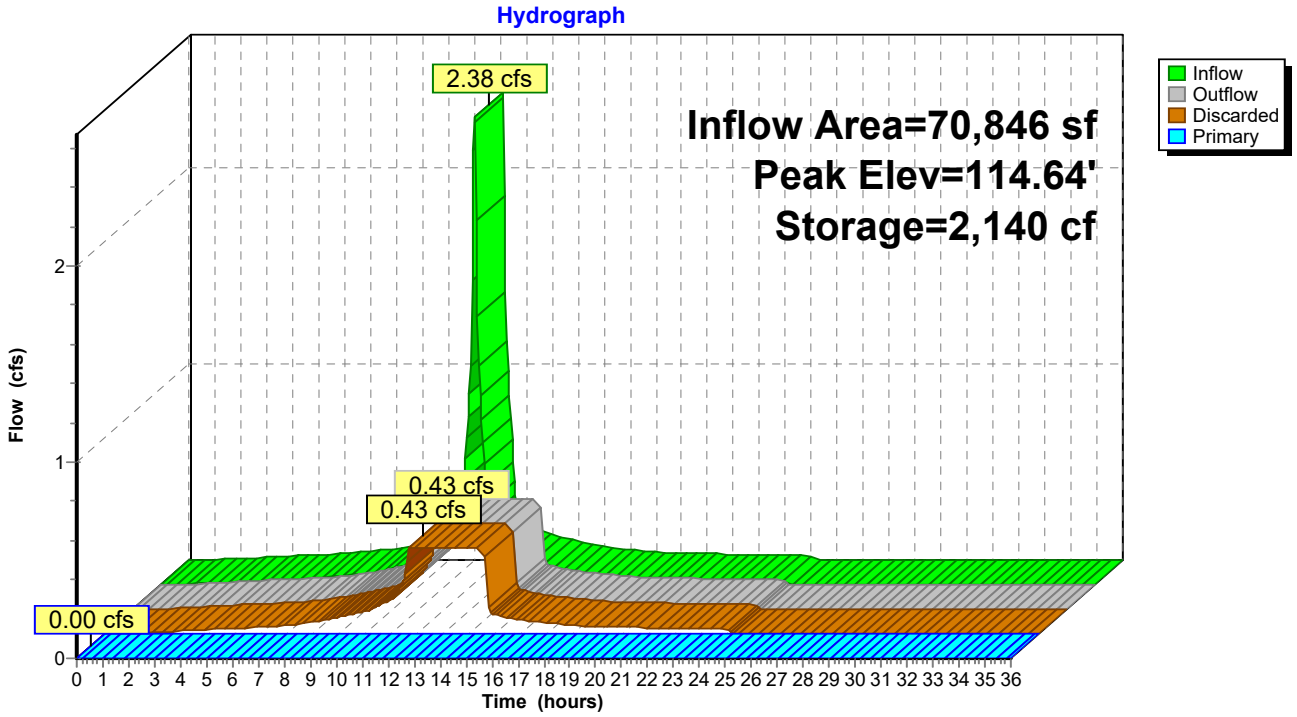
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 0.71 cfs @ 12.09 hrs, Volume= 2,246 cf
Outflow = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf, Atten= 18%, Lag= 4.5 min
Primary = 0.58 cfs @ 12.17 hrs, Volume= 2,246 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.63' @ 12.17 hrs Surf.Area= 668 sf Storage= 349 cf

Plug-Flow detention time= 13.1 min calculated for 2,242 cf (100% of inflow)
Center-of-Mass det. time= 13.1 min (845.5 - 832.4)

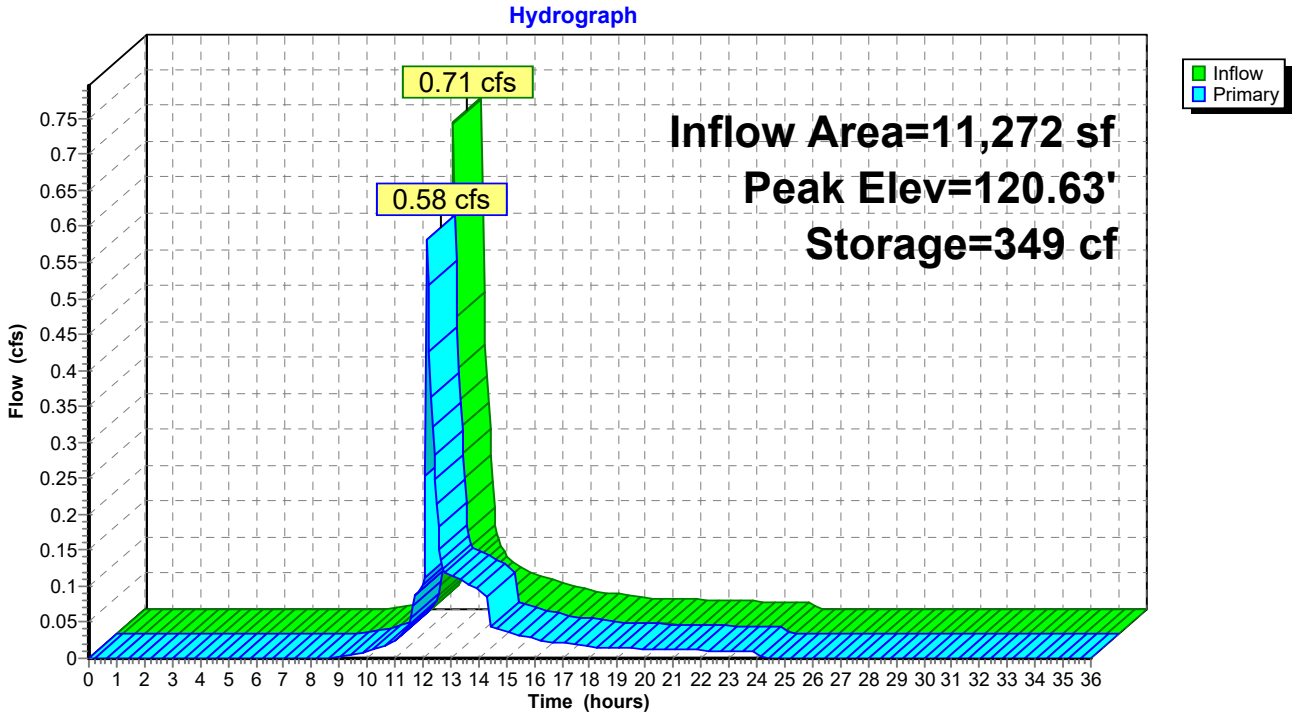
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.54 cfs @ 12.17 hrs HW=120.62' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.13 cfs)
└—**2=Culvert** (Passes 0.41 cfs of 3.16 cfs potential flow)
↑—**3=Orifice/Grate** (Weir Controls 0.41 cfs @ 1.12 fps)

Pond P-1: P-1

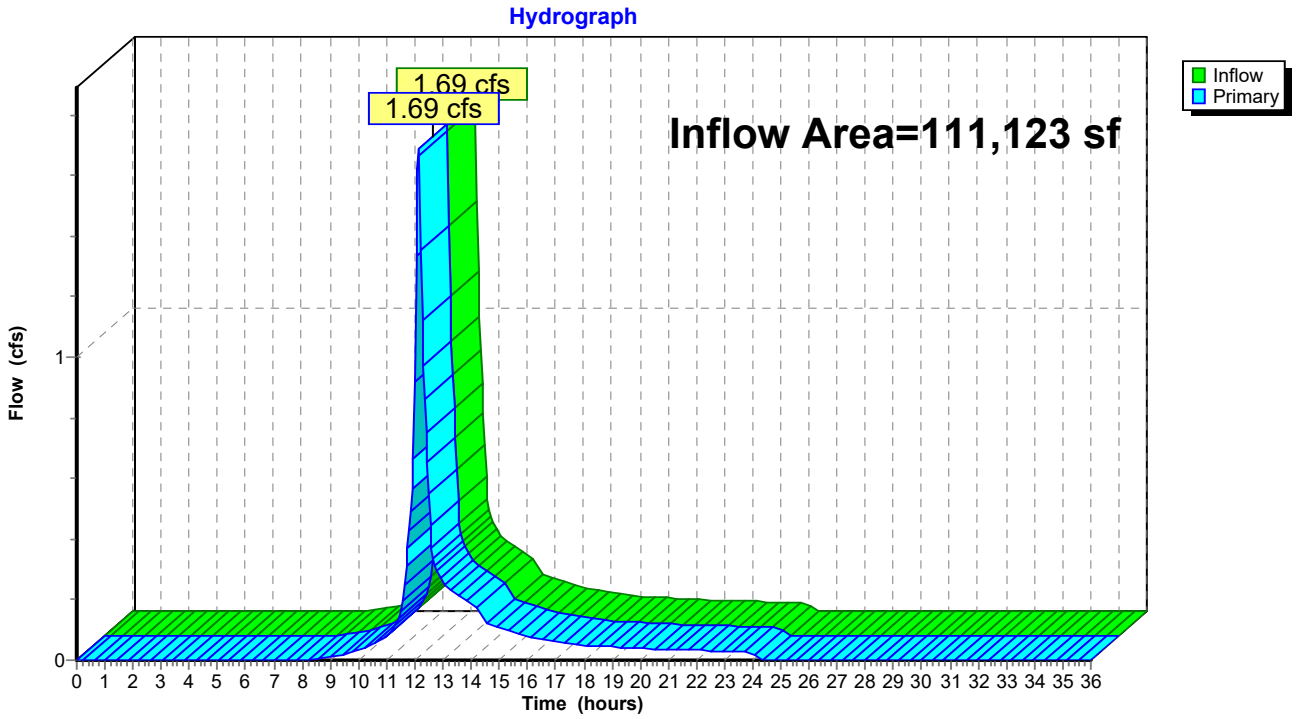

Hydrograph
0.71 cfs
0.58 cfs
Inflow Area=11,272 sf
Peak Elev=120.63'
Storage=349 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 0.72" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,678 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

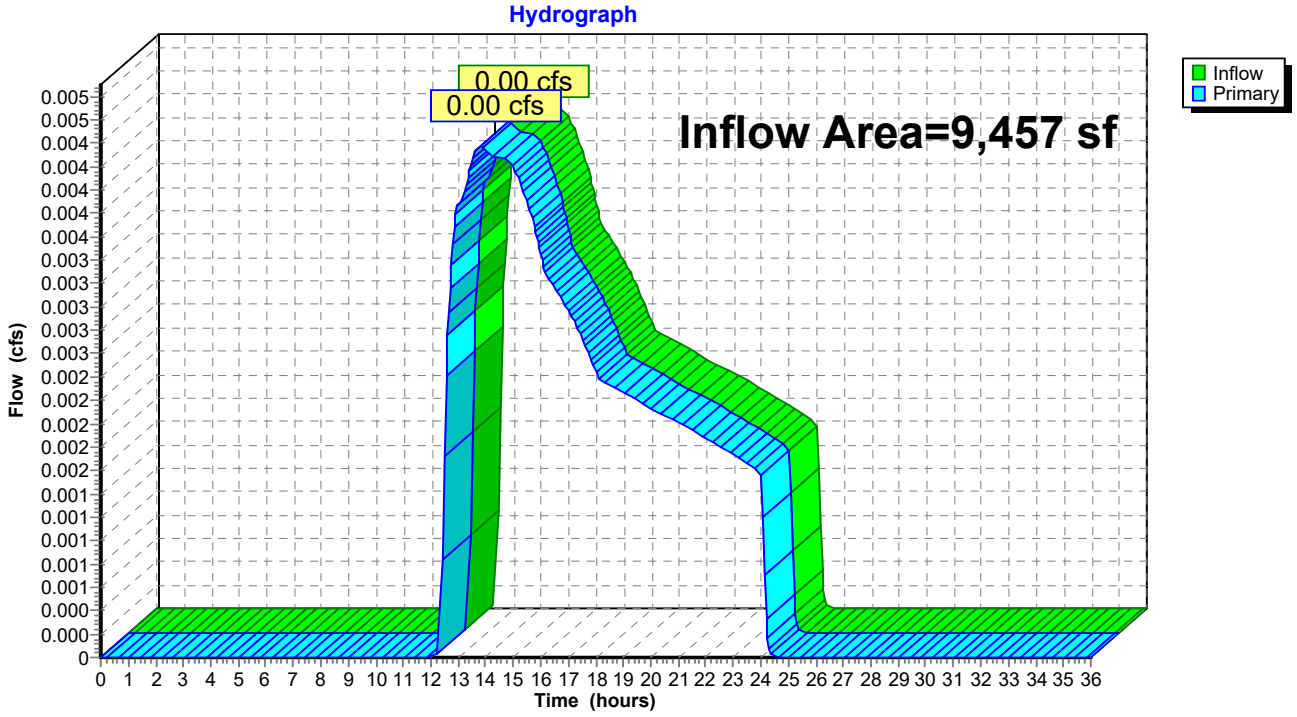


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.15" for 10-Year event
Inflow = 0.00 cfs @ 13.81 hrs, Volume= 116 cf
Primary = 0.00 cfs @ 13.81 hrs, Volume= 116 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

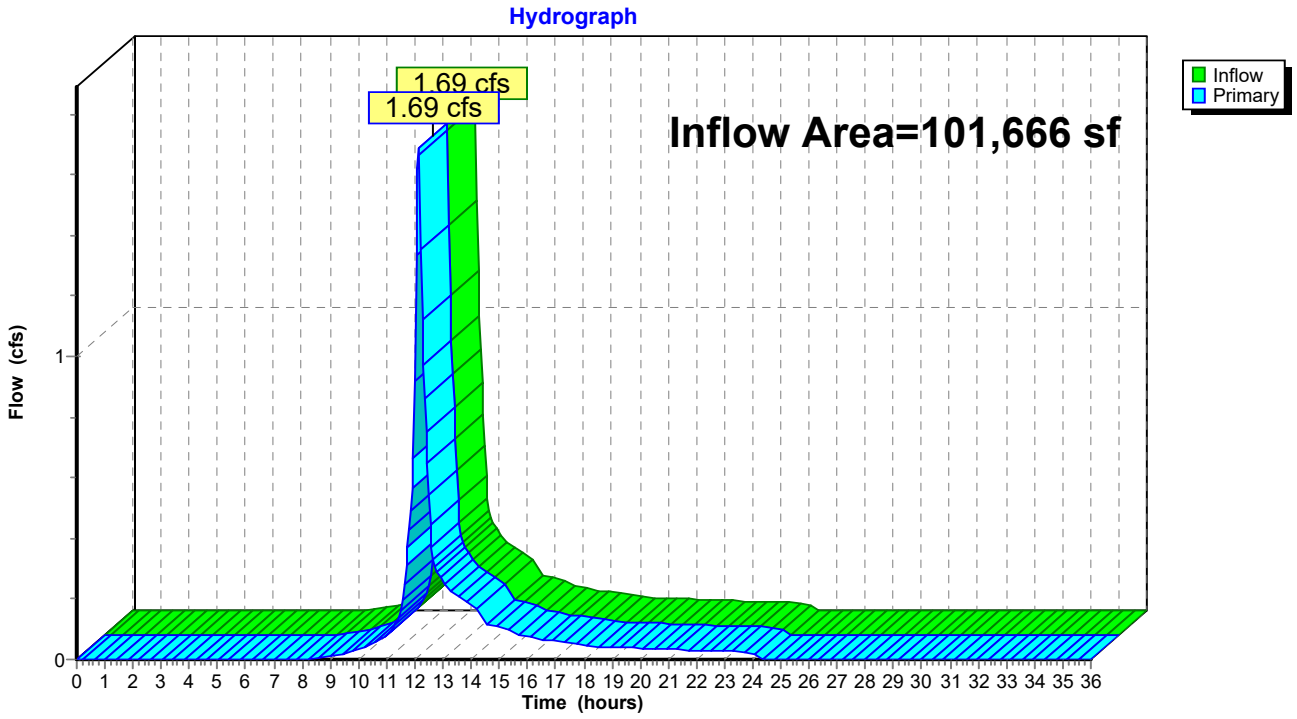


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 0.77" for 10-Year event
Inflow = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf
Primary = 1.69 cfs @ 12.13 hrs, Volume= 6,562 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=0.41"
Tc=10.0 min CN=39 Runoff=0.03 cfs 327 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=5.42"
Tc=10.0 min CN=96 Runoff=4.00 cfs 15,930 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=5.07"
Tc=10.0 min CN=93 Runoff=1.38 cfs 5,299 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=5.65"
Tc=6.0 min CN=98 Runoff=2.98 cfs 10,847 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=3.38"
Tc=6.0 min CN=77 Runoff=1.01 cfs 3,178 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=80 Runoff=1.89 cfs 5,998 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=119.53' Storage=7,879 cf Inflow=5.37 cfs 21,229 cf
Discarded=0.40 cfs 20,083 cf Primary=0.58 cfs 1,146 cf Outflow=0.98 cfs 21,229 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=115.46' Storage=3,667 cf Inflow=2.98 cfs 11,993 cf
Discarded=0.43 cfs 11,993 cf Primary=0.00 cfs 0 cf Outflow=0.43 cfs 11,993 cf

Pond P-1: P-1 Peak Elev=120.68' Storage=387 cf Inflow=1.01 cfs 3,178 cf
Outflow=0.93 cfs 3,178 cf

Link 1L: Total Inflow=2.79 cfs 9,503 cf
Primary=2.79 cfs 9,503 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.03 cfs 327 cf
Primary=0.03 cfs 327 cf

Link POA-2: Woods Town Hall Road Inflow=2.79 cfs 9,176 cf
Primary=2.79 cfs 9,176 cf

Total Runoff Area = 111,123 sf Runoff Volume = 41,579 cf Average Runoff Depth = 4.49"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

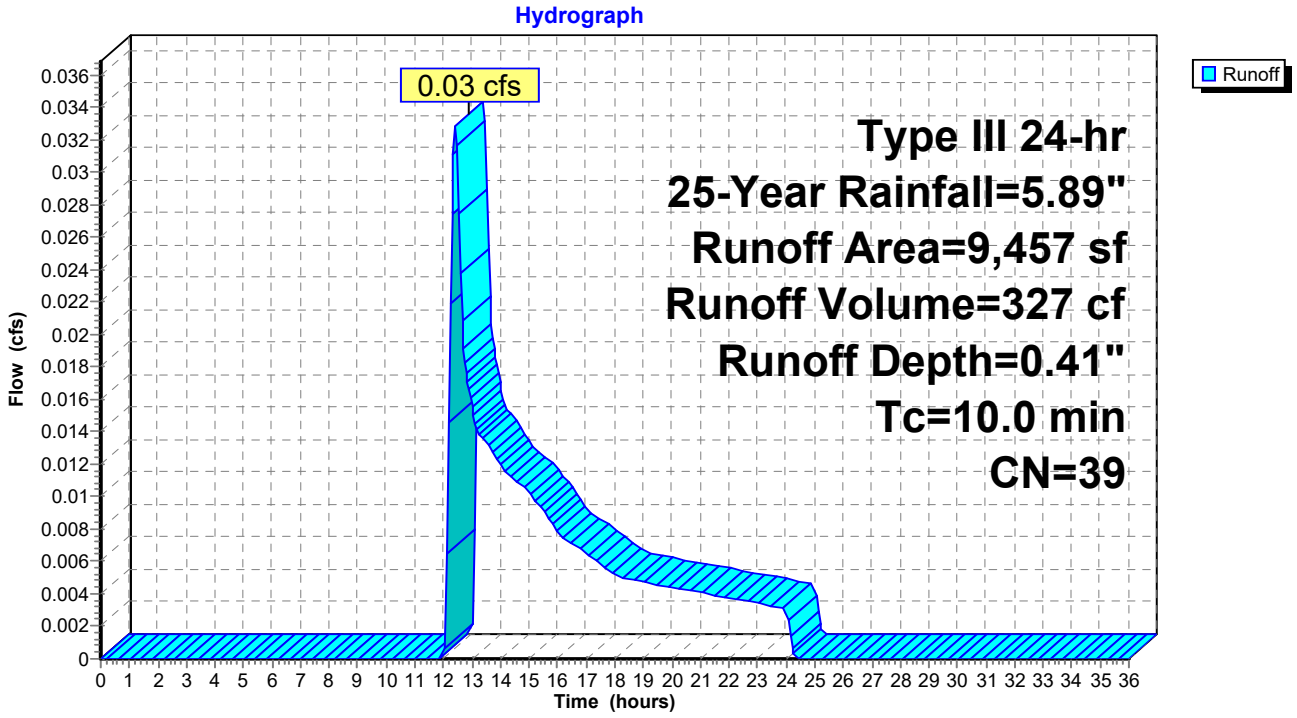
Runoff = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Depth= 0.41"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

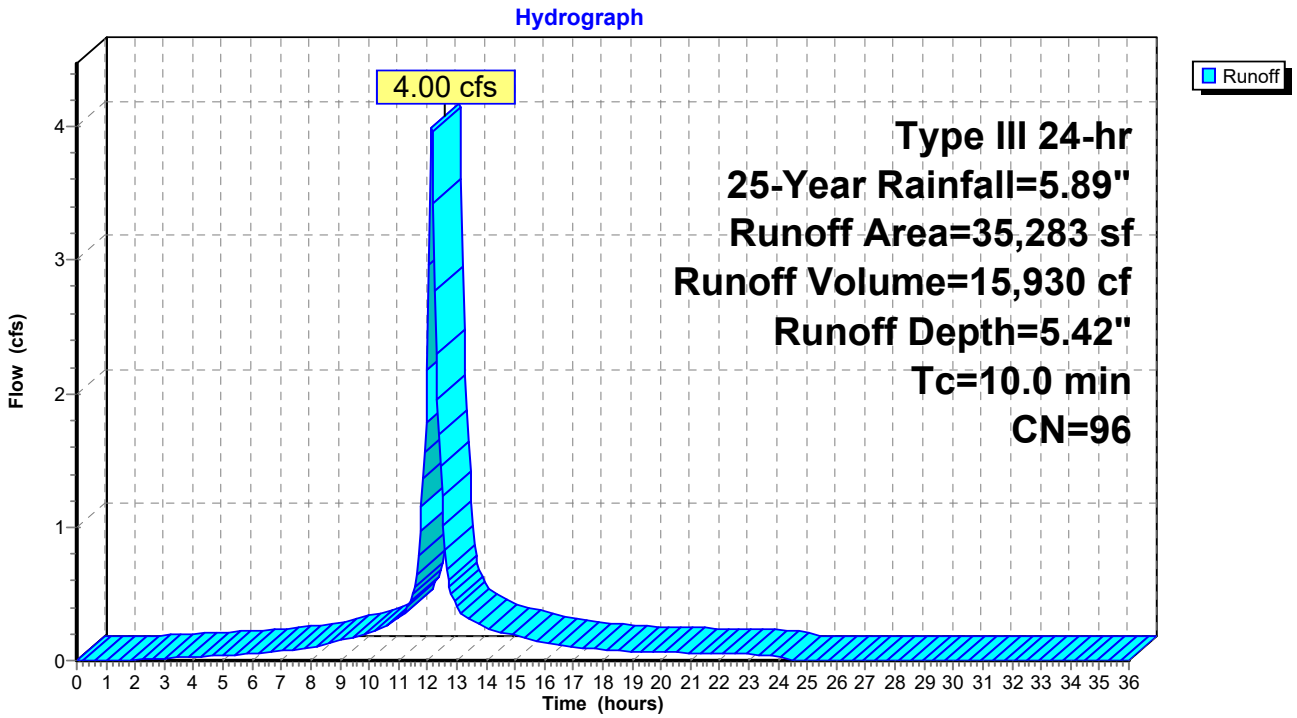
Runoff = 4.00 cfs @ 12.14 hrs, Volume= 15,930 cf, Depth= 5.42"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

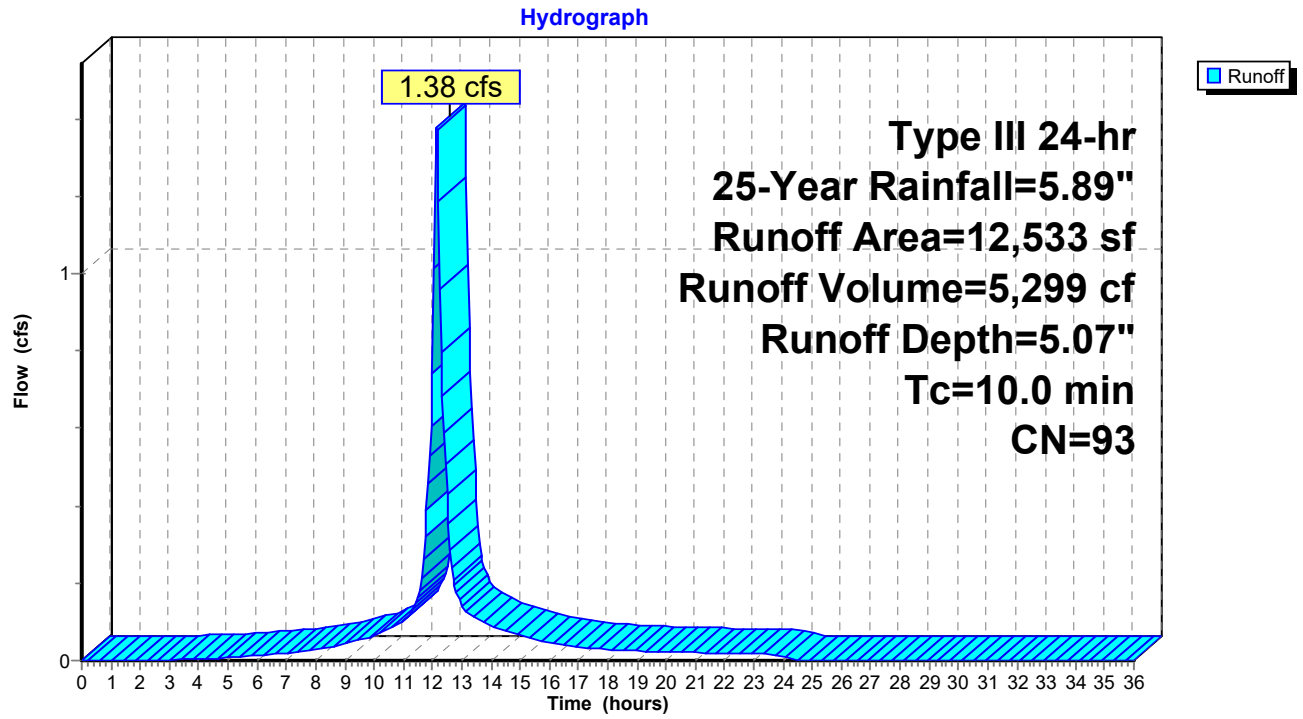
Runoff = 1.38 cfs @ 12.14 hrs, Volume= 5,299 cf, Depth= 5.07"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

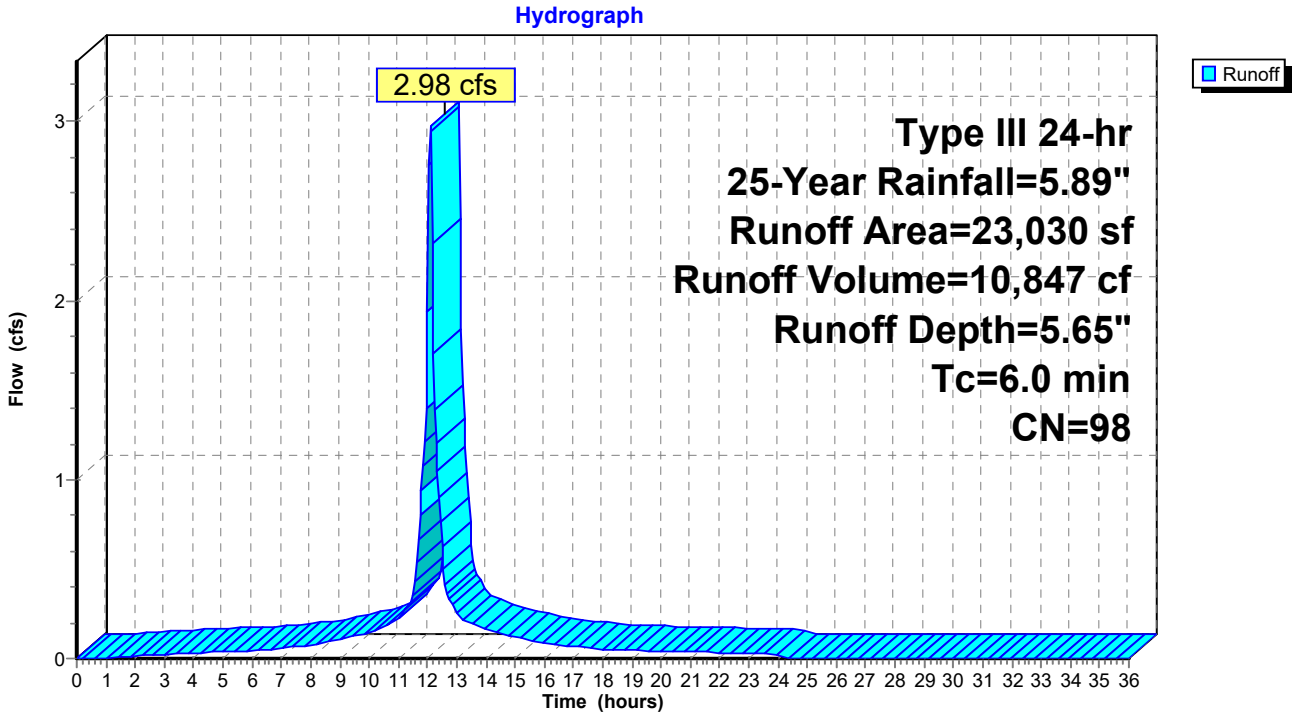
Runoff = 2.98 cfs @ 12.09 hrs, Volume= 10,847 cf, Depth= 5.65"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

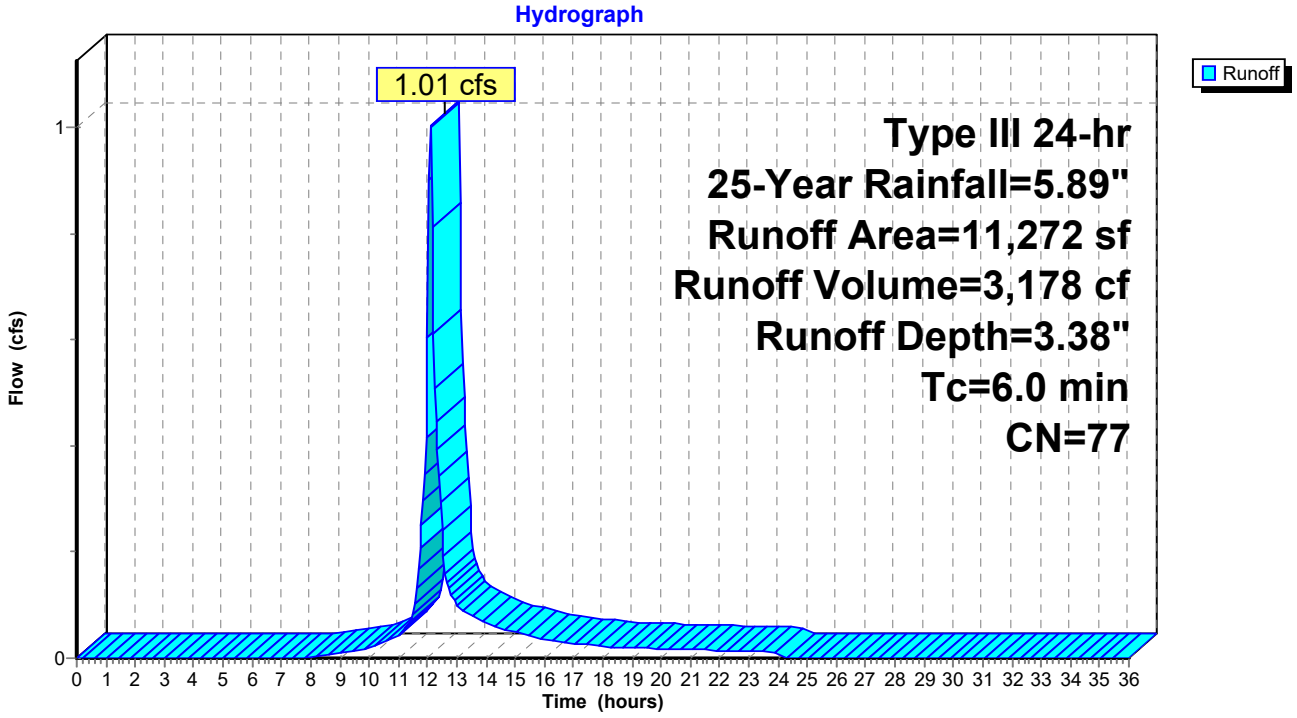
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf, Depth= 3.38"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

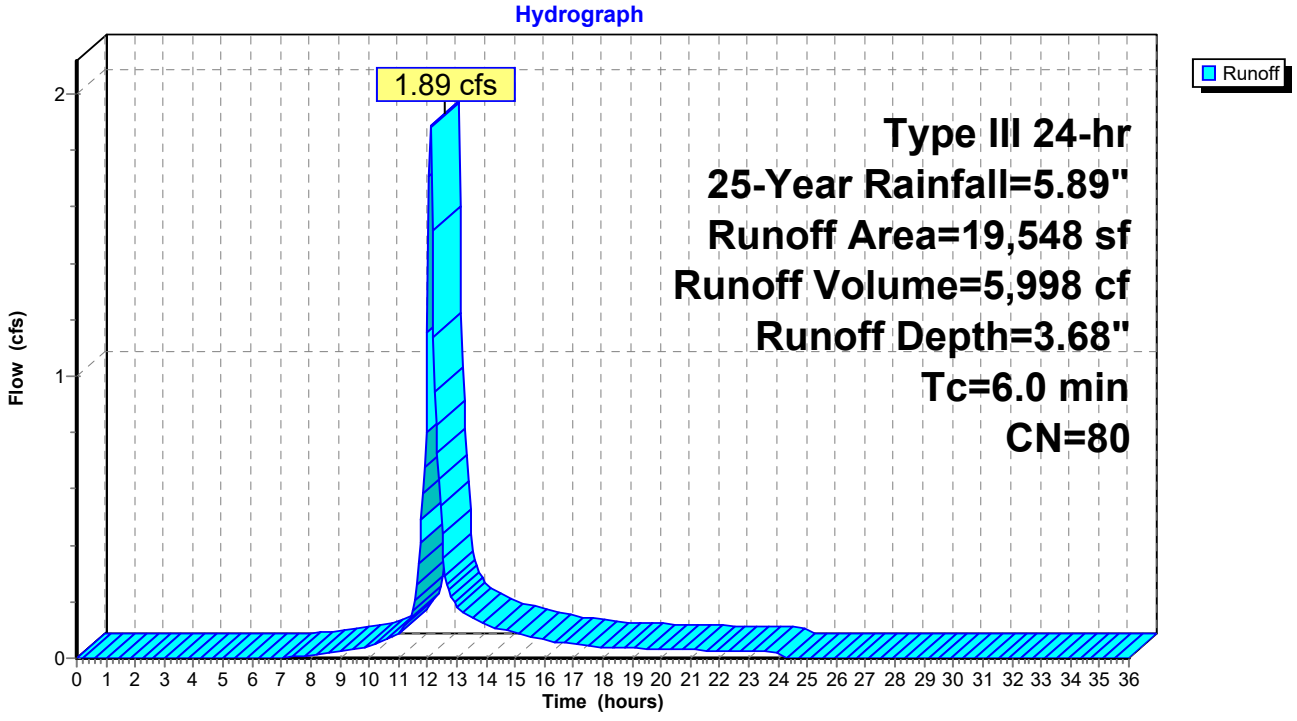
Runoff = 1.89 cfs @ 12.09 hrs, Volume= 5,998 cf, Depth= 3.68"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.89"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 5.33" for 25-Year event
Inflow = 5.37 cfs @ 12.14 hrs, Volume= 21,229 cf
Outflow = 0.98 cfs @ 12.64 hrs, Volume= 21,229 cf, Atten= 82%, Lag= 30.3 min
Discarded = 0.40 cfs @ 10.95 hrs, Volume= 20,083 cf
Primary = 0.58 cfs @ 12.64 hrs, Volume= 1,146 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 119.53' @ 12.64 hrs Surf.Area= 2,092 sf Storage= 7,879 cf

Plug-Flow detention time= 139.0 min calculated for 21,200 cf (100% of inflow)
Center-of-Mass det. time= 138.8 min (904.8 - 766.1)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.95 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=0.58 cfs @ 12.64 hrs HW=119.53' (Free Discharge)
└**2=Culvert** (Inlet Controls 0.58 cfs @ 1.77 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 0.58 cfs of 3.81 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

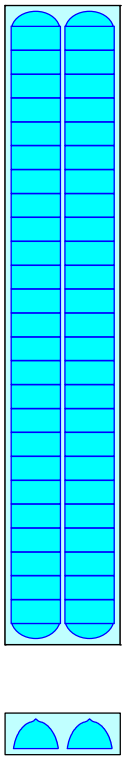
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

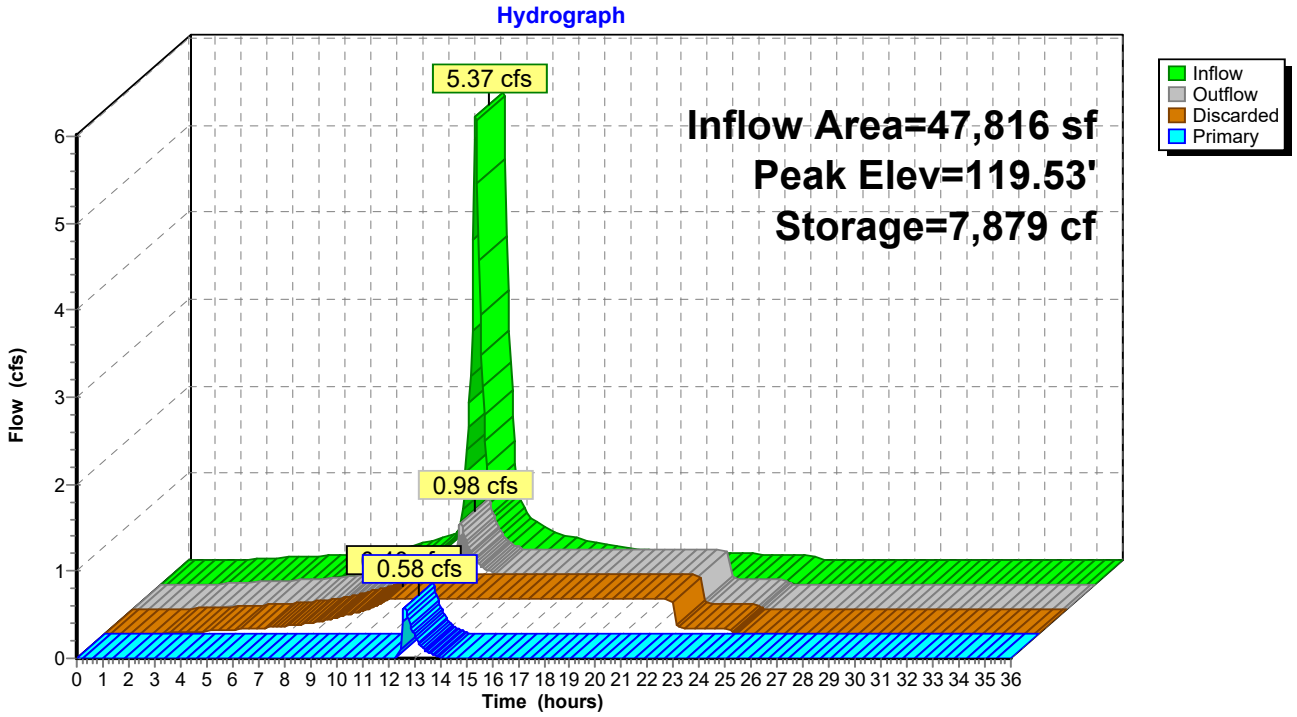
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 2.03" for 25-Year event
Inflow = 2.98 cfs @ 12.09 hrs, Volume= 11,993 cf
Outflow = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf, Atten= 85%, Lag= 0.0 min
Discarded = 0.43 cfs @ 11.65 hrs, Volume= 11,993 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.46' @ 13.12 hrs Surf.Area= 2,268 sf Storage= 3,667 cf

Plug-Flow detention time= 55.6 min calculated for 11,993 cf (100% of inflow)
Center-of-Mass det. time= 55.5 min (803.7 - 748.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.65 hrs HW=113.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

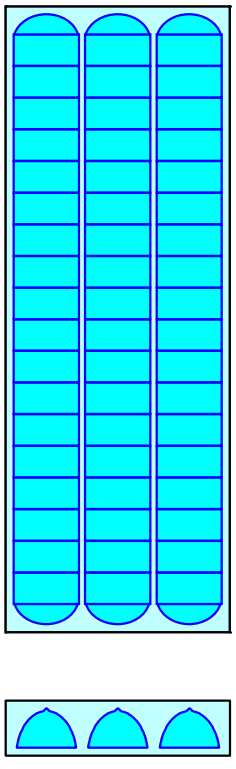
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

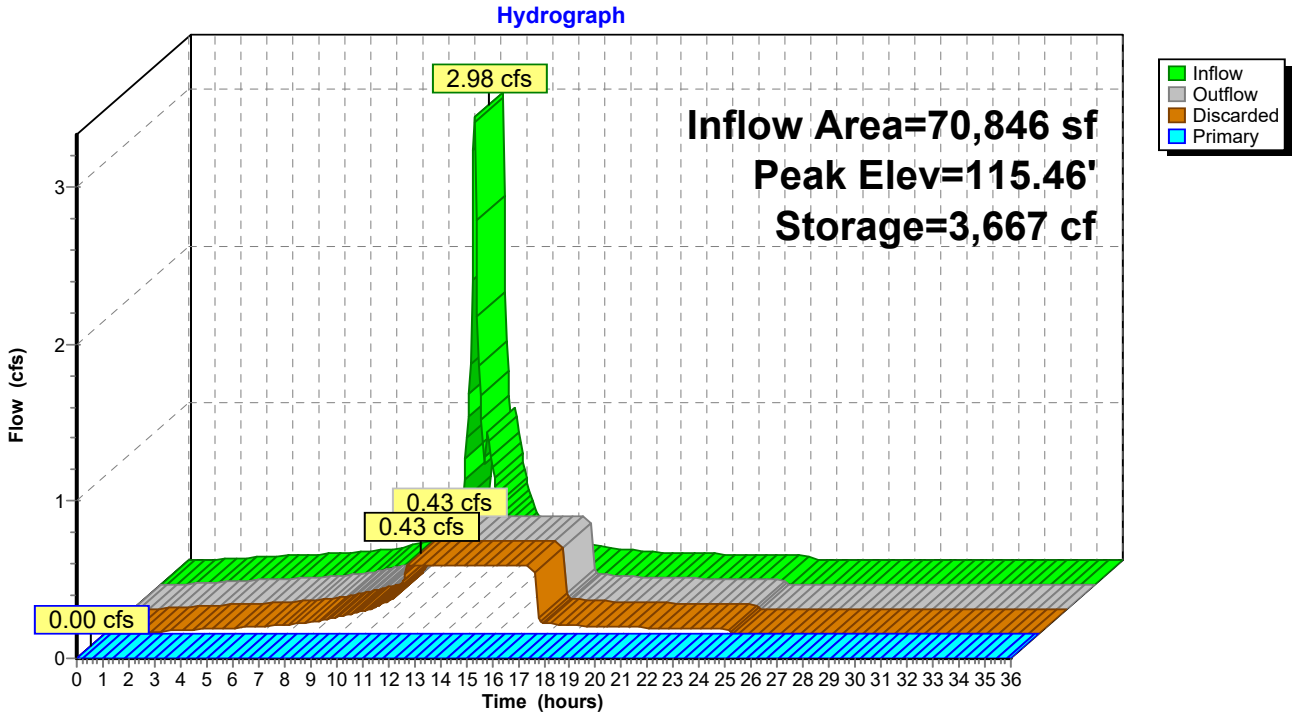
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 3.38" for 25-Year event
Inflow = 1.01 cfs @ 12.09 hrs, Volume= 3,178 cf
Outflow = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf, Atten= 8%, Lag= 2.1 min
Primary = 0.93 cfs @ 12.13 hrs, Volume= 3,178 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.68' @ 12.13 hrs Surf.Area= 689 sf Storage= 387 cf

Plug-Flow detention time= 12.5 min calculated for 3,174 cf (100% of inflow)
Center-of-Mass det. time= 12.5 min (834.9 - 822.4)

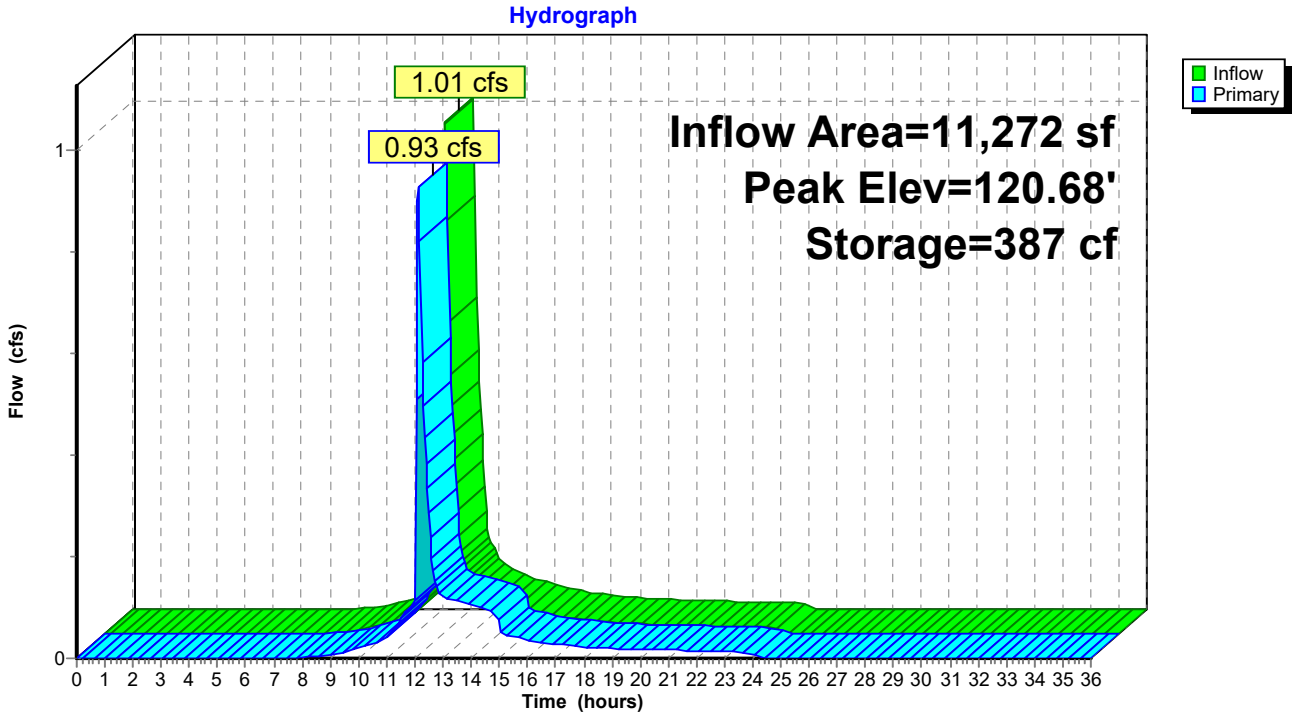
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.13 hrs HW=120.68' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **2=Culvert** (Passes 0.77 cfs of 3.24 cfs potential flow)
  - **3=Orifice/Grate** (Weir Controls 0.77 cfs @ 1.38 fps)

Pond P-1: P-1

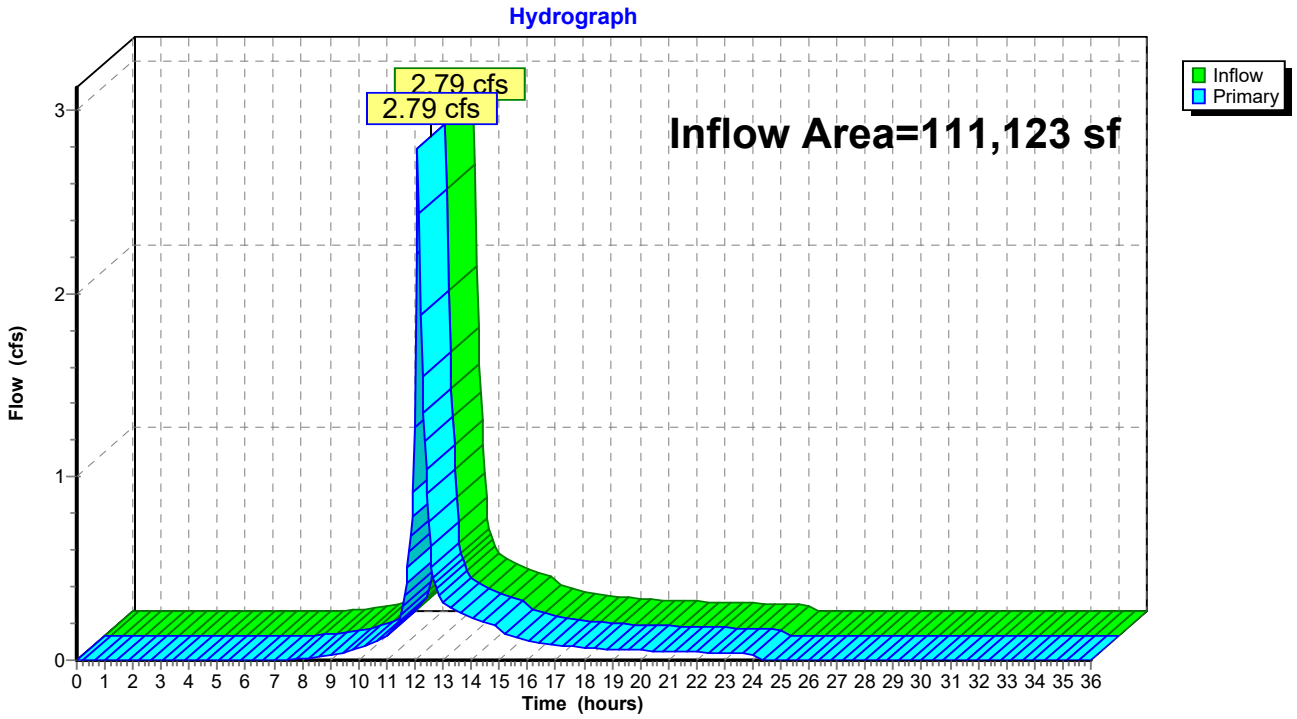

Hydrograph
1.01 cfs
0.93 cfs
Inflow Area=11,272 sf
Peak Elev=120.68'
Storage=387 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 1.03" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,503 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

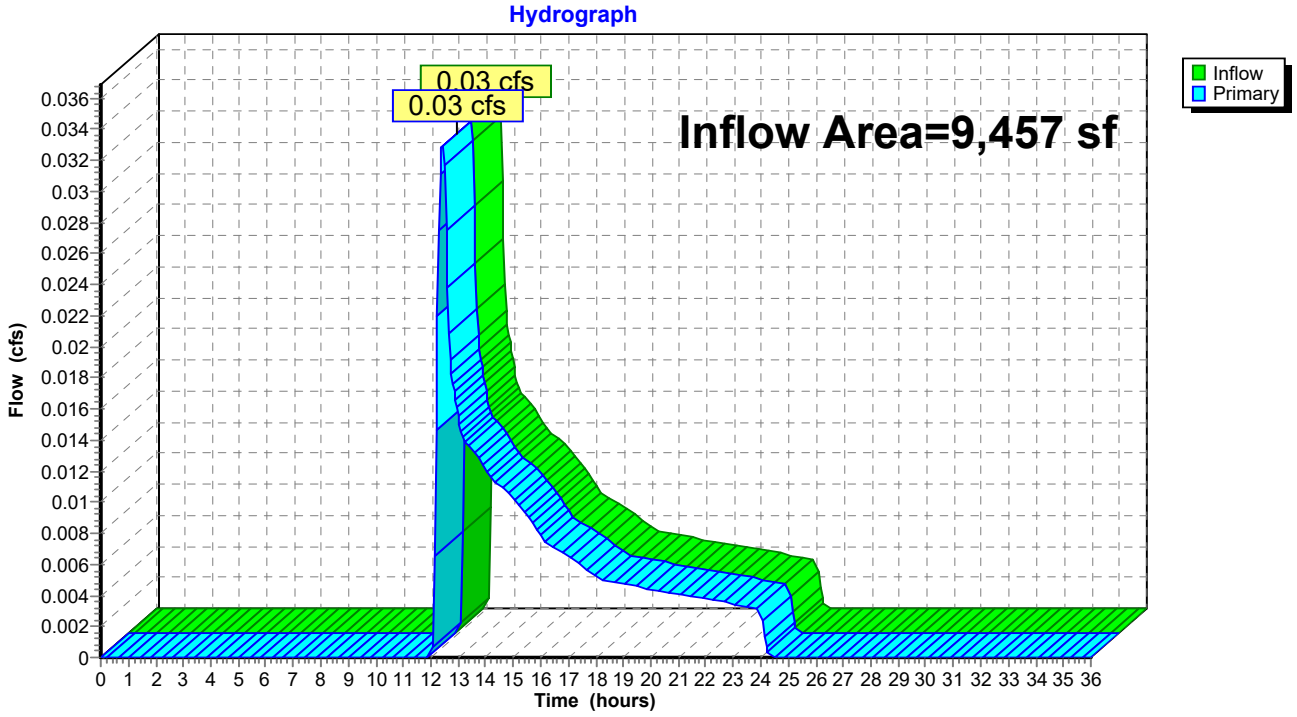


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 0.41" for 25-Year event
Inflow = 0.03 cfs @ 12.42 hrs, Volume= 327 cf
Primary = 0.03 cfs @ 12.42 hrs, Volume= 327 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

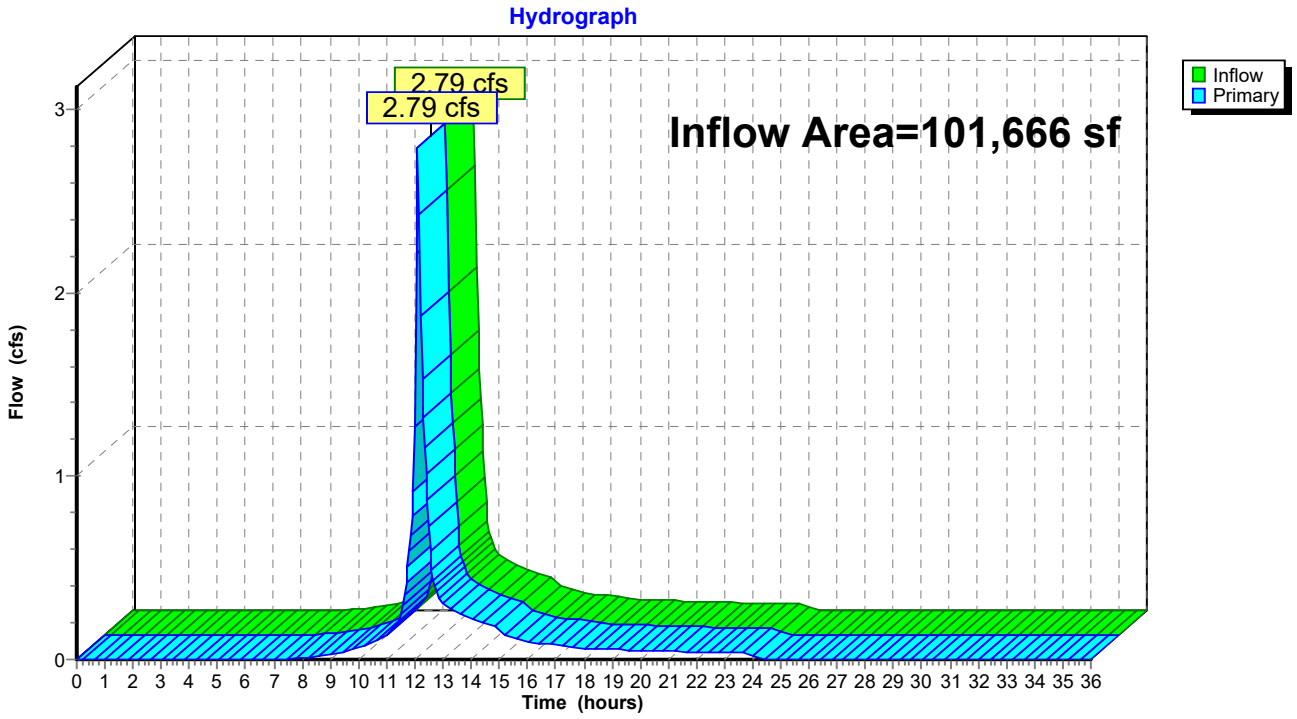


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 1.08" for 25-Year event
Inflow = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf
Primary = 2.79 cfs @ 12.11 hrs, Volume= 9,176 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1S: 1S Runoff Area=9,457 sf 0.00% Impervious Runoff Depth=1.26"
Tc=10.0 min CN=39 Runoff=0.18 cfs 992 cf

Subcatchment2S: 2S Runoff Area=35,283 sf 97.44% Impervious Runoff Depth=7.76"
Tc=10.0 min CN=96 Runoff=5.63 cfs 22,817 cf

Subcatchment3S: 3S Runoff Area=12,533 sf 92.13% Impervious Runoff Depth=7.40"
Tc=10.0 min CN=93 Runoff=1.97 cfs 7,730 cf

Subcatchment4S: 4S Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=8.00"
Tc=6.0 min CN=98 Runoff=4.18 cfs 15,353 cf

Subcatchment5S: 5S Runoff Area=11,272 sf 64.60% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=77 Runoff=1.62 cfs 5,162 cf

Subcatchment6S: 6S Runoff Area=19,548 sf 69.97% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=80 Runoff=2.96 cfs 9,530 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=120.89' Storage=9,043 cf Inflow=7.60 cfs 30,547 cf
Discarded=0.40 cfs 23,666 cf Primary=3.39 cfs 6,881 cf Outflow=3.79 cfs 30,547 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=118.47' Storage=8,490 cf Inflow=4.98 cfs 22,234 cf
Discarded=0.43 cfs 19,265 cf Primary=2.83 cfs 2,969 cf Outflow=3.26 cfs 22,234 cf

Pond P-1: P-1 Peak Elev=120.77' Storage=447 cf Inflow=1.62 cfs 5,162 cf
Outflow=1.55 cfs 5,162 cf

Link 1L: Total Inflow=4.60 cfs 18,653 cf
Primary=4.60 cfs 18,653 cf

Link POA-1: Woods Meetinghouse Road Inflow=0.18 cfs 992 cf
Primary=0.18 cfs 992 cf

Link POA-2: Woods Town Hall Road Inflow=4.47 cfs 17,661 cf
Primary=4.47 cfs 17,661 cf

Total Runoff Area = 111,123 sf Runoff Volume = 61,584 cf Average Runoff Depth = 6.65"
19.09% Pervious = 21,209 sf 80.91% Impervious = 89,914 sf

Summary for Subcatchment 1S: 1S

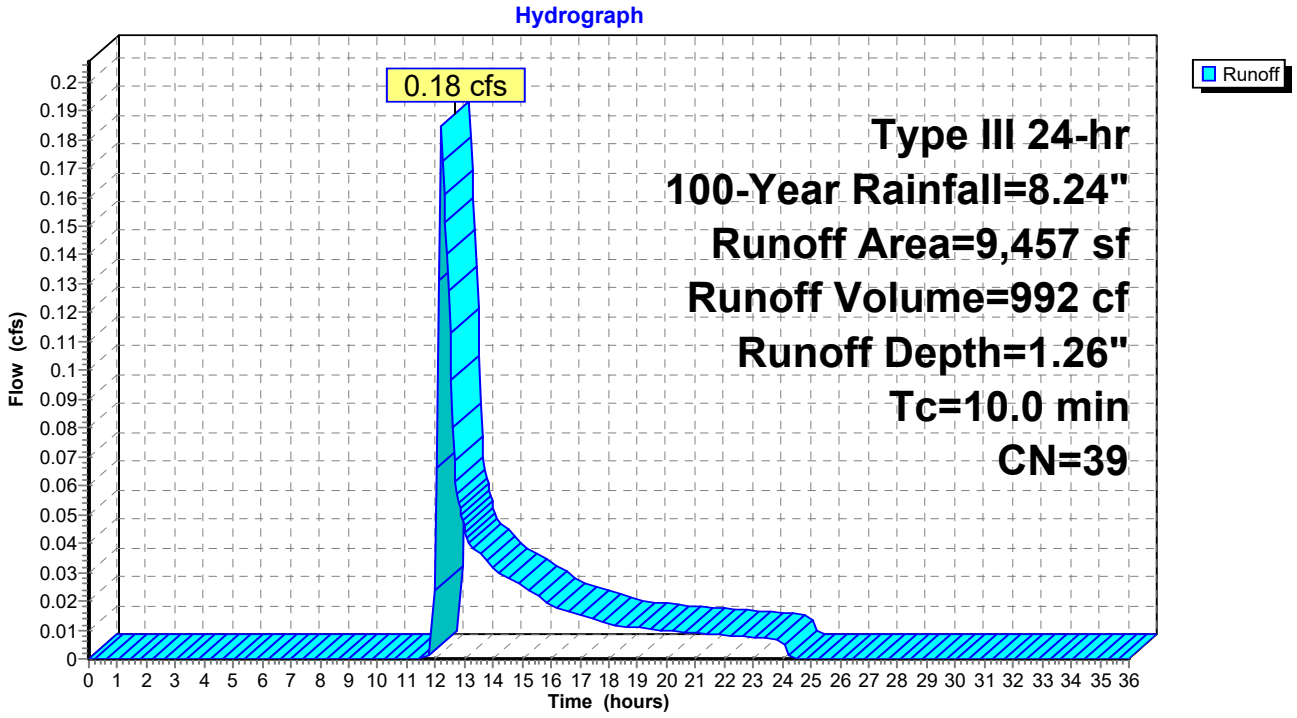
Runoff = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Depth= 1.26"
Routed to Link POA-1 : Woods Meetinghouse Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
9,457	39	>75% Grass cover, Good, HSG A
9,457		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: 2S

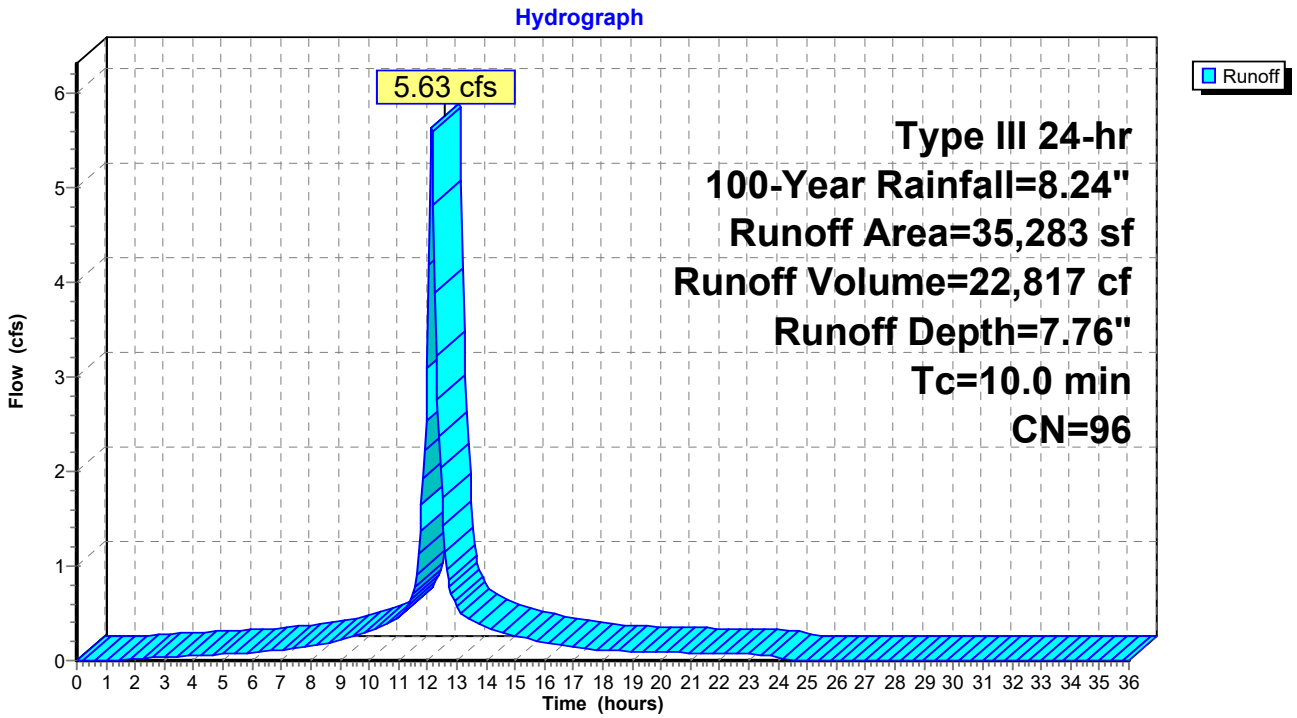
Runoff = 5.63 cfs @ 12.14 hrs, Volume= 22,817 cf, Depth= 7.76"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
905	39	>75% Grass cover, Good, HSG A
9,175	98	Roofs, HSG A
35,283	96	Weighted Average
905		2.56% Pervious Area
34,378		97.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S



Summary for Subcatchment 3S: 3S

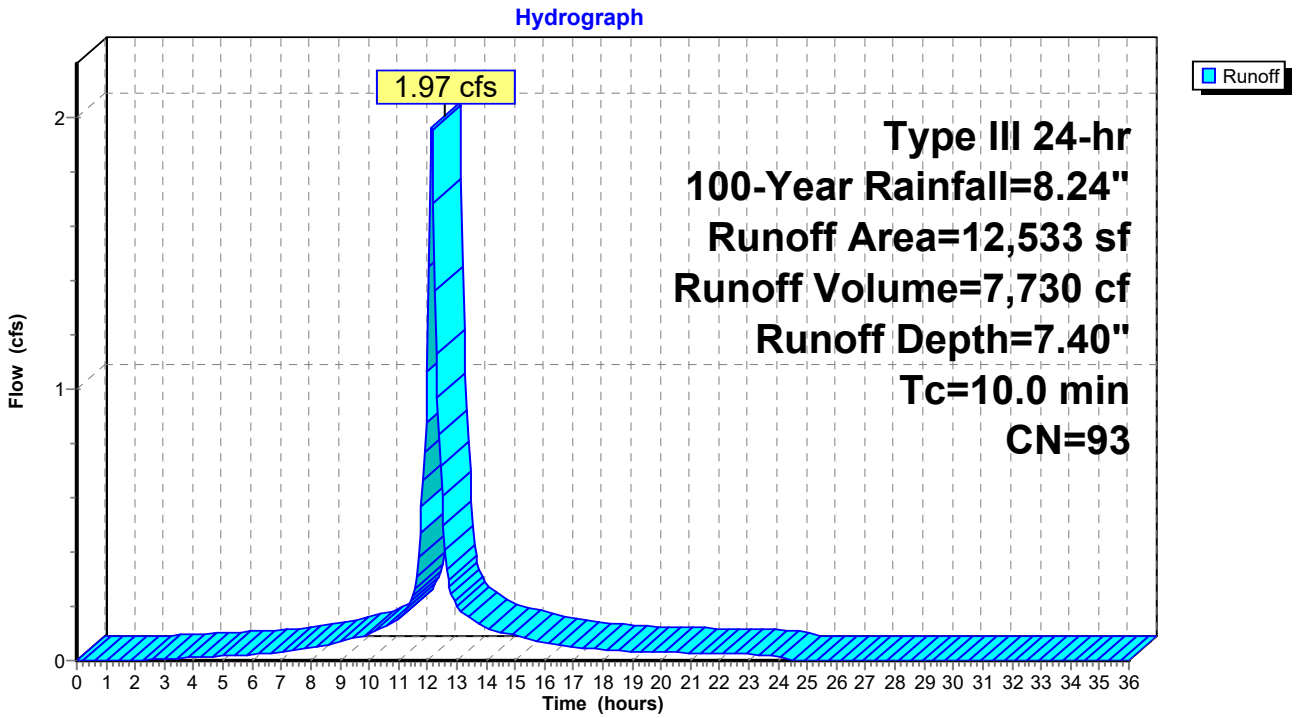
Runoff = 1.97 cfs @ 12.14 hrs, Volume= 7,730 cf, Depth= 7.40"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
986	39	>75% Grass cover, Good, HSG A
4,030	98	Roofs, HSG A
12,533	93	Weighted Average
986		7.87% Pervious Area
11,547		92.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S



Summary for Subcatchment 4S: 4S

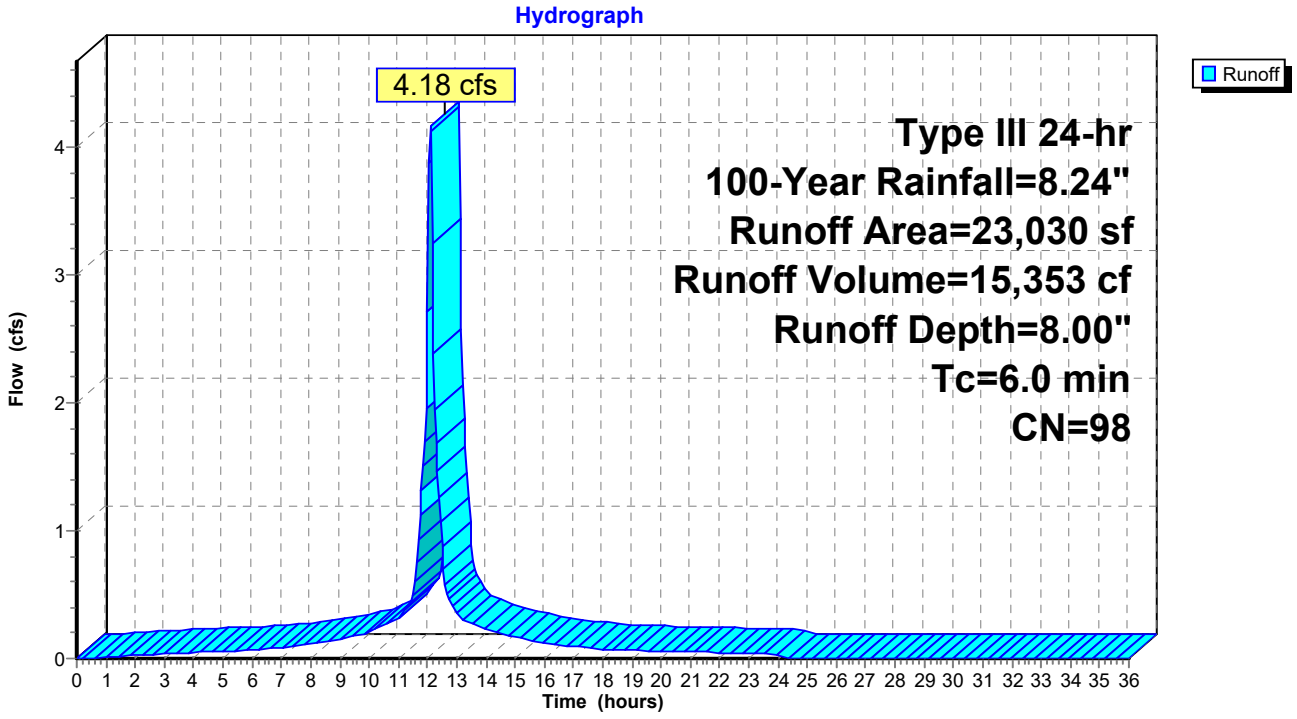
Runoff = 4.18 cfs @ 12.09 hrs, Volume= 15,353 cf, Depth= 8.00"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S



Summary for Subcatchment 5S: 5S

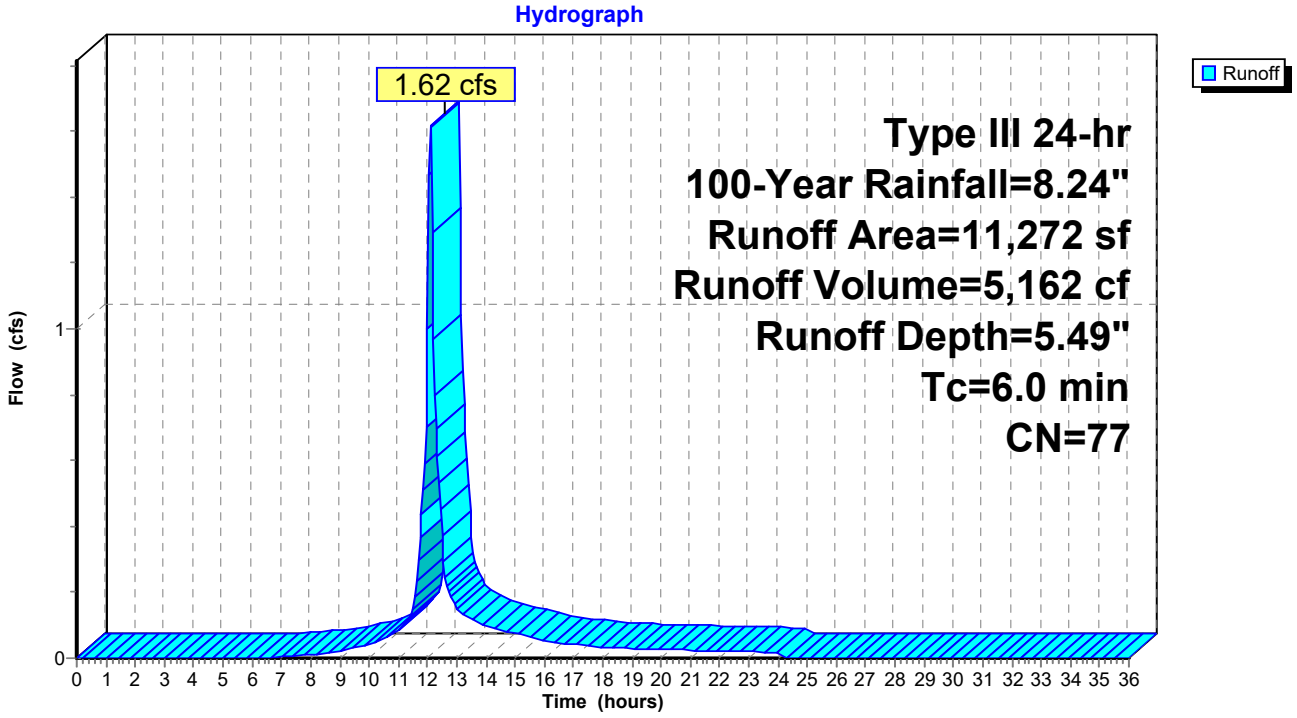
Runoff = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf, Depth= 5.49"
Routed to Pond P-1 : P-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
3,990	39	>75% Grass cover, Good, HSG A
7,282	98	Roofs, HSG A
11,272	77	Weighted Average
3,990		35.40% Pervious Area
7,282		64.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: 5S



Summary for Subcatchment 6S: 6S

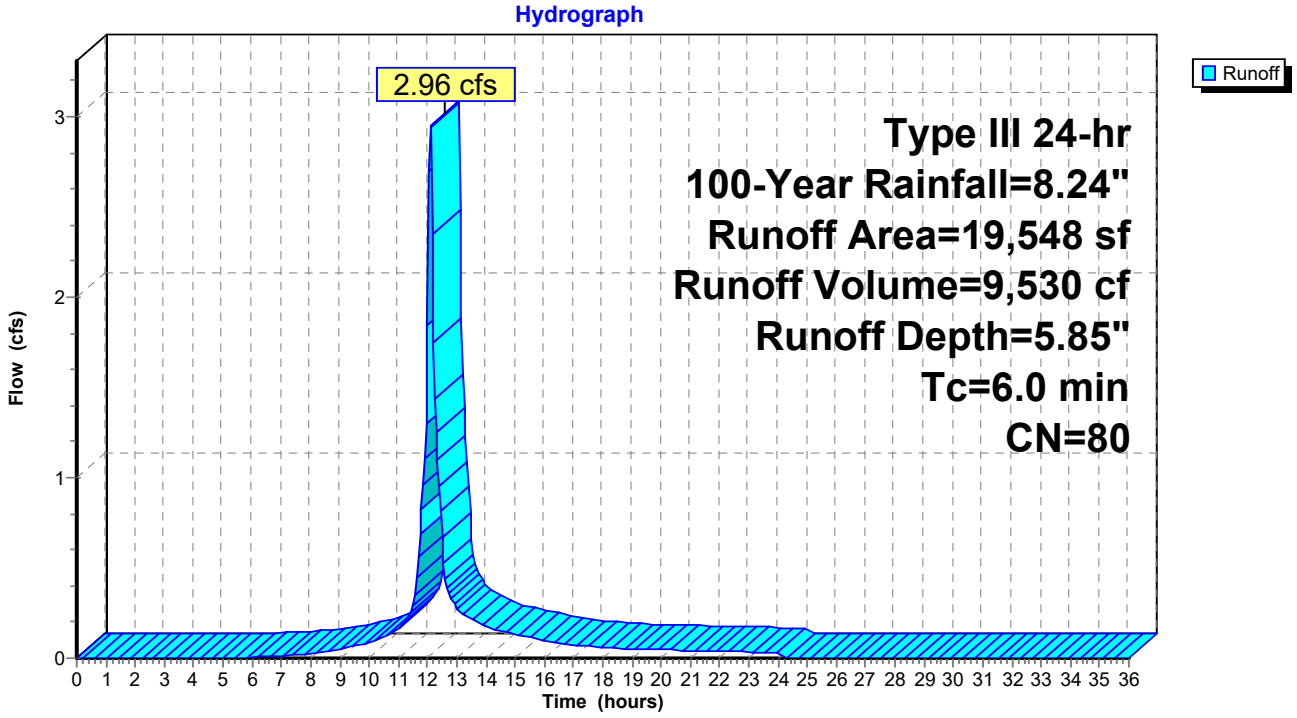
Runoff = 2.96 cfs @ 12.09 hrs, Volume= 9,530 cf, Depth= 5.85"
Routed to Link POA-2 : Woods Town Hall Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
5,871	39	>75% Grass cover, Good, HSG A
13,677	98	Paved parking, HSG A
19,548	80	Weighted Average
5,871		30.03% Pervious Area
13,677		69.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: 6S



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 47,816 sf, 96.05% Impervious, Inflow Depth = 7.67" for 100-Year event
Inflow = 7.60 cfs @ 12.14 hrs, Volume= 30,547 cf
Outflow = 3.79 cfs @ 12.35 hrs, Volume= 30,547 cf, Atten= 50%, Lag= 12.9 min
Discarded = 0.40 cfs @ 10.05 hrs, Volume= 23,666 cf
Primary = 3.39 cfs @ 12.35 hrs, Volume= 6,881 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.89' @ 12.35 hrs Surf.Area= 2,092 sf Storage= 9,043 cf

Plug-Flow detention time= 119.8 min calculated for 30,504 cf (100% of inflow)
Center-of-Mass det. time= 119.7 min (878.4 - 758.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	3,671 cf	**19.42'W x 107.74'L x 7.00'H Field B** 14,644 cf Overall - 5,467 cf Embedded = 9,177 cf x 40.0% Voids
#2B	115.00'	5,467 cf	**ADS_StormTech MC-4500 +Cap** x 50 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 50 Chambers in 2 Rows Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf
		9,138 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.40 cfs @ 10.05 hrs HW=114.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.40 cfs)

Primary OutFlow Max=3.39 cfs @ 12.35 hrs HW=120.89' (Free Discharge)
└**2=Culvert** (Inlet Controls 3.39 cfs @ 4.31 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes 3.39 cfs of 34.80 cfs potential flow)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 2 rows = 142.8 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

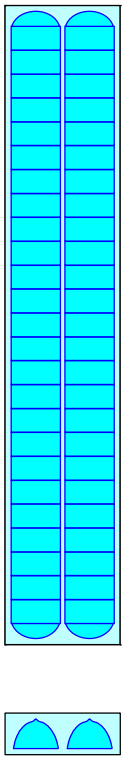
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
2 Rows x 100.0" Wide + 9.0" Spacing x 1 + 12.0" Side Stone x 2 = 19.42' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

50 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 2 Rows = 5,467.3 cf Chamber Storage

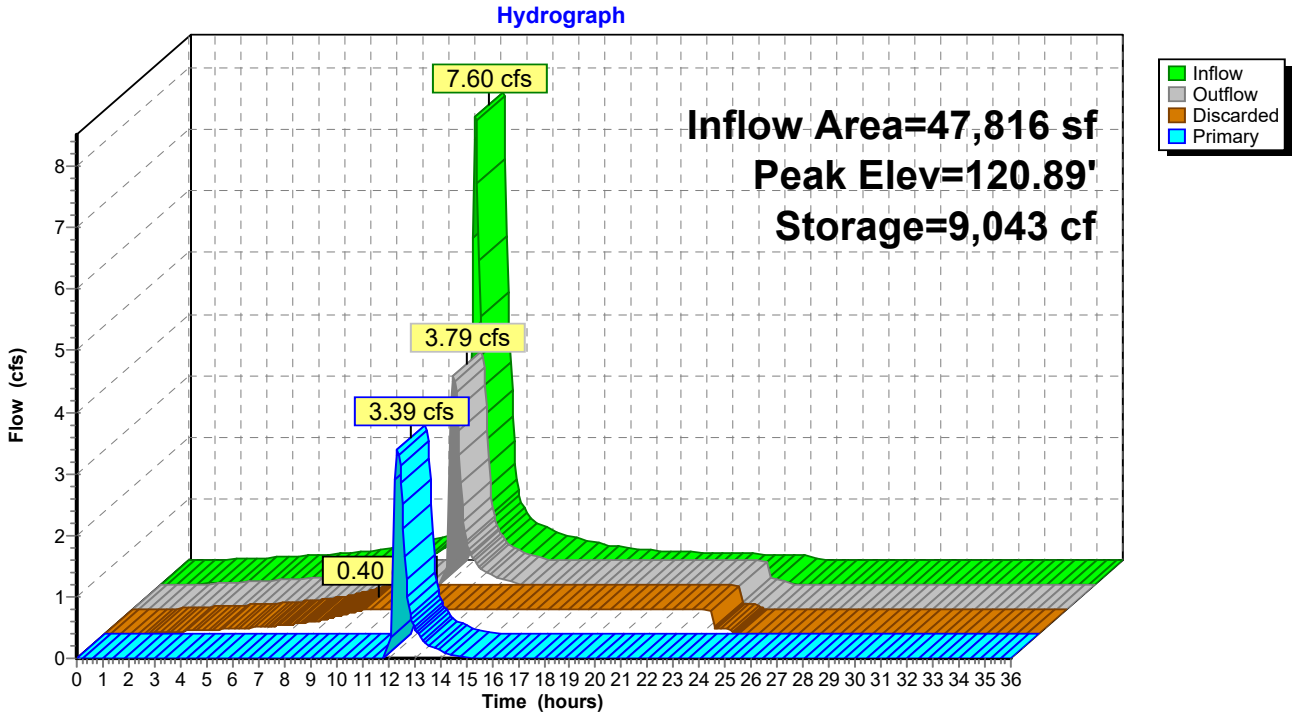
14,643.9 cf Field - 5,467.3 cf Chambers = 9,176.6 cf Stone x 40.0% Voids = 3,670.6 cf Stone Storage

Chamber Storage + Stone Storage = 9,137.9 cf = 0.210 af
Overall Storage Efficiency = 62.4%
Overall System Size = 107.74' x 19.42' x 7.00'

50 Chambers
542.4 cy Field
339.9 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 70,846 sf, 97.33% Impervious, Inflow Depth = 3.77" for 100-Year event
Inflow = 4.98 cfs @ 12.30 hrs, Volume= 22,234 cf
Outflow = 3.26 cfs @ 12.57 hrs, Volume= 22,234 cf, Atten= 35%, Lag= 16.4 min
Discarded = 0.43 cfs @ 11.45 hrs, Volume= 19,265 cf
Primary = 2.83 cfs @ 12.57 hrs, Volume= 2,969 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 118.47' @ 12.57 hrs Surf.Area= 2,268 sf Storage= 8,490 cf

Plug-Flow detention time= 123.7 min calculated for 22,203 cf (100% of inflow)
Center-of-Mass det. time= 123.6 min (870.2 - 746.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	3,964 cf	**28.50'W x 79.57'L x 7.00'H Field B** 15,874 cf Overall - 5,965 cf Embedded = 9,909 cf x 40.0% Voids
#2B	114.00'	5,965 cf	**ADS_StormTech MC-4500 +Cap** x 54 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 54 Chambers in 3 Rows Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf
		9,928 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.43 cfs @ 11.45 hrs HW=113.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=2.53 cfs @ 12.57 hrs HW=118.44' (Free Discharge)
└**2=Culvert** (Passes 2.53 cfs of 3.71 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.53 cfs @ 1.76 fps)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 3 rows = 214.2 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

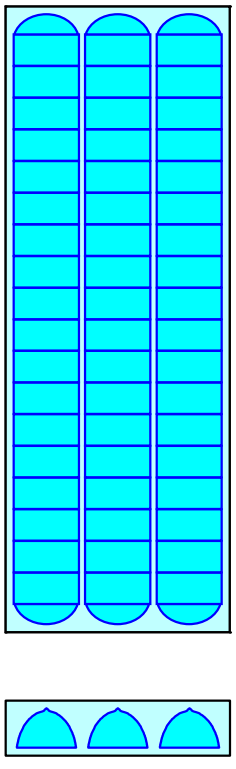
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
3 Rows x 100.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 28.50' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

54 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 3 Rows = 5,964.7 cf Chamber Storage

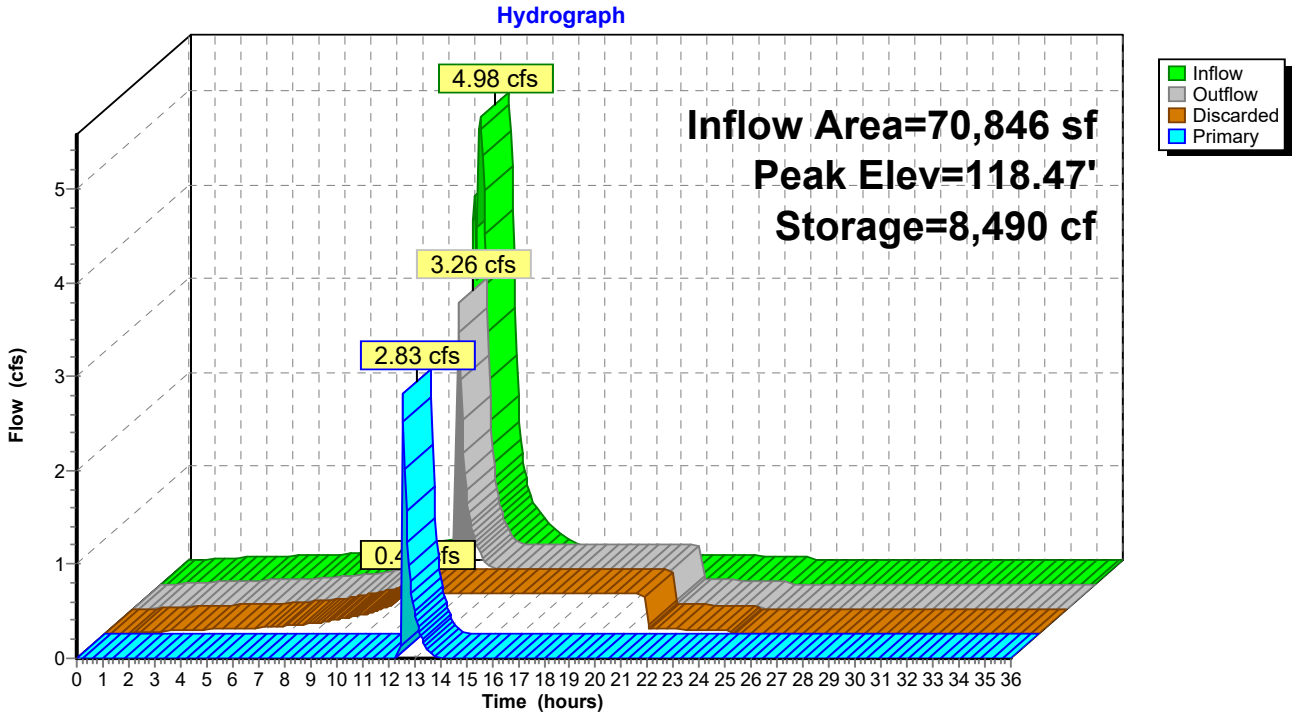
15,873.6 cf Field - 5,964.7 cf Chambers = 9,908.9 cf Stone x 40.0% Voids = 3,963.5 cf Stone Storage

Chamber Storage + Stone Storage = 9,928.2 cf = 0.228 af
Overall Storage Efficiency = 62.5%
Overall System Size = 79.57' x 28.50' x 7.00'

54 Chambers
587.9 cy Field
367.0 cy Stone



Pond INF-B: Chamber B (MC-4500)



Summary for Pond P-1: P-1

Inflow Area = 11,272 sf, 64.60% Impervious, Inflow Depth = 5.49" for 100-Year event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 5,162 cf
Outflow = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf, Atten= 4%, Lag= 1.5 min
Primary = 1.55 cfs @ 12.11 hrs, Volume= 5,162 cf
Routed to Link POA-2 : Woods Town Hall Road

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 120.77' @ 12.12 hrs Surf.Area= 722 sf Storage= 447 cf

Plug-Flow detention time= 12.3 min calculated for 5,154 cf (100% of inflow)
Center-of-Mass det. time= 12.3 min (820.8 - 808.6)

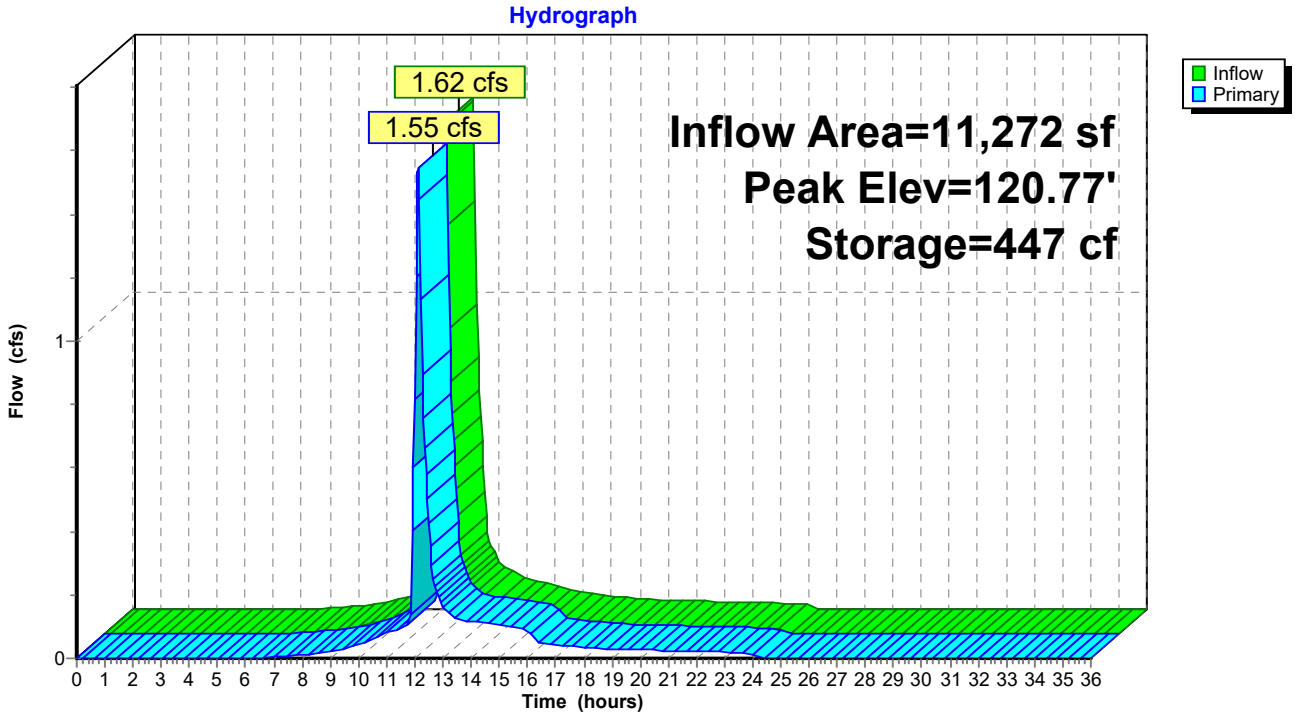
Volume	Invert	Avail.Storage	Storage Description
#1	120.00'	1,645 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
120.00	454	110.0	0	0	454
121.00	816	130.0	626	626	854
122.00	1,236	149.0	1,019	1,645	1,299

Device	Routing	Invert	Outlet Devices
#1	Primary	120.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	119.00'	**12.0" Round Culvert** L= 53.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.00' / 118.00' S= 0.0189 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	120.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.51 cfs @ 12.11 hrs HW=120.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.14 cfs)
└**2=Culvert** (Passes 1.37 cfs of 3.35 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.37 cfs @ 1.67 fps)

Pond P-1: P-1

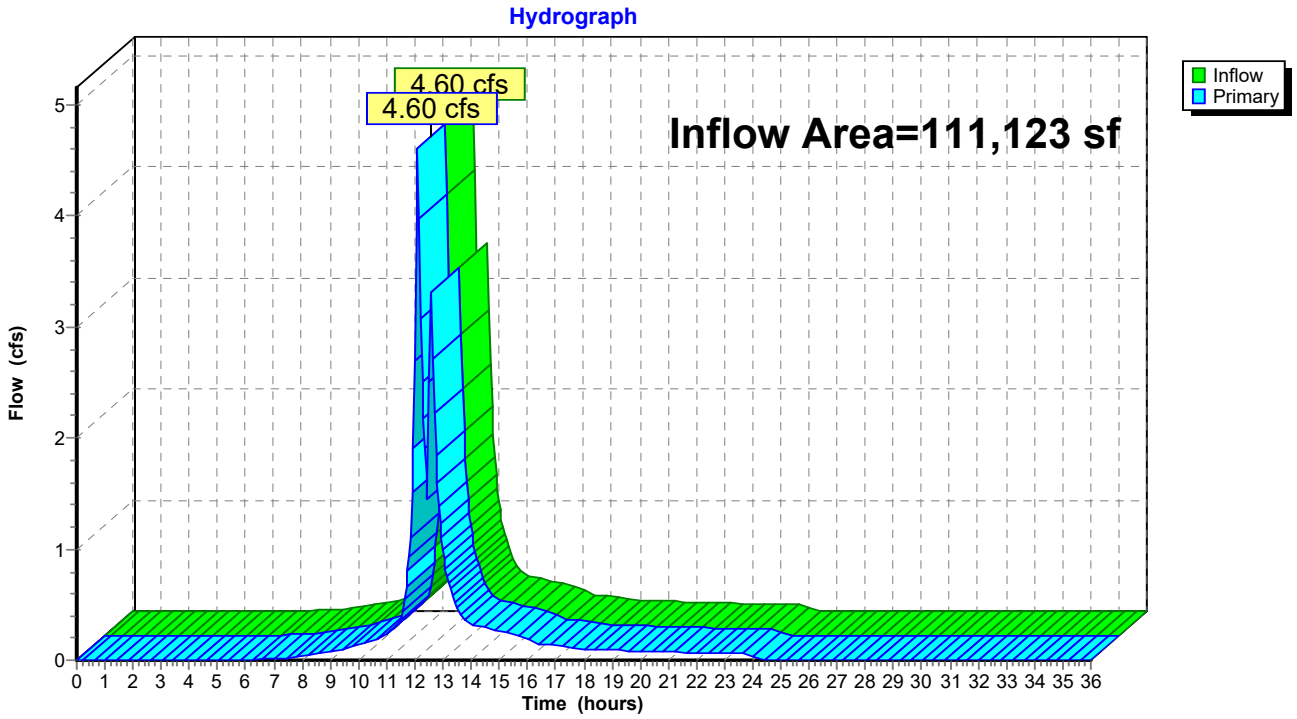

Hydrograph
1.62 cfs
1.55 cfs
Inflow Area=11,272 sf
Peak Elev=120.77'
Storage=447 cf
Inflow
Primary
Flow (cfs)
0
1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Time (hours)

Summary for Link 1L: Total

Inflow Area = 111,123 sf, 80.91% Impervious, Inflow Depth = 2.01" for 100-Year event
Inflow = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf
Primary = 4.60 cfs @ 12.10 hrs, Volume= 18,653 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 1L: Total

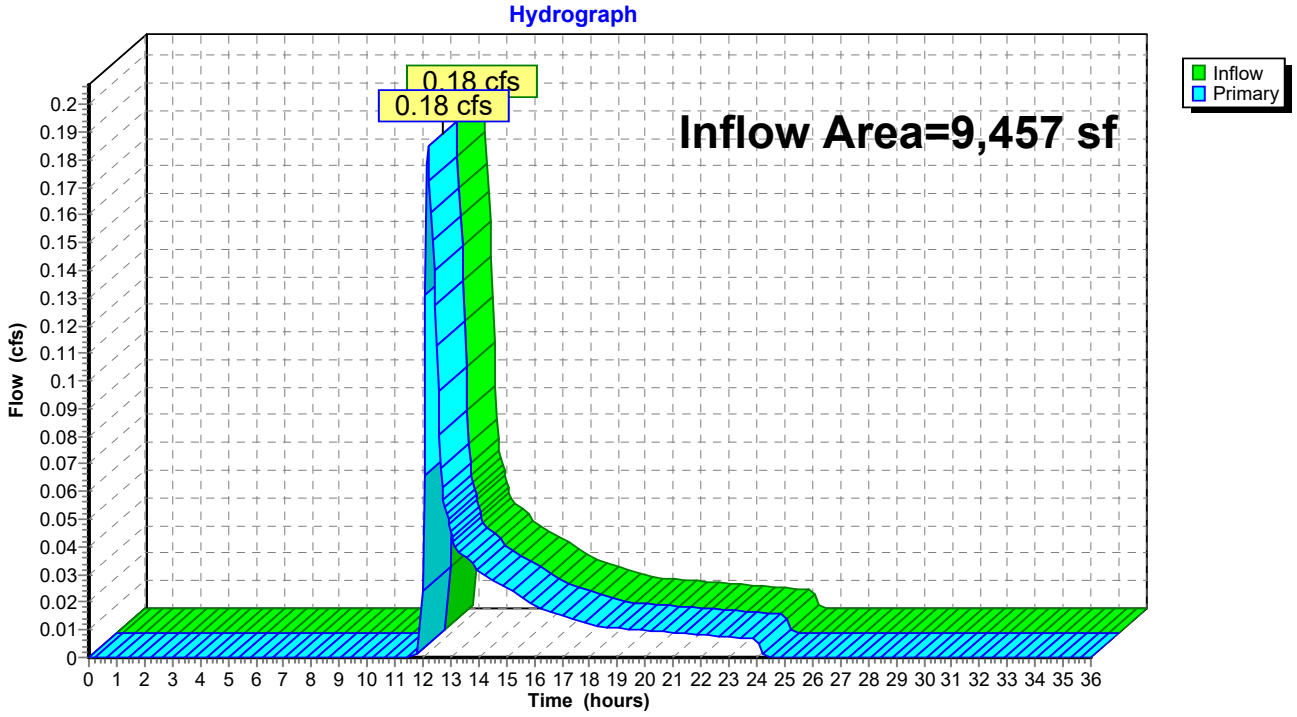


Summary for Link POA-1: Woods Meetinghouse Road

Inflow Area = 9,457 sf, 0.00% Impervious, Inflow Depth = 1.26" for 100-Year event
Inflow = 0.18 cfs @ 12.19 hrs, Volume= 992 cf
Primary = 0.18 cfs @ 12.19 hrs, Volume= 992 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-1: Woods Meetinghouse Road

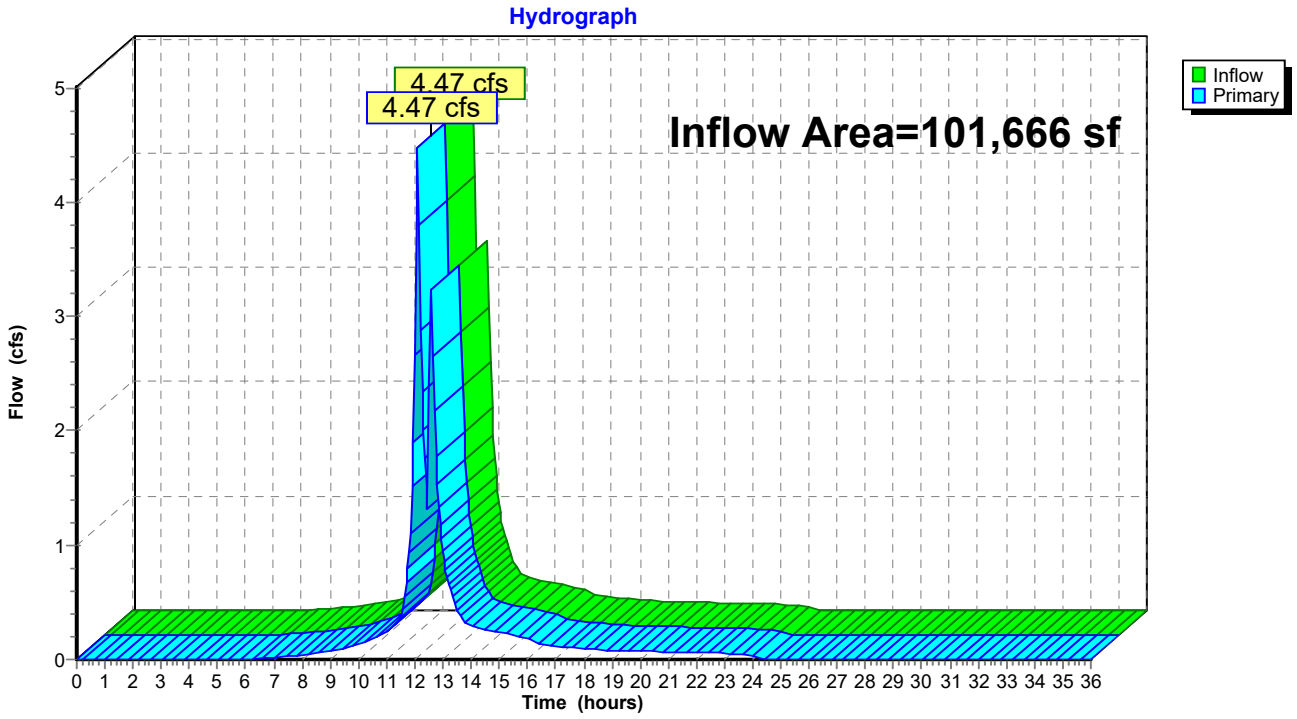


Summary for Link POA-2: Woods Town Hall Road

Inflow Area = 101,666 sf, 88.44% Impervious, Inflow Depth = 2.08" for 100-Year event
Inflow = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf
Primary = 4.47 cfs @ 12.10 hrs, Volume= 17,661 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 1L : Total

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link POA-2: Woods Town Hall Road



APPENDIX C

TRURO DPW FACILITY
RECHARGE CALCULATION

REQUIRED RECHARGE

Area Summary	
	Area (SF)*
Existing Impervious	80,920
Proposed Impervious	89,914
Required Recharge Area *(Proposed - Existing)*	8,994

* Areas retrieved from HydroCAD

Note: Site consists of HSG A soils.

Hydrologic Soil Group Summary		
Group	Target Depth Factor (in)	Area (SF)
A	0.6	8,994
B	0.35	0
C	0.25	0
D	0.1	0

Required Recharge (*Rv*) Calculation:

Rv = Target Depth Factor x Δ Impervious Area
Rv = 0.6 x (1/12) x 8,994
Rv = 450 CF

PROPOSED RECHARGE SUMMARY

Detailed calculations on following pages

Location	Volume (CF)
Field A Chambers	7,441
Field B Chambers	8,086
Total	15,527

Rv = 450 CF
Provided recharge = 15,527 CF

Recharge Requirement is exceeded.

PROPOSED RECHARGE

Underground Infiltration Chambers - INF-A
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD)	5,467.30	CF	(50 chambers+end caps)
Available Stone Storage (from HydroCAD)	3,670.60	CF	
Overall System Area	2092.31	SF	
Bottom of Chamber Elevation	115.00	FT	
Weir elevation	119.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**7,441.00**	**CF**	
Stone and Chamber recharge volume	**7,441**	**CF**	

Underground Infiltration Chambers - INF-B
ADS StormTech MC-4500 (90.4"W x60.0"H => 26.46 SF x 4.02'L)

Avail. MC-4500 storage (from HydroCAD	5,964.70	CF	(54 chambers+ end caps)
Available Stone Storage (from HydroCAD	3,963.50	CF	
Overall System Area	2267.75	SF	
Bottom of Chamber Elevation	114.00	FT	
Weir elevation	118.15	FT	
Chamber storage height	4.15	FT	
Net Storage at Weir Elevation (from HydroCAD)	**8,086.00**	**CF**	
Stone and Chamber recharge volume	**8,086**	**CF**	

TRURO DPW FACILITY
DRAWDOWN CALCULATION

-- MAXIMUM DRAWDOWN TIME IS 72 HOURS --

Time to drawdown calculation

$$\text{Time} = \frac{Rv}{k * \text{bottom area}}$$

where,

Rv =	storage volume
k =	saturated hydraulic conductivity rate
bottom area =	average surface storage area of recharge structure

PROPOSED STORAGE DRAWDOWN CALCULATIONS

Leaching Chambers - Field A			
Net storage volume		7,441	CF
Bottom area		2,092	SF
k		8.27	in/hr
	Time =	5.16	hours
Proposed drawdown time is acceptable.			

Leaching Chambers - Field B			
Net storage volume		8,086	CF
Bottom area		2,268	SF
k		8.27	in/hr
	Time =	5.17	hours
Proposed drawdown time is acceptable.			

TRURO DPW FACILITY
WATER QUALITY VOLUME CALCULATION

As stated in the Stormwater Handbook, for a LUHPPL, the required water quality volume equals 1.0 inch of runoff times the total impervious area of the post-development site.

TOTAL STORAGE PROVIDED		
Field A Storage =	7,441	CF
Field B Storage =	8,086	CF
Total Storage Provided =	15,527	CF

WQV CALCULATION		
Proposed Impervious Area =	89,914	SF
1" Water Quality Storage		
89,914 sf x 1" x 1'/12"=	7,493	CF

Proposed recharge exceeds the 1 inch water quality volume requirements.

Truro DPW
2-Oct-25
OUTLET PROTECTION CALCULATIONS

Proposed Plunge Pool FE-1 (P-1)
Preformed Scour Hole (Type 1)
Equation 11.35 CTDOT Drainage Manual

100-Year Storm:

Primary Outflow	1.55	cfs
Culvert	1.37	cfs

D_{50} Sizing:

TW = Tailwater =	1	feet (assumed)
Rp = Pipe Diameter =	1	feet
Q_{100} = 100-year design peak flow =	1.55	c.f.s.
F = depth of riprap = 0.5Rp =	1	feet

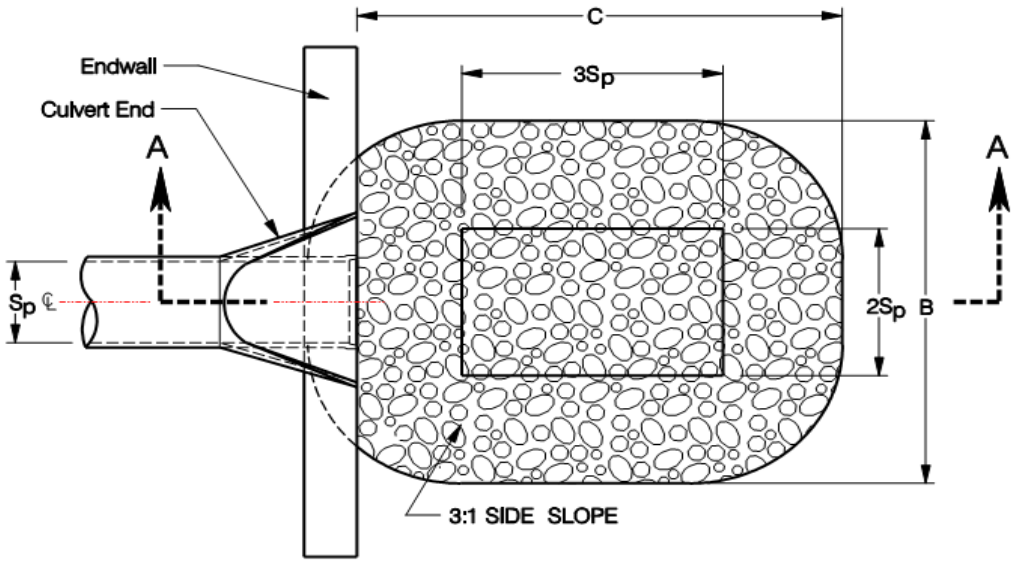
$$D_{50} = \left[\frac{0.0125Rp^2}{Tw}\right] x \left[\frac{Q_{10}}{Rp^{2.5}}\right]^{1.33}$$

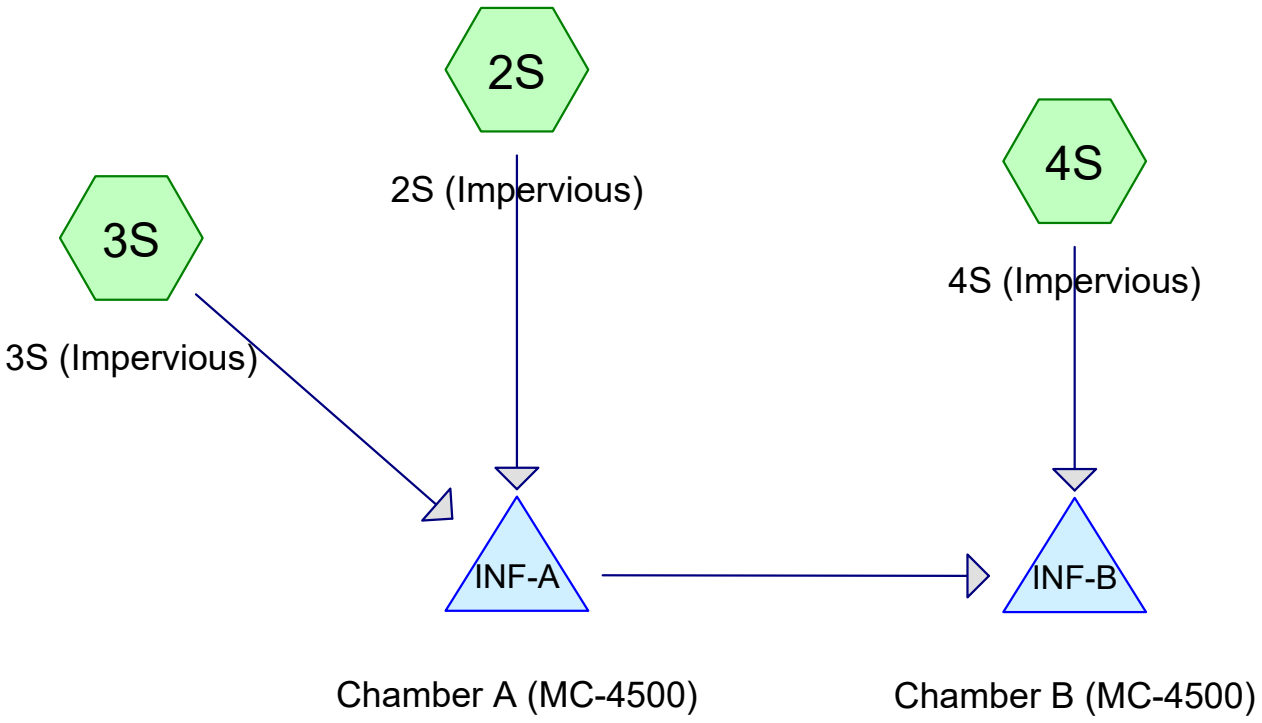
D_{50} = 0.02 feet = 0.27 inches

CT: Use Modified Riprap
MA: Use Modified Rockfill (M2.02.4)

Outlet Protection Dimensions:
Based on table 11-14.1 CTDOT Drainage Manual

Sp = Rp = inside diameter	Sp = 1.0'
Basin Depression (ft)	F = 0.5Rp = 0.5'
Basin Length (ft)	**C** = 3Sp + 6F = **6.0'**
Basin Width (ft)	**B** = 2Sp + 6F = **5.0'**





Subcat Reach Pond Link

Routing Diagram for Isolator Row Sizing

Prepared by Weston & Sampson Engineers, Inc, Printed 10/7/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1"	Type III 24-hr		Default	24.00	1	1.00	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
45,788	98	Paved parking, HSG A (2S, 3S, 4S)
23,167	98	Roofs, HSG A (2S, 3S, 4S)
68,955	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
68,955	HSG A	2S, 3S, 4S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
68,955		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchmen Numbers
45,788	0	0	0	0	45,788	Paved parking	2
23,167	0	0	0	0	23,167	Roofs	2
68,955	**0**	**0**	**0**	**0**	**68,955**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	INF-A	119.10	118.60	75.0	0.0067	0.013	0.0	12.0	0.0	
2	INF-B	116.40	116.15	45.0	0.0056	0.013	0.0	12.0	0.0	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment2S: 2S (Impervious) Runoff Area=34,378 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.61 cfs 2,266 cf

Subcatchment3S: 3S (Impervious) Runoff Area=11,547 sf 100.00% Impervious Runoff Depth=0.79"
Tc=10.0 min CN=98 Runoff=0.20 cfs 761 cf

Subcatchment4S: 4S (Impervious) Runoff Area=23,030 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.46 cfs 1,518 cf

Pond INF-A: Chamber A (MC-4500) Peak Elev=115.25' Storage=676 cf Inflow=0.81 cfs 3,027 cf
Discarded=0.21 cfs 3,027 cf Primary=0.00 cfs 0 cf Outflow=0.21 cfs 3,027 cf

Pond INF-B: Chamber B (MC-4500) Peak Elev=113.72' Storage=236 cf Inflow=0.46 cfs 1,518 cf
Discarded=0.16 cfs 1,518 cf Primary=0.00 cfs 0 cf Outflow=0.16 cfs 1,518 cf

Total Runoff Area = 68,955 sf Runoff Volume = 4,545 cf Average Runoff Depth = 0.79"
0.00% Pervious = 0 sf 100.00% Impervious = 68,955 sf

Summary for Subcatchment 2S: 2S (Impervious)

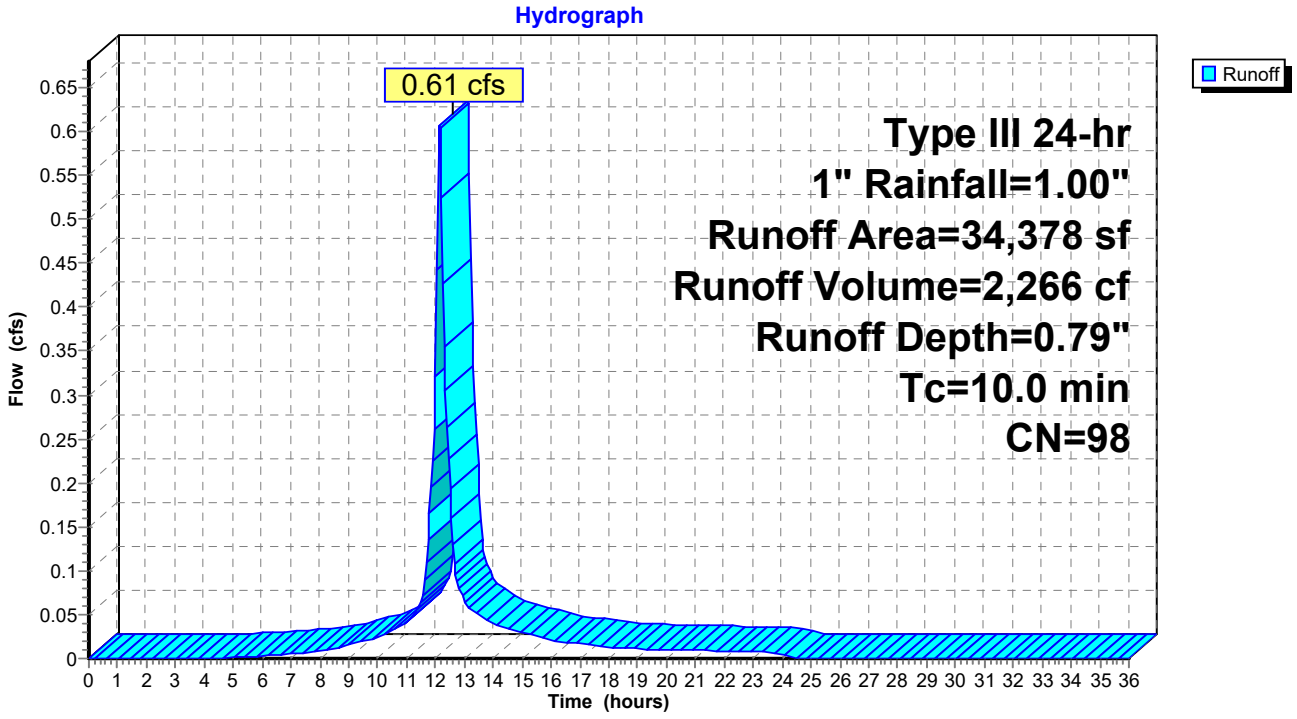
Runoff = 0.61 cfs @ 12.14 hrs, Volume= 2,266 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
25,203	98	Paved parking, HSG A
9,175	98	Roofs, HSG A
34,378	98	Weighted Average
34,378		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: 2S (Impervious)



Summary for Subcatchment 3S: 3S (Impervious)

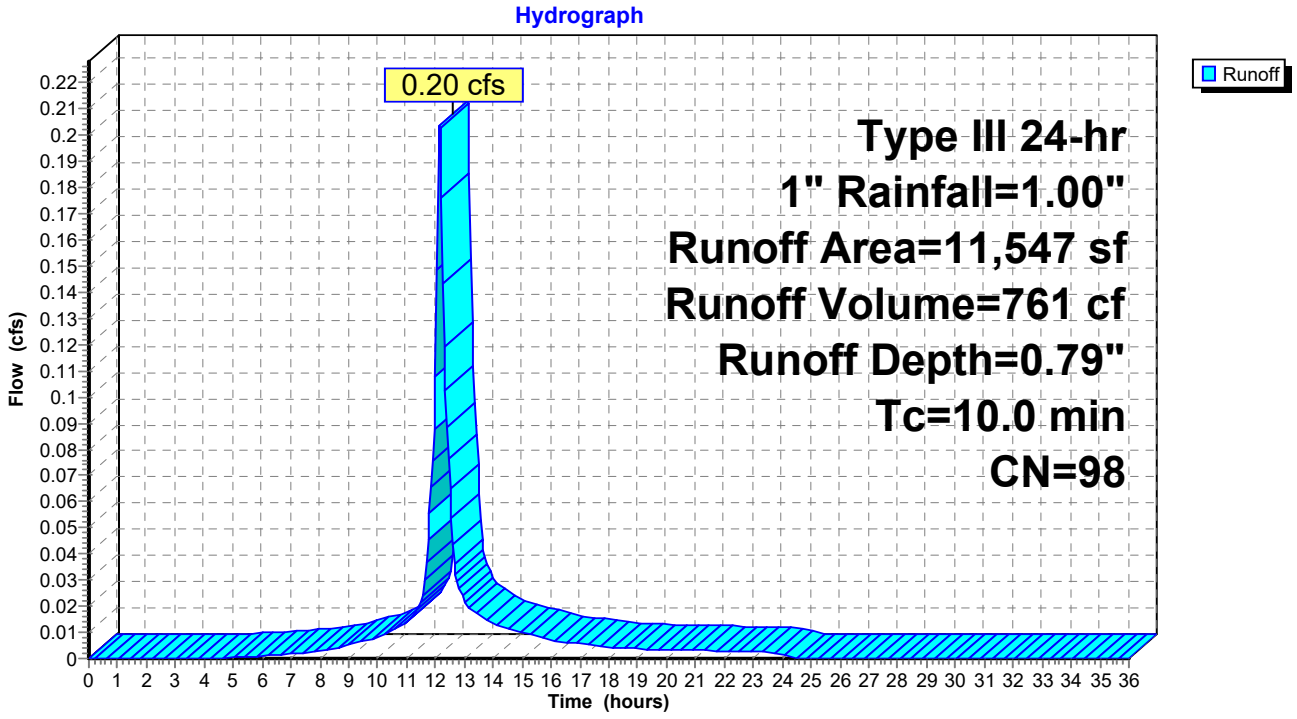
Runoff = 0.20 cfs @ 12.14 hrs, Volume= 761 cf, Depth= 0.79"
Routed to Pond INF-A : Chamber A (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
7,517	98	Paved parking, HSG A
4,030	98	Roofs, HSG A
11,547	98	Weighted Average
11,547		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: 3S (Impervious)



Summary for Subcatchment 4S: 4S (Impervious)

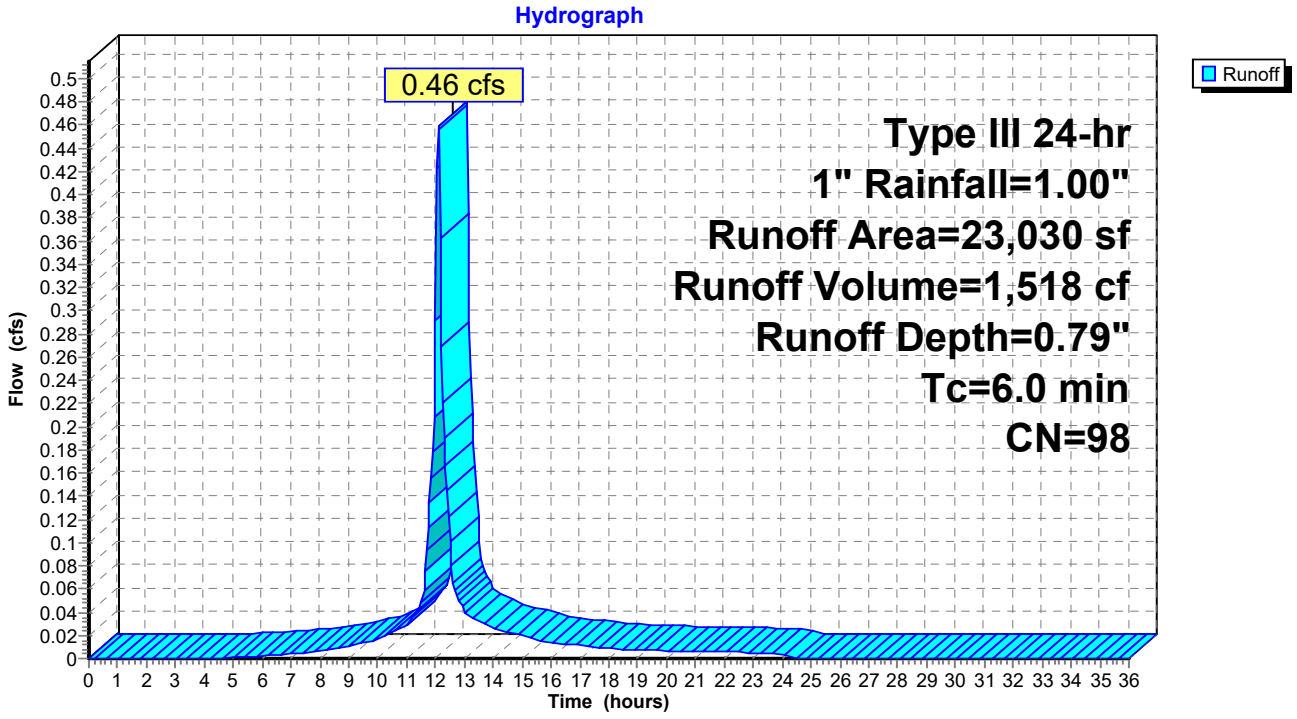
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf, Depth= 0.79"
Routed to Pond INF-B : Chamber B (MC-4500)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
13,068	98	Paved parking, HSG A
9,962	98	Roofs, HSG A
23,030	98	Weighted Average
23,030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: 4S (Impervious)



Summary for Pond INF-A: Chamber A (MC-4500)

Inflow Area = 45,925 sf,100.00% Impervious, Inflow Depth = 0.79" for 1" event
Inflow = 0.81 cfs @ 12.14 hrs, Volume= 3,027 cf
Outflow = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf, Atten= 74%, Lag= 0.0 min
Discarded = 0.21 cfs @ 11.85 hrs, Volume= 3,027 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond INF-B : Chamber B (MC-4500)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 115.25' @ 12.55 hrs Surf.Area= 1,113 sf Storage= 676 cf

Plug-Flow detention time= 17.4 min calculated for 3,023 cf (100% of inflow)
Center-of-Mass det. time= 17.4 min (809.0 - 791.6)

Volume	Invert	Avail.Storage	Storage Description
#1B	114.00'	2,024 cf	**10.33'W x 107.74'L x 7.00'H Field B** 7,793 cf Overall - 2,734 cf Embedded = 5,060 cf x 40.0% Voids
#2B	115.00'	2,734 cf	**ADS_StormTech MC-4500 +Cap** x 25 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		4,758 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	114.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	119.10'	**12.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.10' / 118.60' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	119.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.21 cfs @ 11.85 hrs HW=114.08' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=114.00' (Free Discharge)
↑└**2=Culvert** (Controls 0.00 cfs)
↑└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-A: Chamber A (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

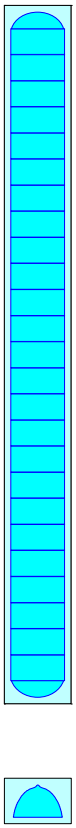
25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

25 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 2,733.7 cf Chamber Storage

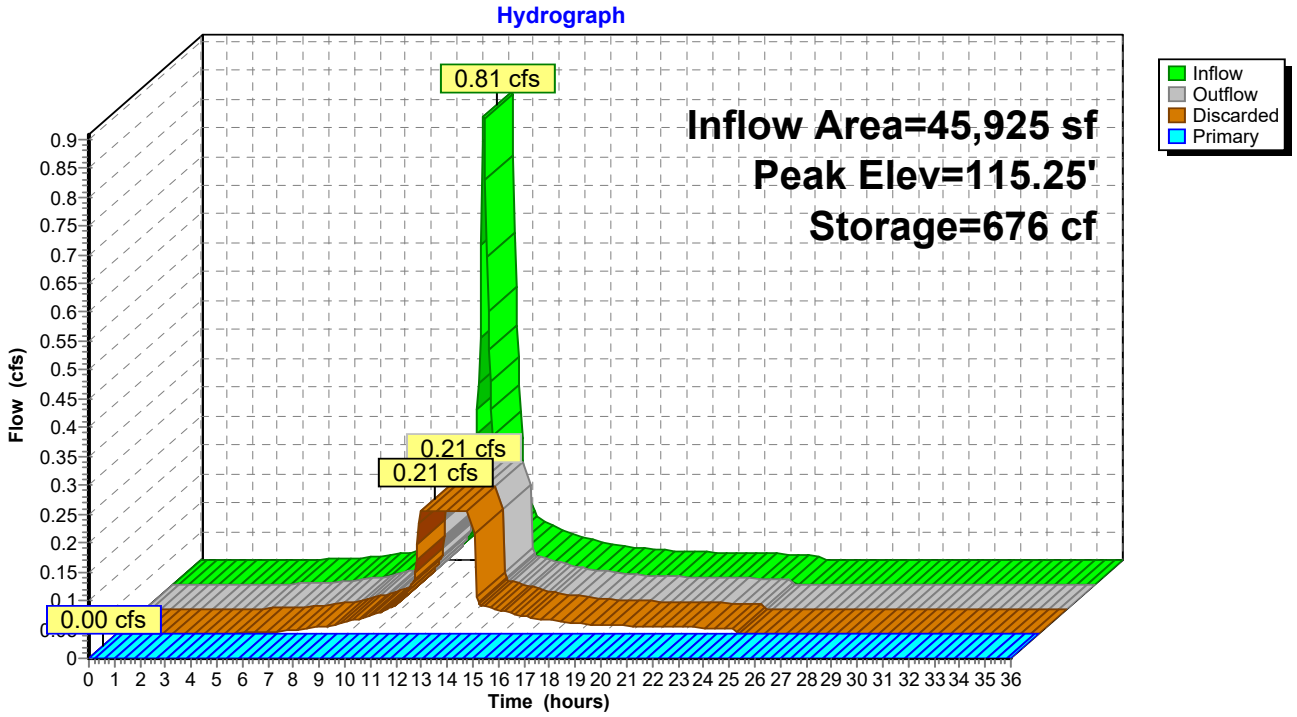
7,793.3 cf Field - 2,733.7 cf Chambers = 5,059.7 cf Stone x 40.0% Voids = 2,023.9 cf Stone Storage

Chamber Storage + Stone Storage = 4,757.5 cf = 0.109 af
Overall Storage Efficiency = 61.0%
Overall System Size = 107.74' x 10.33' x 7.00'

25 Chambers
288.6 cy Field
187.4 cy Stone



Pond INF-A: Chamber A (MC-4500)



Summary for Pond INF-B: Chamber B (MC-4500)

Inflow Area = 68,955 sf,100.00% Impervious, Inflow Depth = 0.26" for 1" event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 1,518 cf
Outflow = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf, Atten= 66%, Lag= 0.0 min
Discarded = 0.16 cfs @ 11.90 hrs, Volume= 1,518 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to nonexistent node POA-2

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 113.72' @ 12.37 hrs Surf.Area= 822 sf Storage= 236 cf

Plug-Flow detention time= 8.1 min calculated for 1,516 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (795.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1B	113.00'	1,507 cf	**10.33'W x 79.57'L x 7.00'H Field B** 5,755 cf Overall - 1,988 cf Embedded = 3,767 cf x 40.0% Voids
#2B	114.00'	1,988 cf	**ADS_StormTech MC-4500 +Cap** x 18 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf
		3,495 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.00'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	116.40'	**12.0" Round Culvert** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 116.40' / 116.15' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	118.15'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.16 cfs @ 11.90 hrs HW=113.07' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=113.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond INF-B: Chamber B (MC-4500) - Chamber Wizard Field B

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap, use MC-4500 b for new designs)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 35.7 cf x 2 x 1 rows = 71.4 cf

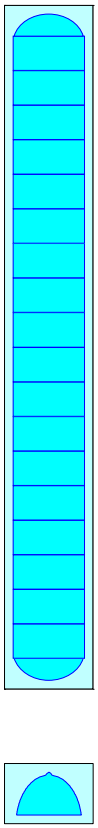
18 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 77.57' Row Length +12.0" End Stone x 2 = 79.57' Base Length
1 Rows x 100.0" Wide + 12.0" Side Stone x 2 = 10.33' Base Width
12.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 7.00' Field Height

18 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 1 Rows = 1,988.2 cf Chamber Storage

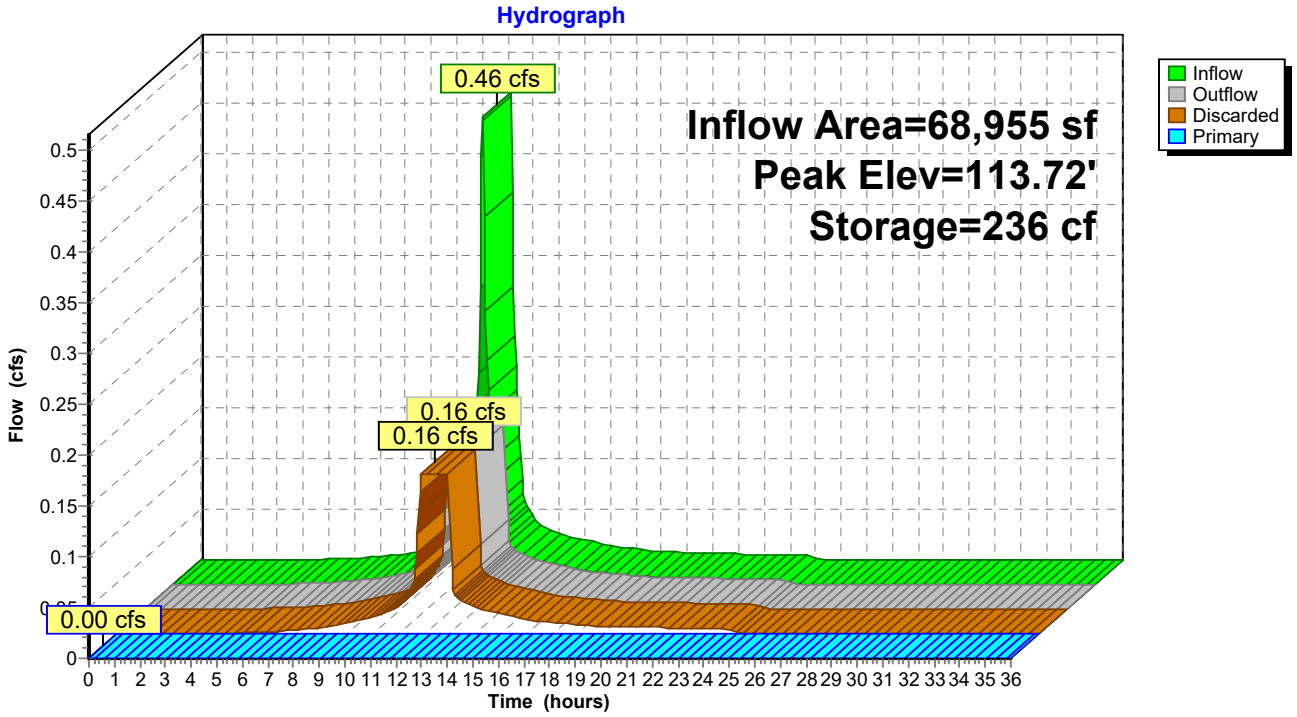
5,755.3 cf Field - 1,988.2 cf Chambers = 3,767.1 cf Stone x 40.0% Voids = 1,506.8 cf Stone Storage

Chamber Storage + Stone Storage = 3,495.1 cf = 0.080 af
Overall Storage Efficiency = 60.7%
Overall System Size = 79.57' x 10.33' x 7.00'

18 Chambers
213.2 cy Field
139.5 cy Stone



Pond INF-B: Chamber B (MC-4500)



INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Pre-Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%
	0.0%	53.4%	0%	53%

Total TSS Removal = 47%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Pretreatment rate is above 44% prior to Infiltration BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (INF-A, INF-B)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
Subsurface Infiltration Chambers	80.0%	53.4%	43%	11%
	0.0%	10.7%	0%	11%

Total TSS Removal = 89%

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

Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Treatment Train (P-1)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95.0%
Infiltration Pond	80.0%	95.0%	76%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%

Total TSS Removal = 81%

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

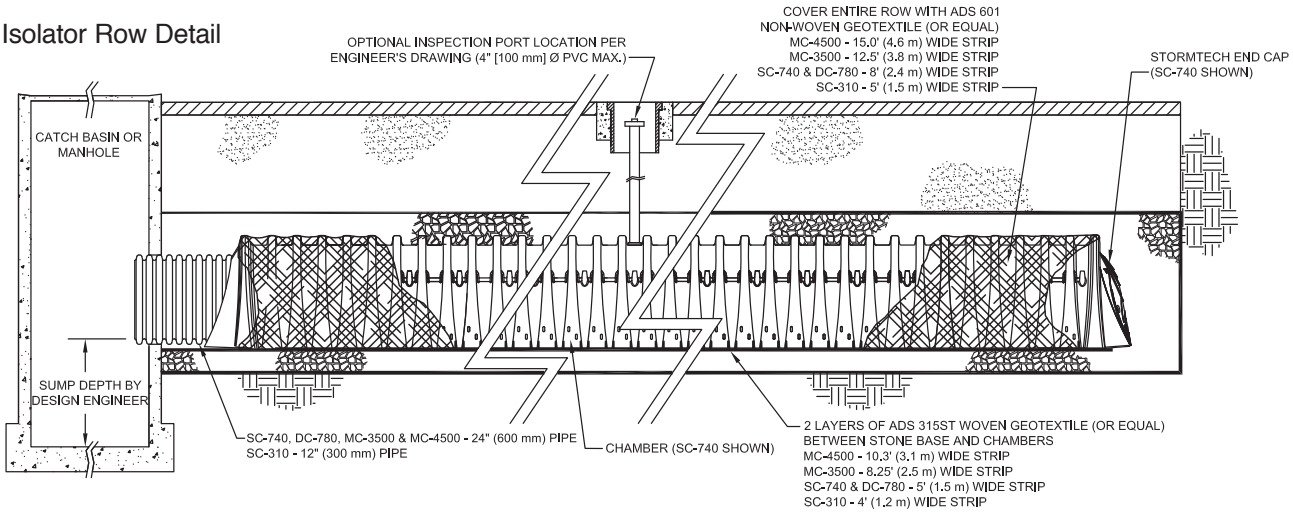
Project: Truro DPW
Prepared By: CTP
Date: 10/7/2025

Treatment rate is above 80%

StormTech and Stormwater Quality

StormTech's patented Isolator™ Row is a row of chambers wrapped in a geotextile which filters the stormwater trapping pollutants in the row. The Isolator Row provides a way to inspect and maintain the system.

Isolator Row Detail



Note: For many applications, the non-woven geotextile over the DC-780, MC-3500 and MC-4500 Isolator Row chambers can be eliminated or substituted with the AASHTO Class 1 woven geotextile. Contact your StormTech representative for assistance.

Isolator Row Field Verification Testing at the University of New Hampshire Stormwater Center

- Field testing (TARP tier II protocol) of the Isolator Row has been ongoing since December 2006.
- Removal efficiencies for TSS have improved as the filter cake has built up on the bottom fabric of the Isolator Row.
- Current data shows a TSS removal efficiency which exceeds 80%.

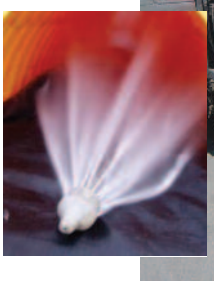


Removal Efficiency Results:

- Total Suspended Solids = 80%
- Phosphorous = 49%
- Total Petroleum Hydrocarbons = 90%
- Zinc = 53%

This system achieves a removal efficiency of 80% for TSS which meets most municipal recommended levels for water quality treatment.





Inspection and Maintenance

The Isolator Row can be inspected through the upstream manhole or optional inspection port.

Maintenance is easily accomplished with the JetVac process.

The frequency of inspection and maintenance varies by location. Contact StormTech for assistance with inspection and maintenance scheduling.

StormTech Isolator Row

UNH EXCERPT STARTS HERE



The StormTech Isolator Row is an effective filtration/infiltration system best suited to locations where space is at a premium and the system's relatively expensive installation cost can be offset by increasing available space for development.

About the StormTech Isolator Row

The StormTech Isolator Row is a manufactured system designed to provide subsurface water quality treatment and easy access for maintenance. It is typically used to remove pollution from runoff before it flows into unlined infiltration chambers designed for detention and water quantity control. The Isolator Row consists of a series of StormTech chambers installed over a layer of woven geotextile, which sits on a crushed stone infiltration bed surrounded with filter fabric. The bed is directly connected to an upstream manhole for maintenance access and large storm bypass. At UNHSC, the Isolator Row has met a TSS median annual removal standard of 80 percent, and exhibited an enhanced capacity to remove phosphorus. The Isolator Row is well suited for urban environments where space is at a premium.

Implementation

The StormTech Isolator Row is part of a class of manufactured, subsurface filtration/infiltration systems that are being used more and more throughout the United States. In general, these systems are best suited to locations where above ground space is at a premium. They are often used in urban areas, where they are located beneath parking lots and other infrastructure. As with any infiltration system, care must be taken when locating these systems near pollution hotspots, or where seasonal high groundwater levels may lead to groundwater contamination. In such cases, if installed, the systems should be lined to prevent infiltration into groundwater, and outfitted with subdrains that discharge to the surface. Designs for the StormTech Isolator Row are available from the manufacturer.

System Performance

Cost & Maintenance

While subsurface HDPE systems such as the Isolator Row tend to be more expensive than conventional stormwater treatments like retention ponds, the costs are ameliorated by the increase in available space for development. The cost to install a StormTech Isolator Row system large enough to treat runoff from one acre of impervious surface was $34,000 in 2006.

In more than two years of operation, the system is at less than 50 percent of its recommended maintenance trigger point. Maintenance should be conducted when the sediment in the chambers reaches approximately three inches in depth according to recommendations from the manufacturer. Sediment accumulation can be monitored through inspection ports. When maintenance is needed, the entire row can be

Fast Facts

CATEGORY / BMP TYPE
Filtration, Infiltration, Manufactured Treatment Device

UNIT OPERATIONS & PROCESSES
Hydrologic (Flow Alteration)

Water Quality: Physical (Sedimentation, Filtration) & Chemical (Sorption)

DESIGN SOURCE
StormTech, LLC

BASIC DIMENSIONS
Chamber: 51" wide X 30" high X 85.4" long

SPECIFICATIONS
Catchment Area: 1 acre
Water Quality Flow: 1 cfs
Water Quality Volume: 3,300 cf

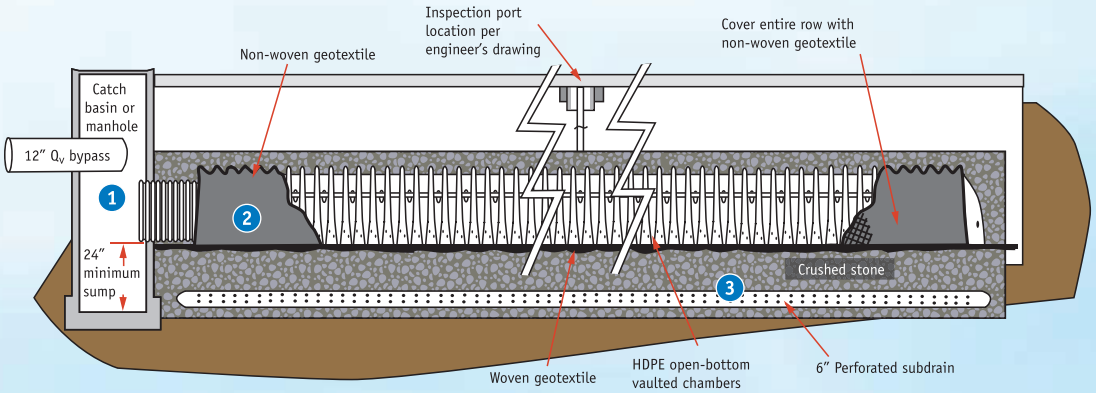
INSTALLATION COST
$34,000 per acre treated

MAINTENANCE
Maintenance Sensitivity: Low
Inspections: High
Sediment Removal: Moderate

How the System Works

WATER QUALITY TREATMENT PROCESS ▼

1. Runoff flows into the Isolator Row chambers from a catchbasin or pipe.
2. Runoff slowly passes from the chambers through a woven geotextile fabric and into the crushed stone reservoir below the system. The runoff passes through the fabric, leaving behind sediments and associated contaminants through the physical unit operations of filtration and sedimentation. As an organic filter cake develops over the fabric, phosphorus is also removed via the chemical process of sorption.
3. Filtered runoff collects in a perforated subdrain and returns to a storm drain system, infiltrates into the subgrade, or is discharged to the surface.



washed clean through an access manhole and by a hydro-jet with sediment removed by vactoring (vacuuming). Entry into the system is considered a confined space entry and requires trained personnel and equipment.

During two years of evaluation at UNHSC, the Isolator Row has accumulated, at most, one and one half inches of sediment in its chambers. As a result, researchers have not performed maintenance on the system. The Isolator Row presents an interesting opportunity to study the relationship between maintenance and performance. Researchers have observed enhanced phosphorus removal as the system develops an organic filter cake between the chambers and the woven geotextile fabric that lies beneath them. This enhancement is tempered by the likelihood that, as the filter cake continues to grow, hydraulic efficiency will decline and more runoff will bypass the system untreated until maintenance is performed. Analyses are underway to develop maintenance recommendations that balance and optimize the water quality and water quantity management abilities of this system.

Cold Climate

This system's water quality treatment and volume control capacity remained strong in all seasons, reinforcing the conclusion that filtration and infiltration systems perform well, even in cold climates.

Water Quality Treatment

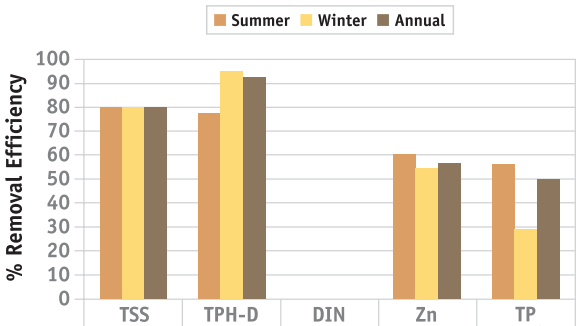
The StormTech Isolator Row system does a good job of reducing the concentration of common pollutants associated with stormwater performance assessment with the exception of nitrogen. It generally meets EPA's recommended level of removal for total suspended solids, and meets regional ambient water quality criteria for heavy metals and petroleum hydrocarbons. The system has a capacity to achieve modest levels of total phosphorus removal, which may be enhanced over time. (See Cost & Maintenance Section.) The lack of nitrogen treatment is typical for non-vegetated aerobic systems. Nutrient load reduction would be further increased through volume reduction by infiltration. Like all other systems monitored at UNHSC, it does not provide chloride removal.

The chart at top right reflects the system's performance in removing total suspended solids, total petroleum hydrocarbons, dissolved inorganic nitrogen, total phosphorus, and zinc. Values represent results recorded over a two-year monitoring period, with the data further divided into summer and winter components.

Water Quantity Control

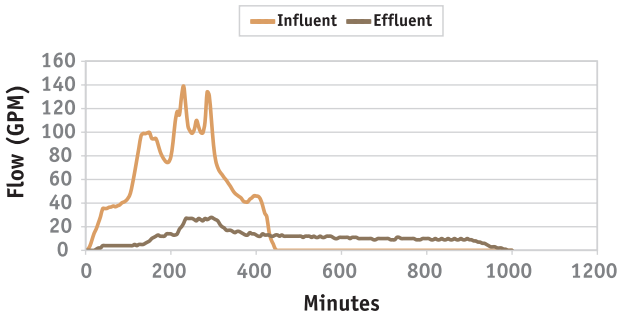
Like other infiltration and filtration systems, the StormTech Isolator Row system exhibits the capacity to reduce peak flows and could be used to reduce runoff volume in appropriate soils, such as those belonging to groups "A" or "B." The figure at bottom right provides information on peak flow reduction and lag times for the system.

POLLUTANT REMOVAL: 2006–2008



Median Annual Influent Event Mean Concentrations (EMC) in mg/L				
48	860 ug/L	.2	.04	.08

HYDRAULIC PERFORMANCE



	Winter	Summer	Annual Average
Average Peak Flow Reduction	71%	81%	76%
Average Lag Time (minutes)	358	190	274

SYSTEM DESIGN

The StormTech Isolator Row is designed to provide subsurface water quality treatment for small storms. The manufacturer adapts the system's design in accordance with local watershed conditions and target treatment objectives.

Chamber units are made of high-density polyethylene (HDPE) pipe and are designed to bear loads consistent with those experienced by parking lots. The UNHSC chamber dimensions are 51 x 30 x 85.4 inches and can be linked together to form linear rows up to 200 feet long. The chambers are laid over woven geotextile, which rests on an infiltration base composed of one foot of three quarter inch crushed stone. The entire excavation is then wrapped in nonwoven geotextile to protect the system from the migration of fine particles from the surrounding soil.

A three- to five-foot separation from seasonal high groundwater table (as designated by regulations) is necessary to minimize the potential for groundwater contamination. Stormwater flows of up to one cubic foot per second (cfs) enter the system through an upstream manhole or other flow diverter. This is representative of flow-based sizing of a BMP common for devices that have limited detention or storage. Such devices are often better described by a maximum treatable flow rate as opposed to a treatment volume.

A bypass is incorporated in the StormTech system where flows exceeding the design rate are bypassed around the device and flow directly into adjacent chambers that can be sized to treat the CP_v and Q_p. Because of the bypass design, maintenance requirements are extremely important. A poorly maintained device would bypass prematurely into the unlined chamber systems and eventually clog subsurface soils resulting in system failure.

APPENDIX D

To meet the requirements of Standard 4 of the Massachusetts Stormwater Handbook, this Long-Term Pollution Prevention Plan is provided to identify the proper procedures of practices for source control and pollution prevention.

STORAGE AND HANDLING OF OIL AND OTHER HAZARDOUS MATERIALS

All oil products and other hazardous materials stored in quantities greater than or equal to 55 gallons will be stored in double walled tanks or provided with other means of secondary containment.

The handling/use of oil and vehicle maintenance fluids will be conducted in the vehicle maintenance and/or shop area of the facility, which will be equipped with floor drains connected to an oil/gas/sand separator prior to discharge to a tight tank.

VEHICLE STORAGE AND WASHING

Vehicles will be stored within the building. Areas under cover or out in the open will be monitored for any potential contamination to the infiltration system or resource areas. Vehicle washing will be performed in the vehicle wash bay of the facility. Wash water will be collected by floor drains located within the wash bay and will be piped to a tight tank. The exterior knock down pad for rinsing vehicles will be treated with a deep sump hooded catch basin and a water quality structure prior to infiltration. This vehicle rinsing area will be registered with the DEP in accordance with the Underground Injection Control (UIC) regulations.

OPERATION AND MAINTENANCE OF STORMWATER CONTROL STRUCTURES

Included in this Appendix is the Operation and Maintenance plan for this site, which includes street sweeping of the paved areas and periodic removal of sediment from catch basins and other stormwater structures. The Department of Public Works will be responsible for the implementation of the plan.

MATERIAL STORAGE AREA

The material storage bins will be inspected and maintained, as required, to prevent erosion or any potential contamination to the infiltration system or resource areas.

LANDSCAPING

The landscaped areas will be maintained by the Department of Public Works. Fertilizers, if stored on site, will be stored under cover and no fertilizers will be stored within the buffer zone.

PET WASTE MANAGEMENT

It is not expected that pets will be accessing the facility; therefore, it is not necessary to design to manage pet waste.

SEPTIC SYSTEM

Wastewater will be generated in the building. This system will be constructed, operated, and maintained in accordance with Title V regulations. Discharges of industrial wastewater will not be permitted to the septic system and will be limited to tight tanks, as described above.

DE-ICING & SNOW DISPOSAL

The DPW intends to utilize salt and sand to treat the paved surfaces of the driveways and main circulation areas during snow and ice events. Salt will be stored inside the proposed salt shed on site. Snow storage will consist of pushing snow into grassed areas along the perimeter of the property.

SECTION 1 – INTRODUCTION

The project consists of construction of a new public works facility in Truro, MA. The new facility will be constructed on the site currently occupied by the existing public works facility, located at 24 Town Hall Road in Truro, MA. The work includes clearing and grubbing, pavement removal, construction of a pre-engineered metal building and salt storage structure, full-depth pavement construction and curbing, new closed drainage system, site utilities, new sidewalks, pavement markings, signage, loam and seed, plantings, and other incidental work.

As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no disturbance to the wetland resource is created during the construction of these repairs.

SECTION 2 – CONSTRUCTION PERIOD POLLUTION PREVENTION MEASURES

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the Wetlands Protection Act (WPA) and MassDEP Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. All recommended control practices will comply with the standards set in the MassDEP Stormwater Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

To minimize disturbed areas, all work will be completed within well-defined work limits. These work limits are shown on the site plans included with this submission. The Contractor shall not disturb native vegetation in any undisturbed area without prior approval from the Engineer. The Contractor will be responsible to make sure that all workers know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

The Contractor will be required to install compost filter tubes between the work area and the wetland resource area.

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during the project. The soils will be exposed for no longer that one week.

2.4 Proper storage and cover of any stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site, or areas to be cleared as a part of this project, and shall require written approval of the Engineer.

Adequate measures for erosion and sediment control such as the placement of compost filter tubes around the downstream perimeter of stockpiles, and in front of water body, shall be employed to protect any downstream areas from siltation.

The Engineer may designate an area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control lines as described in Section 5 will be utilized to ensure that no sedimentation occurs outside the perimeter of the work area.

2.6 Storm Drain Inlet Protection

Catch basin protection will be implemented for all catch basins affected by the work area. Inlet sediment control will be placed within the catch basin to minimize sediment loading into the catch basin.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor all erosion control measures. Whenever necessary, the Contractor will clear all sediment from the compost filter tubes. Daily monitoring should be conducted using the attached Inspection Form.

2.8 Material Handling and Waste Management

All materials stored on-site will be stored in a neat, orderly manner in appropriate containers. All materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer.

All waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for all waste removal. Manufacturer's recommendations for proper use and disposal will be followed for all materials.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own plants, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site oil-absorbing mats will be placed under all equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site except to remove sediments prior to transport from the site.

SECTION 3 – SPILL PREVENTION AND CONTROL PLAN

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

All workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification is to the DEP. The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms, or all of the above, to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site

personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above-mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4 – CONTACT INFORMATION/RESPONSIBLE PARTIES

Owner/Operator:
Jarrod Cabral, Director
Dept. of Public Works
17 Town Hall Road
Truro, MA 02666
508-349-2140

Engineer:
Alyssa Peck, PE
Weston & Sampson, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
800-SAMPSON

Site Inspector:
TBD

Contractor:
TBD

SECTION 5 – EROSION AND SEDIMENTATION CONTROL

Erosion and Sedimentation Control details and layout can be found in the attached plan set. In addition, a technical specification (Environmental Protection) has been included with this report, which details all Erosion and Sedimentation controls.

SECTION 6 – SITE DEVELOPMENT PLAN

The Site Development Plan is included in the attached plan set.

SECTION 7 – OPERATION AND MAINTENANCE OF EROSION CONTROL

The erosion control measures will be installed as detailed in the technical specification. Environmental Protection. If there is a failure to the controls, the Contractor will be required to stop work until the failure is repaired.

Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8 – OPERATION AND MAINTENANCE OF EROSION CONTROL

During construction the erosion and sedimentation controls will be inspected daily. Once the contractor is selected, an on-site inspector will be selected to work closely with the Engineer to ensure that all erosion and sedimentation controls are in place and working properly. An Inspection Form is included.

Inspection Form

Inspected By: _____ Date: _____Time:_____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

Specific location, current weather conditions, and action to be taken:

_____

_____

_____

_____

_____

Other Comments:

_____

_____

Pending the actions noted above I certify that the site is in compliance with the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.

Signature:_____ Date: _____

SECTION I – PURPOSE/INTENT

The purpose of this document is to provide for the health, safety, and general welfare of the citizens of Truro, Massachusetts through the regulation of non-stormwater discharges into existing outstanding resource areas near the proposed public works facility site to the maximum extent practicable, as required by federal and state law. This document establishes methods for controlling the introduction of pollutants into existing outstanding resource areas to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

SECTION II - DEFINITIONS

For the purposes of this statement, the following shall mean:

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to the Massachusetts Erosion and Sedimentation Control Act or NPDES Construction Permits. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Connection: An illegal connection is defined as either of the following:

a. Any pipe, open channel, drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the outstanding resource area including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water, regardless of whether said drain or connection has been previously allowed, permitted, or approved by an authorized enforcement agency; or
b. Any pipe, open channel, drain or conveyance connected to the Town of Truro storm water treatment system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit Discharge: Any direct or indirect non-stormwater discharge to the Town of Truro stormwater treatment system, except as exempted in Section II of this ordinance.

Industrial Activity: Activities subject to NPDES Industrial Permits as defined in 40CFR, Section 122.26 (b) (14).

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit: A permit issued by MassDEP under authority delegated pursuant to 33 USC § 1342 (b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Town of Truro Stormwater Treatment System: Any facility, owned or maintained by the town, designed or used for collecting and/or conveying stormwater, including but not limited to roads with drainage systems, Town of Truro streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, infiltration, retention and detention basins, natural and man-made or altered drainage channels, reservoirs, and other drainage structures.

Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Person: Any individual, association, organization, partnership, firm, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of the State, interstate body, or any other legal entity.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents (biodegradable or otherwise); degreasers; cleaning chemicals; non-hazardous liquid and solid wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; concrete and cement; and noxious or offensive matter of any kind.

Pollution: Contamination or other alteration of any water's physical, chemical, or biological properties by addition of any constituent including but not limited to a change in temperature, taste, color, turbidity, or odor of such waters, or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, welfare, or environment, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

Wastewater: Any water or other liquid discharged from a facility, that has been used, as for washing, flushing, or in a manufacturing process, and so contains waste products.

SECTION III - PROHIBITIONS

Prohibition of Illicit Discharges:

No person shall throw, drain, or otherwise discharge, cause or allow others under its control to throw, drain, or otherwise discharge into the Town of Truro stormwater treatment system or watercourses any materials, including but not limited to, any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct, or continuance of any illicit discharge to the storm drain system is prohibited except as described as follows:

1. Water line flushing performed by a government agency, other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, natural riparian habitat or wetland flows, and any other water source not containing pollutants;

2. Discharges or flows from firefighting, and other discharges specified in writing by the Town of Truro as being necessary to protect public health and safety;

3. Dye testing is an allowable discharge, but requires a verbal notification to the Town of Truro prior to the time of the test;

4. Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for a discharge to the Town of Truro stormwater treatment system.

SECTION IV – INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Town of Truro Department of Public Works prior to allowing discharges to the Arlington stormwater treatment system.

SECTION V – NOTIFICATION OF SPILLS AND ACCIDENTAL DISCHARGES

Notwithstanding other requirements of law, as soon as any person responsible for a facility, activity or operation, or responsible for emergency response for a facility, activity or operation has information of any known or suspected release of pollutants or non-stormwater discharges from that facility, activity, or operation which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the Town of Truro stormwater treatment system, State Waters, or Waters of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release so as to minimize the effects of the discharge. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Town of Truro Department of Public Works in person or by phone no later than the next business day, including the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice, via certified mail return receipt requested addressed to the Town of Truro Department of Public Works within three (3) business days of the initial notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

IN WITNESS WHEREOF the parties hereto have executed copies of this Agreement on the 15th day of October, 2025.

Jarrod Cabral, Director
Department of Public Works

Operation and Maintenance Plan

Truro New Department of Public Works Facility

SECTION 1 – INTRODUCTION

The following document has been written to comply with the stormwater guidelines set forth by the Massachusetts Department of Environmental Protection (MassDEP). The intent of these guidelines is to encourage Low Impact Development techniques to improve the quality of the stormwater runoff. These techniques, also known as Best Management Practices (BMPs) collect, store, and treat the runoff before discharging to adjacent environmental resources.

SECTION 2 - PURPOSE

This Operation and Maintenance Plan (O&M Plan) is intended to provide a mechanism for the consistent inspection and maintenance of each BMP installed on the project site. Included in this O&M Plan is a description of each BMP type and an inspection form for each BMP. The Town of Truro is the owner and operator of the system and is responsible for its upkeep and maintenance. This work will be funded on an annual basis through the Town's operating budget. The estimated budget to maintain these BMPs utilizing the Department of Public Works workforce and equipment is approximately $10,000 per year. This budget assumes that Town equipment will be utilized, and no additional equipment rental is required.

In the event the Town sells the property, it is the Town's responsibility to transfer this plan, as well as the past three years of operation and maintenance records, to the new property owner. The Owner shall also notify the planning board or its agent of the changes in ownership or assignment of financial responsibility.

SECTION 3 – BMP DESCRIPTION AND LOCATIONS

3.1 Street Sweeping

Street sweeping consists of using a street sweeping machine to clean impervious areas of accumulated sediment, debris, and trash at the parking areas surrounding the public works facility.

3.2 Deep Sump Hooded Catch Basins

Deep sump catch basins utilizing catch basin hoods will be located throughout the site and used as pre-treatment before entering the infiltration systems or other Town stormwater infrastructure. The deep sump catch basins are designed to remove trash, debris, hydrocarbons, and coarse sediment from the stormwater runoff.

3.3 Outlet Control Structure

The outlet control structures are used to control discharges from captured stormwater. They release the water in a controlled manner to control peak discharges.

3.4 Drain Manholes

Drain Manholes will be located throughout the site and used to convey and redirect stormwater collected from deep sump catch basins. They allow for access, connection points, and change-in-

direction points in the underground drainage system.

3.5 Surface Infiltration Pond

There will be surface infiltration pond located on the site. The surface infiltration pond was designed for storage capacity, peak flow reduction, and residence time for suspended solids to settle prior to infiltration

3.6 Subsurface Infiltration chambers

There will be four subsurface infiltration systems built on site that will receive and treat stormwater. The infiltration chambers are designed to be constructed upon a layer of crushed stone to promote infiltration of stormwater. The storage provided by the chambers assist with mitigation of peak rate run off and pollutant removal.

SECTION 4 – INSPECTION, MAINTENANCE, AND SCHEDULE

4.1 Street Sweeping

Street sweeping shall be performed on all impervious surfaces on a quarterly basis, with sweeping performed primarily in the spring and fall. Street sweeping shall be performed using a high efficiency vacuum street sweeping machine or a regenerative air sweeper. A mechanical rotary broom sweeper may be used if sweeping is performed on a monthly basis.

In the event of contamination by a spill or other means, all street sweeping cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, street sweeping cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.2 Deep Sump Hooded Catch Basins and Outlet Control Structures

Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons. Sediments must be removed whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. The structures should be cleaned a minimum of four times per year regardless of the amount of sediment in the basin. The site is considered a land use with a higher potential pollutant load, therefore if catch basins are found to be filled to capacity with sediment during a cleaning, the frequency of cleaning shall be increased. Catch basins and outlet control structures shall be cleaned with clamshell buckets or by hand tools where necessary. Catch basin hoods shall be inspected annually. Open and close the access hatch and flush or rod the anti-siphon device to ensure proper operation.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance

with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, catch basin cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.3 Drain Manholes

Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins. Remove all accumulated sediments and debris, and dispose of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

In the event of contamination by a spill or other means, all cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000 and handled as hazardous waste.

In the absence of evidence of contamination, manhole cleanings may be taken to a landfill or other facility permitted by MassDEP to accept Solid Waste without any prior approval by MassDEP. Please note that current MassDEP regulations prevent landfills from accepting materials that contain free-draining liquids.

4.4 Surface Infiltration Pond

The surface infiltration pond shall be inspected monthly in the first year and every six months thereafter. Maintenance of vegetation after establishment shall include pruning and weeding to maintain appearance. Weeding is especially important during the plant establishment period, when vegetation cover is not 100 percent yet, but some weeding will likely always be needed. Some plant replacement (at least 5 to 10 percent of the original plantings) during the first few years after planting may be necessary, in case some of the plants that were originally planted die. All accumulated sediment and debris in the infiltration pond should be removed and disposed of according to local, state and federal regulations. Trash removal is important for prevention of mosquitoes.

4.5 Subsurface Infiltration Chambers

The isolation row in the subsurface structures shall be inspected every six months during the first year, and annually thereafter. Inspection may be conducted from the surface using inspection ports. A stadia rod may be inserted to determine the depth of sediment. If upon visual inspection it is found that sediment has accumulated to an average depth exceeding 3-inches, cleanout is required. Cleaning out of the isolator row may be performed with a JetVac process as recommended by the manufacturer as shown in Attachment D Isolator row documentation

4.6 Inspections and Record Keeping

- An inspection form should be filled out every time maintenance work is performed.

- A binder should be kept at the Public Works Facility that contains all the completed inspection forms and any other related materials.

- A review of all Operation & Maintenance actions should take place annually to ensure that these Stormwater BMPs are being taken care of in the manner described in this Operation & Maintenance Plan.

- All operation and maintenance log forms for the last three years, at a minimum, shall be kept on site at the Public Works Facility.

The inspection and maintenance schedule may be refined in the future based on the findings and results of this operation and maintenance program or policy.

SECTION 5 – GENERAL GOOD HOUSEKEEPING PRACTICES

All non-hazardous waste shall be stored in designated trash or recycling containers onsite for periodic collection by the local trash collector. The owner shall have maintenance staff who monitor the site for the accumulation of trash. Any trash that is seen onsite shall immediately be collected and placed into designated trash or recycling containers. The owner's maintenance staff shall make an inspection of the site once per week at minimum.

SECTION 6 - ANNUAL REPORTING

The owner must keep annual reports regarding the inspection and maintenance of the BMPs at the Public Works Facility. The reports must include:

1. Description of the conditions of the BMPs
2. Description of maintenance performed
3. Receipts for maintenance performed

SECTION 7 – OWNER MAINTENANCE AGREEMENT

The stormwater management system shall be owned and maintained by the following party:

Jarrod Cabral
Director of Public Works
17 Town Hall Road
Truro, MA 02666

The owner of the stormwater management system has reviewed and understands the contents of this Stormwater Operation and Maintenance Plan. The signature below constitutes the owner's commitment to maintain the stormwater system in accordance with this plan.

Signature: 

Jarrod Cabral, DPW Director

☐ Street Sweeping

Frequency: Quarterly average, primarily in the spring and fall if using a high efficiency vacuum sweeper or regenerative air sweeper. Monthly, if using a mechanical rotary broom sweeper.

Location: Parking Lots and Driveways

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Sweep all impervious areas, including parking lots, driveways, and roadways using high efficiency vacuum street sweeping machine, regenerative air sweeper, or mechanical rotary broom sweeper. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations

☐ Deep Sump Catch Basins & Outlet Control Structures

Frequency: Inspect and/or clean catch basin and outlet control structures at least four times per year and at the end of foliage and snow removal seasons.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year or whenever the depth of the deposits is greater than or equal to one half the depth from the bottom of the invert to the lowest pipe in the structure. Open and close hood and check anti-siphon vent for clogging.

☐ Drain Manholes

Frequency: Inspect and/or clean drain manholes at least four times per year while inspecting the catch basins.

Structure Number: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions: Clean units four times per year at a minimum, or whenever catch basins are inspected. Remove sediment and debris. All debris, and sediments should be disposed of in accordance with local, state, and federal regulations. Drain Manholes shall be cleaned with clamshell buckets or by hand tools where necessary.

☐ Surface Infiltration Pond

Frequency: The infiltration pond shall be inspected every semi-annually

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

Actions Taken: _____
_____
_____

Instructions:

As needed

- Prune and weed to maintain appearance
- Stabilize or replace mulch when erosion is evident
- Remove trash and debris
- Mow filter strip
- Renew mulch to replace that which has broken down into organic matter
- Replace vegetation whenever percent cover of acceptable vegetation falls below 90 percent or project specific performance requirements are not met. If vegetation suffers for no apparent reason, consult with horticulturist and/or test soil as needed.

Semi-annually

- Inspect inflow points for clogging (off-line systems) and remove any sediment
- Inspect filter strip/grass channel for erosion or gullying and sod as necessary
- Herbaceous vegetation and shrubs should be inspected to evaluate their health and replanted as appropriate
- Remove any dead or severely diseased vegetation

Annually in fall

- Inspect and remove any sediment and debris build-up.
- Inspect inflow points and bioretention surface for build-up of road sand associated with spring melt period, remove as necessary and replant areas that have been impacted by sand/salt build up.

Annually in spring

- Cut back and remove previous years plant material and remove accumulated leaves if needed.

☐ Subsurface Infiltration Chambers

Frequency: The Subsurface Infiltration Chambers should be inspected every six months during the first year and annually thereafter.

Structure No.: _____

Inspected By: _____ Date: _____

Observations: _____
_____
_____

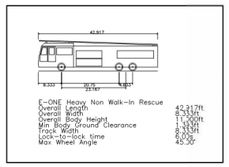
Actions Taken: _____
_____
_____

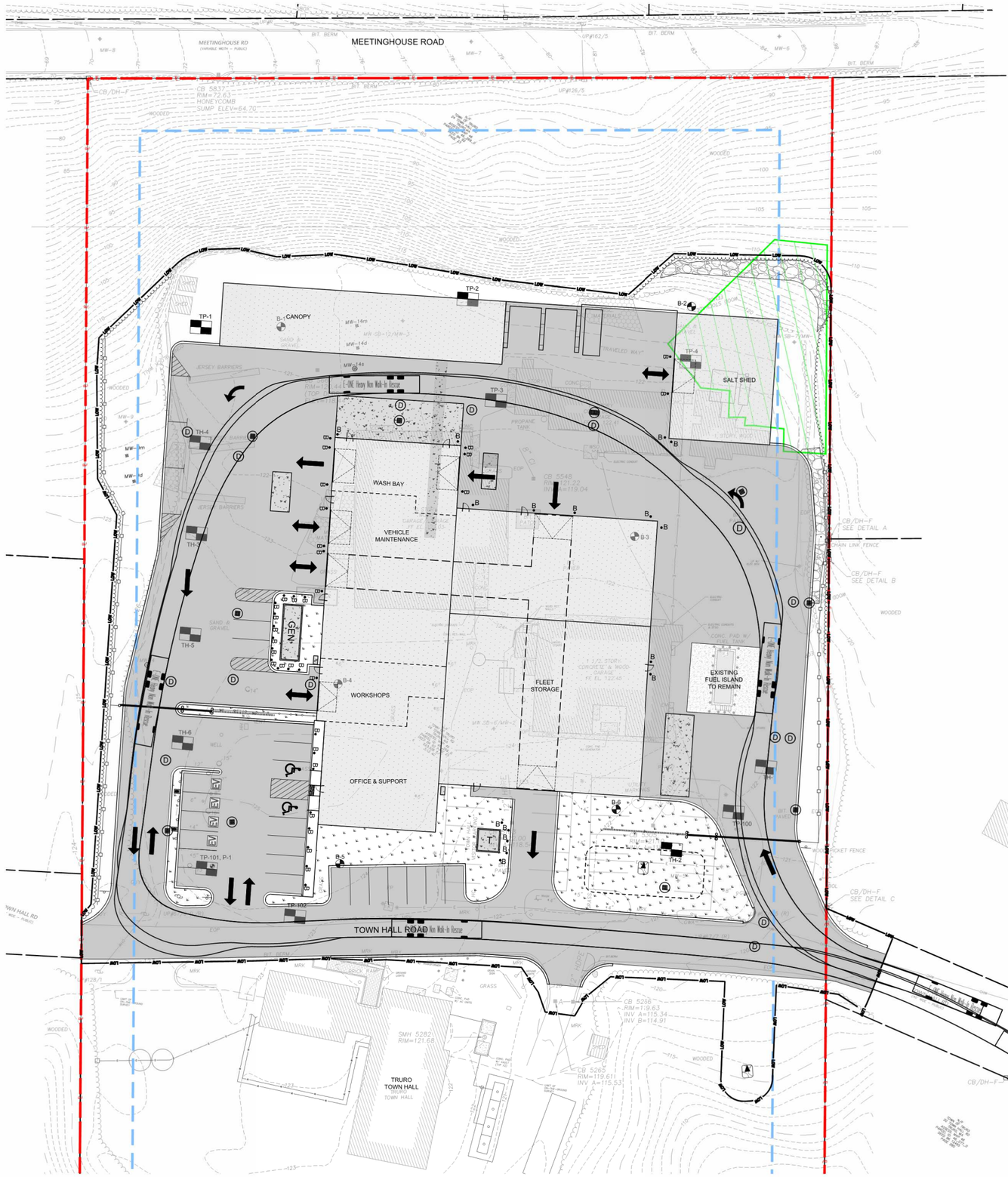
Instructions: Inspect underground isolation rows of chambers via manholes or inspection ports. Use reverse water jet to pull sediment back into manhole. Remove sediment, and dispose of in accordance with local, state, and federal regulations.

Check that the subsurface infiltration chambers are draining completely within 72 hours of rain events. All trash, debris, and sediments should be disposed of in accordance with local, state, and federal regulations.

Appendix C

Truck Turning Circulation Plans





0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

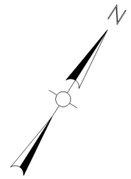
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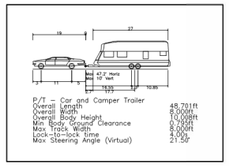
TRUCK TURNING PLAN
FIRE TRUCK CIRCULATION

Sheet Number:

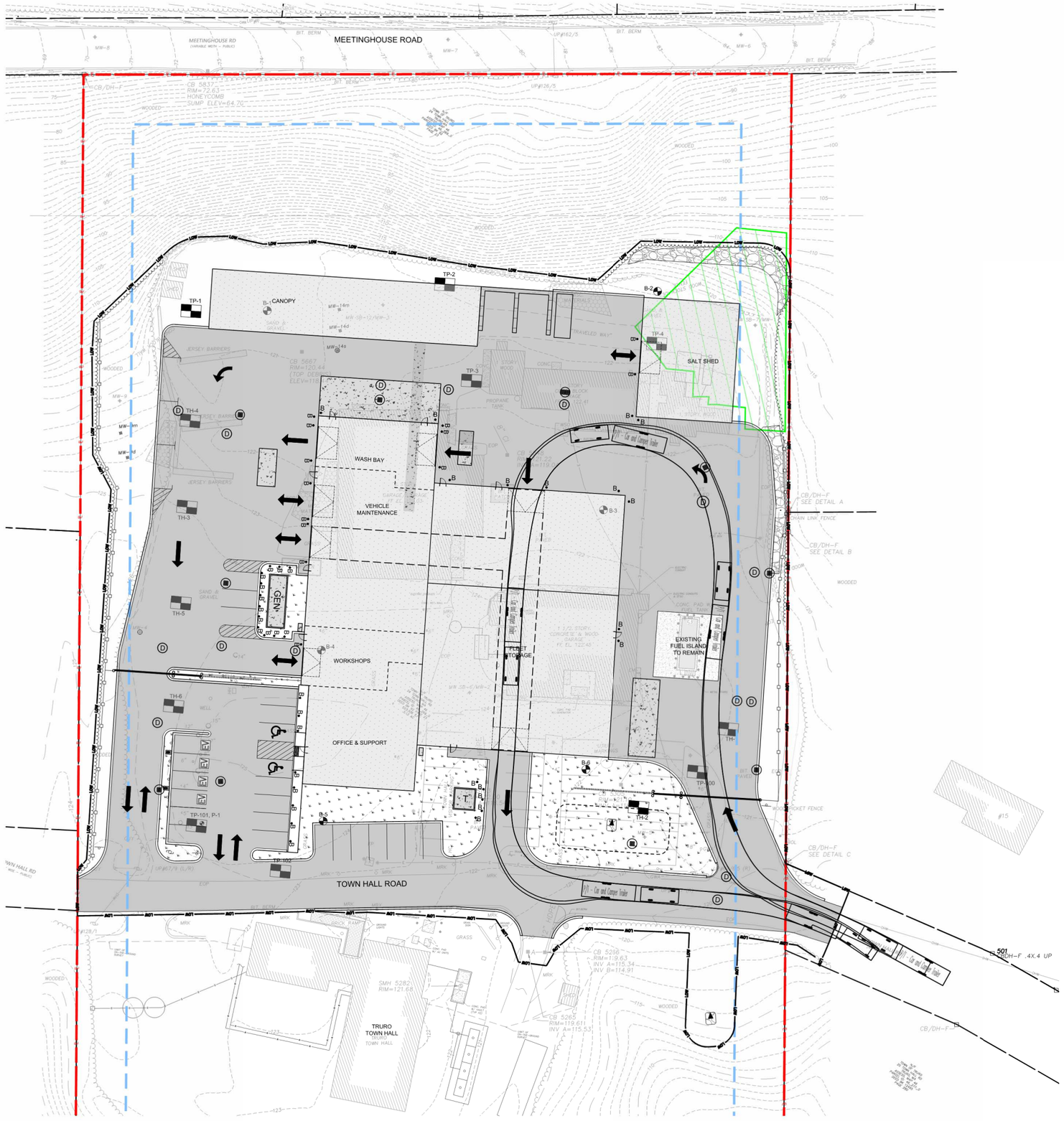
FIG.1

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P/T – Car and Camper Trailer	
Overall Length	48.781ft
Overall Width	8.000ft
Overall Body Height	10.098ft
Min Body Ground Clearance	0.755ft
Max Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	21.50°



0 20 50 100

SCALE: 1" = 20'

Project:

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W&S File No.: -

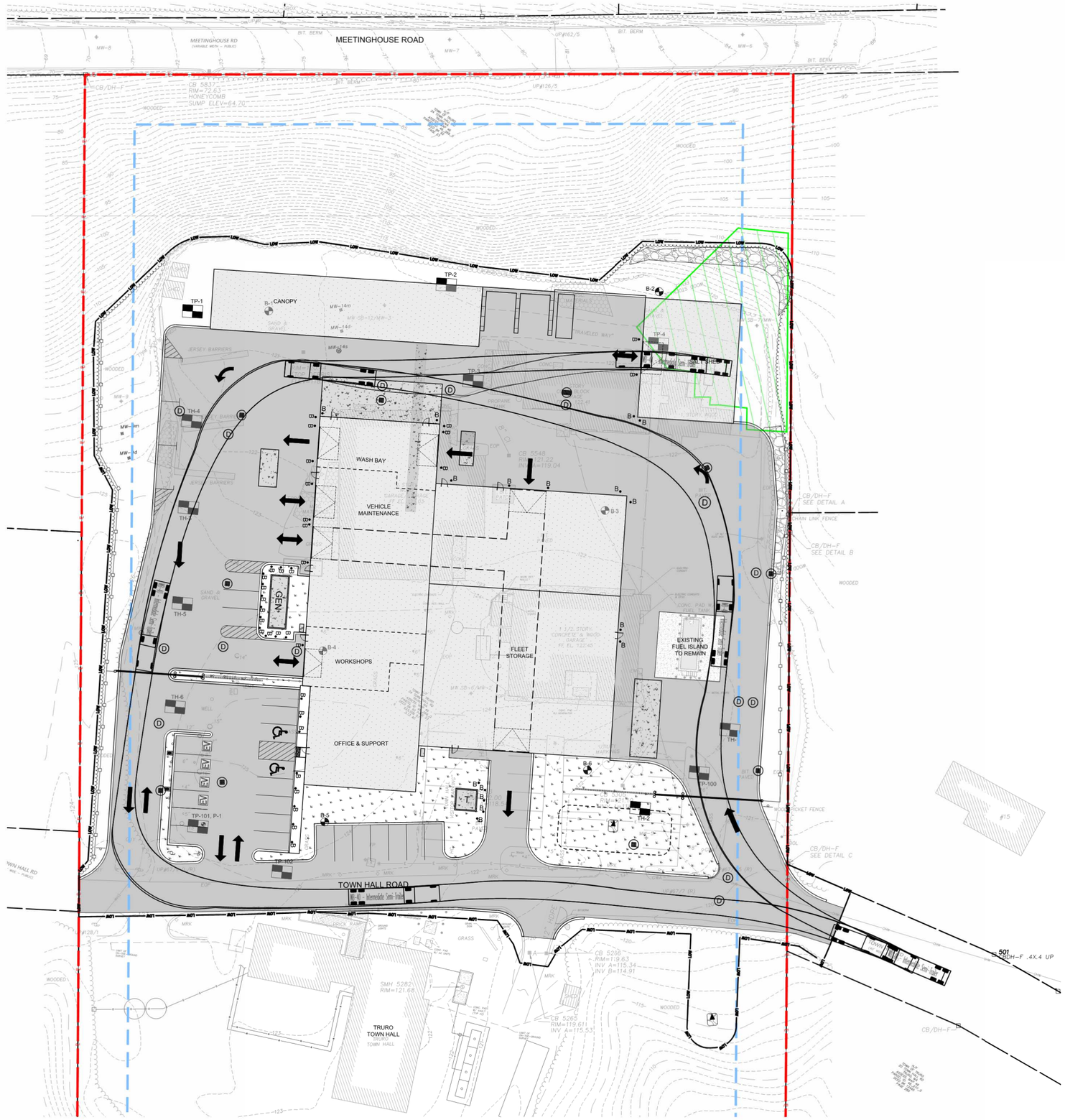
Drawing Title:

TRUCK TURNING PLAN "TRASH COMPACTOR"

Sheet Number:

FIG.2

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

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100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
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Revisions:

No.	Date	Description

COA:

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Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

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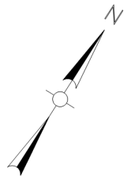
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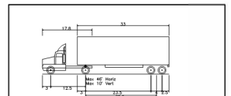
TRUCK TURNING PLAN
WB-40
SALT SHED

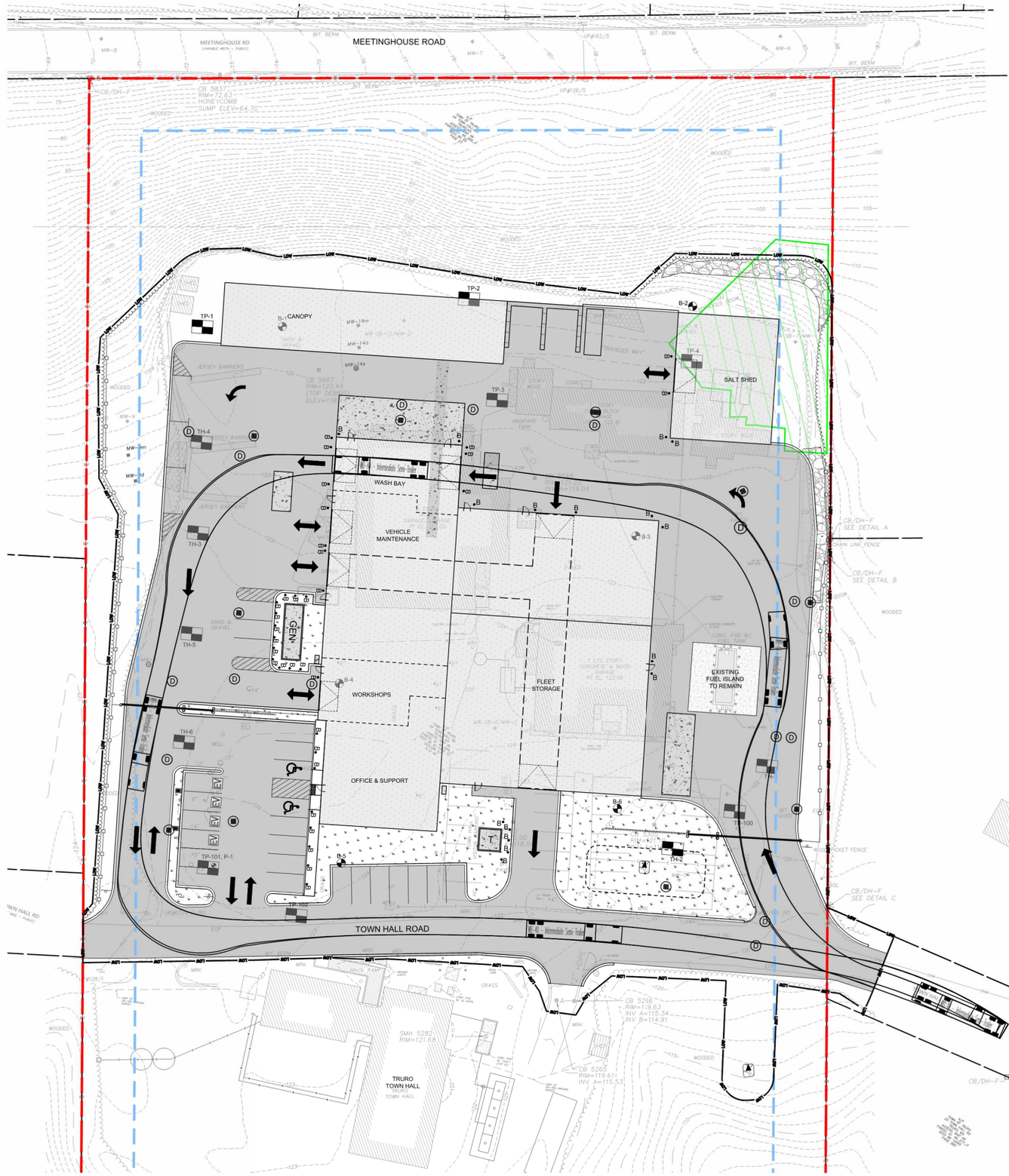
Sheet Number:

FIG.3

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0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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TRURO, MA 02666

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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

PERMITTING
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Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN
WB-40
WASH BAY

Sheet Number:

FIG.4

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Project:

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NEW DEPARTMENT of PUBLIC WORKS FACILITY

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TRURO, MA 02666

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Consultants:

Revisions:

No.	Date	Description

COA:

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Issued For:

PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:

TRUCK TURNING PLAN (SU-30) THROUGH INTERIOR FLEET MAINTENANCE

Sheet Number:

FIG.5

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Appendix D

Project Cost Estimate

Schematic Design Cost Estimate

New Department of Public Works Facility

17 Town Hall

Truro, Ma

Prepared by:

TCi Construction Cost Estimating

Post Office Box 1988

North Falmouth, Ma 02556

www.tortoraconsulting.com

p 781-275-5511

Prepared for:

Weston and Sampson

May 29, 2025

New Department of Public Works Facility
Truro, Ma

Schematic Design Cost Estimate

29-May-25

MAIN CONSTRUCTION COST SUMMARY

	Building GSF	$/sf	Estimated Construction Cost
BASE ESTIMATE	22,140	$1,007.59	$22,308,047
TOTAL SD BASE CONSTRUCTION COSTS	**22,140**	**$1,007.59**	**$22,308,047**

Alternates

1. Add Vehicle Wash Bay Finish & Equipment	add	**$937,091**
2. Add Detached Canopy	add	**$1,104,680**
3. Add Rooftop Solar	add	**$645,213**
4. Add Ground Source Heat Pump (GSHP) in lieu of ASHP	add	**$1,192,833**
5. Add 5,000 SF Fleet storage	add	**$1,368,670**

QUALIFICATIONS

This Schematic Design cost estimate was produced from drawings prepared by Weston and Sampson and their design team dated May 2, 2025.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes bid received 1st quarter 2026.

Bidding conditions are expected to be chapter 149 public bidding to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures. The project is expected to be bid and construction start there after with one continuous phase.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

All professional fees and insurance
All Furnishings, Fixtures and Equipment not identified
Items identified in the design as Not In Contract (NIC)
Items identified in the design as by others
Special foundations (unless indicated by design engineers)
Utility company back charges, including work required off-site
Work to City streets and sidewalks, (except as noted in this estimate)
Construction or occupancy phasing or off hours' work, (except as noted in this estimate)
Off hours
Ledge & contaminated soils
Building Permit
Temporary trailer rentals
Phasing
Permit costs

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	*BASE ESTIMATE*	*22,140 $/sf*
DIV. 2 DEMOLITION		
020500 Demolition	$144,000	*$6.50*
024500 Hazardous Material Abatement	$50,000	*$2.26*
DIV. 3 CONCRETE		
033000 Cast-in-Place Concrete	$1,050,762	*$47.46*
DIV. 4 MASONRY		
042000 Unit Masonry	$304,860	*$13.77*
DIV. 5 METALS		
055000 Metal Fabrications	$207,950	*$9.39*
DIV. 6 WOODS & PLASTICS		
061000 Rough Carpentry	$23,310	*$1.05*
064020 Interior Architectural Woodwork	$26,210	*$1.18*
DIV. 7 THERMAL & MOISTURE PROTECTION		
072100 Thermal Insulation	$133,420	*$6.03*
072700 Air Barriers & Waterproofing	$62,100	*$2.80*
074600 Cement Board Siding and Trim	$58,350	*$2.64*
075400 Membrane Roofing	$0	*$0.00*
075450 Through-wall flashing	$0	*$0.00*
077200 Roof Accessories	$8,400	*$0.38*
078410 Penetration Firestopping	$4,553	*$0.21*
079200 Joint Sealants	$77,557	*$3.50*
DIV. 8 DOORS & WINDOWS		
081110 Doors and Frames	$69,500	*$3.14*
083110 Access Doors and Frames	$0	*$0.00*
083310 Overhead Coiling Doors	$205,200	*$9.27*
084110 Aluminum Windows	$54,600	*$2.47*
084500 Aluminum Storefront and Curtainwall	$14,050	*$0.63*
084550 Skylights	$0	*$0.00*
084555 Sunshades	$0	*$0.00*
084600 Translucent Windows	$67,500	*$3.05*
087100 Door Hardware	$36,600	*$1.65*
088000 Glazing	$8,000	*$0.36*
089000 Louvers and Vents	$15,000	*$0.68*
DIV. 9 FINISHES		
092110 Gypsum Board Assemblies	$388,282	*$17.54*
093000 Tiling	$29,700	*$1.34*
095100 Acoustical Ceilings	$33,020	*$1.49*
096510 Resilient Flooring and Accessories	$21,360	*$0.96*
096550 Carpet	$11,800	*$0.53*
097300 Resinous flooring and base	$9,360	*$0.42*
099000 Painting and Coating	$170,137	*$7.68*
DIV 10 SPECIALTIES		
101400 Signage	$17,000	*$0.77*
102800 Toilet Accessories	$8,288	*$0.37*
104400 Fire Protection Specialties	$2,000	*$0.09*
106500 Toilet Partitions	$2,900	*$0.13*
108500 Lockers	$19,250	*$0.87*
109400 Screen Partitions	$0	*$0.00*
109500 Fall Arrest	$20,000	*$0.90*
DIV. 11 EQUIPMENT		
113100 Appliances	$0	*$0.00*
118100 Industrial Equipment	$785,924	*$35.50*
DIV. 12 FURNISHINGS		
122110 Horizontal Louver Blinds	$5,100	*$0.23*
DIV. 13 SPECIAL CONSTRUCTION		
13100 Pre-fabricated Metal Building, Mezzanine Steel and Decking	$2,375,815	*$107.31*
13200 Pre-fabricated Building (salt shed)	$216,000	*$9.76*
13300 Fuel Island Equipment and Canopy	$0	*$0.00*

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

CONSTRUCTION COST SUMMARY IN CSI FORMAT	***BASE ESTIMATE***	***22,140 $/sf***
DIV. 21 FIRE SUPPRESSION		
210000 Fire Suppression - FSB	$663,515	*$29.97*
DIV. 22 PLUMBING		
220000 Plumbing - FSB	$882,167	*$39.84*
DIV. 23 HVAC		
220000 HVAC - FSB	$1,774,245	*$80.14*
DIV. 26 ELECTRICAL		
260000 Electrical - FSB	$1,445,822	*$65.30*
DIV. 31 EARTHWORK		
311000 Site Clearing	$190,995	*$8.63*
312000 Earthwork	$565,725	*$25.55*
312500 Erosion and Sedimentation Controls	$27,500	*$1.24*
315000 Ground Improvements	$72,000	*$3.25*
DIV. 32 EXTERIOR IMPROVEMENTS		
321216 Asphalt Paving	$475,208	*$21.46*
321213 Portland Cement Concrete Paving	$24,480	*$1.11*
321613 Curbs and Gutters	$59,940	*$2.71*
323100 Site Improvements	$149,525	*$6.75*
329000 Landscaping	$75,000	*$3.39*
DIV. 33 UTILITIES		
331000 Site Water Distribution	$525,850	*$23.75*
333000 Sanitary Sewerage Utilities	$200,000	*$9.03*
334000 Storm Drainage	$521,250	*$23.54*
335000 Gas	$0	*$0.00*
SUBTOTAL DIRECT (TRADE) COST	*$14,391,080*	*$650.00*
GENERAL CONDITIONS & REQUIREMENTS 14%	$2,014,751	
GL INSURANCE 1.3%	$187,084	
BONDS 1.8%	$259,039	
GC - OVERHEAD & PROFIT 5%	$842,598	
DESIGN AND PRICING CONTINGENCY 10%	$1,769,455	
ESCALATION TO 1ST QUARTER 2026 5%	$973,200	
OUTER CAPE PREMIUM 10%	$1,439,108	
TARIFFS PREMIUM ALLOWANCE 3%	$431,732	
TOTAL SD BASE CONSTRUCTION COSTS	**$22,308,047**	*$1,007.59*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	GROSS FLOOR AREA CALCULATION						
	Admin/Support areas			**2,900**			
	Workshops			**1,450**			
	Fleet Storage			**7,700**			
	Fleet Maintenance			**4,680**			
	Wash Bay Shell			**1,480**			
	Mezzanines			**3,930**			
	TOTAL GROSS FLOOR AREA (including mezzanine)				**22,140**	***gsf***	
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings to walls						
03300	Formwork	**1,500**	sf	18.00	27,000		
03300	Re-bar	**5,280**	lbs	2.50	13,200		
03300	Concrete material	**88**	cy	190.00	16,720		
03300	Placing concrete	**88**	cy	40.00	3,520		
	Foundation walls						
03300	Formwork	**9,000**	sf	18.00	162,000		
03300	Re-bar	**15,780**	lbs	2.50	39,450		
03300	Concrete material	**263**	cy	190.00	49,970		
03300	Placing concrete	**263**	cy	40.00	10,520		
	Back up knee walls						
03300	Formwork	**5,400**	sf	18.00	97,200		
03300	Re-bar	**4,440**	lbs	2.50	11,100		
03300	Concrete material	**74**	cy	190.00	14,060		
03300	Placing concrete	**74**	cy	40.00	2,960		
	Column footings						
03300	Formwork	**800**	sf	18.00	14,400		
03300	Re-bar	**7,440**	lbs	2.50	18,600		
03300	Concrete material	**124**	cy	190.00	23,560		
03300	Placing concrete	**124**	cy	40.00	4,960		
	Piers						
03300	Formwork	**520**	sf	18.00	9,360		
03300	Re-bar	**2,400**	lbs	2.50	6,000		
03300	Concrete material	**40**	cy	190.00	7,600		
03300	Placing concrete	**40**	cy	40.00	1,600		
	SUBTOTAL					533,780	
	A1030 LOWEST FLOOR CONSTRUCTION						
	8" Slab on grade						
03300	Vapor barrier	**15,310**	sf	2.00	30,620		
03300	Reinforcing	**15,310**	sf	2.50	38,275		
03300	Concrete - 8" thick	**424**	cy	190.00	80,560		
03300	Placing concrete	**424**	cy	45.00	19,080		
03300	Finishing and curing concrete	**15,310**	sf	1.65	25,262		
03300	Control joints - saw cut	**15,310**	sf	0.50	7,655		
	6" Slab on grade						
03300	Vapor barrier	**2,900**	sf	2.00	5,800		
03300	Reinforcing	**2,900**	sf	1.50	4,350		
03300	Concrete - 6" thick	**59**	cy	190.00	11,210		
03300	Placing concrete	**59**	cy	45.00	2,655		
03300	Finishing and curing concrete	**2,900**	sf	1.65	4,785		
03300	Control joints - saw cut	**2,900**	sf	0.50	1,450		
	Miscellaneous						
07210	R10 - 25 PSI Rigid insulation at 4' horizontal and 2' vertical	**4,500**	sf	5.00	22,500		
07210	R10 - 60 PSI Rigid insulation at 4' horizontal and 2' vertical	**4,000**	sf	5.50	22,000		
07210	R115 - 60 PSI rigid insulation under slab	**4,680**	sf	6.00	28,080		
07270	Damp proofing of foundation walls	**3,600**	sf	4.00	14,400		
03300	4' haunch under CM walls	**60**	cy	350.00	21,000		
03300	Pits, curbs, equipment Pads and supports	**1**	ls	15,000.00	15,000		
	SUBTOTAL					354,682	
	TOTAL - FOUNDATIONS						***$888,462***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Mezzanine Floor Structure - Steel:						
13100	W columns, beam, bracing, HSS tubes, L angles and Channels	**24**	tons	6,000.00	144,000		
	Mezzanine Floor Structure						
13100	Floor deck - 1 1/2'' deck	**3,930**	sf	5.50	21,615		
03300	WWF reinforcement	**3,930**	sf	2.00	7,860		
03300	2" Concrete Fill to metal deck	**48**	cy	195.00	9,360		
03300	Place and finish concrete	**3,930**	sf	2.00	7,860		
	Miscellaneous						
05500	Misc metals - overall added cost for FSB pricing	**18,210**	sf	4.00	72,840		
07841	Firestopping	**18,210**	sf	0.25	4,553		
	SUBTOTAL					268,088	
	B1020 ROOF CONSTRUCTION						
	Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
13100	Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**18,210**	sf	120.00	2,185,200		
13100	Entry canopy structure and roof, gutters and downspouts	**200**	sf	125.00	25,000		
	Miscellaneous						
05500	Overhead door openings	**8**	ea	1,500.00	12,000		
05500	Window openings	**260**	sf	12.00	3,120		
05500	Translucent window openings	**500**	sf	12.00	6,000		
	SUBTOTAL					2,231,320	
	TOTAL - SUPERSTRUCTURE						***$2,499,408***
	B20 EXTERIOR CLOSURE						
	B2010 EXTERIOR WALLS						
	Admin exterior wall back-up						
09211	6" Metal stud, sheathing	**1,600**	sf	22.00	35,200		
09211	5/8" int gwb	**1,600**	sf	8.00	12,800		
09900	Paint	**1,600**	sf	2.00	3,200		
	CMU & Fiber cement						
07460	Fiber cement board lap siding	**1,200**	sf	40.00	48,000		
07460	Fiber cement board shakes	**230**	sf	45.00	10,350		
04200	CMU veneer	**2,200**	sf	55.00	121,000		
07270	Air barrier	**3,630**	sf	10.00	36,300		
07210	Rigid insulation	**2,200**	sf	6.00	13,200		
	SUBTOTAL					280,050	
	B2020 WINDOWS						
	Storefront and windows						
84600	Translucent windows	**500**	sf	135.00	67,500		
84110	W - Aluminum windows (triple glazed)	**260**	sf	210.00	54,600		
08900	Louvers	**1**	ls	15,000.00	15,000		
07920	Backer rod & double sealant	**511**	lf	12.00	6,132		
06100	Wood blocking at openings	**511**	lf	10.00	5,110		
07920	Waterproofing - overall added cost for FSB pricing	**18,210**	sf	3.50	63,735		
	SUBTOTAL					212,077	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	B2030 EXTERIOR DOORS						
	Overhead doors						
08331	18x16 OHD	**2**	ea	28,800.00	57,600		
08331	16x16 OHD	**5**	ea	25,600.00	128,000		
08331	14x14 OHD	**1**	ea	19,600.00	19,600		
	Man Doors						
08111	HM doors with half light/HM frame 3x7 HM	**7**	ea	2,500.00	17,500		
08111	HM flush doors/frame 3x7 HM	**1**	ea	2,200.00	2,200		
84500	AS-1/Al 3x7 - Alum entry and side/tran	**1**	ea	750.00	750		
08710	Hardware	**9**	lvs	950.00	8,550		
	Misc						
09900	Paint	**8**	ea	200.00	1,600		
07920	Backer rod & double sealant	**320**	lf	12.00	3,840		
06100	Wood blocking at openings	**320**	lf	10.00	3,200		
	SUBTOTAL					242,840	
	TOTAL - EXTERIOR CLOSURE						***$734,967***
	B30 ROOFING						
	B3010 ROOF COVERINGS						
	All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
	SUBTOTAL					-	
	B3020 ROOF OPENINGS						
07720	Roof hatch and ladder	**1**	ea	6,750.00	6,750		
07720	Roof ladders	**1**	ea	1,650.00	1,650		
10950	Fall arrest system allowance	**1**	ls	20,000.00	20,000		
	SUBTOTAL					28,400	
	TOTAL - ROOFING						**$28,400**
	C10 INTERIOR CONSTRUCTION						
	C1010 PARTITIONS						
09211	Type 1B GWB partition	**1,080**	sf	13.00	14,040		
09211	Type 2A/B GWB partition	**1,056**	sf	15.00	15,840		
09211	Type 3A GWB partition	**3,150**	sf	20.00	63,000		
09211	Type 3B GWB partition	**1,680**	sf	21.00	35,280		
09211	Type 6A GWB partition	**2,282**	sf	26.00	59,332		
04200	Type 8A - 8" CMU walls	**4,396**	sf	35.00	153,860		
	<u>18 - Wash bay separation walls</u>						
04200	8" CMU wall to 8'	**480**	sf	35.00	16,800		
09211	6" metal stud and gwb each side	**1,200**	sf	22.00	26,400		
	<u>F1 - Fire separation walls</u>						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**1,600**	sf	25.00	40,000		
03300	Concrete knee wall	**17**	cy	950.00	16,150		
07210	3" closed cell spray foam	**1,600**	sf	10.00	16,000		
04200	4" CMU behind knee wall	**440**	sf	30.00	13,200		
07210	2" rigid behind knee wall	**440**	sf	6.00	2,640		
07270	AVB	**440**	sf	10.00	4,400		
	<u>F2 - Fire separation walls</u>						
09211	8" lgmf with gwb each side to deck above knee wall 5'-4"	**2,480**	sf	25.00	62,000		
03300	GWB to knee wall	**700**	sf	8.00	5,600		
03300	Concrete knee wall	**28**	cy	950.00	26,600		
07210	3" closed cell spray foam	**2,480**	sf	10.00	24,800		
07210	2" rigid behind knee wall	**700**	sf	6.00	4,200		
07270	AVB	**700**	sf	10.00	7,000		
	<u>Misc</u>						
06100	Rough blocking	**800**	lf	10.00	8,000		
	SUBTOTAL					615,142	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C1020 INTERIOR DOORS						
	Doors and Frames						
08111	Single doors and frames	**23**	lvs	1,600.00	36,800		
08111	Double doors and frames	**5**	pr	2,600.00	13,000		
	Hardware						
08710	Hardware	**33**	lvs	850.00	28,050		
	Misc						
08800	Glazing to doors and frames	**160**	sf	50.00	8,000		
84500	HM1 window frames	**2**	ea	1,650.00	3,300		
09900	Paint HM frames	**35**	ea	200.00	7,000		
07920	Sealants & caulking	**35**	ea	110.00	3,850		
12211	Interior blinds	**6**	ea	200.00	1,200		
	SUBTOTAL					101,200	
	C1030 SPECIALTIES / MILLWORK						
06402	Restroom vanities	**10**	lf	450.00	4,500		
06402	Window sills	**54**	lf	65.00	3,510		
06402	Multi-purpose back walls cabinets, counter and shelving	**16**	lf	650.00	10,400		
06402	Admin office counters	**12**	lf	650.00	7,800		
84500	Misc millwork and finish carpentry	**1**	ls	10,000.00	10,000		
10140	Tack/white boards	**2**	ea	500.00	1,000		
	Lockers						
10850	Large Lockers	**16**	ea	950.00	15,200		
10850	Lockers benches	**1**	ea	750.00	750		
10850	ADA benches	**2**	ea	1,650.00	3,300		
	Restrooms						
10650	Toilet partitions HC	**1**	ea	1,600.00	1,600		
10650	Toilet partitions Reg	**1**	ea	1,300.00	1,300		
10280	Soap disp	**5**	ea	30.00	150		
10280	Mirror	**5**	ea	285.00	1,425		
10280	Robe hook	**10**	ea	30.00	300		
10280	Grab bar	**6**	ea	150.00	900		
10280	Shower seat and bars	**2**	ea	285.00	570		
10280	Wet gear hooks	**10**	ea	65.00	650		
10280	SRWR	**2**	ea	250.00	500		
10280	TTD	**5**	ea	110.00	550		
10280	SND	**2**	ea	165.00	330		
10280	PTD	**4**	ea	330.00	1,320		
10280	Hooks	**12**	ea	40.00	480		
10280	Shower curtain and rods	**3**	ea	276.00	828		
10280	Jan closet MB	**1**	ea	285.00	285		
	Miscellaneous						
06100	Plywood backers, locker bases and misc	**800**	sf	5.00	4,000		
10440	Fire extinguisher cabinets	**8**	ea	250.00	2,000		
10140	Town seal/ exterior signage	**1**	ls	8,500.00	8,500		
10140	Interior signage	**1**	ls	7,500.00	7,500		
	SUBTOTAL					89,648	
	TOTAL - INTERIOR CONSTRUCTION						***$805,990***
	C20 STAIRCASES						
	C2010 STAIR CONSTRUCTION						
05500	Mezzanine Stairs	**2**	ea	17,500.00	35,000		
05500	Mezzanine railings	**214**	lf	185.00	39,590		
05500	Gates	**2**	ea	1,250.00	2,500		
05500	Ladders	**2**	ea	1,250.00	2,500		
03300	Concrete material in pan infill	**2**	ea	1,200.00	2,400		
	SUBTOTAL					81,990	
	C2020 STAIR FINISHES						
09900	Paint to mezzanine stairs	**2**	ea	3,850.00	7,700		
09900	Paint to mezzanine rails/gates	**240**	lf	35.00	8,400		
	SUBTOTAL					16,100	
	TOTAL - STAIRCASES						***$98,090***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	C30 INTERIOR FINISHES						
	C3010 WALL FINISHES						
09900	Paint to GWB	**28,156**	sf	1.50	42,234		
09900	Paint to interior CMU	**9,712**	sf	2.50	24,280		
09300	Wall tile	**800**	sf	33.00	26,400		
06100	FRP to janitor closet	**200**	sf	15.00	3,000		
	SUBTOTAL					95,914	
	C3020 FLOOR FINISHES						
09651	LVT	**1,200**	sf	14.00	16,800		
09665	Carpet tile	**800**	sf	6.00	4,800		
09730	RF - Resinous Flooring	**520**	sf	18.00	9,360		
09900	SC - Sealed Concrete	**18,040**	sf	1.50	27,060		
09665	Walk off mats	**2**	ea	3,500.00	7,000		
09300	Tile	**100**	sf	33.00	3,300		
09651	Rubber base	**760**	lf	6.00	4,560		
09900	Line stripping	**600**	sf	5.00	3,000		
	SUBTOTAL					75,880	
	C3030 CEILING FINISHES						
09510	A1 - ACT ceilings; 2' x 2'	**2,500**	sf	11.00	27,500		
09510	A2 - ACT ceilings; 2' x 2'	**460**	sf	12.00	5,520		
09211	G2 - GWB ceilings	**380**	sf	18.00	6,840		
09211	G3 - GWB ceilings	**575**	sf	22.00	12,650		
09211	G1 - L gwb soffits	**20**	lf	125.00	2,500		
09211	Drop gwb soffits	**40**	lf	60.00	2,400		
09900	Paint to GWB ceilings and soffits	**1,195**	sf	2.00	3,800		
09900	Exposed prefab metal columns and beams	**16,745**	sf	2.50	41,863		
	SUBTOTAL					103,073	
	TOTAL - INTERIOR FINISHES						***274,867***
	D20 PLUMBING						
	D20 PLUMBING, GENERALLY						
	Equipment						
220000	Water Meter	**1**	ea	2,950.00	2,950		
220000	Backflow Preventor Assembly	**1**	ea	6,045.00	6,045		
220000	Water Pressure Regulator	**1**	ea	1,170.00	1,170		
220000	Heat Pump Water Heaters	**2**	ea	15,112.50	30,225		
220000	Hot Water Storage Tank	**1**	ea	7,020.00	7,020		
220000	Recirc Pump	**2**	ea	1,235.00	2,470		
220000	Expansion Tank	**2**	ea	455.00	910		
220000	Thermostatic Mixing Valve	**2**	ea	2,710.50	5,421		
220000	Oil/Water Seperator	**1**	ea	11,830.00	11,830		
220000	Air Compressor w/ Dryer	**1**	ea	31,083.00	31,083		
220000	Trap Primers	**9**	ea	425.00	3,825		
220000	Make Up Water Station	**1**	ea	1,140.00	1,140		
220000	Plumbing Specialties	**1**	ls	11,398.70	11,399		
220000	Equipment Connections	**24**	ea	845.00	20,280		
	Fixtures						
220000	Water Closets	**5**	ea	1,413.50	7,068		
220000	Urinal	**1**	ea	1,216.54	1,217		
220000	Lavatory	**5**	ea	1,292.50	6,463		
220000	Showers	**2**	ea	2,035.00	4,070		
220000	Sink - Mop	**1**	ea	1,292.50	1,293		
220000	Kitchen Sink	**1**	ea	1,527.54	1,528		
220000	Kitchen Sink Garbage Disposal	**1**	ea	780.00	780		
220000	Laundry Sink	**1**	ea	1,560.00	1,560		
220000	Shop Sink	**1**	ea	4,810.00	4,810		
220000	Emergency Shower / Eyewash	**6**	ea	3,918.75	23,513		
220000	Drinking Fountian	**1**	ea	2,887.50	2,888		
220000	Wall Hydrant	**6**	ea	357.50	2,145		
220000	Hose Bibbs	**2**	ea	258.50	517		
220000	Hose Stations	**3**	ea	884.00	2,652		
220000	Ice Machine Box	**1**	ea	181.50	182		
220000	Outlet Box	**1**	ea	287.64	288		
220000	Compressed Air Outlets	**10**	ea	294.87	2,949		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
220000	Floor Drains	**12**	ea	654.50	7,854		
220000	Floor Sinks	**2**	ea	808.50	1,617		
220000	(8) Trench Drains	**150**	lf	158.50	23,775		
220000	Trench Drain Catch Basin	**4**	ea	1,365.00	5,460		
220000	Clean Outs	**12**	ea	262.00	3,144		
220000	Vent Thru Roof	**12**	ea	290.00	3,480		
220000	Hose Connection	**5**	ea	475.00	2,375		
220000	Compressed Air Equipment Connections	**5**	ea	475.00	2,375		
220000	Fixture Rough Ins	**34**	ea	624.00	21,216		
	Piping						
220000	Water Service	**25**	lf	168.32	4,208		
220000	Water - 1/2"	**672**	lf	39.00	26,208		
220000	Water - 3/4"	**588**	lf	42.25	24,843		
220000	Water - 1"	**294**	lf	48.75	14,333		
220000	Water - 1 1/4"	**42**	lf	53.95	2,266		
220000	Water - 1 1/2"	**151**	lf	59.80	9,030		
220000	Water - 2"	**151**	lf	68.25	10,306		
220000	Water - 3"	**210**	lf	97.50	20,475		
220000	UGSan - 2"	**8**	lf	94.25	754		
220000	UGSan - 3"	**84**	lf	123.50	10,374		
220000	UGSan - 4"	**316**	lf	130.00	41,080		
220000	San - 2"	**44**	lf	94.25	4,147		
220000	San - 3"	**45**	lf	123.50	5,558		
220000	San - 4"	**92**	lf	130.00	11,960		
220000	UGVent- 2"	**15**	lf	94.25	1,414		
220000	UGVent - 3"	**30**	lf	123.50	3,705		
220000	UGVent - 4"	**8**	lf	130.00	1,040		
220000	UGOil Vent - 2 1/2"	**210**	lf	117.65	24,707		
220000	UGOil Vent - 3"	**91**	lf	133.90	12,185		
220000	UGOil Vent - 4"	**225**	lf	140.40	31,590		
220000	Oil Vent - 2 1/2"	**71**	lf	117.65	8,353		
220000	Oil Vent - 3"	**67**	lf	133.90	8,971		
220000	Oil Vent - 4"	**63**	lf	140.40	8,845		
220000	Oil Vent - 6"	**34**	lf	166.40	5,658		
220000	UG Oil Waste - 3"	**8**	lf	133.90	1,071		
220000	UG Oil Waste - 4"	**606**	lf	140.40	85,082		
220000	UG Oil Waste - 6"	**336**	lf	166.40	55,910		
220000	Compressed Air- 1/2"	**29**	lf	41.60	1,206		
220000	Compressed Air - 3/4"	**672**	lf	45.50	30,576		
220000	Compressed Air - 1"	**156**	lf	51.35	8,011		
220000	Compressed Air - 1 1/2"	**150**	lf	58.50	8,775		
220000	Compressed Air - 2"	**80**	lf	71.50	5,720		
220000	Insulation	**2,133**	lf	13.98	29,819		
	Trade Requirements						
220000	Project Supervision	**400**	hrs	130.00	52,000		
220000	Coordination	**200**	hrs	130.00	26,000		
	SUBTOTAL					867,167	
	TOTAL - PLUMBING						***$867,167***

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	D30 HVAC						
	D30 HVAC						
	Base ASHP						
230000	Equipment	**22,140**	sf	24.68	546,415		
230000	Sheet Metal	**22,140**	sf	23.72	525,161		
230000	Piping	**22,140**	sf	8.79	194,611		
230000	Insulation	**22,140**	sf	4.93	109,150		
230000	Controls	**22,140**	sf	11.52	255,053		
230000	Commissioning	**22,140**	sf	2.44	54,022		
230000	Trade Requirements	**22,140**	sf	3.38	74,833		
	SUBTOTAL					1,759,245	
	TOTAL - HVAC						***$1,759,245***
	D40 FIRE PROTECTION						
	D40 FIRE PROTECTION						
210000	FP service equipment, valves, compressors and misc	**1**	ls	20,000.00	20,000		
210000	Sprinkler heads	**277**	ea	125.00	34,625		
210000	Branch sprinkler piping with fittings & hangers	**4,155**	lf	38.00	157,890		
210000	Main sprinkler piping with fittings & hangers	**600**	lf	60.00	36,000		
210000	Hydraulic calculations, coordination and testing	**1**	ls	15,000.00	15,000		
210000	Fire pump and 50,000 gal cistern allowance	**1**	ls	400,000.00	400,000		
	SUBTOTAL					663,515	
	TOTAL - FIRE PROTECTION						***$663,515***
	D50 ELECTRICAL						
	D50 ELECTRICAL						
	Light Fixtures						
260000	Light Fixtures	**22,140**	sf	7.00	154,980		
	Branch Circuitry						
260000	Branch Circuitry	**22,140**	sf	5.00	110,700		
260000	Lighting Control Devices	**22,140**	sf	1.00	22,140		
260000	Power Wiring Devices	**22,140**	sf	1.50	33,210		
	Power Circuitry						
260000	Power Circuitry and Motor Feeders	**22,140**	sf	3.00	66,420		
	Power Distribution						
260000	3/4" Emt, 4#10	**50**	lf	14.00	700		
260000	1 1/4" Emt, 4#3	**10**	lf	30.00	300		
260000	1 1/2" Emt, 4#1	**140**	lf	40.00	5,600		
260000	2" Emt, 4 3/0	**30**	lf	55.00	1,650		
260000	2 1/2" Emt, 4 250Mcm	**10**	lf	75.00	750		
260000	4" Emt, 4 500 Mcm	**10**	lf	125.00	1,250		
260000	4" Emt, 4 600 Mcm	**100**	lf	150.00	15,000		
260000	4" Rigid, 4 600 Mcm	**40**	lf	185.00	7,400		
260000	1 1/2" Emt, future PV	**200**	lf	18.00	3,600		
260000	3" Emt, future PV	**200**	lf	25.00	5,000		
260000	4" Emt, future PV	**100**	lf	30.00	3,000		
260000	PV Power Pullbox, WP	**2**	ea	500.00	1,000		
260000	PV Comm Pullbox, WP	**2**	ea	300.00	600		
	Lightning Protection & Grounding						
260000	Lightning Protection Allowance	**1**	ls	15,000.00	15,000		
260000	Service Grounding	**1**	ls	4,500.00	4,500		
260000	MDF Grounding	**1**	ls	1,500.00	1,500		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Power Equipment						
260000	100 Amp Panel Board	**1**	ea	4,500.00	4,500		
260000	225 Amp Panel Board, 60P	**1**	ea	8,800.00	8,800		
260000	400 Amp Panel Board, 2-Section	**1**	ea	16,500.00	16,500		
260000	800 Amp Main Switchboard	**1**	ls	35,000.00	35,000		
260000	Current Monitor	**3**	ea	2,200.00	6,600		
260000	Lighting Control Panel - Allow	**1**	ea	5,000.00	5,000		
260000	SPD @ MDB	**1**	ea	2,600.00	2,600		
260000	30 Kva Transformer	**1**	ea	7,000.00	7,000		
260000	75 Kva Transformer	**1**	ea	10,000.00	10,000		
260000	112 Kva Transformer	**1**	ea	12,000.00	12,000		
260000	800 Amp CT Cabinet	**1**	ea	7,500.00	7,500		
260000	800 Amp Service Disconnect	**2**	ea	12,000.00	24,000		
260000	800 Amp Service Disconnect EG	**1**	ea	12,000.00	12,000		
260000	Meter Pan	**1**	ea	650.00	650		
260000	400 Kw Emerg Generator, WP Encl	**1**	ea	150,000.00	150,000		
260000	Autotransfer Sw 800A	**1**	ea	20,000.00	20,000		
260000	Autotransfer Sw 100A	**1**	ea	6,500.00	6,500		
260000	EG Ennunciator	**1**	ea	1,500.00	1,500		
260000	EG Junc Box	**3**	ea	125.00	375		
260000	EPO Pushbutton	**2**	ea	200.00	400		
260000	800 Amp Encl Ckt Brkr	**2**	ea	9,500.00	19,000		
260000	100 Amp Encl Ckt Brkr	**1**	ea	1,500.00	1,500		
260000	200KW Load Bank	**1**	ea	18,500.00	18,500		
260000	100A Storm Switch	**1**	ea	5,500.00	5,500		
260000	Motor Disconnects	**22,140**	sf	1.50	33,210		
	Misc systems						
260000	Fire Alarm System	**22,140**	sf	4.00	88,560		
260000	BDA Allowance	**1**	ls	45,000.00	45,000		
260000	Telecommunications System	**18,210**	sf	3.00	54,630		
260000	Security Access Control System	**18,210**	sf	2.00	36,420		
260000	CCTV Security System	**18,210**	sf	1.50	27,315		
260000	Sound/PA/Intercom System	**18,210**	sf	1.50	27,315		
260000	A/V System Roughin Allowance	**18,210**	sf	0.20	3,642		
	Site Lighting						
260000	Type SL1 Light Pole w/ 1-Fixt	**8**	ea	3,600.00	28,800		
260000	Type SL6 Flagpole Light	**3**	ea	525.00	1,575		
260000	1" PVC, 3#8, #10 UG	**890**	lf	12.00	10,680		
260000	#10 Wire in Poles	**720**	lf	1.25	900		
260000	Site Lighting Controls	**1**	ls	3,600.00	3,600		
	EV Charging Stations						
260000	EV Charging Station	**2**	ea	5,500.00	11,000		
260000	1" PVC, 3#8, #10 UG	**500**	lf	12.00	6,000		
	Site Utilities						
260000	Utility Pole Riser	**1**	ls	3,600.00	3,600		
260000	4" PVC CDT UG (Pri)	**400**	lf	18.00	7,200		
260000	Utility Transformer Pad	**1**	ls	3,600.00	3,600		
260000	4" PVC, 4 600 Mcm UG (Sec)	**570**	lf	135.00	76,950		
260000	4" PVC CDT UG (Spare)	**50**	lf	18.00	900		
260000	3" PVC, 4 600MCM UG	**120**	lf	135.00	16,200		
260000	1" PVC, EG Controls, 120v, UG	**150**	lf	10.00	1,500		
	Telecommunications						
260000	Telecomm Utility Riser	**1**	ls	3,600.00	3,600		
260000	4" PVC (Tel,empty)	**800**	lf	18.00	14,400		
260000	1 1/4" Innderduct	**600**	lf	3.50	2,100		
	Misc						
260000	Temp Power and Lighting	**1**	ls	15,000.00	15,000		
260000	Coordination and project management	**200**	hrs	135.00	27,000		
260000	Startup, Testing, Commissioning	**160**	hrs	135.00	21,600		
	SUBTOTAL					1,402,022	
	TOTAL - ELECTRICAL						***$1,402,022***

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

29-May-25

Schematic Design Cost Estimate

GSF 22,140

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	E20 FURNISHINGS						
	E2010 FIXED FURNISHINGS						
12211	Horizontal Louver Blinds/Blackout	**260**	sf	15.00	3,900		
11310	Kitchen appliances				by owner		
	SUBTOTAL					$3,900	
	E2020 MOVABLE FURNISHINGS						
	All movable furnishings to be provided and installed by owner					NIC	
	SUBTOTAL						
	TOTAL - FURNISHINGS						***$3,900***
	F10 INDUSTRIAL EQUIPMENT						
	Maintenance Equipment Schedule						
11810	CD-1 Wood Workbench with Casters 1 ERO N/A	**ERO**					
11810	CD-2 Steel Work Bench (72inx36in) (14,000 Lbs Capacity) 1 N 12 40 00	**1**	ea	1,037.30	1,037		
11810	CD-3 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	CD-4 Long Wood Workbench 1 N 12 40 00	**1**	ea	600.00	600		
11810	CD-5 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	850.00	850		
11810	CH-1 Carpentry Tool Drawer 1 ERO N/A	**ERO**					
11810	CH-2 Flammable Cabinet (Green)(60-Gallons) 1 ERO N/A	**ERO**					
11810	CH-3 Flammable Cabinet (45-Gallons) 1 ERO N/A	**ERO**					
11810	CH-4 Parts Shelving (6' x 2') 3 N 12 40 00	**3**	ea	1,005.40	3,016		
11810	CM-1 Miter Saw with Stand 1 ERO N/A	**ERO**					
11810	CM-2 Saw Horse 1 ERO N/A	**ERO**					
11810	CM-3 Pallet Jack 1 ERO N/A	**ERO**					
11810	CM-4 Portable Table Saw 1 ERO N/A	**ERO**					
11810	CM-5 Portable Dust Collector 1 N 12 40 00	**1**	ea	1,280.00	1,280		
11810	CM-6 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	MA-1 5 Ton Bridge Crane 1 N 14 22 13	**1**	ea	185,000.00	185,000		
11810	MB-1 18k Mobile Column 6 N 14 45 00	**6**	ea	65,000.00	390,000		
11810	MB-2 20K 2 Post Lift 1 N 14 45 00	**1**	ea	38,000.00	38,000		
11810	MC-1 2-Drum Spill Pallet 2 ERO 11 11 29	**ERO**					
11810	MC-2 55-Gallon Drum 10 NIC N/A	**NIC**					
11810	MC-3 Waste Oil Caddy 1 ERO N/A	**ERO**					
11810	MC-4 Grease Cart 1 ERO N/A	**ERO**					
11810	MC-5-9 Fluid storage	**1**	ls	95,000.00	95,000		
11810	MC-5 600-Gallon Bulk Fluids Tank (300G 15W-40/180G 0W-30/120G 0W-20) 1 N	**1**	ea		inc above		
11810	MC-6 400-Gallon Waste Oil Tank 1 N 11 11 29	**1**	ea		inc above		
11810	MC-7 Wall Mounted Lube Pumps 3 N 11 11 29	**3**	ea		inc above		
11810	MC-8 Lube Reel Bank (0W-20, 0W-30, 15W-40, Electric Reel, 1/2" Air) 1 N 11 11	**1**	ea		inc above		
11810	MC-9 Fluid Storage Room Sump Alarm 1 N 11 11 29	**1**	ea		inc above		
11810	MD-1 Metal Worktop 1 ERO N/A	**ERO**					
11810	MD-2 Electric Charging Workbench 1 N 12 40 00	**1**	ea	937.60	938		
11810	MD-3 Steel Work Bench on Casters 2 N 12 40 00	**2**	ea	2,800.00	5,600		
11810	MD-4 Heavy Duty Thick Top Workbench 1 N 12 40 00	**1**	ea	950.00	950		
11810	MF-1 Torch Cart 1 ERO N/A	**ERO**					
11810	MF-2 Lincoln AC225 Arc Welder 1 ERO N/A	**ERO**					
11810	MF-3 Miller Millermatic 252 1 ERO N/A	**ERO**					
11810	MF-4 Metabo HPT Hammer Cart 1 ERO N/A	**ERO**					
11810	MF-5 Thermal Dynamics Welder 1 ERO N/A	**ERO**					
11810	MF-6 Lincoln Welden Power 1 ERO N/A	**ERO**					
11810	MF-7 Lincoln SP-170T Arc Welder 1 ERO N/A	**ERO**					
11810	MF-8 Drill Press 1 ERO N/A	**ERO**					
11810	MF-9 Shop Press 1 ERO N/A	**ERO**					
11810	MF-10 Portable Weld Fume Extractor 1 NIC N/A	**NIC**					
11810	MF-11 Welding Screen 2 NIC N/A	**NIC**					
11810	MF-12 Oxygen/Acetylene Tank Storage Cage 2 N 12 40 00	**2**	ea	1,303.50	2,607		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
11810	MG-1 Tire Changer 1 ERO N/A	**ERO**					
11810	MG-2 Tire Balancer 1 ERO N/A	**ERO**					
11810	MG-3 Tire Storage Rack 2 N 12 40 00	**2**		220.00	440		
11810	MH-1 Snap-on Tool Box 1 ERO N/A	**ERO**					
11810	MH-2 MAC Tools Blue Cart 1 ERO N/A	**ERO**					
11810	MH-3 Wooden Cabinet (Glass Window) 1 ERO N/A	**ERO**					
11810	MH-4 Windshield Wiper Blade Rack 1 ERO N/A	**ERO**					
11810	MH-5 Nuts and Bolts Storage 4 ERO N/A	**ERO**					
11810	MH-6 Flammable Cabinet (60-Gallons) 1 ERO N/A	**ERO**					
11810	MH-7 Metal Cabinet 1 N 12 40 00	**1**	ea	1,450.00	1,450		
11810	MH-8 Parts Shelving (6' x 2') 10 N 12 40 00	**10**	ea	1,005.40	10,054		
11810	MH-9 Parts Shelving (6' x 2') 2 N 12 40 00 Reserved for existing sliding drawers	**2**	ea	1,005.40	2,011		
11810	MM-1 Tall Jack Stand 1 ERO N/A	**ERO**					
11810	MM-2 Small Jack Stands 8 ERO N/A	**ERO**					
11810	MM-3 Floor Jack 1 ERO N/A	**ERO**					
11810	MM-4 Chop Saw on Cart 1 ERO N/A	**ERO**					
11810	MM-5 Snap-on Battery Charger 1 ERO N/A	**ERO**					
11810	MM-6 Chain Sharpener 1 ERO N/A	**ERO**					
11810	MM-7 Heated Carpet Extractor 1 ERO N/A	**ERO**					
11810	MM-8 Parts Washer 1 N 12 40 00	**1**	ea	2,500.00	2,500		
11810	MM-9 Pedestal Grinder 2 N 12 40 00	**2**	ea	559.90	1,120		
11810	MM-10 Bench Vise 1 N 12 40 00	**1**	ea	691.90	692		
11810	SD-1 Drafting Table 1 ERO N/A	**ERO**					
11810	SD-2 Computer Desk 1 N 12 40 00	**1**		506.00	506		
11810	SH-1 Hanging Vinyl Storage 1 ERO N/A	**ERO**					
11810	SH-2 Parts Shelving (6' x 2') 2 N 12 40 00	**2**		800.00	1,600		
11810	SM-1 Vinyl Express Printer 1 ERO N/A	**ERO**					
	Mezzanine Industrial Equipment Schedule						
11810	ME-1 Hose Clamp Rack 2 ERO N/A	**ERO**					
11810	ME-2 Hydraulic Hose Bins 1 ERO N/A	**ERO**					
11810	ME-3 Hydraulic Hose Chop Saw 1 ERO N/A	**ERO**					
11810	ME-4 Hydraulic Hose Crimper 1 ERO N/A	**ERO**					
11810	ME-5 Steel Work Bench on Casters 1 N 12 40 00	**1**	ea	2,800.00	2,800		
11810	ME-6 Hydraulic Hose Reel Rack 2 N 12 40 00	**2**	ea	836.00	1,672		
11810	ME-7 Hydraulic Vertical Storage Cabinet 1 N 12 40 00	**1**	ea	1,556.50	1,557		
11810	MH-9 Parts Shelving (6' x 2') 5 N 12 40 00	**5**	ea	0.00	-		
11810	MH-11 Pallet Rack Hanging Tool Storage 4 N 12 40 00	**4**	ea	176.00	704		
	Fleet Storage Industrial Equipment Schedule						
11810	MH-10 Cantilever Rack (Flat) 1 N 12 40 00	**1**	ea	2,310.00	2,310		
	Misc						
11810	Connect and or install ERO equipment	**200**	hrs	150.00	30,000		
	SUBTOTAL					785,924	
	TOTAL - INDUSTRIAL EQUIPMENT						***$785,924***
	B SITEWORK						
	Building Demolition						
02050	Demolish and remove buildings	**12,000**	sf	12.00	144,000		
02450	Haz-mat allowance	**1**	ls	50,000.00	50,000		
220000	Demo, cut and cap plumbing	**3**	ea	5,000.00	15,000		
230000	Demo, cut, cap and decommission HVAC	**3**	ea	5,000.00	15,000		
260000	Demo/make safe electrical	**3**	ea	5,000.00	15,000		
	SUBTOTAL					239,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Demo & Prep						
312000	Mobilization	**1**	ea	7,500.00	7,500		
311000	Site fencing, protection, barricades	**1**	ls	25,000.00	25,000		
311000	Stabilized Construction Entrance	**1**	ea	7,500.00	7,500		
312500	Compost filter tubes and silt fence	**1,500**	lf	18.00	27,000		
312500	Inlet protection	**2**	ea	250.00	500		
311000	Tree/stump removals	**27**	ea	500.00	13,500		
311000	Clear and grub	**23,500**	sf	0.90	21,150		
311000	Sawcut and remove paving & curbing	**36,200**	sf	0.85	30,770		
311000	Remove sand and gravel	**1,163**	cy	25.00	29,075		
311000	Remove sheds	**3**	ea	1,500.00	4,500		
311000	Remove flag pole and bollards	**1**	ls	2,500.00	2,500		
311000	Remove concrete walks, ramps, pads and misc items at building perimeter	**1**	ls	20,000.00	20,000		
311000	Remove drainage structures & piping	**2**	ea	3,500.00	7,000		
311000	Remove wells	**1**	ls	10,000.00	10,000		
311000	Remove septic systems	**2**	ea	10,000.00	20,000		
	SUBTOTAL					225,995	
	Earthwork						
312000	Strip topsoil	**600**	cy	15.00	9,000		
312000	Screen & Respread	**600**	cy	25.00	15,000		
312000	Site Cuts to Fills	**4,195**	cy	15.00	62,925		
312000	Remove unsuitable material under building	**3,704**	cy	30.00	111,120		
312000	Import structural fill under building	**3,704**	cy	60.00	222,240		
	Structural excavation and backfill						
312000	Import 12" subbase for under slabs	**674**	cy	60.00	40,440		
312000	E&E foundation footing and walls	**1,200**	cy	25.00	30,000		
312000	E&B foundation column footings	**400**	cy	25.00	10,000		
	SUBTOTAL					500,725	
	Paving and curbing						
321216	12" Dense Grade at paving and walks	**2,126**	cy	58.00	123,308		
321216	Asphalt pavement	**57,400**	sf	6.00	344,400		
321216	Patch roads and connections	**1**	ls	7,500.00	7,500		
321613	Granite curbs	**870**	lf	58.00	50,460		
321613	Bitum berm	**474**	lf	20.00	9,480		
	SUBTOTAL					535,148	
	Storm						
334000	CB	**9**	ea	6,500.00	58,500		
334000	DMH	**7**	ea	8,500.00	59,500		
334000	OCS	**4**	ea	12,500.00	50,000		
334000	SWTU	**3**	ea	15,000.00	45,000		
334000	FE	**2**	ea	3,500.00	7,000		
334000	HDPE piping	**650**	lf	100.00	65,000		
334000	Perimeter building roof drainage piping/boots	**450**	lf	45.00	20,250		
334000	Storm water infiltration system (E,B, prep and manifolds)	**5,400**	sf	40.00	216,000		
	SUBTOTAL					521,250	
	Water						
331000	8" FP DI water main	**600**	lf	125.00	75,000		
331000	4" Dom DI water	**10**	lf	85.00	850		
331000	Gates & valves	**8**	ea	1,500.00	12,000		
331000	Hydrants	**2**	ea	6,500.00	13,000		
331000	Water CTE	**1**	ea	5,000.00	5,000		
331000	Offsite water well & water main Allowance	**1**	ls	420,000.00	420,000		
	SUBTOTAL					525,850	
	Sanitary Septic						
333000	Septic system - two compartment 2,000 gal tanks, piping, 3 trenches and Nitogen removal	**1**	ls	200,000.00	200,000		
	SUBTOTAL					200,000	

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

29-May-25

Schematic Design Cost Estimate

GSF 22,140

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	NEW BUILDING						
	Site Improvements						
323100	28' Sliding entry gate and access key pad	**1**	ea	25,000.00	25,000		
323100	Parking signs	**8**	ea	250.00	2,000		
321213	Concrete walks	**400**	sf	14.00	5,600		
321213	Knockdown pad	**1,180**	sf	16.00	18,880		
03300	Concrete retaining walls	**50**	cy	950.00	47,500		
323100	20x20 blocks walls at storage bins	**1,425**	sf	65.00	92,625		
323100	Parking space lines, symbols and hatching	**17**	ea	250.00	4,250		
323100	6' wood stockade fence	**270**	lf	95.00	25,650		
05500	Site bollards	**43**	ea	800.00	34,400		
03300	Transformer Pad	**1**	ea	5,000.00	5,000		
03300	Generator Pad	**1**	ea	8,500.00	8,500		
312000	E&B Elec/communication duct banks	**260**	lf	55.00	14,300		
03300	Encase duct banks in concrete	**39**	cy	350.00	13,650		
	SUBTOTAL					297,355	
	Salt Shed						
312000	Earthwork, HMA interior paving	**2,880**	sf	15.00	43,200		
315000	Ground improvements	**2,880**	sf	25.00	72,000		
03300	Foundation and 7' perimeter walls	**104**	cy	950.00	98,800		
13200	Structure - fabric roof structure	**2,880**	sf	75.00	216,000		
260000	Electrical - lighting and power	**2,880**	sf	10.00	28,800		
	SUBTOTAL					458,800	
	Landscaping						
329000	Landscaping allowance	**1**	ls	75,000.00	75,000		
	SUBTOTAL					75,000	
	TOTAL - SITEWORK						***3,579,123***

New Department of Public Works Facility
Truro, Ma

Schematic Design Cost Estimate

29-May-25

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add Vehicle Wash Bay Finish & Equipment						
C30 INTERIOR FINISHES						
C3010 WALL FINISHES						
Wash bay - 1/2" PVC panels	**3,500**	sf	23.00	80,500		
Wash bay - AVB	**3,500**	sf	9.00	31,500		
Exterior wall framing and column wraps	**2,850**	sf	20.00	57,000		
SUBTOTAL					169,000	
C3020 FLOOR FINISHES						
SC - Sealed Concrete	**1,480**	sf	1.50	2,220		
SUBTOTAL					2,220	
C3030 CEILING FINISHES						
Exposed prefab decking and beams	**1,480**	sf	2.50	3,700		
SUBTOTAL					3,700	
TOTAL - INTERIOR FINISHES						***174,920***
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Plumbing	**1,480**	sf	30.00	44,400		
SUBTOTAL					44,400	
TOTAL - PLUMBING						***$44,400***
D30 HVAC						
D30 HVAC						
HVAC	**1,480**	sf	50.00	74,000		
SUBTOTAL					74,000	
TOTAL - HVAC						***$74,000***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**18**	ea	125.00	2,250		
Branch sprinkler piping with fittings & hangers	**216**	lf	38.00	8,208		
Main sprinkler piping with fittings & hangers	**20**	lf	60.00	1,200		
Hydraulic calculations, coordination and testing	**1**	ls	2,500.00	2,500		
SUBTOTAL					14,158	
TOTAL - FIRE PROTECTION						***$14,158***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures	**1,480**	sf	8.00	11,840		
Branch Circuitry	**1,480**	sf	5.00	7,400		
Lighting Control Devices	**1,480**	sf	1.50	2,220		
Power Wiring Devices	**1,480**	sf	3.00	4,440		
3/4" Emt, 4#12	**120**	lf	14.79	1,775		
1" Emt, 4#8	**100**	lf	22.64	2,264		
Manual Snap Switch Starter WP EF	**2**	ea	1,064.80	2,130		
60 Amp Disconnect HV	**1**	ea	1,833.15	1,833		
Fire Alarm System	**1,480**	sf	4.00	5,920		
Telecommunications System	**1,480**	sf	3.00	4,440		
Security Access Control System	**1,480**	sf	2.00	2,960		
CCTV Security System	**1,480**	sf	1.50	2,220		
Temp Power and Lighting	**1,480**	sf	1.00	1,480		
SUBTOTAL					50,922	
TOTAL - ELECTRICAL						***$50,922***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
1. Add Vehicle Wash Bay Finish & Equipment						
F10 INDUSTRIAL EQUIPMENT						
Manual high pressure wash and undercarriage wash	**1**	ls	250,000.00	250,000		
V-1 Manual Wash Pressure Plant 1 N 11 11 26	**1**	ea		*inc above*		
V-2 Manual Wash Control Panel 1 N 11 11 26	**1**	ea		*inc above*		
V-3 Festoons 2 N 11 11 26	**2**	ea		*inc above*		
V-4 Manual Wash On/Off Switch 2 N 11 11 26	**2**	ea		*inc above*		
V-5 Undercarriage Wash Pressure Plant 1 N 11 11 26	**1**	ea		*inc above*		
V-6 Undercarriage Wash Control Panel 1 N 11 11 26	**1**	ea		*inc above*		
V-7 Automatic Undercarriage Pre-Fab Trenches 2 N 11 11 26	**2**	ea		*inc above*		
V-8 Automatic Undercarriage photo Eye 2 N 11 11 26	**2**	ea		*inc above*		
V-9 Automatic Wheel Washers 1 N 11 11 26	**1**	ea		*inc above*		
V-10 Vehicle Wash Guide Rails 1 N 11 11 26	**1**	ea		*inc above*		
V-11 Vehicle Wash Soap drum 1 N 11 11 26	**1**	ea		*inc above*		
V-12 Undercarriage Wash Control Station 2 N 11 11 26	**2**	ea		*inc above*		
V-13 Vehicle Wash Pre-Treatment Tank (1500gal) 1 N 11 11 26	**1**	ea		*inc above*		
V-14 Mobile Platform 1 N 11 11 26	**1**	ea		*inc above*		
V-15 Loop Detector 2 N 11 11 26	**2**	ea		*inc above*		
V-16 Vehicle Wash Entry Traffic Light 1 N 11 11 26	**1**	ea		*inc above*		
V-17 Undercarriage Wash Status Light 1 N 11 11 26	**1**	ea		*inc above*		
SUBTOTAL					250,000	
TOTAL - INDUSTRIAL EQUIPMENT						***$250,000***
SUBTOTAL						***$608,400***
GENERAL CONDITIONS & REQUIREMENTS				14%		$85,176
GL INSURANCE				1.3%		$7,909
BONDS				1.8%		$10,951
GC - OVERHEAD & PROFIT				5%		$30,420
DESIGN AND PRICING CONTINGENCY				10%		$74,286
ESCALATION TO 1ST QUARTER 2026				5%		$40,857
OUTER CAPE PREMIUM				10%		$60,840
TARIFFS PREMIUM ALLOWANCE				3%		$18,252
TOTAL - ALTERNATE 1						***$937,091***

DESCRIPTION	QTY	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
2. Add Detached Canopy						
30' x 135' Storage Canopy						
Ground improvements	**4,050**	sf	25.00	101,250		
E&B foundation	**741**	cy	35.00	25,935		
Import underslab subbase	**150**	cy	60.00	9,000		
Foundation - footings and walls	**86**	cy	950.00	81,700		
8" slab on grade	**4,050**	sf	15.00	60,750		
PEMB frame, non insulated metal panels	**4,050**	sf	85.00	344,250		
4" CMU veneer	**780**	sf	60.00	46,800		
AVB	**780**	sf	9.00	7,020		
Lighting and power	4,050	sf	10.00	40,500		
Plumbing				NIC		
HVAC				NIC		
FP				NIC		
SUBTOTAL				717,205		
SUBTOTAL						***717,205***
GENERAL CONDITIONS & REQUIREMENTS			14%			$100,409
GL INSURANCE			1.3%			$9,324
BONDS			1.8%			$12,910
GC - OVERHEAD & PROFIT			5%			$35,860
DESIGN AND PRICING CONTINGENCY			10%			$87,571
ESCALATION TO 1ST QUARTER 2026			5%			$48,164
OUTER CAPE PREMIUM			10%			$71,721
TARIFF PREMIUM			3%			$21,516
TOTAL - ALTERNATE 2						***1,104,680***

New Department of Public Works Facility
Truro, Ma

TCi Construction Cost Estimating

Schematic Design Cost Estimate 29-May-25

DESCRIPTION	*QTY*	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
3. Add Rooftop Solar						
Solar Photovoltaic System	**142**	kw	2,950.00	418,900		
SUBTOTAL					418,900	
TOTAL						***$418,900***
SUBTOTAL						***$418,900***

GENERAL CONDITIONS & REQUIREMENTS	14%	$58,646
GL INSURANCE	1.3%	$5,446
BONDS	1.8%	$7,540
GC - OVERHEAD & PROFIT	5%	$20,945
DESIGN AND PRICING CONTINGENCY	10%	$51,148
ESCALATION TO 1ST QUARTER 2026	5%	$28,131
OUTER CAPE PREMIUM	10%	$41,890
TARIFF PREMIUM	3%	$12,567

TOTAL - ALTERNATE 3	***$645,213***

DESCRIPTION	QTY	*UNIT*	*UNIT COST*	*EST'D COST*	*SUB TOTAL*	*TOTAL COST*
4. Add Ground Source Heat Pump (GSHP) in lieu of ASHP						
Deduct base ASHP HVAC	**1**	ls	(1,759,245.00)	(1,759,245)		
Add closed loop GSHP HVAC						
Equipment	**22,140**	sf	32.00	708,480		
Geothermal Well Field	**22,140**	sf	22.00	487,080		
Sheet Metal	**22,140**	sf	23.72	525,161		
Piping	**22,140**	sf	9.02	199,703		
Insulation	**22,140**	sf	4.93	109,150		
Controls	**22,140**	sf	11.52	255,053		
Commissioning	**22,140**	sf	2.44	54,022		
Trade Requirements	**22,140**	sf	3.38	74,833		
Electrical						
1" Emt, 4#6	**750**	lf	25.37	19,028		
1 1/4" Emt, 4#2	**300**	lf	41.00	12,300		
2" Emt, 4 2/0	**(300)**	lf	61.79	(18,537)		
60 Amp Disconnect	**5**	ea	1,833.15	9,166		
100 Amp Disconnect	**2**	ea	1,936.00	3,872		
200 Amp Disconnect	**(2)**	ea	2,813.25	(5,627)		
Sitework						
Earthwork to support wells	**1**	ls	100,000.00	100,000		
SUBTOTAL					774,439	
SUBTOTAL						***774,439***
GENERAL CONDITIONS & REQUIREMENTS			14%			$108,421
GL INSURANCE			1.3%			$10,068
BONDS			1.8%			$13,940
GC - OVERHEAD & PROFIT			5%			$38,722
DESIGN AND PRICING CONTINGENCY			10%			$94,559
ESCALATION TO 1ST QUARTER 2026			5%			$52,007
OUTER CAPE PREMIUM			10%			$77,444
TARIFF PREMIUM			3%			$23,233
TOTAL - ALTERNATE 4						***1,192,833***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
GROSS FLOOR AREA CALCULATION						
Add 5,000 sf			**5,000**			
TOTAL GROSS FLOOR AREA				**5,000**	***gsf***	
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Strip footings to walls						
Formwork	**152**	sf	18.00	2,736		
Re-bar	**540**	lbs	2.50	1,350		
Concrete material	**9**	cy	190.00	1,710		
Placing concrete	**9**	cy	40.00	360		
Foundation walls						
Formwork	**912**	sf	18.00	16,416		
Re-bar	**1,755**	lbs	2.50	4,388		
Concrete material	**27**	cy	190.00	5,130		
Placing concrete	**27**	cy	40.00	1,080		
Back up knee walls						
Formwork	**912**	sf	18.00	16,416		
Re-bar	**780**	lbs	2.50	1,950		
Concrete material	**12**	cy	190.00	2,280		
Placing concrete	**12**	cy	40.00	480		
Column footings						
Formwork	**48**	sf	18.00	864		
Re-bar	**225**	lbs	2.50	563		
Concrete material	**3**	cy	190.00	570		
Placing concrete	**3**	cy	40.00	120		
Piers						
Formwork	**32**	sf	18.00	576		
Re-bar	**75**	lbs	2.50	188		
Concrete material	**1**	cy	190.00	190		
Placing concrete	**1**	cy	40.00	40		
SUBTOTAL					57,407	
A1030 LOWEST FLOOR CONSTRUCTION						
8" Slab on grade						
Vapor barrier	**5,000**	sf	2.00	10,000		
Reinforcing	**5,500**	sf	2.50	13,750		
Concrete - 8" thick	**132**	cy	190.00	25,080		
Placing concrete	**132**	cy	45.00	5,940		
Finishing and curing concrete	**5,000**	sf	1.65	8,250		
Control joints - saw cut	**5,000**	sf	0.50	2,500		
SUBTOTAL					65,520	
TOTAL - FOUNDATIONS						***$122,927***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
B10 SUPERSTRUCTURE						
B1020 ROOF CONSTRUCTION						
Pre-fabricated Structure (includes steel, insulated metal panels walls and roof) :						
Main Building - Prefabricated metal building package (galv steel, metal panels, metal roof, gutters, downspouts and snow guards)	**5,000**	sf	80.00	400,000		
SUBTOTAL					400,000	
TOTAL - SUPERSTRUCTURE						***$400,000***
B30 ROOFING						
B3010 ROOF COVERINGS						
All roofing, gutters, downspouts and snow guards included with Prefabricated metal building						
SUBTOTAL					-	
B3020 ROOF OPENINGS						
Fall arrest system allowance	**1**	ls	2,500.00	2,500		
SUBTOTAL					2,500	
TOTAL - ROOFING						**$2,500**
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Plumbing - floor drains	**1**	ls	20,000.00	20,000		
SUBTOTAL					20,000	
TOTAL - PLUMBING						***$20,000***
D30 HVAC						
D30 HVAC						
HVAC	**5,000**	sf	30.00	150,000		
SUBTOTAL					150,000	
TOTAL - HVAC						***$150,000***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Sprinkler heads	**56**	ea	125.00	7,000		
Branch sprinkler piping with fittings & hangers	**672**	lf	38.00	25,536		
Main sprinkler piping with fittings & hangers	**100**	lf	60.00	6,000		
Hydraulic calculations, coordination and testing	**1**	ls	5,000.00	5,000		
SUBTOTAL					43,536	
TOTAL - FIRE PROTECTION						***$43,536***

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
5. Add 5,000 SF Fleet storage						
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures	**5,000**	sf	7.00	35,000		
Branch Circuitry	**5,000**	sf	5.00	25,000		
Lighting Control Devices	**5,000**	sf	1.00	5,000		
Power Wiring Devices	**5,000**	sf	2.00	10,000		
Motor Feeders	**5,000**	sf	2.00	10,000		
Motor Disconnects	**5,000**	sf	1.00	5,000		
Fire Alarm System	**5,000**	sf	4.00	20,000		
Security Access Control System	**5,000**	sf	2.00	10,000		
CCTV Security System	**5,000**	sf	1.50	7,500		
Temp Power and Lighting	**5,000**	sf	1.00	5,000		
SUBTOTAL					132,500	
TOTAL - ELECTRICAL						***$132,500***
B SITEWORK						
Structural excavation and backfill						
Over excavate foundation footprint and export	**741**	cy	30.00	22,230		
Import structural fill	**185**	cy	60.00	11,100		
Import 12" subbase for under slabs	**185**	cy	60.00	11,100		
Backfill foundation footing and walls	**74**	cy	25.00	1,850		
Backfill foundation column footings	**15**	cy	25.00	375		
SUBTOTAL					46,655	
TOTAL - SITEWORK						***46,655***
SUBTOTAL						***$918,118***

GENERAL CONDITIONS & REQUIREMENTS	12%	$110,174
GL INSURANCE	1.3%	$11,936
BONDS	1.8%	$16,526
GC - OVERHEAD & PROFIT	5%	$45,906
DESIGN AND PRICING CONTINGENCY	10%	$110,266
ESCALATION TO 1ST QUARTER 2026	3%	$36,388
OUTER CAPE PREMIUM	10%	$91,812
TARIFF PREMIUM	3%	$27,544

TOTAL - ALTERNATE 5	***$1,368,670***

Appendix E

Certified Abutters List

RECEIVED
OCT 15 2025
ASSESSOR'S OFFICE
TOWN OF TRURO

TOWN OF TRURO

Assessors Office
Certified Abutters List
Request Form

DATE: October 15, 2025

NAME OF APPLICANT: Jarrod Cabral (Truro DPW Director)

NAME OF AGENT (if any): Della Donahue (Weston & Sampson)

MAILING ADDRESS: 100 Foxborough Blvd, Suite 250, Foxborough, MA 02035

CONTACT: HOME/CELL 508-203-4231 **EMAIL** donahue.della@wseinc.com

PROPERTY LOCATION: 17 Town Hall Road, Truro, MA 02666
(street address)

PROPERTY IDENTIFICATION NUMBER: MAP 46 **PARCEL** 269 **EXT.** _____
(*if condominium*)

ABUTTERS LIST NEEDED FOR:
(*please check **all** applicable*)

FEE: $15.00 per checked item
(*Fee must accompany the application unless other arrangements are made*)

X Board of Health[5]	Planning Board (PB)	Zoning Board of Appeals (ZBA)
___ Cape Cod Commission	___ Special Permit[1]	___ Special Permit[1]
___ Conservation Commission[4]	X Site Plan[2]	X Variance[1]
___ Licensing	___ Preliminary Subdivision[3]	
Type: _____	___ Definitive Subdivision[3]	

___ Other _____ ***(Fee: Inquire with Assessors)***
(*Please Specify*)

Note: Per M.G.L., processing may take up to 10 calendar days. Please plan accordingly.

THIS SECTION FOR ASSESSORS OFFICE USE ONLY

Date request received by Assessors: 10/15/2025 Date completed: 10/15/2025

List completed by: Laura Geiges Date paid: n/a Cash/Check n/a

[1]Abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line.

[2]Abutters to the subject property, abutters to the abutters, and owners of properties across the street from the subject property.

[3]Landowners immediately bordering the proposed subdivision, landowners immediately bordering the immediate abutters, and landowners located across the streets and ways bordering the proposed subdivision. Note: For Definitive Subdivision only, responsibility of applicant to notify abutters and produce evidence as required.

[4]All abutters within 300 feet of parcel, except Beach Point between Knowles Heights Road and Provincetown border, in which case it is all abutters within 100 feet. Note: Responsibility of applicant to notify abutters and produce evidence as required.

[5]Abutters sharing any boundary or corner in any direction – including land across a street, river or stream. Note: Responsibility of applicant to notify abutters and produce evidence as required.

TRURO ASSESSORS OFFICE
PO Box 2012 Truro, MA 02666
Telephone: (508) 214-0921
Fax: (508) 349-5506

Date: October 15, 2025

To: Weston & Sampson

From: Assessors Department

Certified Abutters List: 17 Town Hall Road (Map 46 Parcel 269)

Planning Board – Site Plan

Attached is a combined list of abutters for 17 Town Hall Road (Map 46 Parcel 269). The current owner is the Town of Truro.

The names and addresses of the abutters are as of Oct 10, 2025 according to the most recent documents received from the Barnstable County Registry of Deeds.

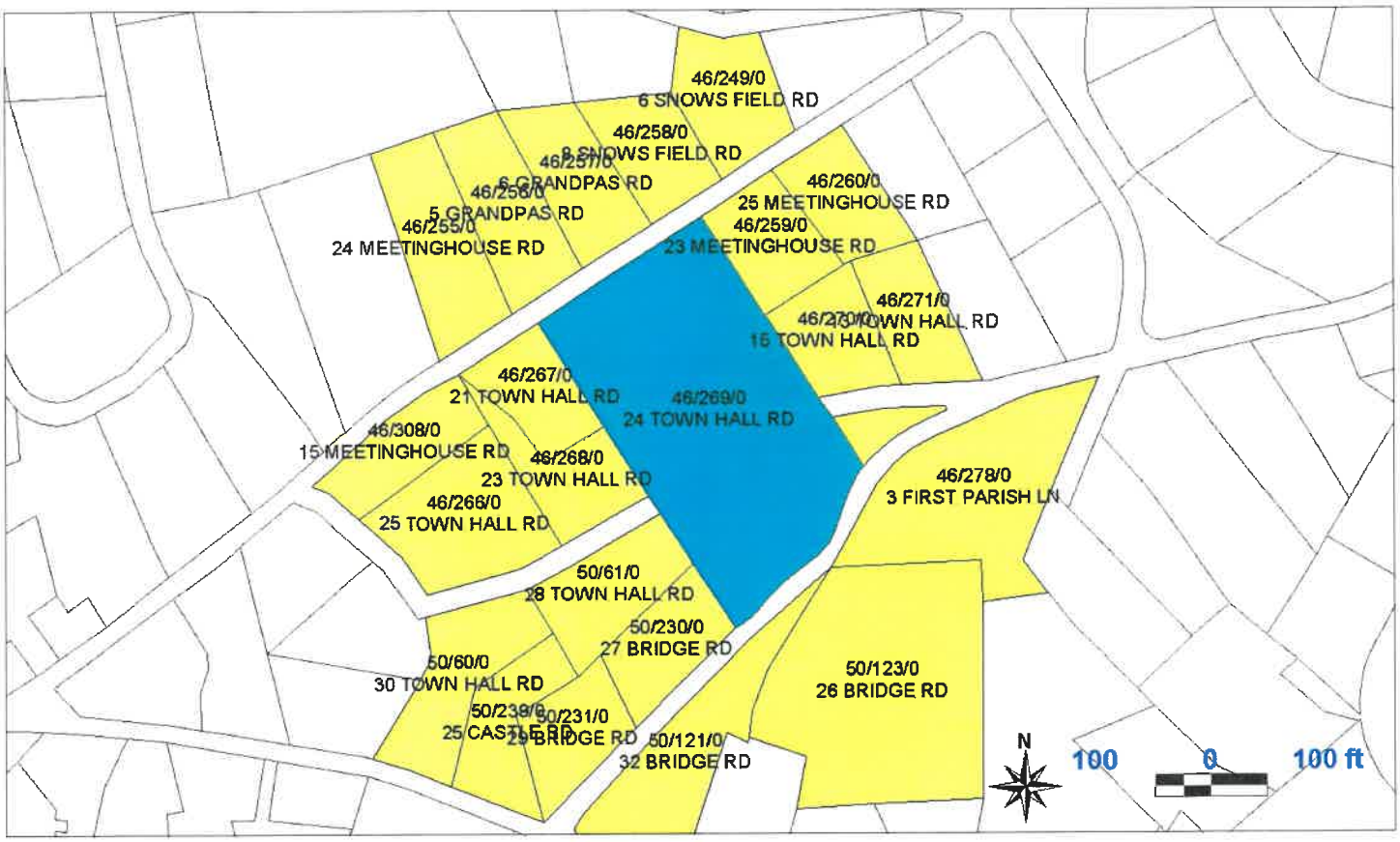
Certified by: _____

Laura Geiges
Assistant Assessor / Data Collector

17 Town Hall Road
Map 46 Parcel 269
Planning Board - Site Plan

TOWN OF TRURO, MA
BOARD OF ASSESSORS
P.O. BOX 2012, TRURO MA 02666

Custom Abutters List



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2466	46-249-0-R	REVOC TRST OF RICHARD H MORSE TRS: RICHARD H MORSE	6 SNOWS FIELD RD	2405 WEST 17TH STREET	WILMINGTON	DE	19806
2472	46-255-0-E	TRURO CONSERVATION TRUST TRS: TOM BOW, ET AL	24 MEETINGHOUSE RD	PO BOX 327	NO TRURO	MA	02652
2473	46-256-0-R	COLLINGS HARRY & MOON DANIEL B	5 GRANDPAS RD	326 DARTMOUTH STREET UNIT 5-7	BOSTON	MA	02116
2474	46-257-0-R	FADER PAUL & LAURIE K BROWN	6 GRANDPAS RD	875 NO WAKONDA ST	FLAGSTAFF	AZ	86004
2475	46-258-0-R	ZIMMAN MICHAEL A & ROVNER ELLEN B	8 SNOWS FIELD RD	315 HIGHLAND AVE #303	SOMERVILLE	MA	02144
2476	46-259-0-R	DUNCOMBE STEPHEN R & RAILLA JEAN A	23 MEETINGHOUSE RD	110 BLEECKER ST #20D	NEW YORK	NY	10012-2105
2477	46-260-0-R	JACKSON NEIL & MARCELLA L	25 MEETINGHOUSE RD	30 MOUNTAIN VIEW DR	BELCHERTOWN	MA	01007
2483	46-266-0-R	GABEL CAROLYN & C/O TOWN HALL ROAD PARTNERS LL	25 TOWN HALL RD	11 COBBS RD	WEST HARTFORD	CT	06107
2484	46-267-0-R	CHRISTIAN TIMOTHY F & NATSUMI	21 TOWN HALL RD	35 SHADOW LN	LARCHMONT	NY	10538
2485	46-268-0-R	HELEN TALBOT MILLER TRUST & GABEL CAROLYN	23 TOWN HALL RD	11 COBBS RD	W HARTFORD	CT	06107
2487	46-270-0-R	MELANDER JOAN & JACQUELINE J	15 TOWN HALL RD	PO BOX 1092	TRURO	MA	02666
2488	46-271-0-R	NAGY ERIC S & NAGY TIMOTHY P	13 TOWN HALL RD	2323 WHIPPOORWILL ROAD	CHARLOTTESVILLE	VA	22901
2494	46-277-0-E	TOWN OF TRURO	20 TOWN HALL RD	PO BOX 2030	TRURO	MA	02666-2030
2495	46-278-0-E	FIRST CONGREGATIONAL PARISH	3 FIRST PARISH LN	PO BOX 149	TRURO	MA	02666-0905
2517	46-308-0-R	KEN FIELD TRUST TRS: KENNETH D FIELD	15 MEETINGHOUSE RD	108 PLEASANT ST, UNIT 3	CAMBRIDGE	MA	02139

LG 10/15/25

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2844	50-60-0-R	COLLIER PAUL & BALANDIS STEFANIE	30 TOWN HALL RD	30 INMAN ST UNIT D	CAMBRIDGE	MA	02139
2845	50-61-0-R	FROHN STEPHEN M ESTATE OF c/o JOHN FROHN III	28 TOWN HALL RD	15 SILVER ST	NORWOOD	MA	02062
2900	50-121-0-R	SNELL MICHAEL & PATRICIA ANN	32 BRIDGE RD	PO BOX 655	TRURO	MA	02666-0655
2902	50-123-0-E	TOWN OF TRURO	26 BRIDGE RD	PO BOX 2030	TRURO	MA	02666-2030
2997	50-230-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	27 BRIDGE RD	PO BOX 144	TRURO	MA	02666
2998	50-231-0-R	CHARETTE FAMILY INVESTMENT TR TRS: CHARETTE WILLIAM H &PAULA	29 BRIDGE RD	22 BOYNTON ST	LYNN	MA	01904
3006	50-239-0-R	DICKEY THOMAS R & NEWTON LYNNE	25 CASTLE RD	PO BOX 903	TRURO	MA	02666-0903

LG 10/15/25

46-249-0-R

REVOC TRST OF RICHARD H MORSE
TRS: RICHARD H MORSE
2405 WEST 17TH STREET
WILMINGTON, DE 19806

46-255-0-E

TRURO CONSERVATION TRUST
TRS: TOM BOW, ET AL
PO BOX 327
NO TRURO, MA 02652

46-256-0-R

COLLINGS HARRY & MOON DANIEL B
326 DARTMOUTH STREET
UNIT 5-7
BOSTON, MA 02116

46-257-0-R

FADER PAUL & LAURIE K BROWN
875 NO WAKONDA ST
FLAGSTAFF, AZ 86004

46-258-0-R

ZIMMAN MICHAEL A &
ROVNER ELLEN B
315 HIGHLAND AVE #303
SOMERVILLE, MA 02144

46-259-0-R

DUNCOMBE STEPHEN R &
RAILLA JEAN A
110 BLEECKER ST #20D
NEW YORK, NY 10012-2105

46-260-0-R

JACKSON NEIL & MARCELLA L
30 MOUNTAIN VIEW DR
BELCHERTOWN, MA 01007

46-266-0-R

GABEL CAROLYN &
C/O TOWN HALL ROAD PARTNERS LL
11 COBBS RD
WEST HARTFORD, CT 06107

46-267-0-R

CHRISTIAN TIMOTHY F & NATSUMI
35 SHADOW LN
LARCHMONT, NY 10538

46-268-0-R

HELEN TALBOT MILLER TRUST &
GABEL CAROLYN
11 COBBS RD
W HARTFORD, CT 06107

46-269-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-270-0-R

MELANDER JOAN & JACQUELINE J
PO BOX 1092
TRURO, MA 02666

46-271-0-R

NAGY ERIC S & NAGY TIMOTHY P
2323 WHIPPOORWILL ROAD
CHARLOTTESVILLE, VA 22901

46-277-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

46-278-0-E

FIRST CONGREGATIONAL PARISH
PO BOX 149
TRURO, MA 02666-0905

46-308-0-R

KEN FIELD TRUST
TRS: KENNETH D FIELD
108 PLEASANT ST, UNIT 3
CAMBRIDGE, MA 02139

50-60-0-R

COLLIER PAUL &
BALANDIS STEFANIE
30 INMAN ST UNIT D
CAMBRIDGE, MA 02139

50-61-0-R

FROHN STEPHEN M ESTATE OF
c/o JOHN FROHN III
15 SILVER ST
NORWOOD, MA 02062

50-121-0-R

SNELL MICHAEL & PATRICIA ANN
PO BOX 655
TRURO, MA 02666-0655

50-123-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

50-230-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
PO BOX 144
TRURO, MA 02666

50-231-0-R

CHARETTE FAMILY INVESTMENT TR
TRS: CHARETTE WILLIAM H &PAULA
22 BOYNTON ST
LYNN, MA 01904

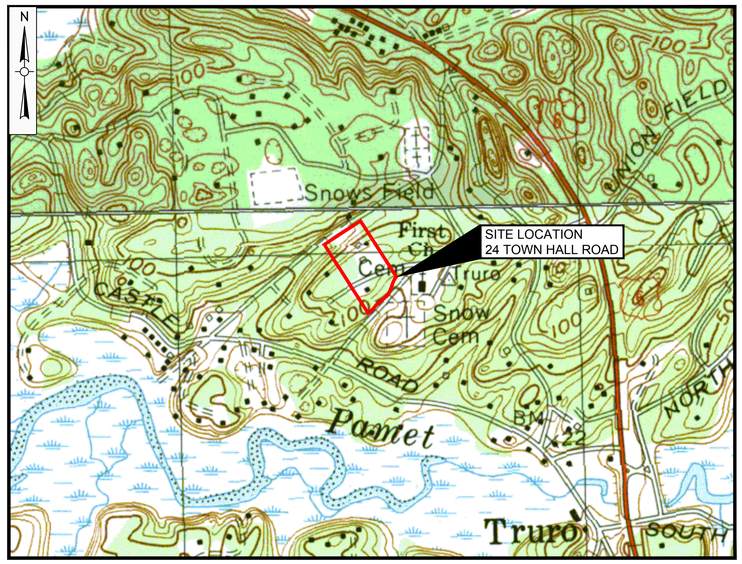
50-239-0-R

DICKEY THOMAS R & NEWTON LYNNE
PO BOX 903
TRURO, MA 02666-0903

LG 10/15/25

Appendix F

Project Site & Building Plans



LOCUS MAP

SCALE: 1" = 500', NORTH AMERICAN DATUM 27 (NAD27)

TOWN OF TRURO, MASSACHUSETTS

NEW DEPARTMENT OF PUBLIC WORKS FACILITY

PLANNING BOARD SITE PLAN REVIEW

ALYSSA K. PECK CIVIL No. 49074 REGISTERED PROFESSIONAL ENGINEER
10-16-25

OCTOBER 16, 2025
ISSUED FOR PERMITTING ONLY
-NOT FOR CONSTRUCTION-

24 TOWN HALL ROAD
TRURO, MA 02666

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE
1	C000	COVER SHEET
2	C001	GENERAL NOTES & LEGEND
3	C101	EXISTING CONDITIONS PLAN I
4	C101	EXISTING CONDITIONS PLAN II
5	C201	SITE PREPARATION & EROSION CONTROL/ DEMOLITION PLAN
6	C301	SITE LAYOUT & MATERIALS PLAN
7	C401	GRADING & DRAINAGE PLAN
8	C501	UTILITY PLAN
9	C601	SITE DETAILS I
10	C602	SITE DETAILS II
11	C603	SITE DETAILS III
12	C604	SITE DETAILS IV
13	C605	SITE DETAILS V
14	C606	SITE DETAILS VI
15	C607	SITE DETAILS VII
16	GT100	GEOTHERMAL WELL DETAILS
17	LC001	SITE PHOTOMETRIC CALCULATION - BASE BID
18	LC002	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1
19	LC003	SITE PHOTOMETRIC CALCULATION - BASE BID WITH BID ALT #1 & #2
20	LC004	PHOTOMETRIC DETAILS AND SCHEDULES
21	A101	OVERALL FLOOR PLAN - BASE
22	A101A	OVERALL FLOOR PLAN - BID ALT 1
23	A102	OVERALL MEZZANINE PLAN - BASE
24	A102A	OVERALL MEZZANINE PLAN - BID ALT 1
25	A106	BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS
26	A201	EXTERIOR ELEVATIONS - BASE
27	A201A	EXTERIOR ELEVATIONS - BID ALT 1
28	A231	EXTERIOR 3D VIEWS - BASE
29	A1011	SALT SHED PLANS & ELEVATIONS

PARKING SUMMARY TABLE

	PARKING REQUIRED PER ZONING REGS	PARKING REQUIRED PER STAFFING COUNTS	PARKING PROVIDED
DPW	27	27	27

PARKING CALCULATIONS:

1. EXISTING PARKING COUNT = 27 SPACES
2. PROPOSED DPW SQUARE FOOTAGE:
   - TOTAL BUILDING GSF: 23,520 SF
   - **ADMIN/OFFICE/SHOP AREA ONLY GSF: 4,550 SF**
3. PROPOSED DPW = 1 space per employee maximum shift, plus1 space per each 3 seats in area of public assembly [30.9.8]
   - 27 SPACES PROVIDED
   - DPW STAFF COUNT = 27 (3 ADMIN, 9 DPW STAFF, 3 TRANSFER STATION STAFF, 12 CONTRACTOR SPACES)

521 CMR 23.2.1 REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES

1. PROPOSED DPW:
   - 27 TOTAL SPACES PROVIDED
   - 2 ACCESSIBLE SPACES PROVIDED [2 REQUIRED FOR (26-50)]

ZONING DIMENSIONAL TABLE

Zoning District: R - Residential

DIMENSION	Required	Existing	Proposed
Min. Lot Frontage (ft.)	33,750	5.14 Acres	5.14 Acres
Min. Lot Frontage (ft.)	150	355	355
Min. Front Yard (ft.) (To Town Hall Road)	25	88.4	33.6
Min. Side Yard (ft.)	25	29.0	25.2
Max.Building Height (ft.)	2 stories, 30	n/a	33'-5 ½"

LOT COVERAGE TABLE

	EXISTING		PROPOSED	
Area Description	**Area (sf)**		**Area (sf)**	
DPW				
Buildings	11,892		30,446	
Pavement*	38,579		55,256	
Gravel	31,180		0	
Concrete Sidewalk	0		420	
Concrete Pads	500		2,399	
Fuel Island	1,077		1,077	
DPW TOTAL	**83,229**		**89,599**	
Town Hall (Town Hall is not included in the limit of work)				
Buildings	4,405		4,405	
Pavement	8,072		8,072	
Brick Sidewalk	1,751		1,751	
Concrete Pads	228		228	
Town Hall TOTAL	**14,457**		**14,457**	
PARCEL TOTAL	**97,685**	**43.71%**	**104,055**	**46.56%**
Total Parcel Area (sf)	**223,506**			

*DPW Pavement includes the pavement within Town Hall Road.

Weston & Sampson SM

Weston & Sampson Engineers, Inc.
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APPLICANT:

JARROD CABRAL, DPW DIRECTOR
17 TOWN HALL ROAD
TRURO, MA 02666-2030

OWNER:
TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

File No.
ENG24-1552

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GENERAL NOTES

1. THE INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC. THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
6. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
7. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
8. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
9. ALL WORK SHOWN ON THE PLANS AS BOLD SHALL REPRESENT PROPOSED WORK. THE TERM "PROPOSED (PROP)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)", OR REMOVE, RELOCATE, RESET, (R,R&R).
10. ALL KNOWN EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND ARE INDICATED ON THE PLANS.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
12. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
13. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
14. EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
15. TREES AND SHRUBS WITHIN THE LIMITS OF WORK SHALL BE REMOVED ONLY UPON THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
16. NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
17. THE CONTRACTOR SHALL REMOVE ALL SURFACE VEGETATION PRIOR TO GRADING THE SITE. TEMPORARY EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS (INCLUDING SILT FENCE AND COMPOSITE FILTER TUBES) SHALL BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT WHICH COST SHALL BE INCIDENTAL TO THE PROJECT.
18. ALL SURPLUS AND/OR UNSUITABLE MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 02 61 00.16 - HANDLING, TRANSPORTATION, REUSE AND OFF-SITE DISPOSAL OF EXCAVATED MATERIAL. SUITABLE SOIL EXCAVATION AS PART OF THE PROJECT MUST MEET ONE OR MORE OF THE MATERIAL REQUIREMENTS SPECIFIED IN 31 00 00 - EARTHWORK. ON-SITE FILL MATERIALS, WHICH DO NOT CONFORM TO SECTION 31 00 00, SHALL NOT BE USED BELOW ANY STRUCTURES. IF THE CONTRACTOR PROPOSES TO USE THE EXISTING FILL ON SITE BELOW PAVEMENT AREAS, OR FOR THE EARTHEN BERM, IT MUST BE DEMONSTRATED THAT THE FILL MEETS THE REQUIREMENTS PER 31 00 00. ALL EXCAVATED FILL MATERIAL WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH SECTION 02 61 00.16.
19. CONTRACTOR IS RESPONSIBLE FOR STAKING CONSTRUCTION BASELINES IN FIELD. NO CONSTRUCTION WILL BE PERFORMED WITHOUT THE PROPOSED BASELINES AND LAYOUTS APPROVED BY THE ENGINEER.
20. NO FILL SHALL CONTAIN HAZARDOUS MATERIALS.
21. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND PERIMETER OF WORK AREA (LIMIT OF WORK). FENCE SHALL NOT IMPEDE TRAVEL WAYS.
22. ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
23. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
24. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
25. THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND SIDEWALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
26. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
27. CONTRACTOR SHALL DEWATER AS NECESSARY TO PERFORM THE PROPOSED WORK. SEE SPECIFICATION SECTION 00 31 32 SUBSURFACE DATA).
28. THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD PRIOR TO THE START OF SITE CLEARING OR CONSTRUCTION.
29. DEEP SUMP CATCH BASINS AND STORMWATER BASIN SHALL BE CLEANED FOLLOWING CONSTRUCTION AND SHALL FOLLOW THE OPERATION AND MAINTENANCE PLAN THEREAFTER.
30. HAULING OF EARTH MATERIALS TO AND FROM THE SITE SHALL BE RESTRICTED TO THE HOURS OF 7 AM TO 4 PM MONDAY THROUGH FRIDAY.
31. ANY BOULDERS 3 CY OR SMALLER SHALL BE CONSIDERED UNDOCUMENTED FILL AND SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE TOWN.
32. WORK ON SATURDAYS SHALL ONLY BE CONDUCTED IF PRIOR WRITTEN PERMISSION IS PROVIDED BY THE OWNER.
33. THE TERM "AS DIRECTED" AS USED IN THE CONTRACT DRAWINGS SHALL BE REPLACED WITH "AS REQUIRED".

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE TOWN OF TRURO WETLANDS PROTECTION REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
5. ALL CATCH BASINS, DRAIN GRATES, AND CURB INLETS WITHIN OR ADJACENT TO THE PROJECT LIMITS SHALL BE PROTECTED WITH INLET SEDIMENT CONTROL DURING THE ENTIRE DURATION OF CONSTRUCTION.
6. SEDIMENT CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
7. ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
8. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
9. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC/PRIVATE ROADS.

GRADING, UTILITIES & DRAINAGE NOTES

1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE TOWN OF TRURO.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED GRAVEL SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
5. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
6. ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF PERCENT (1.5%) AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 5% MAX.
7. MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.
8. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
9. THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
10. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
11. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
12. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
13. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
14. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.
15. FOR STRUCTURE REMODELING (REMOD), CONSTRUCTION METHODS SHALL FOLLOW MASSACHUSETTS DOT STANDARD SPEC. LATEST EDITION (SECTION 220).

DEMOLITION & SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
3. UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL OR CRUSHED AND PROCESSED ROCK IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW. RE-USE OF ON-SITE MATERIALS SHALL BE EVALUATED ON A CASE-BY-CASE BASIS BY THE GEOTECHNICAL ENGINEER.
7. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
8. 'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
9. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
12. THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LAYOUT & MATERIALS NOTES

1. REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEETS C100 & C101).
2. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
3. ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY OWNER".
4. THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
5. THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 521, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
6. ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
7. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
11. THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED
12. ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO LOAM BORROW AND HYDROMULCH SEEDED LAWN.
13. REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
CB	CB	CATCH BASIN
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		WETLAND
WG	WG	WATER GATE
PM	PM	PARKING METER
	OH	OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
	D	UNDERGROUND DRAIN PIPE
	E	UNDERGROUND ELECTRIC DUCT
	G	UNDERGROUND GAS MAIN
	S	UNDERGROUND SEWER MAIN
	T T	UNDERGROUND TELEPHONE DUCT
	W	UNDERGROUND WATER MAIN
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
X X X		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49974
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
PERMITTING
NOT RELEASED FOR CONSTRUCTION

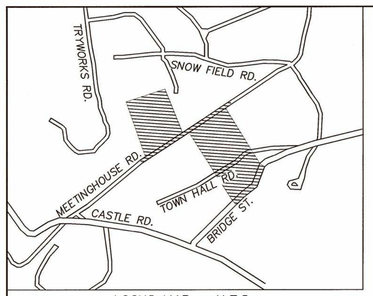
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Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:
GENERAL NOTES & LEGEND

Sheet Number:
C001

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LOCUS MAP – N.T.S.

MASS STATE PLANE (NAD83)

PLAN REFERENCES:

PB 174 PG 83
PB 174 PG 85
PB 213 PG 45
PB 215 PG 69
PB 316 PG 60
PB 368 PG 100
PB 378 PG 19
PB 551 PG 12

NOTES:

1) THE INFORMATION SHOWN HEREON IS BASED ON AN ON–THE–GROUND SURVEY PERFORMED BETWEEN BETWEEN SEPTEMBER 26 & DECEMBER 4, 2024, BY ALPHA SURVEY GROUP, LLC.

2) THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK.

3) THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NAD83 [2011]/GEOID18) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024. UTILIZING MACORS REAL TIME NETWORK. DIFFERENTIAL LEVELING WAS PERFORMED BETWEEN THE BENCHMARKS SHOWN HERON AND SELECT ALPHA SURVEY CONTROL POINTS UTILIZING A SOKKIA DIGITAL LEVEL & BAR–CODED ROD.

5) THE SUBJECT PREMISES DOES NOT LIE WITHIN A FEMA FLOOD ZONE BASED UPON FLOOD INSURANCE RATE MAP NUMBERS 25001C0231J WITH AN EFFECTIVE DATE OF 7/16/2014.

6) THE PROPERTY LINES SHOWN HEREON ARE BASED ON CITED PLANS AND DEEDS AND AN ON–THE–GROUND SURVEY. THE BOUNDARIES WERE ESTABLISHED UTILIZING PRIMACODE'S TRANSFORM PROGRAM TO OBTAIN A "BEST FIT" TO MONUMENTS LOCATED IN THE FIELD.

7) THIS PLAN AND THE ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWN ASSESSOR'S RECORDS. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE ABSTRACT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.

8) TOPOGRAPHICAL CONTOURS SHOWN ON 22 & 24 MEETING HOUSE RD. TAKEN FROM 2021 USGS LIDAR: CENTRAL EASTERN MASSACHUSETTS..

UTILITY NOTES:

1) UTILITIES SHOWN HEREON ARE DERIVED FROM RECORD PLANS AND FIELD OBSERVATIONS MADE BY ALPHA SURVEY BETWEEN SEPTEMBER 26 & OCTOBER 4, 2024.

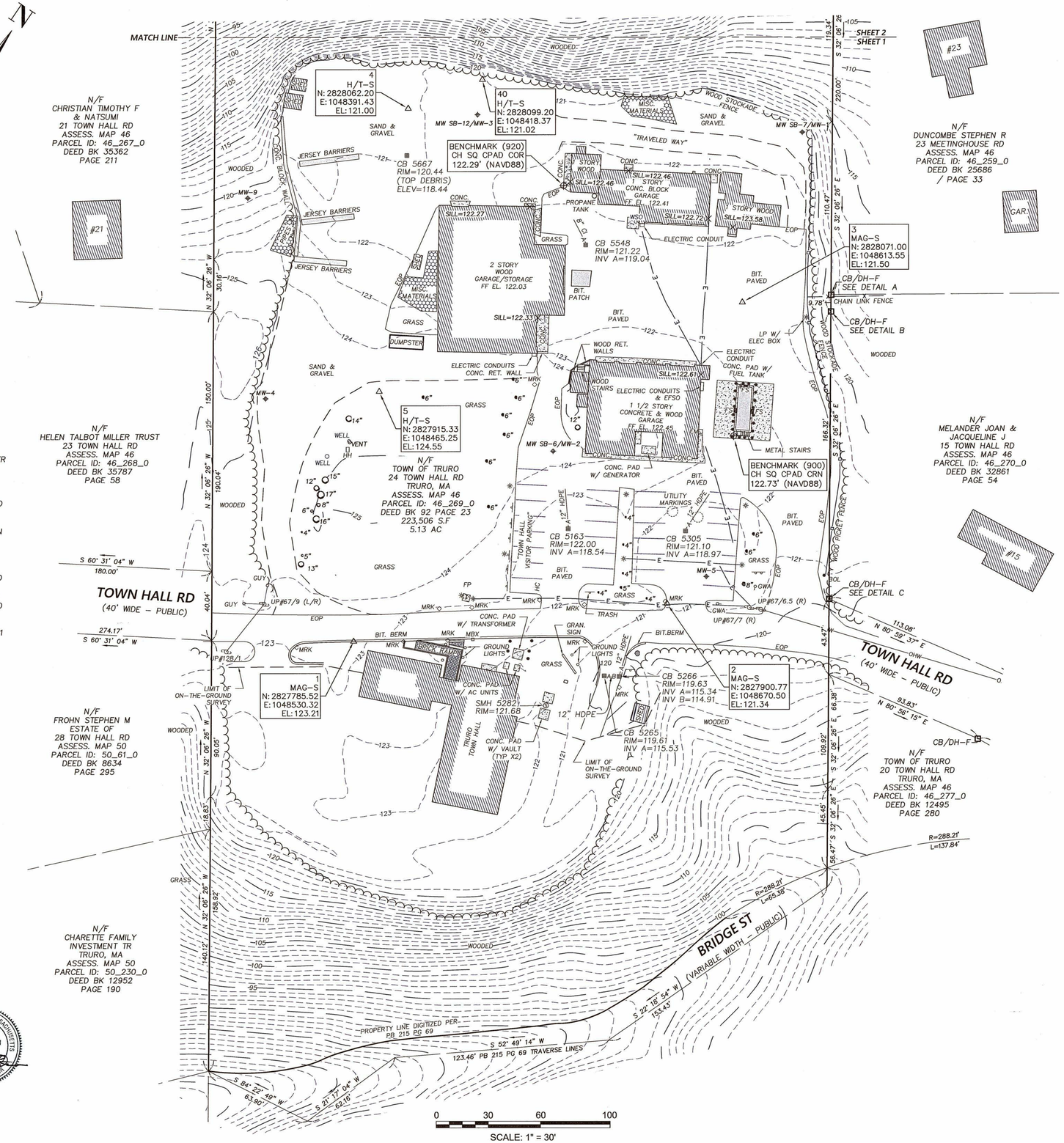
2) ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

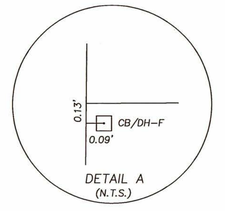
3) UTILITY RESPONSES HAVE NOT BEEN RECEIVED FOR:
BARNSTABLE COUNTY IT
EVERSOURCE FIBER

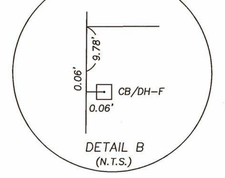
COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

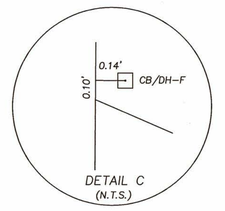
James E. Peterson
REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/04/24
DATE









DRAWING LEGEND

WATER SHUT OFF	WSO
ELECTRIC METER	E
UTILITY POLE	
GUY WIRE ANCHOR	GUY
SEWER MANHOLE	S
CATCH BASIN	
HAND HOLE	HH
HYDRANT	
BOLLARD	
LIGHT POLE	
FLOODLIGHT	
TREE (SIZE INCHES)	
MONITORING WELL	MW#
GAS LINE	G
TELEPHONE LINE	T
DRAIN LINE	D
SEWER LINE	S
ELECTRIC LINE	E
WATER LINE	W
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X
TREELINE	
RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
SPOT GRADE	X 100.00
FOUND	–F
RECORD	(R)
STONE BOUND	SB
CONCRETE BOUND	CB
DRILL HOLE	DH
IRON PIPE	IP
IRON ROD	IR
PARKER–KALON NAIL	PK
MAG NAIL	MAG
BENCHMARK	
TRAVERSE (CONTROL) POINT	
SIGN	
REFLECTIVE ROAD MARKER	MRK
SPLICE BOX	SBOX
EMERGENCY FUEL SHUT OFF	EFSO
FUEL SERVICE PUMP	FS
FLAG POLE	FP

DATE	REVISION
11–21–2024	REVISED TO UPDATE MONITORING WELL DESIGNATIONS
12–04–2024	REVISED TO ADD ADDITIONAL MW LOCATIONS

SCALE 1"=30' | DRAWN GA/LB | FIELD PP/KG | CHECKED JEP

PREPARED BY
ALPHA SURVEY GROUP, LLC
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MIDDLEBOROUGH, MA 02346
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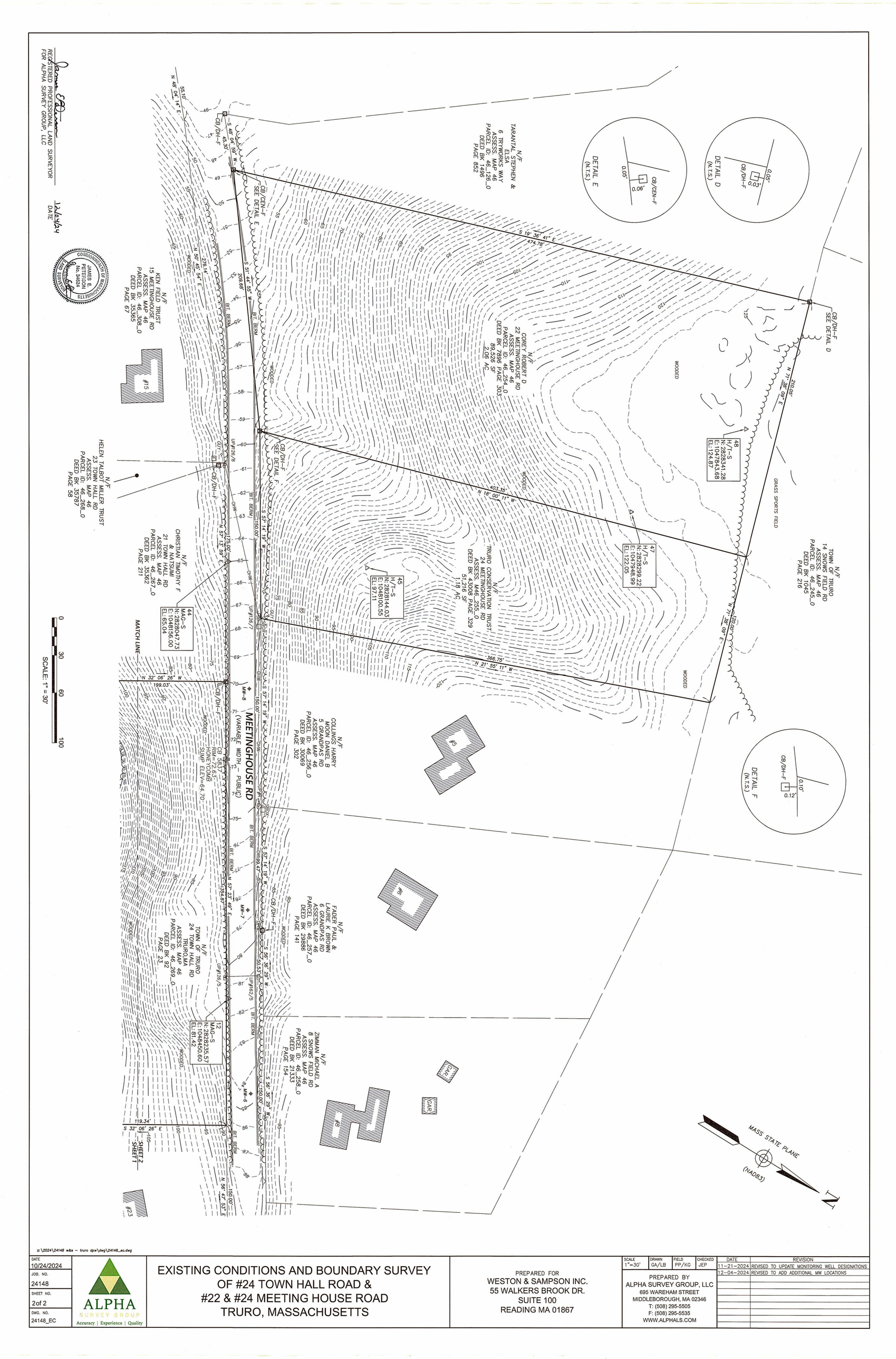
PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

z:\2024\24148 wbs – truro dpw\dwg\24148_ec.dwg

DATE	JOB. NO.	SHEET NO.	DWG. NO.
10/24/2024	24148	1of 2	24148_EC



REGISTERED PROFESSIONAL LAND SURVEYOR
FOR ALPHA SURVEY GROUP, LLC

12/4/24
DATE

COMMONWEALTH OF MASSACHUSETTS
JAMES E. PETERSON
No. 34624
REGISTERED LAND SURVEYOR

z:\2024\24148 wbs – truro dpw\dwg\24148_ec.dwg

DATE	10/24/2024
JOB. NO.	24148
SHEET NO.	2of 2
DWG. NO.	24148_EC

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

EXISTING CONDITIONS AND BOUNDARY SURVEY OF #24 TOWN HALL ROAD & #22 & #24 MEETING HOUSE ROAD TRURO, MASSACHUSETTS

PREPARED FOR
WESTON & SAMPSON INC.
55 WALKERS BROOK DR.
SUITE 100
READING MA 01867

SCALE	DRAWN	FIELD	CHECKED
1"=30'	GA/LB	PP/KG	JEP

PREPARED BY
ALPHA SURVEY GROUP, LLC
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WWW.ALPHALS.COM

DATE	REVISION
11-21-2024	REVISED TO UPDATE MONITORING WELL DESIGNATIONS
12-04-2024	REVISED TO ADD ADDITIONAL MW LOCATIONS

SITE NOTES

1. ALL EXISTING PIPES TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION SECTION 02 41 13.29 "ABANDONMENT OF SEWER AND DRAINS."
2. ALL EXISTING UTILITIES, PIPES, STRUCTURES, OBSERVATION WELLS, ETC. SHALL BE ABANDONED AS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL COORDINATE REMOVAL OF MATERIAL STOCKPILES WITH THE TRURO DPW. TOWN SHALL REMOVE MATERIAL STOCKPILES IN ADVANCE OF THE WORK.
4. ALL UTILITIES AND DRAINAGE STRUCTURES BELOW PROPOSED FOOTPRINT OF BUILDINGS MUST BE REMOVED IN THEIR ENTIRETY.
5. REMOVAL OF CONCRETE WALLS SHALL INCLUDE ALL ASSOCIATED FOUNDATIONS.
6. UTILITIES FOR SITE AMENITIES INCLUDING LIGHT POLES AND BUILDINGS SCHEDULED TO BE DEMOLISHED SHALL BE DISCONNECTED AND MADE SAFE AT THE POWER SOURCE BY THE ELECTRICAL FILED SUB-BIDDER. SITE CONTRACTOR TO REMOVE AMENITIES INCLUDING THE DISCONNECTED UTILITIES FEEDING THE AMENITIES.
7. ALL VOIDS CREATED BY REMOVAL OF EXISTING ELEMENTS SHALL BE BACKFILLED WITH GRAVEL BORROW IN ACCORDANCE WITH 31 00 00 EARTHWORK.
8. CONTRACTOR SHALL BE AWARE THAT THE EXISTING LIMIT OF BITUMINOUS CONCRETE IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LIMITS PRIOR TO BIDDING. ALL EXISTING BITUMINOUS CONCRETE SHALL BE REMOVED TO COMPLETE THE PROPOSED WORK WITHOUT ADJUSTMENT TO COMPENSATION.
9. SEDIMENTATION CONTROL DEVICES WITHIN THE TOWN'S RIGHT OF WAY, MUST BE MAINTAINED, INSPECTED, CLEANED AND REPLACED AS NECESSARY TO PREVENT POSSIBLE FLOODING ISSUES DURING RAIN EVENTS. ONCE ALL WORK IS DONE, ANY SEDIMENTATION CONTROL DEVICES MUST BE REMOVED BY THE CONTRACTOR AS SOON AS POSSIBLE.
10. CONTRACTOR SHALL CORDON OFF THE INFILTRATION POND AREA TO PREVENT CONSTRUCTION EQUIPMENT AND STOCKPILES MATERIALS FROM COMPACTING THE SUBGRADE SOILS. SEE PLAN C401 GRADING & DRAINAGE PLAN FOR POND LOCATION.
11. CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS TO ENSURE CONTINUOUS OPERATION OF THE EXISTING FUEL ISLAND AND COORDINATE ANY CONSTRUCTION ACTIVITIES THAT MIGHT TEMPORARILY INTERFERE WITH OPERATION WITH THE TOWN.

SITE PREPARATION LEGEND

- STABILIZED CONST ENTRANCE
- STRUCTURES TO BE DEMOLISHED AND REMOVED FROM SITE
- GRAVEL SURFACE TO BE REMOVED
- PAVEMENT TO BE REMOVED
- LIMITS OF TREE CLEARING
- EXISTING BUILDING/STRUCTURE TO REMAIN
- TEMPORARY CONSTRUCTION FENCE
- SILT FENCE
- COMPOST FILTER TUBING
- LIMIT OF WORK
- TREE REMOVAL
- INLET PROTECTION



0 20 50 100

SCALE: 1" = 20'

Project:

TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson

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10-16-25

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Scale: AS NOTED

Date:	10-16-2025
Drawn By:	CTP
Reviewed By:	AP
Approved By:	AP
W&S Project No.:	ENG24 - 1552
W&S File No.:	-

Drawing Title:

SITE PREPARATION AND EROSION CONTROL PLAN & DEMOLITION PLAN

Sheet Number:

C201

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NOTE:
1. THE CONTRACTOR SHALL GIVE TWENTY-FOUR (24) HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
2. DIRECTIONAL ARROWS ARE SHOWN FOR INFORMATION ONLY TO SHOW THE DIRECTION OF TRAFFIC ON SITE. THEY DO NOT INDICATE PAVEMENT MARKINGS.
3. GRANITE CURB SHALL BE TYPE VA-4 UNLESS OTHERWISE IDENTIFIED.
4. PROVIDE NEW HOT MIX ASPHALT PAVEMENT BETWEEN ALL PROPOSED CURB LINES & BUILDINGS, (INCLUDING UP TO SAWCUT LIMITS) AND BETWEEN PROPOSED RETAINING WALLS, CURB LINES & BUILDING.
5. CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION SIGNAGE AS REQUIRED FOR CONTROL OF TRAFFIC AND PEDESTRIANS.
6. CONTRACTOR SHALL PATCH EXISTING PAVED AREAS WITH HMA FOLLOWING UTILITY INSTALLATION.
7. ALL BACKFILL MATERIAL BELOW PROPOSED BUILDINGS SHALL CONSIST OF STRUCTURAL AGGREGATE BACKFILL OR PROCESSED GRAVEL PER SPECIFICATION SECTION 31 00 00-EARTHWORK.

LEGEND

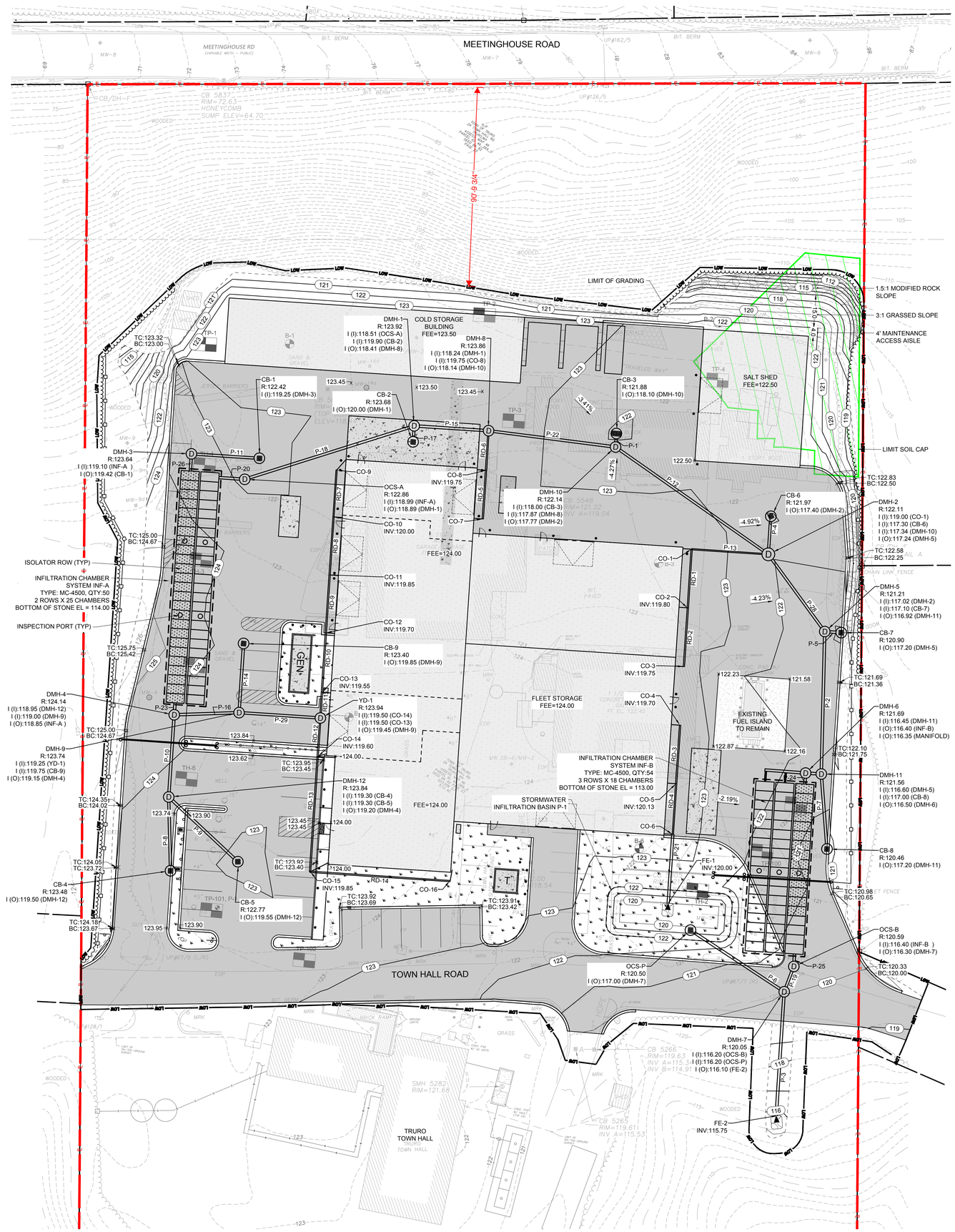
- BITUMINOUS PAVEMENT
- CONCRETE
- LOAM & SEED/PLANTINGS (SEE LANDSCAPE PLAN)
- MODIFIED ROCKFILL
- LOW — LIMIT OF WORK

NOT
CHRISTOPHER TIMOTHY F
& MATTHEW
21 TOWN HALL RD
ASSESS. MAP 46
PARCEL ID 46_267_0
DEED BK 32612
PAGE 311

MEETINGHOUSE ROAD
MEETINGHOUSE RD (VARIABLE WIDTH — PUBLIC)
TOWN HALL ROAD
TOWN HALL RD (40' WIDE — PUBLIC)
BIT. BERM
WOODED
CB 5537 RIM=72.63 HONEYCOMB SUMP ELEV=64.70
CB/DH–F
UP#162/5
UP#26/5
MW–6
MW–7
MW–8
MW–9
MW–14
MW–15
MW–16
TP-1
TP-2
TP-3
TP-4
TP-100
TP-101, P-1
TP-102
TH-1
TH-2
TH-3
TH-4
TH-5
TH-6
B-1
B-2
B-3
B-5
B-6
#21
#23
#15
GAR.
SALT SHED
1 1/2 STORY CONCRETE & WOOD GARAGE FF EL. 122.45
1 STORY WOOD
1 STORY CONC. BLOCK FF EL. 122.41
CB 5548 RIM=121.22 INV E=119.04
CB 5667 RIM=120.44 (TOP DEBRIS) ELEV=118
CB 5265 RIM=119.61 INV A=115.53
SMH 5282 RIM=121.68
INV A=115.34
INV B=114.91
GEN
TRURO TOWN HALL
TOWN HALL
BRICK RAMP
GRASS
SHED
CHAIN LINK FENCE
ELECTRIC CONDUIT
SAND & GRAVEL
JERSEY BARRIERS
PROPANE TANK
GARAGE FF EL. 122.45
ELEV. 122.41
ELEV. 122.34
ELEV. 122.22
ELEV. 119.04
ELEV. 115.34
ELEV. 114.91
ELEV. 115.53
ELEV. 121.68
ELEV. 119.61
ELEV. 115.53
ELEV. 121.22
ELEV. 119.04
ELEV

PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
MANIFOLD	12" HDPE	17-LF	0.006	116.35	116.25
P-1	12" HDPE	2-LF	0.016	118.10	118.00
P-2	12" HDPE	61-LF	0.005	116.92	116.60
P-3	12" HDPE	53-LF	0.006	116.10	115.75
P-4	12" HDPE	13-LF	0.006	117.40	117.30
P-5	12" HDPE	4-LF	0.013	117.20	117.10
P-6	12" HDPE	47-LF	0.016	117.00	116.20
P-7	12" HDPE	30-LF	0.006	117.20	117.00
P-8	12" HDPE	30-LF	0.006	119.50	119.30
P-9	12" HDPE	39-LF	0.006	119.55	119.30
P-10	12" HDPE	34-LF	0.007	119.20	118.95
P-11	12" HDPE	27-LF	0.005	119.42	119.25
P-12	12" HDPE	81-LF	0.005	117.77	117.34
P-13	6" HDPE	31-LF	0.017	119.60	119.00
P-14	12" HDPE	28-LF	0.003	119.85	119.75
P-15	12" HDPE	30-LF	0.005	118.41	118.24
P-16	12" HDPE	26-LF	0.005	119.15	119.00
P-17	12" HDPE	3-LF	0.014	120.00	119.90
P-18	12" HDPE	77-LF	0.005	118.89	118.51
P-19	12" HDPE	8-LF	0.008	116.30	116.20
P-20	12" HDPE	8-LF	0.009	119.10	118.99
P-21	12" HDPE	30-LF	0.004	120.13	120.00
P-22	12" HDPE	54-LF	0.005	118.14	117.87
P-23	12" HDPE	1-LF	0.009	118.85	118.80
P-24	12" HDPE	1-LF	0.000	116.40	116.40
P-25	12" HDPE	2-LF	0.000	116.40	116.40
P-26	12" HDPE	4-LF	0.006	119.15	119.10
P-27	12" HDPE	3-LF	0.007	116.50	116.45
P-28	12" HDPE	39-LF	0.005	117.24	117.02
P-29	12" HDPE	33-LF	0.005	119.45	119.25

PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	INV IN	INV OUT
RD-1	6" HDPE	23-LF	0.002	119.85	119.80
RD-2	6" HDPE	23-LF	0.002	119.80	119.75
RD-3	6" HDPE	23-LF	0.002	119.75	119.70
RD-4	6" HDPE	19-LF	0.005	120.25	120.13
RD-5	6" HDPE	18-LF	0.000	119.75	119.75
RD-6	6" HDPE	14-LF	0.000	119.75	119.75
RD-7	6" HDPE	17-LF	0.005	120.10	120.00
RD-8	6" HDPE	23-LF	0.006	120.00	119.85
RD-9	6" HDPE	23-LF	0.006	119.85	119.70
RD-10	6" HDPE	23-LF	0.006	119.70	119.55
RD-11	6" HDPE	8-LF	0.004	119.55	119.50
RD-12	6" HDPE	14-LF	0.006	119.60	119.50
RD-13	6" HDPE	49-LF	0.005	119.85	119.60
RD-14	6" HDPE	60-LF	0.005	120.15	119.85



NOTES:

1. ALL EXISTING EARTHWORK MATERIALS, (EXCEPT FOR STOCKPILED FILL MATERIALS SHOWN ON C101) MAY BE INCORPORATED IN THE WORK AND USED FOR BACKFILL IF MATERIALS MEET 31 00 00 EARTHWORK SPECIFICATION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR TESTING OF EXISTING MATERIAL FOR POTENTIAL REUSE ON SITE. IF MATERIAL DOES NOT MEET MATERIAL REQUIREMENTS LISTED IN 31 00 00 FOR REUSE ON SITE, THEN THE CONTRACTOR SHALL REMOVE AND DISPOSE OF MATERIAL AND IMPORT NEW MATERIAL AS NEEDED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE TOWN. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BACKFILL MATERIALS AS NEEDED AND AS SPECIFIED IN SECTION 31 00 00 EARTHWORK. NO ON-SITE BACKFILL MATERIAL MAY BE USED AS PIPE TRENCH BACKFILL OR BELOW THE BUILDING SLAB AND FOUNDATION, UNLESS IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, ALL DRAIN MANHOLES SHALL BE 4' DIAMETER.
3. ALL RIM ELEVATIONS SHALL BE FLUSH WITH FINISH GRADE.
4. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
5. DUMPSTER PADS SHALL SLOPE AT A MINIMUM 2% INTO THE PAVED AREA.
6. ALL CATCH BASINS SHALL BE SET FLUSH AGAINST THE GRANITE CURBING.
7. EROSION CONTROL FABRIC SHALL BE USED FOR ALL SLOPES 3:1 OR STEEPER PER 32 91 19 SEEDING.
8. REFER TO EXISTING CONDITIONS PLAN FOR BENCHMARK LOCATIONS.
9. REFER TO UTILITY PLAN FOR PROPOSED UTILITY LOCATIONS AND COORDINATE ACCORDINGLY WITH ALL GRADING AND DRAINAGE WORK.
10. UNLESS NOTED AS TOP OF CURB (TOC), ALL SPOT ELEVATIONS ARE SHOWN AS THE BOTTOM OF CURB OR BOTTOM OF WALL ELEVATION. TOP OF CURB ELEVATIONS ARE 6" HIGHER THAN BOTTOM OF CURB.
11. GRASSED AREAS ADJOINING THE BUILDING SHALL SLOPE AWAY FROM THE BUILDING AT A 1% MINIMUM SLOPE.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

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TRURO, MA 02666

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CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

Issued For:
PERMITTING
NOT RELEASED FOR CONSTRUCTION

Scale: AS NOTED

Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:
GRADING & DRAINAGE PLAN

Sheet Number:
C401

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NOTES:

1. THE G.C. IS RESPONSIBLE FOR EXCAVATION AND BACKFILL FOR ALL UNDERGROUND UTILITIES WITHIN THE BUILDING. COORDINATE LOCATIONS, ROUTING, DEPTH, ETC. WITH EACH SUBCONTRACTOR.
2. THE G.C. SHALL COORDINATE BOLLARD LOCATIONS FOR ELECTRICAL TRANSFORMER WITH UTILITY COMPANY PRIOR TO INSTALLATION.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE G.C. SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE G.C. FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE G.C. AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE G.C. SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER.
5. THE G.C. IS RESPONSIBLE FOR ADJUSTING HORIZONTAL AND VERTICAL ALIGNMENT OF PROPOSED UTILITIES AS REQUIRED TO COMPLETE THE PROPOSED DRAINAGE AND SEWER WORK.
6. THE G.C. SHALL PROVIDE ALL NECESSARY FITTINGS TO ACHIEVE WATER SERVICE LAYOUT AS SHOWN ON THE DRAWINGS.
7. THE G.C. IS RESPONSIBLE FOR PROVIDING PROPER TRANSITION MATERIAL AND FITTINGS TO PROVIDE A TIGHT TRANSITION FROM DISSIMILAR PIPE MATERIALS FROM PLUMBING & FIRE PROTECTION WORK TO G.C. WORK.
8. THE G.C. SHALL BE RESPONSIBLE FOR THE EXCAVATION, SAND PIPE BEDDING, AND BACKFILL OF THE GAS LINE. THE PIPE INSTALLATION WILL BE THE RESPONSIBILITY OF THE GAS COMPANY FROM THE MAIN TO THE METER. THE GAS COMPANY WILL DETERMINE IN THE FIELD THE EXACT LOCATION FOR PROPER CONNECTION TO THE EXISTING GAS MAIN.
9. THE G.C. IS RESPONSIBLE FOR EXCAVATION, BACKFILL, CONCRETE ENCASEMENT, AND REINFORCEMENT FOR ALL UNDERGROUND CONDUITS/DUCTBANKS, HANDHOLES, PLUMBING, AND FIRE PROTECTION WORK. COORDINATE LIMITS OF WORK WITH FP, P, E, AND TC DRAWINGS FOR WORK NOT SHOWN ON THIS DRAWING.

Project:
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NEW DEPARTMENT of PUBLIC WORKS FACILITY

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Consultants:

Revisions:

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COMMONWEALTH OF MASSACHUSETTS
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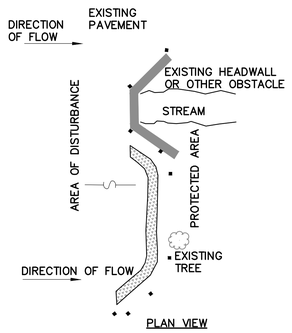
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Reviewed By: AP
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Drawing Title:
UTILITY PLAN

Sheet Number:
C501

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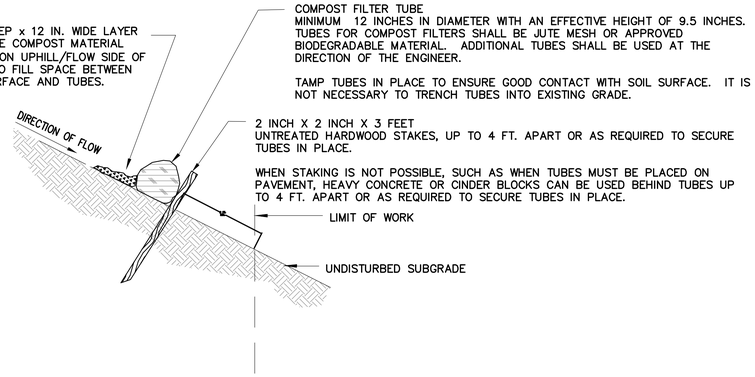
PLAN VIEW

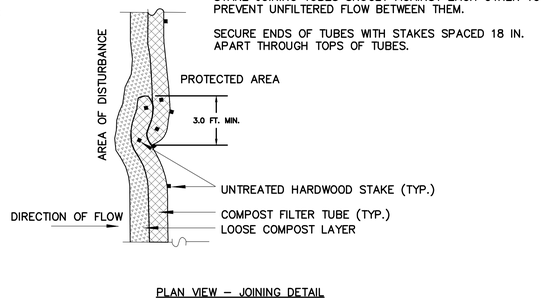
PLACING TUBES AGAINST THE UPHILL SIDE OF WELL– ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN–OFF.

GENERAL NOTES:

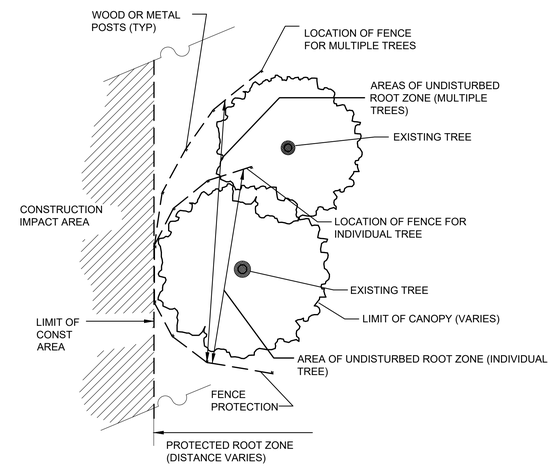
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN–OFF.
5. MULCH MATERIAL FOR THE FILTER TUBES SHALL BE WEED–FREE STRAW, WOOD EXCELSIOR, OR WOOD CHIPS, OR COIR. STRAW SHALL BE WEED FREE AND DERIVED FROM THRESHING OF GRAIN CROP.



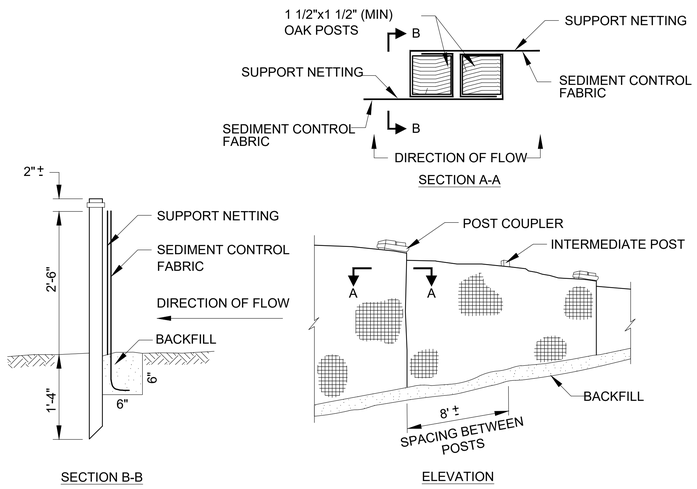


PLAN VIEW – JOINING DETAIL

1 EROSION CONTROL MEASURE: SINGLE COMPOST FILTER TUBE DETAIL
SCALE: N.T.S.

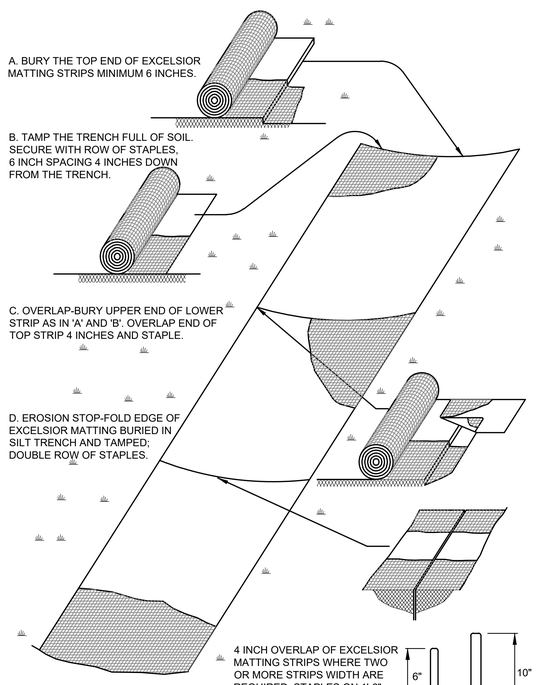


PLAN VIEW



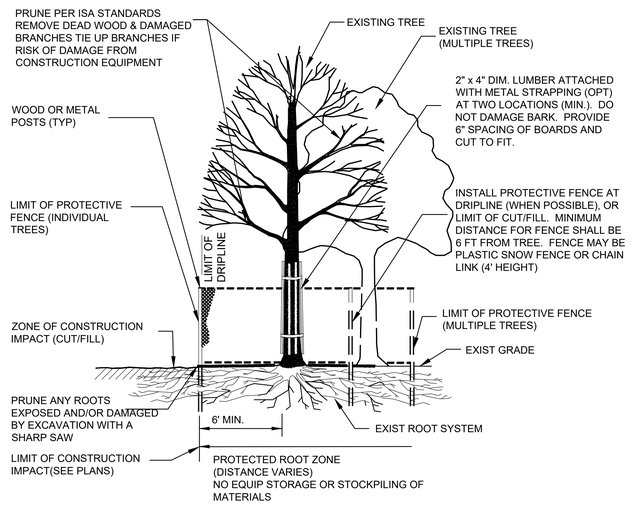
2 SILT FENCE DETAIL
SCALE: N.T.S.

1. EROSION CONTROL MEASURES SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
2. AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
3. IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDES EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
4. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
5. TEMPORARY SILT CONTROLS SHALL BE PLACED AS SHOWN ON THE PLAN. PERMANENTLY STABILIZE EACH COMPLETED SEGMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REMOVE TEMPORARY SILT CONTROLS AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS.
7. SILT CONTROLS SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SILT AND DEBRIS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
9. OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADE. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS NEEDED.
11. SILT CONTROLS SHALL BE REMOVED UPON THE SATISFACTORY COMPLETION OF ALL WORK SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
12. SITE PERIMETER SHALL HAVE COMPOST FILTER TUBES INSTALLED AS SHOWN ON C201.

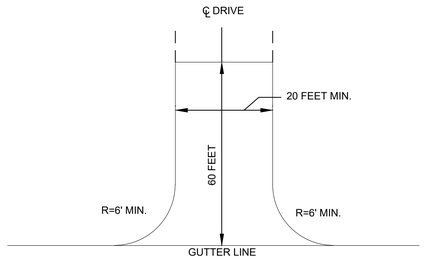


3 EROSION CONTROL BLANKET
SCALE: N.T.S.

NOTE:
JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS



4 EXISTING TREE PROTECTION
SCALE: N.T.S.

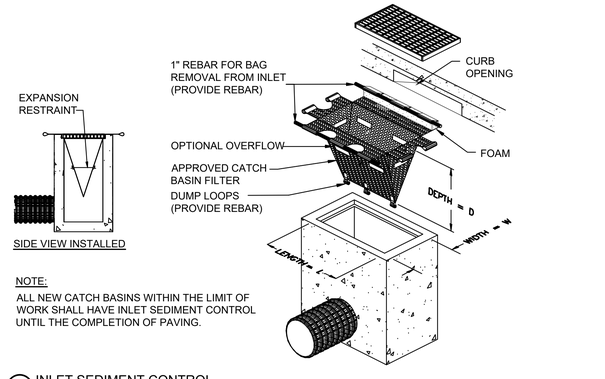


PLAN

NOTES:

1. AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE PLACED AT EACH ENTRANCE TO THE SITE, THROUGHOUT CONSTRUCTION ACTIVITIES.
2. THE LOCATION OF THE CONSTRUCTION ENTRANCE(S) SHALL BE APPROVED BY THE OWNER PRIOR TO PLACEMENT.
3. CONSTRUCTION ENTRANCE(S) SHALL CONSIST OF 2" CRUSHED STONE PLACED AT A DEPTH OF A MINIMUM 8 INCHES PLACED OVER GEOTEXTILE FABRIC.
4. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION AND ALL NECESSARY MAINTENANCE OF ALL ENTRANCES.
5. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO THE STREET, AS WELL MAINTENANCE OF EROSION CONTROL MEASURES.

5 STABILIZED TEMPORARY CONSTRUCTION ENTRANCE
SCALE: N.T.S.



NOTE:
ALL NEW CATCH BASINS WITHIN THE LIMIT OF WORK SHALL HAVE INLET SEDIMENT CONTROL UNTIL THE COMPLETION OF PAVING.

6 INLET SEDIMENT CONTROL
SCALE: N.T.S.

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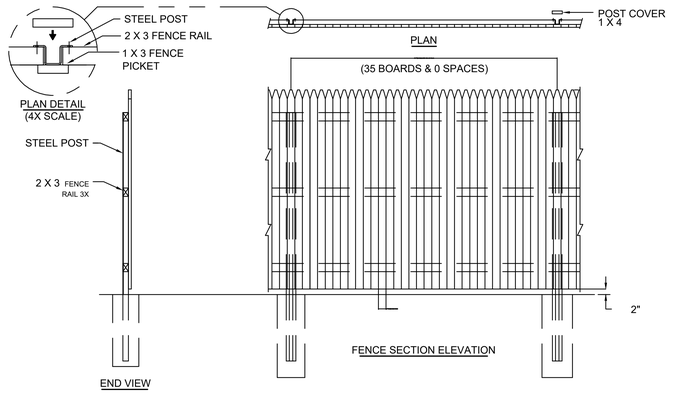
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Drawing Title:
SITE DETAILS I

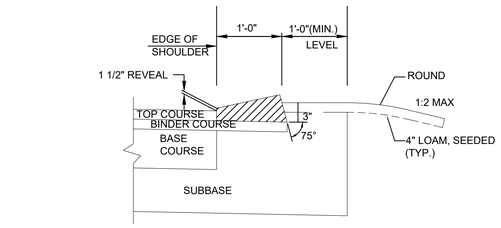
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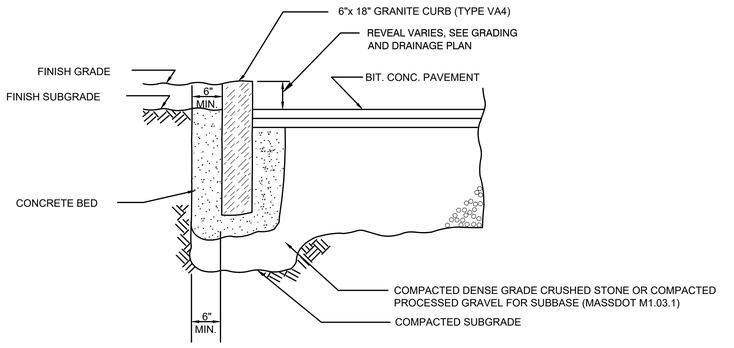


NOTES:
1. FOOTING WIDTH TO BE 10" [254MM]. MINIMUM DEPTH 30" [762MM].
2. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

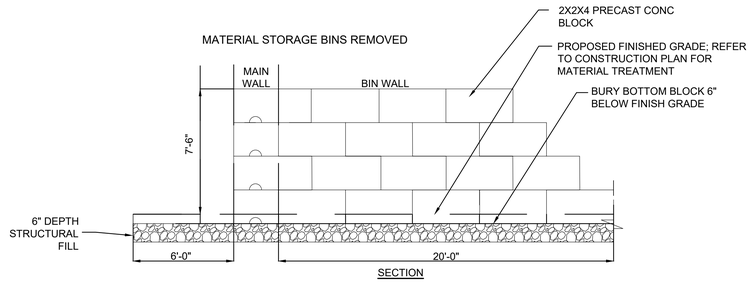
1 WOOD STOCKADE DETAIL
SCALE: N.T.S.



2 HMA BERM
SCALE: N.T.S.



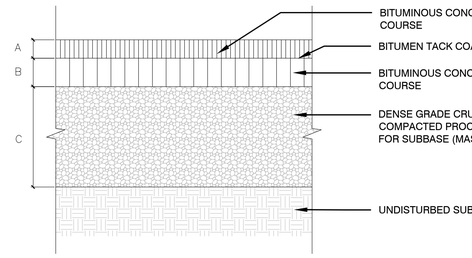
3 GRANITE CURB DETAIL
SCALE: N.T.S.



NOTES:

1. PRECAST BLOCKS SHALL BE INTERLOCKING AT ALL INTERSECTING WALLS.
2. PAINTING CONTRACTOR SHALL PAINT A 4" MARKER AT 6' ABOVE FINISHED GRADE ALONG THE INTERIOR PERIMETER OF EACH BULK MATERIAL STORAGE BIN.
3. CONTRACTOR SHALL PROVIDE A SIGN IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATION SECTION 828. THE SIGN SHALL BE 8 INCHES TALL AND HAVE LETTERING SIMILAR TO STREET NAME SIGN TYPE D3, AS DESCRIBED IN THE MUTCD (LATEST EDITION). THE SIGN SHALL STATE "MAXIMUM FILL HEIGHT 6 FEET" FOR EACH STORAGE BIN.
4. 2"Wx8"Lx1/2" THICK GALVAN. STEEL PLATE BOLTED TO EACH BLOCK AT VERTICAL JOINT. (TYP) PLATE PROVIDED AND INSTALLED BY G.C. PROVIDE PRE-DRILLED HOLES FOR SELF TAPPING CONCRETE SCREWS.
5. THE CONTRACTOR SHALL SUBMIT WALL DESIGN STAMPED BY A MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER. THE SUBMITTAL MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

4 PRECAST CONCRETE BLOCK STORAGE BIN WALL DETAIL
SCALE: N.T.S.

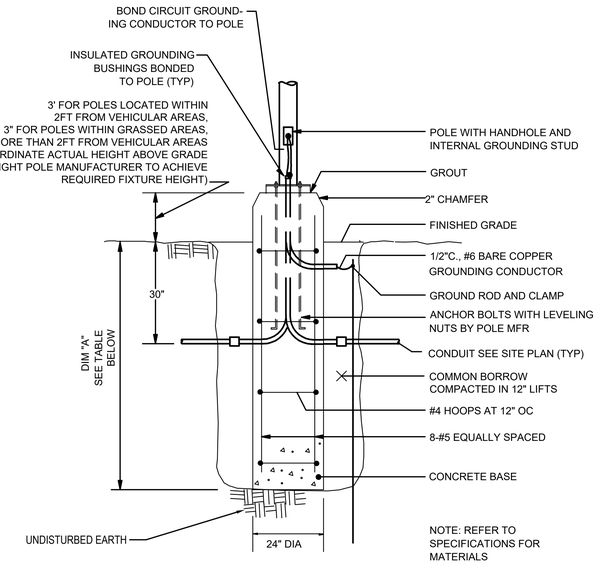


PAVEMENT DEPTH SCHEDULE

	TOP (A)	BINDER (B)	BASE COURSE (C)
HEAVY DUTY	2.0"	3.0"	16"

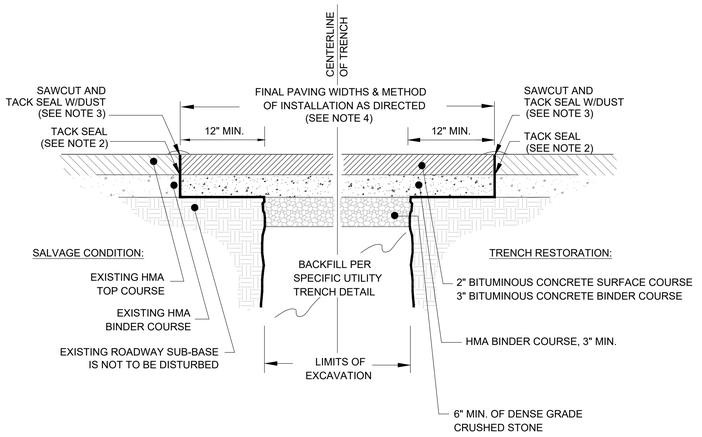
5 TYPICAL PAVEMENT SECTION DETAIL
SCALE: N.T.S.

NOTES:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.



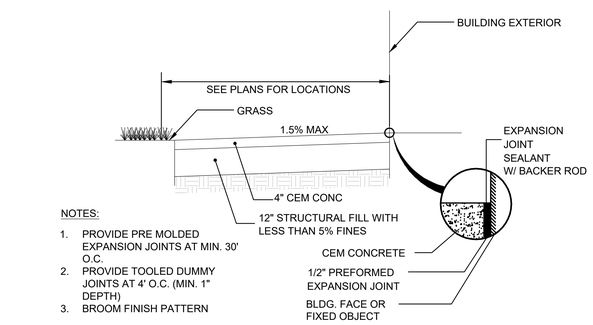
POLE HEIGHT	DIMENSION "A"
10' TO 20'	4'-6"
20' TO 30'	5'-6"
30' TO 40'	6'-6"

6 LIGHT POLE FOUNDATION DETAIL
SCALE: N.T.S.



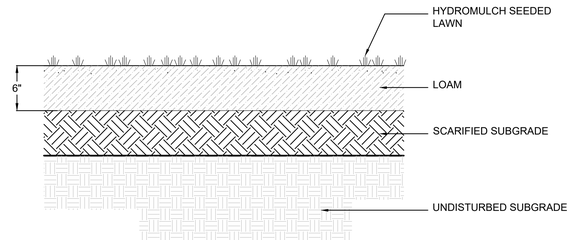
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
2. ALL EXPOSED HMA IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE TOWN.

7 TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL
SCALE: N.T.S.



NOTES:
1. PROVIDE PRE MOLDED EXPANSION JOINTS AT MIN. 30' O.C.
2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C. (MIN. 1" DEPTH)
3. BROOM FINISH PATTERN

8 CEMENT CONCRETE WALK
SCALE: N.T.S.



9 LOAM & SEED
SCALE: N.T.S.

NOTES:
1. REFER TO THE LANDSCAPING PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF LOAM AND SEED AREAS.

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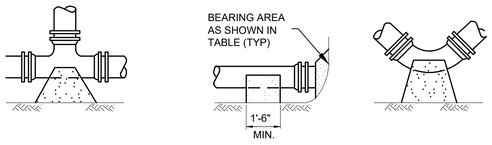
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SITE DETAILS II

Sheet Number:
C602

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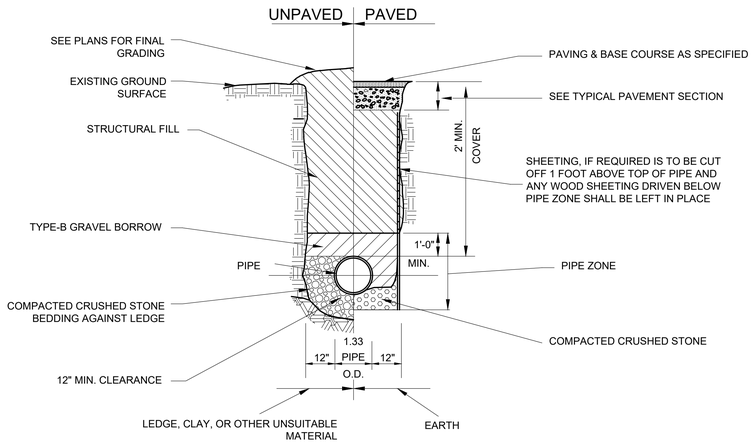


TEE DETAIL (PLAN VIEW) | CAP DETAIL (PLUG SIMILAR) (SECTION VIEW) | BEND DETAIL (PLAN VIEW)

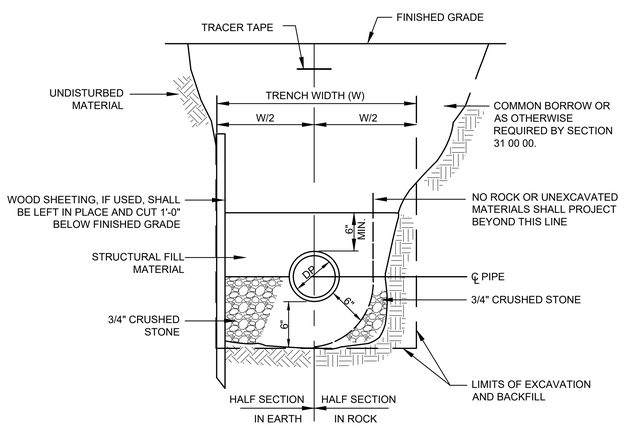
TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS				
SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2
16"	20	15	8	4
20"	36	24	13	7

NOTES: 1. ALL WATER MAIN FITTINGS SHALL HAVE CONCRETE BACKING FOR
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF

1 CONCRETE THRUST RESTRAINT FOR FITTINGS
SCALE: N.T.S.

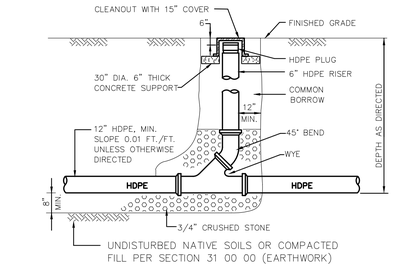


4 TYPICAL STORM DRAIN TRENCH DETAIL
SCALE: N.T.S.



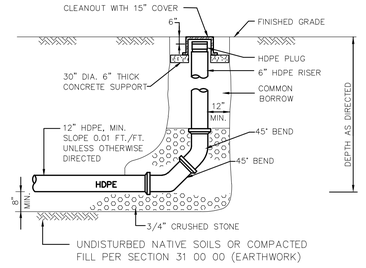
DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	TO 4"	5'-0"

8 SEWER TRENCH DETAIL
SCALE: N.T.S.



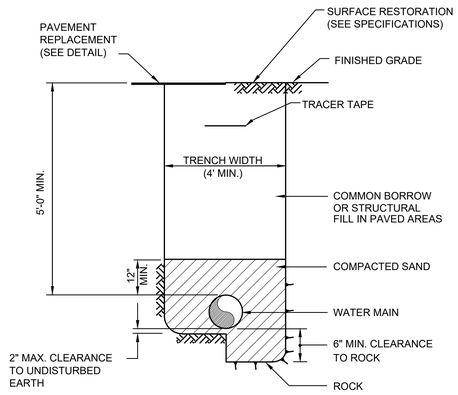
2 WYE CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED

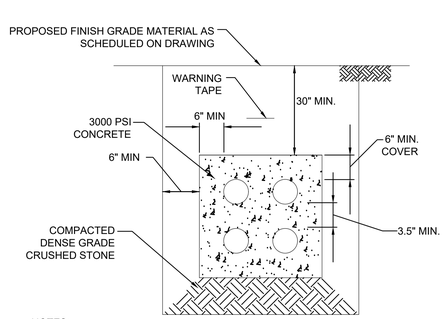


3 END CLEANOUT
SCALE: N.T.S.

NOTES:
1. REFER TO PLAN FOR PIPE DIAMETER.
2. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE H-20 WHEEL LOAD RATED



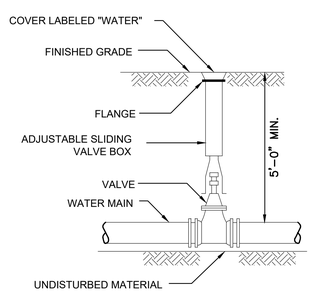
5 WATER MAIN TRENCH DETAIL
SCALE: N.T.S.



NOTES:

1. G.C. IS RESPONSIBLE FOR EXCAVATION, CONCRETE ENCASEMENT, REINFORCEMENT AND BACKFILL. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONDUITS & SPACERS. SEE E-SERIES DRAWINGS FOR DUCTBANK REINFORCEMENT REQUIREMENTS.
2. PROVIDE REINFORCEMENT PER LOCAL UTILITY COMPANY REQUIREMENTS.
3. QUANTITY & SIZE OF CONDUITS VARY. DUCTBANK SIZE SHALL BE ADJUSTED BASED ON CONDUIT TYPES & SIZES IDENTIFIED ON THE E-SERIES DRAWINGS.
4. CONTRACTOR SHALL COORDINATE DEPTH OF PROPOSED DUCTBANK WITH PROPOSED UTILITY & DRAINAGE SYSTEMS TO AVOID CONFLICTS.
5. BACKFILL AROUND DUCTBANK WITH GRAVEL BORROW BACKFILL MATERIAL.

7 ELECTRIC/COMMUNICATION DUCTBANK DETAIL
SCALE: N.T.S.



NOTES:
1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE.
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS.
3. REINFORCED CONCRETE COLLAR REQUIRED WHEN INSTALLED IN PAVED SURFACE.

9 VALVE AND BOX DETAIL
SCALE: N.T.S.

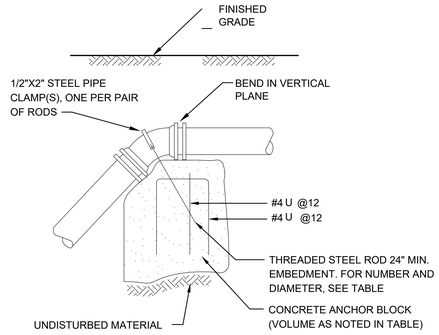


TABLE OF DIMENSIONS FOR ANCHOR BLOCKS		NO. AND SIZE OF THREADED RODS	
BEND SIZE	Volume	NO.	DIAM.
6"-22.5°	0.6 C.Y.	2	1/2"
6"-45°	1.0 C.Y.	2	1/2"
8"-22.5°	1.0 C.Y.	2	1/2"
8"-45°	1.8 C.Y.	2	3/4"
12"-22.5°	2.5 C.Y.	2	3/4"
12" 45°	4.0 C.Y.	4	3/4"

6 ANCHOR BLOCK DETAIL
SCALE: N.T.S.

Project:
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS
ALYSSA K. PECK
CIVIL
No. 49074
REGISTERED PROFESSIONAL ENGINEER
10-16-25

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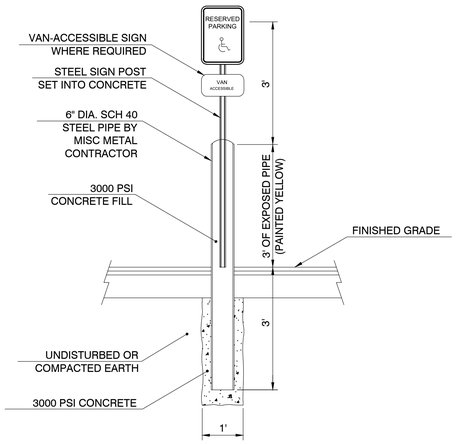
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Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.:ENG24 - 1552
W&S File No.: -

Drawing Title:
SITE DETAILS III

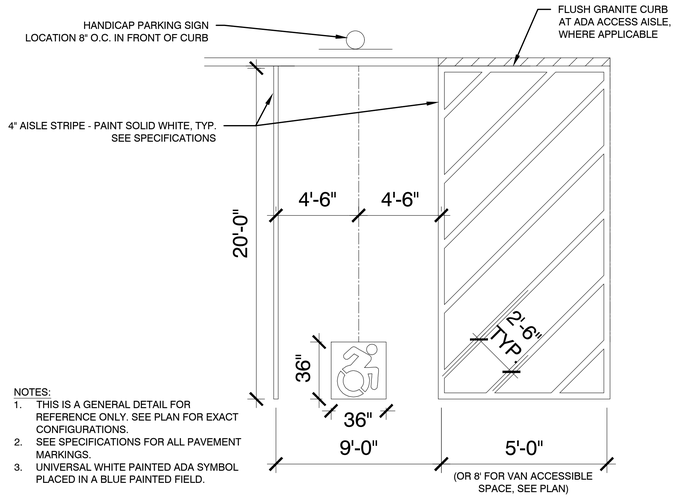
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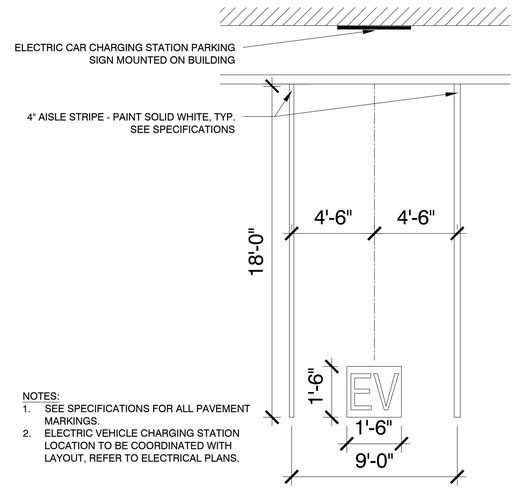
NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 1' FROM EDGE OF PARKING.
2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

1 ACCESSIBLE SIGN IN BOLLARD
SCALE: N.T.S.



NOTES:
1. THIS IS A GENERAL DETAIL FOR REFERENCE ONLY. SEE PLAN FOR EXACT CONFIGURATIONS.
2. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
3. UNIVERSAL WHITE PAINTED ADA SYMBOL PLACED IN A BLUE PAINTED FIELD.

2 HANDICAP PARKING SPACE MARKING
SCALE: N.T.S.

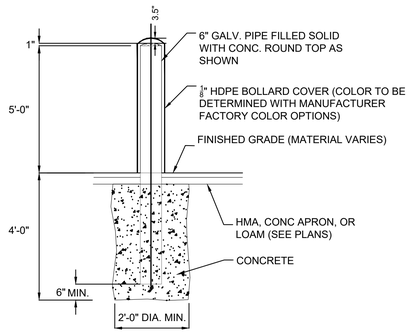


NOTES:
1. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
2. ELECTRIC VEHICLE CHARGING STATION LOCATION TO BE COORDINATED WITH LAYOUT, REFER TO ELECTRICAL PLANS.

3 EV CHARGING PARKING SPACE MARKING
SCALE: N.T.S.

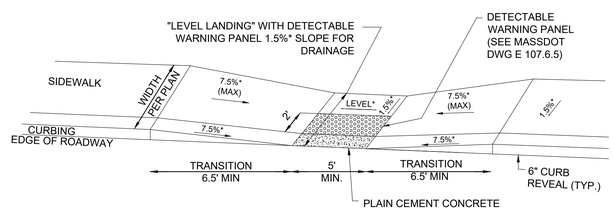
NOTES:
1. FULL EXCAVATION DEPTH EQUALS LENGTH OF FOUNDATION TUBE PLUS. 1'-0".
2. CONFIRM LOCATION OF FLAGPOLE IN FIELD.
3. DETAIL PROVIDED FOR ILLUSTRATION ONLY. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN TO MEET PROJECT SOIL CONDITIONS.

4 FLAGPOLE DETAIL
SCALE: N.T.S.



NOTES:
1. SEE C103 SERIES FOR BOLLARD LOCATIONS.
2. BOLLARD FOUNDATION CONCRETE TO BE 3000 PSI MIN.
3. EXACT LOCATION TO BE DETERMINED IN THE FIELD AND APPROVED BY TOWN BEFORE INSTALLATION.
4. 6" GALVANIZED PIPE PROVIDED BY MISC. METALS CONTRACTOR. INSTALLATION AND CONCRETE BY GENERAL CONTRACTOR.
5. HDPE BOLLARD SLEEVE WITH 6 1/8" DIAMETER TO BE INSTALLED OVER STEEL BOLLARD USING TWO FOAM EXPANSION STRIPS.

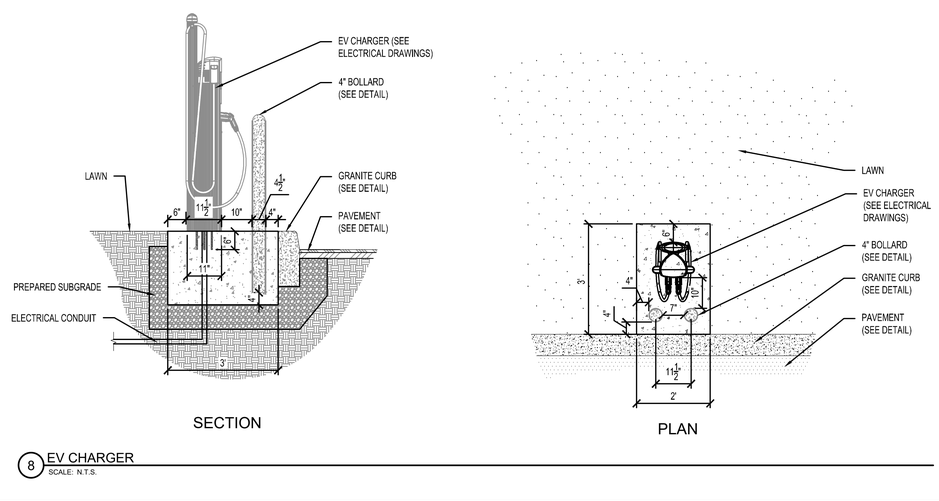
5 EXTERIOR STEEL PIPE BOLLARD
SCALE: N.T.S.



6 WHEEL CHAIR RAMP (TYPE B)
SCALE: N.T.S.

IDENTIFICATION NUMBER	TEXT	PANEL SIZE: WIDTH	PANEL SIZE: HEIGHT	PANEL SIZE: CORNER RADII	PANEL SIZE: BORDER WIDTH	PANEL SIZE: MARGIN WIDTH	NUMERALS & LETTERS: NUM. IN.	NUMERALS & LETTERS: UPPER CASE	NUMERALS & LETTERS: LOWER CASE	NUMERALS & LETTERS: SERIES	COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED
R1-1	STOP	30"	30"	SEE MUTCD, INCLUDING STANDARD HIGHWAY SIGNS, LATEST EDITION							WHITE ON RED	2	5.16	P5-1 2
R7-8MA	HANDICAPPED PARKING MASS. GEN. LAWS CH. 90 SEC. 2A VIOLATORS SUBJECT TO $100 FINE	12"	18"								WHITE ON BLUE	1	1.50	P5-1 1
R7-8b	VAN ACCESSIBLE	12"	6"								WHITE ON BLUE	1	0.50	P5-1 0
R5-11	AUTHORIZED VEHICLES ONLY	24"	18"								BLACK ON WHITE	1	3.00	P5-1 1
CUSTOM	CHARGING STATION ELECTRIC VEHICLE PARKING ONLY CHARGING	12"	18"								WHITE ON GREEN	4	6.0	P5-1 4

7 PERMANENT TRAFFIC SIGN SUMMARY
SCALE: N.T.S.



8 EV CHARGER
SCALE: N.T.S.

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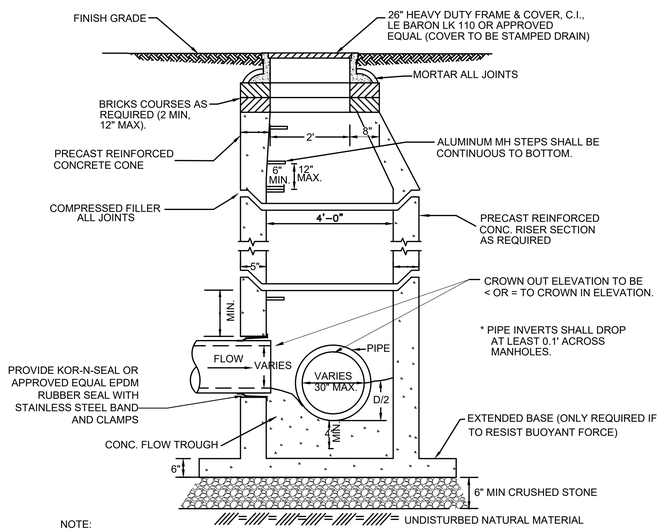
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Drawing Title:
SITE DETAILS IV

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C604

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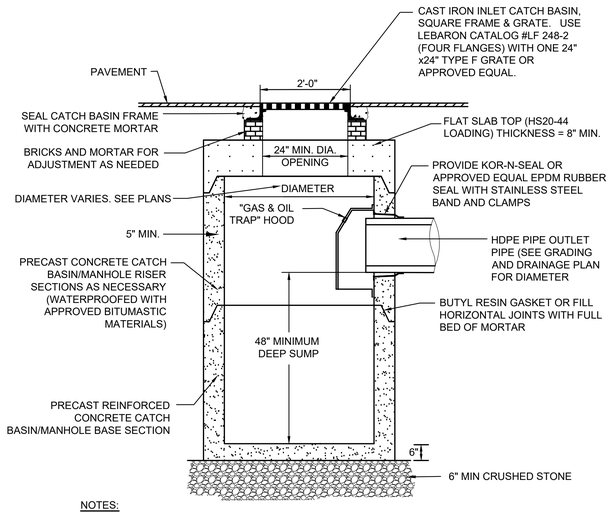


NOTE:

1. THE DRAIN MANHOLE SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.

2. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

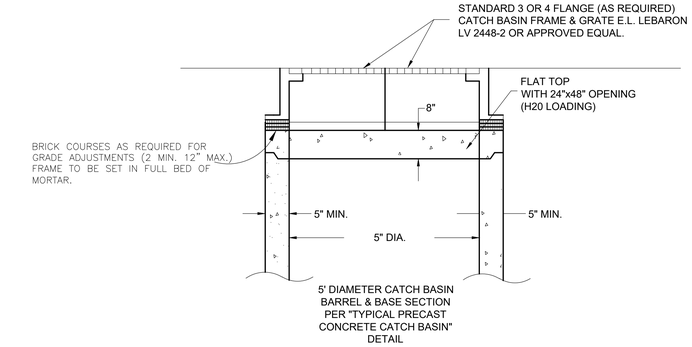
1 TYPICAL PRECAST CONCRETE MANHOLE
SCALE: N.T.S.



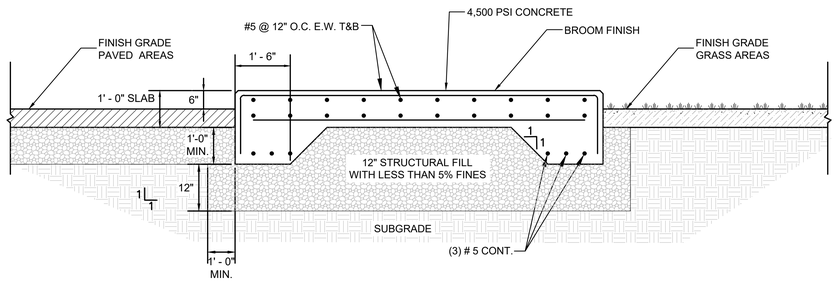
NOTES:

1. FOR DOUBLE CATCH BASINS, STRUCTURE SHALL BE 5' IN DIAMETER.
2. THE CATCH BASIN SHALL BE DESIGNED TO RESIST BUOYANCY. ASSUMING GROUNDWATER IS AT GRADE, MANUFACTURER SHALL PROVIDE BUOYANCY CALCULATIONS, STAMPED BY A MASSACHUSETTS P.E.
3. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

2 STANDARD CATCH BASIN
SCALE: N.T.S.



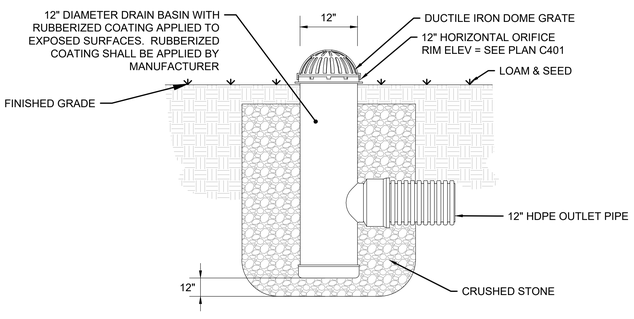
3 DOUBLE GRATE CATCH BASIN
SCALE: N.T.S.



NOTES:

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL CONCRETE PADS.
2. SEE LAYOUT AND GRADING PLANS FOR FINISH GRADE
3. COORDINATE WITH ALL CONTRACTORS AND ADJUST PAD LOCATIONS AND DIMENSIONS IN FIELD
4. SLABS 8" OR LESS IN THICKNESS SHALL HAVE ONE LAYER OF REINFORCING PLACED IN THE TOP ONE THIRD OF THE SLAB.
5. THE EXACT SIZE, SHAPE AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PAD(S) SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR EQUIPMENT. ANCHOR BOLTS, WHERE REQUIRED, SHALL BE SIZED AND LOCATED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE CAULK WITH POLYSULFIDE SEALANT AND PREFORMED JOINT FILLER WHERE EQUIPMENT PADS ADJOIN THE BUILDING.
7. EQUIPMENT PAD DETAIL SHALL BE USE FOR, BUT NOT LIMITED TO, THE ELECTRICAL TRANSFORMER PAD, EMERGENCY GENERATOR PAD, GAS METER PADS, AND CONEX STORAGE PAD.
8. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR CONDUIT PENETRATIONS IN EQUIPMENT PADS

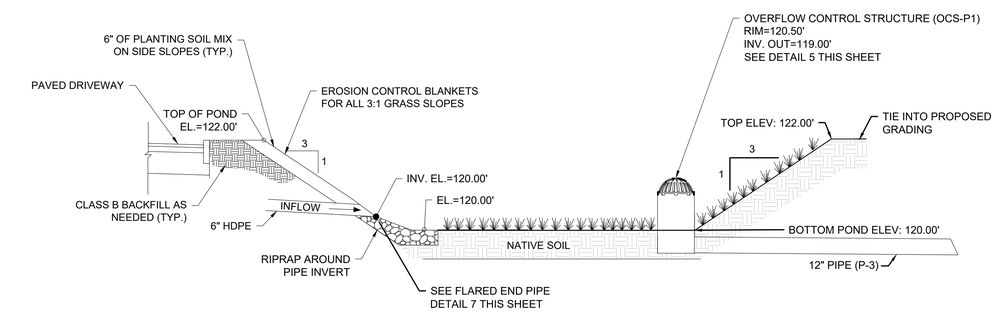
4 TYPICAL EQUIPMENT PAD DETAIL
SCALE: N.T.S.



5 OVERFLOW CONTROL STRUCTURE (OCS-P1)
SCALE: N.T.S.

NOTES:

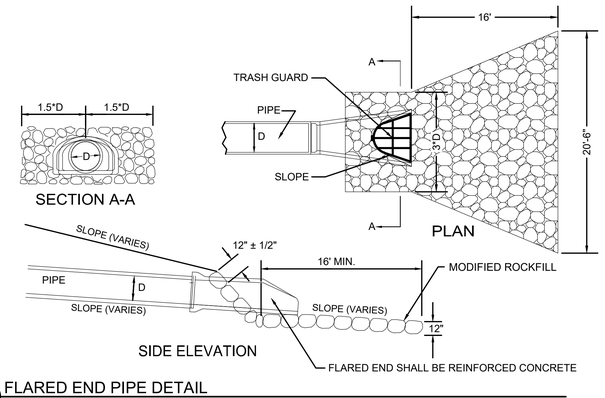
1. OUTLET CONTROL STRUCTURE SHALL BE AS MANUFACTURED BY NYLOPLAST OR APPROVED EQUAL.
2. OUTLET CONTROL STRUCTURE SHALL HAVE 2' DEEP SUMPS.



NOTES:

1. CROSS SECTION IS SCHEMATIC ONLY AND IS MEANT TO DISPLAY THE PATH OF TRAVEL FOR WATER.
2. SEE LANDSCAPE PLAN FOR PLANTING REQUIREMENTS.
3. ALL UNDOCUMENTED FILL SHALL BE REMOVED FROM BENEATH INFILTRATION BASIN DOWN TO NATIVE SOILS.

6 INFILTRATION BASIN P-1 SCHEMATIC DETAIL
SCALE: N.T.S.



7 FLARED END PIPE DETAIL
SCALE: N.T.S.

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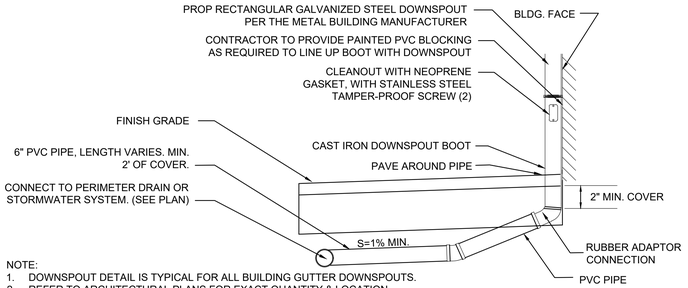
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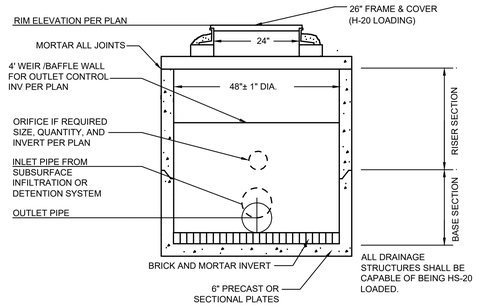
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NOTE:
1. DOWNSPOUT DETAIL IS TYPICAL FOR ALL BUILDING GUTTER DOWNSPOUTS.
2. REFER TO ARCHITECTURAL PLANS FOR EXACT QUANTITY & LOCATION.
3. COORDINATE WITH CIVIL SITE PLANS FOR CONNECTIONS TO STORM SYSTEM.
4. PROVIDE A DOWNSPOUT BOOT AT EACH DOWNSPOUT TO ALLOW THE RECTANGULAR DOWNSPOUT TO TRANSITION TO THE ROUND CAST IRON RECEPTOR PIPE.
5. PAINT DOWNSPOUT ADAPTER BY PAINTING SUBCONTRACTOR. COLOR AS SELECTED BY THE ARCHITECT (CONFIRMED BY OWNER).
6. DOWNSPOUT ADAPTER SHALL BE MANUFACTURED BY J.R. HOE AND SONS, NEENAH FOUNDRY, PIEDMONT MANUFACTURING OR APPROVED EQUAL.

1 GUTTER DOWNSPOUT CONNECTION DETAIL (EXTERNAL)
SCALE: N.T.S.



2 OCS FOR INFILTRATION SYSTEMS INF-A, AND INF-B
SCALE: N.T.S.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

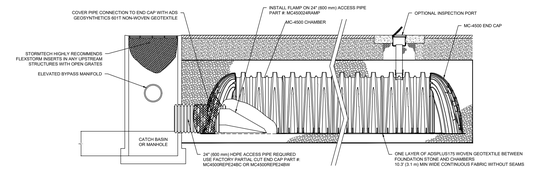
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

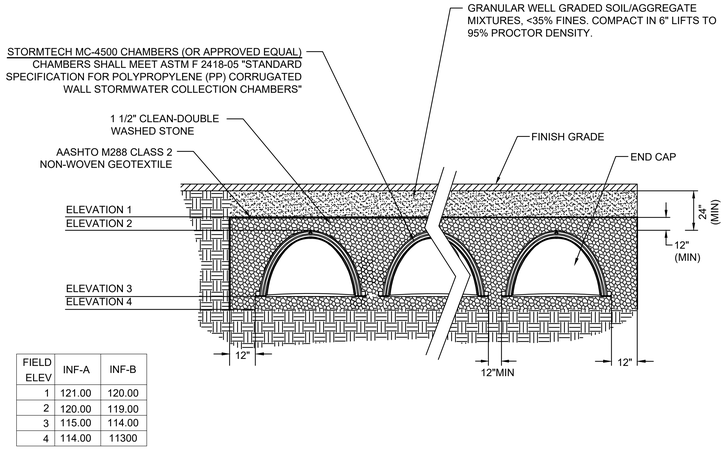
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



3 ISOLATOR ROW
SCALE: N.T.S.

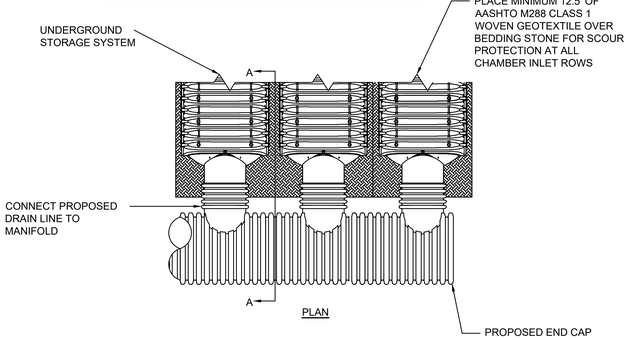
Table 5 - Standard Distances From Base of Chamber to Invert of Inlet and Outlet Manifolds on StormTech MC-4500 End Caps

	Pipe Diameter	Inv. (IN)	Inv. (MM)
TOP	12" (300 mm)	35.69	907
	15" (375 mm)	32.72	831
	18" (450 mm)	29.36	746
	24" (600 mm)	23.05	585
BOTTOM	12" (750 mm)	1.55	34
	15" (900 mm)	1.7	43
	18" (1050 mm)	1.97	50
	24" (1200 mm)	2.26	57

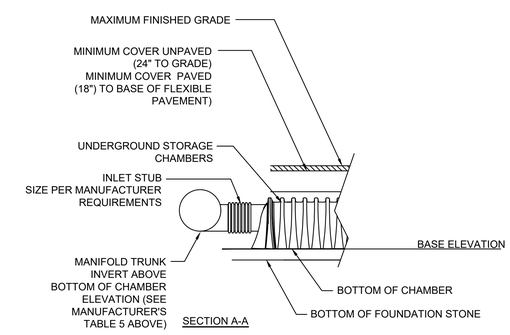


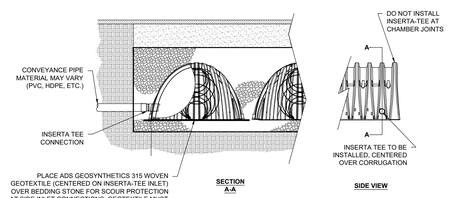
FIELD ELEV	INF-A	INF-B
1	121.00	120.00
2	120.00	119.00
3	115.00	114.00
4	114.00	11300

4 INFILTRATION/RECHARGE CHAMBER - SECTION
SCALE: N.T.S.



5 INFILTRATION/RECHARGE CHAMBER - MANIFOLD CONNECTION
SCALE: N.T.S.

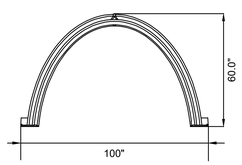




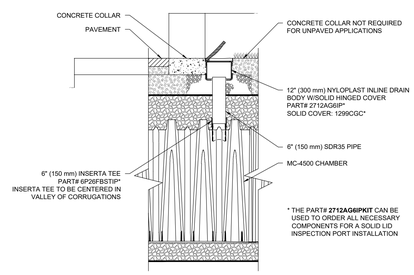
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.
CONTACT STORMTECH FOR MORE INFORMATION.

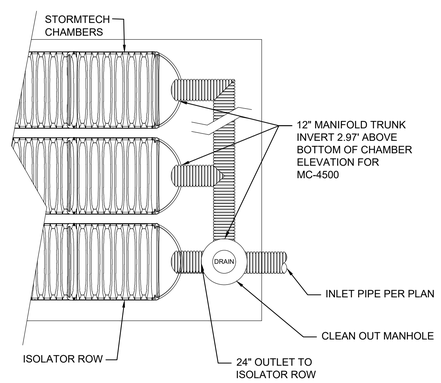
6 INSERTA TEE DETAIL
SCALE: N.T.S.



7 CHAMBER UNIT DETAIL
SCALE: N.T.S.



8 6" PVC INSPECTION PORT DETAIL
SCALE: N.T.S.



9 INFILTRATION CHAMBER CONNECTION TO ISOLATOR ROW AND MANIFOLD
SCALE: N.T.S.

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY
17 TOWN HALL
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Foxborough, MA 02035
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Consultants:

Revisions:

No.	Date	Description

COA:

Seal:
COMMONWEALTH OF MASSACHUSETTS ALYSSA K. PECK CIVIL No. 49074 REGISTERED PROFESSIONAL ENGINEER
10-16-25

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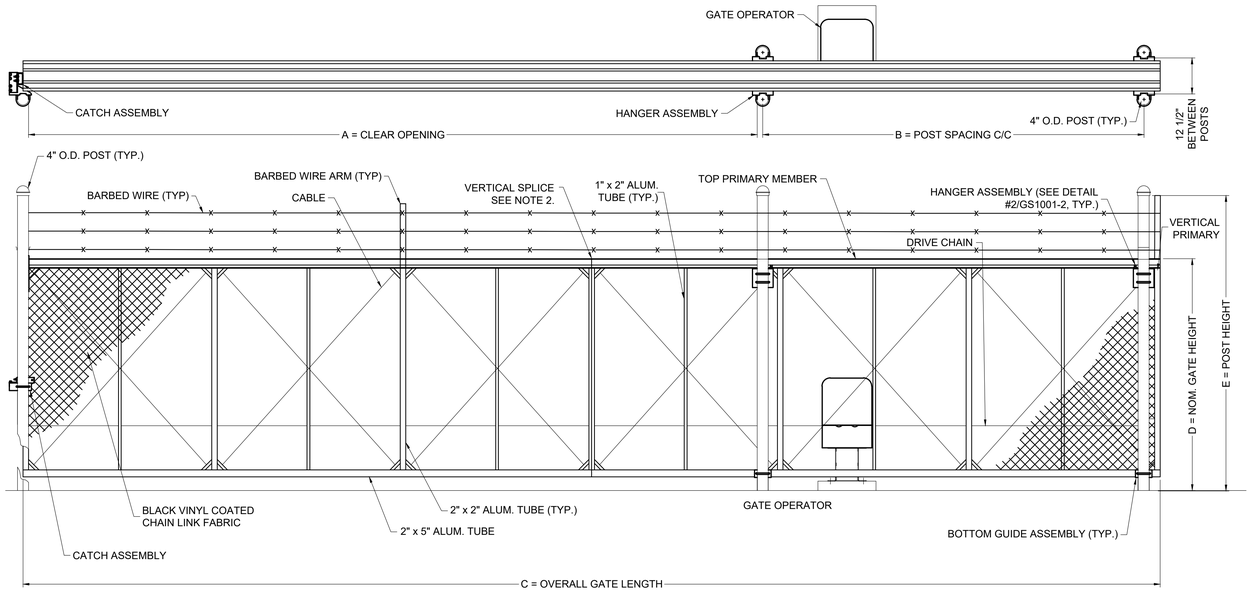
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Date: 10-16-2025
Drawn By: CTP
Reviewed By: AP
Approved By: AP
W&S Project No.: ENG24 - 1552
W&S File No.: -

Drawing Title:
CIVIL DETAILS VI

Sheet Number:
C606

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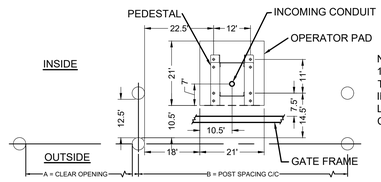


NOTES:

1. ALL FITTINGS PROVIDED FOR 4" O.D. POSTS. OTHER SIZES ARE AVAILABLE UPON REQUEST.
2. FOR GATES THAT REQUIRE TWO PIECE FABRICATION, A 5" ALUMINUM CHANNEL WILL BE SUBSTITUTED FOR THE 2" x 5" ALUM. TUBE, AND A VERTICAL SPLICE WILL BE ADDED.
3. POWDER COATED BLACK.
4. THE CONTRACTOR SHALL SUBMIT FINAL GATE FOUNDATION DESIGNS STAMPED BY A MASSACHUSETTS PE.

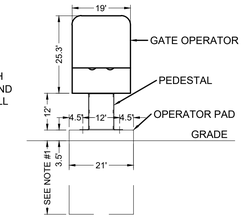
GATE DIMENSIONS		
A	30'	40'
B	14'-7"	19'-7"
C	45'-6"	55'-6"
D	8'-0"	8'-0"
E	9'-6"	9'-6"

1 CANTILEVER SLIDE GATE WITH BARBED WIRE
SCALE: N.T.S.

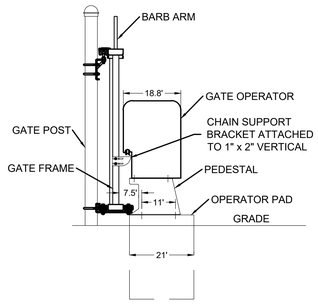


NOTES:
1) OPERATOR PAD DEPTH TO BE MINIMUM OF 24" AND IN ACCORDANCE WITH ALL LOCAL CODES AND SOIL CONDITIONS.

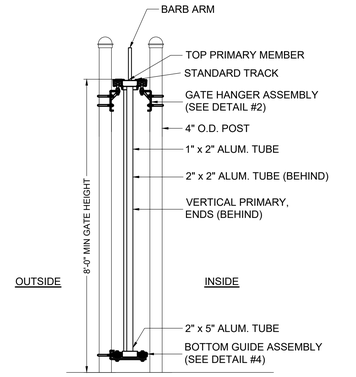
2 SLIDE GATE OPERATOR PAD LAYOUT PLAN
SCALE: N.T.S.



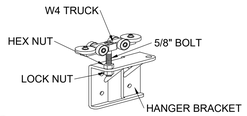
3 SLIDE GATE OPERATOR FRONT ELEVATION
SCALE: N.T.S.



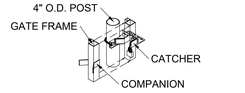
4 SLIDE GATE OPERATOR SIDE ELEVATION
SCALE: N.T.S.



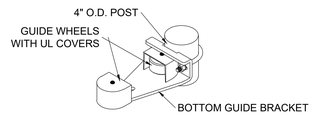
5 SLIDE GATE ASSEMBLY SECTION
SCALE: N.T.S.



6 SLIDE GATE HANGER
SCALE: N.T.S.



7 SLIDE GATE CATCH ASSEMBLY
SCALE: N.T.S.



8 SLIDE GATE BOTTOM GUIDE
SCALE: N.T.S.

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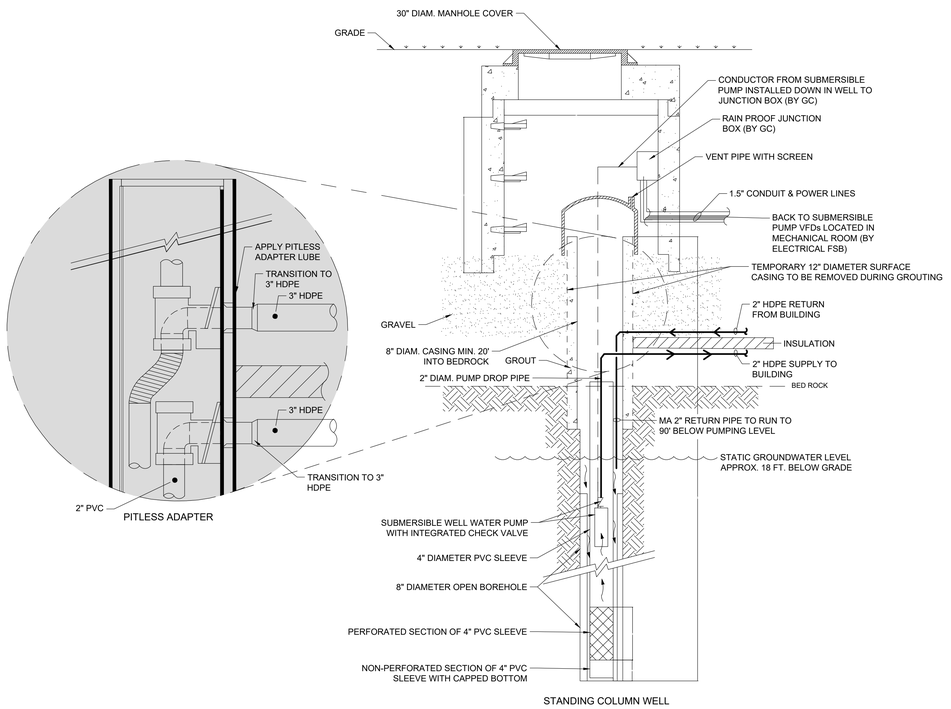
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Drawn By: CTP
Reviewed By: AP
Approved By: AP

W&S Project No.: ENG24 - 1552
W&S File No.: -

Drawing Title:
CIVIL DETAILS VII

Sheet Number:
C607

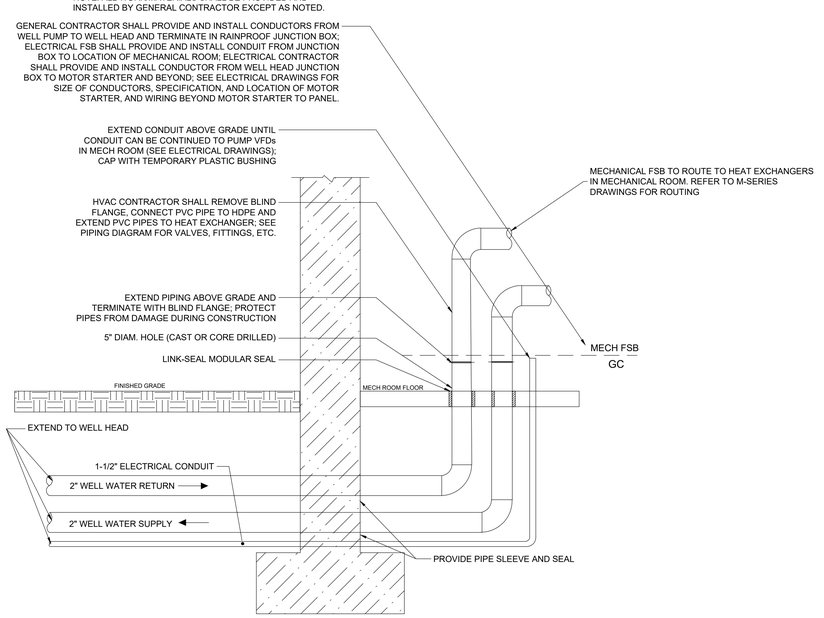
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1 STANDING COLUMN WELL DETAIL
SCALE: N.T.S.

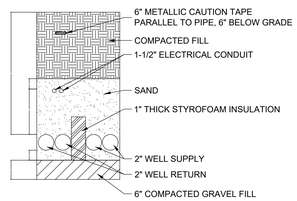
NOTE: ALL WORK/MATERIALS SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR EXCEPT AS NOTED.

GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTORS FROM WELL PUMP TO WELL HEAD AND TERMINATE IN RAINPROOF JUNCTION BOX; ELECTRICAL FSB SHALL PROVIDE AND INSTALL CONDUIT FROM JUNCTION BOX TO LOCATION OF MECHANICAL ROOM; ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONDUCTOR FROM WELL HEAD JUNCTION BOX TO MOTOR STARTER AND BEYOND; SEE ELECTRICAL DRAWINGS FOR SIZE OF CONDUCTORS, SPECIFICATION, AND LOCATION OF MOTOR STARTER, AND WIRING BEYOND MOTOR STARTER TO PANEL.



NOTE: SEE CIVIL PLANS FOR WATER SUPPLY, WATER RETURN, AND CONDUIT ROUTING OUTSIDE OF BUILDING. SEE MECHANICAL PLANS FOR ROUTING INSIDE BUILDING.

WELL WATER PIPING DETAIL
N.T.S.



2 WELL PIPE BURIAL DETAIL
SCALE: N.T.S.

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GEOTHERMAL WELL DETAILS

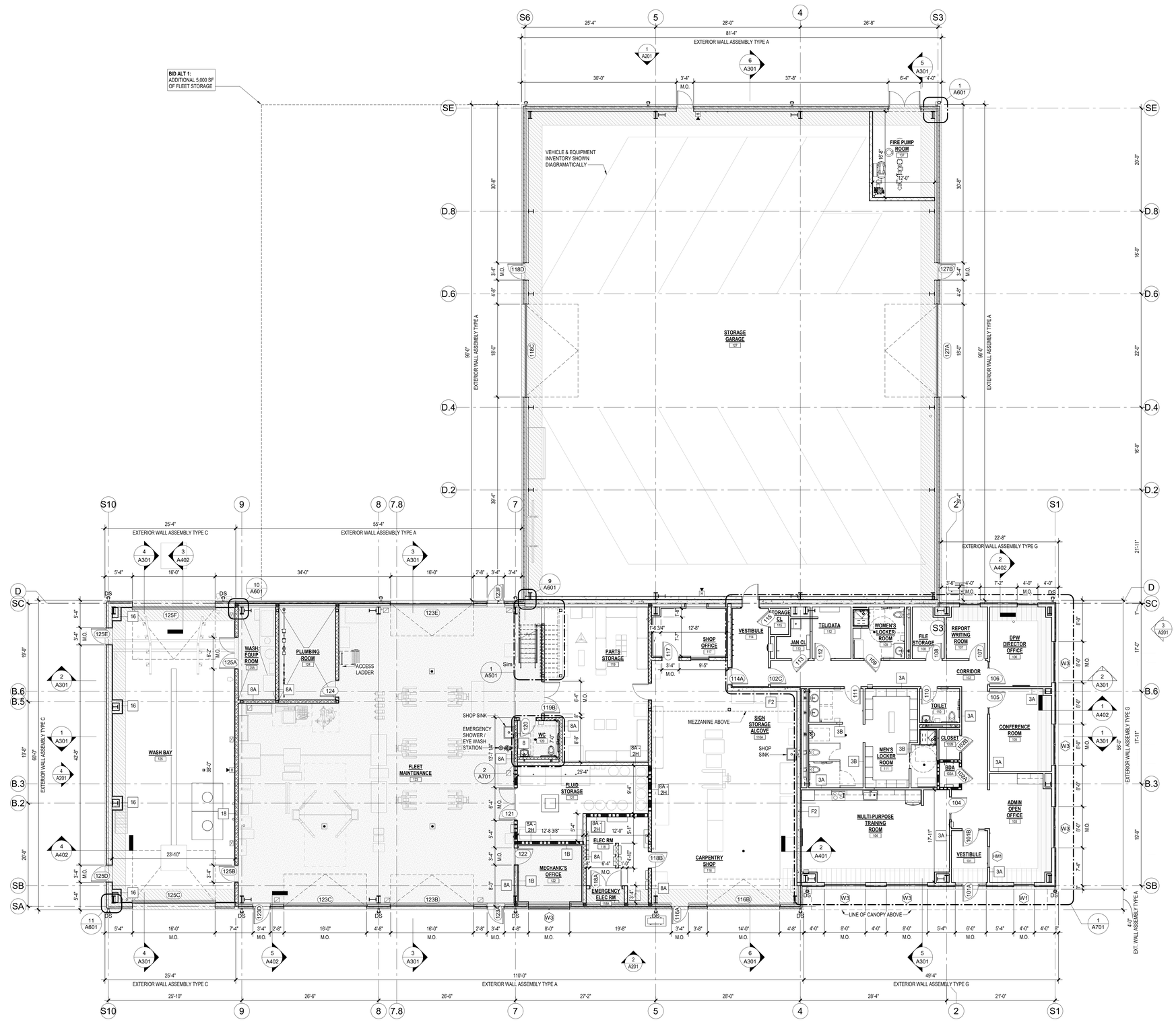
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PENDING

Lighting / Photometric Site Calculation Plans
will be included in a supplemental filing

BID ALT 1:
ADDITIONAL 5,000 SF
OF FLEET STORAGE



1 FIRST FLOOR PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE EQ DRAWINGS FOR MORE INFO.
2. FURNITURE SHOWN FOR INFORMATION ONLY (N.I.C.). SEE FURNITURE PLAN A921 FOR MORE INFO.
3. F.E. = FIRE EXTINGUISHER.
   F.E.C = FIRE EXTINGUISHER CABINET
   - BRACKET MOUNTED
   - CABINET MOUNTED (SEMI-RECESSED)
4. ALL INTERIOR DIMENSIONS ARE TAKEN FROM FACE OF GYPSUM WALL BOARD TO FACE OF GYPSUM WALL BOARD OR FACE OF CMU UNLESS SPECIFICALLY NOTED OTHERWISE.
5. SEE SHEET A012 FOR PLUMBING FIXTURE SCHEDULE / MOUNTING HEIGHTS.
6. BOLLARDS:
   - EB: EXTERIOR BOLLARD, 6" DIAMETER (SEE CIVIL DWGS)
   - IB: INTERIOR BOLLARD, 6" DIAMETER (SEE DETAIL X / AXXX)
7. FUME SEPARATION PARTITION, SEE A031 - FUME SEPARATION ASSEMBLY, TYPE F1 AND F2.
8. BOX-OUT DIMENSIONS AT STRUCTURAL COLUMNS ARE APPROXIMATE. GENERAL CONTRACTOR TO INSTALL TIGHT TO STRUCTURE, TYPICAL.
9. NOT ALL TV / MONITOR LOCATIONS ARE SHOWN. COORDINATE PROPOSED LOCATIONS WITH ELECTRICAL &TELECOMMUNICATIONS DRAWINGS. PROVIDE BLOCKING AT EACH LOCATION ACCORDINGLY.
10. CG — CORNER GUARD, SEE A901 FOR LOCATIONS.

UNDERSLAB RIGID INSULATION LEGEND:

A) ADMINISTRATION RIGID INSULATION
- STANDARD COMPRESSIVE STRENGTH - 25 PSI
- R-10, 4'-0" HORIZONTAL FROM FOUNDATION WALL INWARDS
- R-15 DOWN TO TOP OF FOODTING ON EXTERIOR SIDE OF FOUNDATION WALL

B) VEHICLE STORAGE, SHOPS RIGID INSULATION
- HIGH COMPRESSIVE STRENGTH - 60 PSI
- R-10, 4'0" HORIZONTAL FROM FOUNDATION WALLS INWARDS
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

C) MAINTENANCE BAY RIGID INSULATION
- HIGH COMPRESIVE STRENGTH - 60 PSI
- COMPLETELY UNDER SLAB
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

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No.	Date	Description

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

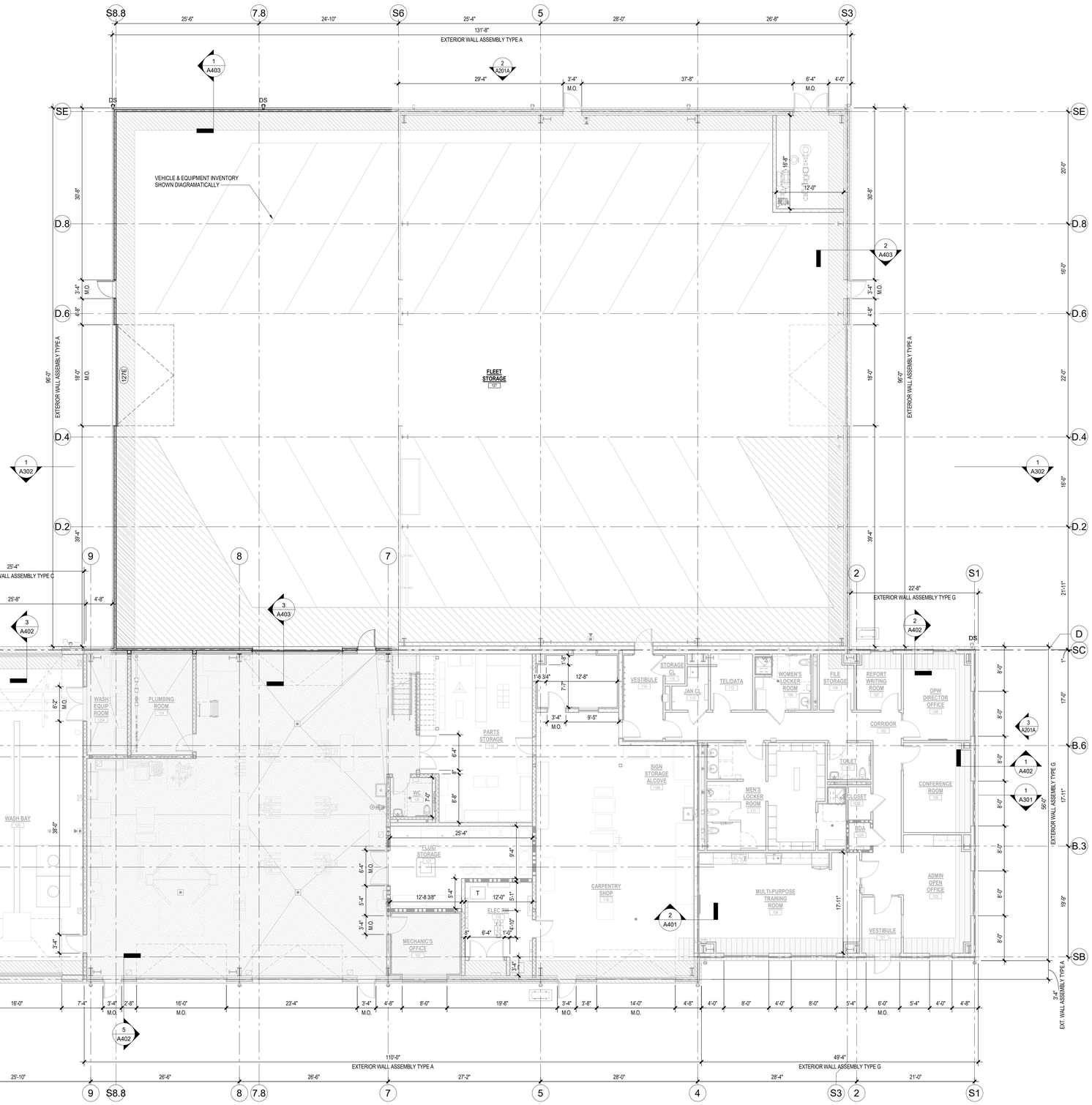
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Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
OVERALL FLOOR PLAN - BASE

Sheet Number:
A101

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1 FIRST FLOOR PLAN
1/8" = 1'-0" 5/ A106

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE EQ DRAWINGS FOR MORE INFO.
2. FURNITURE SHOWN FOR INFORMATION ONLY (N.I.C.). SEE FURNITURE PLAN A921 FOR MORE INFO.
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8. BOX-OUT DIMENSIONS AT STRUCTURAL COLUMNS ARE APPROXIMATE. GENERAL CONTRACTOR TO INSTALL TIGHT TO STRUCTURE, TYPICAL.
9. NOT ALL TV / MONITOR LOCATIONS ARE SHOWN. COORDINATE PROPOSED LOCATIONS WITH ELECTRICAL &TELECOMMUNICATIONS DRAWINGS. PROVIDE BLOCKING AT EACH LOCATION ACCORDINGLY.
10. CG — CORNER GUARD, SEE A901 FOR LOCATIONS.

UNDERSLAB RIGID INSULATION LEGEND:

A) ADMINISTRATION RIGID INSULATION
- STANDARD COMPRESSIVE STRENGTH - 25 PSI
- R-10, 4'-0" HORIZONTAL FROM FOUNDATION WALL INWARDS
- R-15 DOWN TO TOP OF FOODTING ON EXTERIOR SIDE OF FOUNDATION WALL

B) VEHICLE STORAGE, SHOPS RIGID INSULATION
- HIGH COMPRESSIVE STRENGTH - 60 PSI
- R-10, 4'0" HORIZONTAL FROM FOUNDATION WALLS INWARDS
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

C) MAINTENANCE BAY RIGID INSULATION
- HIGH COMPRESIVE STRENGTH - 60 PSI
- COMPLETELY UNDER SLAB
- R-15 DOWN TO TOP OF FOOTING ON EXTERIOR SIDE OF FOUNDATION WALL

REFER TO 4.5 & 6 / A612 FOR TYPICAL RADIANT HEATED SLAB VAPOR RETARDER DETAILS

Project:
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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

OVERALL FLOOR PLAN - BID ALT 1

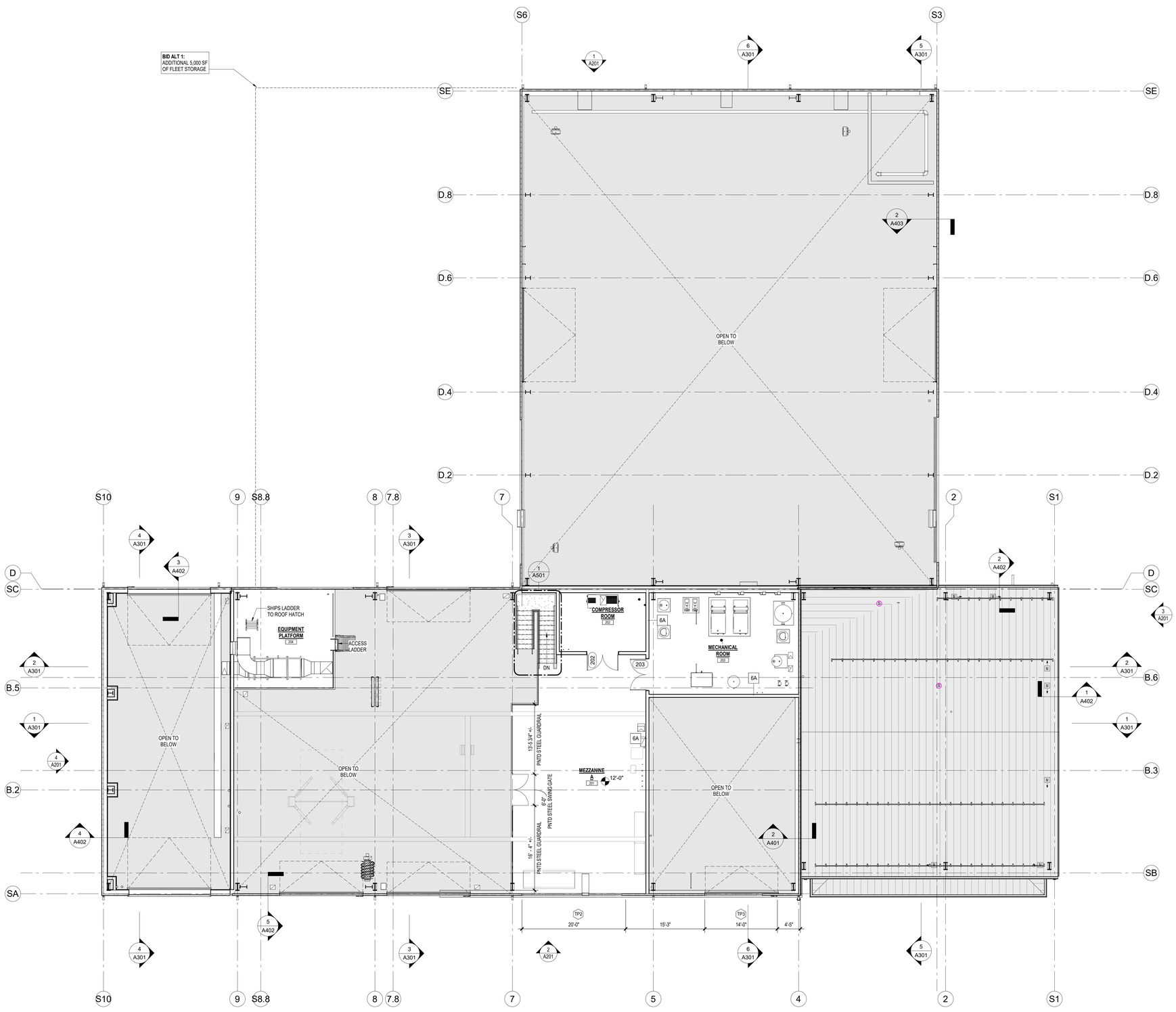
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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

Project:
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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

NORTH

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

OVERALL MEZZANINE PLAN - BASE

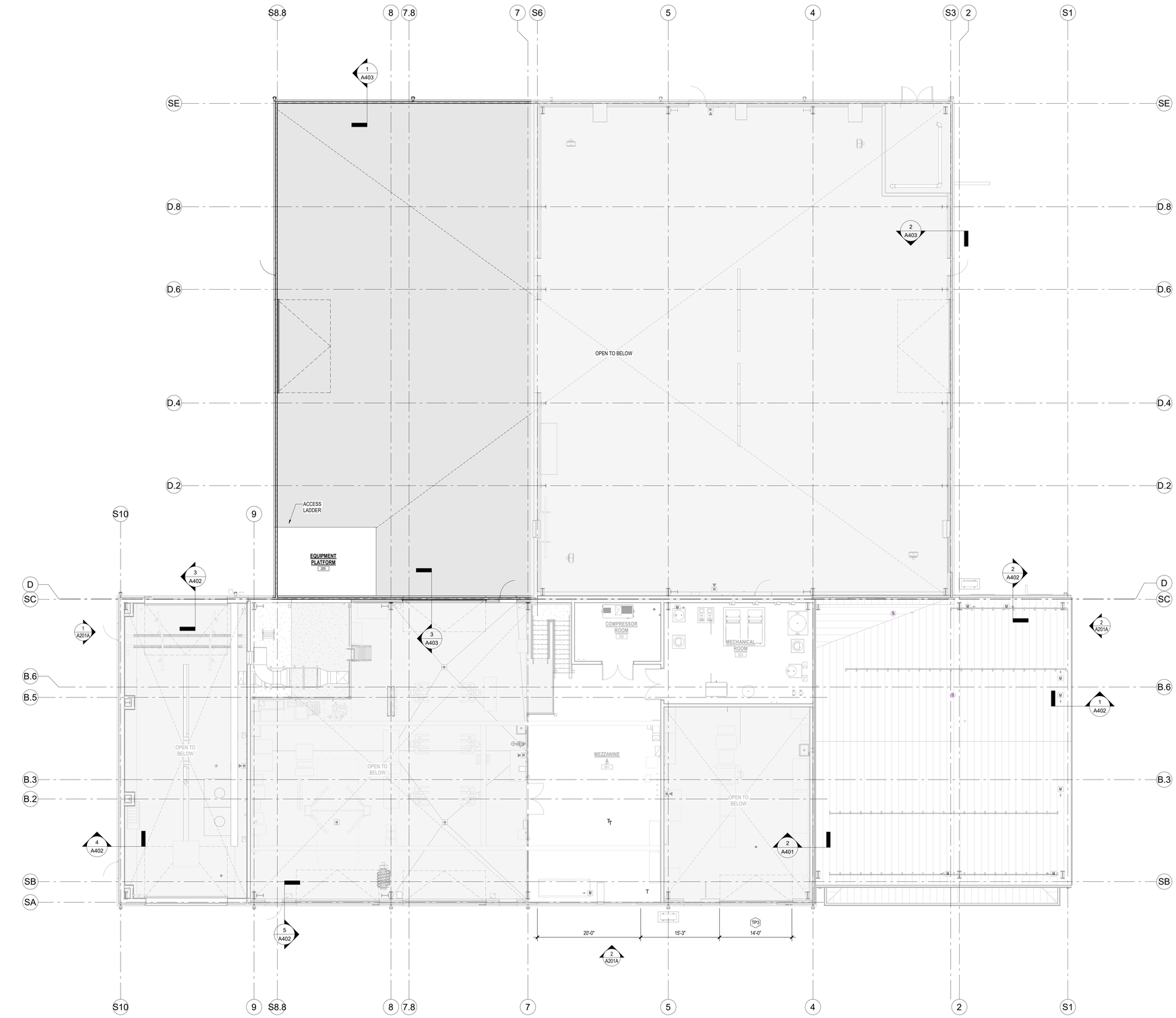
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MEZZANINE GENERAL NOTES:

1. AT EACH MEZZANINE SWING GATE LOCATION, PROVIDE 4" H (RED) LETTER SIGNAGE AT MEZZANINE FASCIA TO READ: 200LBS/SF MAXIMUM MEZZANINE LOADING
2. PROVIDE SAFETY CHAIN PER OSHA STANDARDS AT EACH SWING GATE.
3. PROVIDE SAFETY YELLOW PAINT AT MEZZANINE FLOOR AT EACH SWING GATE, AS INDICATED.
4. COORDINATE EXACT LOCATION WITH MECHANICAL, STRUCTURAL AND EQUIPMENT REQUIREMENTS.
5. DO NOT RUN ANY UTILITIES BELOW GATES EXPOSED AND MOUNTED TO WALLS.
6. PROVIDE TIE-OFF POINT FOR OSHA FALL ARREST SYSTEM NEAR MEZZANINE SWING-GATE ON PRIMARY STRUCTURAL ELEMENT.



1 MEZZANINE PLAN
1/8" = 1'-0" 1/ A201

SCALE: 1/8" = 1'-0"

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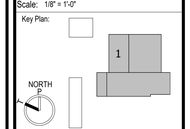
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Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:



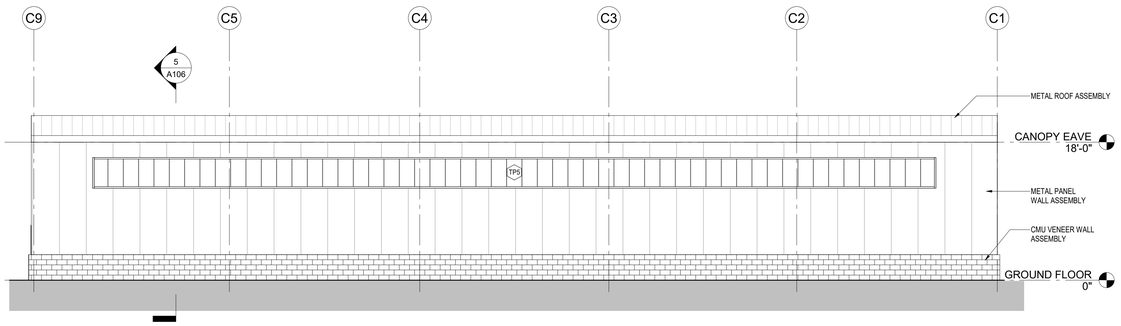
Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

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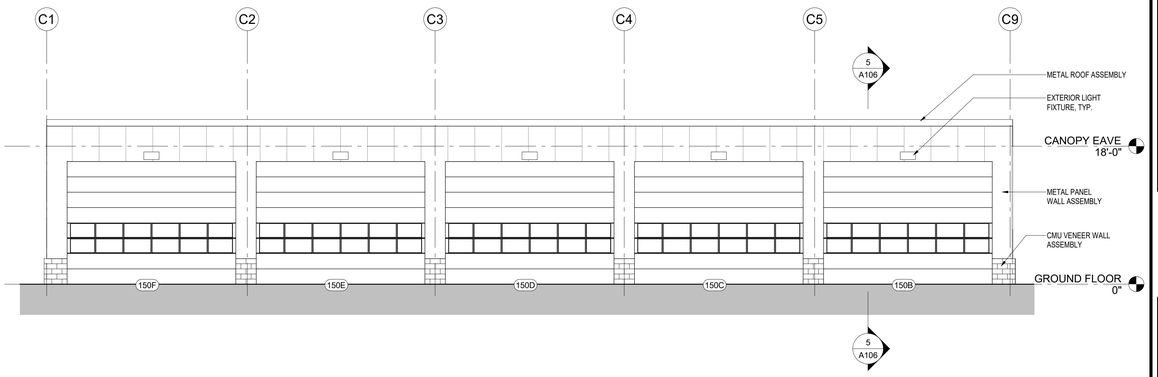
OVERALL MEZZANINE PLAN - BID ALT 1

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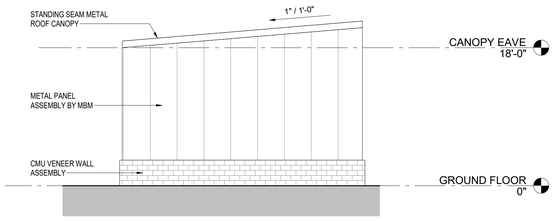
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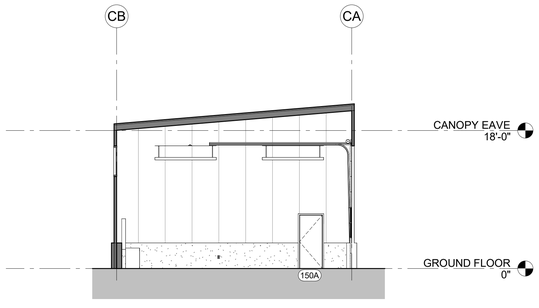
7 NORTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



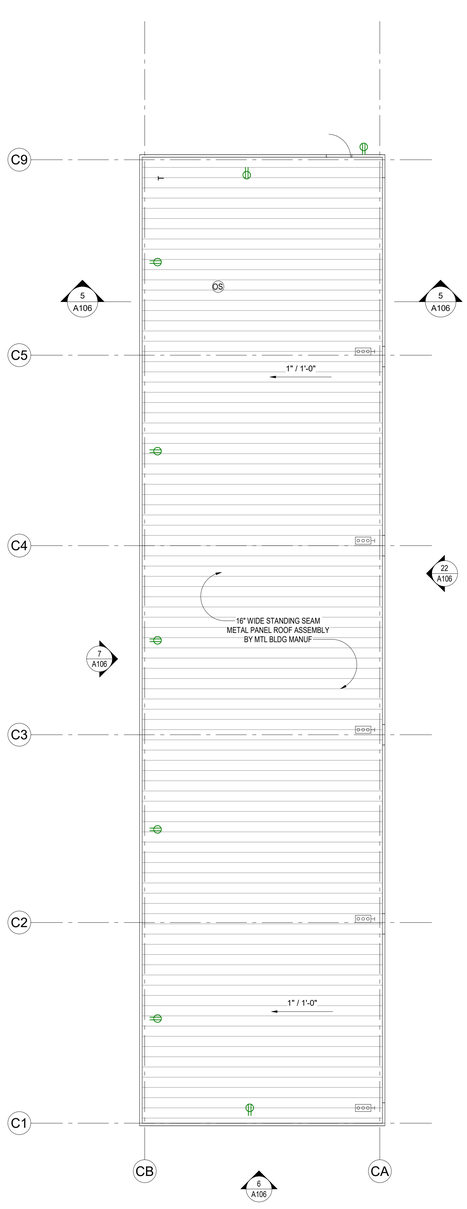
22 SOUTH ELEVATION - SECONDARY STORAGE BUILDING
1/8" = 1'-0" 1/ A106



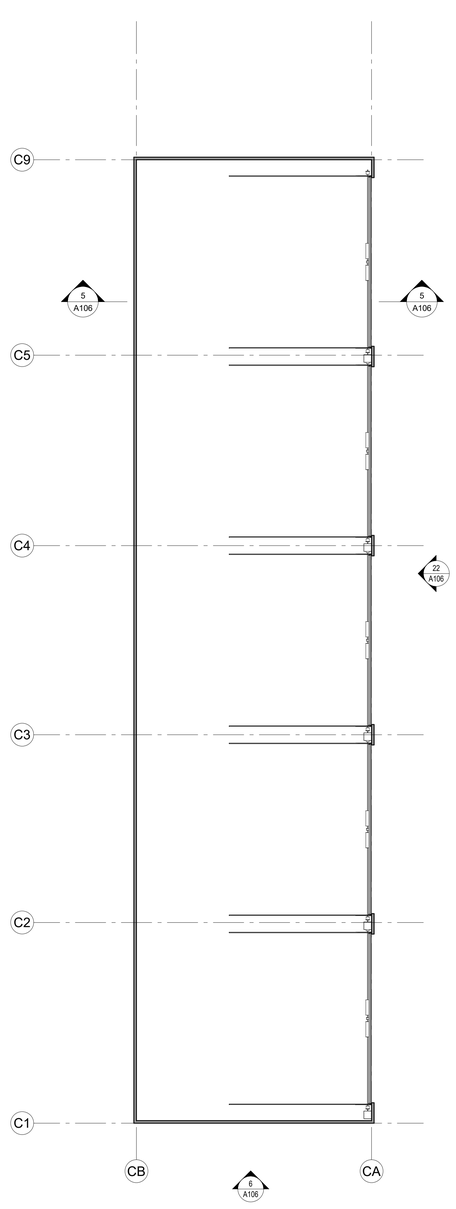
6 WEST ELEVATION - STORAGE CANOPY
1/8" = 1'-0"



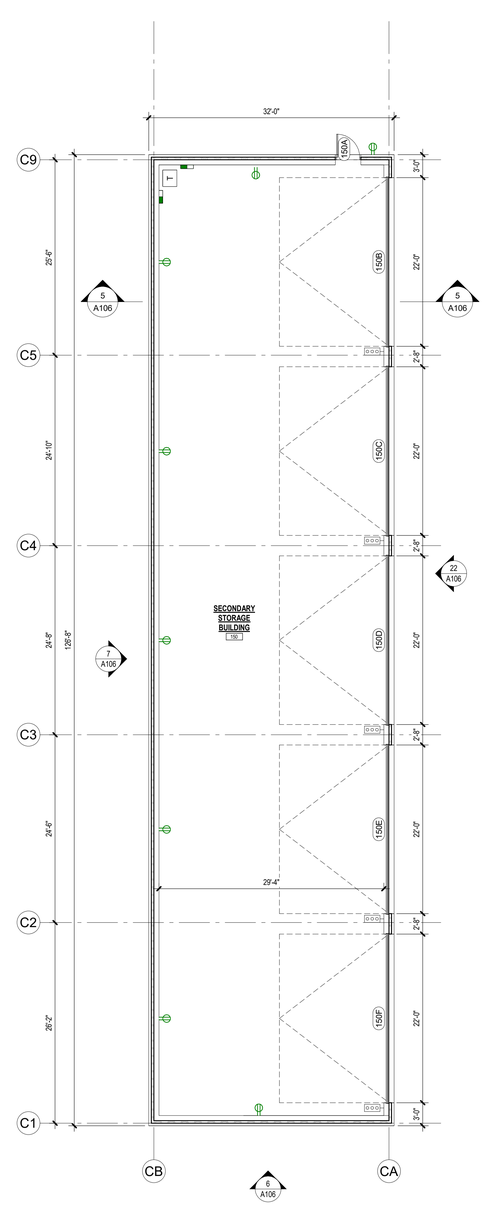
5 BUILDING SECTION - STORAGE CANOPY
1/8" = 1'-0"



4 ROOF PLAN - STORAGE CANOPY
1/8" = 1'-0"



3 RCP - STORAGE CANOPY
1/8" = 1'-0"



1 FLOOR PLAN - STORAGE CANOPY
1/8" = 1'-0"

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

GGD Consulting Engineers, Inc.
375 Corner Road, Suite D
Darmouth, MA 02747
(508) 998-0883

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

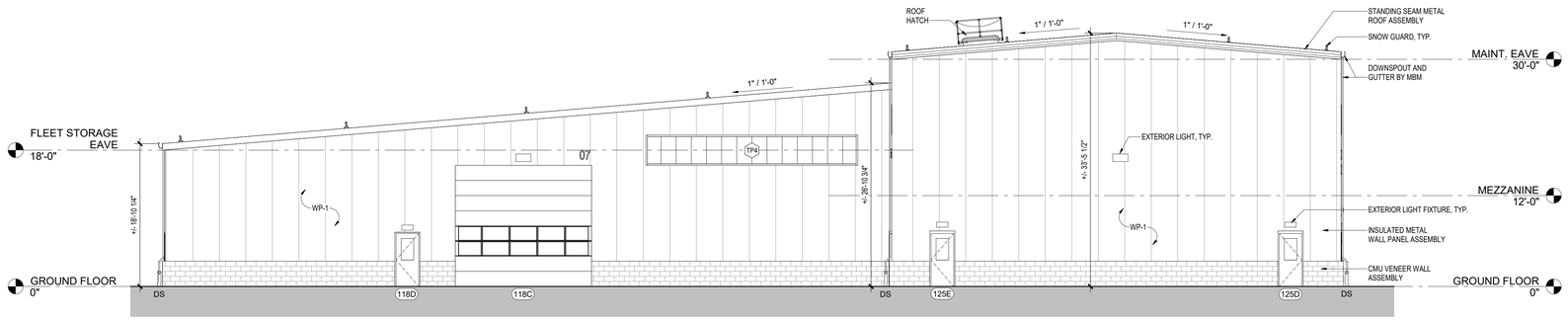
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BID ALT #2 - STORAGE BUILDING PLANS & ELEVATIONS

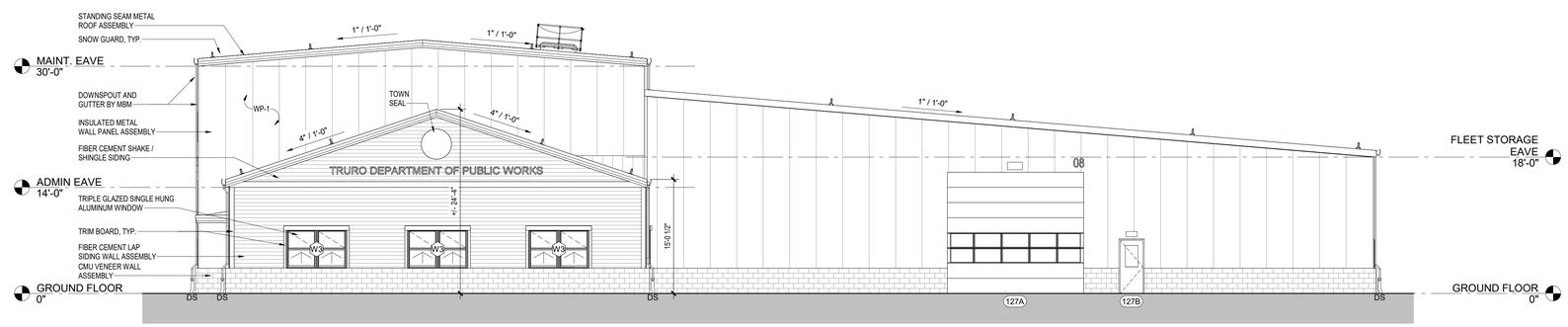
Sheet Number:

A106

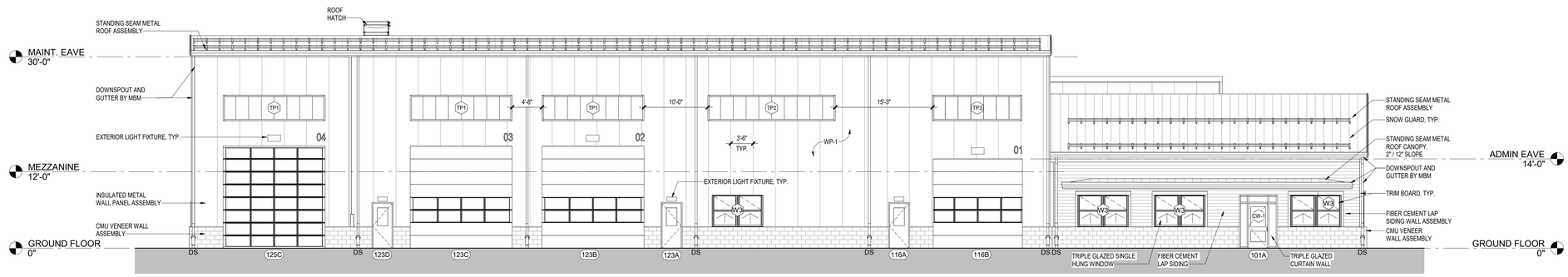
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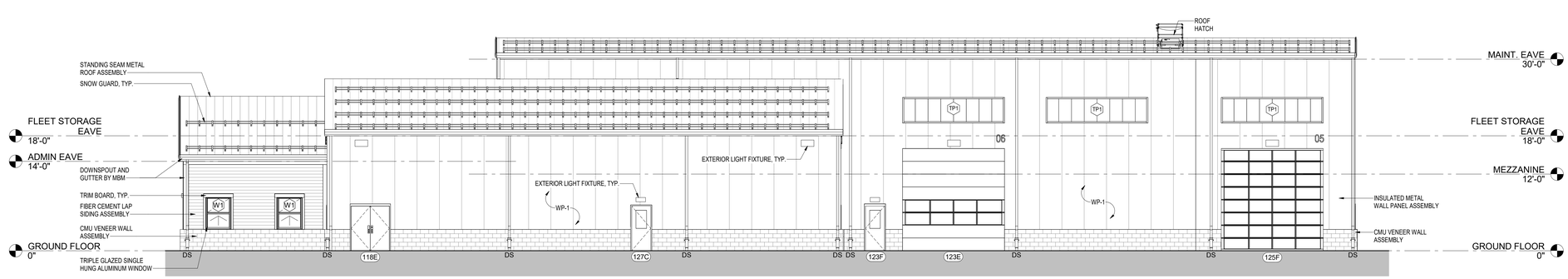
4 NORTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



3 SOUTH EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



2 WEST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101



1 EAST EXTERIOR ELEVATION - BASE
1/8" = 1'-0" 1/ A101

0" 4" 8" 16"
SCALE: 1/8" = 1'-0"

WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1, INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION - REFER TO X / AXXX FOR ADDITIONAL INFO

TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

FIBER CEMENT SHINGLE / SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
2. FOR MOCK-UP REQUIREMENTS, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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Revisions:

No.	Date	Description

CDA:

Seal:

Issued For:

SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

EXTERIOR ELEVATIONS - BASE BID

Sheet Number:

A201

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WALL PANEL TYPES LEGEND:

EXTENTS OF WALL PANEL - WP-1,
INSULATED METAL WALL PANELS

CMU VENEER LEGEND:

CONTROL JOINT LOCATION
- REFER TO X / AXXX FOR ADDITIONAL INFO

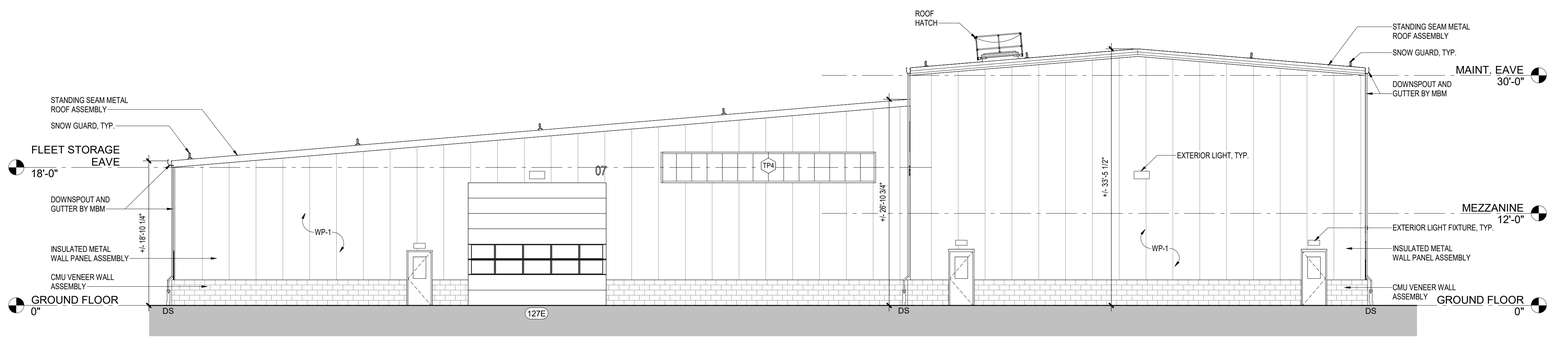
TYPE 1 - STANDARD GROUND FACE MASONRY BLOCK: 8" X 16"

MINERAL FIBER CEMENT SIDING LEGEND:

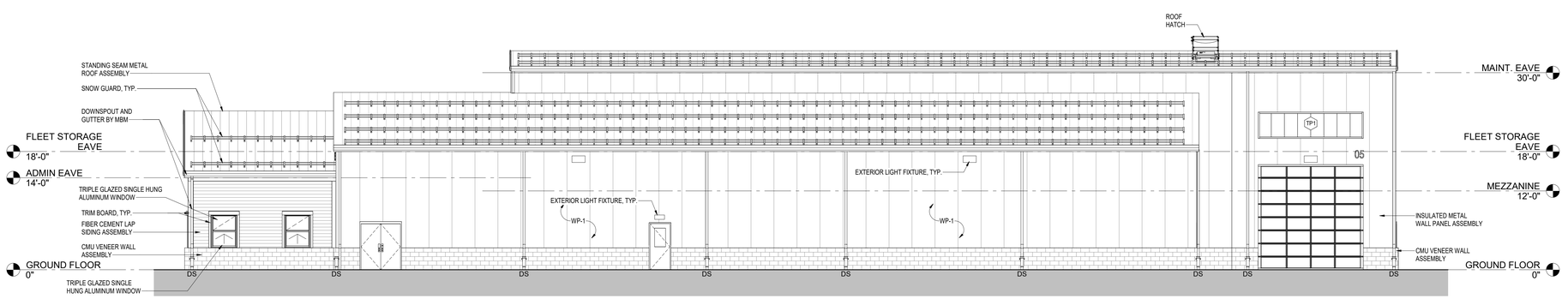
FIBER CEMENT SHINGLE /
SHAKE WALL PANEL SIDING

FIBER CEMENT LAP SIDING

NOTES:
1. COORDINATE OPENINGS NOT SHOWN WITH EQUIPMENT AND MEP/FP DRAWINGS.
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1 NORTH EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0"



2 EAST EXTERIOR ELEVATION - BID ALT 1
1/8" = 1'-0" 1/ A101A

0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

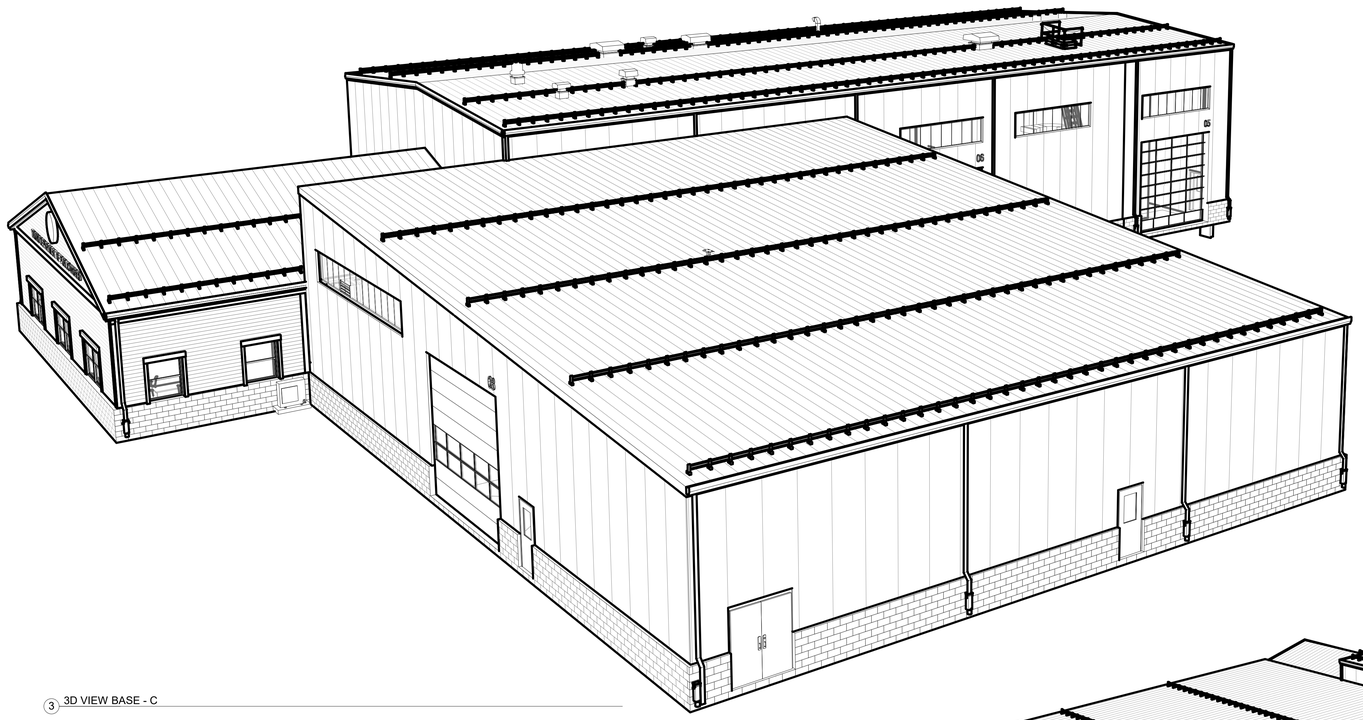
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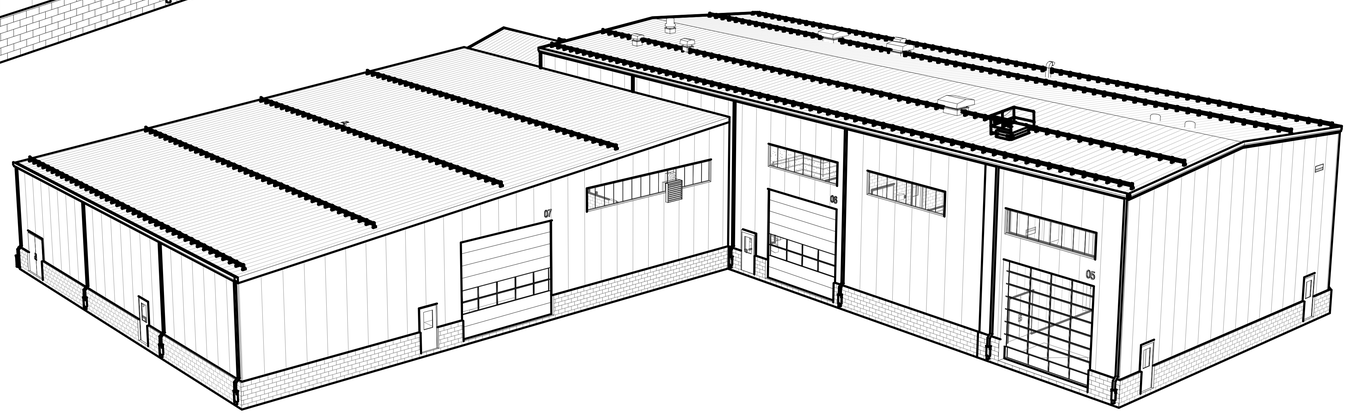
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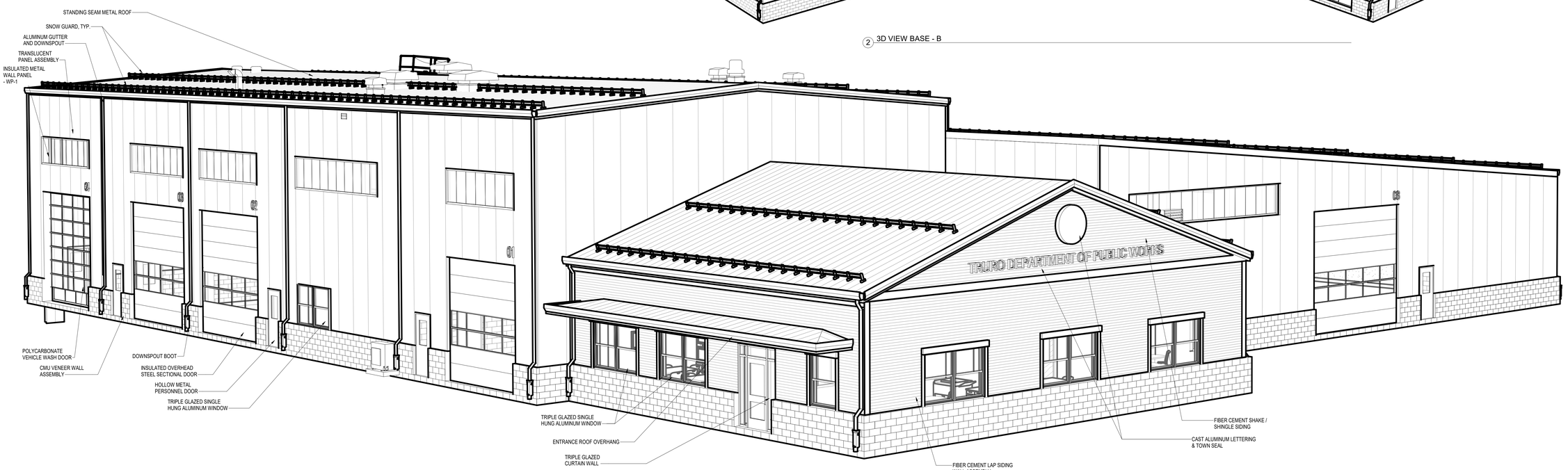
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3 3D VIEW BASE - C



2 3D VIEW BASE - B



1 3D VIEW BASE - A

NOTE: 3D VIEWS ARE PROVIDED FOR REFERENCE ONLY. REFER TO PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEDULES FOR BUILDING REQUIREMENTS.

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10/15/2025 1:52:37 PM

Project:
TOWN of TRURO, MA
NEW DEPARTMENT of PUBLIC WORKS FACILITY

17 TOWN HALL
TRURO, MA 02666

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Revisions:

No.	Date	Description

COA:

Seal:

Issued For:
SITE PLAN REVIEW

Scale: NTS

Key Plan:

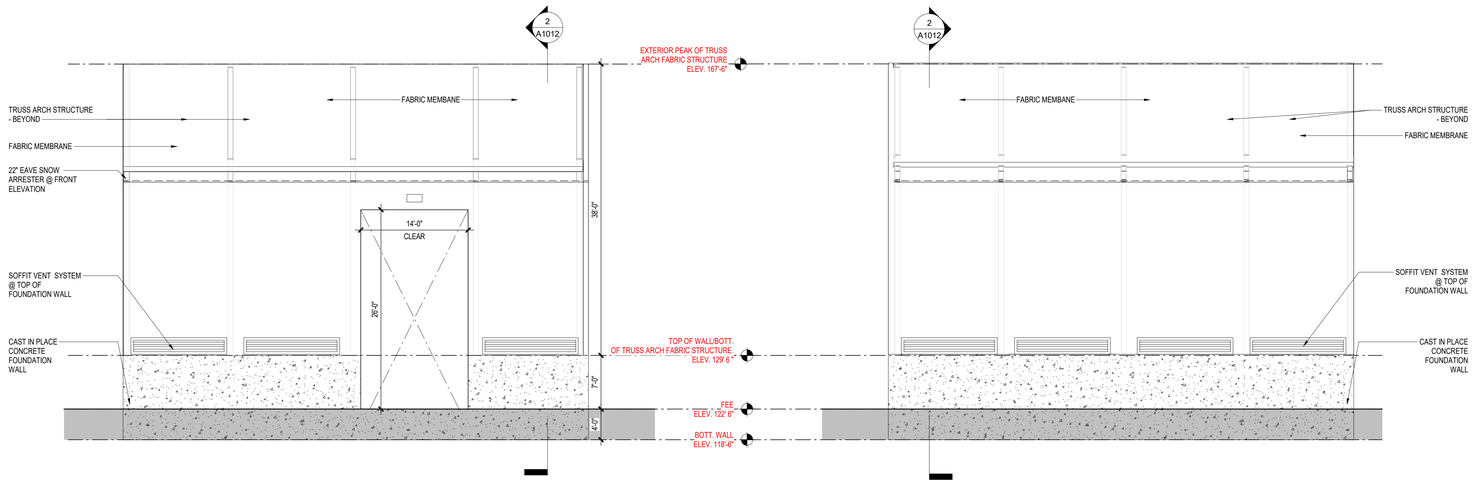
Date:	OCTOBER 14, 2025
Drawn By:	MMS
Reviewed By:	DRD
Approved By:	-
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:
EXTERIOR 3D VIEWS - BASE

Sheet Number:
A231

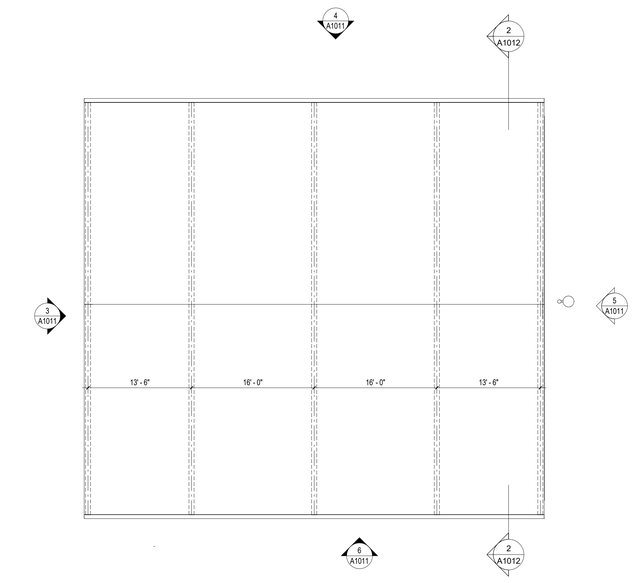
GENERAL SALT SHED NOTES:

1. COLUMN LINE SPACING SHOWN FOR NEW TRUSS ARCH FRAMING AND WOOD SIDE WALL IS DIAGRAMMATIC ONLY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE STRUCTURE TO MEET ALL CURRENT CODES. FINAL QUANTITY OF TRUSS ARCH FRAMES AND COLUMN LINE SPACING SHALL BE DETERMINED BY THE SALT SHED MANUFACTURER. FINAL COLUMN LINE LOCATIONS ARE SUBJECT TO ENGINEER REVIEW. THE ADDITION OR DELETION OF TRUSS ARCH FRAMES BASED ON THE FINAL DESIGN BY THE BUILDING MANUFACTURER SHALL NOT BE CAUSE FOR A CHANGE IN THE CONTRACTOR PRICE.
2. CONTRACTOR SHALL SUBMIT DETAILED CONNECTION DRAWINGS FOR THE MEMBRANE AND WOOD SIDE WALL COVERED FRAME STRUCTURE AND CAST-IN-PLACE CONCRETE WALLS STAMPED BY A LICENSED MASSACHUSETTS STRUCTURAL ENGINEER.
3. THE PT PLYWOOD PROTECTION WALL (INSIDE FACE OF SIDE AND BACK WALLS) SHALL CONSIST OF 3/4" PT PLYWOOD MOUNTED TO 1/2" STRAPPING AT 16" O.C. INSTALLED VERTICALLY FASTENED TO THE CONCRETE BLOCKS WITH NON- CORROSIVE FASTENERS (STAINLESS STEEL). PLYWOOD SHALL STOP 12" FORM THE FLOOR TO ALLOW SALT TO FALL OUT FROM BEHIND THE WALL.

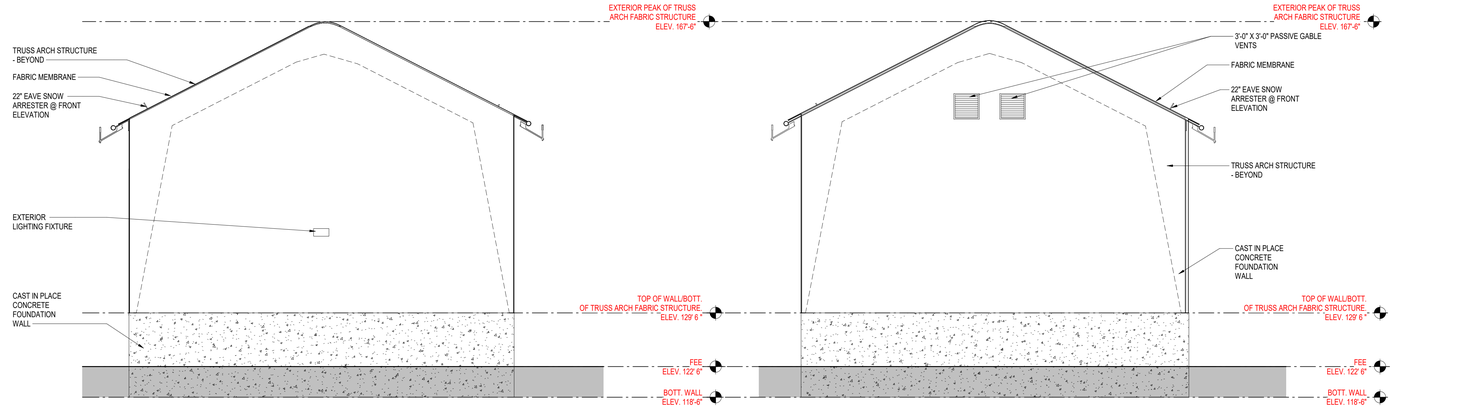


6 SALT SHED ELEVATION 4
1/8" = 1'-0" 1/ A1011

4 SALT SHED ELEVATION 2
1/8" = 1'-0" 1/ A1011

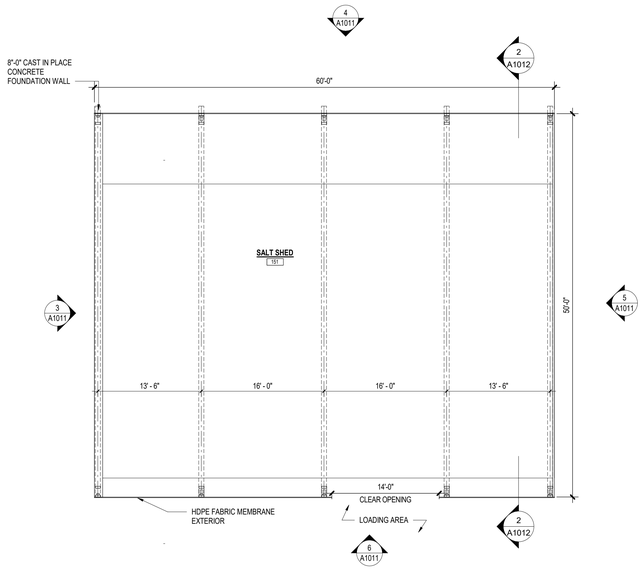


2 SALT SHED ROOF PLAN
1/8" = 1'-0" 5/ A106



5 SALT SHED ELEVATION 1
1/8" = 1'-0" 1/ A101

3 SALT SHED ELEVATION 3
1/8" = 1'-0" 1/ A1011



1 SALT SHED FLOOR PLAN
1/8" = 1'-0" 5/ A106

Project:
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COA:

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SITE PLAN REVIEW

Scale: 1/8" = 1'-0"

Key Plan:

Date:	OCTOBER 14, 2025
Drawn By:	FS
Reviewed By:	DRD
Approved By:	JRC
W&S Project No.:	ENG24-1552
W&S File No.:	XXX

Drawing Title:

SALT SHED PLANS & ELEVATIONS

Sheet Number:

A1011

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10/16/2025 11:29:48 AM

Office of Town Clerk
2025-005SPR
OCT 20 2025
Received TOWN OF TRURO
By: RS

Weston & Sampson

westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

REPORT

October 20, 2025

TOWN OF
Truro
MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS FACILITY

APPLICATION FOR PLANNING BOARD SITE PLAN REVIEW

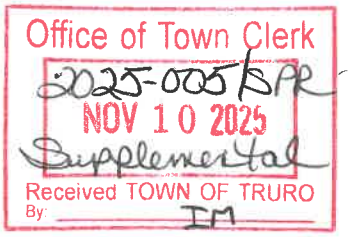


November 10, 2025

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035
Tel: 508.698.3034

Truro Planning Board
24 Town Hall Road
Truro, MA 02666

WSE Project No. ENG24-1552



Re: **Supplemental Filing for Site Plan Review & Special Permit**
17 Town Hall Road
Truro Department of Public Works Facility

Dear Member of the Board,

On behalf of the Town of Truro, Weston & Sampson Engineers, Inc. is proving a supplemental filing for the Commercial Site Plan Review. The following documents are attached:

- Design Development Cost Estimate dated October 28, 2025
  - To supersede the Schematic Design Cost Estimate dated May 29, 2025
- Updated Sheet C301 Site Layout & Materials Plan
  - Updates include removing the (2) manual slide gates, enlarging the parking stalls off of Town Hall Road, adding (11) parking stalls in the rear along the west property line, and locating a new DPW sign and flag pole.
- Photometric Site Calculation Plans
- Sheet A932 Exterior Signage

Please feel free to contact me at (508) 203-4231 or donahue.della@wseinc.com if you have any questions.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Della Donahue
Project Manager

TOWN OF TRURO
HEALTH & CONSERVATION DEPARTMENT
24 Town Hall Road, Truro 02666
508-349-7004 x119

To: Truro Board of Health
From: Emily Beebe, Health & Conservation Agent
Date: November 18, 2025
Re 17 Town Hall Road, draft site plan overview

An application for Commercial site plan review has been filed with the Truro Planning Board requesting approval of the proposed design plans for a new DPW facility adjacent to the Town Hall. Documents related to the Planning Board process are attached for your review, and a site plan is attached for reference. This matter will be before the Planning Board at their meeting of November 19.

This memo is intended to provide an outline of the project for the Board of Health.
There is no formal or statutory approval process for the Board of Health regarding this project, and no variances to State or Local regulations within the Board of Health's jurisdiction are being requested.

The application to the Planning Board is 287 pages and describes a two-phase construction project, including replacement of all of the DPW buildings, installation of a new septic system to be shared with Town Hall, and installation of a new water supply well, also to be shared with Town Hall.

Phase 1 includes demolition of most of the existing DPW buildings, except the garage; installation of utilities; and building 13,000 ft.^{2}: the Main South building, and the Salt Barn.

Phase 2 includes constructing the 7900 ft.^{2} garage for vehicle storage.

- The existing Town Hall water supply well has elevated levels of sodium (approx. 80 ppm) and is impacted by PFA's/PFOA's. It is a non-community public water supply well, registered with the MA DEP, and operated by a certified operator. The existing well will be properly decommissioned, and a new well will replace it. A new well has been installed on a neighboring property owned by the Truro Conservation Trust located on the north side of Meetinghouse Road. Permitting and testing the new water supply well is underway. Once approved for pump testing and pending satisfactory results and issuance of a new permit by the MA DEP, a waterline will be "moled" underneath Meetinghouse Road to connect to 17 and 24 Town Hall Road. This task is the first step of construction.

- The plans show a project site circled by erosion control silt fencing, and biodegradable filter tubes/straw wattle, all designed to prevent sediment from leaving the site. Sediment management includes gravel construction at the entrances/exits.

- The plans include thorough stormwater calculations and appropriately designed stormwater infrastructure. The catch basins will be fit with sediment filters and pretreatment sumps to remove gas and oil.

- The building will be served by an advanced treatment septic system “advantex AX 25 – RT,” using a 2000-gallon, 2-compartment H20 septic tank, approved for nitrogen reduction under general use for 19 mg/l. There will also be an industrial holding tank; this will be a 5000-gallon tight tank.

- The Salt Barn will be located on the northeast corner of the property. It has been sized to allow sand to be delivered inside the building to ensure that the salt can be controlled at all times.

- The site will be replanted/hydro seeded when construction is completed. I have discussed the type of grass seed mix for restoration of the site with the DPW Director. He is aware that whatever is planted should not need irrigation or maintenance, and that a mix of native grasses that are drought tolerant is recommended.

From: Emily Beebe
To: Elizabeth Sturdy; Barbara Carboni
Cc: Arozana Davis; Jarrod Cabral
Subject: RE: ***Application for Review: 2025-012/ZBA 17 Town Hall Road (new DPW facility)***
Date: Tuesday, November 25, 2025 1:10:48 PM
Attachments: BoH memo-DPW- draft plans review notes to BoH.docx

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Good afternoon,
The BoH reviewed the attached memo at their meeting of November 18.
No action is required of the Board of Health for this project, which would be permitted under our normal permitting process.

Upon their review and discussion, the Board of Health did endorse the plans.

Best,
Emily

From: Elizabeth Sturdy <ESturdy@truro-ma.gov>
Sent: Tuesday, November 25, 2025 12:45 PM
To: Jamie Calise <JCalise@truro-ma.gov>; Tim Collins <TCollins@truro-ma.gov>; Emily Beebe <EBeeBe@truro-ma.gov>; Rich Stevens <rstevens@truro-ma.gov>; Jon Nahas <JNahas@truro-ma.gov>; Jarrod Cabral <jcabral@truro-ma.gov>; Arozana Davis <ADavis@truro-ma.gov>; Lynne Budnick <LBudnick@truro-ma.gov>
Cc: Barbara Carboni <bcarboni@truro-ma.gov>
Subject: ***Application for Review: 2025-012/ZBA 17 Town Hall Road (new DPW facility)***

__PLEASE RESPOND__

Jamie, Tim, Emily, Rich, Jon, Jarrod, Zana, Lynne:

An Application for 2025-012/ZBA 17 Town Hall Road [proposed new DPW facility] will be heard at the December 29, 2025 ZBA meeting at 5:30 pm. Applicant is seeking a Variance to exceed 30-foot height limit under Zoning Bylaw §50.1 for proposed new Department of Public Works Facility (DPW Building: 33'5"; Salt Shed: 42') in the Residential District.

I would ask that you please respond with any comments you may have, **__or not__**. Appreciate any and all input.

Let me know if you have any questions. Thanks,

Elizabeth A. Sturdy (Liz)
Planning Department Assistant
Truro Town Hall
24 Town Hall Road, P.O. Box 2030
Truro, MA 02666

Main : (508) 349-7004, x121
Direct: (508) 214-0935
Fax: (508) 349-5505
esturdy@truro-ma.gov



Site Plan Review

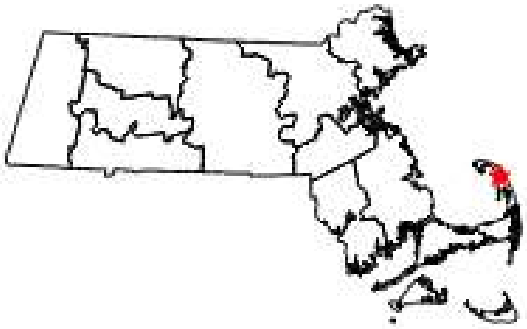
PLANNING BOARD

Town of Truro
New DPW Facility
17 Town Hall Road

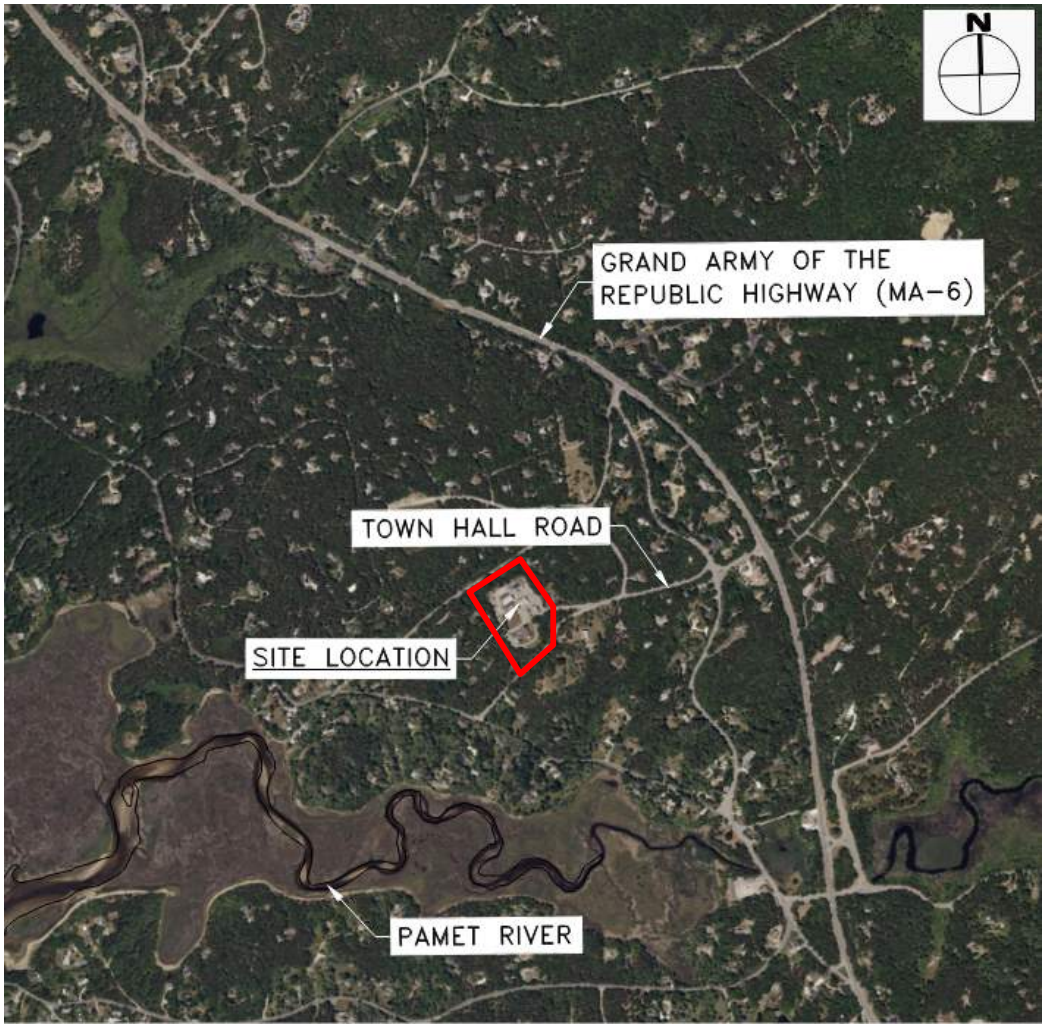
NOVEMBER 19, 2025

17 TOWN HALL ROAD

LOCUS MAP







Weston & Sampson

17 TOWN HALL ROAD

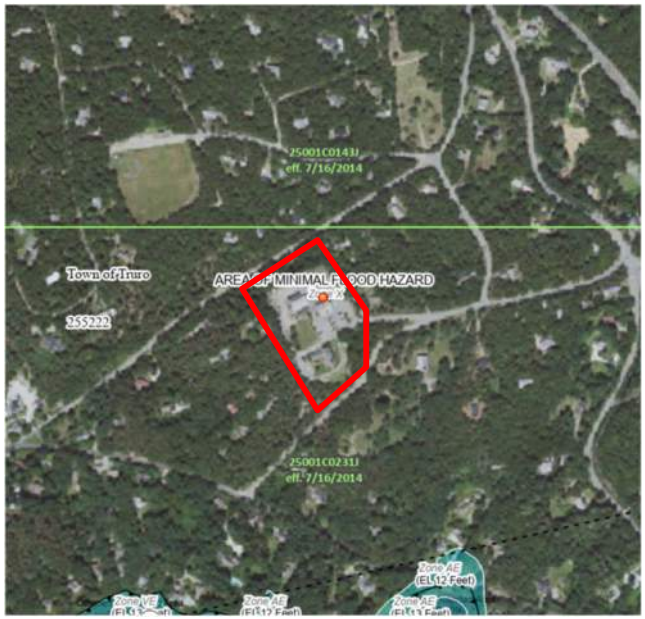
SITE MAP



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RECEPTOR MAPS



Not located within a FEMA Flood Zone



No Rare / Endangered Species On-Site



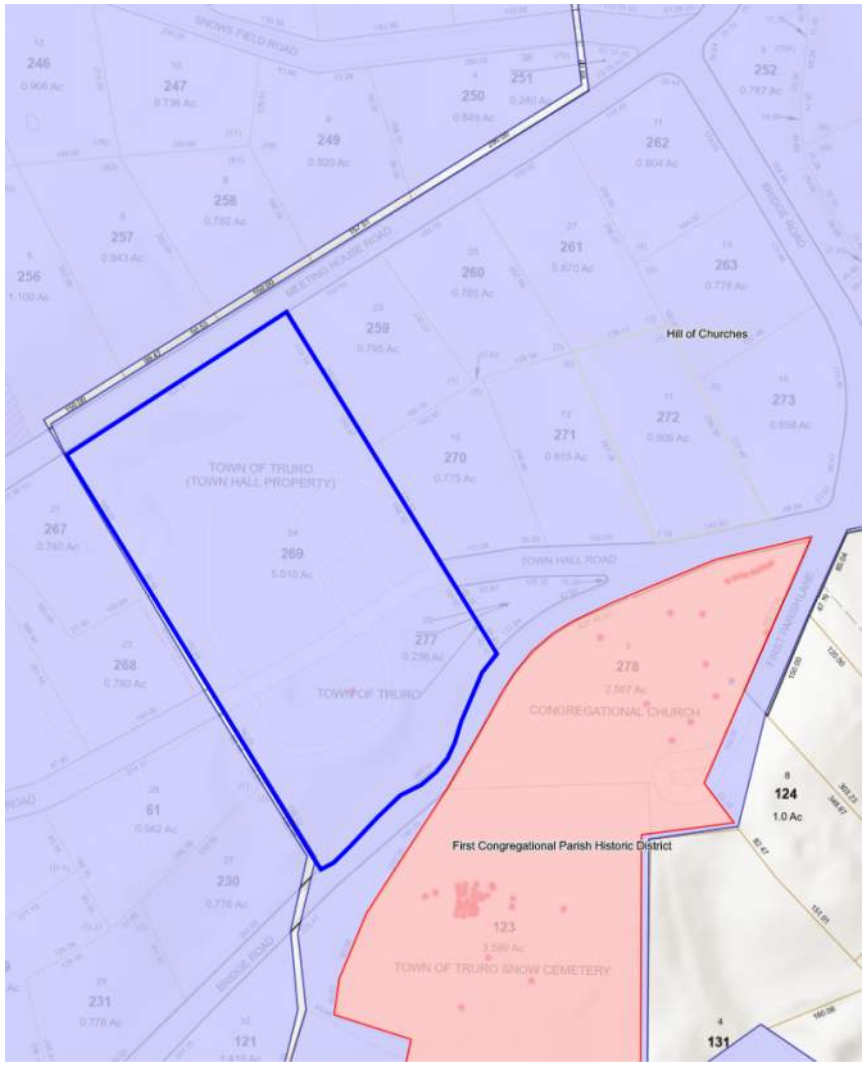
Within Water Resource Protection District

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HISTORIC DISTRICT – HILL OF CHURCHES



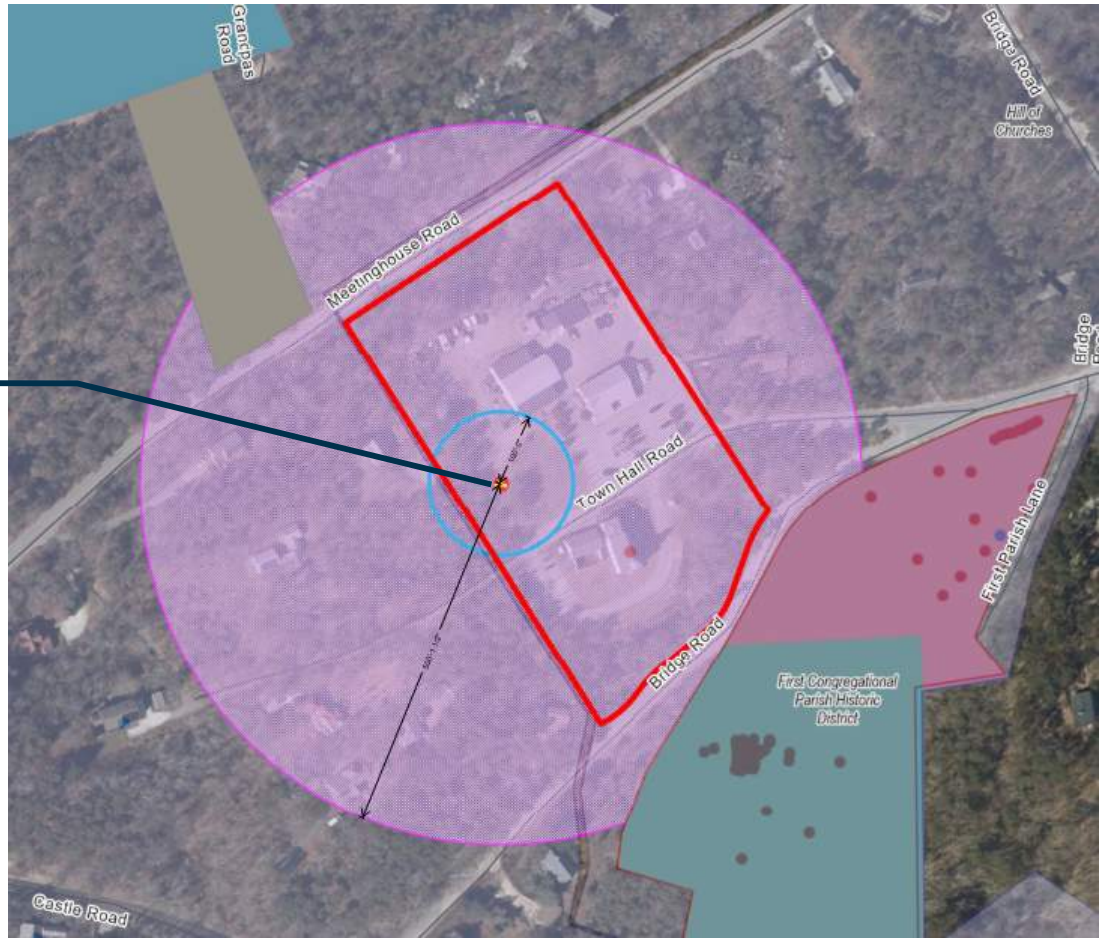


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INTERIM WELLHEAD PROTECTION AREA

NON-COMMUNITY GROUNDWATER SOURCE; WATER SUPPLY WELL



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ZONING & USE

Zone: Residential

Use: Institutional; Municipal

PRINCIPAL USES							
	R	BP	NT6A	TC	NTC	Rt6	S
INSTITUTIONAL							
Educational institution	P	P	P	P	P	P	P
Hospital, nursing and/or convalescent home	P	P	P	P	P	P	P
Municipal use *(4/13)*	P	P	P	P	P	P	P

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DIMENSIONAL REQUIREMENTS

REQUIREMENT	REQUIRED	EXISTING	PROPOSED
Min. Lot Size	33,750 sf	223,898 sf	223,898 sf
Min. Lot Frontage	150 ft	355 ft	355 ft
Min. Frontyard Setback (to Town Hall Rd)	25 ft	88.4 ft	33.6 ft
Min. Sideyard Setback	25 ft	29 ft	25.2 ft
Min. Backyard Setback (to Meetinghouse Rd)	25 ft	94 ft	97.4 ft
Max. Building Height	2 Stories; 30 ft	N/A	33.5 ft (main bldg.) 42 ft (salt shed)

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LOT COVERAGE

LOT COVERAGE TABLE				
	EXISTING		PROPOSED	
Area Description	**Area (sf)**		**Area (sf)**	
DPW				
Buildings	11,892		30,446	
Pavement*	38,579		55,256	
Gravel	31,180		0	
Concrete Sidewalk	0		420	
Concrete Pads	500		2,399	
Fuel Island	1,077		1,077	
DPW TOTAL	**83,229**		**89,599**	
Town Hall (Town Hall is not included in the limit of work)				
Buildings	4,405		4,405	
Pavement	8,072		8,072	
Brick Sidewalk	1,751		1,751	
Concrete Pads	228		228	
Town Hall TOTAL	**14,457**		**14,457**	
PARCEL TOTAL	**97,685**	**43.71%**	**104,055**	**46.56%**
Total Parcel Area (sf)	**223,506**			
*DPW Pavement includes the pavement within Town Hall Road.				

increase of 2.85%

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PARKING

Parking Calculations

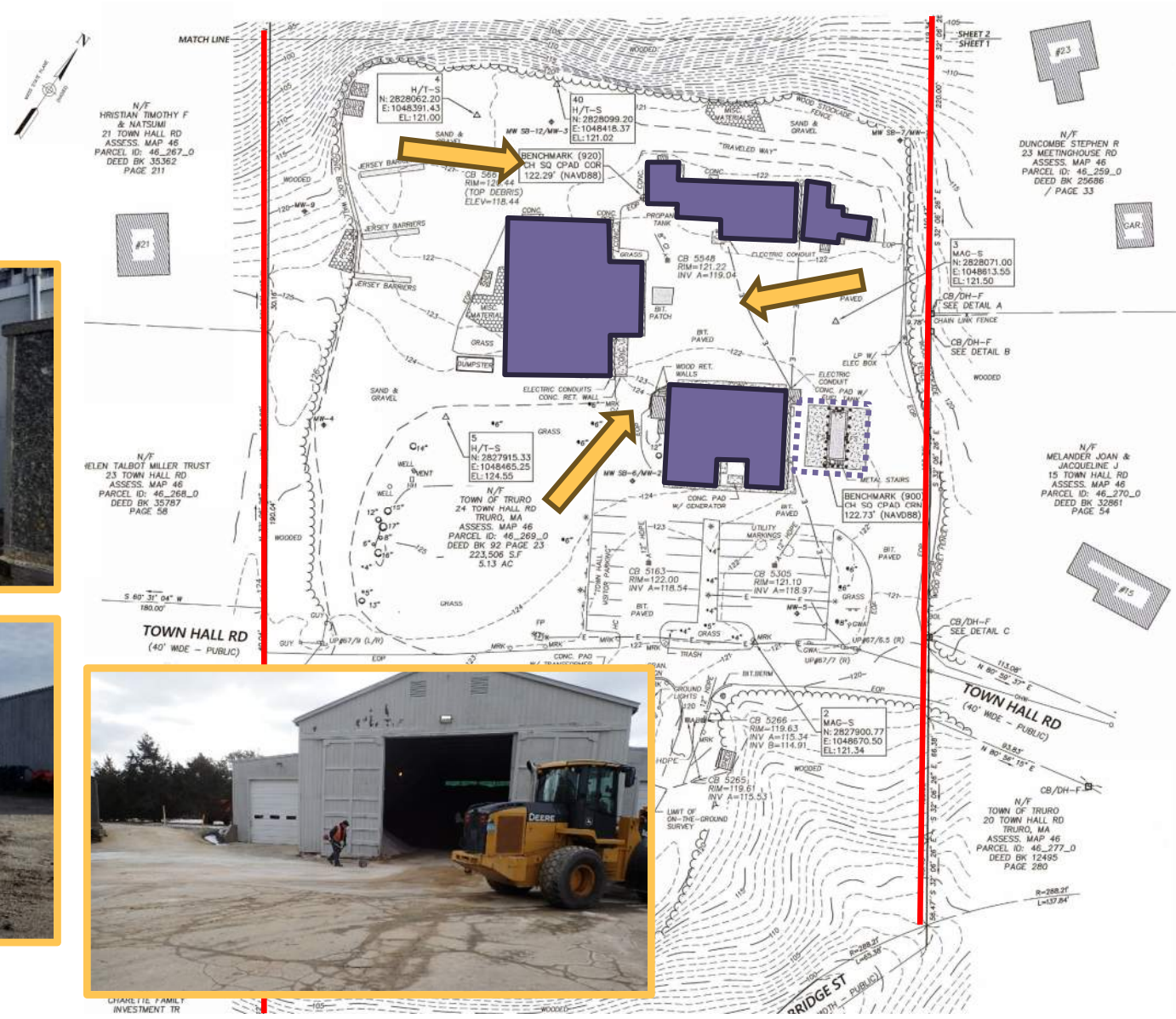
- **Existing Parking Count** = 27 spaces
- **Parking Requirement per Zoning Bylaw:** 1 space per employee maximum shift, plus 1 space per each 3 seats in area of public assembly
  - DPW Staff Count = 27
    - 3 DPW Admin, 9 DPW Workforce, 3 Transfer Station, and 12 Contractors
- **Proposed Parking Count** = 35 spaces
  - Handicapped Parking Requirement Per General Bylaws:
    - 5% but not less than 2 designated spaces for 26-40 spaces

17 TOWN HALL ROAD

EXISTING CONDITIONS







17 TOWN HALL ROAD

PROPOSED SITE PLAN





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EXISTING STORMWATER

Untreated Sheet Flow Stormwater Runoff from Site



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PROPOSED STORMWATER SYSTEM

DEEP SUMP HOODED CATCH BASINS



UNDERGROUND INFILTRATION CHAMBERS WITH ISOLATOR ROW



STORMWATER INFILTRATION BASIN





17 TOWN HALL ROAD

PROPOSED STORMWATER SYSTEM

Pre-Development Conditions vs. Post-Development Conditions									
Pre-Development Flows					**Post-Development Flows**				
Storm Event	2-year storm	10-year storm	25-year storm	100-year storm	Storm Event	2-year storm	10-year storm	25-year storm	100-year storm
	3.20 in	4.72 in	5.89 in	8.24 in		3.20 in	4.72 in	5.89 in	8.24 in
Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Subcatchment/Reach	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)	Inflow (cfs)
POA 1 *Offiste - Woods Meetinghouse Road*	2.67	4.77	6.42	9.73	POI 1 *Offiste - East*	0.00	0.00	0.03	0.18
POA 2 *Offsite - Woods Town Hall Road*	1.26	2.60	3.70	6.01	POI 2 *Offsite - North*	0.82	1.69	2.79	4.47

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PROPOSED STORMWATER SYSTEM

TSS Removal Calculation Worksheet

Location: Treatment Train (INF-A, INF-B)

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95%
Deep Sump and Hooded Catch Basin	25.0%	95.0%	24%	71%
Isolator Row	25.0%	71.3%	18%	53%
Subsurface Infiltration Chambers	80.0%	53.4%	43%	11%
	0.0%	10.7%	0%	11%

Total TSS Removal = 89%

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

Treatment rate is above 80%

TSS Removal Calculation Worksheet

Location: Treatment Train (P-1)

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Street Sweeping	5.0%	100.0%	5%	95.0%
Infiltration Pond	80.0%	95.0%	76%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%
	0.0%	19.0%	0%	19.0%

Total TSS Removal = 81%

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

Treatment rate is above 80%

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17 TOWN HALL ROAD

SUMMARY OF SITE IMPROVEMENTS

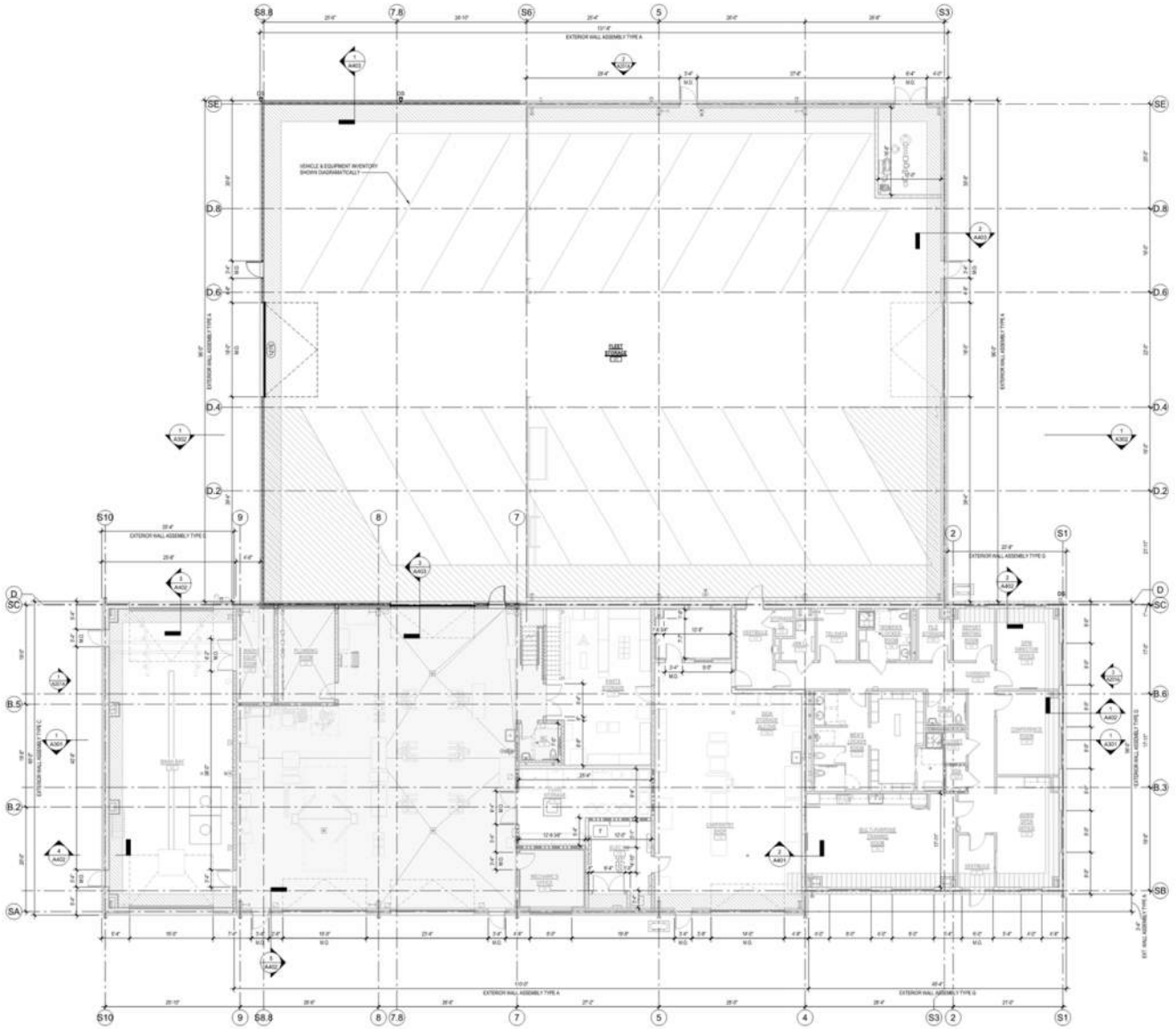
The proposed project will improve the premises, neighborhood, and environment through:

- Replacement of old / deteriorated structures with new properly sized and energy efficient structures
- Increased covered storage with floor drains discharging to sewer, not stormwater
- Eliminates untreated sheet flow stormwater runoff from the site
- Hooded catch basins & infiltration chambers to trap debris, oil, sediment and other contaminants
- Improved health and safety for Town employees and residents

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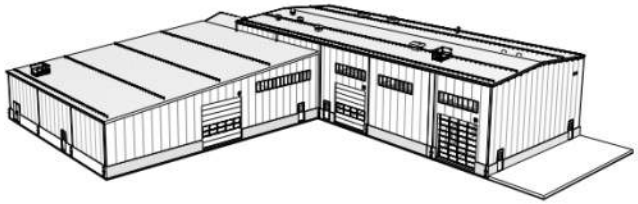
17 TOWN HALL ROAD

PROPOSED BUILDING PLAN

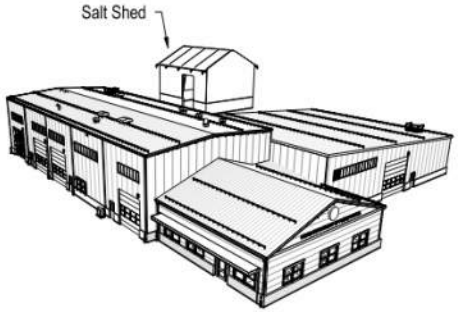


17 TOWN HALL ROAD

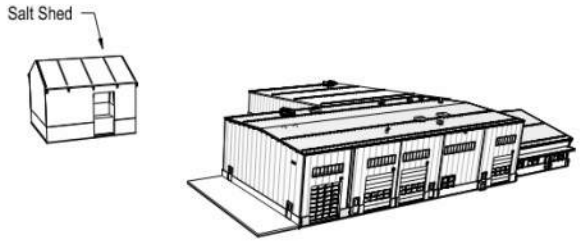
BIRD'S EYE VIEW



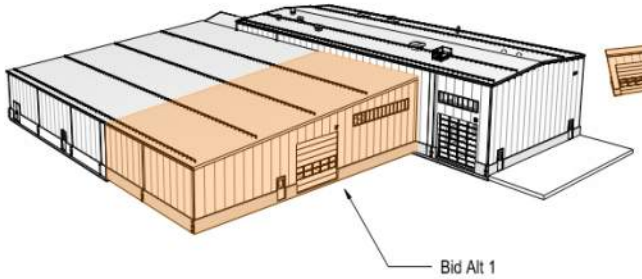
3D BASE BID REAR VIEW



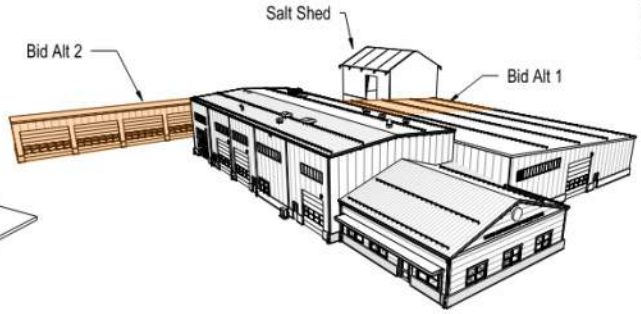
3D BASE BID FRONT VIEW



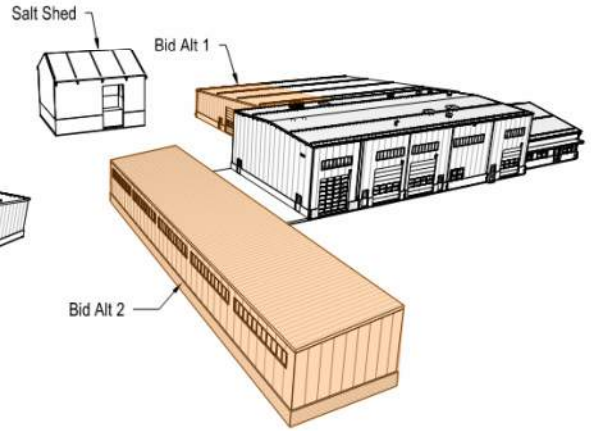
3D BASE BID SIDE VIEW



3D BASE BID + ALT 1 REAR VIEW



3D BASE BID + ALT 1&2 FRONT VIEW



3D BASE BID + ALT 1&2 SIDE VIEW

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STREET VIEW



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BENEFITS OF NEW FACILITY

What will an improved / code compliant facility do for the DPW and the Community?

- Replaces facility long past its useful life
- Compliance with Building Codes, OSHA, ADA Accessibility Standards, and Specialized Opt-in Stretch Energy Code
- More efficient workspace = improved employee safety, morale, and productivity
- Protection of the Town's multi-million dollar assets

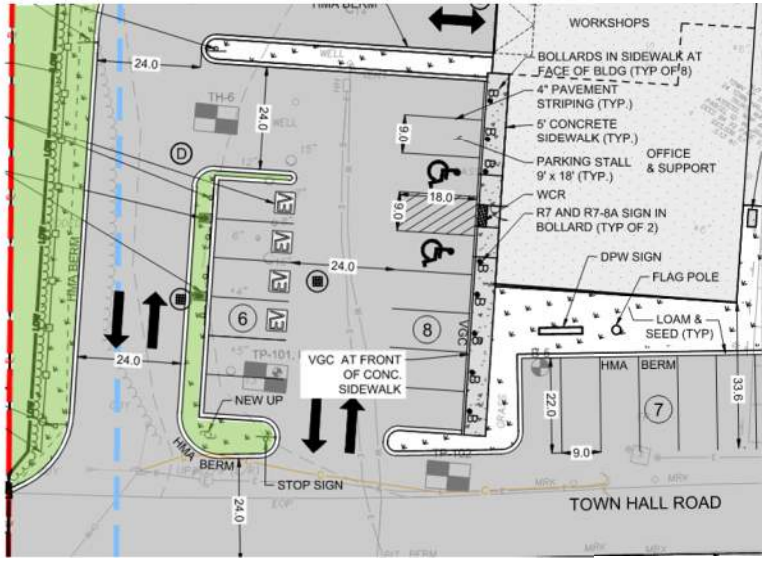
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WAIVER

A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 30.9.G.4 pertaining to the requirement for Parking Stall Dimensions. The proposed parking stalls are 9-feet wide by 18-feet long; whereas the referenced bylaw requires 9-feet wide by 20-feet long. The request is being made so that the parking lot design could maximize stall quantity and fit a landscape island, access road and side yard fencing while still maintaining some buffer along the property line and minimizing impacts on the abutters.





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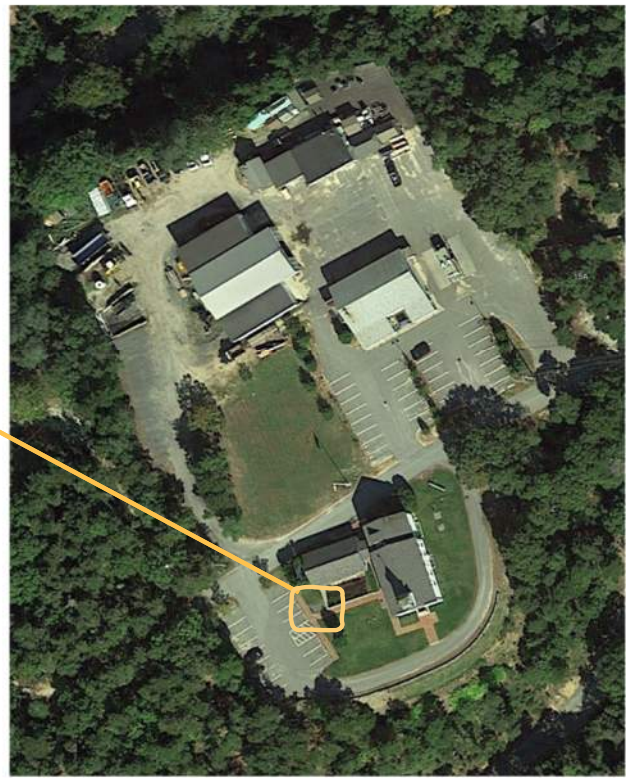
17 TOWN HALL ROAD

WAIVER

A waiver from the Planning Board is requested from Truro's Zoning Bylaws Section 70.3.F.16 pertaining to the requirement for a bicycle rack.

Existing bike rack at Town Hall





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Thank you!

Questions?

westonandsampson.com

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