CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, June 5, 2025**
Meeting Time: **10:30 AM**

1. Site Plan for Saint Thomas Aquinas High School & Roman Catholic Bishop of Manchester, Assessor's Map L, Lot 15, zoned R-20, located at 197 Dover Point Road. (Proposal for the construction of a 6,306 s.f. Chapel addition.) *(SITE-2025-0006)

PLAN SNAPSHOT REPORT SITE-2025-0006
FOR CITY OF DOVER, N.H.

Plan Type:	Site Plan - Major	**Project:**		**App Date:**	05/19/2025
Work Class:	New Construction	**District:**	None	**Exp Date:**	07/23/2025
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	
Description:	Chapel Addition to St Thomas Aquinas High School				

Parcel:	**Address:**	**Zone:**
	197 Dover Point Road Main Dover, NH 03820	

Applicant
Paul Miller
231 Main Street
BIDDEFORD, ME 04005
Business: (207) 283-0193
Mobile: (207) 749-4108

Applicant
Paul Marquis
Business: (603) 609-1436

Plan Custom Fields

Total	0	Total2	0	Total3	0
Total4	0	Total5	6306	Total6	0
Total7	0	Total8	6306	Total9	6306
Street Classification Type	Municipal	Net Change in # Parking Spaces (+/-)	0	Water Service	Municipal
Recording Number		Sewer Service	Municipal	Total Acres (GIS)	14.15
Deed Book	1969	Total SQFT	616374	Deed Page	275
Deed Date	06-05-1997	Proposed Property Use	Existing High School - No Change	Area of Parcel to be Developed (SQFT)	16250
Number of Parking Spaces Existing	375	Number of Parking Spaces Proposed	375	Number of Employees Total	54
Number of Employees in Max Shift	54	Distance to City Water	150	Distance to City Sewer	500
Type of Building to be Built	Chapel Addition to existing High School	Estimated Construction Value	6000000.00	Refuse Removal	Private
Is there an existing Conservation Easement?	No	Existing Conservation Easement Details		TotalImpactFeeSDTOD	0.00
TotalImpactFeeTHTOD	0.00	TotalImpactFee23FTOD	0.00	TotalImpactFeeA4TOD	0.00
TotalImpactFeeMHTOD	0.00	TotalImpactFeeADUTOD	0.00	TotalImpactFeeAONRTOD	0.00
TotalImpactFeeAR55TOD	0.00	TotalImpactFeeAR62TOD	0.00	Sub Total Residential	0.00
TotalImpactFeeRIRCTOD	0.00	TotalImpactFeeOCSTOD	0.00	TotalImpactFeeITWCTOD	0.00
TotalImpactFeeNHALTOD	0.00	TotalImpactFeeOIUTOD	0.00	TotalImpactFeeAFAOTOD	0.00
Sub Total Non-Residential	0.00	Total of Impact Fees to be Assessed	0.00		

Attachment File Name	**Added On**	**Added By**	**Attachment Group**	**Notes**
Signature_Paul_Miller_5/19/2025.jpg	05/19/2025 13:22	Miller, Paul		Uploaded via CSS

Invoice No.	**Fee**	**Fee Amount**	**Amount Paid**
INV-2025012525	Planning General Application Fee	$200.00	$0.00
	Total for Invoice INV-2025012525	**$200.00**	**$0.00**
NOT INVOICED	Planning Non-Residential – Addition	$630.60	$0.00
	Total for Invoice NOT INVOICED	**$630.60**	**$0.00**

PLAN SNAPSHOT REPORT (SITE-2025-0006)

	Grand Total for Plan	**$830.60**	**$0.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1			
Confirm application complete v.1	Generic Action		
Technical Review Committee Meeting Agenda v.1	Task		
Land Use Plan Technical Review v.1	Receive Submittal		
Technical Review Committee Meeting v.1	Hold Meeting		
Planning Board v.1			
Planning Board Agenda v.1	Task		
Invoice for Notices v.1	Task		
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Plan Activity		
NOD Sent to Applicant v.1	Create Report		
Final Plan v.1			
Land Use Plan Stamped and Signed v.1	Generic Action		
Recording v.1	Task		
Document Archival v.1	Generic Action		
Internal Notification of Plan Completion v.1	Generic Action		
Building Official Notifies Address v.1	Generic Action		
Pre-Con Meeting v.1	Hold Meeting		
Create/Link to Records v.1			
Create / Link to Permit - Building Major v.1	Create Sub Permit		
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit		

OAK POINT ASSOCIATES
architecture
engineering
planning

May 16, 2025

RECEIVED
Planning Office
MAY 19 2025
Dover, New Hampshire

Department of Planning and Community Development
288 Central Avenue
Dover, New Hampshire 03820-4169

Re: **Site Review Application**
St. Thomas Aquinas High School Chapel Addition
197 Dover Point Road
Dover, NH 03820

Dear Sir or Madam:

Enclosed please find the following with regard to the above referenced project:

- Six (6) copies of the Site Review Application, Submission Checklist, and attachments;
- Four (4) full size copies of applicable plans;
- Two (2) half size copies of applicable plans;

In addition, the enclosed items have been uploaded to the Dover Portal in pdf format on May 16, 2025. The Stormwater Management Plan (Drainage Analysis) will be delivered under separate cover and uploaded to the Portal on Monday, May 19, 2025.

Please contact me at your earliest convenience with any questions or comments concerning this project. Thank you in advance for your consideration of this application and supporting material.

Respectfully,

Paul Miller, P.E.
Project Engineer

Enclosures

Cc: Paul Marquis, President, St Thomas Aquinas High School

CHRISTOPHER G. PARKER, AICP
Assistant City Manager
Planning & Strategic Initiatives
c.parker@dover.nh.gov

288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6008
Fax: (603) 516-6049
www.dover.nh.gov

City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

INSTRUCTIONS TO APPLICANTS TO THE DOVER PLANNING BOARD

IMPORTANT: PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE FILLING OUT ATTACHED APPLICATION.
INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED FOR REVIEW.

Dear Applicant:

This will serve to briefly inform you regarding the process to have the Dover Planning Board (the Board) review a land use application. Please refer to the NH Statutes on Land Use and Regulation the Dover Code, and our Developer's Handbook for more specific information.

The Board primarily reviews 5 types of applications:

1. **Site Plans** - A site plan is a professionally rendered drawing which delineates the proposed development of a site. This plan is required for non-residential development, creation of multi-family residential structures, and for extensions of parking lots and alteration of an acre or more of land. These plans require meeting with the Technical Review Committee before Planning Board review.

2. **Subdivisions** - A subdivision is the division of the lot, tract, or parcel of land into two (2) or more lots, plats, sites or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease or building development. It includes re-subdivision and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. Major subdivision plans (4+) require meeting with the Technical Review Committee before Planning Board review.

3. **Lot Line Adjustments** - A lot line adjustment alters the size of two (2) or more lots, but does not create a new buildable lot.

4. **Conditional Use Permits** - A conditional use permit is required for any alteration of wetlands, wetland buffers or work within the City's conservation district. Additionally, a conditional use permit could be issued as to offer relief in the Central Business District, for plans in the Residential Mixed Use Overlay District, or parking relief. Environmental Conditional Use Permits are acted on after Conservation Commission review.

5. **Excavation Permits** – NH RSA Chapter 155-E grants municipalities the authority to regulate earth excavations within their borders. This authority rests with the Planning Board.

The Board cannot and will not review applications that do not meet zoning requirements. **Please review the need to apply to the Zoning Board of Adjustment prior to applying to the Board.**

Professional agents will prepare your application; however, you may represent yourself or authorize, in writing, someone else to represent you before the Planning Board.

In most cases, the first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, and a PDF, need to be provided, along with payment of plan review fees. These meetings occur on Thursday, and materials and payment must be submitted three (3) weeks prior to meeting. Meetings are scheduled, upon receipt of completed applications with the full checklist and payment.

The next step would be to provide, two weeks prior to Planning Board, the final plan sets (three (3) full size and twelve (12) half size (11x 17), folded, copies of the plan), and 15 copies, and a PDF, of all supporting materials, including response to TRC comments. Please print all materials on both sides of paper.

For projects not appearing before the Technical Review Committee, Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and 15 copies, plus a PDF, of plans and materials, 3 weeks prior to the Planning Board meeting. Please print all materials on both sides of paper.

Staff will generate an abutter list, and Abutter/Notice Fees will be invoiced. They are due 28 hours prior to Planning Board. If they are not paid, the application will not be heard.

Once an item is placed upon an agenda the following process is used:

- The Board will hold a public hearing on your application at a regularly scheduled meeting
    - Typically the second or fourth Tuesday of the Month.
- Public notice of the hearing will be posted at the City Clerk's office and the Planning Department office and printed in the newspaper.
- Certified letters will be mailed to you and to all abutters at least ten days before the date of the hearing.
- 28 hours prior to the meeting, abutter/notice fees must be paid
- At the meeting
    - Staff will introduce your project
    - You and all other parties will be invited to appear in person or by agent or counsel to present your application.
        - Your project will be pre-loaded onto a laptop for review by the Board and public
    - The Board may ask clarifying questions
    - The Board will vote to accept jurisdiction on the application
    - If accepted:
        - The Board will hold a public hearing
        - The Board may ask additional questions
        - The Board will deliberate on your application
            - Typically decisions are made the night of the presentation, but an application may be tabled
        - After deliberation, a decision will be made.
            - You will be sent a notice of the decision.

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

RECEIVED
Planning Office
MAY 19 2025
Dover, New Hampshire

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Paul Marquis Telephone # 603-609-1436

Address of Applicant: 197 Dover Point Rd, Dover, NH 03820

E-Mail Address: pmarquis@stalux.org

Name of Property Owner (*if different from applicant*): Roman Catholic Bishop c/o STA High School Telephone # 603-669-3100

Address of Property Owner: 153 Ash St, Manchester, NH 03104

PROPERTY INFORMATION

Address of Property: 197 Dover Point Rd, Dover, NH 03820

Assessor's Map # L-15-0-0 Lot(s) # L0015-000000

Zoning District(s) R-20 Overlay District(s) n/a

Size of Parcel: 616,374 sq. ft. 14.15 ac. Property Deed: Book 1969 Page: 275

Existing Use of Property: School

SITE PLAN INFORMATION

Describe Proposed Use: School

Area of Parcel to be Developed: ± 16,250 ft² sq. ft.

If Multi-family Residential: Number of Units n/a & Buildings Proposed n/a

If lodging: Number of Units n/a & number of Buildings n/a

Number of Parking Spaces: Existing 375 Proposed n/a

Highway Access (check where applicable): ✓ City Street ____ State Highway

Number of Employees Total: No change In Maximum Shift: _____

Disposition of Parcel:

Building Footprint 6306 sq. ft.

Total Building Area 6306 sq. ft.

Paved Area Reduction - 1220 sq. ft.

Building Setbacks:

Front Yard 98 ft.

Rear Yard 705 ft.

Side Yard: Right 108 ft. Left 29 ft.

City Water? ✓ Yes ___ No How far is city water from the property? _____

City Sewer? ✓ Yes ___ No How far is city sewer from the property? _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

□ Residential □ Residential (reduced size) □ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage □ Setback □ 30' Buffer □ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

n/a

BUILDING INFORMATION

Type of Building to be Built: Addition to existing school building.

Height of Building: 35' above grade Finished Floor Elevation: 99.50

Number of Seats (where applicable) ± 400

Estimated value of construction: $6,000,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: None

Justification for waiver request(s) (*attach additional sheets as needed*):

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Steve Michoud, Doucet Survey, LLC.

Address 102 Kent Place, Newmarket, NH 03857 Telephone #: 603-659-6560

Professional License #: _____ E-mail address: email@doucetsurvey.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Paul Miller, Oak Point Associates

Address 231 Main St, Biddeford, ME 04005 Telephone #: 207-283-0193

Professional License #: 13289 E-mail address: pmiller@oakpoint.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Bryan LaRoche, Oak Point Associates

Address 85 Middle St, Portsmouth, NH 03801 Telephone #: 603-431-4849

Professional License #: 04617 E-mail address: blaroche@oakpoint.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Allison DiMatteo, Oak Point Associates

Address 231 Main St, Biddeford, ME 04005 Telephone #: 207-283-0193

Professional License #: NH 094 E-mail address: atowne@oakpoint.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 5/15/25

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: 05/15/25

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/15/25

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/15/25

Signature of Applicant (*if different from owner*): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Date: 5/15/25

Signature of Applicant (*if different from owner*): _____ Date: _____

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
L-15-0-0	L0015-000000	Roman Catholic Bishop	153 Ash St, Manchester, NH 03104

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Paul Marquis	Saint Thomas Aquinas High School	197 Dover Point Road, Dover, NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Paul Miller	Oak Point Associates	231 Main St, Biddeford, ME 04005

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS
NA	NA	NA	NA

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: Paul Marquis File Number: _____

PROJECT TITLE: Saint Thomas Aquinas High School Chapel Addition

PROPERTY LOCATION: 197 Dover Point Rd, Dover, NH 03820 Tax Map: L-15-0-0 Lot: L0015-000000

	Where/How Provided	Reviewed
1. Completed and signed Application form	Attached	
2. Plan Review Fees are provided		
3. Electronic copy of the engineered/surveyed plan layout	Portal	
4. Electronic copy of supplementary materials and application	Portal	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	NA	
6. Waiver requests to the Site Plan Review Regulations, with written justification	None	
7. Conditional Use Permit applications	NA	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	NA	
9. A colored architectural plan showing all sides of buildings	DWG AE201	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	Site Plans	
Location map at appropriate scale	Drawing G-001	
Proposed Project name and title and Planning File #	All Drawings	
Date, north arrow and scale	Site Plans	
Names of all abutting property owners	List Attached	
Name and address of owners and/or applicants	DWG C-002	
Signature & stamp of NH licensed land surveyor and/or engineer	Site Plans	
Zoning District boundaries, including any special or overlay districts	DWG C-002	
Location of Conservation District areas	NA	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	DWG CD101, CS101	
Location and widths of existing & proposed easements & right of ways	NA	
Location and width of existing and proposed access/egress ways	DWG C-002	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	DWG CS101	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	DWG C-002	
Existing and proposed topographic information at two foot intervals	DWG CG101	
Existing and proposed buildings and structure locations	DWG CS101	
Minimum building setbacks or build to lines on all lots	DWG C-002	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	DWG CU101	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	DWG CU101	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	NA	
Existing and proposed stormwater lines and facilities	DWG CG101	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	DWG EL101, EL701	
Location of Flood Hazard Zone	DWG C-002	
Location of all bodies of water and watercourses	NA	
Location of wetlands and buffers	NA	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	Neighborhood plan	
Existing natural features and/or significant vegetation on property	DWG CD101	
Depict existing contours up to 100 ft. beyond project limits	DWG CD101	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	DWG LS101	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	NA	
Location, material and size of existing and proposed pavement area	DWG CS101	
Location of proposed fire lanes	DWG CS101	
Specify finished floor elevations of buildings	DWG CG101	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	NA	
Depict all service, storage, loading bays and utility areas	DWG C-002	
All applicable Dover Common Site Plan notes	DWG C-002	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	DWG CG101 and Stormwater MGT Plan	
Stormwater Management System Operation and Maintenance Plan		
Letter to Serve from Public and Private Utilities	NA	
Erosion and Sedimentation Control Plan	DWG CG101, C-501	
Landscape Operation and Maintenance Plan		
Proposed restrictive covenants or homeowners association documents	NA	
Dates and permit numbers of all required state and federal permits	NA	
If wetland buffer, indicate placards locations, as applicable	NA	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	DWGS CD101, B-001, B002	
Location of proposed drive-in facilities	NA	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	NA	

REVIEWED BY: _____ DATE_____ TRC DATE_____

OAK POINT ASSOCIATES
architecture
engineering
planning

May 19, 2025

Department of Planning and Community Development
288 Central Avenue
Dover, New Hampshire 03820-4169

Re: **Site Review Application**
St. Thomas Aquinas High School Chapel Addition
197 Dover Point Road
Dover, NH 03820

Dear Sir or Madam:

Oak Point Associates is working on uploading documents to Dover Permitting Portal for the above referenced project. Regarding the request for a *Conditional Use Permit Application* via the Portal, the site is within the Low Density Residential (R-20) District. K-12 educational institutions are a permitted use in this zone. Therefore, we suggest a Conditional Use Permit is not applicable/not required for this project.

Please contact me at your earliest convenience with any question or comments concerning this project.

Respectfully,



Paul Miller, P.E.
Project Engineer

OAK POINT ASSOCIATES
architecture
engineering
planning

May 19, 2025

Department of Planning and Community Development
288 Central Avenue
Dover, New Hampshire 03820-4169

Re: **Site Review Application**
St. Thomas Aquinas High School Chapel Addition
197 Dover Point Road
Dover, NH 03820

Dear Sir or Madam:

Oak Point Associates is working on uploading documents to Dover Permitting Portal for the above referenced project. Regarding the request for a *Traffic Impact Assessment and Analysis* via the Portal, please be advised that the proposed project does not increase the building occupancy or change the vehicle trips or traffic to and from the site. There will be no change to the existing traffic as a result of the proposed project, and therefore we suggest a Traffic Impact Assessment and Analysis is not applicable/not necessary for this project.

Please contact me at your earliest convenience with any question or comments concerning this project.

Respectfully,

Paul Miller, P.E.
Project Engineer

STORMWATER MANAGEMENT PLAN

Saint Thomas Aquinas High School – Chapel Addition
197 Dover Point Road
Dover, New Hampshire, 03820



Prepared For:

Saint Thomas Aquinas High School
197 Dover Point Road
Dover, NH, 03820

May 16, 2025

Prepared By:

OAK POINT ASSOCIATES
architecture
engineering
planning

Table of Contents

PROJECT DESCRIPTION

NRCS Soils Information

Extreme Precipitation Tables

APPENDICES

Appendix A – Pre-Development Runoff Calculations

Appendix B – Post-Development Runoff Calculations

Project Description

The proposed project consists of a Chapel Addition to the St. Thomas Aquinas High School. Referring to Drawing C-002, Overall Site Plan, the building addition is proposed on the west side of the existing school, in an area currently developed with pedestrian walkways and lawn with picnic tables.

The St Thomas Aquinas High School is situated on a 14.15 acre parcel (based on City of Dover tax records) owned by the Roman Catholic Bishop, C/O St. Thomas Aquinas High School. The parcel to the north, occupied by St. Anne's Nursing Home and Assisted Living, is owned by NH Catholic Charities, Inc, and consists of approximately 11 acres. The existing storm drainage system for the High School drains to the north, across the NH Catholic Charities parcel, to an existing stormwater management pond near the northwest corner of the Catholic Charities property. The existing drainage system and stormwater pond serving both parcels were constructed circa 2007 under a previously approved project.

Referring to Drawing CS101, Site Plan, the project consists of a 6,360 square foot Chapel addition with associated walkways and drainage improvements. A number of existing utilities (storm drainage, site lighting, irrigation lines) cross the building addition area (see Drawing CD101, Existing Conditions and Removals Site Plan) and will be relocated as part of the project. Existing paved walks within the addition area will be removed, and new paved walks provided along the north side of the addition. The project reduces the area of paved surfaces by 1,220 square feet, resulting in a net increase in impervious surfaces of 5,140 square feet, consisting of all roof (6,360 – 1,220 = 5,140 sf). The total disturbed area is approximately 16,000 square feet.

Existing soils in the vicinity of the project are classified as Hinckley loamy sand by the Natural Resources Conservation Service (NRCS), Web Soil Survey. Hinckley soils are typically very deep and excessively drained with a depth to water table greater than 80-inches. Hinckley soils are in Hydrologic soil Group A. A copy of the NRCS soil information is attached.

Geotechnical investigations for the project were performed by R.W. Gillespie and Associates, Inc., and documented in a report dated February 6, 2025. Copies of the boring logs are included on Drawing B-001. Copies of the laboratory test reports are included on Drawing B-002. The test results are consistent with the NRCS classification and reveal deep sands with less than 20-percent fines (most less than 10-percent fines) and no observed water table.

Stormwater runoff from the site for the Pre- and Post Development condition was analyzed using HydroCAD Stormwater Modelling Software. Rainfall amounts for the 2, 10, 25, and 50-year storm events are based on the Northeast Regional Climate Center Extreme Precipitation Tables (copy attached). Pre-Development Runoff calculations are included in Appendix A. Post Development runoff calculations are included in Appendix B.

Referring to Drawing CD101, existing stormwater runoff from the High School site drains to a series of catch basins and underground piping that begins (the high end) along the east side of the school building, where it

also collects runoff from the west half of Dover Point Road. The underground drainage system runs south and continues around the south end of the building, and then turns north. The system drains under the proposed building addition footprint in an 18-inch diameter line. A second line which drains the fire lane along the west side of the site also crosses the addition footprint and combines with the main line just north of the addition. From there, the system drains northwesterly in a 24-inch line, and continues north and west where it collects runoff from the St. Anne's parcel. The system discharges to a large stormwater management pond near the northwest corner of the Catholic Charities property. The discharge from the pond is piped south, under a baseball field, and then west, to discharge in a wooded area east of the Spaulding Turnpike (Route 16) Right of Way. Stormwater runoff accumulates in a large wooded wetland along the upgrade side of the roadway embankment before draining under the roadway in a culvert, to an ultimate discharge at tidal Bellamy River.

Referring to Drawing CG101, Grading, Drainage, and Erosion Control Plan, the existing underground storm drain system will be relocated to run around the south and west sides of the addition. The relocated line will combine with the existing 24-inch drain line near the limit of disturbance at the north side of the project site. Stormwater runoff from the entire new roof will run to one of three drywells (indicated on Drawing CG101). The drywells are sized to hold 1-inch of runoff from the entire new roof area. Treatment in accordance with New Hampshire stormwater management regulations is provided via infiltration at the drywells. Overflow from the drywells will combine with the existing system that drains to the existing stormwater pond.

The Pre- and Post Development peak rate of runoff from the 2, 10, 25, and 50-year storms was calculated at the discharge from the existing stormwater pond (DP1/Design Point in the HydroCAD analysis). The Pre- and Post Development peak rate of runoff for the various storms is summarized below.

TABLE 1

Pre- and Post-Development Runoff Comparison

(Peak Rate)

	2-year (cfs)		**10-year (cfs)**		**25-year (cfs)**		**50-year (cfs)**	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP1/Design Point	0.60	0.60	2.26	2.34	6.36	6.94	23.12	24.06

There is a slight increase in the post-development peak rate of runoff from the 10, 25, and 50-year storm event (less than 0.1 cfs for the 10-year storm and less than 1 cfs for the 50-year event). We contend the increase is insignificant since the existing drainage system is more than adequately sized for the 10-year storm (as required), and the existing stormwater pond is well stabilized and functions well with no evidence of erosion or overtopping. In addition, conditions downgrade of the pond discharge consists of a large wooded wetland and depression formed by the Route 16 embankment. This area provides natural detention and has significant runoff storage potential. Given the adequately sized drainage system, well-functioning stormwater pond, and enormous treatment and storage potential of the downgrade flow path, we maintain the slight increase in the peak rate of runoff from the larger storm event is insignificant and will not result in downstream drainage or erosion issues.

Erosion and sediment control during construction will be implemented by the contractor in accordance with the erosion control provisions of the New Hampshire Stormwater Manual. Erosion control measures are indicated on Drawings CD101 and CG101. An erosion control plan, including notes and details, is included on Drawing C-001.



Map Scale: 1:3,210 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Strafford County, New Hampshire
Survey Area Data: Version 25, Sep 3, 2024

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BzB	Buxton silt loam, 3 to 8 percent slopes	1.8	5.0%
Gv	Gravel and borrow pits	0.5	1.5%
HaA	Hinckley loamy sand, 0 to 3 percent slopes	10.0	27.7%
HaB	Hinckley loamy sand, 3 to 8 percent slopes	0.0	0.0%
HaC	Hinckley loamy sand, 8 to 15 percent slopes	4.9	13.6%
Ma	Made land	10.4	28.7%
ScB	Scantic silt loam, 3 to 8 percent slopes	5.7	15.9%
WdB	Windsor loamy sand, 3 to 8 percent slopes	0.1	0.2%
WfB	Windsor loamy fine sand, clay subsoil variant, 0 to 8 percent slopes	2.3	6.4%
WfC	Windsor loamy fine sand, clay subsoil variant, 8 to 15 percent slopes	0.4	1.0%
Totals for Area of Interest		**36.0**	**100.0%**

Strafford County, New Hampshire

HaA—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7
Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Hinckley

Setting

Landform: Outwash terraces, outwash plains, kame terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac
Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Windsor
Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury
Percent of map unit: 4 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Walpole
Percent of map unit: 1 percent
Landform: Deltas, depressions, outwash terraces, depressions, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 25, Sep 3, 2024

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	43.151 degrees North
Longitude	70.842 degrees West
Elevation	20 feet
Date/Time	Tue Dec 17 2024 16:01:29 GMT-0500 (Eastern Standard Time)

Extreme Precipitation Estimates

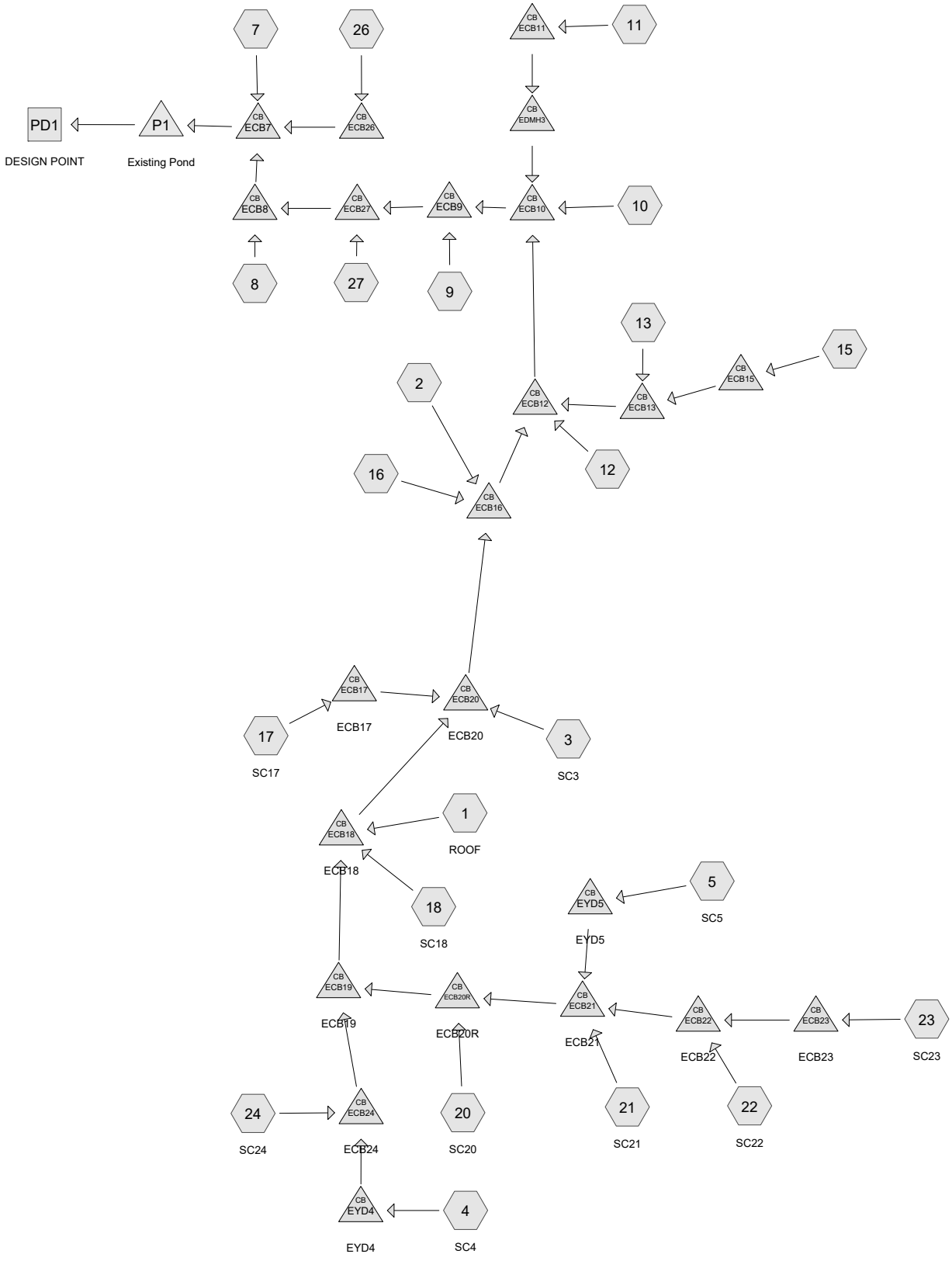
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.21	1.55	2.01	2.62	2.87	**1yr**	2.32	2.76	3.16	3.89	4.46	**1yr**
2yr	0.32	0.49	0.61	0.81	1.02	1.29	**2yr**	0.88	1.17	1.50	1.92	2.46	3.16	3.52	**2yr**	2.80	3.38	3.88	4.61	5.25	**2yr**
5yr	0.37	0.57	0.72	0.96	1.23	1.58	**5yr**	1.06	1.45	1.86	2.39	3.09	4.00	4.51	**5yr**	3.54	4.33	4.95	5.83	6.59	**5yr**
10yr	0.40	0.64	0.80	1.09	1.42	1.85	**10yr**	1.23	1.70	2.19	2.84	3.68	4.78	5.44	**10yr**	4.23	5.23	5.97	6.97	7.84	**10yr**
25yr	0.47	0.74	0.94	1.30	1.73	2.28	**25yr**	1.49	2.10	2.71	3.55	4.64	6.05	6.98	**25yr**	5.36	6.71	7.64	8.83	9.87	**25yr**
50yr	0.52	0.83	1.07	1.49	2.01	2.68	**50yr**	1.73	2.47	3.20	4.21	5.53	7.24	8.44	**50yr**	6.41	8.11	9.21	10.56	11.74	**50yr**
100yr	0.58	0.94	1.21	1.72	2.33	3.14	**100yr**	2.01	2.90	3.77	4.99	6.59	8.66	10.20	**100yr**	7.67	9.81	11.10	12.64	13.99	**100yr**
200yr	0.65	1.05	1.37	1.96	2.71	3.69	**200yr**	2.34	3.42	4.45	5.94	7.86	10.37	12.33	**200yr**	9.18	11.86	13.39	15.13	16.66	**200yr**
500yr	0.76	1.25	1.63	2.37	3.32	4.57	**500yr**	2.86	4.24	5.54	7.44	9.92	13.16	15.85	**500yr**	11.65	15.25	17.16	19.20	21.01	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.89	**1yr**	0.64	0.87	0.92	1.28	1.61	2.19	2.46	**1yr**	1.94	2.37	2.83	3.27	3.95	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.18	**2yr**	0.86	1.16	1.36	1.83	2.35	3.04	3.41	**2yr**	2.69	3.28	3.76	4.48	5.03	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.14	2.77	3.73	4.13	**5yr**	3.30	3.98	4.63	5.43	6.14	**5yr**
10yr	0.38	0.59	0.73	1.02	1.31	1.60	**10yr**	1.13	1.56	1.81	2.43	3.11	4.30	4.80	**10yr**	3.80	4.61	5.33	6.28	7.06	**10yr**
25yr	0.43	0.66	0.82	1.17	1.54	1.90	**25yr**	1.33	1.86	2.11	2.82	3.62	4.80	5.81	**25yr**	4.25	5.58	6.50	7.61	8.49	**25yr**
50yr	0.48	0.73	0.90	1.30	1.75	2.17	**50yr**	1.51	2.12	2.35	3.17	4.06	5.44	6.70	**50yr**	4.82	6.44	7.55	8.79	9.77	**50yr**
100yr	0.53	0.80	1.01	1.45	1.99	2.48	**100yr**	1.72	2.43	2.63	3.54	4.52	6.16	7.73	**100yr**	5.45	7.43	8.76	10.17	11.22	**100yr**
200yr	0.59	0.88	1.12	1.62	2.26	2.84	**200yr**	1.95	2.77	2.93	3.96	5.02	6.96	8.91	**200yr**	6.16	8.57	10.15	11.77	12.91	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.40	**500yr**	2.33	3.33	3.40	4.57	5.79	8.16	10.75	**500yr**	7.22	10.33	12.33	14.30	15.51	**500yr**

Upper Confidence Limits

Appendix A – Pre-Development Runoff Calculations



Routing Diagram for 22402.15-PRE-OVERALL
Prepared by Oak Point Associates, Printed 5/19/2025
HydroCAD® 10.20-6a s/n 01227 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.721	39	>75% Grass cover, Good, HSG A (3, 4, 5, 9, 11, 12, 13, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27)
0.298	98	Paved parking, HSG A (3, 17)
5.963	98	Paved parking, HSG C (1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 20, 21, 22, 23, 24, 26, 27)
1.205	30	Woods, Good, HSG A (9, 26, 27)
11.187	**71**	**TOTAL AREA**

Summary for Subcatchment 1: ROOF

Runoff = 0.87 cfs @ 12.07 hrs, Volume= 0.066 af, Depth> 2.93"
Routed to Pond ECB18 : ECB18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
11,868	98	Paved parking, HSG C
11,868		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.04		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	175	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 2:

Runoff = 0.98 cfs @ 12.07 hrs, Volume= 0.075 af, Depth> 2.93"
Routed to Pond ECB16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
13,410	98	Paved parking, HSG C
13,410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.04		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	193	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 3: SC3

Runoff = 0.00 cfs @ 20.80 hrs, Volume= 0.000 af, Depth> 0.02"
Routed to Pond ECB20 : ECB20

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
7,463	39	>75% Grass cover, Good, HSG A
555	98	Paved parking, HSG A
8,018	43	Weighted Average
7,463		93.08% Pervious Area
555		6.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	65	0.0340	0.19		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"

Summary for Subcatchment 4: SC4

Runoff = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af, Depth> 0.21"
Routed to Pond EYD4 : EYD4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
2,085	98	Paved parking, HSG C
5,951	39	>75% Grass cover, Good, HSG A
8,036	54	Weighted Average
5,951		74.05% Pervious Area
2,085		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	55	0.0500	0.22		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.1	48	0.0200	6.42	5.04	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
4.3	103	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 5: SC5

Runoff = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af, Depth> 0.19"
Routed to Pond EYD5 : EYD5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
1,507	98	Paved parking, HSG C
4,778	39	>75% Grass cover, Good, HSG A
6,285	53	Weighted Average
4,778		76.02% Pervious Area
1,507		23.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	35	0.0280	0.16		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.1	40	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	110	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	185	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 7:

Runoff = 1.31 cfs @ 12.07 hrs, Volume= 0.100 af, Depth> 2.93"
Routed to Pond ECB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
17,916	98	Paved parking, HSG C
17,916		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	45	0.0680	1.90		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	25	0.2000	7.20		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	64	0.1500	1.94		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	60	0.3300	4.02		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	120	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	334	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 8:

Runoff = 1.91 cfs @ 12.07 hrs, Volume= 0.146 af, Depth> 2.93"
Routed to Pond ECB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
26,145	98	Paved parking, HSG C
26,145		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0500	1.97		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	150	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 9:

Runoff = 0.16 cfs @ 12.01 hrs, Volume= 0.012 af, Depth> 0.62"
Routed to Pond ECB9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,608	98	Paved parking, HSG C
4,367	39	>75% Grass cover, Good, HSG A
752	30	Woods, Good, HSG A
9,727	66	Weighted Average
5,119		52.63% Pervious Area
4,608		47.37% Impervious Area

Summary for Subcatchment 10:

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af, Depth> 2.93"
Routed to Pond ECB10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
2,975	98	Paved parking, HSG C
2,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	40	0.1000	2.17		**Sheet Flow, Sheet** Smooth surfaces n= 0.011 P2= 3.16"
0.1	30	0.0670	5.25		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	140	0.0800	5.74		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.8	210	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 11:

Runoff = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Depth> 1.50"
Routed to Pond ECB11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
54,190	98	Paved parking, HSG C
20,752	39	>75% Grass cover, Good, HSG A
74,942	82	Weighted Average
20,752		27.69% Pervious Area
54,190		72.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0250	1.30		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.5	85	0.0350	3.01		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
0.5	85	0.0035	2.91	2.28	**Pipe Channel, Circular Channel (pipe)** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	80	0.0100	5.90	4.63	**Pipe Channel, Circular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 Concrete pipe, straight & clean
0.0	20	0.1500	19.03	14.95	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	144	0.0410	9.95	7.82	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.5	92	0.0043	3.22	2.53	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.5	556	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 12:

Runoff = 0.70 cfs @ 12.07 hrs, Volume= 0.051 af, Depth> 2.60"
Routed to Pond ECB12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,759	98	Paved parking, HSG C
474	39	>75% Grass cover, Good, HSG A
10,233	95	Weighted Average
474		4.63% Pervious Area
9,759		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.07		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.0	16	0.1250	7.18		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	66	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 13:

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.023 af, Depth> 1.12"
Routed to Pond ECB13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
6,674	98	Paved parking, HSG C
4,106	39	>75% Grass cover, Good, HSG A
10,780	76	Weighted Average
4,106		38.09% Pervious Area
6,674		61.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0280	1.56		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.4	100	0.0375	3.93		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	115	0.0960	6.29		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	315	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 15:

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 2.93"
Routed to Pond ECB15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
3,439	98	Paved parking, HSG C
3,439		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	90	0.0280	1.53		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	30	0.0280	3.40		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	120	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 16:

Runoff = 0.53 cfs @ 12.08 hrs, Volume= 0.037 af, Depth> 1.50"
Routed to Pond ECB16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,224	98	Paved parking, HSG C
3,482	39	>75% Grass cover, Good, HSG A
12,706	82	Weighted Average
3,482		27.40% Pervious Area
9,224		72.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	90	0.0280	1.53		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	31	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	86	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	207	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 17: SC17

Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.053 af, Depth> 1.72"
Routed to Pond ECB17 : ECB17

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
12,417	98	Paved parking, HSG A
3,542	39	>75% Grass cover, Good, HSG A
15,959	85	Weighted Average
3,542		22.19% Pervious Area
12,417		77.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	55	0.0220	0.16		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.3	25	0.0520	1.52		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.16"
6.2	80	Total			

Summary for Subcatchment 18: SC18

Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.025 af, Depth> 1.65"
Routed to Pond ECB18 : ECB18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,954	98	Paved parking, HSG C
1,845	39	>75% Grass cover, Good, HSG A
7,799	84	Weighted Average
1,845		23.66% Pervious Area
5,954		76.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.80		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	75	0.0200	2.87		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	260	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 20: SC20

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.035 af, Depth> 1.24"
Routed to Pond ECB20R : ECB20R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,938	98	Paved parking, HSG C
4,954	39	>75% Grass cover, Good, HSG A
14,892	78	Weighted Average
4,954		33.27% Pervious Area
9,938		66.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0500	1.72		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.2	40	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	135	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	225	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 21: SC21

Runoff = 0.27 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 1.88"
Routed to Pond ECB21 : ECB21

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,093	98	Paved parking, HSG C
969	39	>75% Grass cover, Good, HSG A
5,062	87	Weighted Average
969		19.14% Pervious Area
4,093		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	90	0.0440	1.83		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	70	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	160	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 22: SC22

Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.040 af, Depth> 0.96"
Routed to Pond ECB22 : ECB22

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
12,740	98	Paved parking, HSG C
9,116	39	>75% Grass cover, Good, HSG A
21,856	73	Weighted Average
9,116		41.71% Pervious Area
12,740		58.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	85	0.0280	1.51		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	65	0.0600	3.94		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	200	0.0440	4.26		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.0	350	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 23: SC23

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Depth> 1.80"
Routed to Pond ECB23 : ECB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,039	98	Paved parking, HSG C
1,224	39	>75% Grass cover, Good, HSG A
6,263	86	Weighted Average
1,224		19.54% Pervious Area
5,039		80.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0500	1.97		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	185	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 24: SC24

Runoff = 0.30 cfs @ 12.08 hrs, Volume= 0.021 af, Depth> 1.72"
Routed to Pond ECB24 : ECB24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,807	98	Paved parking, HSG C
1,423	39	>75% Grass cover, Good, HSG A
6,230	85	Weighted Average
1,423		22.84% Pervious Area
4,807		77.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	45	0.0400	1.54		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	130	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 26:

Runoff = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af, Depth> 0.30"
Routed to Pond ECB26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
53,035	98	Paved parking, HSG C
64,160	39	>75% Grass cover, Good, HSG A
37,618	30	Woods, Good, HSG A
154,813	57	Weighted Average
101,778		65.74% Pervious Area
53,035		34.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0250	1.30		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
1.2	190	0.0280	2.69		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.1460	21.79	26.74	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.2	127	0.0450	10.42	8.19	**Pipe Channel, Circular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	88	0.0260	9.20	11.28	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.1	105	0.1470	21.86	26.83	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.1	40	0.3200	9.13	6.12	**Trap/Vee/Rect Channel Flow, Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.67' n= 0.040 Earth, cobble bottom, clean sides
2.4	615	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 27:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond ECB27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
364	98	Paved parking, HSG C
23,478	39	>75% Grass cover, Good, HSG A
14,119	30	Woods, Good, HSG A
37,961	36	Weighted Average
37,597		99.04% Pervious Area
364		0.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	25	0.2800	0.37		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.4	160	0.2000	7.20		**Shallow Concentrated Flow, Shallow Concnetrated Flow,** Unpaved Kv= 16.1 fps
0.3	100	0.1250	5.69		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	285	Total, Increased to minimum Tc = 5.0 min			

Summary for Reach PD1: DESIGN POINT

Inflow Area = 11.187 ac, 55.97% Impervious, Inflow Depth > 0.53" for 2-Year event
Inflow = 0.60 cfs @ 15.66 hrs, Volume= 0.496 af
Outflow = 0.60 cfs @ 15.66 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond ECB10:

Inflow Area = 5.527 ac, 70.89% Impervious, Inflow Depth > 1.57" for 2-Year event
Inflow = 10.01 cfs @ 12.08 hrs, Volume= 0.722 af
Outflow = 10.01 cfs @ 12.08 hrs, Volume= 0.722 af, Atten= 0%, Lag= 0.0 min
Primary = 10.01 cfs @ 12.08 hrs, Volume= 0.722 af
Routed to Pond ECB9 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 82.85' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.40'	**24.0" Round Culvert** L= 95.0' Ke= 0.500 Inlet / Outlet Invert= 81.40' / 77.00' S= 0.0463 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=9.99 cfs @ 12.08 hrs HW=82.85' (Free Discharge)
1=Culvert (Inlet Controls 9.99 cfs @ 4.10 fps)

Summary for Pond ECB11:

Inflow Area = 1.720 ac, 72.31% Impervious, Inflow Depth > 1.50" for 2-Year event
Inflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Routed to Pond EDMH3 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 98.82' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	97.90'	**15.0" Round long Culvert** L= 66.0' Ke= 0.500 Inlet / Outlet Invert= 97.90' / 94.45' S= 0.0523 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=3.13 cfs @ 12.08 hrs HW=98.81' (Free Discharge)
1=long Culvert (Inlet Controls 3.13 cfs @ 3.26 fps)

Summary for Pond ECB12:

Inflow Area = 3.738 ac, 69.71% Impervious, Inflow Depth > 1.57" for 2-Year event
Inflow = 6.66 cfs @ 12.08 hrs, Volume= 0.490 af
Outflow = 6.66 cfs @ 12.08 hrs, Volume= 0.490 af, Atten= 0%, Lag= 0.0 min
Primary = 6.66 cfs @ 12.08 hrs, Volume= 0.490 af
Routed to Pond ECB10 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 89.43' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	88.30'	**24.0" Round Culvert** L= 90.0' Ke= 0.500 Inlet / Outlet Invert= 88.30' / 85.50' S= 0.0311 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=6.64 cfs @ 12.08 hrs HW=89.43' (Free Discharge)
1=Culvert (Inlet Controls 6.64 cfs @ 3.62 fps)

Summary for Pond ECB13:

Inflow Area = 0.326 ac, 71.12% Impervious, Inflow Depth > 1.56" for 2-Year event
Inflow = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af
Outflow = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af
Routed to Pond ECB12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 95.28' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	94.90'	**12.0" Round Culvert** L= 71.0' Ke= 0.500 Inlet / Outlet Invert= 94.90' / 91.40' S= 0.0493 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.57 cfs @ 12.08 hrs HW=95.28' (Free Discharge)
1=Culvert (Inlet Controls 0.57 cfs @ 2.10 fps)

Summary for Pond ECB15:

Inflow Area = 0.079 ac,100.00% Impervious, Inflow Depth > 2.93" for 2-Year event
Inflow = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af
Outflow = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af
Routed to Pond ECB13 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 109.24' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**12.0" Round Culvert** L= 175.0' Ke= 0.500 Inlet / Outlet Invert= 109.00' / 100.20' S= 0.0503 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.25 cfs @ 12.07 hrs HW=109.24' (Free Discharge)
1=Culvert (Inlet Controls 0.25 cfs @ 1.68 fps)

Summary for Pond ECB16:

Inflow Area = 3.177 ac, 67.66% Impervious, Inflow Depth > 1.50" for 2-Year event
Inflow = 5.38 cfs @ 12.08 hrs, Volume= 0.397 af
Outflow = 5.38 cfs @ 12.08 hrs, Volume= 0.397 af, Atten= 0%, Lag= 0.0 min
Primary = 5.38 cfs @ 12.08 hrs, Volume= 0.397 af
Routed to Pond ECB12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.23' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	92.10'	**24.0" Round Culvert** L= 142.0' Ke= 0.500 Inlet / Outlet Invert= 92.10' / 91.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=5.37 cfs @ 12.08 hrs HW=93.23' (Free Discharge)
1=Culvert (Barrel Controls 5.37 cfs @ 4.22 fps)

Summary for Pond ECB17: ECB17

Inflow Area = 0.366 ac, 77.81% Impervious, Inflow Depth > 1.72" for 2-Year event
Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.053 af
Outflow = 0.74 cfs @ 12.09 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.09 hrs, Volume= 0.053 af
Routed to Pond ECB20 : ECB20

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.57' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	93.10'	**12.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 93.10' / 92.40' S= 0.0070 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.73 cfs @ 12.09 hrs HW=93.57' (Free Discharge)
1=Culvert (Barrel Controls 0.73 cfs @ 2.99 fps)

Summary for Pond ECB18: ECB18

Inflow Area = 2.027 ac, 65.73% Impervious, Inflow Depth > 1.37" for 2-Year event
Inflow = 3.15 cfs @ 12.08 hrs, Volume= 0.232 af
Outflow = 3.15 cfs @ 12.08 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min
Primary = 3.15 cfs @ 12.08 hrs, Volume= 0.232 af
Routed to Pond ECB20 : ECB20

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.02' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	93.00'	**18.0" Round Culvert** L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 93.00' / 92.60' S= 0.0036 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.77 sf

Primary OutFlow Max=3.14 cfs @ 12.08 hrs HW=94.02' (Free Discharge)
1=Culvert (Barrel Controls 3.14 cfs @ 3.47 fps)

Summary for Pond ECB19: ECB19

Inflow Area = 1.575 ac, 58.59% Impervious, Inflow Depth > 1.08" for 2-Year event
Inflow = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af
Outflow = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af
Routed to Pond ECB18 : ECB18

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.32' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	93.60'	**18.0" Round Culvert** L= 91.0' Ke= 0.500 Inlet / Outlet Invert= 93.60' / 93.10' S= 0.0055 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.77 sf

Primary OutFlow Max=1.93 cfs @ 12.08 hrs HW=94.32' (Free Discharge)
1=Culvert (Barrel Controls 1.93 cfs @ 3.40 fps)

Summary for Pond ECB20: ECB20

Inflow Area = 2.577 ac, 63.24% Impervious, Inflow Depth > 1.33" for 2-Year event
Inflow = 3.87 cfs @ 12.08 hrs, Volume= 0.285 af
Outflow = 3.87 cfs @ 12.08 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min
Primary = 3.87 cfs @ 12.08 hrs, Volume= 0.285 af
Routed to Pond ECB16 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.62' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	92.70'	**24.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 92.70' / 92.10' S= 0.0060 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=3.87 cfs @ 12.08 hrs HW=93.62' (Free Discharge)
1=Culvert (Barrel Controls 3.87 cfs @ 4.03 fps)

Summary for Pond ECB20R: ECB20R

Inflow Area = 1.248 ac, 61.29% Impervious, Inflow Depth > 1.13" for 2-Year event
Inflow = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af
Outflow = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af
Routed to Pond ECB19 : ECB19

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 99.19' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	98.50'	**12.0" Round Culvert** L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 98.50' / 94.10' S= 0.0524 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.08 hrs HW=99.19' (Free Discharge)
1=Culvert (Inlet Controls 1.63 cfs @ 2.82 fps)

Summary for Pond ECB21: ECB21

Inflow Area = 0.906 ac, 59.24% Impervious, Inflow Depth > 1.09" for 2-Year event
Inflow = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af
Outflow = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af
Routed to Pond ECB20R : ECB20R

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 100.55' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**12.0" Round Culvert** L= 53.0' Ke= 0.500 Inlet / Outlet Invert= 100.00' / 98.60' S= 0.0264 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=1.12 cfs @ 12.08 hrs HW=100.55' (Free Discharge)
1=Culvert (Inlet Controls 1.12 cfs @ 2.53 fps)

Summary for Pond ECB22: ECB22

Inflow Area = 0.646 ac, 63.23% Impervious, Inflow Depth > 1.14" for 2-Year event
Inflow = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af
Outflow = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af
Routed to Pond ECB21 : ECB21

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 103.47' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	103.00'	**12.0" Round Culvert** L= 89.0' Ke= 0.500 Inlet / Outlet Invert= 103.00' / 100.10' S= 0.0326 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.86 cfs @ 12.08 hrs HW=103.47' (Free Discharge)
1=Culvert (Inlet Controls 0.86 cfs @ 2.34 fps)

Summary for Pond ECB23: ECB23

Inflow Area = 0.144 ac, 80.46% Impervious, Inflow Depth > 1.80" for 2-Year event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af
Routed to Pond ECB22 : ECB22

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.28' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**12.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 106.00' / 103.10' S= 0.0460 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=106.28' (Free Discharge)
1=Culvert (Inlet Controls 0.31 cfs @ 1.79 fps)

Summary for Pond ECB24: ECB24

Inflow Area = 0.328 ac, 48.31% Impervious, Inflow Depth > 0.87" for 2-Year event
Inflow = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af
Outflow = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af
Routed to Pond ECB19 : ECB19

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.69' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	94.40'	**15.0" Round Culvert** L= 51.0' Ke= 0.500 Inlet / Outlet Invert= 94.40' / 94.10' S= 0.0059 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=94.69' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.30 cfs @ 2.13 fps)

Summary for Pond ECB26:

Inflow Area = 3.554 ac, 34.26% Impervious, Inflow Depth > 0.30" for 2-Year event
Inflow = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af
Outflow = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af
Routed to Pond ECB7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 75.22' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.90'	**15.0" Round Culvert** L= 134.0' Ke= 0.500 Inlet / Outlet Invert= 74.90' / 68.70' S= 0.0463 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=0.49 cfs @ 12.27 hrs HW=75.22' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.49 cfs @ 1.94 fps)

Summary for Pond ECB27:

Inflow Area = 6.622 ac, 60.89% Impervious, Inflow Depth > 1.33" for 2-Year event
Inflow = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af
Outflow = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af, Atten= 0%, Lag= 0.0 min
Primary = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af
Routed to Pond ECB8 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 76.86' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.40'	**24.0" Round Culvert** L= 189.0' Ke= 0.500 Inlet / Outlet Invert= 75.40' / 70.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=10.10 cfs @ 12.08 hrs HW=76.86' (Free Discharge)
↑**1=Culvert** (Inlet Controls 10.10 cfs @ 4.11 fps)

Summary for Pond ECB7:

Inflow Area = 11.187 ac, 55.97% Impervious, Inflow Depth > 1.15" for 2-Year event
Inflow = 13.60 cfs @ 12.08 hrs, Volume= 1.068 af
Outflow = 13.60 cfs @ 12.08 hrs, Volume= 1.068 af, Atten= 0%, Lag= 0.0 min
Primary = 13.60 cfs @ 12.08 hrs, Volume= 1.068 af
Routed to Pond P1 : Existing Pond

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 70.03' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	68.60'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 68.60' / 58.00' S= 0.2120 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 7.07 sf

Primary OutFlow Max=13.58 cfs @ 12.08 hrs HW=70.03' (Free Discharge)
1=Culvert (Inlet Controls 13.58 cfs @ 4.07 fps)

Summary for Pond ECB8:

Inflow Area = 7.222 ac, 64.14% Impervious, Inflow Depth > 1.46" for 2-Year event
Inflow = 12.03 cfs @ 12.07 hrs, Volume= 0.880 af
Outflow = 12.03 cfs @ 12.07 hrs, Volume= 0.880 af, Atten= 0%, Lag= 0.0 min
Primary = 12.03 cfs @ 12.07 hrs, Volume= 0.880 af
Routed to Pond ECB7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 71.44' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.90'	**30.0" Round Culvert** L= 196.0' Ke= 0.500 Inlet / Outlet Invert= 69.90' / 68.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 4.91 sf

Primary OutFlow Max=12.00 cfs @ 12.07 hrs HW=71.43' (Free Discharge)
1=Culvert (Barrel Controls 12.00 cfs @ 5.44 fps)

Summary for Pond ECB9:

Inflow Area = 5.750 ac, 69.98% Impervious, Inflow Depth > 1.53" for 2-Year event
Inflow = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af
Outflow = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af, Atten= 0%, Lag= 0.0 min
Primary = 10.12 cfs @ 12.08 hrs, Volume= 0.734 af
Routed to Pond ECB27 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 78.36' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 76.90' / 75.50' S= 0.0500 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=10.10 cfs @ 12.08 hrs HW=78.36' (Free Discharge)
1=Culvert (Inlet Controls 10.10 cfs @ 4.11 fps)

Summary for Pond EDMH3:

Inflow Area = 1.720 ac, 72.31% Impervious, Inflow Depth > 1.50" for 2-Year event
Inflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Routed to Pond ECB10 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 89.87' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	88.95'	**15.0" Round Culvert** L= 66.0' Ke= 0.500 Inlet / Outlet Invert= 88.95' / 85.50' S= 0.0523 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=3.13 cfs @ 12.08 hrs HW=89.86' (Free Discharge)
1=Culvert (Inlet Controls 3.13 cfs @ 3.26 fps)

Summary for Pond EYD4: EYD4

Inflow Area = 0.184 ac, 25.95% Impervious, Inflow Depth > 0.21" for 2-Year event
Inflow = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af
Outflow = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af
Routed to Pond ECB24 : ECB24

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 96.56' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	96.50'	**12.0" Round Culvert** L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 96.50' / 94.50' S= 0.0238 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.35 hrs HW=96.56' (Free Discharge)
1=Culvert (Inlet Controls 0.01 cfs @ 0.81 fps)

Summary for Pond EYD5: EYD5

Inflow Area = 0.144 ac, 23.98% Impervious, Inflow Depth > 0.19" for 2-Year event
Inflow = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af
Outflow = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af
Routed to Pond ECB21 : ECB21

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 102.04' @ 12.37 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**12.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 102.00' / 100.10' S= 0.0500 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.37 hrs HW=102.04' (Free Discharge)
1=Culvert (Inlet Controls 0.01 cfs @ 0.72 fps)

Summary for Pond P1: Existing Pond

Inflow Area = 11.187 ac, 55.97% Impervious, Inflow Depth > 1.15" for 2-Year event
Inflow = 13.60 cfs @ 12.08 hrs, Volume= 1.068 af
Outflow = 0.60 cfs @ 15.66 hrs, Volume= 0.496 af, Atten= 96%, Lag= 215.2 min
Primary = 0.60 cfs @ 15.66 hrs, Volume= 0.496 af
Routed to Reach PD1 : DESIGN POINT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 56.53' @ 15.66 hrs Surf.Area= 12,658 sf Storage= 31,011 cf

Plug-Flow detention time= 396.0 min calculated for 0.495 af (46% of inflow)
Center-of-Mass det. time= 261.6 min (1,073.0 - 811.4)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	75,021 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)
51.50	1,005	119.0	0	0	1,005
52.00	3,191	277.0	998	998	5,985
54.00	6,556	420.0	9,547	10,545	13,947
55.00	3,157	207.0	4,754	15,299	24,579
55.50	11,261	433.0	3,397	18,696	36,091
56.00	11,930	451.0	5,797	24,493	37,376
58.00	14,790	492.0	26,669	51,162	40,594
59.00	16,295	511.0	15,536	66,698	42,191
59.50	17,000	600.0	8,323	75,021	50,065

Device	Routing	Invert	Outlet Devices
#1	Primary	55.50'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	56.72'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	57.85'	**5.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#4	Primary	58.80'	**19.0" x 1.6" Horiz. Orifice/Grate** X 13 rows C= 0.600 in 24.0" x 36.0" Grate (46% open area) Limited to weir flow at low heads
#5	Primary	59.00'	**50.0' long + 3.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.60 cfs @ 15.66 hrs HW=56.53' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.60 cfs @ 4.37 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.32 cfs 0.103 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.49 cfs 0.116 af

Subcatchment 3: SC3 Runoff Area=8,018 sf 6.92% Impervious Runoff Depth>0.29"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=43 Runoff=0.02 cfs 0.005 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>0.81"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.14 cfs 0.013 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>0.76"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.09 cfs 0.009 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=334' Tc=5.0 min CN=98 Runoff=1.99 cfs 0.156 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=2.91 cfs 0.227 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>1.58"
Tc=0.0 min CN=66 Runoff=0.48 cfs 0.029 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>2.88"
Flow Length=556' Tc=5.0 min CN=82 Runoff=6.02 cfs 0.413 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>4.20"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.10 cfs 0.082 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>2.35"
Flow Length=315' Tc=5.0 min CN=76 Runoff=0.71 cfs 0.049 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.38 cfs 0.030 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>2.88"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.02 cfs 0.070 af

Subcatchment 17: SC17 Runoff Area=15,959 sf 77.81% Impervious Runoff Depth>3.16"
Flow Length=80' Tc=6.2 min CN=85 Runoff=1.34 cfs 0.097 af

Subcatchment 18: SC18 Runoff Area=7,799 sf 76.34% Impervious Runoff Depth>3.07"
Flow Length=260' Tc=5.0 min CN=84 Runoff=0.66 cfs 0.046 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>2.52"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.05 cfs 0.072 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>3.36"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.47 cfs 0.033 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>2.11"
Flow Length=350' Tc=5.0 min CN=73 Runoff=1.27 cfs 0.088 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>3.26"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.56 cfs 0.039 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>3.16"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.55 cfs 0.038 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>0.99"
Flow Length=615' Tc=5.0 min CN=57 Runoff=3.52 cfs 0.293 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.08"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.01 cfs 0.006 af

Reach PD1: DESIGN POINT Inflow=2.26 cfs 1.310 af
Outflow=2.26 cfs 1.310 af

Pond ECB10: Peak Elev=83.89' Inflow=18.46 cfs 1.327 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=18.46 cfs 1.327 af

Pond ECB11: Peak Elev=99.56' Inflow=6.02 cfs 0.413 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=6.02 cfs 0.413 af

Pond ECB12: Peak Elev=89.95' Inflow=12.11 cfs 0.888 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=12.11 cfs 0.888 af

Pond ECB13: Peak Elev=95.44' Inflow=1.09 cfs 0.078 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.09 cfs 0.078 af

Pond ECB15: Peak Elev=109.31' Inflow=0.38 cfs 0.030 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.38 cfs 0.030 af

Pond ECB16: Peak Elev=93.75' Inflow=9.92 cfs 0.727 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=9.92 cfs 0.727 af

Pond ECB17: ECB17 Peak Elev=93.76' Inflow=1.34 cfs 0.097 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0070 '/' Outflow=1.34 cfs 0.097 af

Pond ECB18: ECB18 Peak Elev=94.58' Inflow=6.10 cfs 0.440 af
18.0" Round Culvert n=0.013 L=112.0' S=0.0036 '/' Outflow=6.10 cfs 0.440 af

Pond ECB19: ECB19 Peak Elev=94.71' Inflow=4.12 cfs 0.291 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=4.12 cfs 0.291 af

Pond ECB20: ECB20 Peak Elev=94.04' Inflow=7.42 cfs 0.541 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0060 '/' Outflow=7.42 cfs 0.541 af

Pond ECB20R: ECB20R Peak Elev=99.83' Inflow=3.44 cfs 0.241 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=3.44 cfs 0.241 af

Pond ECB21: ECB21 Peak Elev=100.90' Inflow=2.39 cfs 0.169 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=2.39 cfs 0.169 af

Pond ECB22: ECB22 Peak Elev=103.74' Inflow=1.84 cfs 0.127 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=1.84 cfs 0.127 af

Pond ECB23: ECB23 Peak Elev=106.38' Inflow=0.56 cfs 0.039 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.56 cfs 0.039 af

Pond ECB24: ECB24 Peak Elev=94.84' Inflow=0.68 cfs 0.050 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=0.68 cfs 0.050 af

Pond ECB26: Peak Elev=75.89' Inflow=3.52 cfs 0.293 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=3.52 cfs 0.293 af

Pond ECB27: Peak Elev=77.94' Inflow=18.77 cfs 1.362 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=18.77 cfs 1.362 af

Pond ECB7: Peak Elev=70.75' Inflow=27.09 cfs 2.037 af
36.0" Round Culvert n=0.013 L=50.0' S=0.2120 '/' Outflow=27.09 cfs 2.037 af

Pond ECB8: Peak Elev=72.14' Inflow=21.68 cfs 1.589 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=21.68 cfs 1.589 af

Pond ECB9: Peak Elev=79.44' Inflow=18.77 cfs 1.356 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=18.77 cfs 1.356 af

Pond EDMH3: Peak Elev=90.61' Inflow=6.02 cfs 0.413 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=6.02 cfs 0.413 af

Pond EYD4: EYD4 Peak Elev=96.68' Inflow=0.14 cfs 0.013 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.14 cfs 0.013 af

Pond EYD5: EYD5 Peak Elev=102.15' Inflow=0.09 cfs 0.009 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.09 cfs 0.009 af

Pond P1: Existing Pond Peak Elev=57.93' Storage=50,067 cf Inflow=27.09 cfs 2.037 af
Outflow=2.26 cfs 1.310 af

Total Runoff Area = 11.187 ac Runoff Volume = 2.037 af Average Runoff Depth = 2.19"
44.03% Pervious = 4.926 ac 55.97% Impervious = 6.261 ac

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.67 cfs 0.132 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.89 cfs 0.149 af

Subcatchment 3: SC3 Runoff Area=8,018 sf 6.92% Impervious Runoff Depth>0.69"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=43 Runoff=0.08 cfs 0.011 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>1.47"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.29 cfs 0.023 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>1.39"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.21 cfs 0.017 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=334' Tc=5.0 min CN=98 Runoff=2.53 cfs 0.199 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=3.69 cfs 0.291 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>2.48"
Tc=0.0 min CN=66 Runoff=0.78 cfs 0.046 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.42 cfs 0.033 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>4.03"
Flow Length=556' Tc=5.0 min CN=82 Runoff=8.36 cfs 0.578 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>5.46"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.41 cfs 0.107 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>3.42"
Flow Length=315' Tc=5.0 min CN=76 Runoff=1.03 cfs 0.071 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.48 cfs 0.038 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>4.03"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.42 cfs 0.098 af

Subcatchment 17: SC17 Runoff Area=15,959 sf 77.81% Impervious Runoff Depth>4.35"
Flow Length=80' Tc=6.2 min CN=85 Runoff=1.82 cfs 0.133 af

Subcatchment 18: SC18 Runoff Area=7,799 sf 76.34% Impervious Runoff Depth>4.24"
Flow Length=260' Tc=5.0 min CN=84 Runoff=0.91 cfs 0.063 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>3.62"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.50 cfs 0.103 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>4.56"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.63 cfs 0.044 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>3.13"
Flow Length=350' Tc=5.0 min CN=73 Runoff=1.91 cfs 0.131 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>4.45"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.76 cfs 0.053 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>4.35"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.74 cfs 0.052 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>1.70"
Flow Length=615' Tc=5.0 min CN=57 Runoff=6.77 cfs 0.505 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.31"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.07 cfs 0.022 af

Reach PD1: DESIGN POINT Inflow=6.36 cfs 2.115 af
Outflow=6.36 cfs 2.115 af

Pond ECB10: Peak Elev=85.23' Inflow=25.46 cfs 1.834 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=25.46 cfs 1.834 af

Pond ECB11: Peak Elev=100.53' Inflow=8.36 cfs 0.578 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=8.36 cfs 0.578 af

Pond ECB12: Peak Elev=90.52' Inflow=16.69 cfs 1.223 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=16.69 cfs 1.223 af

Pond ECB13: Peak Elev=95.56' Inflow=1.51 cfs 0.109 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.51 cfs 0.109 af

Pond ECB15: Peak Elev=109.35' Inflow=0.48 cfs 0.038 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.48 cfs 0.038 af

Pond ECB16: Peak Elev=94.18' Inflow=13.76 cfs 1.008 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=13.76 cfs 1.008 af

Pond ECB17: ECB17 Peak Elev=93.90' Inflow=1.82 cfs 0.133 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0070 '/' Outflow=1.82 cfs 0.133 af

Pond ECB18: ECB18 Peak Elev=95.41' Inflow=8.61 cfs 0.618 af
18.0" Round Culvert n=0.013 L=112.0' S=0.0036 '/' Outflow=8.61 cfs 0.618 af

Pond ECB19: ECB19 Peak Elev=95.04' Inflow=6.03 cfs 0.422 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=6.03 cfs 0.422 af

Pond ECB20: ECB20 Peak Elev=94.37' Inflow=10.46 cfs 0.761 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0060 '/' Outflow=10.46 cfs 0.761 af

Pond ECB20R: ECB20R Peak Elev=100.75' Inflow=5.00 cfs 0.348 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=5.00 cfs 0.348 af

Pond ECB21: ECB21 Peak Elev=101.36' Inflow=3.50 cfs 0.245 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=3.50 cfs 0.245 af

Pond ECB22: ECB22 Peak Elev=104.00' Inflow=2.67 cfs 0.184 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=2.67 cfs 0.184 af

Pond ECB23: ECB23 Peak Elev=106.44' Inflow=0.76 cfs 0.053 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.76 cfs 0.053 af

Pond ECB24: ECB24 Peak Elev=94.95' Inflow=1.03 cfs 0.074 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=1.03 cfs 0.074 af

Pond ECB26: Peak Elev=76.84' Inflow=6.77 cfs 0.505 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=6.77 cfs 0.505 af

Pond ECB27: Peak Elev=79.34' Inflow=25.95 cfs 1.903 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=25.95 cfs 1.903 af

Pond ECB7: Peak Elev=71.38' Inflow=38.86 cfs 2.897 af
36.0" Round Culvert n=0.013 L=50.0' S=0.2120 '/' Outflow=38.86 cfs 2.897 af

Pond ECB8: Peak Elev=72.81' Inflow=29.63 cfs 2.193 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=29.63 cfs 2.193 af

Pond ECB9: Peak Elev=80.84' Inflow=25.95 cfs 1.880 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=25.95 cfs 1.880 af

Pond EDMH3: Peak Elev=91.58' Inflow=8.36 cfs 0.578 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=8.36 cfs 0.578 af

Pond EYD4: EYD4 Peak Elev=96.76' Inflow=0.29 cfs 0.023 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.29 cfs 0.023 af

Pond EYD5: EYD5 Peak Elev=102.22' Inflow=0.21 cfs 0.017 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.21 cfs 0.017 af

Pond P1: Existing Pond Peak Elev=58.93' Storage=65,559 cf Inflow=38.86 cfs 2.897 af
Outflow=6.36 cfs 2.115 af

Total Runoff Area = 11.187 ac Runoff Volume = 2.897 af Average Runoff Depth = 3.11"
44.03% Pervious = 4.926 ac 55.97% Impervious = 6.261 ac

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=2.01 cfs 0.159 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=2.27 cfs 0.179 af

Subcatchment 3: SC3 Runoff Area=8,018 sf 6.92% Impervious Runoff Depth>1.18"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=43 Runoff=0.18 cfs 0.018 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>2.18"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.46 cfs 0.033 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>2.08"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.34 cfs 0.025 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=334' Tc=5.0 min CN=98 Runoff=3.03 cfs 0.240 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=4.42 cfs 0.350 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>3.39"
Tc=0.0 min CN=66 Runoff=1.08 cfs 0.063 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.50 cfs 0.040 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>5.14"
Flow Length=556' Tc=5.0 min CN=82 Runoff=10.56 cfs 0.737 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>6.64"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.70 cfs 0.130 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>4.47"
Flow Length=315' Tc=5.0 min CN=76 Runoff=1.34 cfs 0.092 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.58 cfs 0.046 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>5.14"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.79 cfs 0.125 af

Subcatchment 17: SC17 Runoff Area=15,959 sf 77.81% Impervious Runoff Depth>5.48"
Flow Length=80' Tc=6.2 min CN=85 Runoff=2.27 cfs 0.167 af

Subcatchment 18: SC18 Runoff Area=7,799 sf 76.34% Impervious Runoff Depth>5.36"
Flow Length=260' Tc=5.0 min CN=84 Runoff=1.14 cfs 0.080 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>4.69"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.94 cfs 0.134 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>5.71"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.77 cfs 0.055 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>4.14"
Flow Length=350' Tc=5.0 min CN=73 Runoff=2.53 cfs 0.173 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>5.59"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.94 cfs 0.067 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>5.48"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.92 cfs 0.065 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>2.47"
Flow Length=615' Tc=5.0 min CN=57 Runoff=10.24 cfs 0.732 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.63"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.25 cfs 0.046 af

Reach PD1: DESIGN POINT Inflow=23.12 cfs 2.941 af
Outflow=23.12 cfs 2.941 af

Pond ECB10: Peak Elev=86.92' Inflow=32.17 cfs 2.326 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=32.17 cfs 2.326 af

Pond ECB11: Peak Elev=101.72' Inflow=10.56 cfs 0.737 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=10.56 cfs 0.737 af

Pond ECB12: Peak Elev=91.25' Inflow=21.11 cfs 1.549 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=21.11 cfs 1.549 af

Pond ECB13: Peak Elev=95.67' Inflow=1.92 cfs 0.138 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.92 cfs 0.138 af

Pond ECB15: Peak Elev=109.38' Inflow=0.58 cfs 0.046 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.58 cfs 0.046 af

Pond ECB16: Peak Elev=94.97' Inflow=17.49 cfs 1.281 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=17.49 cfs 1.281 af

Pond ECB17: ECB17 Peak Elev=94.03' Inflow=2.27 cfs 0.167 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0070 '/' Outflow=2.27 cfs 0.167 af

Pond ECB18: ECB18 Peak Elev=96.25' Inflow=11.03 cfs 0.792 af
18.0" Round Culvert n=0.013 L=112.0' S=0.0036 '/' Outflow=11.03 cfs 0.792 af

Pond ECB19: ECB19 Peak Elev=95.43' Inflow=7.89 cfs 0.553 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=7.89 cfs 0.553 af

Pond ECB20: ECB20 Peak Elev=94.69' Inflow=13.44 cfs 0.977 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0060 '/' Outflow=13.44 cfs 0.977 af

Pond ECB20R: ECB20R Peak Elev=101.97' Inflow=6.52 cfs 0.454 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=6.52 cfs 0.454 af

Pond ECB21: ECB21 Peak Elev=101.97' Inflow=4.58 cfs 0.320 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=4.58 cfs 0.320 af

Pond ECB22: ECB22 Peak Elev=104.34' Inflow=3.47 cfs 0.240 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=3.47 cfs 0.240 af

Pond ECB23: ECB23 Peak Elev=106.50' Inflow=0.94 cfs 0.067 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.94 cfs 0.067 af

Pond ECB24: ECB24 Peak Elev=95.04' Inflow=1.38 cfs 0.099 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=1.38 cfs 0.099 af

Pond ECB26: Peak Elev=78.53' Inflow=10.24 cfs 0.732 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=10.24 cfs 0.732 af

Pond ECB27: Peak Elev=81.14' Inflow=32.93 cfs 2.435 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=32.93 cfs 2.435 af

Pond ECB7: Peak Elev=72.31' Inflow=50.55 cfs 3.756 af
36.0" Round Culvert n=0.013 L=50.0' S=0.2120 '/' Outflow=50.55 cfs 3.756 af

Pond ECB8: Peak Elev=74.18' Inflow=37.34 cfs 2.785 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=37.34 cfs 2.785 af

Pond ECB9: Peak Elev=82.61' Inflow=32.84 cfs 2.389 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=32.84 cfs 2.389 af

Pond EDMH3: Peak Elev=92.77' Inflow=10.56 cfs 0.737 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=10.56 cfs 0.737 af

Pond EYD4: EYD4 Peak Elev=96.84' Inflow=0.46 cfs 0.033 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.46 cfs 0.033 af

Pond EYD5: EYD5 Peak Elev=102.29' Inflow=0.34 cfs 0.025 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.34 cfs 0.025 af

Pond P1: Existing Pond Peak Elev=59.19' Storage=69,755 cf Inflow=50.55 cfs 3.756 af
Outflow=23.12 cfs 2.941 af

Total Runoff Area = 11.187 ac Runoff Volume = 3.756 af Average Runoff Depth = 4.03"
44.03% Pervious = 4.926 ac 55.97% Impervious = 6.261 ac



1 PRE-DEVELOPMENT DRAINAGE PLAN
WS101 SCALE: 1"=60'

LEGEND:

(1)	SUBCATCHMENT NUMBER
	CATCHMENT BOUNDARY
—97—	EXISTING CONTOUR LINE
	SOIL GROUP BOUNDARY

SOILS LEGEND:

MAP SYMBOL	SOIL TYPE	HYDROLOGIC SOIL GROUP
Ha	HINCKLEY	HSG A
Ma	MADE LAND	HSG A
Sc	SCANTIC	HSG C
Wf	WINDSOR	HSG A
Bz	BUXTON	HSG C

GRAPHIC SCALE

1"=60' 60' 30' 0 60' 180

CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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CHECKED BY: PJM
PROJECT: 22402.15

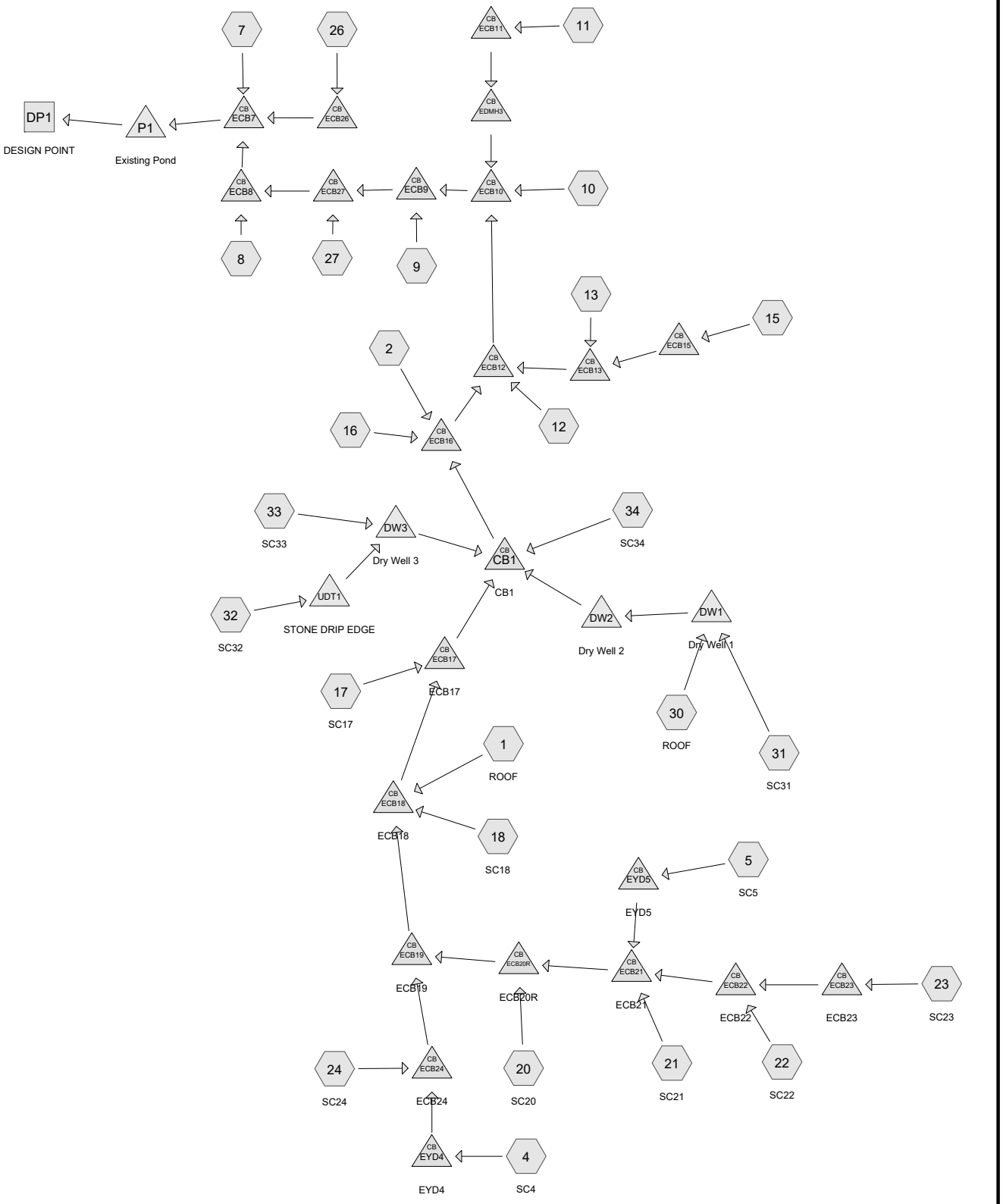
ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

PRE-DEVELOPMENT DRAINAGE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: WS101
SHEET: OF XX

Appendix B – Post-Development Runoff Calculations



Routing Diagram for 22402.15-POST-OVERALL
Prepared by Oak Point Associates, Printed 5/19/2025
HydroCAD® 10.20-6a s/n 01227 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.604	39	>75% Grass cover, Good, HSG A (4, 5, 9, 11, 12, 13, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 32, 33, 34)
0.275	98	Paved parking, HSG A (17, 33, 34)
5.958	98	Paved parking, HSG C (1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 20, 21, 22, 23, 24, 26, 27)
0.146	98	Roofs, HSG A (30, 31, 32, 33)
1.205	30	Woods, Good, HSG A (9, 26, 27)
11.187	**72**	**TOTAL AREA**

Summary for Subcatchment 1: ROOF

Runoff = 0.87 cfs @ 12.07 hrs, Volume= 0.066 af, Depth> 2.93"
Routed to Pond ECB18 : ECB18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
11,868	98	Paved parking, HSG C
11,868		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.04		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	175	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 2:

Runoff = 0.98 cfs @ 12.07 hrs, Volume= 0.075 af, Depth> 2.93"
Routed to Pond ECB16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
13,410	98	Paved parking, HSG C
13,410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.04		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	193	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 4: SC4

Runoff = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af, Depth> 0.21"
Routed to Pond EYD4 : EYD4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
2,085	98	Paved parking, HSG C
5,951	39	>75% Grass cover, Good, HSG A
8,036	54	Weighted Average
5,951		74.05% Pervious Area
2,085		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	55	0.0500	0.22		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.1	48	0.0200	6.42	5.04	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
4.3	103	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 5: SC5

Runoff = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af, Depth> 0.19"
Routed to Pond EYD5 : EYD5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
1,507	98	Paved parking, HSG C
4,778	39	>75% Grass cover, Good, HSG A
6,285	53	Weighted Average
4,778		76.02% Pervious Area
1,507		23.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	35	0.0280	0.16		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.1	40	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	110	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3	185	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 7:

Runoff = 1.31 cfs @ 12.07 hrs, Volume= 0.100 af, Depth> 2.93"
Routed to Pond ECB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
17,916	98	Paved parking, HSG C
17,916		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	45	0.0680	1.90		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	25	0.2000	7.20		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	64	0.1500	1.94		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	60	0.3300	4.02		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	120	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	334	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 8:

Runoff = 1.91 cfs @ 12.07 hrs, Volume= 0.146 af, Depth> 2.93"
Routed to Pond ECB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
26,145	98	Paved parking, HSG C
26,145		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0500	1.97		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	150	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 9:

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.16 cfs @ 12.01 hrs, Volume= 0.012 af, Depth> 0.62"
Routed to Pond ECB9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,608	98	Paved parking, HSG C
4,367	39	>75% Grass cover, Good, HSG A
752	30	Woods, Good, HSG A
9,727	66	Weighted Average
5,119		52.63% Pervious Area
4,608		47.37% Impervious Area

Summary for Subcatchment 10:

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af, Depth> 2.93"
Routed to Pond ECB10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
2,975	98	Paved parking, HSG C
2,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	40	0.1000	2.17		**Sheet Flow, Sheet** Smooth surfaces n= 0.011 P2= 3.16"
0.1	30	0.0670	5.25		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	140	0.0800	5.74		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.8	210	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 11:

[47] Hint: Peak is 137% of capacity of segment #3
[47] Hint: Peak is 124% of capacity of segment #7

Runoff = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Depth> 1.50"
Routed to Pond ECB11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
54,190	98	Paved parking, HSG C
20,752	39	>75% Grass cover, Good, HSG A
74,942	82	Weighted Average
20,752		27.69% Pervious Area
54,190		72.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0250	1.30		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.5	85	0.0350	3.01		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
0.5	85	0.0035	2.91	2.28	**Pipe Channel, Circular Channel (pipe)** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	80	0.0100	5.90	4.63	**Pipe Channel, Circular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 Concrete pipe, straight & clean
0.0	20	0.1500	19.03	14.95	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	144	0.0410	9.95	7.82	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.5	92	0.0043	3.22	2.53	**Pipe Channel, Cicrular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.5	556	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 12:

Runoff = 0.70 cfs @ 12.07 hrs, Volume= 0.051 af, Depth> 2.60"
Routed to Pond ECB12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,759	98	Paved parking, HSG C
474	39	>75% Grass cover, Good, HSG A
10,233	95	Weighted Average
474		4.63% Pervious Area
9,759		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.07		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.0	16	0.1250	7.18		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	66	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 13:

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.023 af, Depth> 1.12"
Routed to Pond ECB13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
6,674	98	Paved parking, HSG C
4,106	39	>75% Grass cover, Good, HSG A
10,780	76	Weighted Average
4,106		38.09% Pervious Area
6,674		61.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0280	1.56		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.4	100	0.0375	3.93		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	115	0.0960	6.29		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	315	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 15:

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 2.93"
Routed to Pond ECB15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
3,439	98	Paved parking, HSG C
3,439		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	90	0.0280	1.53		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	30	0.0280	3.40		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	120	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 16:

Runoff = 0.53 cfs @ 12.08 hrs, Volume= 0.037 af, Depth> 1.50"
Routed to Pond ECB16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,224	98	Paved parking, HSG C
3,482	39	>75% Grass cover, Good, HSG A
12,706	82	Weighted Average
3,482		27.40% Pervious Area
9,224		72.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	90	0.0280	1.53		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.1	31	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	86	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	207	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 17: SC17

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.055 af, Depth> 2.31"
Routed to Pond ECB17 : ECB17

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
11,173	98	Paved parking, HSG A
1,261	39	>75% Grass cover, Good, HSG A
12,434	92	Weighted Average
1,261		10.14% Pervious Area
11,173		89.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	55	0.0220	0.16		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.3	25	0.0520	1.52		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.16"
6.2	80	Total			

Summary for Subcatchment 18: SC18

Runoff = 0.38 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 2.04"
Routed to Pond ECB18 : ECB18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,701	98	Paved parking, HSG C
1,061	39	>75% Grass cover, Good, HSG A
6,762	89	Weighted Average
1,061		15.69% Pervious Area
5,701		84.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.80		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	75	0.0200	2.87		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	260	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 20: SC20

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.035 af, Depth> 1.24"
Routed to Pond ECB20R : ECB20R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
9,938	98	Paved parking, HSG C
4,954	39	>75% Grass cover, Good, HSG A
14,892	78	Weighted Average
4,954		33.27% Pervious Area
9,938		66.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0500	1.72		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.2	40	0.0500	3.60		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	135	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	225	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 21: SC21

Runoff = 0.27 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 1.88"
Routed to Pond ECB21 : ECB21

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,093	98	Paved parking, HSG C
969	39	>75% Grass cover, Good, HSG A
5,062	87	Weighted Average
969		19.14% Pervious Area
4,093		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	90	0.0440	1.83		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	70	0.0400	4.06		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	160	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 22: SC22

Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.040 af, Depth> 0.96"
Routed to Pond ECB22 : ECB22

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
12,740	98	Paved parking, HSG C
9,116	39	>75% Grass cover, Good, HSG A
21,856	73	Weighted Average
9,116		41.71% Pervious Area
12,740		58.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	85	0.0280	1.51		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	65	0.0600	3.94		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	200	0.0440	4.26		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.0	350	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 23: SC23

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Depth> 1.80"
Routed to Pond ECB23 : ECB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,039	98	Paved parking, HSG C
1,224	39	>75% Grass cover, Good, HSG A
6,263	86	Weighted Average
1,224		19.54% Pervious Area
5,039		80.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0500	1.97		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	185	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 24: SC24

Runoff = 0.30 cfs @ 12.08 hrs, Volume= 0.021 af, Depth> 1.72"
Routed to Pond ECB24 : ECB24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
4,807	98	Paved parking, HSG C
1,423	39	>75% Grass cover, Good, HSG A
6,230	85	Weighted Average
1,423		22.84% Pervious Area
4,807		77.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	45	0.0400	1.54		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	130	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 26:

Runoff = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af, Depth> 0.30"
Routed to Pond ECB26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
53,035	98	Paved parking, HSG C
64,160	39	>75% Grass cover, Good, HSG A
37,618	30	Woods, Good, HSG A
154,813	57	Weighted Average
101,778		65.74% Pervious Area
53,035		34.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0250	1.30		**Sheet Flow, Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
1.2	190	0.0280	2.69		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	15	0.1460	21.79	26.74	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.2	127	0.0450	10.42	8.19	**Pipe Channel, Circular Channel (pipe),** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.2	88	0.0260	9.20	11.28	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.1	105	0.1470	21.86	26.83	**Pipe Channel, Circular Channel (pipe),** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.1	40	0.3200	9.13	6.12	**Trap/Vee/Rect Channel Flow, Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.67' n= 0.040 Earth, cobble bottom, clean sides
2.4	615	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 27:

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond ECB27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
364	98	Paved parking, HSG C
23,478	39	>75% Grass cover, Good, HSG A
14,119	30	Woods, Good, HSG A
37,961	36	Weighted Average
37,597		99.04% Pervious Area
364		0.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	25	0.2800	0.37		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"
0.4	160	0.2000	7.20		**Shallow Concentrated Flow, Shallow Concnetrated Flow,** Unpaved Kv= 16.1 fps
0.3	100	0.1250	5.69		**Shallow Concentrated Flow, Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.8	285	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 30: ROOF

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.017 af, Depth> 2.93"
Routed to Pond DW1 : Dry Well 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
2,963	98	Roofs, HSG A
2,963		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, A-B**
0.2	50	0.0200	4.04	0.79	**Pipe Channel, A-B** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.013 Corrugated PE, smooth interior
5.2	50	Total			

Summary for Subcatchment 31: SC31

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 2.93"
Routed to Pond DW1 : Dry Well 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
1,331	98	Roofs, HSG A
1,331		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	110	0.0200	4.04	0.79	**Pipe Channel, A-B** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.013 Corrugated PE, smooth interior
0.5	110	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 32: SC32

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth> 1.44"
Routed to Pond UDT1 : STONE DRIP EDGE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
1,425	98	Roofs, HSG A
595	39	>75% Grass cover, Good, HSG A
2,020	81	Weighted Average
595		29.46% Pervious Area
1,425		70.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, A-B**

Summary for Subcatchment 33: SC33

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Depth> 0.67"
Routed to Pond DW3 : Dry Well 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
628	98	Roofs, HSG A
136	98	Paved parking, HSG A
858	39	>75% Grass cover, Good, HSG A
1,622	67	Weighted Average
858		52.90% Pervious Area
764		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, A-B**

Summary for Subcatchment 34: SC34

Runoff = 0.00 cfs @ 14.89 hrs, Volume= 0.001 af, Depth> 0.07"
Routed to Pond CB1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.16"

Area (sf)	CN	Description
3,985	39	>75% Grass cover, Good, HSG A
656	98	Paved parking, HSG A
4,641	47	Weighted Average
3,985		85.87% Pervious Area
656		14.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	65	0.0340	0.19		**Sheet Flow, Sheet Flow,** Grass: Short n= 0.150 P2= 3.16"

Summary for Reach DP1: DESIGN POINT

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.187 ac, 57.01% Impervious, Inflow Depth > 0.54" for 2-Year event
Inflow = 0.60 cfs @ 15.61 hrs, Volume= 0.503 af
Outflow = 0.60 cfs @ 15.61 hrs, Volume= 0.503 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond CB1: CB1

[57] Hint: Peaked at 93.35' (Flood elevation advised)
[79] Warning: Submerged Pond ECB17 Primary device # 1 INLET by 0.65'

Inflow Area = 2.577 ac, 67.78% Impervious, Inflow Depth > 1.37" for 2-Year event
Inflow = 3.92 cfs @ 12.08 hrs, Volume= 0.294 af
Outflow = 3.92 cfs @ 12.08 hrs, Volume= 0.294 af, Atten= 0%, Lag= 0.0 min
Primary = 3.92 cfs @ 12.08 hrs, Volume= 0.294 af
Routed to Pond ECB16 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.35' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	92.30'	**24.0" Round Culvert** L= 67.0' Ke= 0.500

Inlet / Outlet Invert= 92.30' / 92.10' S= 0.0030 '/' Cc= 0.900
n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=3.91 cfs @ 12.08 hrs HW=93.35' (Free Discharge)
1=Culvert (Barrel Controls 3.91 cfs @ 3.42 fps)

Summary for Pond DW1: Dry Well 1

Inflow Area = 0.099 ac,100.00% Impervious, Inflow Depth > 2.93" for 2-Year event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.024 af
Outflow = 0.31 cfs @ 12.08 hrs, Volume= 0.023 af, Atten= 1%, Lag= 0.5 min
Discarded = 0.01 cfs @ 12.08 hrs, Volume= 0.013 af
Primary = 0.30 cfs @ 12.08 hrs, Volume= 0.010 af
Routed to Pond DW2 : Dry Well 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 96.35' @ 12.08 hrs Surf.Area= 79 sf Storage= 182 cf

Plug-Flow detention time= 98.4 min calculated for 0.023 af (96% of inflow)
Center-of-Mass det. time= 74.2 min (829.6 - 755.4)

Volume	Invert	Avail.Storage	Storage Description
#1	91.80'	112 cf	**10.00'D x 5.00'H Vertical Cone/Cylinder** 393 cf Overall - 113 cf Embedded = 280 cf x 40.0% Voids
#2	92.80'	89 cf	**5.33'D x 4.00'H Vertical Cone/Cylinder** Inside #1 113 cf Overall - 4.0" Wall Thickness = 89 cf
#3	96.80'	7 cf	**2.00'D x 2.20'H Vertical Cone/Cylinder**
		208 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	96.00'	**6.0" Round Culvert** L= 14.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 96.00' / 95.60' S= 0.0286 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Discarded	91.80'	**2.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 80.00' Phase-In= 0.01'

Discarded OutFlow Max=0.01 cfs @ 12.08 hrs HW=96.35' (Free Discharge)
2=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=96.35' (Free Discharge)
1=Culvert (Inlet Controls 0.30 cfs @ 2.02 fps)

Summary for Pond DW2: Dry Well 2

[79] Warning: Submerged Pond DW1 Primary device # 1 OUTLET by 0.19'

Inflow Area = 0.099 ac,100.00% Impervious, Inflow Depth = 1.19" for 2-Year event
Inflow = 0.30 cfs @ 12.08 hrs, Volume= 0.010 af
Outflow = 0.24 cfs @ 12.14 hrs, Volume= 0.010 af, Atten= 21%, Lag= 3.5 min
Discarded = 0.01 cfs @ 12.14 hrs, Volume= 0.006 af
Primary = 0.22 cfs @ 12.14 hrs, Volume= 0.004 af
Routed to Pond CB1 : CB1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 95.79' @ 12.14 hrs Surf.Area= 79 sf Storage= 180 cf

Plug-Flow detention time= 105.6 min calculated for 0.010 af (100% of inflow)
Center-of-Mass det. time= 105.7 min (844.2 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1	91.30'	112 cf	**10.00'D x 5.00'H Vertical Cone/Cylinder** 393 cf Overall - 113 cf Embedded = 280 cf x 40.0% Voids
#2	92.30'	89 cf	**5.33'D x 4.00'H Vertical Cone/Cylinder** Inside #1 113 cf Overall - 4.0" Wall Thickness = 89 cf
#3	96.30'	7 cf	**2.00'D x 2.20'H Vertical Cone/Cylinder**
		208 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	95.50'	**6.0" Round Culvert** L= 24.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 95.50' / 94.00' S= 0.0625 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Discarded	91.30'	**2.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 80.00' Phase-In= 0.01'

Discarded OutFlow Max=0.01 cfs @ 12.14 hrs HW=95.79' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.22 cfs @ 12.14 hrs HW=95.79' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.22 cfs @ 1.85 fps)

Summary for Pond DW3: Dry Well 3

Inflow Area = 0.084 ac, 60.10% Impervious, Inflow Depth > 1.09" for 2-Year event
Inflow = 0.11 cfs @ 12.08 hrs, Volume= 0.008 af
Outflow = 0.01 cfs @ 13.30 hrs, Volume= 0.008 af, Atten= 90%, Lag= 73.4 min
Discarded = 0.01 cfs @ 13.30 hrs, Volume= 0.008 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond CB1 : CB1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 95.18' @ 13.30 hrs Surf.Area= 79 sf Storage= 132 cf

Plug-Flow detention time= 156.0 min calculated for 0.008 af (99% of inflow)
Center-of-Mass det. time= 153.0 min (1,004.6 - 851.5)

Volume	Invert	Avail.Storage	Storage Description
#1	91.80'	112 cf	**10.00'D x 5.00'H Vertical Cone/Cylinder** 393 cf Overall - 113 cf Embedded = 280 cf x 40.0% Voids
#2	92.80'	89 cf	**5.33'D x 4.00'H Vertical Cone/Cylinder** Inside #1 113 cf Overall - 4.0" Wall Thickness = 89 cf
#3	96.80'	7 cf	**2.00'D x 2.20'H Vertical Cone/Cylinder**
		208 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	**6.0" Round Culvert** L= 10.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 95.90' / 94.00' S= 0.1900 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Discarded	91.80'	**2.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 80.00' Phase-In= 0.01'

Discarded OutFlow Max=0.01 cfs @ 13.30 hrs HW=95.18' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=91.80' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Summary for Pond ECB10:

[57] Hint: Peaked at 82.85' (Flood elevation advised)

Inflow Area = 5.527 ac, 73.01% Impervious, Inflow Depth > 1.59" for 2-Year event
Inflow = 10.05 cfs @ 12.08 hrs, Volume= 0.731 af
Outflow = 10.05 cfs @ 12.08 hrs, Volume= 0.731 af, Atten= 0%, Lag= 0.0 min
Primary = 10.05 cfs @ 12.08 hrs, Volume= 0.731 af
Routed to Pond ECB9 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 82.85' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.40'	**24.0" Round Culvert** L= 95.0' Ke= 0.500 Inlet / Outlet Invert= 81.40' / 77.00' S= 0.0463 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=10.03 cfs @ 12.08 hrs HW=82.85' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 10.03 cfs @ 4.10 fps)

Summary for Pond ECB11:

[57] Hint: Peaked at 98.82' (Flood elevation advised)

Inflow Area = 1.720 ac, 72.31% Impervious, Inflow Depth > 1.50" for 2-Year event
Inflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Routed to Pond EDMH3 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 98.82' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	97.90'	**15.0" Round long Culvert** L= 66.0' Ke= 0.500 Inlet / Outlet Invert= 97.90' / 94.45' S= 0.0523 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=3.13 cfs @ 12.08 hrs HW=98.81' (Free Discharge)
1=long Culvert (Inlet Controls 3.13 cfs @ 3.26 fps)

Summary for Pond ECB12:

[57] Hint: Peaked at 89.44' (Flood elevation advised)

Inflow Area = 3.738 ac, 72.83% Impervious, Inflow Depth > 1.60" for 2-Year event
Inflow = 6.70 cfs @ 12.08 hrs, Volume= 0.499 af
Outflow = 6.70 cfs @ 12.08 hrs, Volume= 0.499 af, Atten= 0%, Lag= 0.0 min
Primary = 6.70 cfs @ 12.08 hrs, Volume= 0.499 af
Routed to Pond ECB10 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 89.44' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	88.30'	**24.0" Round Culvert** L= 90.0' Ke= 0.500 Inlet / Outlet Invert= 88.30' / 85.50' S= 0.0311 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=6.69 cfs @ 12.08 hrs HW=89.44' (Free Discharge)
1=Culvert (Inlet Controls 6.69 cfs @ 3.63 fps)

Summary for Pond ECB13:

[57] Hint: Peaked at 95.28' (Flood elevation advised)

Inflow Area = 0.326 ac, 71.12% Impervious, Inflow Depth > 1.56" for 2-Year event
Inflow = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af
Outflow = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.08 hrs, Volume= 0.042 af
Routed to Pond ECB12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 95.28' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	94.90'	**12.0" Round Culvert** L= 71.0' Ke= 0.500 Inlet / Outlet Invert= 94.90' / 91.40' S= 0.0493 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.57 cfs @ 12.08 hrs HW=95.28' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.57 cfs @ 2.10 fps)

Summary for Pond ECB15:

[57] Hint: Peaked at 109.24' (Flood elevation advised)

Inflow Area = 0.079 ac,100.00% Impervious, Inflow Depth > 2.93" for 2-Year event
Inflow = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af
Outflow = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af
Routed to Pond ECB13 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 109.24' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**12.0" Round Culvert** L= 175.0' Ke= 0.500 Inlet / Outlet Invert= 109.00' / 100.20' S= 0.0503 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.25 cfs @ 12.07 hrs HW=109.24' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.25 cfs @ 1.68 fps)

Summary for Pond ECB16:

[57] Hint: Peaked at 93.24' (Flood elevation advised)
[79] Warning: Submerged Pond CB1 Primary device # 1 INLET by 0.94'

Inflow Area = 3.177 ac, 71.34% Impervious, Inflow Depth > 1.53" for 2-Year event
Inflow = 5.42 cfs @ 12.08 hrs, Volume= 0.405 af
Outflow = 5.42 cfs @ 12.08 hrs, Volume= 0.405 af, Atten= 0%, Lag= 0.0 min
Primary = 5.42 cfs @ 12.08 hrs, Volume= 0.405 af
Routed to Pond ECB12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.24' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	92.10'	**24.0" Round Culvert** L= 142.0' Ke= 0.500 Inlet / Outlet Invert= 92.10' / 91.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=5.41 cfs @ 12.08 hrs HW=93.24' (Free Discharge)
1=Culvert (Barrel Controls 5.41 cfs @ 4.23 fps)

Summary for Pond ECB17: ECB17

[57] Hint: Peaked at 93.89' (Flood elevation advised)
[79] Warning: Submerged Pond ECB18 Primary device # 1 INLET by 0.89'

Inflow Area = 2.289 ac, 69.17% Impervious, Inflow Depth > 1.52" for 2-Year event
Inflow = 3.92 cfs @ 12.08 hrs, Volume= 0.289 af
Outflow = 3.92 cfs @ 12.08 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.0 min
Primary = 3.92 cfs @ 12.08 hrs, Volume= 0.289 af
Routed to Pond CB1 : CB1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 93.89' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	92.70'	**18.0" Round Culvert** L= 110.0' Ke= 0.500 Inlet / Outlet Invert= 92.70' / 92.35' S= 0.0032 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.77 sf

Primary OutFlow Max=3.91 cfs @ 12.08 hrs HW=93.89' (Free Discharge)
1=Culvert (Barrel Controls 3.91 cfs @ 3.58 fps)

Summary for Pond ECB18: ECB18

[57] Hint: Peaked at 94.07' (Flood elevation advised)
[79] Warning: Submerged Pond ECB19 Primary device # 1 INLET by 0.46'

Inflow Area = 2.003 ac, 66.22% Impervious, Inflow Depth > 1.40" for 2-Year event
Inflow = 3.17 cfs @ 12.08 hrs, Volume= 0.234 af
Outflow = 3.17 cfs @ 12.08 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min
Primary = 3.17 cfs @ 12.08 hrs, Volume= 0.234 af
Routed to Pond ECB17 : ECB17

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.07' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	93.00'	**18.0" Round Culvert** L= 88.0' Ke= 0.500 Inlet / Outlet Invert= 93.00' / 92.75' S= 0.0028 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.77 sf

Primary OutFlow Max=3.17 cfs @ 12.08 hrs HW=94.06' (Free Discharge)
1=Culvert (Barrel Controls 3.17 cfs @ 3.31 fps)

Summary for Pond ECB19: ECB19

[57] Hint: Peaked at 94.32' (Flood elevation advised)
[79] Warning: Submerged Pond ECB20R Primary device # 1 OUTLET by 0.22'
[79] Warning: Submerged Pond ECB24 Primary device # 1 OUTLET by 0.22'

Inflow Area = 1.575 ac, 58.59% Impervious, Inflow Depth > 1.08" for 2-Year event
Inflow = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af
Outflow = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.93 cfs @ 12.08 hrs, Volume= 0.141 af
Routed to Pond ECB18 : ECB18

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.32' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	93.60'	**18.0" Round Culvert** L= 91.0' Ke= 0.500 Inlet / Outlet Invert= 93.60' / 93.10' S= 0.0055 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.77 sf

Primary OutFlow Max=1.93 cfs @ 12.08 hrs HW=94.32' (Free Discharge)
1=Culvert (Barrel Controls 1.93 cfs @ 3.40 fps)

Summary for Pond ECB20R: ECB20R

[57] Hint: Peaked at 99.19' (Flood elevation advised)
[79] Warning: Submerged Pond ECB21 Primary device # 1 OUTLET by 0.59'

Inflow Area = 1.248 ac, 61.29% Impervious, Inflow Depth > 1.13" for 2-Year event
Inflow = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af
Outflow = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.08 hrs, Volume= 0.117 af
Routed to Pond ECB19 : ECB19

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 99.19' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	98.50'	**12.0" Round Culvert** L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 98.50' / 94.10' S= 0.0524 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.08 hrs HW=99.19' (Free Discharge)
1=Culvert (Inlet Controls 1.63 cfs @ 2.82 fps)

Summary for Pond ECB21: ECB21

[57] Hint: Peaked at 100.55' (Flood elevation advised)
[79] Warning: Submerged Pond ECB22 Primary device # 1 OUTLET by 0.45'
[79] Warning: Submerged Pond EYD5 Primary device # 1 OUTLET by 0.45'

Inflow Area = 0.906 ac, 59.24% Impervious, Inflow Depth > 1.09" for 2-Year event
Inflow = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af
Outflow = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.08 hrs, Volume= 0.082 af
Routed to Pond ECB20R : ECB20R

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 100.55' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**12.0" Round Culvert** L= 53.0' Ke= 0.500 Inlet / Outlet Invert= 100.00' / 98.60' S= 0.0264 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=1.12 cfs @ 12.08 hrs HW=100.55' (Free Discharge)
1=Culvert (Inlet Controls 1.12 cfs @ 2.53 fps)

Summary for Pond ECB22: ECB22

[57] Hint: Peaked at 103.47' (Flood elevation advised)
[79] Warning: Submerged Pond ECB23 Primary device # 1 OUTLET by 0.37'

Inflow Area = 0.646 ac, 63.23% Impervious, Inflow Depth > 1.14" for 2-Year event
Inflow = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af
Outflow = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 12.08 hrs, Volume= 0.062 af
Routed to Pond ECB21 : ECB21

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 103.47' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	103.00'	**12.0" Round Culvert** L= 89.0' Ke= 0.500 Inlet / Outlet Invert= 103.00' / 100.10' S= 0.0326 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.86 cfs @ 12.08 hrs HW=103.47' (Free Discharge)
1=Culvert (Inlet Controls 0.86 cfs @ 2.34 fps)

Summary for Pond ECB23: ECB23

[57] Hint: Peaked at 106.28' (Flood elevation advised)

Inflow Area = 0.144 ac, 80.46% Impervious, Inflow Depth > 1.80" for 2-Year event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af
Routed to Pond ECB22 : ECB22

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.28' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**12.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 106.00' / 103.10' S= 0.0460 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=106.28' (Free Discharge)
1=Culvert (Inlet Controls 0.31 cfs @ 1.79 fps)

Summary for Pond ECB24: ECB24

[57] Hint: Peaked at 94.69' (Flood elevation advised)
[79] Warning: Submerged Pond EYD4 Primary device # 1 OUTLET by 0.19'

Inflow Area = 0.328 ac, 48.31% Impervious, Inflow Depth > 0.87" for 2-Year event
Inflow = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af
Outflow = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.08 hrs, Volume= 0.024 af
Routed to Pond ECB19 : ECB19

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 94.69' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	94.40'	**15.0" Round Culvert** L= 51.0' Ke= 0.500 Inlet / Outlet Invert= 94.40' / 94.10' S= 0.0059 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=94.69' (Free Discharge)
1=Culvert (Barrel Controls 0.30 cfs @ 2.13 fps)

Summary for Pond ECB26:

[57] Hint: Peaked at 75.22' (Flood elevation advised)

Inflow Area = 3.554 ac, 34.26% Impervious, Inflow Depth > 0.30" for 2-Year event
Inflow = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af
Outflow = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.27 hrs, Volume= 0.088 af
Routed to Pond ECB7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 75.22' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.90'	**15.0" Round Culvert** L= 134.0' Ke= 0.500 Inlet / Outlet Invert= 74.90' / 68.70' S= 0.0463 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=0.49 cfs @ 12.27 hrs HW=75.22' (Free Discharge)
1=Culvert (Inlet Controls 0.49 cfs @ 1.94 fps)

Summary for Pond ECB27:

[57] Hint: Peaked at 76.87' (Flood elevation advised)
[79] Warning: Submerged Pond ECB9 Primary device # 1 OUTLET by 1.36'

Inflow Area = 6.622 ac, 62.66% Impervious, Inflow Depth > 1.35" for 2-Year event
Inflow = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af
Outflow = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af, Atten= 0%, Lag= 0.0 min
Primary = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af
Routed to Pond ECB8 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 76.87' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.40'	**24.0" Round Culvert** L= 189.0' Ke= 0.500 Inlet / Outlet Invert= 75.40' / 70.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=10.15 cfs @ 12.08 hrs HW=76.86' (Free Discharge)
1=Culvert (Inlet Controls 10.15 cfs @ 4.12 fps)

Summary for Pond ECB7:

[57] Hint: Peaked at 70.09' (Flood elevation advised)
[79] Warning: Submerged Pond ECB26 Primary device # 1 OUTLET by 1.39'
[79] Warning: Submerged Pond ECB8 Primary device # 1 INLET by 0.19'

Inflow Area = 11.187 ac, 57.01% Impervious, Inflow Depth > 1.16" for 2-Year event
Inflow = 13.64 cfs @ 12.08 hrs, Volume= 1.077 af
Outflow = 13.64 cfs @ 12.08 hrs, Volume= 1.077 af, Atten= 0%, Lag= 0.0 min
Primary = 13.64 cfs @ 12.08 hrs, Volume= 1.077 af
Routed to Pond P1 : Existing Pond

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 70.09' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	68.60'	**36.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 68.60' / 68.10' S= 0.0192 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 7.07 sf

Primary OutFlow Max=13.62 cfs @ 12.08 hrs HW=70.09' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 13.62 cfs @ 5.67 fps)

Summary for Pond ECB8:

[57] Hint: Peaked at 71.44' (Flood elevation advised)
[79] Warning: Submerged Pond ECB27 Primary device # 1 OUTLET by 1.44'

Inflow Area = 7.222 ac, 65.76% Impervious, Inflow Depth > 1.48" for 2-Year event
Inflow = 12.07 cfs @ 12.07 hrs, Volume= 0.889 af
Outflow = 12.07 cfs @ 12.07 hrs, Volume= 0.889 af, Atten= 0%, Lag= 0.0 min
Primary = 12.07 cfs @ 12.07 hrs, Volume= 0.889 af
Routed to Pond ECB7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 71.44' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.90'	**30.0" Round Culvert** L= 196.0' Ke= 0.500 Inlet / Outlet Invert= 69.90' / 68.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 4.91 sf

Primary OutFlow Max=12.05 cfs @ 12.07 hrs HW=71.44' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 12.05 cfs @ 5.44 fps)

Summary for Pond ECB9:

[57] Hint: Peaked at 78.37' (Flood elevation advised)
[79] Warning: Submerged Pond ECB10 Primary device # 1 OUTLET by 1.36'

Inflow Area = 5.750 ac, 72.01% Impervious, Inflow Depth > 1.55" for 2-Year event
Inflow = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af
Outflow = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af, Atten= 0%, Lag= 0.0 min
Primary = 10.17 cfs @ 12.08 hrs, Volume= 0.743 af
Routed to Pond ECB27 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 78.37' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 76.90' / 75.50' S= 0.0500 '/' Cc= 0.900

n= 0.013 CPP, Flow Area= 3.14 sf

Primary OutFlow Max=10.15 cfs @ 12.08 hrs HW=78.36' (Free Discharge)
1=Culvert (Inlet Controls 10.15 cfs @ 4.12 fps)

Summary for Pond EDMH3:

[57] Hint: Peaked at 89.87' (Flood elevation advised)

Inflow Area = 1.720 ac, 72.31% Impervious, Inflow Depth > 1.50" for 2-Year event
Inflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.08 hrs, Volume= 0.216 af
Routed to Pond ECB10 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 89.87' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	88.95'	**15.0" Round Culvert** L= 66.0' Ke= 0.500 Inlet / Outlet Invert= 88.95' / 85.50' S= 0.0523 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 1.23 sf

Primary OutFlow Max=3.13 cfs @ 12.08 hrs HW=89.86' (Free Discharge)
1=Culvert (Inlet Controls 3.13 cfs @ 3.26 fps)

Summary for Pond EYD4: EYD4

[57] Hint: Peaked at 96.56' (Flood elevation advised)

Inflow Area = 0.184 ac, 25.95% Impervious, Inflow Depth > 0.21" for 2-Year event
Inflow = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af
Outflow = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.35 hrs, Volume= 0.003 af
Routed to Pond ECB24 : ECB24

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 96.56' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	96.50'	**12.0" Round Culvert** L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 96.50' / 94.50' S= 0.0238 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.35 hrs HW=96.56' (Free Discharge)
1=Culvert (Inlet Controls 0.01 cfs @ 0.81 fps)

Summary for Pond EYD5: EYD5

[57] Hint: Peaked at 102.04' (Flood elevation advised)

Inflow Area = 0.144 ac, 23.98% Impervious, Inflow Depth > 0.19" for 2-Year event
Inflow = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af
Outflow = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.37 hrs, Volume= 0.002 af
Routed to Pond ECB21 : ECB21

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 102.04' @ 12.37 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**12.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 102.00' / 100.10' S= 0.0500 '/' Cc= 0.900 n= 0.013 CPP, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.37 hrs HW=102.04' (Free Discharge)
1=Culvert (Inlet Controls 0.01 cfs @ 0.72 fps)

Summary for Pond P1: Existing Pond

Inflow Area = 11.187 ac, 57.01% Impervious, Inflow Depth > 1.16" for 2-Year event
Inflow = 13.64 cfs @ 12.08 hrs, Volume= 1.077 af
Outflow = 0.60 cfs @ 15.61 hrs, Volume= 0.503 af, Atten= 96%, Lag= 212.0 min
Primary = 0.60 cfs @ 15.61 hrs, Volume= 0.503 af
Routed to Reach DP1 : DESIGN POINT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 56.55' @ 15.61 hrs Surf.Area= 12,689 sf Storage= 31,286 cf

Plug-Flow detention time= 395.9 min calculated for 0.503 af (47% of inflow)
Center-of-Mass det. time= 262.3 min (1,071.6 - 809.3)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	75,021 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)
51.50	1,005	119.0	0	0	1,005
52.00	3,191	277.0	998	998	5,985
54.00	6,556	420.0	9,547	10,545	13,947
55.00	3,157	207.0	4,754	15,299	24,579
55.50	11,261	433.0	3,397	18,696	36,091
56.00	11,930	451.0	5,797	24,493	37,376
58.00	14,790	492.0	26,669	51,162	40,594
59.00	16,295	511.0	15,536	66,698	42,191
59.50	17,000	600.0	8,323	75,021	50,065

Device	Routing	Invert	Outlet Devices
#1	Primary	55.50'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	56.72'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	57.85'	**5.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#4	Primary	58.80'	**19.0" x 1.6" Horiz. Orifice/Grate** X 13 rows C= 0.600 in 24.0" x 36.0" Grate (46% open area) Limited to weir flow at low heads
#5	Primary	59.00'	**50.0' long + 3.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.60 cfs @ 15.61 hrs HW=56.55' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.60 cfs @ 4.42 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond UDT1: STONE DRIP EDGE

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 0.046 ac, 70.54% Impervious, Inflow Depth > 1.44" for 2-Year event
Inflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Routed to Pond DW3 : Dry Well 3

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 98.00' @ 12.08 hrs Surf.Area= 50 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.006 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (838.6 - 838.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	32 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 81 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
98.00	50	0	0
98.50	125	44	44
98.80	125	37	81

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	**6.0" Round Culvert** L= 75.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 97.00' / 96.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.71 cfs @ 12.08 hrs HW=98.00' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.71 cfs @ 3.61 fps)

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.32 cfs 0.103 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.49 cfs 0.116 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>0.81"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.14 cfs 0.013 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>0.76"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.09 cfs 0.009 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=334' Tc=5.0 min CN=98 Runoff=1.99 cfs 0.156 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=2.91 cfs 0.227 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>1.58"
Tc=0.0 min CN=66 Runoff=0.48 cfs 0.029 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>2.88"
Flow Length=556' Tc=5.0 min CN=82 Runoff=6.02 cfs 0.413 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>4.20"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.10 cfs 0.082 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>2.35"
Flow Length=315' Tc=5.0 min CN=76 Runoff=0.71 cfs 0.049 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.38 cfs 0.030 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>2.88"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.02 cfs 0.070 af

Subcatchment 17: SC17 Runoff Area=12,434 sf 89.86% Impervious Runoff Depth>3.87"
Flow Length=80' Tc=6.2 min CN=92 Runoff=1.23 cfs 0.092 af

Subcatchment 18: SC18 Runoff Area=6,762 sf 84.31% Impervious Runoff Depth>3.56"
Flow Length=260' Tc=5.0 min CN=89 Runoff=0.65 cfs 0.046 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>2.52"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.05 cfs 0.072 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>3.36"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.47 cfs 0.033 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>2.11"
Flow Length=350' Tc=5.0 min CN=73 Runoff=1.27 cfs 0.088 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>3.26"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.56 cfs 0.039 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>3.16"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.55 cfs 0.038 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>0.99"
Flow Length=615' Tc=5.0 min CN=57 Runoff=3.52 cfs 0.293 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.08"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.01 cfs 0.006 af

Subcatchment 30: ROOF Runoff Area=2,963 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=50' Slope=0.0200 '/' Tc=5.2 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment 31: SC31 Runoff Area=1,331 sf 100.00% Impervious Runoff Depth>4.54"
Flow Length=110' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment 32: SC32 Runoff Area=2,020 sf 70.54% Impervious Runoff Depth>2.79"
Tc=5.0 min CN=81 Runoff=0.16 cfs 0.011 af

Subcatchment 33: SC33 Runoff Area=1,622 sf 47.10% Impervious Runoff Depth>1.65"
Tc=5.0 min CN=67 Runoff=0.07 cfs 0.005 af

Subcatchment 34: SC34 Runoff Area=4,641 sf 14.13% Impervious Runoff Depth>0.46"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=47 Runoff=0.02 cfs 0.004 af

Reach DP1: DESIGN POINT Inflow=2.34 cfs 1.324 af
Outflow=2.34 cfs 1.324 af

Pond CB1: CB1 Peak Elev=93.85' Inflow=7.74 cfs 0.553 af
24.0" Round Culvert n=0.013 L=67.0' S=0.0030 '/' Outflow=7.74 cfs 0.553 af

Pond DW1: Dry Well 1 Peak Elev=96.48' Storage=188 cf Inflow=0.47 cfs 0.037 af
Discarded=0.01 cfs 0.016 af Primary=0.46 cfs 0.020 af Outflow=0.47 cfs 0.036 af

Pond DW2: Dry Well 2 Peak Elev=95.97' Storage=187 cf Inflow=0.46 cfs 0.020 af
Discarded=0.01 cfs 0.007 af Primary=0.44 cfs 0.012 af Outflow=0.45 cfs 0.020 af

Pond DW3: Dry Well 3 Peak Elev=96.15' Storage=174 cf Inflow=0.23 cfs 0.016 af
Discarded=0.01 cfs 0.010 af Primary=0.17 cfs 0.005 af Outflow=0.18 cfs 0.015 af

Pond ECB10: Peak Elev=83.94' Inflow=18.79 cfs 1.339 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=18.79 cfs 1.339 af

Pond ECB11: Peak Elev=99.56' Inflow=6.02 cfs 0.413 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=6.02 cfs 0.413 af

Pond ECB12: Peak Elev=89.98' Inflow=12.44 cfs 0.900 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=12.44 cfs 0.900 af

Pond ECB13: Peak Elev=95.44' Inflow=1.09 cfs 0.078 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.09 cfs 0.078 af

Pond ECB15: Peak Elev=109.31' Inflow=0.38 cfs 0.030 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.38 cfs 0.030 af

Pond ECB16: Peak Elev=93.78' Inflow=10.25 cfs 0.740 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=10.25 cfs 0.740 af

Pond ECB17: ECB17 Peak Elev=94.78' Inflow=7.30 cfs 0.532 af
18.0" Round Culvert n=0.013 L=110.0' S=0.0032 '/' Outflow=7.30 cfs 0.532 af

Pond ECB18: ECB18 Peak Elev=94.63' Inflow=6.09 cfs 0.440 af
18.0" Round Culvert n=0.013 L=88.0' S=0.0028 '/' Outflow=6.09 cfs 0.440 af

Pond ECB19: ECB19 Peak Elev=94.71' Inflow=4.12 cfs 0.291 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=4.12 cfs 0.291 af

Pond ECB20R: ECB20R Peak Elev=99.83' Inflow=3.44 cfs 0.241 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=3.44 cfs 0.241 af

Pond ECB21: ECB21 Peak Elev=100.90' Inflow=2.39 cfs 0.169 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=2.39 cfs 0.169 af

Pond ECB22: ECB22 Peak Elev=103.74' Inflow=1.84 cfs 0.127 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=1.84 cfs 0.127 af

Pond ECB23: ECB23 Peak Elev=106.38' Inflow=0.56 cfs 0.039 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.56 cfs 0.039 af

Pond ECB24: ECB24 Peak Elev=94.84' Inflow=0.68 cfs 0.050 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=0.68 cfs 0.050 af

Pond ECB26: Peak Elev=75.89' Inflow=3.52 cfs 0.293 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=3.52 cfs 0.293 af

Pond ECB27: Peak Elev=77.99' Inflow=19.10 cfs 1.374 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=19.10 cfs 1.374 af

Pond ECB7: Peak Elev=70.92' Inflow=27.41 cfs 2.049 af
36.0" Round Culvert n=0.013 L=26.0' S=0.0192 '/' Outflow=27.41 cfs 2.049 af

Pond ECB8: Peak Elev=72.17' Inflow=22.00 cfs 1.601 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=22.00 cfs 1.601 af

Pond ECB9: Peak Elev=79.49' Inflow=19.10 cfs 1.368 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=19.10 cfs 1.368 af

Pond EDMH3: Peak Elev=90.61' Inflow=6.02 cfs 0.413 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=6.02 cfs 0.413 af

Pond EYD4: EYD4 Peak Elev=96.68' Inflow=0.14 cfs 0.013 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.14 cfs 0.013 af

Pond EYD5: EYD5 Peak Elev=102.15' Inflow=0.09 cfs 0.009 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.09 cfs 0.009 af

Pond P1: Existing Pond Peak Elev=57.96' Storage=50,578 cf Inflow=27.41 cfs 2.049 af
Outflow=2.34 cfs 1.324 af

Pond UDT1: STONE DRIP EDGE Peak Elev=98.00' Storage=0 cf Inflow=0.16 cfs 0.011 af
6.0" Round Culvert n=0.013 L=75.0' S=0.0133 '/' Outflow=0.16 cfs 0.011 af

Total Runoff Area = 11.187 ac Runoff Volume = 2.086 af Average Runoff Depth = 2.24"
42.99% Pervious = 4.809 ac 57.01% Impervious = 6.378 ac

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.67 cfs 0.132 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.89 cfs 0.149 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>1.47"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.29 cfs 0.023 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>1.39"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.21 cfs 0.017 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=334' Tc=5.0 min CN=98 Runoff=2.53 cfs 0.199 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=3.69 cfs 0.291 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>2.48"
Tc=0.0 min CN=66 Runoff=0.78 cfs 0.046 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.42 cfs 0.033 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>4.03"
Flow Length=556' Tc=5.0 min CN=82 Runoff=8.36 cfs 0.578 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>5.46"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.41 cfs 0.107 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>3.42"
Flow Length=315' Tc=5.0 min CN=76 Runoff=1.03 cfs 0.071 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.48 cfs 0.038 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>4.03"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.42 cfs 0.098 af

Subcatchment 17: SC17 Runoff Area=12,434 sf 89.86% Impervious Runoff Depth>5.11"
Flow Length=80' Tc=6.2 min CN=92 Runoff=1.59 cfs 0.122 af

Subcatchment 18: SC18 Runoff Area=6,762 sf 84.31% Impervious Runoff Depth>4.78"
Flow Length=260' Tc=5.0 min CN=89 Runoff=0.87 cfs 0.062 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>3.62"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.50 cfs 0.103 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>4.56"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.63 cfs 0.044 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>3.13"
Flow Length=350' Tc=5.0 min CN=73 Runoff=1.91 cfs 0.131 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>4.45"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.76 cfs 0.053 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>4.35"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.74 cfs 0.052 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>1.70"
Flow Length=615' Tc=5.0 min CN=57 Runoff=6.77 cfs 0.505 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.31"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.07 cfs 0.022 af

Subcatchment 30: ROOF Runoff Area=2,963 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=50' Slope=0.0200 '/' Tc=5.2 min CN=98 Runoff=0.41 cfs 0.033 af

Subcatchment 31: SC31 Runoff Area=1,331 sf 100.00% Impervious Runoff Depth>5.81"
Flow Length=110' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment 32: SC32 Runoff Area=2,020 sf 70.54% Impervious Runoff Depth>3.93"
Tc=5.0 min CN=81 Runoff=0.22 cfs 0.015 af

Subcatchment 33: SC33 Runoff Area=1,622 sf 47.10% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=67 Runoff=0.11 cfs 0.008 af

Subcatchment 34: SC34 Runoff Area=4,641 sf 14.13% Impervious Runoff Depth>0.95"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=47 Runoff=0.08 cfs 0.008 af

Reach DP1: DESIGN POINT Inflow=6.94 cfs 2.132 af
Outflow=6.94 cfs 2.132 af

Pond CB1: CB1 Peak Elev=94.24' Inflow=11.07 cfs 0.776 af
24.0" Round Culvert n=0.013 L=67.0' S=0.0030 '/' Outflow=11.07 cfs 0.776 af

Pond DW1: Dry Well 1 Peak Elev=96.63' Storage=194 cf Inflow=0.60 cfs 0.048 af
Discarded=0.01 cfs 0.017 af Primary=0.58 cfs 0.028 af Outflow=0.59 cfs 0.045 af

Pond DW2: Dry Well 2 Peak Elev=96.10' Storage=193 cf Inflow=0.58 cfs 0.028 af
Discarded=0.01 cfs 0.009 af Primary=0.56 cfs 0.019 af Outflow=0.57 cfs 0.028 af

Pond DW3: Dry Well 3 Peak Elev=96.27' Storage=179 cf Inflow=0.33 cfs 0.023 af
Discarded=0.01 cfs 0.012 af Primary=0.32 cfs 0.010 af Outflow=0.33 cfs 0.022 af

Pond ECB10: Peak Elev=85.37' Inflow=26.07 cfs 1.849 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=26.07 cfs 1.849 af

Pond ECB11: Peak Elev=100.53' Inflow=8.36 cfs 0.578 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=8.36 cfs 0.578 af

Pond ECB12: Peak Elev=90.61' Inflow=17.30 cfs 1.238 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=17.30 cfs 1.238 af

Pond ECB13: Peak Elev=95.56' Inflow=1.51 cfs 0.109 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.51 cfs 0.109 af

Pond ECB15: Peak Elev=109.35' Inflow=0.48 cfs 0.038 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.48 cfs 0.038 af

Pond ECB16: Peak Elev=94.26' Inflow=14.37 cfs 1.023 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=14.37 cfs 1.023 af

Pond ECB17: ECB17 Peak Elev=95.65' Inflow=10.14 cfs 0.738 af
18.0" Round Culvert n=0.013 L=110.0' S=0.0032 '/' Outflow=10.14 cfs 0.738 af

Pond ECB18: ECB18 Peak Elev=95.38' Inflow=8.56 cfs 0.616 af
18.0" Round Culvert n=0.013 L=88.0' S=0.0028 '/' Outflow=8.56 cfs 0.616 af

Pond ECB19: ECB19 Peak Elev=95.04' Inflow=6.03 cfs 0.422 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=6.03 cfs 0.422 af

Pond ECB20R: ECB20R Peak Elev=100.75' Inflow=5.00 cfs 0.348 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=5.00 cfs 0.348 af

Pond ECB21: ECB21 Peak Elev=101.36' Inflow=3.50 cfs 0.245 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=3.50 cfs 0.245 af

Pond ECB22: ECB22 Peak Elev=104.00' Inflow=2.67 cfs 0.184 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=2.67 cfs 0.184 af

Pond ECB23: ECB23 Peak Elev=106.44' Inflow=0.76 cfs 0.053 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.76 cfs 0.053 af

Pond ECB24: ECB24 Peak Elev=94.95' Inflow=1.03 cfs 0.074 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=1.03 cfs 0.074 af

Pond ECB26: Peak Elev=76.84' Inflow=6.77 cfs 0.505 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=6.77 cfs 0.505 af

Pond ECB27: Peak Elev=79.48' Inflow=26.56 cfs 1.917 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=26.56 cfs 1.917 af

Pond ECB7: Peak Elev=71.58' Inflow=39.47 cfs 2.912 af
36.0" Round Culvert n=0.013 L=26.0' S=0.0192 '/' Outflow=39.47 cfs 2.912 af

Pond ECB8: Peak Elev=72.88' Inflow=30.24 cfs 2.208 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=30.24 cfs 2.208 af

Pond ECB9: Peak Elev=80.98' Inflow=26.56 cfs 1.895 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=26.56 cfs 1.895 af

Pond EDMH3: Peak Elev=91.58' Inflow=8.36 cfs 0.578 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=8.36 cfs 0.578 af

Pond EYD4: EYD4 Peak Elev=96.76' Inflow=0.29 cfs 0.023 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.29 cfs 0.023 af

Pond EYD5: EYD5 Peak Elev=102.22' Inflow=0.21 cfs 0.017 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.21 cfs 0.017 af

Pond P1: Existing Pond Peak Elev=58.96' Storage=66,024 cf Inflow=39.47 cfs 2.912 af
Outflow=6.94 cfs 2.132 af

Pond UDT1: STONE DRIP EDGE Peak Elev=98.00' Storage=0 cf Inflow=0.22 cfs 0.015 af
6.0" Round Culvert n=0.013 L=75.0' S=0.0133 '/' Outflow=0.22 cfs 0.015 af

Total Runoff Area = 11.187 ac Runoff Volume = 2.953 af Average Runoff Depth = 3.17"
42.99% Pervious = 4.809 ac 57.01% Impervious = 6.378 ac

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: ROOF Runoff Area=11,868 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=175' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=2.01 cfs 0.159 af

Subcatchment 2: Runoff Area=13,410 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=193' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=2.27 cfs 0.179 af

Subcatchment 4: SC4 Runoff Area=8,036 sf 25.95% Impervious Runoff Depth>2.18"
Flow Length=103' Tc=5.0 min CN=54 Runoff=0.46 cfs 0.033 af

Subcatchment 5: SC5 Runoff Area=6,285 sf 23.98% Impervious Runoff Depth>2.08"
Flow Length=185' Tc=5.0 min CN=53 Runoff=0.34 cfs 0.025 af

Subcatchment 7: Runoff Area=17,916 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=334' Tc=5.0 min CN=98 Runoff=3.03 cfs 0.240 af

Subcatchment 8: Runoff Area=26,145 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=150' Slope=0.0500 '/' Tc=5.0 min CN=98 Runoff=4.42 cfs 0.350 af

Subcatchment 9: Runoff Area=9,727 sf 47.37% Impervious Runoff Depth>3.39"
Tc=0.0 min CN=66 Runoff=1.08 cfs 0.063 af

Subcatchment 10: Runoff Area=2,975 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=210' Tc=5.0 min CN=98 Runoff=0.50 cfs 0.040 af

Subcatchment 11: Runoff Area=74,942 sf 72.31% Impervious Runoff Depth>5.14"
Flow Length=556' Tc=5.0 min CN=82 Runoff=10.56 cfs 0.737 af

Subcatchment 12: Runoff Area=10,233 sf 95.37% Impervious Runoff Depth>6.64"
Flow Length=66' Tc=5.0 min CN=95 Runoff=1.70 cfs 0.130 af

Subcatchment 13: Runoff Area=10,780 sf 61.91% Impervious Runoff Depth>4.47"
Flow Length=315' Tc=5.0 min CN=76 Runoff=1.34 cfs 0.092 af

Subcatchment 15: Runoff Area=3,439 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=120' Slope=0.0280 '/' Tc=5.0 min CN=98 Runoff=0.58 cfs 0.046 af

Subcatchment 16: Runoff Area=12,706 sf 72.60% Impervious Runoff Depth>5.14"
Flow Length=207' Tc=5.0 min CN=82 Runoff=1.79 cfs 0.125 af

Subcatchment 17: SC17 Runoff Area=12,434 sf 89.86% Impervious Runoff Depth>6.29"
Flow Length=80' Tc=6.2 min CN=92 Runoff=1.94 cfs 0.150 af

Subcatchment 18: SC18 Runoff Area=6,762 sf 84.31% Impervious Runoff Depth>5.94"
Flow Length=260' Tc=5.0 min CN=89 Runoff=1.06 cfs 0.077 af

Subcatchment 20: SC20 Runoff Area=14,892 sf 66.73% Impervious Runoff Depth>4.69"
Flow Length=225' Tc=5.0 min CN=78 Runoff=1.94 cfs 0.134 af

Subcatchment 21: SC21 Runoff Area=5,062 sf 80.86% Impervious Runoff Depth>5.71"
Flow Length=160' Tc=5.0 min CN=87 Runoff=0.77 cfs 0.055 af

Subcatchment 22: SC22 Runoff Area=21,856 sf 58.29% Impervious Runoff Depth>4.14"
Flow Length=350' Tc=5.0 min CN=73 Runoff=2.53 cfs 0.173 af

Subcatchment 23: SC23 Runoff Area=6,263 sf 80.46% Impervious Runoff Depth>5.59"
Flow Length=185' Slope=0.0500 '/' Tc=5.0 min CN=86 Runoff=0.94 cfs 0.067 af

Subcatchment 24: SC24 Runoff Area=6,230 sf 77.16% Impervious Runoff Depth>5.48"
Flow Length=130' Tc=5.0 min CN=85 Runoff=0.92 cfs 0.065 af

Subcatchment 26: Runoff Area=154,813 sf 34.26% Impervious Runoff Depth>2.47"
Flow Length=615' Tc=5.0 min CN=57 Runoff=10.24 cfs 0.732 af

Subcatchment 27: Runoff Area=37,961 sf 0.96% Impervious Runoff Depth>0.63"
Flow Length=285' Tc=5.0 min CN=36 Runoff=0.25 cfs 0.046 af

Subcatchment 30: ROOF Runoff Area=2,963 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=50' Slope=0.0200 '/' Tc=5.2 min CN=98 Runoff=0.50 cfs 0.040 af

Subcatchment 31: SC31 Runoff Area=1,331 sf 100.00% Impervious Runoff Depth>7.00"
Flow Length=110' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment 32: SC32 Runoff Area=2,020 sf 70.54% Impervious Runoff Depth>5.02"
Tc=5.0 min CN=81 Runoff=0.28 cfs 0.019 af

Subcatchment 33: SC33 Runoff Area=1,622 sf 47.10% Impervious Runoff Depth>3.50"
Tc=5.0 min CN=67 Runoff=0.16 cfs 0.011 af

Subcatchment 34: SC34 Runoff Area=4,641 sf 14.13% Impervious Runoff Depth>1.53"
Flow Length=65' Slope=0.0340 '/' Tc=5.6 min CN=47 Runoff=0.16 cfs 0.014 af

Reach DP1: DESIGN POINT Inflow=24.06 cfs 2.960 af
Outflow=24.06 cfs 2.960 af

Pond CB1: CB1 Peak Elev=94.63' Inflow=14.07 cfs 0.994 af
24.0" Round Culvert n=0.013 L=67.0' S=0.0030 '/' Outflow=14.07 cfs 0.994 af

Pond DW1: Dry Well 1 Peak Elev=96.79' Storage=201 cf Inflow=0.72 cfs 0.057 af
Discarded=0.01 cfs 0.018 af Primary=0.69 cfs 0.037 af Outflow=0.71 cfs 0.055 af

Pond DW2: Dry Well 2 Peak Elev=96.25' Storage=199 cf Inflow=0.69 cfs 0.037 af
Discarded=0.01 cfs 0.010 af Primary=0.67 cfs 0.027 af Outflow=0.68 cfs 0.037 af

Pond DW3: Dry Well 3 Peak Elev=96.35' Storage=182 cf Inflow=0.44 cfs 0.030 af
Discarded=0.01 cfs 0.013 af Primary=0.42 cfs 0.016 af Outflow=0.43 cfs 0.028 af

Pond ECB10: Peak Elev=87.10' Inflow=32.81 cfs 2.343 af
24.0" Round Culvert n=0.013 L=95.0' S=0.0463 '/' Outflow=32.81 cfs 2.343 af

Pond ECB11: Peak Elev=101.72' Inflow=10.56 cfs 0.737 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=10.56 cfs 0.737 af

Pond ECB12: Peak Elev=91.37' Inflow=21.74 cfs 1.566 af
24.0" Round Culvert n=0.013 L=90.0' S=0.0311 '/' Outflow=21.74 cfs 1.566 af

Pond ECB13: Peak Elev=95.67' Inflow=1.92 cfs 0.138 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0493 '/' Outflow=1.92 cfs 0.138 af

Pond ECB15: Peak Elev=109.38' Inflow=0.58 cfs 0.046 af
12.0" Round Culvert n=0.013 L=175.0' S=0.0503 '/' Outflow=0.58 cfs 0.046 af

Pond ECB16: Peak Elev=95.09' Inflow=18.12 cfs 1.298 af
24.0" Round Culvert n=0.013 L=142.0' S=0.0049 '/' Outflow=18.12 cfs 1.298 af

Pond ECB17: ECB17 Peak Elev=96.74' Inflow=12.87 cfs 0.938 af
18.0" Round Culvert n=0.013 L=110.0' S=0.0032 '/' Outflow=12.87 cfs 0.938 af

Pond ECB18: ECB18 Peak Elev=96.11' Inflow=10.96 cfs 0.788 af
18.0" Round Culvert n=0.013 L=88.0' S=0.0028 '/' Outflow=10.96 cfs 0.788 af

Pond ECB19: ECB19 Peak Elev=95.43' Inflow=7.89 cfs 0.553 af
18.0" Round Culvert n=0.013 L=91.0' S=0.0055 '/' Outflow=7.89 cfs 0.553 af

Pond ECB20R: ECB20R Peak Elev=101.97' Inflow=6.52 cfs 0.454 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0524 '/' Outflow=6.52 cfs 0.454 af

Pond ECB21: ECB21 Peak Elev=101.97' Inflow=4.58 cfs 0.320 af
12.0" Round Culvert n=0.013 L=53.0' S=0.0264 '/' Outflow=4.58 cfs 0.320 af

Pond ECB22: ECB22 Peak Elev=104.34' Inflow=3.47 cfs 0.240 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0326 '/' Outflow=3.47 cfs 0.240 af

Pond ECB23: ECB23 Peak Elev=106.50' Inflow=0.94 cfs 0.067 af
12.0" Round Culvert n=0.013 L=63.0' S=0.0460 '/' Outflow=0.94 cfs 0.067 af

Pond ECB24: ECB24 Peak Elev=95.04' Inflow=1.38 cfs 0.099 af
15.0" Round Culvert n=0.013 L=51.0' S=0.0059 '/' Outflow=1.38 cfs 0.099 af

Pond ECB26: Peak Elev=78.53' Inflow=10.24 cfs 0.732 af
15.0" Round Culvert n=0.013 L=134.0' S=0.0463 '/' Outflow=10.24 cfs 0.732 af

Pond ECB27: Peak Elev=81.32' Inflow=33.56 cfs 2.452 af
24.0" Round Culvert n=0.013 L=189.0' S=0.0286 '/' Outflow=33.56 cfs 2.452 af

Pond ECB7: Peak Elev=72.36' Inflow=51.19 cfs 3.773 af
36.0" Round Culvert n=0.013 L=26.0' S=0.0192 '/' Outflow=51.19 cfs 3.773 af

Pond ECB8: Peak Elev=74.28' Inflow=37.97 cfs 2.802 af
30.0" Round Culvert n=0.013 L=196.0' S=0.0061 '/' Outflow=37.97 cfs 2.802 af

Pond ECB9: Peak Elev=82.80' Inflow=33.47 cfs 2.406 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0500 '/' Outflow=33.47 cfs 2.406 af

Pond EDMH3: Peak Elev=92.77' Inflow=10.56 cfs 0.737 af
15.0" Round Culvert n=0.013 L=66.0' S=0.0523 '/' Outflow=10.56 cfs 0.737 af

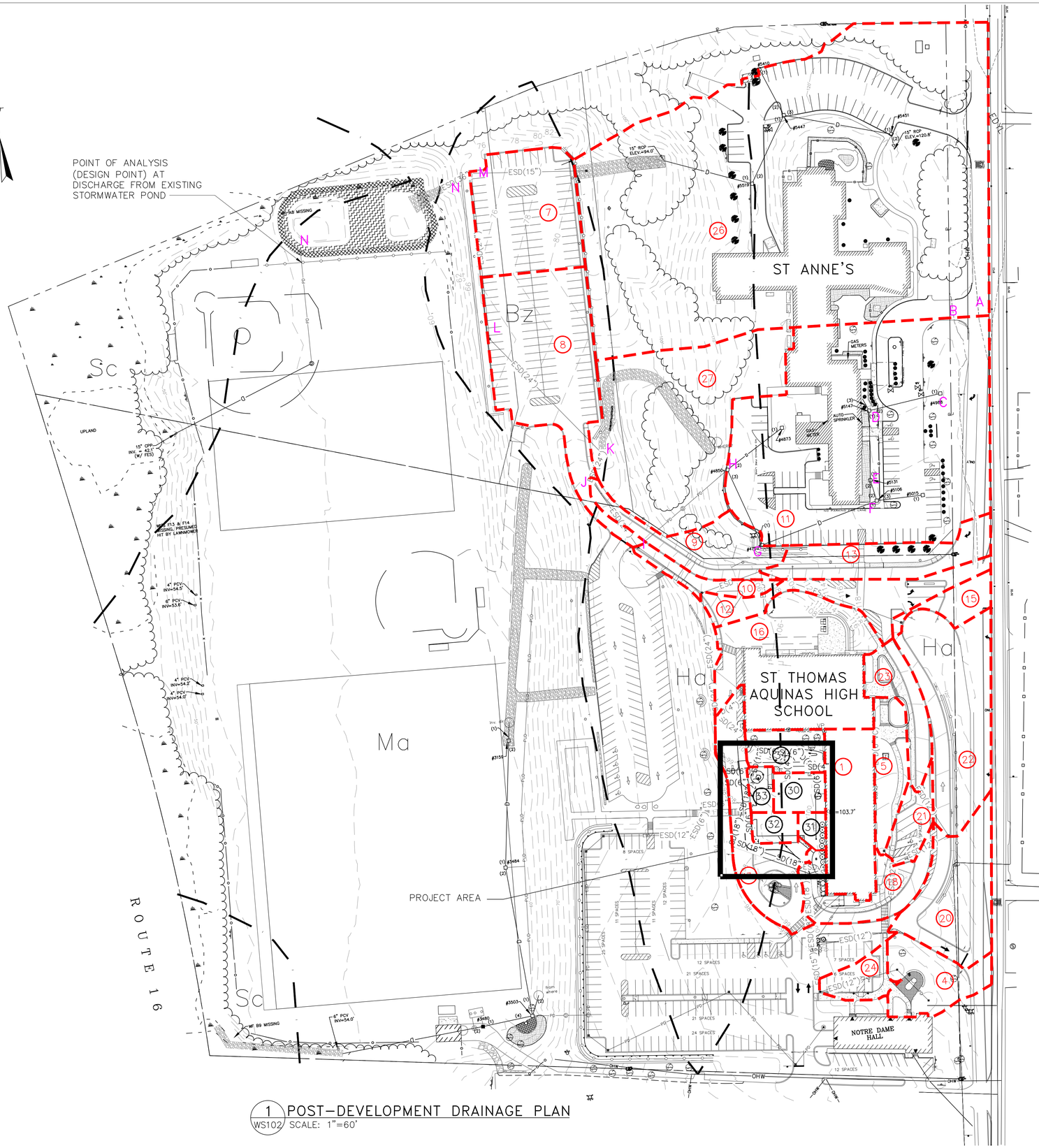
Pond EYD4: EYD4 Peak Elev=96.84' Inflow=0.46 cfs 0.033 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0238 '/' Outflow=0.46 cfs 0.033 af

Pond EYD5: EYD5 Peak Elev=102.29' Inflow=0.34 cfs 0.025 af
12.0" Round Culvert n=0.013 L=38.0' S=0.0500 '/' Outflow=0.34 cfs 0.025 af

Pond P1: Existing Pond Peak Elev=59.19' Storage=69,898 cf Inflow=51.19 cfs 3.773 af
Outflow=24.06 cfs 2.960 af

Pond UDT1: STONE DRIP EDGE Peak Elev=98.00' Storage=0 cf Inflow=0.28 cfs 0.019 af
6.0" Round Culvert n=0.013 L=75.0' S=0.0133 '/' Outflow=0.28 cfs 0.019 af

Total Runoff Area = 11.187 ac Runoff Volume = 3.819 af Average Runoff Depth = 4.10"
42.99% Pervious = 4.809 ac 57.01% Impervious = 6.378 ac



1 POST–DEVELOPMENT DRAINAGE PLAN
WS102 SCALE: 1"=60'

LEGEND:

(30)	SUBCATCHMENT NUMBER
	CATCHMENT BOUNDARY
—97—	EXISTING CONTOUR LINE
	SOIL GROUP BOUNDARY

SOILS LEGEND:

MAP SYMBOL	SOIL TYPE	HYDROLOGIC SOIL GROUP
Ha	HINCKLEY	HSG A
Ma	MADE LAND	HSG A
Sc	SCANTIC	HSG C
Wf	WINDSOR	HSG A
Bz	BUXTON	HSG C

GRAPHIC SCALE
1"=60' 60' 30' 0 60' 180
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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DESIGNED BY: PJM
DRAWN BY: PJM
CHECKED BY:
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

POST-DEVELOPMENT DRAINAGE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: WS102
SHEET: OF XX

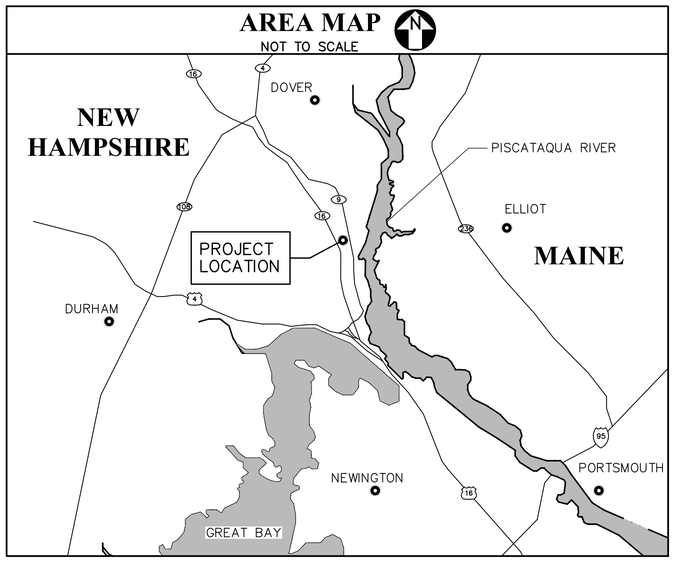


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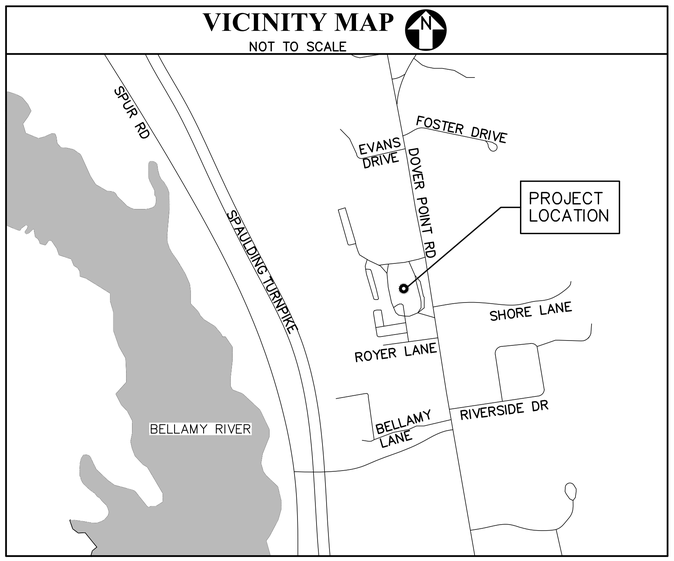
ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

197 DOVER POINT ROAD
DOVER, NEW HAMPSHIRE 03820

AREA MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE



NO.	DATE	DESCRIPTION	BY
		REVISIONS	

15 May, 2025 – 4:11pm
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LICENSED ARCHITECT
BRYAN M LAROCHE
No. 04617
THE STATE OF NEW HAMPSHIRE

DESIGNED BY: BML
DRAWN BY: RMB
CHECKED BY: RSH
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

COVER SHEET AND PROJECT LOCATION MAPS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: G-001
SHEET: 1 OF XX

CIVIL NOTES

1. EXISTING CONDITIONS ARE BASED ON A TOPOGRAPHIC SURVEY COMPLETED BY DOUCET SURVEY IN DECEMBER, 2024.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE BASED ON UTILITY PAINT MARKS COMPLETED BY DOUCET SURVEY IN DECEMBER, 2024. RECORD DRAWINGS AND/OR FIELD SURVEYS AND ARE APPROXIMATE. DETERMINE THE EXACT LOCATION OF ALL APPLICABLE UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-344-7233 AND OBTAIN A "DIG SAFE" PERMIT PRIOR TO COMMENCING EXCAVATION OPERATIONS ON THE SITE.
3. SUBSURFACE GEOTECHNICAL CONDITIONS AND EARTHWORK INDICATED ARE BASED ON REPORT PREPARED BY R.W. GILLESPIE & ASSOCIATES FOR THE PROPOSED CHAPEL ADDITION, SAINT THOMAS AQUINAS HIGH SCHOOL, DOVER, NEW HAMPSHIRE. DATED FEBRUARY 6, 2025.
4. VERIFY EXISTING CONDITIONS AND DIMENSIONS, AND REPORT ANY DISCREPANCIES TO THE OWNERS REPRENTATIVE. PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCY(IES) HAS(HAVE) BEEN RESOLVED BY THE OWNERS REPRESENTATIVE.
5. ELEVATIONS AND DIMENSIONS ON CIVIL DRAWINGS ARE IN DECIMAL FEET UNLESS OTHERWISE NOTED.
6. COMPONENTS ARE NEW WITHIN THE LIMIT(S) OF WORK AND SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
7. AT THE END OF EACH WORKING DAY, THE CONSTRUCTION SITE SHALL BE LEFT IN A SAFE AND ORDERLY MANNER ACCEPTABLE TO THE OWNERS REPRESENTATIVE.
8. PROTECT EXISTING SYSTEMS AND SURFACES TO REMAIN. DAMAGE RESULTING FROM THE CONTRACTORS OPERATIONS SHALL BE REPAIRED OR REPLACED AS APPROVED BY THE OWNERS REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
9. PROVIDE WORK IN COMPLIANCE WITH INDUSTRY STANDARDS AND IN A WORKMANLIKE PROFESSIONAL MANNER.
10. WORK AND MATERIALS INCLUDED IN THIS CONTRACT SHALL CONFORM TO STATE, FEDERAL AND OTHER CODES AND ORDINANCES WHICH APPLY TO THIS PROJECT.
11. PROVIDE A MINIMUM OF 6 INCHES OF PLANTING SOIL, SEED, AND MULCH FOR DISTURBED AREAS NOT OTHERWISE SPECIFIED.
12. PROVIDE PAVEMENT SURFACES FREE OF LOW SPOTS AND PONDING AREAS.
13. GIVEN DIMENSIONS ARE FROM FACE OF CURB, FACE OF WALL, FACE OF BUILDING AND CENTERLINE OF MARKINGS UNLESS INDICATED OR NOTED OTHERWISE.

CIVIL ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BLDG	BUILDING
BMPs	BEST MANAGEMENT PRACTICES
CONC	CONCRETE
DIA	DIAMETER
EBC	EXISTING BITUMINOUS CURB
ELEV	ELEVATION
ESGC	EXISTING SLOPE GRANITE CURB
EXIST	EXISTING
FFE	FINISH FLOOR ELEVATION
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FT	FEET
GAL	GALLON
GALV	GALVANIZED
GIS	GEOGRAPHIC INFORMATION SYSTEMS
HT	HEIGHT
INV	INVERT
L	LENGTH
LBS	POUNDS
MAG	MAGNETIC
MAX	MAXIMUM
MIN	MINIMUM OR MINUTE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NHDOT	NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PE	POLYETHYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS
S	SLOPE
SF	SQUARE FOOT
SIM	SIMILAR
SY	SQUARE YARDS
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
VIF	VERIFY IN FIELD
W	WIDTH
W/	WITH

CIVIL LEGEND

- EXISTING BUILDING
- EXISTING PROPERTY LINE
- EXISTING EASEMENT LINE
- EEOP — EXISTING EDGE OF PAVEMENT
- ESWL — EXISTING SINGLE WHITE LINE
- EDYL — EXISTING DOUBLE YELLOW LINE
- 98 — EXISTING GRADE CONTOUR LINE
- EXISTING TREE LINE
- ESD(10") — EXISTING STORM DRAIN LINE
- OHW — EXISTING OVERHEAD UTILITIES
- EW(8") — EXISTING WATER LINE
- ESS(4") — EXISTING SANITARY SEWER LINE
- EG — EXISTING UNDERGROUND GAS LINE
- EXISTING UTILITY POLE WITH GUY
- 99.00'E — EXISTING GRADE SPOT ELEVATION
- EXISTING TREE
- B1 — EXISTING BORING LOCATION
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING LIGHT FIXTURE, POLE AND BASE
- BUILDING LINE
- VGC — VERTICAL GRANITE CURB
- EOP — EDGE OF PAVEMENT
- CFS — COMPOST FILTER SOCK
- SD(12") — DRAIN LINE (PIPE SIZE AS NOTED)
- FD(4") — FOUNDATION DRAIN LINE (PIPE SIZE AS NOTED)
- UD(4") — UNDERDRAIN LINE (PIPE SIZE AS NOTED)
- IRW — IRRIGATION WATER PIPE
- SAWCUT PAVEMENT
- 99 — FINISH GRADE CONTOUR LINE
- 98.50'F — FINISH GRADE SPOT ELEVATION
- CATCH BASIN
- D — DRY WELL
- E — ELECTRIC HAND HOLE
- W — IRRIGATION WATER HAND HOLE

NO.	DATE	DESCRIPTION	BY

REVISIONS

15 May, 2025 - 2:27pm
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STATE OF NEW HAMPSHIRE
PAUL JOSEPH MILLER
NO. 13289
LICENSED PROFESSIONAL ENGINEER
5/16/25

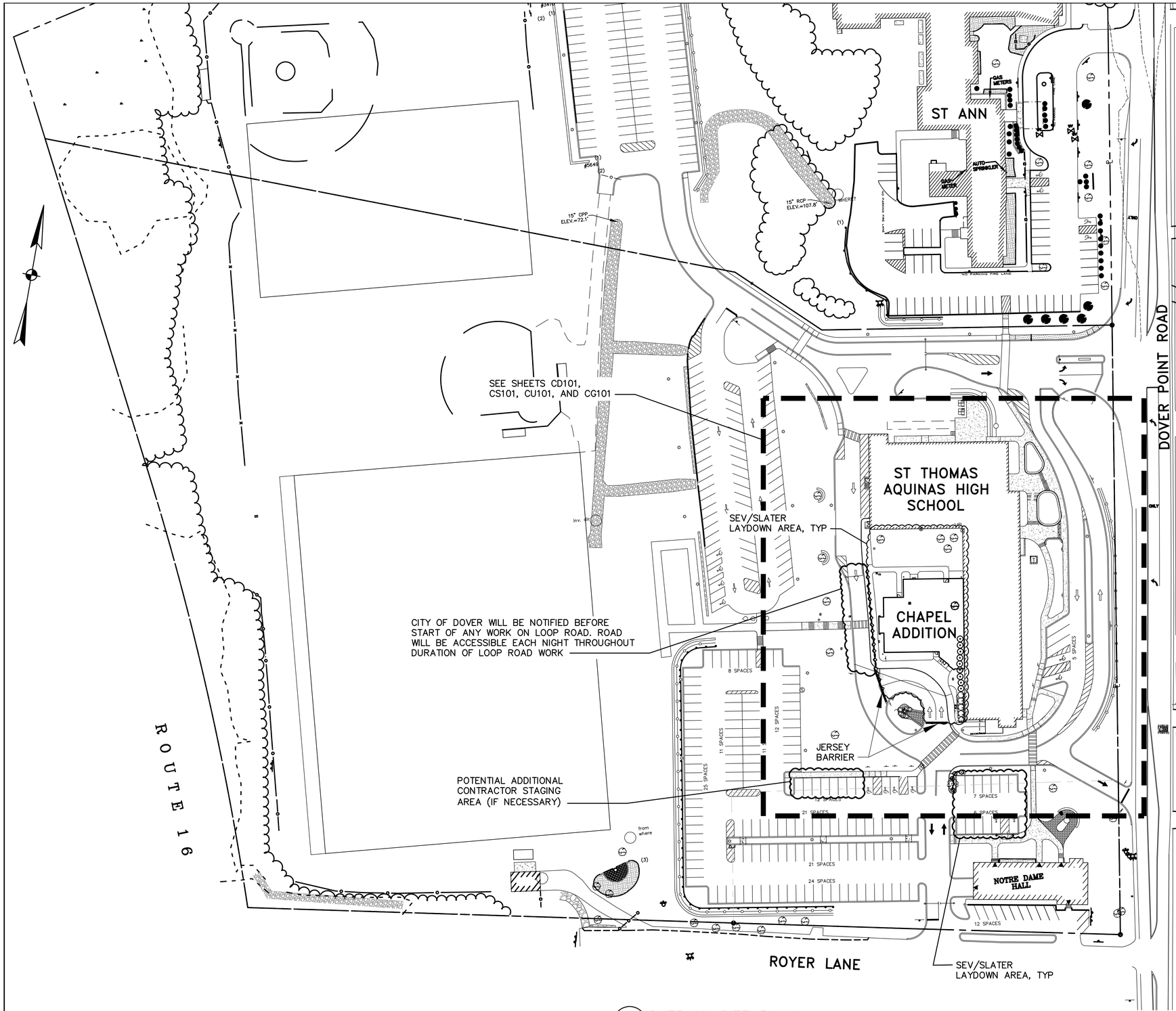
DESIGNED BY: SES
DRAWN BY: SES
CHECKED BY:
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

CIVIL LEGEND, NOTES, AND ABBREVIATIONS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: C-001
SHEET: OF XX



1 OVERALL SITE PLAN
C-002 SCALE: 1"=50'

GENERAL NOTES

1. THE INTENT OF THIS PLAN IS TO DEPICT THE DESIGN OF THE CHAPEL ADDITION TO THE EXISTING SAINT THOMAS AQUINAS HIGH SCHOOL
2. OWNER OF RECORD: ROMAN CATHOLIC BISHOP
   C/O ST. THOMAS AQUINAS HIGH SCHOOL
   153 ASH STREET
   MANCHESTER, NH, 03104
3. THE PARCEL IS SHOWN AS LOT NO. 15, MAP L OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
4. THE SUBJECT PARCEL CONTAINS 15.5 ACRES OR 675,200 SQ. FT. AREA OF LAND.
5. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 1969, PAGE NO. 725.
6. REFERENCE PLANS:
   A. BOUNDARY LINE ADJUSTMENT FOR N.H. CATHOLIC CHARITIES INC, AND ROMAN CATHOLIC BISHOP OF MANCHESTER, DOVER POINT ROAD, PREPARED BY; DOUCET SURVEY INC. DATE: JANUARY 20, 1997.
   B. CONSTRUCTION DRAWINGS, ST. THOMAS AQUINAS HIGH SCHOOL, DOVER POINT ROAD, DOVER, NH, PREPARED BY APPLEDORE ENGINEERING INC. DATED: SEPTEMBER 18, 2007.
7. THE PARCEL IS LOCATED IN A CITY OF DOVER R-20 ZONING DISTRICT. CURRENT ZONING DIMENSIONAL AND DENSITY REQUIREMENTS IN EFFECT ARE AS FOLLOWS:

		REQUIRED	EXISTING:	PROPOSED:
A.	MINIMUM LOT SIZE:	20,000 SF	675,200 SF	675,200 SF
B.	MAXIMUM LOT COVERAGE:	30%	28.0%	28.5%
C.	MINIMUM LOT FRONTAGE:	125 FT	630 FT	630 FT
D.	MINIMUM YARD SETBACKS:			
	FRONT:	20 FT	98 FT	98 FT
	SIDE:	20 FT	29 FT	29 FT
	REAR:	30 FT	705 FT	705 FT
	ABUT-A-STREET:	20 FT	29 FT	29 FT

8. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY DOUCET SURVEY ON JANUARY 20, 1997 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
9. SUBJECT PARCEL IS LOCATED WITHIN ZONE "X" (AREA OF MINIMAL FLOOD HAZARD) PER COMMUNITY PANEL NUMBER #33017C 0340E, EFFECTIVE DATE: SEPTEMBER 30, 2015).
10. THERE ARE NO WETLANDS OR WATERBODIES IN THE VICINITY OF THE PROPOSED WORK.
11. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
12. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
13. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
14. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM, SATURDAY AND SUNDAY 9AM-4PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR.
15. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
16. FIRE DEPARTMENT ACCESS SHALL BE MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
17. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
18. TOPOGRAPHIC SURVEY WAS PERFORMED BY DOUCET SURVEY INC. ON DECEMBER 18, 2024.
19. ELEVATIONS DEPICTED ARE BASED ON INFORMATION OBTAINED FROM THE CITY ENGINEER'S OFFICE AND WAS DERIVED FROM COORDINATES FOR CONTROL STATION TR93 (ELEV=125.55')
20. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
21. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE IS DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. (I.I. IBC, ANSI-117.1) AND NH RSA 155-A:5.

GRAPHIC SCALE
50' 25' 0 50' 150'
1"=50'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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STATE OF NEW HAMPSHIRE
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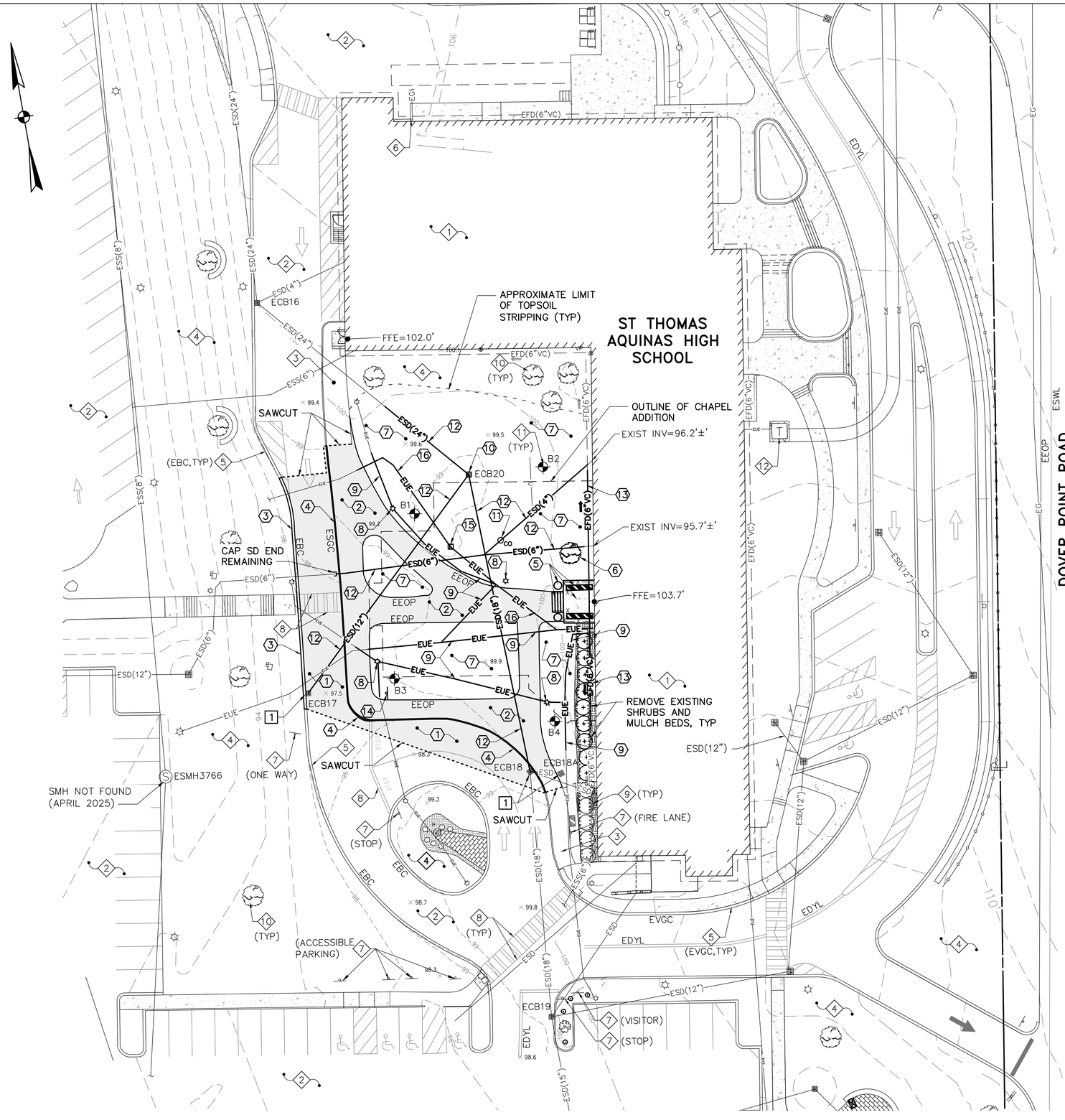
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PROJECT: 22402.15

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Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

OVERALL SITE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: C-002
SHEET: OF XX



1 CD101 EXISTING CONDITIONS AND REMOVALS SITE PLAN
SCALE: 1"=20'

EXISTING KEYNOTES: (THIS SHEET ONLY).

1. EXISTING BUILDING.
2. EXISTING ASPHALT CONCRETE PAVEMENT.
3. EXISTING ASPHALT CONCRETE SIDEWALK.
4. EXISTING TURF.
5. EXISTING CURB, (TYPE AS INDICATED).
6. EXISTING NATURAL GAS METER.
7. EXISTING TRAFFIC SIGN, (TYPE AS INDICATED).
8. EXISTING WHITE PAVEMENT MARKING.
9. EXISTING SHRUB.
10. EXISTING TREE.
11. EXISTING BORING LOCATION. SEE SHEET B-001 FOR BORING LOGS.
12. EXISTING TRANSFORMER ON CONCRETE PAD.

KEYNOTES: (THIS SHEET ONLY).

1. CATCH BASIN INLET PROTECTION, SEE 2/C-501.
2. COMPOST FILTER SOCK, SEE 1/C-501.

REMOVALS KEYNOTES: (THIS SHEET ONLY).

1. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT.
2. REMOVE EXISTING ASPHALT CONCRETE SIDEWALK.
3. REMOVE EXISTING BITUMINOUS BERM CURB.
4. REMOVE EXISTING SLOPED GRANITE CURB.
5. REMOVE EXISTING CONCRETE PLANTER, TYP OF 2, AND BENCH, TYP OF 2. REMOVE EXISTING METAL HANDRAIL, CONCRETE STAIR AND LANDING, INCLUDING FOUNDATION WALL. SEE SHEET AD101.
6. REMOVE EXISTING TREE.
7. STRIP AND REMOVE EXISTING TOPSOIL.
8. REMOVE EXISTING LIGHT POLE, FIXTURE, AND CONCRETE BASE.
9. REMOVE EXISTING UNDERGROUND ELECTRIC LINE (CONDUIT AND WIRING).
10. REMOVE EXISTING CATCH BASIN.
11. REMOVE EXISTING STORM DRAIN CLEANOUT.
12. REMOVE EXISTING STORM DRAIN LINE.
13. REMOVE EXISTING ±6" DIAMETER CLAY TILE FOUNDATION DRAIN.
14. REMOVE EXISTING STOP SIGN AND POST AND STORE FOR REINSTALLATION.
15. REMOVE EXISTING IRRIGATION CONTROL HAND HOLE.
16. REMOVE EXISTING IRRIGATION LINE (WATER LINE AND ELECTRIC CONTROL).

EXISTING DRAIN STRUCTURE SCHEDULE

ECB16
RIM=99.9'±
INV IN=94.3'± (4")
INV IN=92.1'± (24")
INV OUT=92.1'± (24")

ECB17
RIM=97.2'±
INV OUT=93.2'± (12")

ECB18
RIM=98.6'±
INV IN=94.3'± (4",10")
INV IN=93.0'± (18")
INV OUT=93.0'± (18")

ECB 18A
RIM=98.7'±
INV OUT=93.8'±

ECB 19
RIM=99.1'±
INV IN=93.9'±
INV OUT=94.0'± (18")

ECB 20
RIM=98.5'±
INV IN=92.7'±
INV OUT=92.4'± (24")

EXISTING SANITARY STRUCTURE SCHEDULE

ESMH 3766
RIM=92.5'±
INV IN=81.7'±
INV OUT=81.7'±
(EXTENDS TO ESMH IN ROYER LANE)

GRAPHIC SCALE
1"=20' (20' 10' 0 20' 60')
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
REVISIONS			

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STATE OF NEW HAMPSHIRE
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5/16/25

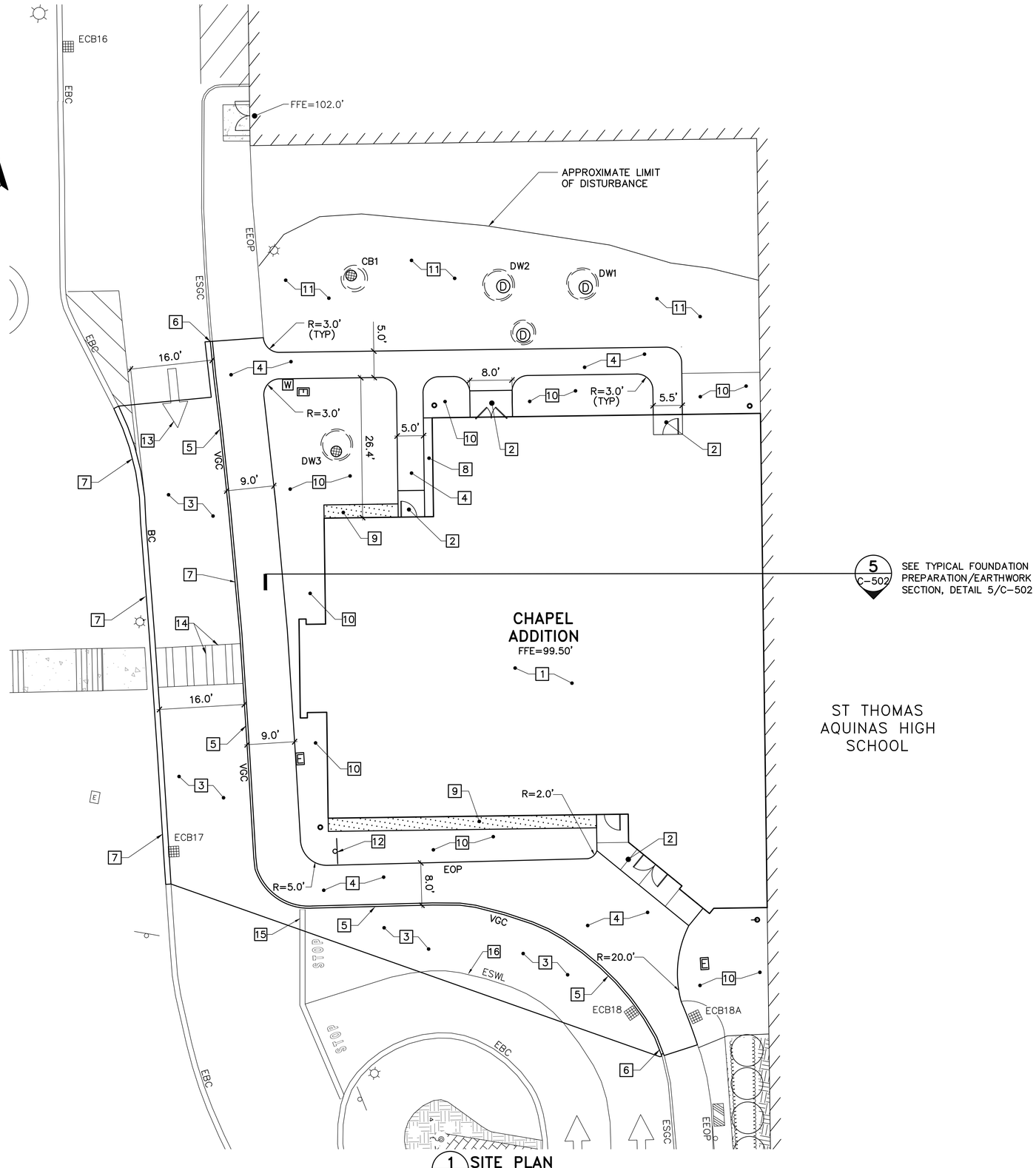
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EXISTING CONDITIONS AND REMOVALS SITE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: CD101
SHEET: OF XX



1 CS101 **SITE PLAN**
SCALE: 1"=10'

KEYNOTES: (THIS SHEET ONLY).

1. FOUNDATION PREPARATION AND EARTHWORK SECTION. SEE DETAIL 5/C-502.
2. CONCRETE STOOP (REFER TO STRUCTURAL DRAWINGS FOR LAYOUT AND DETAIL).
3. ASPHALT CONCRETE PAVEMENT, SEE DETAIL 1/C-502.
4. ASPHALT CONCRETE WALK, SEE DETAIL 2/C-502.
5. VERTICAL GRANITE CURB, SEE 3/C-502.
6. VERTICAL GRANITE CURB, SAWCUT CORNER (8-12" LENGTH) TO PROVIDE TRANSITION TO EXISTING SLOPED CURB.
7. BITUMINOUS BERM CURB, SEE DETAIL 4/C-502.
8. STONE DRIP STRIP, SEE DETAIL 5/C-503.
9. STONE DRIP STRIP WITH UNDERDRAIN, SEE DETAIL 6/C-503.
10. LANDSCAPE PLANTING BED, SEE DRAWING LS101.
11. 6" PLANTING SOIL, SEED, AND MULCH, ALL DISTURBED AREAS NOT INDICATED OTHERWISE.
12. STOP SIGN AND SIGN POST (REINSTALL EXISTING).
13. WHITE PAVEMENT MARKING, TRAFFIC ARROW, SEE DETAIL 3/C-504.
14. WHITE PAVEMENT MARKING, CROSS WALK, 2'-0" WIDE TRANSVERSE LINES AT 2'-0" ON CENTER WITH 12" WIDE EDGES (MATCH PREVIOUSLY EXISTING MARKING).
15. WHITE PAVEMENT MARKING, STOP BAR (MATCH EXISTING MARKING).
16. WHITE PAVEMENT MARKING, 4" WIDE SOLID LINE.

NOTE
1. SEE SHEET CD101 FOR EXISTING CONDITIONS AND REMOVALS.

GRAPHIC SCALE
1"=10' — 10' 5' 0 10' 20'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
REVISIONS			

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STATE OF NEW HAMPSHIRE — PAUL JOSEPH MILLER NO. 13289 — LICENSED PROFESSIONAL ENGINEER — 5/16/25

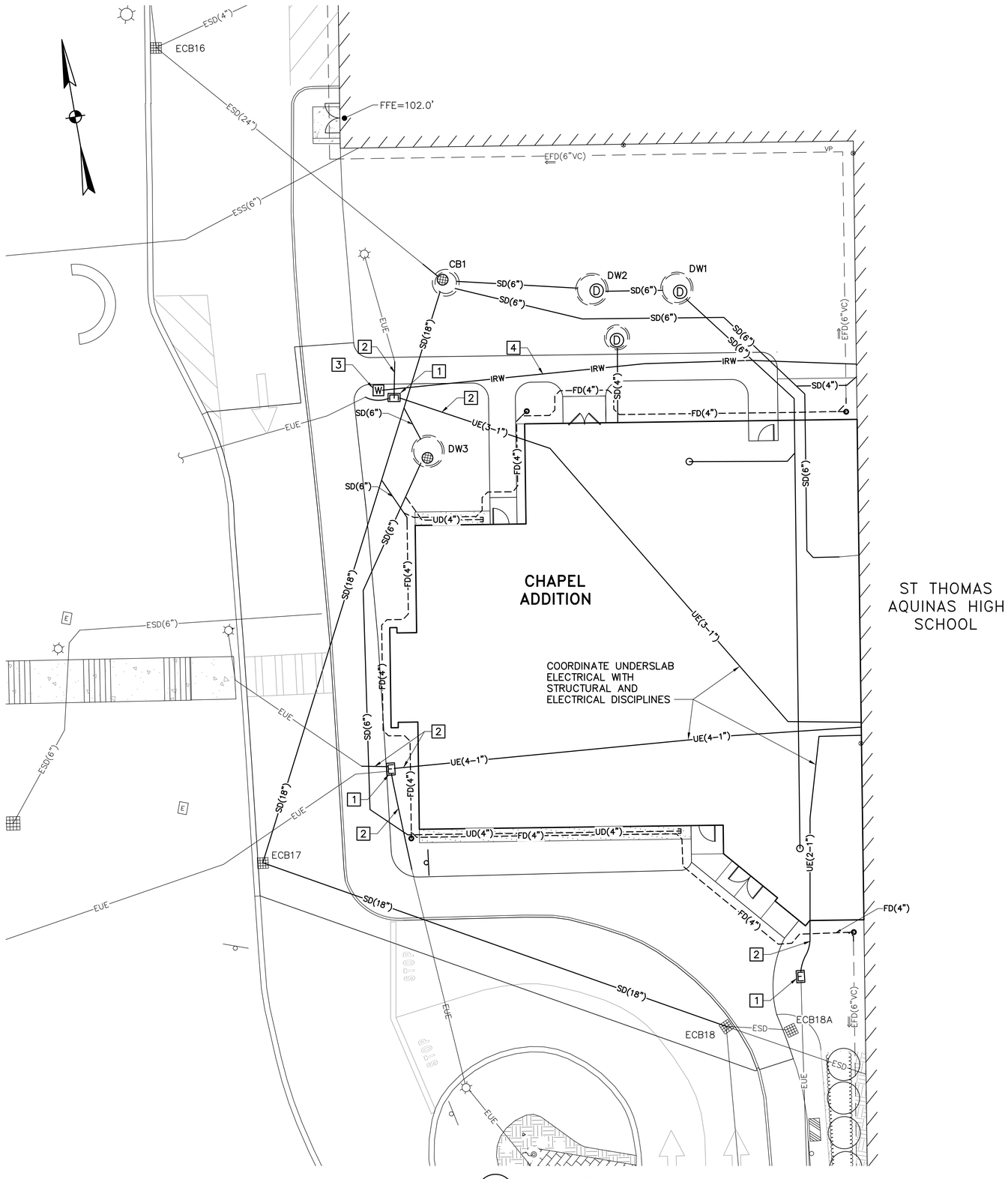
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PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

SITE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: **CS101**
SHEET: OF **XX**



1 UTILITY SITE PLAN
CU101 SCALE: 1"=10'

KEYNOTES: (THIS SHEET ONLY).

1. HANDHOLE, SEE DETAIL 1/C-504.
2. CONDUIT IN CONDUIT TRENCH, SEE 1/C-504.
3. IRRIGATION CONTROL HANDHOLE. SEE DETAIL 1/C-504 (SIM).
4. IRRIGATION WATER LINE IN PIPE TRENCH. SEE DETAIL 2/C-503.

NOTE:
REFER TO DRAWING CG101 FOR STORM DRAIN AND FOUNDATION DRAIN INFORMATION.

GRAPHIC SCALE
1"=10' 10' 5' 0 10' 20'
CHECK GRAPHIC SCALE BEFORE USING

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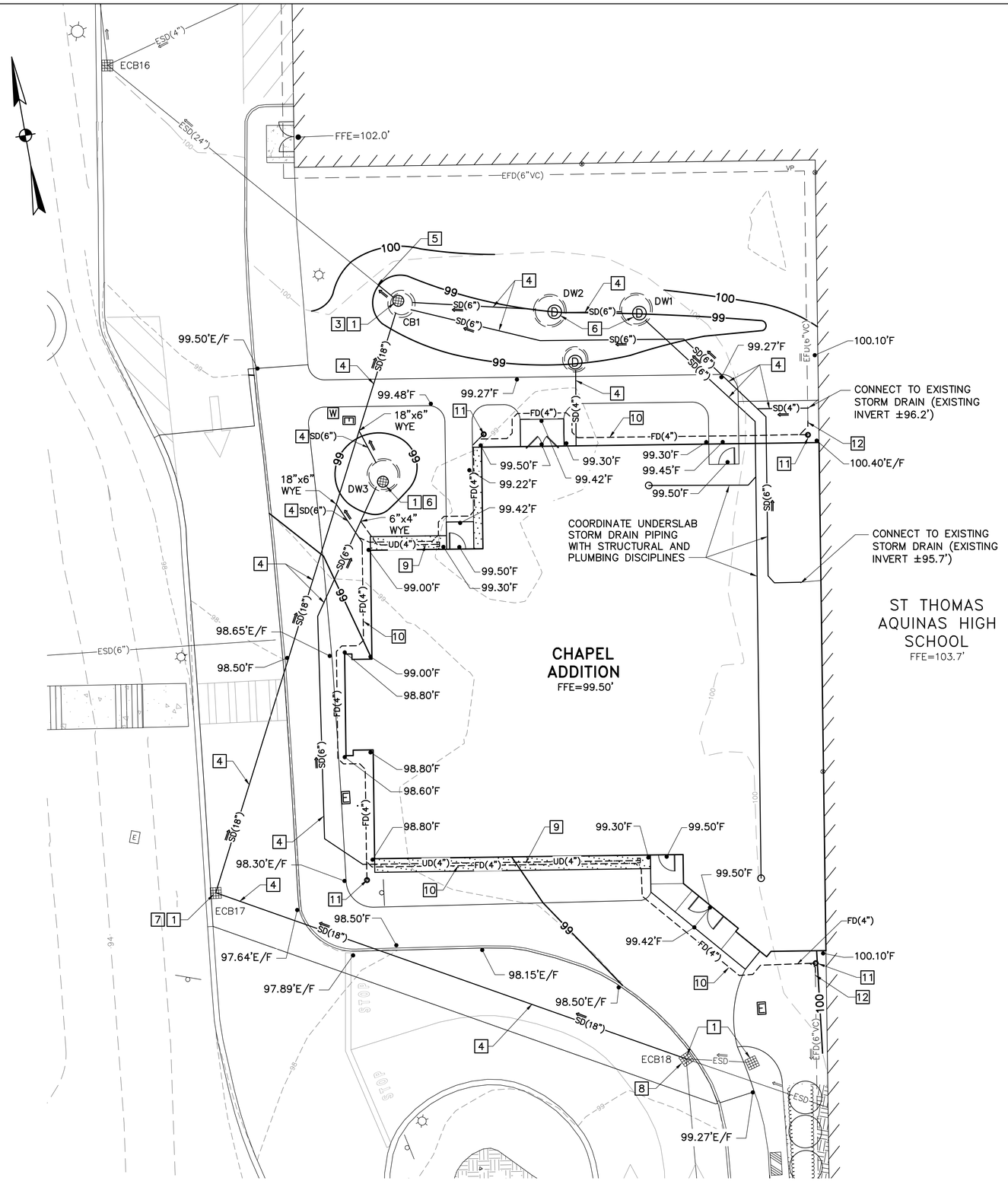
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UTILITY SITE PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: CU101
SHEET: OF XX



1 CG101 GRADING, DRAINAGE, AND EROSION CONTROL PLAN
SCALE: 1"=10'

KEYNOTES: (THIS SHEET ONLY).

1. CATCH BASIN INLET PROTECTION, SEE 2/C-501.
2. COMPOST FILTER SOCK, SEE 1/C-501.
3. CATCH BASIN, SEE STRUCTURE SCHEDULE, THIS SHEET, AND DETAIL 1/C-503.
4. STORM DRAIN IN PIPE TRENCH, SEE DETAIL 2/C-503.
5. CONNECT 24" STORM DRAIN TO EXISTING 24" STORM DRAIN AT INVERT ELEVATION ±92.28' (VIF).
6. DRY WELL, SEE STRUCTURE SCHEDULE, THIS SHEET AND DETAIL 4/C-503.
7. MODIFY EXISTING CATCH BASIN STRUCTURE. CORE HOLES FOR 18" STORM DRAINS IN AND OUT. SEAL PENETRATIONS WITH NON-SHRINK GROUT. SEE STRUCTURE SCHEDULE, THIS SHEET, FOR INVERT ELEVATIONS.
8. MODIFY OPENING IN EXISTING CATCH BASIN STRUCTURE TO ACCOMMODATE 18" STORM DRAIN ALIGNMENT. SEAL MODIFIED PENETRATION WITH NON-SHRINK GROUT. SEE STRUCTURE SCHEDULE, THIS SHEET, FOR INVERT ELEVATIONS.
9. STONE DRIP STRIP WITH UNDERDRAIN, SEE DETAIL 6/C-503. CAP UPGRADE END OF UNDERDRAIN.
10. FOUNDATION DRAIN, SEE DETAIL 5/C-502.
11. FOUNDATION DRAIN CLEANOUT, SEE DETAIL 3/C-503.
12. CONNECT EXISTING 6" FOUNDATION DRAIN TO 4" FOUNDATION DRAIN WITH FLEXIBLE COUPLING AND 6"x4" REDUCER.

STRUCTURE SCHEDULE

CB1
RIM=98.50'
INV IN=94.00' (6" FROM DRYWELL)
INV IN=93.00' (6" FROM EXISTING SD)
INV IN=92.35' (18")
INV OUT=92.30' (24" EXIST)

ECB17
RIM=97.2'
INV IN=92.75' (18")
INV OUT=92.70' (18")
CORE OPENINGS IN EXISTING STRUCTURE FOR NEW PIPE ALIGNMENT)

ECB18
RIM=98.6'
INV IN=94.3'± (4",10")
INV IN =93.0'± (18")
INV OUT=93.0'± (18")
(MODIFY EXISTING OPENING FOR NEW PIPE ALIGNMENT)

DW1
RIM=99.00'
INV IN=96.10' (6")
INV OUT=96.00' (6")

DW2
RIM=99.00'
INV IN=95.60' (6")
INV OUT=95.50' (6")'

DW3
RIM=98.50'
INV IN=96.00' (6")
INV OUT=95.75' (6")

NOTE:

1. SEE SHEET CU101 FOR UNDERGROUND UTILITIES NOT SHOWN FOR CLARITY ON THIS SHEET.

GRAPHIC SCALE
10' 5' 0 10' 20'
1"=10'
CHECK GRAPHIC SCALE BEFORE USING

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ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: CG101
SHEET: OF XX

EROSION AND SEDIMENT CONTROL NOTES

A. GENERAL NOTES

1. DURING CONSTRUCTION AND THEREAFTER, PROVIDE EROSION CONTROL MEASURES AS INDICATED AND SPECIFIED. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORM WATER MANUAL".
2. TEMPORARY EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL DEVICES, TEMPORARY SEEDING AND MULCHING, AND PROVISIONS FOR STABILIZING INACTIVE AREAS. PERMANENT EROSION CONTROL MEASURES INCLUDE PERMANENT SEEDING AND MULCHING.
3. PERIMETER EROSION CONTROLS SHALL BE INSTALLED PRIOR TO BEGINNING EARTH MOVING OPERATIONS.
4. PROVIDE INLET PROTECTION FOR EACH CATCH BASIN ON THE SAME DAY THAT BACKFILL IS PLACED AROUND THE CATCH BASIN.
5. PROVIDE 6–INCHES PLANTING SOIL, SEED AND MULCH ON DISTURBED AREAS NOT OTHERWISE SPECIFIED. PERMANENT SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF APRIL 1 AND OCTOBER 14. WATER VEGETATED AREAS AS NECESSARY TO ESTABLISH A VIGOROUS TURF.
6. PROVIDE EROSION CONTROL MEASURES TO CONTROL EROSION AND SEDIMENTATION FROM THE PROJECT SITE. THE MEASURES INDICATED ON THE DRAWINGS ARE A MINIMUM TO BE PROVIDED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES AS NECESSARY AND APPLICABLE TO CONTROL EROSION AND SEDIMENTATION FROM LEAVING THE SITE.
7. LIMIT AREAS OF EXPOSED SOILS TO THOSE AREAS THAT WILL ACTIVELY BE WORKED. TEMPORARILY STABILIZE AREAS OF DISTURBED SOIL THAT REMAIN UNWORKED FOR MORE THAN 14 DAYS USING TEMPORARY MULCHING (IF THE SOIL WILL BE PERMANENTLY STABILIZED WITHIN 30 DAYS) OR TEMPORARY SEEDING AND MULCHING (IF THE SOIL WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS). PERMANENTLY STABILIZE ANY AREA OF DISTURBED SOIL BROUGHT TO FINAL GRADE WITHIN 7 DAYS. DISTURBED SOILS DO NOT INCLUDE COMPACTED BASE COURSES OR STRUCTURAL FILLS USED FOR ROADS AND PARKING LOTS. UNSTABILIZED AREA SHALL NOT EXCEED 5 ACRES AT ANY ONE TIME.
8. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3 INCHES OF NON–EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

B. INSPECTION AND MAINTENANCE

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE PROJECT AREA AT LEAST ONCE A WEEK AND BEFORE AND AFTER EACH STORM EVENT, GREATER THAN 0.5", PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL PRACTICES MUST CONDUCT THE INSPECTION. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. KEEP AND MAINTAIN A LOG (REPORT) SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW–UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
3. MAINTAIN EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND UNTIL PERMANENT STABILIZATION OF THE ENTIRE SITE IS ESTABLISHED.
4. PROTECT STABILIZED AREAS FROM EROSION AND IMMEDIATELY REPAIR/REVEGETATE ERODED AREAS.
5. REMOVE TEMPORARY EROSION CONTROL MEASURES WITHIN 30 DAYS AFTER THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

C. SEQUENCE OF CONSTRUCTION

1. INITIAL OPERATIONS INCLUDE INSTALLATION OF EROSION CONTROL MEASURES.
2. STRIP TOPSOIL AND REMOVE FROM SITE.
3. COMMENCE EARTH MOVING OPERATIONS AND BUILDING FOUNDATION CONSTRUCTION.
4. CONTINUE WITH DRAINAGE, UTILITY AND PAVEMENT CONSTRUCTION.
5. COMPLETE PAVEMENT CONSTRUCTION. PROVIDE PERMANENT SEEDING, MULCHING, OR OTHER SURFACE TREATMENTS AS INDICATED.
6. REMOVE EROSION CONTROL PRACTICES AFTER SITE IS FULLY STABILIZED.

D. SOIL STOCKPILE STABILIZATION

1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS SHALL BE COVERED WITH HAY MULCH (90 LBS HAY/1000 SF) OR COVERED WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE SEEDED WITH A CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LB/1000 SF) AND HAY MULCHED (90 LBS. HAY/1000 SF) WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
3. SOIL AND FILL STOCKPILES SHALL HAVE A SEDIMENT BARRIER (e.g. COMPOST FILTER SOCK) INSTALLED AROUND THE DOWNHILL EDGE OF THE STOCKPILE TO TRAP SEDIMENTS.

E. TEMPORARY SEEDING

1. BEDDING – REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 4" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
2. FERTILIZER – FERTILIZER SHALL BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10–10–10 MIX OF FERTILIZER SHOULD BE APPLIED AT A RATE OF 300 LBS PER ACRE.
3. SEED MIXTURE – USE ANY OF THE FOLLOWING IN UPLAND AREAS:

	SEEDING RATES			
SPECIES	ACRE	1,000 SF	DATES	DEPTH
WINTER RYE	112 LBS	2.5 LBS	8/15 – 9/15	1 INCH
OATS	80 LBS	2.0 LBS	SPRING – 5/15	1 INCH
ANNUAL RYEGRASS	40 LBS	1.0 LBS	4/15 – 9/15 WITH MULCH	0.25 INCH

4. MULCHING FOR TEMPORARY SEEDING – WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHALL BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF HAY OR STRAW SHALL BE APPLIED AT A RATE OF 70 TO 40 90 LBS PER 1,000 SF.
5. REMOVE TEMPORARY GROWTH FROM TEMPORARY SEEDING PRIOR TO PERMANENT SEEDING.

F. MULCHING

PROVIDE TEMPORARY MULCHING ON SLOPES, CHANNELS, OTHER EROSION PRONE AREAS, AND EXPOSED SOILS THAT CANNOT RECEIVE PERMANENT COVER WITHIN 14 DAYS OF DISTURBANCE. ALSO PROVIDE MULCH FOLLOWING TEMPORARY AND PERMANENT SEEDING AS SPECIFIED. MULCH ANCHORS SHALL BE USED ON SLOPES GREATER THAN 5% IN FALL (PAST OCTOBER 1, AND OVER WINTER TO APRIL 1).

MULCH TYPE	RATE PER 1000 SF
HAY OR STRAW	70 TO 40 90 LBS
WOOD CHIPS OR BARK MULCH	480 TO 920 LBS
JUTE AND FIBROUS MATTING	AS PER MANUFACTURERS' SPECIFICATIONS
CRUSHED STONE 1/4" TO 1–1/2"	SPREAD MORE THAN 1/2" THICK

G. TEMPORARY EROSION CONTROL BLANKET SPECIFICATIONS

1. STRAW EROSION CONTROL MAT CONSISTING OF A MACHINE PRODUCED MAT OF 100 PERCENT AGRICULTURAL STRAW FIBER, MINIMUM WEIGHT: 0.5 LBS/SY. NETTINGS SHALL BE 100 PERCENT BIO OR PHOTO DEGRADABLE WOVEN NATURAL ORGANIC FIBER, MINIMUM WEIGHT: 9.3 LB/1000 SF. MINIMUM WIDTH: 6.7 FT, MINIMUM THICKNESS: 0.24 INCH. THE MINIMUM FUNCTIONAL LONGEVITY OF THE BLANKET SHALL BE 12 MONTHS. THERE SHALL BE NO PLASTIC OR MULTI–FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN ⅛ INCH. PRODUCT: NORTH AMERICAN GREEN S75 BN OR EQUAL.

H. EXTENDED USE EROSION CONTROL BLANKET SPECIFICATION

1. JUTE EROSION CONTROL BLANKETS SHALL BE OF UNIFORM PLAIN WEAVE SINGLE JUTE YARN AVERAGING APPROXIMATELY 130 POUNDS PER SPINDLE OF 14,400 YARDS. THE YARN SHALL BE LOOSELY TWISTED AND WOVEN INTO 48 INCH WIDE BLANKETS WITH A MINIMUM AVERAGE WEIGHT OF 1.0 POUNDS PER SQUARE YARD.

I. WINTER STABILIZATION

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 15 THROUGH MAY 15. IF THE SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 85% MATURE VEGETATION COVER OR RIPRAP BY OCTOBER 15 THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION.

1. PROVIDE STABILIZATION AS FOLLOWS WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
   A. PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX.
   B. PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCH THICKNESS OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
2. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
3. MULCH APPLIED DURING WINTER SHALL BE ANCHORED (e.g, BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
4. STOCKPILES OF SOIL MATERIALS SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. MULCHING SHALL BE DONE WITHIN 24 HOURS OF STOCKING, AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. NO SOIL STOCKPILE SHALL BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100 FEET FROM ANY WETLAND OR OTHER WATER RESOURCE AREA.

WINTER STABILIZATION (CONTINUED)

5. GRASS LINED DITCHES AND CHANNELS SHALL BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
6. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE (NHDOT ITEM 304.3).
7. NO MORE THAN ONE ACRE OF THE SITE SHALL BE EXPOSED (WITHOUT STABILIZATION) AT ANY ONE TIME. GENERALLY THE EXPOSED AREA SHOULD BE LIMITED TO ONLY THOSE AREAS IN WHICH WORK WILL OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW OR RAINFALL EVENT.

J. PERMANENT SEEDING

1. PROVIDE PERMANENT SEEDING ACCORDING TO PROJECT SPECIFICATIONS. FOR ALL AREAS NOT OTHERWISE SPECIFIED, PROVIDE PERMANENT SEEDING ACCORDING TO SPECIFICATION SECTION 329200, "TURF AND GRASSES".

K. OFF–SITE VEHICLE TRACKING

1. SWEEP ADJACENT PAVED AREAS AND ROADS AS NECESSARY AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO KEEP THEM FREE OF SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES.

L. HOUSEKEEPING

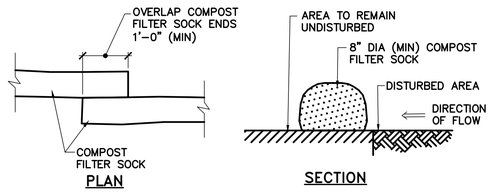
1. WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER PROVIDED BY THE CONTRACTOR. CONSTRUCTION WASTE MATERIALS SHALL NOT BE BURIED ON SITE.
2. HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
3. MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINER AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. STORE ONLY SUFFICIENT AMOUNTS OF MATERIALS TO COMPLETE THE JOB.
4. DISPOSE OF SURPLUS MATERIALS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, STATE AND FEDERAL CODES.
5. CONSTRUCTION RELATED EQUIPMENT AND VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO AVOID LEAKAGE.

M. DUST CONTROL

1. CONTROL DUST WITH PERIODIC WATERING OF THE EXPOSED SOIL SURFACES WITH ADEQUATE WATER TO CONTROL DUST FROM BECOMING AIRBORNE. REPETITIVE TREATMENTS SHALL BE APPLIED AS NEEDED TO CONTROL DUST THROUGHOUT CONSTRUCTION UNTIL AREAS HAVE BEEN STABILIZED.
2. OTHER METHODS TO CONTROL DUST SHALL BE ALLOWED WITH APPROVAL BY THE CONTRACT ADMINISTRATOR.

O. CONSTRUCTION DEWATERING

1. IF DEWATERING OF EXCAVATIONS IS NECESSARY, INFILTRATE DEWATERING WASTEWATER INTO THE GROUND USING INFILTRATION PITS.



PLAN SECTION

NOTES:
1. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE–HALF THE SOCK HEIGHT.
2. COMPOST FILTER SOCKS SHALL REMAIN IN PLACE UNTIL TRIBUTARY AREAS ARE STABILIZED.
3. SECURE COMPOST FILTER SOCKS IN PLACE WITH 1 INCH BY 1 INCH HARDWOOD STAKES, EVERY 10 FEET OR LESS.
4. COMPOST FILTER SOCKS SHALL BE A WOVEN OR NONWOVEN POLYPROPYLENE TUBE WITH A MINIMUM TENSILE STRENGTH OF 200 PSI, MESH OPENING OF 1/8 INCH AND MINIMUM FLOW RATE OF 0.2 GAL/MIN/SF, FILLED WITH ORGANIC MATERIALS DERIVED FROM A WELL DECOMPOSED SOURCE OF ORGANIC MATTER. THE ORGANIC MATERIAL CONTENT SHALL BE BETWEEN 95 AND 100 PERCENT, 95 PERCENT SHALL PASS A 2–INCH SIEVE AND A MAXIMUM OF 40 PERCENT SHALL PASS A 40 PERCENT SIEVE. THE PH SHALL BE BETWEEN 5.0 AND 8.0 AND THE SOLUBLE SALT CONTENT SHALL BE LESS THAN 4.0 mmhos/cm.

1 COMPOST FILTER SOCK
CG101 C–501 NOT TO SCALE

NOTES:
1. IN–BASIN BAG FILTERS SHALL BE "DANDY SACK" BY TENCATE OR APPROVED EQUAL. INSTALL ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
2. REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2 CATCH BASIN INLET PROTECTION
CG101 C–501 NOT TO SCALE

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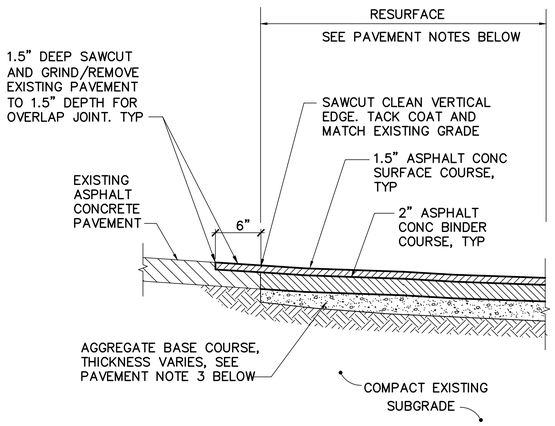
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CHECKED BY: PJM
PROJECT: 22402.15

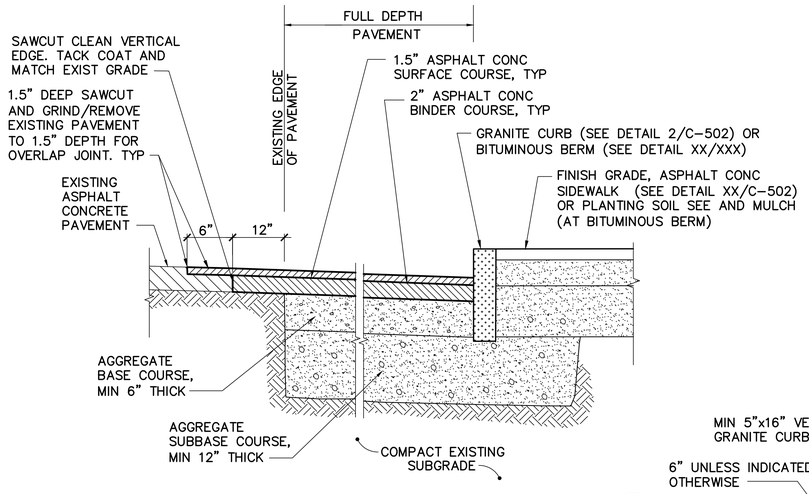
ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

SITE DETAILS 1

SCALE: AS NOTED
DATE: 05-16-25
DWG.: C-501
SHEET: OF XX



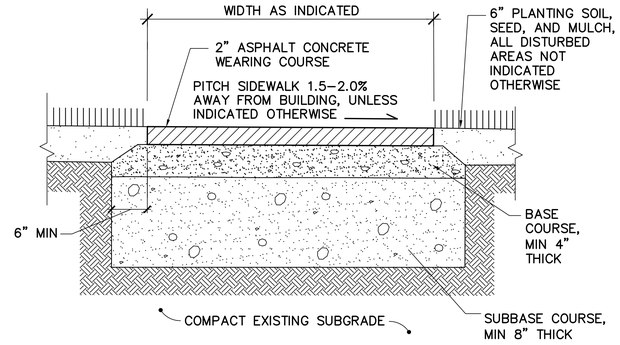


1 TYP FULL DEPTH AND RESURFACE ASPHALT CONCRETE PAVEMENT DETAILS

CS101,C-502,C-503 — C-502 — NOT TO SCALE

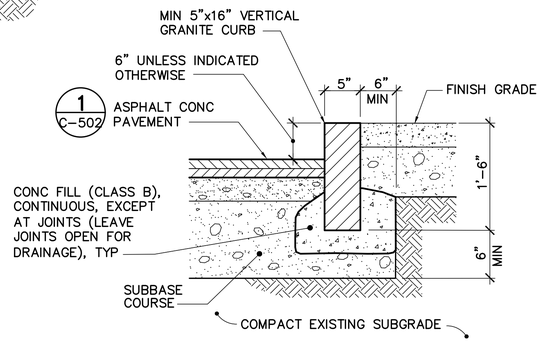
PAVEMENT NOTES:

1. PROVIDE FULL DEPTH PAVEMENT OVER UTILITY TRENCHES AND OTHER AREAS WHERE THE EXISTING PAVEMENT AND UNDERLYING BASE AND SUBBASE COURSES ARE REMOVED.
2. PROVIDE RESURFACE PAVEMENT FOR AREAS WHERE THE EXISTING PAVEMENT IS REMOVED BUT THE UNDERLYING BASE AND SUBBASE COURSES REMAIN IN PLACE.
3. FOR RESURFACE PAVEMENT AREAS, FINE GRADE EXISTING BASE COURSE (AND/OR PROVIDE ADDITIONAL AGGREGATE BASE MATERIAL) TO ACHIEVE FINISH GRADES INDICATED AFTER PLACEMENT OF ASPHALT CONCRETE BINDER AND WEARING COURSES.



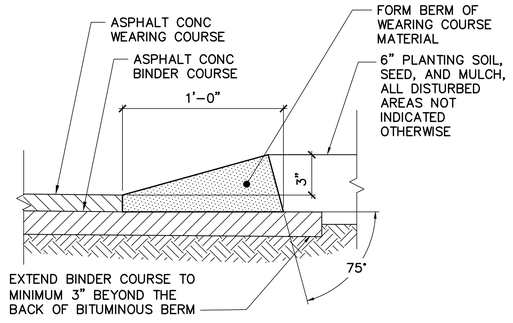
2 TYP ASPHALT CONCRETE WALK DETAIL

CS101,C-502 — C-502 — NOT TO SCALE



3 TYP GRANITE CURB DETAIL

CS101,C-502 — C-502 — NOT TO SCALE

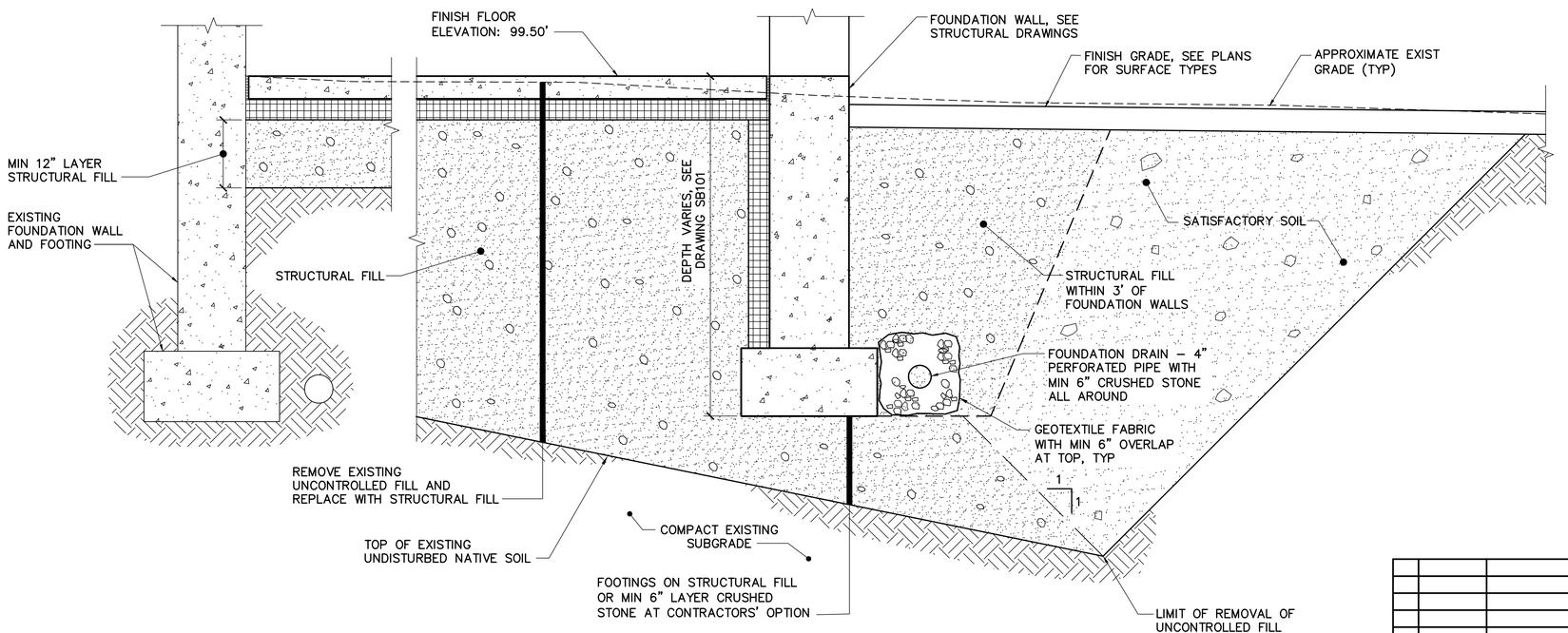


4 BITUMINOUS BERM CURB

CS101 — C-502 — NOT TO SCALE

FOUNDATION PREPARATION NOTES

1. REINFORCING IS NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR FOUNDATION DETAILS.
2. COORDINATE WITH THE OWNER/ARCHITECT A MINIMUM OF 48 HOURS IN ADVANCE OF FOUNDATION SUBGRADE PREPARATION AND NOTIFY OWNER/ARCHITECT WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE.
3. CONTRACT WITH A QUALIFIED GEOTECHNICAL ENGINEER TO BE ON-SITE AND OBSERVE SUBGRADE PREPARATION AND PERFORM FIELD TESTS, AS DESCRIBED BELOW:
   a) REMOVE EXISTING UNDERGROUND UTILITIES WITHIN BUILDING ADDITION FOOTPRINT AND TO MINIMUM 5-FEET OUTSIDE OF ADDITION FOUNDATION. BACKFILL EXCAVATIONS RESULTING FROM REMOVALS WITH STRUCTURAL FILL AND COMPACT TO MINIMUM 95-PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 1557.
   b) REMOVE EXISTING UNCONTROLLED FILL MATERIAL BELOW FOUNDATIONS TO NATURALLY DEPOSITED INORGANIC SOIL, EXTEND FILL REMOVAL DOWN AND OUTWARD FROM THE BOTTOM OUTSIDE EDGE OF THE BUILDING FOOTING AT 1 HORIZONTAL TO 1 VERTICAL TO AT LEAST 10 FEET.
   c) BACKFILL EXCAVATIONS BENEATH THE BUILDING FOOTPRINT WITH STRUCTURAL FILL AND COMPACT TO MINIMUM 95-PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 1557.
4. PROTECT PREPARED SUBGRADES AND FOUNDATION SOILS FROM FREEZING, EXCESSIVE MOISTURE, AND CONSTRUCTION ACTIVITIES. DO NOT ALLOW SURFACE WATER TO ACCUMULATE ON PREPARED SUBGRADES OR FOUNDATION SOILS. RECONSTRUCT SUBGRADE/FOUNDATION SOILS DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, AS DIRECTED BY QUALIFIED GEOTECHNICAL ENGINEER AND AS APPROVED BY THE OWNER/ARHITECT, AT NO ADDITIONAL COST TO THE OWNER.
5. REFER TO SPECIFICATION SECTION 312000, "EARTHMOVING" FOR ADDITIONAL REQUIREMENTS.
6. AT CONTRACTORS OPTION (AND REQUIRED IF SUBGRADES BECOME SOFTENED OR DISTURBED), PROVIDE MINIMUM 6" LAYER CRUSHED STONE WRAPPED IN GEOTEXTILE FABRIC BENEATH FOOTINGS.



5 TYP FOUNDATION PREPARATION/EARTHWORK SECTION

CS101 — C-502 — NOT TO SCALE

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

OAK POINT ASSOCIATES
architecture engineering planning
85 MIDDLE STREET, PORTSMOUTH, NEW HAMPSHIRE 03801
(T) 603.431.4848 (F) 603.431.1870
www.oakpoint.com

STATE OF NEW HAMPSHIRE — PAUL JOSEPH MILLER NO. 13289 — LICENSED PROFESSIONAL ENGINEER — 5/16/25

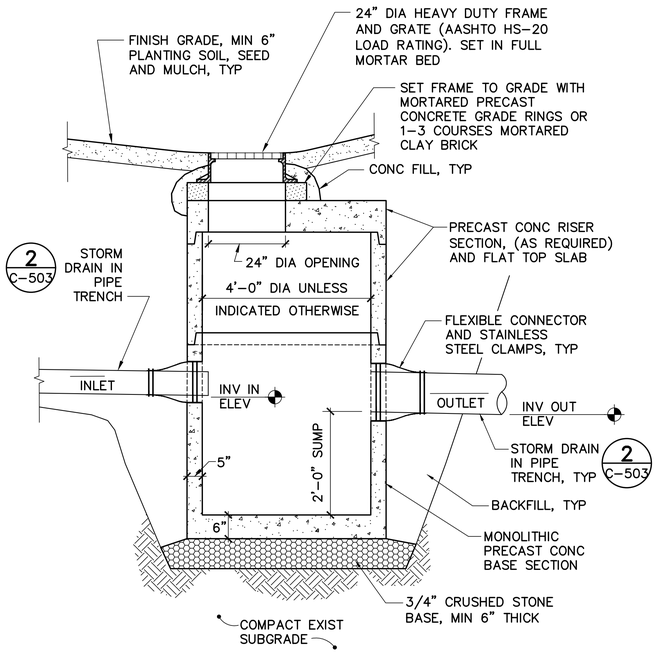
DESIGNED BY: PJM
DRAWN BY: DEW
CHECKED BY: PJM
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL
CHAPEL ADDITION

SITE DETAILS 2

SCALE: AS NOTED
DATE: 05-16-25
DWG.: C-502
SHEET: OF XX

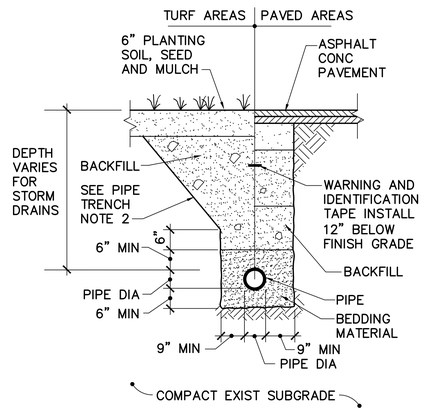


1 TYP CATCH BASIN DETAIL

CG101 C-503 NOT TO SCALE

CATCH BASIN NOTES:

1. CONCRETE FLAT TOP SHOWN. AT CONTRACTORS OPTION, ECCENTRIC CONE SECTION MAY BE USED IN LIEU OF FLAT TOP PROVIDED THERE IS ADEQUATE VERTICAL CLEARANCE BETWEEN PIPE OPENINGS AND SECTIONAL JOINTS.
2. CONCRETE MUST BE MIN 4,000 PSI 28 DAY COMPRESSIVE STRENGTH. PROVIDE REINFORCING TO ACHIEVE AASHTO HS-20 LOAD RATING.
3. SEAL SECTIONAL JOINTS WITH 1" DIAMETER BUTYL RUBBER SEALANT.
4. PROVIDE STEPS AT 12" ON CENTER FOR BASINS OVER 4' DEEP.
5. CATCH BASINS MUST CONFORM TO ASTM C478, UNLESS INDICATED OTHERWISE.
6. COORDINATE OPENINGS IN CATCH BASINS WITH PIPING PLAN.

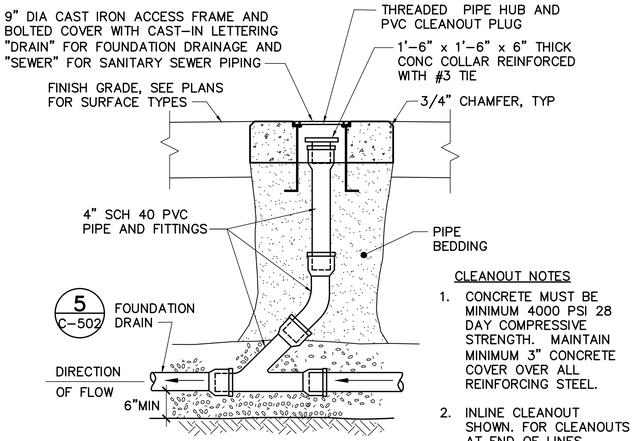


2 TYP PIPE TRENCH DETAIL

CG101 C-503 NOT TO SCALE

PIPE TRENCH NOTES:

1. INSTALL THERMOPLASTIC GRAVITY PIPING IN ACCORDANCE WITH ASTM D 2321 (CLASS II BEDDING), UNLESS INDICATED OTHERWISE.
2. COMPLY WITH OSHA STANDARDS FOR EXCAVATION WORK. TRENCH SIDEWALLS MUST BE VERTICAL FROM TRENCH BOTTOM TO MIN 12" ABOVE TOP OF PIPE.

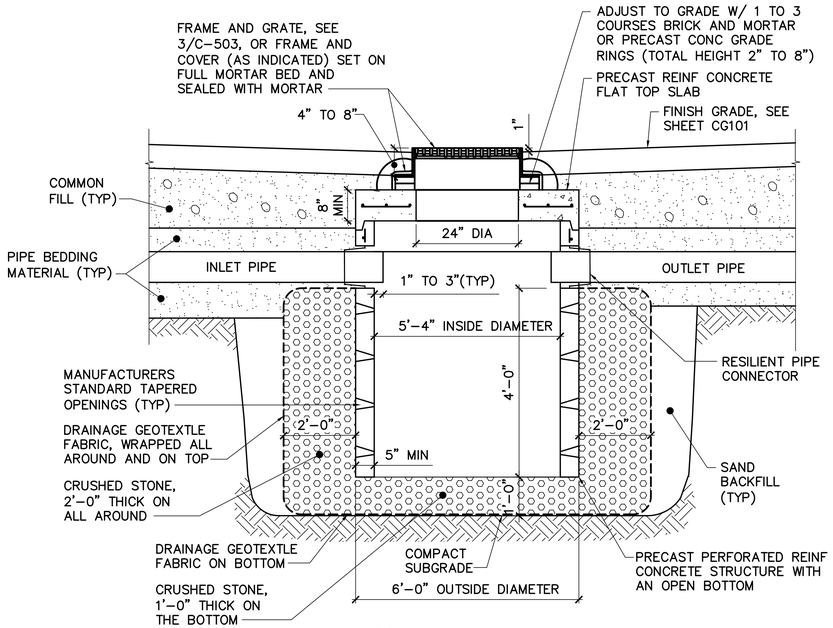


3 TYP CLEANOUT DETAIL

CG101 C-503 NOT TO SCALE

CLEANOUT NOTES

1. CONCRETE MUST BE MINIMUM 4000 PSI 28 DAY COMPRESSIVE STRENGTH. MAINTAIN MINIMUM 3" CONCRETE COVER OVER ALL REINFORCING STEEL.
2. INLINE CLEANOUT SHOWN. FOR CLEANOUTS AT END OF LINES, PROVIDE 45 DEGREE BEND IN LIEU OF WYE.

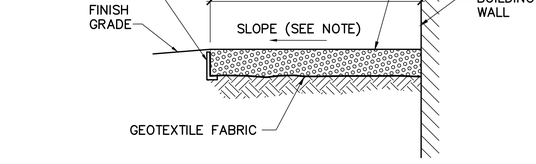


4 TYP DRY WELL DETAIL

CG101 C-503 NOT TO SCALE

NOTES:

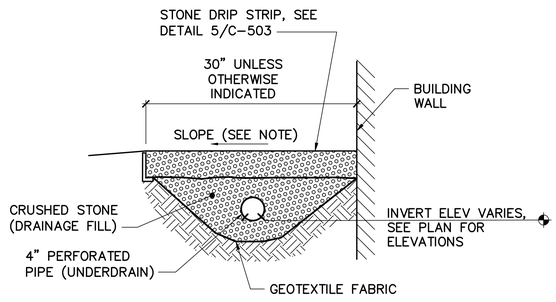
1. OUTSIDE EDGES OF PIPES SHALL PROJECT 1" TO 3" BEYOND INSIDE WALL OF STRUCTURE.
2. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING 2 STRIPS OF 1" DIA BUTYL RUBBER SEALANT IN THE JOINT.
3. STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
4. CONCRETE 5,000 PSI AFTER 28 DAYS.
5. PROVIDE REINFORCING TO ACHIEVE AASHTO HS-20 LOADING CLASSIFICATION.
6. DRY WELL SHALL CONFORM TO ASTM C478.
7. PROVIDE PIPE PENETRATIONS AS INDICATED ON SHEET CG101.



NOTE:
1. SLOPE SUBGRADE AND STONE SURFACE AWAY FROM THE BUILDING AT 4%.

5 STONE DRIP STRIP DETAIL

CS101,CG101 C-503 NOT TO SCALE



NOTE:
SLOPE SUBGRADE AND STONE SURFACE AWAY FROM THE BUILDING AT 4%.

6 DRIP STRIP WITH UNDERDRAIN DETAIL

CS101,CG101 C-503 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

OAK POINT ASSOCIATES
architecture engineering planning
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(T) 603.431.4849 (F) 603.431.1870
www.oakpoint.com

STATE OF NEW HAMPSHIRE
PAUL JOSEPH MILLER NO. 13289
LICENSED PROFESSIONAL ENGINEER
5/16/25

DESIGNED BY: PJM
DRAWN BY: PJM
CHECKED BY: PJM
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL
CHAPEL ADDITION

SITE DETAILS 3

SCALE: AS NOTED
DATE: 05-16-25
DWG.: C-503
SHEET: OF XX

R.W. Gillespie & Associates
• Geotechnical Engineering
• Environmental Consulting
• Materials Testing Services

Boring Log: B-1
Total Depth (ft): 22
Sheet 1 of 1

Project Name: Chapel Addition - St. Thomas Aquinas High School
RWG&A Project No. 0767-185-24
Location: Dover, New Hampshire
Client: Oak Point Associates
RWG&A Representative: Tom Snow
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: Not Obs.

Drilling Co.: Northern Test Boring
Drill Rig: Diedrich D-50 Steel Track
Driller Rep.: Mike Nadeau
Date Started: 01/03/25
Date Completed: 01/03/25
Surface Elevation: 99 Feet
Drilling Method: 2 1/4" HSA
Casing Type: NA

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	FILL; Topsoil and Organic Material (4 inches).	12	2	12		
				FILL; Sand with silt, dry, coarse to fine sand, few silt, few gravel, tan.		6 6 7			
5			S-2	Becomes some gravel.	15	6 9 11 17	20	5.6	MC GS
10			S-3	SILTY SAND (SM); Medium dense, dry, fine sand, little silt, trace gravel, tan.	15	10 11 13 13	24		
15			S-4		15	10 10 10 10	20	7.0	MC GS
20			S-5		16	12 9 12 10	21		
				Bottom of exploration at 22.0'; Not refusal.					
30									

Notes: SPT N-values are uncorrected for hammer energy transfer ratio.

R.W. Gillespie & Associates
• Geotechnical Engineering
• Environmental Consulting
• Materials Testing Services

Boring Log: B-2
Total Depth (ft): 37
Sheet 1 of 2

Project Name: Chapel Addition - St. Thomas Aquinas High School
RWG&A Project No. 0767-185-24
Location: Dover, New Hampshire
Client: Oak Point Associates
RWG&A Representative: Tom Snow
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: Not Obs.

Drilling Co.: Northern Test Boring
Drill Rig: Diedrich D-50 Steel Track
Driller Rep.: Mike Nadeau
Date Started: 01/03/25
Date Completed: 01/03/25
Surface Elevation: 100 Feet
Drilling Method: 2 1/4" HSA
Casing Type: NA

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (4 inches).	15	2	10	4.8	MC GS
				SAND (SP); Medium dense, dry, coarse to fine sand, trace silt, trace gravel, tan.		5 5 4			
5			S-2	Becomes fine sand, trace to few silt.	12	4 5 5 5	10	4.8	MC GS
10			S-3		8	6 9 11 11	20		
15			S-4		12	8 10 11 11	21		
20			S-5	Becomes coarse to fine sand.	15	10 13 17 15	30		
25			S-6	Fine sand, little silt.	18	10 13 14 15	27		
30									

Notes: SPT N-values are uncorrected for hammer energy transfer ratio.

R.W. Gillespie & Associates
• Geotechnical Engineering
• Environmental Consulting
• Materials Testing Services

Boring Log: B-2
Total Depth: 37
Sheet 2 of 2

Project Name: Chapel Addition - St. Thomas Aquinas High School
Location: Dover New Hampshire
Client: Oak Point Associates
Observed Water Depth: Not Obs.

RWG&A Project No. 0767-185-24
Surface Elevation: 100 Feet
Casing Type: NA

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
30			S-7	Coarse to fine sand, trace silt.	14	9 10 10 11	20		
35			S-8		12	10 18 50/3"	50+		
				Bottom of exploration at 37.0'; Auger refusal on possible boulder or bedrock.					
40									
45									
50									
55									
60									

Notes: SPT N-values are uncorrected for hammer energy transfer ratio.

R.W. Gillespie & Associates
• Geotechnical Engineering
• Environmental Consulting
• Materials Testing Services

Boring Log: B-3
Total Depth (ft): 17
Sheet 1 of 1

Project Name: Chapel Addition - St. Thomas Aquinas High School
RWG&A Project No. 0767-185-24
Location: Dover, New Hampshire
Client: Oak Point Associates
RWG&A Representative: Tom Snow
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: 15'

Drilling Co.: Northern Test Boring
Drill Rig: Diedrich D-50 Steel Track
Driller Rep.: Mike Nadeau
Date Started: 01/03/25
Date Completed: 01/03/25
Surface Elevation: 99 Feet
Drilling Method: 2 1/4" HSA
Casing Type: NA

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	FILL; Topsoil and Organic Material (4 inches).	14	2	4	10.7	MC GS
				FILL; Silty sand, moist, coarse to fine sand, little silt, few gravel, brown to tan.		2 2 6			
5			S-2		0	2 3 4 4	7		
10			S-3	SILTY SAND WITH GRAVEL (SM); Medium dense, dry, coarse to fine sand, little silt, little gravel, gray-brown.	12	6 7 11 12	18		
15			S-4	GRAVEL WITH SILTY SAND (GP); Dense, wet, coarse to fine gravel, little sand, little silt, gray-brown.	15	13 15 19 17	34		
				Bottom of exploration at 17.0'; Not refusal.					
20									
25									
30									

Notes: 1) SPT N-values are uncorrected for hammer energy transfer ratio.
2) Possibly wet due to drainage pipe in close proximity. Terminated boring due to unknown source of water.

R.W. Gillespie & Associates
• Geotechnical Engineering
• Environmental Consulting
• Materials Testing Services

Boring Log: B-4
Total Depth (ft): 22
Sheet 1 of 1

Project Name: Chapel Addition - St. Thomas Aquinas High School
RWG&A Project No. 0767-185-24
Location: Dover, New Hampshire
Client: Oak Point Associates
RWG&A Representative: Tom Snow
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: Not Obs.

Drilling Co.: Northern Test Boring
Drill Rig: Diedrich D-50 Steel Track
Driller Rep.: Mike Nadeau
Date Started: 01/03/25
Date Completed: 01/03/25
Surface Elevation: 100 Feet
Drilling Method: 2 1/4" HSA
Casing Type: NA

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	FILL; Topsoil and Organic Material (4 inches).	16	1	12		
				FILL; Sand with silt and gravel, dry, coarse to fine sand, few silt, little gravel, tan.		5 7 8			
				SAND (SP); Medium dense, dry, medium to fine sand, trace silt, tan.					
5			S-2		12	5 6 6 8	12		
10			S-3	GRAVEL WITH SAND AND SILT (GP); Medium dense, coarse to fine gravel, some sand, few silt, tan to gray-brown.	7	6 7 8 7	15		
15			S-4		13	8 9 12 14	21		
20			S-5		15	12 10 12 15	22		
				Bottom of exploration at 22.0'; Not refusal.					
25									
30									

Notes: SPT N-values are uncorrected for hammer energy transfer ratio.

OAK POINT ASSOCIATES
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STATE OF NEW HAMPSHIRE
PAUL JOSEPH MILLER
NO. 13289
LICENSED PROFESSIONAL ENGINEER
5/16/25

DESIGNED BY: SES
DRAWN BY: SES
CHECKED BY:
PROJECT: 22402.15

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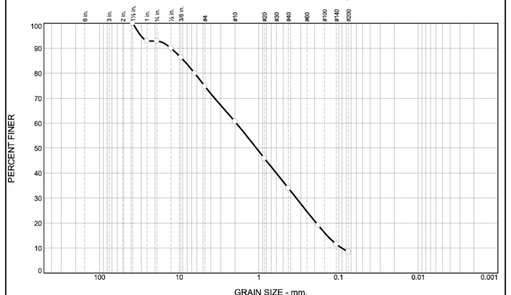
ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

SOIL BORING LOGS

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

SCALE: AS NOTED
DATE: 05-16-25
DWG.: B-001
SHEET: OF XX

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.1	18.1	14.1	26.7	25.5	8.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1 1/2"	100.0		
1"	92.9		
3/4"	92.9		
1/2"	90.1		
3/8"	86.3		
1/4"	80.0		
#4	74.8		
#10	60.7		
#20	45.9		
#40	34.0		
#80	19.1		
#140	11.5		
#200	8.5		

Soil Description
poorly graded sand with silt and gravel

Atterberg Limits
PL= LL= PI=

Coefficients
D_{90}= 12.6323 D_{85}= 8.6931 D_{60}= 1.9166
D_{50}= 1.0720 D_{30}= 0.3388 D_{15}= 0.1388
D_{10}= 0.0907 C_u= 21.14 C_c= 0.66

Classification
USCS= SP-SM AASHTO= A-1-b

Remarks
Moisture Content: 5.6%

* (no specification provided)

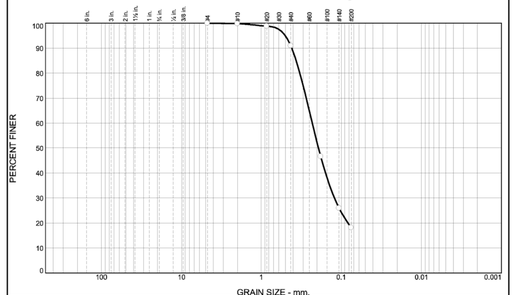
Location: B-1 **Sample Number:** S-2 **Depth:** 5-7' **Date:** 02/04/2025

R.W. Gillespie & Associates, Inc. Biddeford, Maine

Client: Oak Point Associates
Project: Chapel Addition - St. Thomas Aquinas High School Dover, NH
Project No: 0767-185 **Lab No.** 18349-01

Tested By: MES/WCD **Checked By:** CAG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	8.8	72.8	18.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	98.8		
#40	91.0		
#80	46.6		
#140	25.9		
#200	18.2		

Soil Description
silty sand

Atterberg Limits
PL= LL= PI=

Coefficients
D_{90}= 0.4130 D_{85}= 0.3642 D_{60}= 0.2292
D_{50}= 0.1919 D_{30}= 0.1213 D_{15}=
D_{10}= C_u= C_c=

Classification
USCS= SM AASHTO= A-2-4(0)

Remarks
Moisture Content: 7.2%

* (no specification provided)

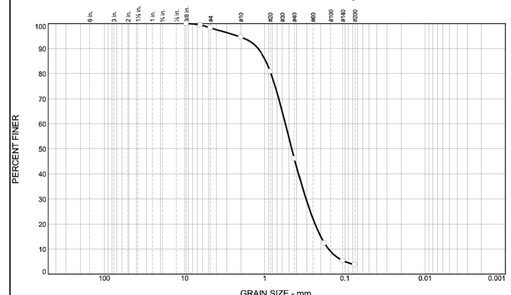
Location: B-1 **Sample Number:** S-4 **Depth:** 15-17' **Date:** 02/04/2025

R.W. Gillespie & Associates, Inc. Biddeford, Maine

Client: Oak Point Associates
Project: Chapel Addition - St. Thomas Aquinas High School Dover, NH
Project No: 0767-185 **Lab No.** 18349-02

Tested By: MES/WCD **Checked By:** CAG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	3.7	48.5	42.4	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
1/4"	99.5		
#4	98.3		
#10	94.6		
#20	80.9		
#40	46.1		
#80	12.4		
#140	5.4		
#200	3.7		

Soil Description
poorly graded sand

Atterberg Limits
PL= LL= PI=

Coefficients
D_{90}= 1.2109 D_{85}= 0.9660 D_{60}= 0.5490
D_{50}= 0.4572 D_{30}= 0.3043 D_{15}= 0.1997
D_{10}= 0.1596 C_u= 3.44 C_c= 1.06

Classification
USCS= SP AASHTO= A-1-b

Remarks
Moisture Content: 4.8%

* (no specification provided)

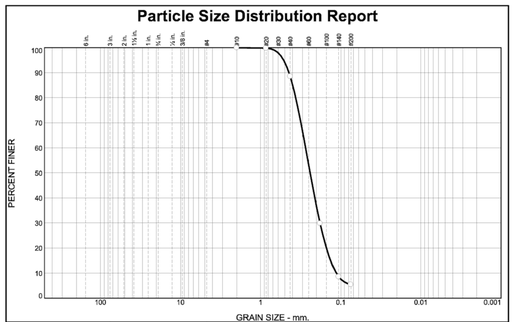
Location: B-2 **Sample Number:** S-1 **Depth:** 0-2' **Date:** 02/04/2025

R.W. Gillespie & Associates, Inc. Biddeford, Maine

Client: Oak Point Associates
Project: Chapel Addition - St. Thomas Aquinas High School Dover, NH
Project No: 0767-185 **Lab No.** 18349-03

Tested By: MES/NRP **Checked By:** CAG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	11.5	83.0	5.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	88.5		
#80	29.9		
#140	8.6		
#200	5.5		

Soil Description
poorly graded sand with silt

Atterberg Limits
PL= LL= PI=

Coefficients
D_{90}= 0.4399 D_{85}= 0.3957 D_{60}= 0.2729
D_{50}= 0.2393 D_{30}= 0.1804 D_{15}= 0.1334
D_{10}= 0.1133 C_u= 2.41 C_c= 1.05

Classification
USCS= SP-SM AASHTO= A-3

Remarks
Moisture Content: 4.8%

* (no specification provided)

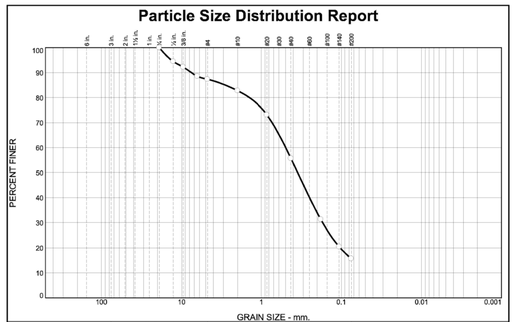
Location: B-2 **Sample Number:** S-2 **Depth:** 5-7' **Date:** 02/04/2025

R.W. Gillespie & Associates, Inc. Biddeford, Maine

Client: Oak Point Associates
Project: Chapel Addition - St. Thomas Aquinas High School Dover, NH
Project No: 0767-185 **Lab No.** 18349-04

Tested By: MES/NRP **Checked By:** CAG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	12.6	4.6	27.1	40.0	15.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	94.5		
3/8"	92.2		
1/4"	88.6		
#4	87.4		
#10	82.8		
#20	73.1		
#40	55.7		
#80	31.3		
#140	20.4		
#200	15.7		

Soil Description
silty sand

Atterberg Limits
PL= LL= PI=

Coefficients
D_{90}= 7.5298 D_{85}= 2.8302 D_{60}= 0.4938
D_{50}= 0.3500 D_{30}= 0.1705 D_{15}=
D_{10}= C_u= C_c=

Classification
USCS= SM AASHTO= A-2-4(0)

Remarks
Moisture Content: 10.7%

* (no specification provided)

Location: B-3 **Sample Number:** S-1 **Depth:** 0-2' **Date:** 02/24/2025

R.W. Gillespie & Associates, Inc. Biddeford, Maine

Client: Oak Point Associates
Project: Chapel Addition - St. Thomas Aquinas High School Dover, NH
Project No: 0767-185 **Lab No.** 18349-05

Tested By: MES/NRP **Checked By:** CAG

architecture engineering planning
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STATE OF NEW HAMPSHIRE
PAUL JOSEPH MILLER NO. 13289
LICENSED PROFESSIONAL ENGINEER
5/16/25

DESIGNED BY: SES
DRAWN BY: SES
CHECKED BY:
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

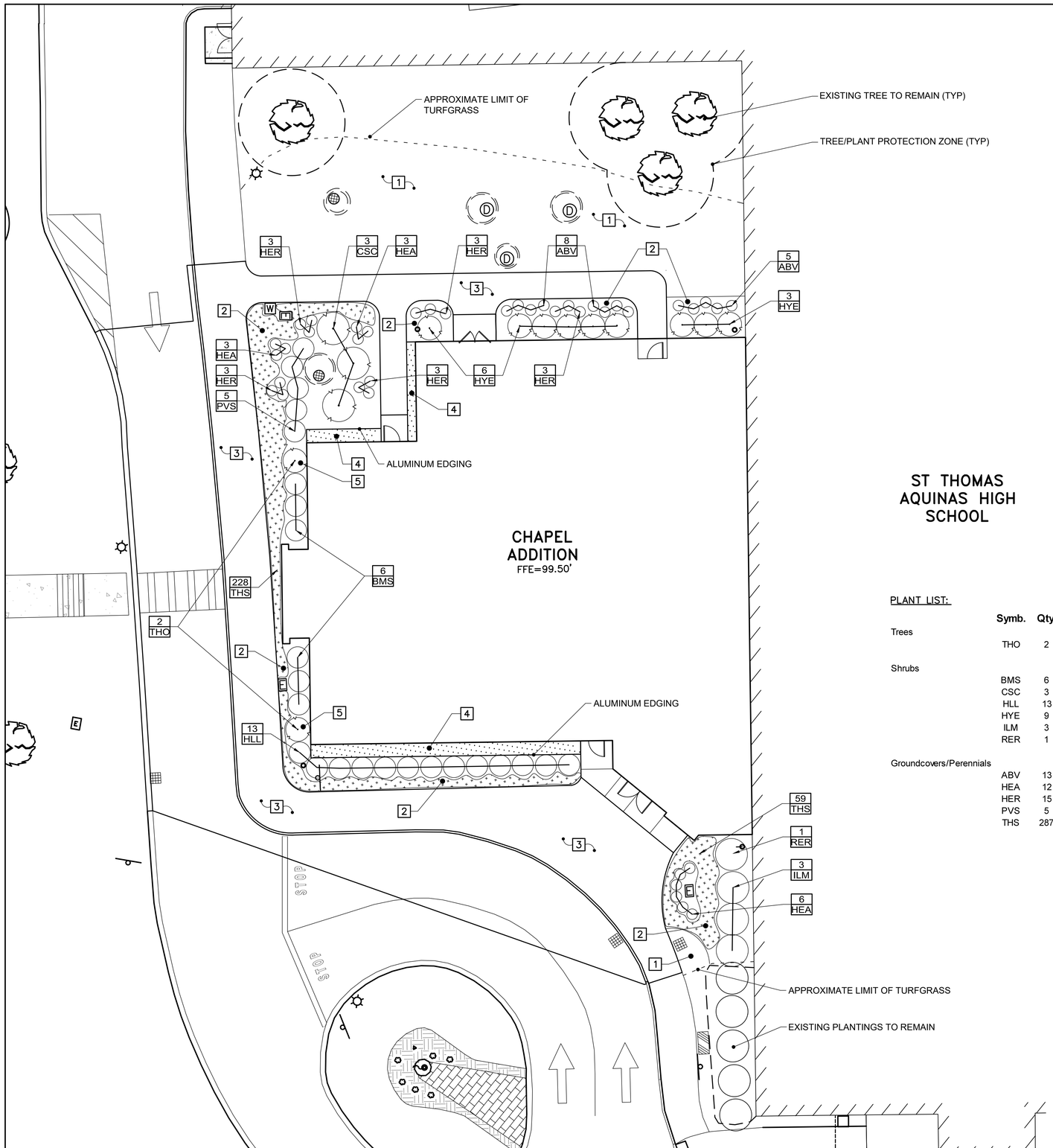
ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

SOIL TEST REPORTS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: **B-002**
SHEET: OF **XX**

NO.	DATE	DESCRIPTION	BY

REVISIONS



1 CHAPEL ADDITION LANDSCAPE PLAN
LS101 SCALE: 1"=10'-0"

KEYNOTES: (THIS SHEET ONLY).

1. TURFGRASS SEED.
2. PLANTING BED. (PERENNIAL AND/OR SHRUBS). SEE 3 & 4/L-501.
3. ASPHALT CONCRETE WALK. SEE 2/C-502.
4. DRIP STRIP. SEE 5 & 6/C-503.
5. EVERGREEN CANOPY TREE. SEE DETAILS 1 & 2/L-501.

PLANT LIST:

	Symb.	Qty.	Botanical Name	Common Name	Size	Comment
Trees						
	THO	2	Thuja occidentalis 'Emerald Green'	Green Emerald Arborvitae	6' ht.	Full to ground; dense foliage; straight
Shrubs						
	BMS	6	Buxus microphylla 'Suffruticosa'	Dwarf English Boxwood	3 gal.	Dense form; good color; well rooted
	CSC	3	Cornus sericea 'Cardinal'	Red Twig Dogwood	4 - 5'ht.	Dense branching; well rooted, self supporting stems
	HLL	13	Hydrangea paniculata 'Little Lime'	Little Lime Hydrangea	3 gal.	Dense branching; well rooted, self supporting stems
	HYE	9	Hydrangea macrophylla 'Endless Summer'	Endless Summer Hydrangea	3 gal.	Dense branching; well rooted, self supporting stems
	ILM	3	Ilex x meserveae 'Blue Princess'	Blue Princess Holly	7 gal.	Dense form; good color; well rooted; male for polination
	RER	1	Rhododendron 'English Roseum'	English Roseum Rhododendron	3-4'.	Dense branching; well rooted, self supporting stems
Groundcovers/Perennials						
	ABV	13	Astilbe x arendsii 'Bridal Veil'	Bridal Veil Astilbe	1 gal.	Well rooted in pot; good color
	HEA	12	Hemerocallis 'American Revolution'	American Revolution Daylily	1 gal.	Well rooted in pot; good color
	HER	15	Hemerocallis 'Happy Returns'	Happy Returns Daylily	1 gal.	Well rooted in pot; good color
	PVS	5	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	1 gal.	Full in pot; good color
	THS	287	Thymus Serpyllum	Creeping Thyme	3.5" sq.	Well rooted in pot; good color

NOTES:

1. UNLESS OTHERWISE INDICATED, LANDSCAPE EDGINGS ARE TRENCH TYPE PER DETAIL 5/L-501.
2. SPREAD PLANTING MULCH OVER NON-PERMEABLE UTILITY COVERS IN PLANTING BEDS.
3. GROUNDCOVER PLANTINGS SHALL BE SPACED 18" APART ON CENTER WITH TRIANGULAR PLACEMENT.
4. EXTEND TREE PROTECTION ZONE TO LIMIT OF DRIP EDGE.

GRAPHIC SCALE
10' 5' 0 10' 20'
1"=10'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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LANDSCAPE ARCHITECT — STATE OF NEW HAMPSHIRE — LICENSED — Timothy L. Sullivan — 05/16/2025

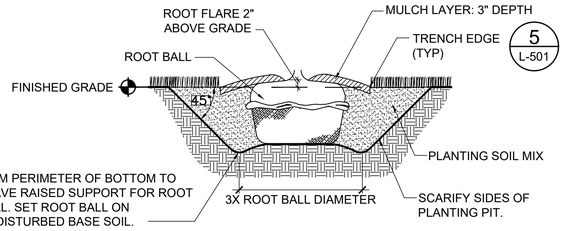
DESIGNED BY: TLS
DRAWN BY: TLS
CHECKED BY: ATD
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL
CHAPEL ADDITION

LANDSCAPE PLAN

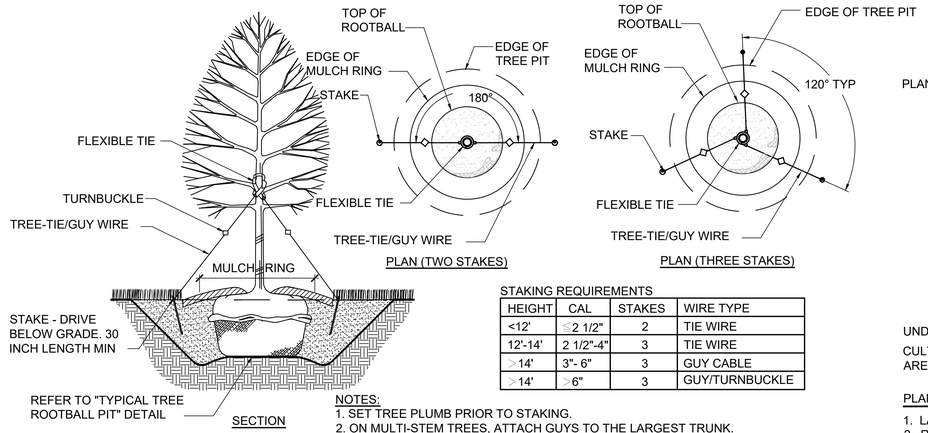
SCALE: AS NOTED
DATE: 05-16-25
DWG.: LS101
SHEET: OF XX



PLANTING PROCEDURE:

1. EXCAVATE CIRCULAR PLANTING PIT 3X THE DIAMETER OF ROOTBALL WITH SIDES SLOPING INWARD AT 45°ANGLE.
2. FILL EXCAVATIONS WITH WATER AND ALLOW TO PERCOLATE. NOTIFY ARCHITECT OF UNEXPECTED WATER SEEPAGE OR RETENTION OF WATER.
3. SET TREE WITH ROOT FLARE 2" ABOVE SURROUNDING FINISHED GRADE. DO NOT BREAK ROOTBALL.
4. REMOVE BURLAP, STRAPS, WIRE CAGE AND OTHER MATERIALS FROM TOP 1/4 OF ROOTBALL.
5. BACK FILL WITH PLANTING SOIL MIX IN LAYERS. TAMP LIGHTLY TO ELIMINATE VOIDS AND AIR POCKETS.
6. WATER THOROUGHLY WHEN ONE-HALF OF PLANTING PIT IS FILLED.
7. PLACE FERTILIZER TABLETS ONE INCH FROM ROOTBALL WHEN ONE-HALF OF PLANTING PIT IS FILLED.
8. PLACE REMAINDER OF FILL AND WATER THOROUGHLY.
9. CONSTRUCT TRENCH EDGE AND MULCH AS SPECIFIED. DO NOT PLACE MULCH WITHIN 3 INCHES OF TRUNK.
10. STABILIZE TREE AS SPECIFIED.

1 TYPICAL TREE ROOTBALL PIT
LS101 / L-501 NOT TO SCALE

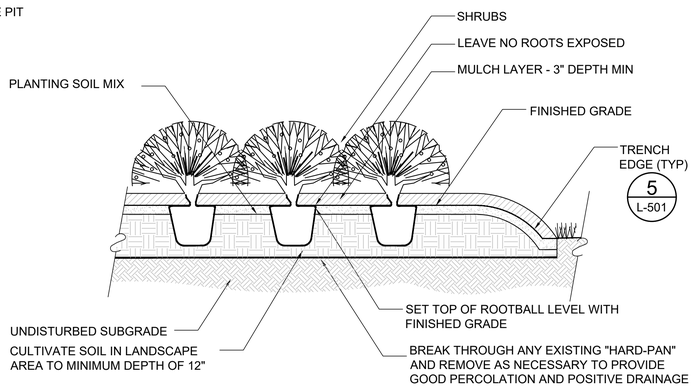


STAKING REQUIREMENTS

HEIGHT	CAL	STAKES	WIRE TYPE
<12'	≤ 2 1/2"	2	TIE WIRE
12'-14'	2 1/2"-4"	3	TIE WIRE
>14'	3"- 6"	3	GUY CABLE
>14'	>6"	3	GUY/TURNBUCKLE

NOTES:
1. SET TREE PLUMB PRIOR TO STAKING.
2. ON MULTI-STEM TREES, ATTACH GUYS TO THE LARGEST TRUNK.
3. ON EVERGREEN TREES, ATTACH GUYS 1/2 WAY UP HEIGHT OF TREE.
4. REMOVE STAKING AND GUYING AFTER ONE YEAR.

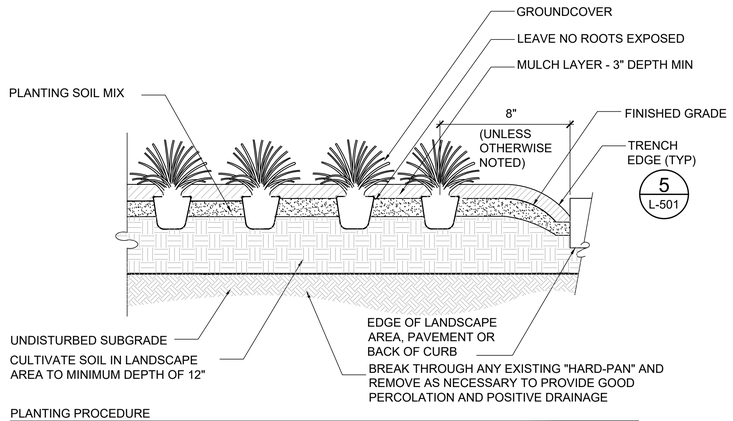
2 TREE STAKING AND GUYING
LS101 / L-501 NOT TO SCALE



PLANTING PROCEDURE

1. LAY OUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED.
2. ROTOTILL BED TO 12" DEPTH. SPREAD 3" MIN. LAYER OF PLANTING SOIL MIX OVER BED. ROTOTILL SOIL MIX INTO TOP OF BED. INSTALL PLANTS AND MULCH. WATER THOROUGHLY.

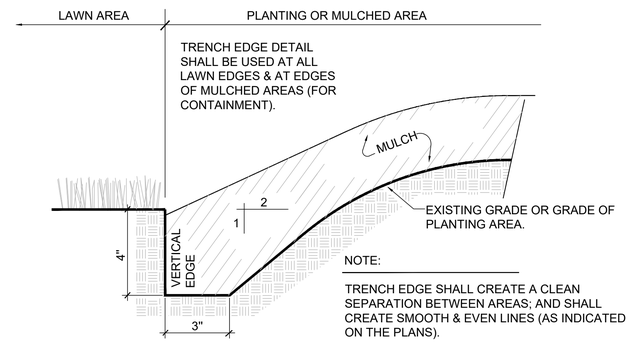
3 GROUP SHRUB PLANTING
LS101 / L-501 NOT TO SCALE



PLANTING PROCEDURE

1. LAY OUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED.
2. ROTOTILL BED TO 12" DEPTH. SPREAD 3" MIN. LAYER OF PLANTING SOIL MIX OVER BED. ROTOTILL SOIL MIX INTO TOP OF BED. INSTALL PLANTS AND MULCH. WATER THOROUGHLY.

4 GROUNDCOVER/PERENNIAL PLANTING
LS101 / L-501 NOT TO SCALE



NOTE:

TRENCH EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS; AND SHALL CREATE SMOOTH & EVEN LINES (AS INDICATED ON THE PLANS).

5 TRENCH EDGE - SECTION
LS101 / L-501 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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TIMOTHY L. SMITH, ARCHITECT, STATE OF NEW HAMPSHIRE, 5/16/2025, No. 4841

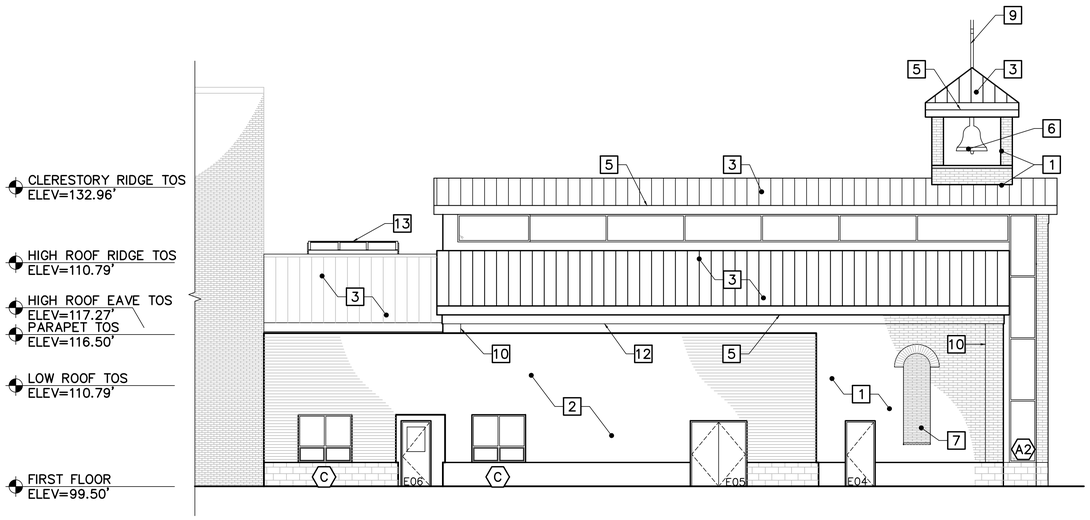
DESIGNED BY: TLS
DRAWN BY: TLS
CHECKED BY: ATD
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

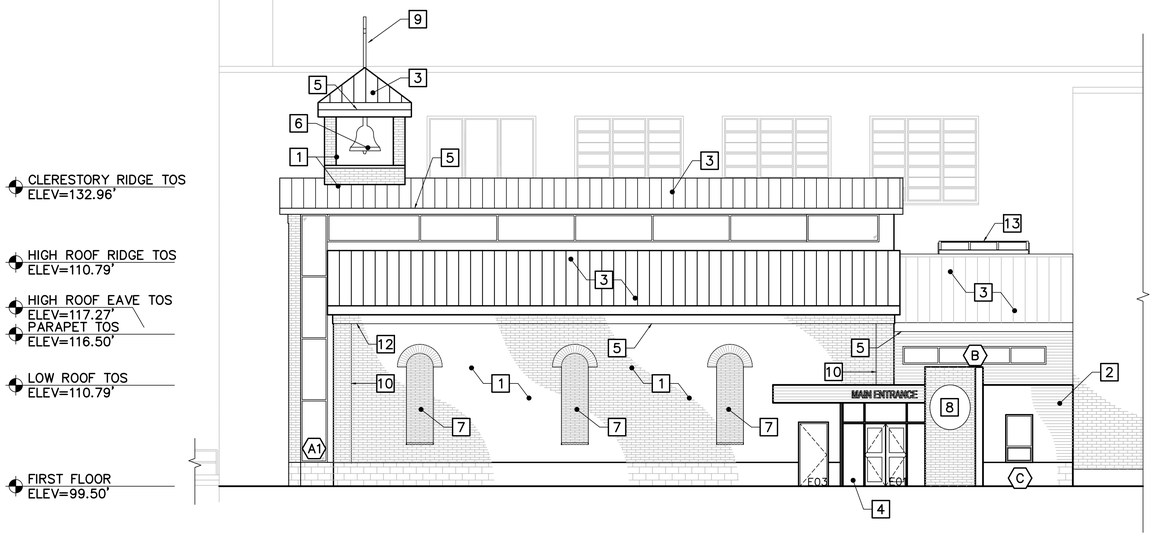
ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

LANDSCAPE DETAILS

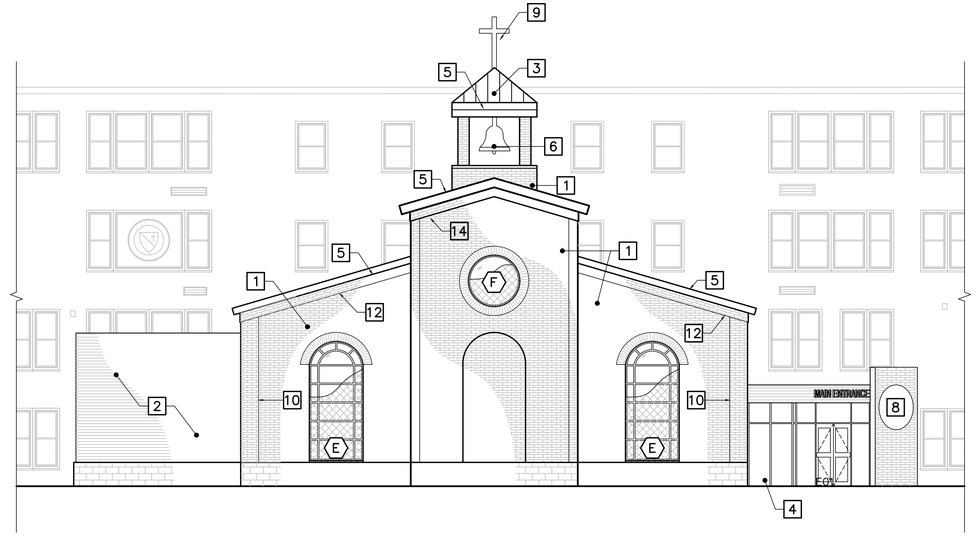
SCALE: AS NOTED
DATE: 05-16-25
DWG.: L501
SHEET: OF XX



1 NORTH ELEVATION
AE101,AE102,AE103,AE120 / AE201 SCALE: 1/8"=1'-0"



2 SOUTH ELEVATION
AE101,AE102,AE103,AE120 / AE201 SCALE: 1/8"=1'-0"



3 WEST ELEVATION
AE101,AE102,AE103,AE120 / AE201 SCALE: 1/8"=1'-0"

GENERAL NOTES (THIS SHEET ONLY)

1. SEE SHEET AE120 FOR ROOF PLAN.
2. SEE SHEET AE601 FOR DOOR SCHEDULE.
3. SEE SHEET AE641 FOR EXTERIOR FINISH SCHEDULE.

KEYNOTES (THIS SHEET ONLY)

1. BRICK WALL SYSTEM WITH SPLIT FACE CMU BASE.
2. METAL PANEL WALL SYSTEM WITH SPLIT FACE CMU BASE.
3. STANDING SEAM METAL ROOF SYSTEM.
4. CURTAINWALL ENTRANCE SYSTEM.
5. PRE-FINISHED METAL FASCIA.
6. BRONZE STATIONARY BELL.
7. ARCH BRICK ACCENT, SEE SHEET AE511.
8. STA LOGO SIGNAGE.
9. ROOF MOUNTED CROSS.
10. BRICK CONTROL JOINT, SEE DETAIL 3/AE511.
11. BRICK CORBEL, SEE DETAIL 3/AE521.
12. BRICK CORBEL, SEE DETAIL 5/AE521.
13. SKYLIGHT, SEE SHEET AE623.
14. PRE-FINISHED METAL COPING, SEE WALL SECTIONS.

GRAPHIC SCALE
1/8"=1'-0" 8' 4' 0 8' 16'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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LICENSED ARCHITECT
BRYAN M LAROCHE
No. 04967
THE STATE OF NEW HAMPSHIRE

DESIGNED BY: BML
DRAWN BY: TLH
CHECKED BY: RSH
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

EXTERIOR ELEVATIONS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: AE201
SHEET: XX OF XX

15 May, 2025 - 4:17pm
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1 AE202 NORTHWEST PERSPECTIVE
NOT TO SCALE



2 AE202 SOUTHWEST PERSPECTIVE
NOT TO SCALE

16 May, 2025 – 9:46am
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NO.	DATE	DESCRIPTION	BY

REVISIONS

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LICENSED ARCHITECT
BRYAN M LAROCHE
No. 04967
THE STATE OF NEW HAMPSHIRE

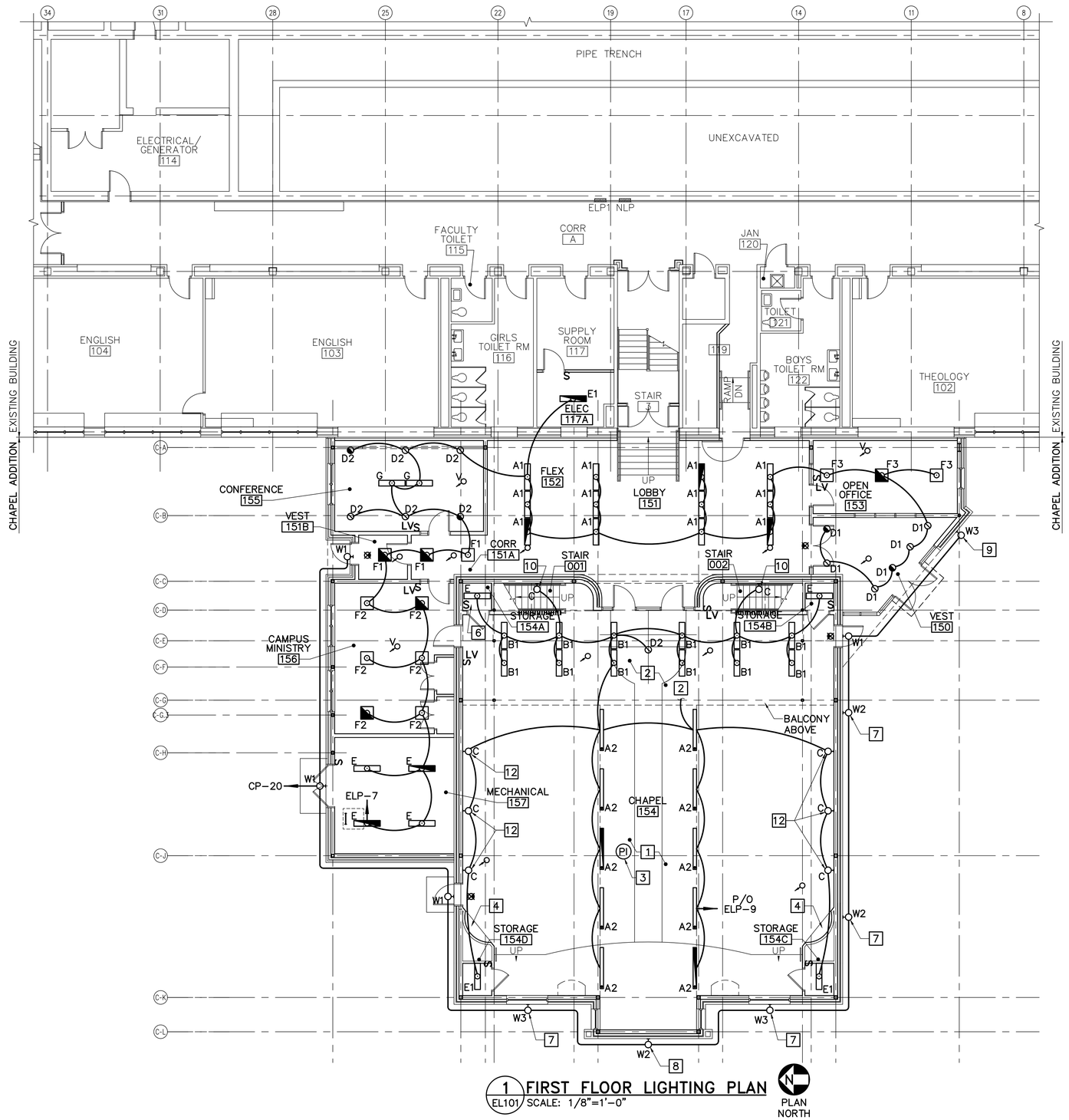
DESIGNED BY: BML
DRAWN BY: TLH
CHECKED BY: RSH
PROJECT: 22402.15

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ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

EXTERIOR RENDERINGS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: AE202
SHEET: XX OF XX



1 EL101 FIRST FLOOR LIGHTING PLAN
SCALE: 1/8"=1'-0"

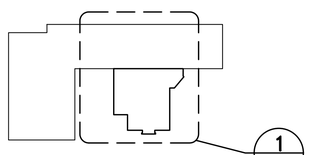
PLAN NORTH

GENERAL NOTES (SHEETS AE101 AND AE102)

1. REFER TO SHEET E-001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. CONNECT EXIT SIGNS AND EMERGENCY LIGHTING TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHES, OCCUPANCY SNESORS, OR OTHER CONTROL DEVICES.

KEYNOTES (THIS SHEET ONLY)

1. INSTALL LINEAR FIXTURES AT THE BOTTOM OF THE CLERESTORY. COORDINATE WITH ARCHITECTURAL TRADE PRIOR TO INSTALLATION.
2. PROVIDE RECESSED LINEAR FIXTURE IN BOTTOM SIDE OF BALCONY.
3. PROVIDE PHOTOCELL FOR DAYLIGHT HARVESTING CONTROLS.
4. PROVIDE RECESSED SPOT LIGHTING FOR DISPLAY AREA.
5. SEE EL102 FOR CONTINUATION.
6. PROVIDE ROOM SCENE CONTROLLER FOR CHAPEL 154. INSTALL ROOM SCENE CONTROL PANEL IN STORAGE CLOSET. COORDINATE FINAL LOCATION WITH ARCHITECTURAL TRADE.
7. WALL MOUNT LIGHT FIXTURE AT A HEIGHT OF 20' AFF.
8. WALL MOUNT LIGHT FIXTURE AT A HEIGHT OF 30' AFF.
9. WALL MOUNT LIGHT FIXTURE AT A HEIGHT OF 12' AFF. FIXTURE TO BE CENTERED WITH LOGO ART WORK. COORDINATE EXACT LOCATION WITH ARCHITECTURAL TRADE PRIOR TO INSTALLATION.
10. WALL MOUNT LIGHT FIXTURE AT A HEIGHT OF 8' ABOVE STAIR TREAD.
11. WALL MOUNT LIGHT FIXTURE AT A HEIGHT OF 14' AFF. FIXTURE TO BE CENTERED WITH TRUSS ABOVE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL TRADE PRIOR TO INSTALLATION.



KEY PLAN
NOT TO SCALE

PLAN NORTH

GRAPHIC SCALE
1/8"=1'-0"
8' 4' 0 8' 16'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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DESIGNED BY: JDJ
DRAWN BY: RSW
CHECKED BY: KAO
PROJECT: 22402.15

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Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL
CHAPEL ADDITION

FIRST FLOOR LIGHTING PLAN

SCALE: AS NOTED
DATE: 05-16-25
DWG.: EL101
SHEET: X OF XX

16 May, 2025 - 1:53pm
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FIXTURE SCHEDULE GENERAL NOTE

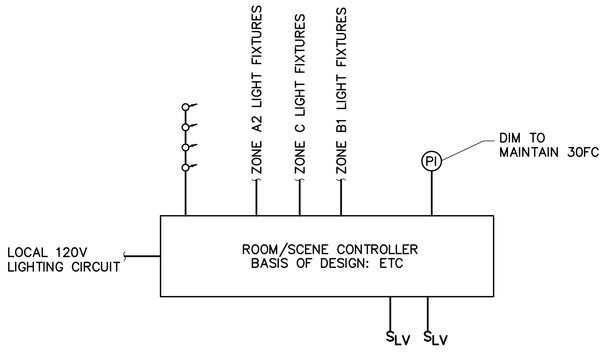
MANUFACTURERS AND CATALOG NUMBERS SHOWN TO INDICATE STYLE, QUALITY, AND PERFORMANCE. EQUIVALENT FIXTURES FROM DIFFERENT MANUFACTURERS THAT MATCH STYLE, QUALITY AND PERFORMANCE WILL BE CONSIDERED AND REVIEWED THROUGH THE SHOP DRAWING PROCESS.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	SOURCE	LUMENS, MIN	VOLTS	WATTS	MOUNTING	NOTES	MANUFACTURER–BASIS OF DESIGN	CATALOG NUMBER–BASIS OF DESIGN
A1	2" LINEAR, INDIRECT/DIRECT	LED	3982	120	31.5	PENDANT	1,2,3,4,5	LITECONTROL	2L–P–ID–STD–4–SOF–CX–35K–I050–D050–D01–1C–UNV (EF)
A2	2" LINEAR, INDIRECT/DIRECT	LED	5964	120	49.8	WALL	3,4	LITECONTROL	2L–W–ID–STD–4–SOF–CX–35K–I050–D120–D01–1C–UNV (EF)
B	2" LINEAR, DIRECT, RECESSED	LED	200	120	18	RECESSED	1,3	LITECONTROL	2L–R–D–4–SOF–CX–35K–D050–D01–1C–UNV (EF)
C	12" SCONCE, INDIRECT/DIRECT	LED	2379	120	25.5	WALL	2,4	VISA LTG	CB3500–L35K–H–MVOLT
D1	6" RECESSED DOWNLIGHTS	LED	691	120	7.8	RECESSED	1	PRESCOLITE	LTR–6RD–H–SL06L–D01–LTR–6RD–T–SL35K8WDS
D2	6" RECESSED DOWNLIGHTS	LED	1586	120	18.7	RECESSED	1	PRESCOLITE	LTR–6RD–H–SL15L–D01–LTR–6RD–T–SL35K8WDS
E1	4' LINEAR, UTILITY	LED	2463	120	20	SURFACE	1	COLUMBIA	MPS4–35XW–FW–EDU (ELL14)
E2	4' LINEAR, UTILITY	LED	3134	120	26.5	SURFACE	1	COLUMBIA	MPS4–35VW–FW–EDU (ELL14)
F1	2X2 ARCHITECTURAL TROFFER	LED	2228	120	16.4	RECESSED	1	COLUMBIA	LCAT22–35MWG–EDU (ELL14)
F2	2X2 ARCHITECTURAL TROFFER	LED	2870	120	20.6	RECESSED	1	COLUMBIA	LCAT22–35LWG–EDU (ELL14)
F3	2X2 ARCHITECTURAL TROFFER	LED	3493	120	25.8	RECESSED	1	COLUMBIA	LCAT22–35MLG–EDU (ELL14)
G	4' OPEN CENTER LINEAR	LED	1600	120	13.5	PENDANT	1,3,4,5	LITECONTROL	ARIA–P–SD–4–SOF–WHS–35K9–SD040–D01–UNV
W1	ARCHITECTURAL ABOVE DOOR, EGRESS	LED	1557	120	17.6	WALL	4	LUMINAIRE LED	AEL–24IB–MIN1–2DRV–15W–1500–30K–MVOLT–DP–WOP (EMB310)
W2	EXTERIOR, WALL PACK	LED	1537	120	11	WALL	4	LITHONIA LTG	WPX1–1LED–P1–30K–MVOLT–E4WH–DWHXD
W3	EXTERIOR, ARCH CYLINDER	LED	960	120	10	WALL	4	ALCON LTG	11230–D–30–WH
⊠	EXIT SIGNS	LED	–	120	–	RECESSED/SURFACE	–	DUAL LITE	CCEL SERIES

LIGHTING FIXTURE NOTES

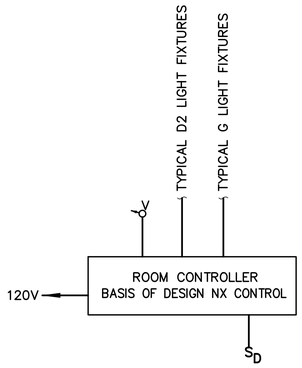
1. COORDINATE MOUNTING TYPE (GRID(SAT), FLANGE (GYPSUM), OR SURFACE/SUSPENDED (NO CEILING)) WITH CEILING/WALL/FLOOR TYPE.
2. VERIFY MOUNTING WITH ARCHITECT BEFORE INSTALLATION OF WIRE, CONDUIT, AND JUNCTION BOXES.
3. VERIFY ACTUAL LENGTH OF CONTINUOUS ROWS AS SHOWN ON LIGHTING PLANS.
4. FINAL COLOR SELECTION MUST BE MADE BY ARCHITECT FROM MANUFACTURER'S SUBMITTALS.
5. CONFIRM PENDANT LENGTH PRIOR TO ORDERING.



CHAPEL 154 LIGHTING CONTROL DIAGRAM NOTES:

1. WIRING, COMPONENTS, AND INSTALLATION REQUIREMENTS WILL VARY DEPENDING ON SYSTEM.
2. INSTALLATION OF PHOTOCELLS, OCCUPANCY SENSORS, WIRING, ETC. SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
3. CONTROL WIRING MUST BE PER MANUFACTURERS RECOMMENDATIONS.
4. OCCUPANCY SENSORS PROVIDE AUTO ON/OFF (FIELD SELECTABLE FOR MANUAL ON/AUTO OFF) WITH 20 MIN TIME DELAY DURING AFTER HOUR SERVICE.
5. LOSS OF POWER MUST TURN ALL RELAYS ON.
6. DIAGRAM INDICATES CONTROL DEVICES AND WIRING ONLY. REFER TO LIGHTING DRAWINGS FOR BRANCH CIRCUITS.
7. PROVIDE ADDITIONAL DEVICES FOR FULL COVERAGE OF SPACE AS DIAGRAMS INDICATE DESIGN INTENT.
8. EACH SWITCH STATION MUST BE ABLE TO TURN ON/OFF EACH LIGHTING ZONE, RAISE/LOWER EACH LIGHTING ZONE AND AUTOMATICALLY CONTROL THE LIGHTING ZONES FOR DAYLIGHT HARVESTING. THE NUMBER OF PUSHBUTTONS NEEDED WILL VARY FOR DIFFERENT MANUFACTURERS. SWITCH STATIONS MUST HAVE ENGRAVED, LABELED DIRECTORIES ASSIGNED TO PUSHBUTTONS INDICATING CONTROL ZONES (FOR EXAMPLE: "CENTER AISLE", "WALL MOUNT" OR "BALCONY").

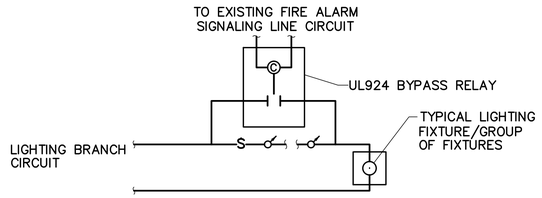
1 EL701 CHAPEL 154 LIGHTING CONTROL DIAGRAM
NOT TO SCALE



CONFERENCE 155 CONTROL DIAGRAM NOTES:

1. BASIS OF DESIGN: WIRING, COMPONENTS AND INSTALLATION REQUIREMENTS WILL VARY DEPENDING ON MANUFACTURER.
2. INSTALLATION OF, OCCUPANCY SENSORS, WIRING, ETC. MUST BE PER MANUFACTURERS RECOMMENDATIONS.
3. CONTROL WIRING MUST BE YELLOW AND PER MANUFACTURERS RECOMMENDATION.
4. OCCUPANCY SENSORS PROVIDE AUTO ON/OFF (FIELD SELECTABLE FOR MANUAL ON/AUTO OFF) WITH 20 MIN TIME DELAY DURING AFTER HOUR SERVICE.
5. LOSS OF POWER MUST TURN ALL RELAYS ON.
6. DIAGRAM INDICATES CONTROL DEVICES AND WIRING ONLY.
7. PROVIDE ADDITIONAL DEVICES FOR FULL COVERAGE OF SPACE AS DIAGRAMS INDICATE DESIGN INTENT.

2 EL701 CONFERENCE 155 CONTROL DIAGRAM
NOT TO SCALE



LIGHTING BYPASS CONTROL DIAGRAM NOTES:

1. PROVIDE 120V AC BYPASS RELAY WITH MINIMUM 20 AMP, 120V RATED NORMALLY OPEN AND NORMALLY CLOSED CONTACTS. NORMALLY CLOSED BYPASS RELAY CONTACTS SHALL BE HELD OPEN BY 120 VOLT POWER. NORMALLY CLOSED CONTACT SHALL CLOSE WHEN FIRE ALARM IS IN ALARM AND BYPASS THE SWITCHES, CONTROLS AND OCCUPANCY SENSORS.
2. PROVIDE BYPASS RELAY UL LISTED FOR EMERGENCY LIGHTING CONTROL USE.
3. PROVIDE 1 RELAY PER SEPARATELY CONTROLLED LIGHTING GROUP.
4. LABEL BYPASS RELAY WITH CIRCUIT NUMBER AND FIRE ALARM CONTROL MODULE ADDRESS.
5. COORDINATE WORK WITH FIRE ALARM INSTALLER.
6. SINGLE POLE SWITCH AND LINE VOLTAGE MOTION SENSORS SHOWN. DETAIL ALSO APPLIES WHERE **S3** AND **S4** SWITCHES OR LOW VOLTAGE CONTROLS ARE SHOWN.
7. PROVIDE FOR PATH OF EGRESS AREAS, TO INCLUDE CORRIDORS, EXITS, AND CENTRAL AISLE SERVING CHAPEL SEATING.
8. FIELD VERIFY EXISTING SIGNALING LINE CIRCUIT LOCATION. COORDINATE WITH THE FIRE ALARM INSTALLER. FOR BIDDING PURPOSES ASSUME USE OF THE SIGNALING LINE CIRCUIT UTILIZED FOR REMOVED SMOKE DETECTORS AT THE SKY LIGHT.

3 EL701 LIGHTING BYPASS RELAY CONTROL DIAGRAM
SCALE: NOT TO SCALE

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

OAK POINT ASSOCIATES
architecture engineering planning
85 MIDDLE STREET, PORTSMOUTH, NEW HAMPSHIRE 03801
(T) 603.431.4849 (F) 603.431.1870
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DESIGNED BY: JDJ
DRAWN BY: RSW
CHECKED BY: KAO

PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

LIGHTING FIXTURE SCHEDULE & DETAILS

SCALE: AS NOTED

DATE: 05-16-25

DWG.: EL701

SHEET: X OF XX

OAK POINT ASSOCIATES
architecture
engineering
planning

May 19, 2025

Department of Planning and Community Development
288 Central Avenue
Dover, New Hampshire 03820-4169

Re: **Site Review Application**
St. Thomas Aquinas High School Chapel Addition
197 Dover Point Road
Dover, NH 03820

Dear Sir or Madam:

Oak Point Associates is working on uploading documents to Dover Permitting Portal for the above referenced project. Regarding the request for a *Colored Rendering of the Streetscape* via the Portal, please be advised the proposed building addition is on the back of the existing building and will not be visible from Dover Point Road. There will be no change to the streetscape in front of the school, and therefore we suggest a Colored Rendering of the Streetscape is not applicable/not necessary for this project.

Please contact me at your earliest convenience with any question or comments concerning this project.

Respectfully,



Paul Miller, P.E.
Project Engineer



1 AE202 NORTHWEST PERSPECTIVE
NOT TO SCALE



2 AE202 SOUTHWEST PERSPECTIVE
NOT TO SCALE

16 May, 2025 – 9:46am
Z:\22402.15\22402.15–AE201.dwg

NO.	DATE	DESCRIPTION	BY

REVISIONS

OAK POINT ASSOCIATES
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LICENSED ARCHITECT
BRYAN M LAROCHE
No. 04967
THE STATE OF NEW HAMPSHIRE

DESIGNED BY: BML
DRAWN BY: TLH
CHECKED BY: RSH
PROJECT: 22402.15

ST. THOMAS AQUINAS HIGH SCHOOL
197 Dover Point Road
Dover, New Hampshire 03820
Owner: Roman Catholic Bishop of Manchester
153 Ash Street, Manchester, New Hampshire 03103

ST. THOMAS AQUINAS HIGH SCHOOL CHAPEL ADDITION

EXTERIOR RENDERINGS

SCALE: AS NOTED
DATE: 05-16-25
DWG.: AE202
SHEET: XX OF XX