SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
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October 1, 2021

Steve Puleo, Town Planner
Windham Town Hall
8 School Road
Windham, Maine 04062

Subject: Bangor Savings Bank
Windham Branch/Office Parking Expansion
Final Major Site Plan Amendment Application

Dear Mr. Puleo

On behalf of Bangor Savings Bank (BSB), Sevee & Maher Engineers (SME) is pleased to submit the attached Final Major Site Plan Amendment Application for the expansion of the parking lot at 745 Roosevelt Trail and 6 Abby Road in Windham. Please consider this project for placement on the Planning Board meeting agenda for October 25, 2021. In accordance with submission requirements, we have attached three (3) copies of this narrative, associated plans, and figures for staff and Planning Board review.

BSB plans to construct a fifteen (15) space paved parking expansion for the existing Bank branch and office building that house Bangor Savings Bank and Cross Insurance.

We appreciate your consideration of our application and look forward to reviewing the project in more detail with the Planning Board on October 25, 2021. Please feel free to contact me at 207.829.5016 if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.
Senior Civil Engineer

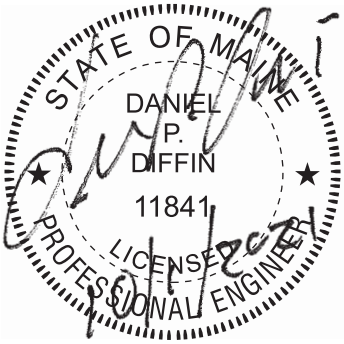
Attachments

TOWN OF WINDHAM PLANNING BOARD
SITE PLAN APPLICATION
BANGOR SAVINGS BANK BRANCH/ OFFICE PARKING EXPANSION

Prepared for

BANGOR SAVINGS BANK

745 Roosevelt Trail and 6 Abby Road
Windham, Maine



October 2021

4 Blanchard Road
P.O. Box 85A
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Phone: 207.829.5016 smemaine.com

SME
SEVEE & MAHER
ENGINEERS

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

TOWN OF WINDHAM
MAJOR SITE PLAN APPLICATION

Final Plan

(Section 811 – Site Plan Review, Submission Requirements)

The original signed copy of this application must be accompanied by:

- The required application and review escrow fees,
- Five (5) collated submission packets, which must include
  - Full size paper copies of each plan, map, or drawing, and
  - A bound copy of the required information found in Section 811 of the Land Use Ordinance.
    - The checklist below offers a brief description of these requirements for the purpose of determining the completeness of a submission. Please use the Ordinance for assembling the submission packets.
    - Only two (2) full copies of Stormwater Management Plan and Traffic Impact Study are required. Summaries and conclusions of the Stormwater Management Plan and Traffic Impact Study are adequate for the remaining three (3) submission packets.
- Electronic submission in PDF format of:
  - All plans, maps, and drawings.
    - These may be submitted as a single PDF file or a PDF for each sheet in the plan set.
  - A PDF of the required information found in Section 811 of the Land Use Ordinance

The submission deadline for Final plans is three (3) weeks before the Planning Board meeting for which it will be scheduled.

Applicants are strongly encouraged to schedule a brief submission meeting with Planning Staff, to walk through the application checklist at the time a Planning Board submission is made. This will allow applicants to receive a determination of completeness, or a punch list of outstanding items, at the time a submission is made.

If you have questions about the submission requirements, please contact:

Windham Planning Department	(207) 894-5960, ext. 2
Amanda Lessard, Planner	allessard@windhammaine.us
Ben Smith, Planning Director	bwsmith@windhammaine.us

Final Plan - Major Site Plan

Project Name: Bangor Savings Bank, Windham Branch/Office Parking Expansion

Tax Map: 67 **Lot:** 54/55/56

Estimated square footage of building(s): 7,000 SF (Existing)

If no buildings proposed, estimated square footage of total development: 54,200

Is the total disturbance proposed > 1 acre? ☐ **Yes** ☑ **No**

Contact Information

1. Applicant

Name: Bangor Savings Bank c/o Jason Donovan

Mailing Address: 11 Hamlin Way, Bangor, ME 04401

Telephone: (207)262-4991 Fax: n/a E-mail: Jason.Donovan@Bangor.com

2. Record owner of property

☐ (Check here if same as applicant)

Name: Cross Realty, LLC c/o Alice Dyer

Mailing Address: 745 Roosevelt Trail, Unit 1 Windham, ME, 04062

Telephone: (207) 892-7996 Fax: (207) 892-8229 E-mail: dyer@crossagency.com

3. Contact Person/Agent (if completed and signed by applicant's agent, provide written documentation of authority to act on behalf of applicant)

Name: Jeff Read, P.E.

Company Name: Sevee & Maher Engineers, Inc.

Mailing Address: 4 Blanchard Road, Cumberland, ME 04021

Telephone: (207)829-5016 Fax: (207)829-5692 E-mail: jtr@smemaine.com

I certify all the information in this application form and accompanying materials is true and accurate to the best of my knowledge.

Wendy R Dumah, SVP 10/1/2021

Signature Date

Final Plan - Major Site Plan: Submission Requirements		Applicant	Staff
a.	Complete Sketch Plan Application form	✓	
b.	Evidence of payment of application and escrow fees	✓	
c.	Written information - submitted in bound report		
1	A narrative describing the proposed use or activity	✓	
2	Name, address, & phone number of record owner, and applicant if different	✓	
3	Names and addresses of all abutting property owners	✓	
4	Documentation demonstrating right, title, or interest in property	✓	
5	Copies of existing proposed covenants or deed restrictions	✓	
6	Copies of existing or proposed easements on the property	✓	
7	Name, registration number, and seal of the licensed professional who prepared the plan, if applicable	✓	
8	Evidence of applicant's technical capability to carry out the project	✓	
9	Assessment of the adequacy of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property	✓	
10	Estimated demand for water supply and sewage disposal	N/A	
11	Provisions for handling all solid wastes, including hazardous and special wastes	N/A	
12	Detail sheets of proposed light fixtures		
13	Listing of proposed trees or shrubs to be used for landscaping	✓	
14	Estimate weekday AM and PM and Saturday peak hour and daily traffic to be generated by the project	N/A	
15	Description of important or unique natural areas and site features, including floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archeological resources	✓	
16	If the project requires a stormwater permit from MaineDEP or if the Planning Board or if the Staff Review Committee determines that such information is required, submit the following:	✓	
	stormwater calculations	✓	
	erosion and sedimentation control measures	✓	
	water quality and/or phosphorous export management provisions		
17	If public water or sewerage will be utilized, provide statement from utility district regarding the adequacy of water supply in terms of quantity and pressure for both domestic and fire flows, and the capacity of the sewer system to accommodate additional wastewater.	✓	
18	Financial Capacity	✓	
	i. Estimated costs of development and itemize estimated major expenses	✓	
	ii. Financing (submit one of the following)		
	a. Letter of commitment to fund		

	b. Self-financing		
	1. Annual corporate report		
	2. Bank Statement		
	c. Other		
	1. Cash equity commitment of 20% of total cost of development		
	2. Financial plan for remaining financing		
	3. Letter from institution indicating intent to finance	✓	
	iii. If a registered corporation a Certificate of Good Standing from:	✓	
	Secretary of State, or	✓	
	statement signed by corporate officer		
19	Technical Capacity (address both)	✓	
	i. Prior experience	✓	
	ii. Personnel	✓	
d.	**Plan Requirements - Existing Conditions**		
i.	Location Map adequate to locate project within the municipality	✓	
ii.	Vicinity Plan. Drawn to scale of not over 400 feet to the inch, and showing area within 250 feet of the property line, and shall show the following:	✓	
	a. Approximate location of all property lines and acreage of parcels	✓	
	b. Locations, widths and names of existing, filed or proposed streets, easements or building footprints	✓	
	c. Location and designations of any public spaces	✓	
	d. Outline of proposed subdivision, together with its street system and an indication of the future probable street system of the remaining portion of the tract		
iii.	North Arrow identifying Grid North; Magnetic North with the declination between Grid and Magnetic; and whether Magnetic or Grid bearings were used	✓	
iv.	Location of all required building setbacks, yards, and buffers	✓	
v.	Boundaries of all contiguous property under the total or partial control of the owner or applicant	✓	
vi.	Tax map and lot number of the parcel or parcels on which the project is located	✓	
vii.	Zoning classification(s), including overlay and/or subdistricts, of the property and the location of zoning district boundaries if the property is located in 2 or more districts or abuts a different district.	✓	
viii.	Bearings and lengths of all property lines of the property to be developed, and the stamp of the surveyor that performed the survey.	✓	
ix.	Existing topography of the site at 2-foot contour intervals	✓	
x.	Location and size of any existing sewer and water mains, culvers and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property and on abutting streets or land that may serve the development.	✓	
xi.	Location, names, and present widths of existing public and/or private streets and rights-of way within or adjacent to the proposed development	✓	
xii.	Location, dimensions, and ground floor elevation of all existing buildings	✓	

xiii.	Location and dimensions of existing driveways, parking and loading areas, walkways, and sidewalks on or adjacent to the site.	✓	
xiv.	Location of intersecting roads or driveways within 200 feet of the site.	✓	
xv.	Location of the following:	✓	
	a. Open drainage courses	✓	
	b. Wetlands	✓	
	c. Stone walls	✓	
	d. Graveyards	✓	
	e. Fences	✓	
	f. Stands of trees or treeline, and	✓	
	g. Other important or unique natural areas and site features, including but not limited to, floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archaeological resources	✓	
xvi.	Direction of existing surface water drainage across the site	✓	
xvii.	Location, front view, dimensions, and lighting of existing signs	✓	
xviii.	Location & dimensions of existing easements that encumber or benefit the site	✓	
xix.	Location of the nearest fire hydrant, dry hydrant, or other water supply	✓	
	Plan Requirements - Proposed Development Activity		
i.	Location and dimensions of all provisions for water supply and wastewater disposal, and evidence of their adequacy for the proposed use, including soils test pit data if on-site sewage disposal is proposed	✓	
ii.	Grading plan showing the proposed topography of the site at 2-foot contour intervals	✓	
iii.	Direction of proposed surface water drainage across the site and from the site, with an assessment of impacts on downstream properties.	✓	
iv.	Location and proposed screening of any on-site collection or storage facilities	N/A	
v.	Location, dimensions, and materials to be used in the construction of proposed driveways, parking and loading areas, and walkways, and any changes in traffic flow onto or off-site	✓	
vi.	Proposed landscaping and buffering	✓	
vii.	Location, dimensions, and ground floor elevation of all buildings or expansions	✓	
viii.	Location, front view, materials and dimensions of proposed signs together with method for securing sign	✓	
ix.	Location and type of exterior lighting. Photometric plan to demonstrate coverage area of all lighting may be required by Planning Board.		
x.	Location of all utilities, including fire protection systems	N/A	
xi.	Approval block: Provide space on the plan drawing for the following words, "Approved: Town of Windham Planning Board" along with space for signatures and date	✓	

2.	**Major Final Site Plan Requirements**		
a.	Narrative and/or plan describing how the proposed development plan relates to the sketch plan	✓	
b.	Stormwater drainage and erosion control program showing:	✓	
	1. Existing and proposed method of handling stormwater runoff	✓	
	2. Direction of the flow of the runoff, through the use of arrows and a description of the type of flow (e.g. sheet flow, concentrated flow, etc.)	✓	
	3. Location, elevation, and size of all catch basins, dry wells, drainage ditches, swales, retention basins, and storm sewers	✓	
	4. Engineering calculations used to determine drainage requirements based on the 25-year, 24-hour storm frequency.	✓	
	5. Methods of minimizing erosion and controlling sedimentation during and after construction.	✓	
c.	A groundwater impact analysis prepared by a groundwater hydrologist for projects involving on-site water supply or sewage disposal facilities with a capacity of 2,000 gallons or more per day	N/A	
d.	Name, registration number, and seal of the Maine Licensed Professional Architect, Engineer, Surveyor, Landscape Architect and/or similar professional who prepared the plan	✓	
e.	A utility plan showing, in addition to provisions for water supply and wastewater disposal, the location and nature of electrical, telephone, cable TV, and any other utility services to be installed on the site	✓	
f.	A planting schedule keyed to the site plan indicating the general varieties and sizes of trees, shrubs, and other vegetation to be planted on the site, as well as information pertaining to provisions that will be made to retain and protect existing trees, shrubs, and other vegetation	✓	
g.	Digital transfer of any site plan data to the town (GIS format)	✓	
h.	A traffic impact study if the project expansion will generate 50 or more trips during the AM or PM peak hour, or if required by the Planning Board	N/A	
Electronic Submission		✓	

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TOWN OF WINDHAM PLANNING BOARD SITE PLAN APPLICATION
BANGOR SAVINGS BANK BRANCH/OFFICE PARKING EXPASION
WINDHAM, MAINE

1.0 PROJECT DESCRIPTION

Bangor Savings Bank (BSB) and Cross Insurance (Cross) are seeking an amendment to their existing site plan to expand parking at the recently constructed bank branch and office building located at 745 and 747 Roosevelt Trail in Windham. These original parcels were identified as Lots 54 and 55 on Town of Windham Tax Map 67.

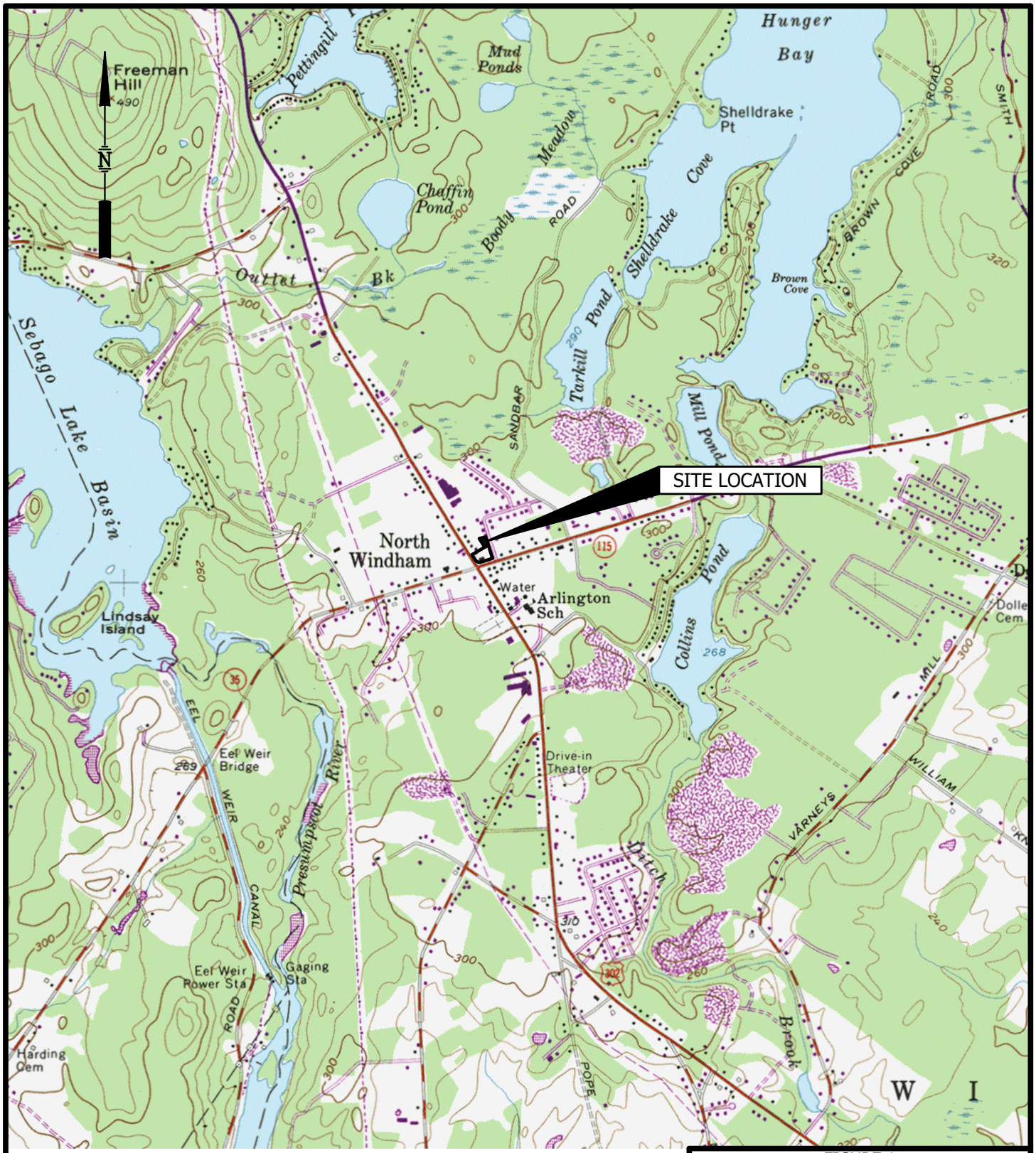
Prior to the start of construction of the bank branch and office building, Cross Realty, LLC, a division of Cross, purchased the property at 6 Abby Road to support site development for the bank branch and office building project. Six Abby Road is identified as Lot 56 on Town of Windham Tax Map 67. The existing residence and utilities were removed from the parcel and a gravel pad was installed to provide space for a job trailer, contractor parking, and materials storage during construction.

Now that bank branch and office building construction is complete, Cross and BSB would like to redevelop this area to provide additional parking for building staff and patrons. Cross and BSB intend to combine the three existing commercial properties currently owned by Cross Insurance into a single parcel.

The three existing parcels are mapped in the Commercial 1 (C1) District. The project site is bounded by Roosevelt Trail (US 302) on the west, Tandberg Trail (ME 115) on the south, and Abby Road on the east. Developed commercial and residential properties exist to the north. The property had approximately 141 linear feet of frontage on Roosevelt Trail, approximately 223 linear feet of frontage on Tandberg Trail, and approximately 200 linear feet of frontage on Abby Road. With the additional property the frontage on Abby Road increased to approximately 323 linear feet. The property location is outlined on the attached Figure 1 - Site Location Map.

Development associated with this site plan amendment will include fifteen (15) new parking spaces on the 6 Abby Road parcel. The new parking area will be paved and connect internally to the new bank branch and office building site. No additional curb cuts will be required. Additional site improvements include site lighting and stormwater management consistent with the new development at the bank branch and office building site.

Prior to construction of the bank and office building, existing development on the 6 Abby Road parcel included a single-family residence with three sheds. As previously outlined, these structures were demolished to construct a temporary gravel pad for construction parking for the bank branch and office building. The original site plan application for the bank branch and office building included approximately 30,570 square feet (sf). of existing impervious area and slightly less than one acre of developed area.



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLES
NORTH WINDHAM, ME - 1977

1000 0 2000 FEET

FIGURE 1
SITE LOCATION MAP
WINDHAM BRANCH/OFFICE
PARKING EXPANSION
BANGOR SAVINGS BANK
WINDHAM, MAINE

SME
SEVEE & MAHER
ENGINEERS

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 9/30/2021

\\Server\cfs\Bangor Savings Bank\North Windham - Abby Road Parking\Acad\Figures\SITELOC.dwg, 9/30/2021 11:38:23 AM, bwb

Proposed improvements will add approximately 3,560 sf to the site and increase total impervious area for the development to approximately 34,130 sf. Overall redeveloped area for the project will increase to approximately 1.24 acres.

This project will result in less than one acre of total impervious surface and less than 1 acre of new developed area. Per the current municipal ordinance, the project is designed to meet Basic Standards as outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500.

The following describes how the project complies with the applicable Chapters of the Land Use Ordinances of the Town of Windham:

2.0 OWNER INFORMATION

Cross Insurance is the current owner of the three properties used to form the combined parcel. Bangor Savings Bank is the Applicant for this project. A copy of the titles for the three properties are included in Appendix A. The fifteen-space parking lot proposed for this project will provide employee and patron overflow parking for Bangor Savings Bank branch and Cross Insurance office on the property. Contact information for the Owner and Applicant are provided below:

Applicant
Bangor Savings Bank c/o Jason Donovan
11 Hamlin Way
Bangor, Maine 04401
Phone: 207-262-4991

Owner
Cross Insurance Agency c/o Alice Dyer
P. O. BOX 1388
Bangor, ME 04402
Phone: 207-947-7345

3.0 SECTION 812 – PERFORMANCE STANDARDS AND APPROVAL CRITERIA

The following describes how the project complies with Section 800 Site Plan Review of the Town of Windham Land Use Ordinance. The following corresponds with the specific Performance Standards and Approval Criteria for Major Site Plans.

3.1 Utilization of the Site

As previously outlined, the existing property is currently developed with one commercial structure, paved parking, a gravel pad, and three site access locations. Commercial use will remain on the property following proposed improvements with a parking expansion, site lighting, and minor landscaping. New construction is designed to conform to the current comprehensive plan and adhere to current setback requirements. There are no environmentally sensitive areas on the property; existing drainage patterns on the property will be maintained to the greatest extent possible.

3.2 Vehicular Traffic

A total of 25 employees are anticipated for the proposed bank branch and office building. Ten employees will work at the Bangor Savings Bank branch and 15 employees will occupy the Cross Insurance office space.

The site currently has a right in/out access off Roosevelt Trail, a right in access off Tandberg Trail, and a entrance/exit access location off Abby Road. Plans include an internal curb cut to access the 15-space parking expansion. Site access is designed to meet the requirements of current municipal Ordinance and provide safe, efficient access to the property.

The sight distance measured at the proposed access points exceeds the Town of Windham standards for posted speeds on the respective roadways. No new site access locations are proposed as part of this site plan amendment.

The proposed parking area and drive aisles are designed to meet the requirements for off-street parking outlined in this Ordinance. The parking area will be paved and feature a single aisle parking access, traffic control signage, and pedestrian crossings to minimize conflict between vehicles and pedestrians. The Site Layout Plan, Drawing C-103, outlines design and construction for the proposed parking area.

3.3 Parking and Loading Requirements

Proposed access to the fifteen (15) space parking lot will be an internal curb cut off the existing Abby Road site access. Parking in this area will be used primarily by building employees. As outlined in the municipal ordinance, 30 percent of the total parking spaces are oversize spaces at 10 feet by 20 feet, and proposed parking spaces and drive aisles were designed to meet the requirements for ninety-degree off-street parking. The Site Layout Plan, Drawing C-103, outlines design and construction dimensions for the proposed parking area.

3.4 Pedestrian Traffic

The parking area will feature a single aisle parking access, traffic control signage, and pedestrian crossings to minimize conflict between vehicles and pedestrians. The Site Layout Plan, Drawing C-103, outlines design and construction for the proposed pedestrian walks.

3.5 Stormwater Management

See Appendix C for the Stormwater Management Report describing the impacted watershed area and projected site runoff. There are no adverse impacts on downstream drainage anticipated from this project. A Post-construction Stormwater Management Plan is provided as well, outlining the required inspections and maintenance for the site.

3.6 Erosion Control

All grading, filling, and associated site construction will be conducted in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) latest edition, dated October 2016. This will be the minimum standard for erosion and sedimentation control for the project, as adopted by the Town of Windham from the MEDEP standards. Erosion and sedimentation control notes and details are included on Drawing C-105 and Drawing C-300 in the attached drawing set.

3.7 Water Supply Provisions

There are no proposed water connections associated with the parking expansion. This section is not applicable to the project.

3.8 Sewage Disposal Provisions

There are no proposed sewage disposal connections associated with the parking expansion. This section is not applicable to the project

3.9 Utilities

There are no proposed external utility connections planned for this project. Site lighting will connect to the existing parking lot circuit and timer west of the proposed parking area access.

3.10 Groundwater Protection

The proposed parking expansion will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.

3.11 Water Quality Protection

The proposed parking expansion will not have storage or discharge of any treated or untreated liquid, gases, or solids that will contaminate or pollute water. The Stormwater Management Report in Appendix C outlines how water quality will be protected. The quality of water will not be impacted by this project.

3.12 Hazardous, Special, and Radioactive Materials

There will be no hazardous, special, or radioactive material generated or stored on this property.

3.13 Shoreland Relationship

There are no shorelands on this property as shown on the FEMA Firmette Map included as Appendix D.

3.14 Technical and Financial Capacity

Anticipated construction cost for the project will total at approximately $55,500. Appendix B includes a unit cost estimate spreadsheet for the proposed construction and a letter outlining the Applicant's relationship with the lender and their capacity to complete the proposed project.

Bangor Savings Bank has contracted with experienced, qualified firms to manage the facility's design and permitting. The following is a list of the firms and the roles for this project.

Civil Engineer:

Sevee & Maher Engineers, Inc.
4 Blanchard Road
Cumberland, ME 04021

3.15 Solid Waste Management

The proposed parking expansion will not generate solid waste. Solid waste at the existing bank branch and office building is disposed of at the dumpster located at the dumpster enclosure on the northeast corner of the parking lot. The solid waste is removed through a contract with a private waste hauler.

3.16 Historic and Archaeological Resources

The project will be completed on a developed parcel. No disturbance to historic buildings or structures is proposed as part of this project.

3.17 Floodplain Management

Based on review of the flood hazard boundary maps, the site is not situated in a federally designated flood hazard zone. A copy of the FEMA Firmette map is included as Appendix D.

3.18 Exterior Lighting

Site lighting is designed for the safe operations of the building and surrounding parking areas. The site lighting fixture will be full cut-off and shielded. LED lights are planned to provide minimal light beyond what is needed. The proposed light pole location has been shown on the Site Utilities Plan, Drawing C-104. Cut sheets for of the planned fixtures is included in Appendix E.

3.19 Noise

The noise levels of the proposed parking lot expansion for bank branch and office will be under 65 dB between 7:00 am and 10:00 pm and under 55 dB between 10:01 pm and 6:59 am.

3.20 Storage of Materials

There will be no storage of materials on site.

4.0 SECTION 813 – COMMERCIAL DISTRICT DESIGN STANDARDS

This project is located in the Commercial 1 Zoning District. The following corresponds with the specific Commercial District Design Standards.

4.1 Architecture/Building

There are no proposed buildings associated with the parking expansion. This section is not applicable.

4.2 Site/Parking

In conformance with the district design standards, parking will be located near the rear and side of the existing bank branch/office structure. Internal traffic flow is designed to enhance the safety of motorists and pedestrians. The proposed parking lot will have an internal access off the Abby Road site entrance. Parking spaces, directional arrows, and crosswalks will be delineated with pavement paint and traffic signage to ensure safe circulation.

Site design includes minor parking lot landscaping, low-impact stormwater management, and underground site utilities to conform to zoning requirements. These features are detailed in the project plan set included with this application.

4.3 Landscaping/Lighting

The lighting is designed to prevent glare and dark spots in the parking lot and provide safe operation for pedestrian/vehicle traffic. Exterior lighting will be shielded, full cut-off type LED fixtures to minimize impact to the night sky. The pole will be square steel and not exceed 15 feet in height. Illumination levels and uniformity shall be based on Illuminating Engineering Society of North America (IES) recommended levels and designed to comply with local ordinances. Appendix E includes product cut sheets for proposed pole mounted fixtures.

The existing trees and shrubs surrounding the parking expansion will be maintained to the greatest extend possible. Snow storage areas are located adjacent to the proposed parking area and outlined in the project plan set.

4.4 Bicycle/Pedestrian

Site design includes sidewalks and crosswalks to provide safe internal pedestrian circulation between building entrances and parking areas. Details are provided in the attached plan set.

APPENDIX A

TITLE, RIGHT OR INTEREST

SME
SEVEE & MAHER
ENGINEERS

QUITCLAIM DEED
With Covenant

KNOW ALL PERSONS BY THESE PRESENTS, that I, **MARY LOU PATTEN,** Successor Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, of South Portland, County of Cumberland, State of Maine, for consideration paid, **GRANT** to **CROSS REALTY, LLC**, a Maine Limited Liability Company whose mailing address is P.O. Box 1388, Bangor, Maine, 04402, with **QUITCLAIM COVENANT,** the with any buildings thereon land in the Town of Windham, County of Cumberland, State of Maine bounded and described as follows:

Beginning at the intersection of the easterly line of the county road U.S. Route 302 with the northerly line of the Gray and Standish county road; thence on the easterly line of Route 302 North 15 degrees and 27 minutes West 106.83 feet to the Southerly line of Ronald and Goldie M. Pitt; thence North 77 degrees 13 minutes East 154 feet to an iron pipe in the ground at the Southeast corner of said Pitt land; thence North 8 degrees and 59 minutes West 43 feet to an iron pipe on the line formerly of Sarah Taylor; thence North 75 degrees and 39 minutes East 69.25 feet to an iron pipe at the Southeasterly corner of Sarah Taylor land; thence continuing on the same course to the Westerly side of a 50 foot unaccepted street located on land of Clinton H. Philpot and Venetia L. Philpot 55.98 feet to an iron pipe; thence South 1 degree and 5 minutes East 205.56 feet to an iron pipe on the Northerly side of the aforesaid Gray and Standish county road; thence along the Northerly side of said Gray and Standish county road South 88 degrees and 55 minutes West 240.38 feet to the point of beginning.

Excepting and reserving from the foregoing parcel of land a parcel of land containing about 116 square feet conveyed by Robert T. Meserve et al. for highway purposes by deed dated October 11, 1967 and recorded at the Cumberland County Registry of Deeds in Book 3016, Page 661.

Also excepting and reserving from the foregoing parcel of land such land or rights acquired by the Department of Transportation for the State of Maine by eminent domain pursuant to a Notice of Layout and Taking dated August 26, 1980 and recorded at the Cumberland County Registry of Deeds in Book 4654, Page 309. Also such land or rights acquired by the Department of Transportation for the State of Maine by eminent domain pursuant to a Notice of Layout and Taking dated September 13, 1994 and recorded at said Registry of Deeds in Book 11639, Page 317.

Being the same premises conveyed to the Grantor herein by Deed of Frank Patten and Mary Lou Patten dated January 11, 2000 and recorded in the Cumberland County Registry of Deeds in Book 15311, Page 081.

And the Grantor, in her capacity as Trustee of said Frank Patten Revocable Trust dated April 19, 1982, as amended, does hereby covenant with the Grantee, and the Grantee's successors and assigns, that the Grantor is the sole Trustee pursuant to said Trust; that said Trust is still in full force and effect; that the Grantor has the power thereunder to convey as aforesaid; and that in making this conveyance, the Grantor has, in all respects, acted pursuant to and in

accordance with the authority vested and granted to the Grantor herein and all terms and conditions of said Trust.

IN WITNESS WHEREOF, MARY LOU PATTEN, as Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, has hereunto set her hand and seal this 23rd day of March, 2007.

THE FRANK PATTEN REVOCABLE TRUST
DATED APRIL 19, 1982, AS AMENDED

Witness

Mary Lou Patten — Trustee
By: Mary Lou Patten, Trustee

STATE OF MAINE
CUMBERLAND, ss.

March 23, 2007

Personally appeared the above named MARY LOU PATTEN in her capacity as Trustee of the Frank Patten Revocable Trust dated April 19, 1982, as amended, and acknowledged the foregoing instrument to be her free act and deed and the free act and deed of said Trust.

Before me,

Ellen R. Guptill
Notary Public/Attorney at Law

ELLEN R. GUPTILL
Notary Public, Maine
My Commission Expires April 23, 2007

SEAL

Received
Recorded Register of Deeds
Mar 23,2007 03:05:23P
Cumberland County
Pamela E. Lovley

WARRANTY DEED
(Maine Statutory Short Form)

KNOW ALL BY THESE PRESENTS, that we, **LYNDEN A. PITT** AND **JEANETTE PITT** of Windham, Maine, for consideration paid, GRANT to **CROSS REALTY, LLC**, a limited liability company organized and existing under the laws of the State of Maine and having a mailing address of P. O. Box 1388, Bangor, Maine 04401, with WARRANTY COVENANTS, certain real estate located in Windham, Cumberland County, Maine, more particularly described in Exhibit A attached hereto and made a part hereof.

Meaning and intending to convey and hereby conveying the same premises conveyed to the Grantors by deed from Lynden A. Pitt, dated August 28, 1995 and recorded at the Cumberland County Registry of Deeds in Book 12113, Page 295.

WITNESS our hands and seals this 31st day of August, 2007.

MAINE REAL ESTATE TAX PAID

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF

Witness — Lynden A. Pitt

Witness — Jeanette Pitt

STATE OF MAINE
County of Cumberland, SS.

August 31st, 2007

Then personally appeared the above-named Lynden & Jeanette Pitt and acknowledged the foregoing instrument to be his/her free act and deed.

Before me,

Notary Public/~~Maine Attorney at Law~~
Printed Name: Madison A. Stedl

MADISON A. STEDL
Notary Public, Maine
My Commission Expires May 28, 2011

SEAL

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED WITH COVENANT
DLN: 1001940072407

PATRICIA E. LONG and **DAVID B. LONG**, both of Windham, Cumberland County, Maine, for consideration paid, grant to **CROSS REALTY, LLC**, a Maine limited liability company with a principal place of business at Bangor, Penobscot County, Maine, with Quitclaim Covenant, the land, together with any buildings and improvements thereon, in Windham, Cumberland County, State of Maine, described as follows:

See Exhibit A attached hereto and made a part hereof.

Any and all other rights, easements, privileges and appurtenance belonging to the granted estate are hereby conveyed.

For grantors' source of title, reference may be had to (1) a deed from Randall J. Varney and Pamela R. Varney to Edward B. Johnson and Patricia E. Johnson, dated May 27, 1983 and recorded in the Cumberland County Registry of Deeds in Book 6184, Page 19; (2) a deed from Edward B. Johnson to Patricia E. Long, formerly known as Patricia E. Johnson, dated August 13, 2007 and recorded in said Registry in Book 25430, Page 70; and (3) a deed from Patricia E. Long, formerly known as Patricia E. Johnson, to Patricia E. Long and David B. Long, dated August 13, 2007 and recorded in said Registry in Book 25430, Page 72.

The Grantee's mailing address is P.O. Box 1388, Bangor, Maine 04401.

WITNESS our hands and seals this 19 day of September, 2019.

Witness

Carrie E. Cooper — Patricia E. Long
Patricia E. Long

Carrie E. Cooper — David Long
David B. Long

STATE OF MAINE
COUNTY OF CUMBERLAND

September 19, 2019

Then personally appeared the above-named Patricia E. Long and David B. Long and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Corina E. Cooper

Notary Public/Maine Attorney-at-law
Type or Print Notary Name: Corina E. Cooper
My Commission Expires: Feb 26, 2023

160.1)

DOC :46969 BK:36000 PG:45
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
09/20/2019, 02:53:29P
Register of Deeds Nancy A. Lane E-RECORDED

EXHIBIT A

A certain lot or parcel of land together with the building thereon, situated in the Town of Windham, County of Cumberland and State of Maine, being Lot No. 1 as shown on Revision of Plans of Fairview Park and Fairview Park Ext. No. One, made by L. B. Varney, Eng., March 20, 1963 and recorded in Cumberland County Registry of Deeds in Plan Book 62, Page 18, to which plan reference is hereby made, bounded and described as follows:

Beginning on the westerly sideline of Woodville Road at a point two hundred five and fifty-six hundredths (205.56) feet from the northerly sideline of Route 115 and at the northeasterly corner of land now or formerly of Robert Meserve; thence South seventy-five degrees thirty-nine minutes West (S 75° 39' W) by said Meserve land a distance of fifty-five and ninety-eight hundredths (55.98) feet to the southeasterly corner of land now or formerly of Harry Taylor; thence North fifteen degrees thirty minutes West (N 15° 30' W) by said Taylor land and land now or formerly of Roger McGrath a distance of one hundred fifty-six and five tenths (156.5) feet to the southerly sideline of Lot No. 2 on said Plan of Fairview Park; thence South eighty-one degrees fifty-eight minutes East (S 81° 58' E) by said Lot No. 2 a distance of ninety-eight and eight tenths (98.8) feet to the westerly side line of said Woodville Road; :thence southerly by said road forming an included angle of ninety-nine degrees seven minutes (99° 07') a distance of one hundred twenty-four and eight tenths (124.8) feet to the point of beginning.

APPENDIX B

FINANCIAL CAPACITY

SME
SEVEE & MAHER
ENGINEERS

Bangor Savings Bank

You matter more.

March 27, 2020

Windham Planning Board
Town of Windham
8 School Road
Windham, Maine 04062

Re: Proposed Bangor Savings Bank and Cross Insurance Agency, 745-747 Roosevelt Trail, Windham, Maine

To Windham Planning Board:

Bangor Savings Bank and Cross Insurance Agency is proposing to redevelop the property at 745-747 Roosevelt Trail into a single-story branch bank and office building with a double drive through. Bangor Savings has recently completed a similar project in Auburn, Maine. Based on our past experiences, Bangor Savings has the technical and financial capabilities to successful complete the proposed project.

Sincerely,

Bob Montgomery-Rice
President & CEO

Founders Place • PO Box 930 • Bangor, ME 04402-0930
www.bangor.com • 1.877.226.4671
Member FDIC | Equal Housing Lender

APPENDIX C

STORMWATER MANAGEMENT REPORT

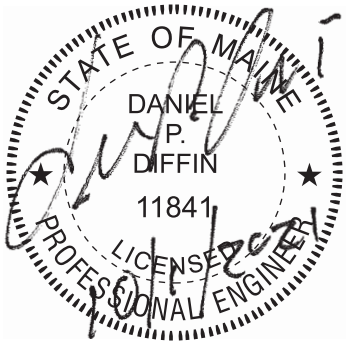
SME
SEVEE & MAHER
ENGINEERS

STORMWATER MANAGEMENT REPORT
BANGOR SAVINGS BANK
WINDHAM BRANCH/OFFICE PARKING EXPANSION

Prepared for

BANGOR SAVINGS BANK

745 Roosevelt Trail and 6 Abby Road
Windham, Maine



October 2021

4 Blanchard Road
P.O. Box 85A
Cumberland, Maine 04021
Phone: 207.829.5016 smemaine.com

SME
SEVEE & MAHER
ENGINEERS

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

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STORMWATER MANAGEMENT REPORT
BANGOR SAVINGS BANK BRANCH/OFFICE PARKING EXPANSION
WINDHAM, MAINE

1.0 INTRODUCTION

The following outlines the Stormwater Management Design for the Bangor Savings Bank (BSB) Branch/Office Parking Expansion project at 745 Roosevelt Trail and 6 Abby Road in Windham, Maine. The stormwater design prepared by Sevee & Maher Engineers, Inc. (SME) is based on the water quality and quantity objectives identified by the Town of Windham (Town) Land Use Ordinance and Maine Department of Environmental Protection (MEDEP) Chapter 500 Standards.

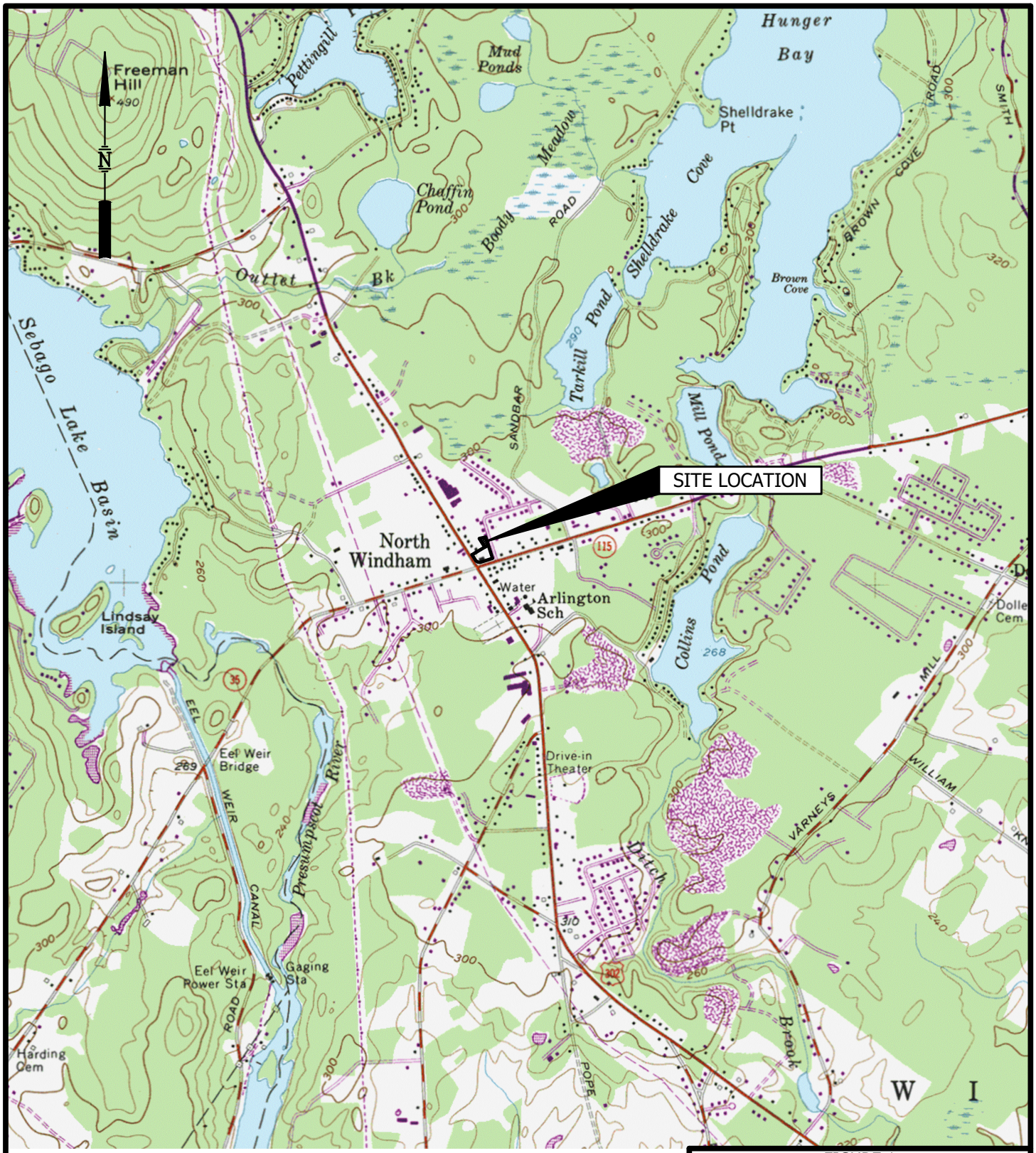
2.0 PROJECT DESCRIPTION

Bangor Savings Bank (BSB) and Cross Insurance (Cross) are seeking an amendment to their existing site plan to expand parking at the recently constructed bank branch and office building located at 745 and 747 Roosevelt Trail in Windham. These original parcels were identified as Lots 54 and 55 on Town of Windham Tax Map 67.

Prior to the start of construction of the bank branch and office building, Cross Realty, LLC, a division of Cross, purchased the property at 6 Abby Road to support site development for the bank branch and office building project. Six Abby Road is identified as Lot 56 on Town of Windham Tax Map 67. The existing residence and utilities were removed from the parcel and a gravel pad was installed to provide space for a job trailer, contractor parking, and materials storage during construction.

Now that bank branch and office building construction is complete, Cross and BSB would like to redevelop this area to provide additional parking for building staff and patrons. Cross and BSB intend to combine the three existing commercial properties currently owned by Cross Insurance into a single parcel.

The three existing parcels are mapped in the Commercial 1 (C1) District. The project site is bounded by Roosevelt Trail (US 302) on the west, Tandberg Trail (ME 115) on the south, and Abby Road on the east. Developed commercial and residential properties exist to the north. The property had approximately 141 linear feet of frontage on Roosevelt Trail, approximately 223 linear feet of frontage on Tandberg Trail, and approximately 200 linear feet of frontage on Abby Road with the additional property the frontage on Abby Road increased to approximately 323 linear feet. The property location is outlined on the attached Figure 1 - Site Location Map.



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLES
NORTH WINDHAM, ME - 1977

1000 0 2000 FEET

FIGURE 1
SITE LOCATION MAP
WINDHAM BRANCH/OFFICE
PARKING EXPANSION
BANGOR SAVINGS BANK
WINDHAM, MAINE

SME
SEVEE & MAHER
ENGINEERS

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 9/30/2021

\\Server\cfs\Bangor Savings Bank\North Windham - Abby Road Parking\Acad\Figures\SITELOC.dwg, 9/30/2021 11:38:23 AM, bwb

Development associated with this site plan amendment will include a fifteen (15) new parking spaces on the 6 Abby Road parcel. The new parking area will be paved and connect internally to the new bank branch and office building site. No additional curb cuts will be required. Additional site improvements include site lighting and stormwater management consistent with the new development at the bank branch and office building site.

Prior to construction of the bank and office building, existing development on the 6 Abby Road parcel included a single-family residence with three sheds. As previously outlined, these structures were demolished to construct a temporary gravel pad for construction parking for the bank branch and office building. The original site plan application for the bank branch and office building included approximately 30,570 square feet (sf). of existing impervious area and slightly less than one acre of developed area.

Proposed improvements will add approximately 3,560 sf to the site and increase total impervious area for the development to approximately 34,130 sf. Overall redeveloped area for the project will increase to approximately 1.24 acres.

This project will result in less than one acre of total impervious surface and less than 1 acre of new developed area. Per the current municipal ordinance, the project is designed to meet Basic Standards as outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500.

3.0 SITE WATERSHED

On-site soils were identified using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil information for Cumberland County and part of Oxford County, Maine. A copy of the custom Soil Resource Report is included in Appendix A. The soil in the area of work consists of Hinckley loamy sand (HlB), which is classified as a “Excessively drained” hydrologic soil group (HSG) A type soil.

The site is currently developed with bank and office building, paved parking, and a gravel pad constructed to support recent bank and office building construction. As previously outlined, the 6 Abby Road parcel was a developed residential property prior to redevelopment of the bank and office building property. For stormwater modeling purposes in this investigation, the original residential development will be used as a basis for existing conditions.

Existing development on the southern portion of the property, including the bank branch and office building, and a significant portion of the paved parking and drive through area drain to two infiltration basins. The remaining portion of this area generally drains to Abby Road, Tandberg Trail, and Roosevelt Trail to the east, south, and west, respectively, where it is collected by the municipal storm drain system. Site conditions in this area will not change as part of the proposed parking expansion. For the

purposes of this stormwater management design, a central drain manhole at the intersection of Tandberg Trail and Roosevelt Trail was selected as Analysis Point 1 (AP-1) to represent the Town storm drain system. Information for this portion of the property is provided as a reference.

The focus of this investigation is the proposed parking expansion at the northeast portion of the property. This area generally drains by overland flow from the center of the parcel to the northeast and southwest. For the purposes of this stormwater management design, Analysis Points 2 and 3 (AP-2, AP-3) were located at the east and west property lines, respectively, near the northeast and southwest property corners to represent overland flow leaving the property.

In developed conditions, the proposed parking area is crowned and sloped to direct stormwater runoff to the southeast and southwest. Collection swales carry the stormwater runoff to two infiltration basins located adjacent to the southeast and southwest corners of the proposed parking area. The remaining portion of the property is designed to drain overland to the property boundary, as it does in the existing configuration.

Stormwater management plans identify the on-site drainage patterns before and after development (see Drawings D-100 and D-101). These drawings are included in the project plan set for reference. Appendix B provides pre- and post-development stormwater calculations using TR-20 methodologies prepared with the HydroCAD Version 10.0 computer stormwater modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire.

4.0 STORMWATER QUALITY ANALYSIS

As previously outlined, stormwater treatment will not be required for this project based on Town stormwater requirements and Maine Department of Environmental Protection (MEDEP) Chapter 500 standards. The project will result in approximately 34,130 sf of impervious surface within the 1.24 acres of redeveloped land in the project area. In accordance with the pollutant rankings and ranked impact change in Chapter 500, BSB is not required to treat of the proposed impervious and developed areas for the project. A redevelopment treatment calculation summary is provided in Appendix C.

This project is designed to meet Basic Standards outlined in Maine Department of Environmental Protection (MEDEP) Chapter 500; construction will adhere to MEDEP Best Management Practices (BMPs) for erosion and sedimentation control as shown on drawings. Based on the size of the project and the scope of proposed development, we do not anticipate redevelopment of the parcel will adversely impact the quality of stormwater runoff from the property. The site is located in a large, urban watershed and currently discharges directly to a municipal storm drain system. New construction will include clearing the site, installation of landscaping, and construction of a stormwater infiltration system.

5.0 STORMWATER QUANTITY ANALYSIS

Stormwater quantity is managed to the maximum extent practicable through minimizing the amount of impervious area on the site and utilizing the storage characteristics of the infiltration basins in the northern portion of the project area.

Stormwater peak flow rates were modeled for the 2-, 10-, and 25-year/24-hour storm events with Type III Soil Conservation Service rainfall distribution, using the HydroCAD computer modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire. The peak flow rates at each Analysis Point are summarized in Table 1. Copies of the calculations for the pre-development and post-development models are provided in Appendix B.

TABLE 1

STORMWATER QUANTITY SUMMARY

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AP	2-yr Storm		10-yr Storm		25-yr Storm	
	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)
1	1.23	1.23	2.43	2.43	3.45	3.45
2	0.00	0.00	0.02	0.00	0.07	0.00
3	0.03	0.00	0.12	0.00	0.20	0.00

As outlined in Table 1, our model indicates decreased peak flow rates at AP-2 and AP-3 for the post-development conditions, which represents a reduction in surface runoff to the off-site drainage as compared to the existing conditions.

6.0 MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

Maintenance of the proposed facility will be performed by BSB as part of their regular landscape operations. Contact information for the Owner's representative is included in the Post-Construction Stormwater Management Plan, attached as Appendix D. During construction, the site work contractor (not yet selected) will be responsible for all site maintenance. The Post-Construction Stormwater Management Plan describes the facilities to be maintained and includes sample maintenance logs. There are no new drainage easements, deed restrictions, or 'third-party' maintenance contracts proposed for this project.

7.0 SUMMARY

The stormwater management for this project was designed in accordance with the water quality and quantity objectives identified by the Town of Windham (Town) Land Use Ordinance and MEDEP Chapter 500 requirements for redevelopment projects. There will be no adverse impact to adjacent properties or downstream structures as a result of this project.

APPENDIX A

NRCS SOIL REPORT

SME
SEVEE & MAHER
ENGINEERS

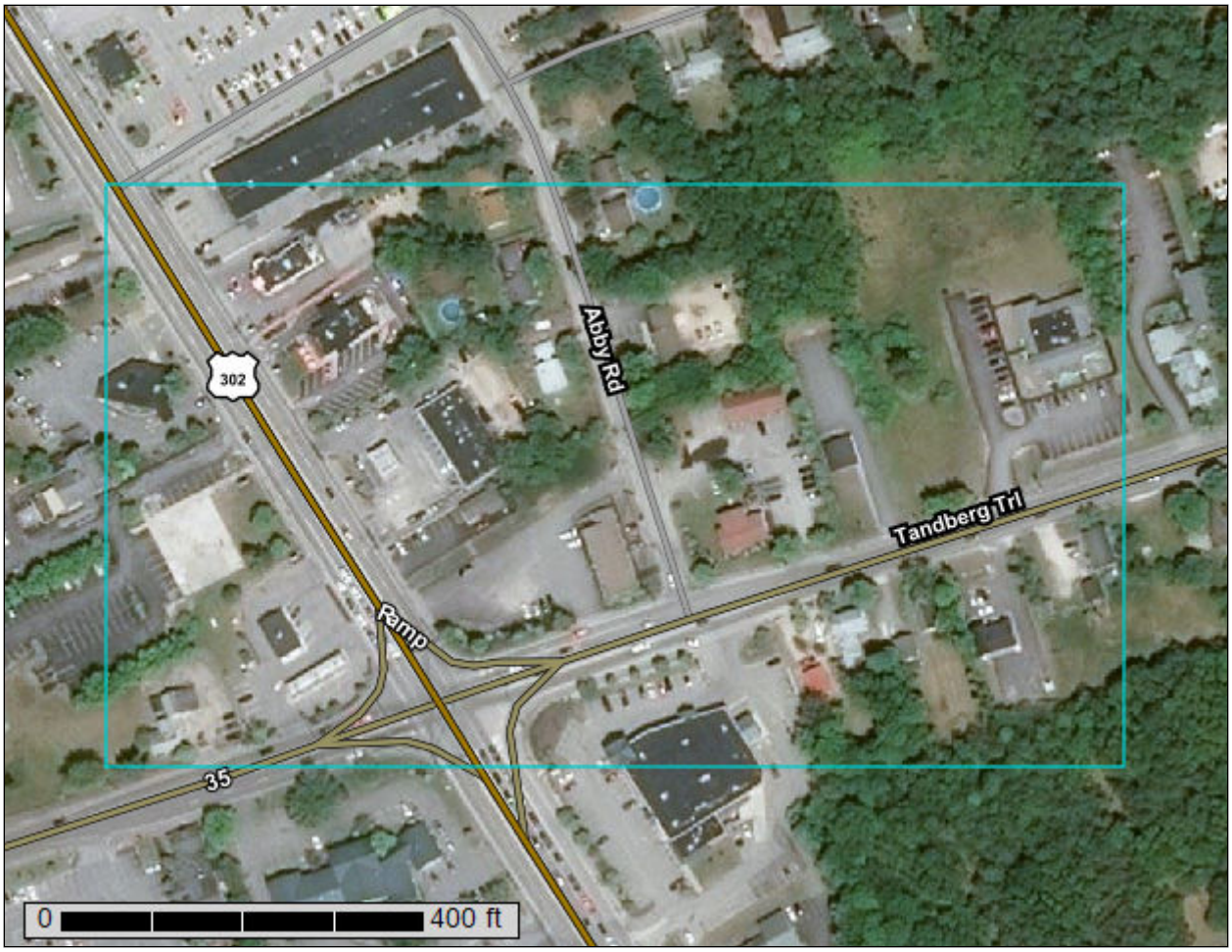
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



January 27, 2020

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,880 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil 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 1:24,000.

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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 16, Sep 16, 2019

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

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

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

MAP LEGEND

MAP INFORMATION

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	16.6	100.0%
Totals for Area of Interest		**16.6**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of statewide importance

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 plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, tread, riser
Down-slope shape: Linear, convex, concave
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: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
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
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 8 percent
Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, tread, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Kame terraces, outwash plains, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope, head slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent
Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, tread, riser
Down-slope shape: Convex, concave, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

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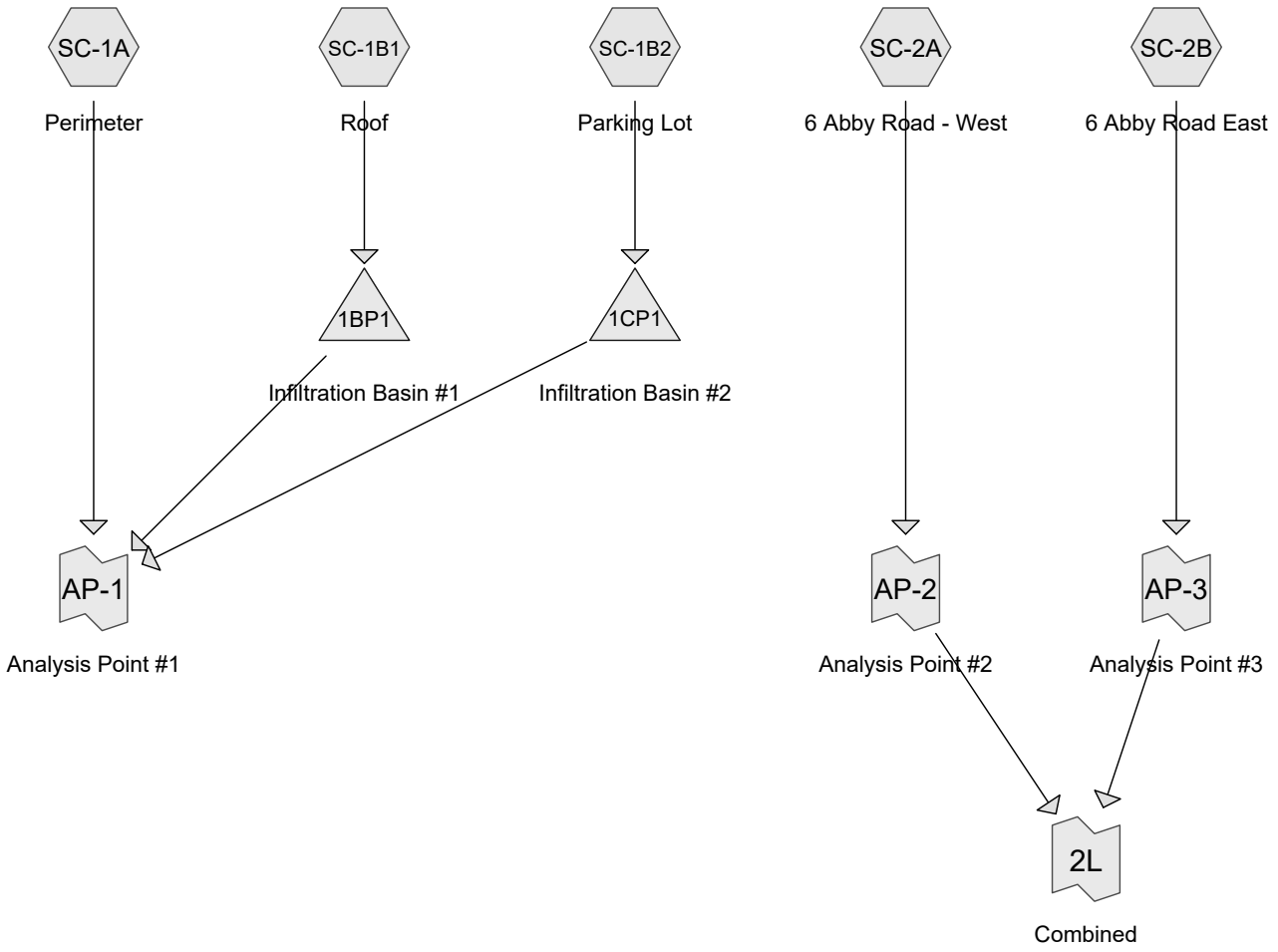
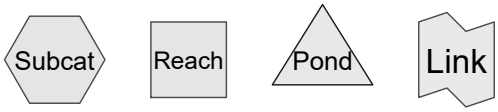
APPENDIX B

PRE-DEVELOPMENT AND POST-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS





Routing Diagram for BSB Windham - Existing 20210902
Prepared by {enter your company name here}, Printed 9/30/2021
HydroCAD® 10.10-4a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment SC-1A: Perimeter

Runoff = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 0.054 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A: 6 Abby Road - West

Runoff = 0.00 cfs @ 15.60 hrs, Volume= 0.000 af, Depth> 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
5,844	39	>75% Grass cover, Good, HSG A
606	98	Roofs, HSG A
6,450	45	Weighted Average
5,844		90.60% Pervious Area
606		9.40% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
465	98	Paved parking, HSG A
473	96	Gravel surface, HSG A
614	98	Roofs, HSG A
2,421	39	>75% Grass cover, Good, HSG A
3,973	62	Weighted Average
2,894		72.84% Pervious Area
1,079		27.16% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 1.05" for 2-yr Storm event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af
Outflow = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af, Atten= 46%, Lag= 9.2 min
Discarded = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.11' @ 12.24 hrs Surf.Area= 833 sf Storage= 88 cf

Plug-Flow detention time= 3.3 min calculated for 0.022 af (100% of inflow)
Center-of-Mass det. time= 3.0 min (814.7 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.18 cfs @ 12.24 hrs HW=308.11' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 1.63" for 2-yr Storm event
Inflow = 0.81 cfs @ 12.08 hrs, Volume= 0.054 af
Outflow = 0.23 cfs @ 12.44 hrs, Volume= 0.054 af, Atten= 72%, Lag= 21.7 min
Discarded = 0.23 cfs @ 12.44 hrs, Volume= 0.054 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.56' @ 12.44 hrs Surf.Area= 1,083 sf Storage= 529 cf

Plug-Flow detention time= 14.6 min calculated for 0.053 af (100% of inflow)
Center-of-Mass det. time= 14.4 min (802.4 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.23 cfs @ 12.44 hrs HW=308.56' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 2L: Combined

Inflow Area = 0.239 ac, 16.17% Impervious, Inflow Depth > 0.16" for 2-yr Storm event
Inflow = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af
Primary = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 0.66" for 2-yr Storm event
Inflow = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af
Primary = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 0.148 ac, 9.40% Impervious, Inflow Depth > 0.02" for 2-yr Storm event
Inflow = 0.00 cfs @ 15.60 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 15.60 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.091 ac, 27.16% Impervious, Inflow Depth > 0.38" for 2-yr Storm event
Inflow = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af
Primary = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SC-1A: Perimeter

Runoff = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.42 cfs @ 12.07 hrs, Volume= 0.096 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A: 6 Abby Road - West

Runoff = 0.02 cfs @ 12.34 hrs, Volume= 0.003 af, Depth> 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
5,844	39	>75% Grass cover, Good, HSG A
606	98	Roofs, HSG A
6,450	45	Weighted Average
5,844		90.60% Pervious Area
606		9.40% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
465	98	Paved parking, HSG A
473	96	Gravel surface, HSG A
614	98	Roofs, HSG A
2,421	39	>75% Grass cover, Good, HSG A
3,973	62	Weighted Average
2,894		72.84% Pervious Area
1,079		27.16% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 2.13" for 10-yr Storm event
Inflow = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af, Atten= 66%, Lag= 18.7 min
Discarded = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.41' @ 12.39 hrs Surf.Area= 1,089 sf Storage= 378 cf

Plug-Flow detention time= 10.6 min calculated for 0.044 af (100% of inflow)
Center-of-Mass det. time= 10.3 min (806.1 - 795.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.23 cfs @ 12.39 hrs HW=308.41' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 2.91" for 10-yr Storm event
Inflow = 1.42 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 0.30 cfs @ 12.50 hrs, Volume= 0.096 af, Atten= 79%, Lag= 25.6 min
Discarded = 0.30 cfs @ 12.50 hrs, Volume= 0.096 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.14' @ 12.50 hrs Surf.Area= 1,400 sf Storage= 1,247 cf

Plug-Flow detention time= 31.4 min calculated for 0.095 af (100% of inflow)
Center-of-Mass det. time= 31.2 min (805.6 - 774.4)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.30 cfs @ 12.50 hrs HW=309.14' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 2L: Combined

Inflow Area = 0.239 ac, 16.17% Impervious, Inflow Depth > 0.58" for 10-yr Storm event
Inflow = 0.12 cfs @ 12.10 hrs, Volume= 0.012 af
Primary = 0.12 cfs @ 12.10 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.30" for 10-yr Storm event
Inflow = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af
Primary = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 0.148 ac, 9.40% Impervious, Inflow Depth > 0.27" for 10-yr Storm event
Inflow = 0.02 cfs @ 12.34 hrs, Volume= 0.003 af
Primary = 0.02 cfs @ 12.34 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.091 ac, 27.16% Impervious, Inflow Depth > 1.08" for 10-yr Storm event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af
Primary = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SC-1A: Perimeter

Runoff = 3.45 cfs @ 12.08 hrs, Volume= 0.230 af, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.92 cfs @ 12.07 hrs, Volume= 0.131 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A: 6 Abby Road - West

Runoff = 0.07 cfs @ 12.12 hrs, Volume= 0.008 af, Depth> 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
5,844	39	>75% Grass cover, Good, HSG A
606	98	Roofs, HSG A
6,450	45	Weighted Average
5,844		90.60% Pervious Area
606		9.40% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
465	98	Paved parking, HSG A
473	96	Gravel surface, HSG A
614	98	Roofs, HSG A
2,421	39	>75% Grass cover, Good, HSG A
3,973	62	Weighted Average
2,894		72.84% Pervious Area
1,079		27.16% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 3.09" for 25-yr Storm event
Inflow = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af
Outflow = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af, Atten= 71%, Lag= 21.3 min
Discarded = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.67' @ 12.43 hrs Surf.Area= 1,329 sf Storage= 682 cf

Plug-Flow detention time= 17.1 min calculated for 0.064 af (100% of inflow)
Center-of-Mass det. time= 16.9 min (804.2 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.28 cfs @ 12.43 hrs HW=308.66' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 3.98" for 25-yr Storm event
Inflow = 1.92 cfs @ 12.07 hrs, Volume= 0.131 af
Outflow = 0.77 cfs @ 12.30 hrs, Volume= 0.131 af, Atten= 60%, Lag= 13.6 min
Discarded = 0.32 cfs @ 12.30 hrs, Volume= 0.120 af
Primary = 0.45 cfs @ 12.30 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.35' @ 12.30 hrs Surf.Area= 1,516 sf Storage= 1,554 cf

Plug-Flow detention time= 33.3 min calculated for 0.130 af (100% of inflow)
Center-of-Mass det. time= 33.0 min (799.9 - 766.9)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.32 cfs @ 12.30 hrs HW=309.35' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=0.45 cfs @ 12.30 hrs HW=309.35' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.45 cfs @ 0.75 fps)

Summary for Link 2L: Combined

Inflow Area = 0.239 ac, 16.17% Impervious, Inflow Depth > 1.07" for 25-yr Storm event
Inflow = 0.27 cfs @ 12.10 hrs, Volume= 0.021 af
Primary = 0.27 cfs @ 12.10 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.94" for 25-yr Storm event
Inflow = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af
Primary = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

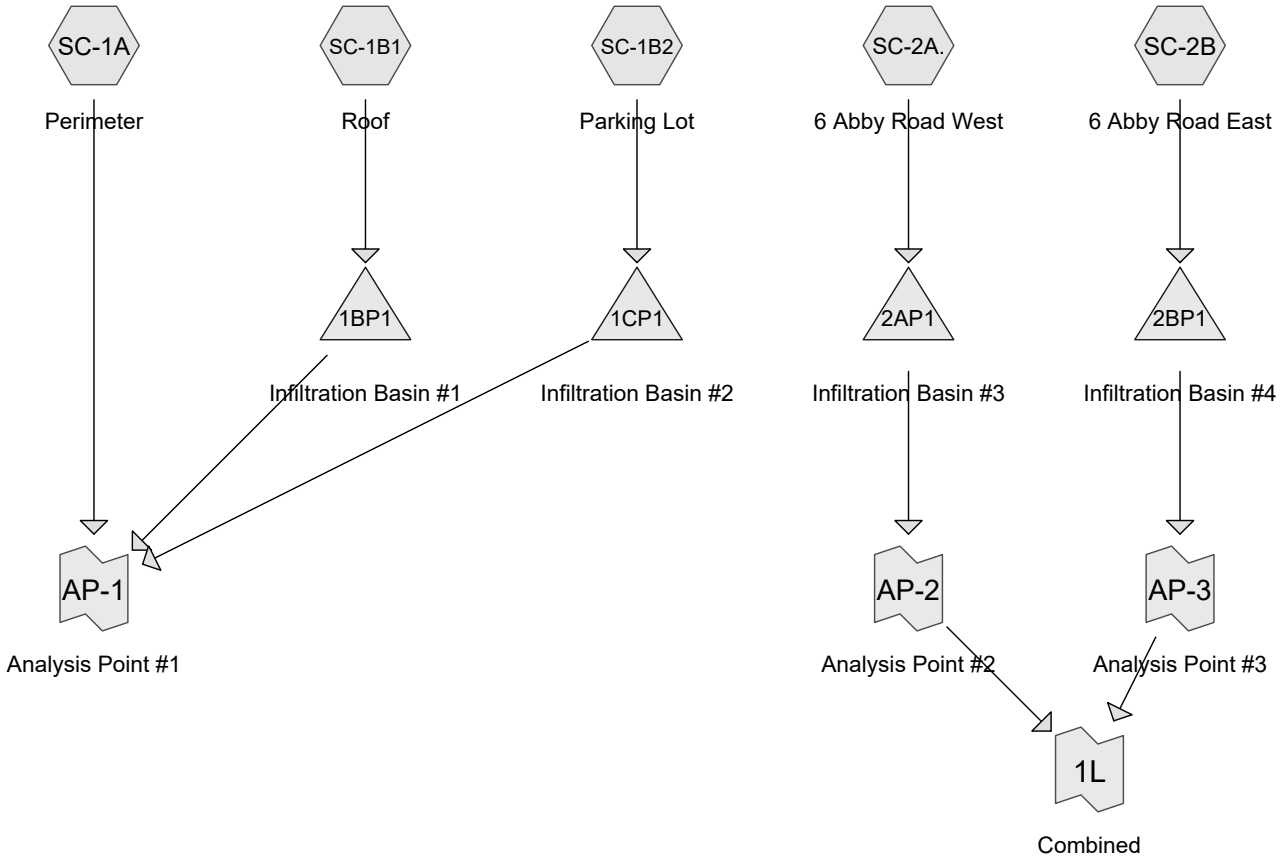
Inflow Area = 0.148 ac, 9.40% Impervious, Inflow Depth > 0.63" for 25-yr Storm event
Inflow = 0.07 cfs @ 12.12 hrs, Volume= 0.008 af
Primary = 0.07 cfs @ 12.12 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

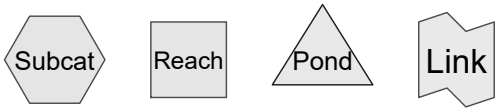
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.091 ac, 27.16% Impervious, Inflow Depth > 1.79" for 25-yr Storm event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af
Primary = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs





Routing Diagram for BSB Windham - Proposed 20210902
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Summary for Subcatchment SC-1A: Perimeter

Runoff = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 0.054 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A.: 6 Abby Road West

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
3,644	98	Paved parking, HSG A
2,988	39	>75% Grass cover, Good, HSG A
6,632	71	Weighted Average
2,988		45.05% Pervious Area
3,644		54.95% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
2,200	98	Paved parking, HSG A
1,598	39	>75% Grass cover, Good, HSG A
3,798	73	Weighted Average
1,598		42.07% Pervious Area
2,200		57.93% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 1.05" for 2-yr Storm event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af
Outflow = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af, Atten= 46%, Lag= 9.2 min
Discarded = 0.18 cfs @ 12.24 hrs, Volume= 0.022 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.11' @ 12.24 hrs Surf.Area= 833 sf Storage= 88 cf

Plug-Flow detention time= 3.3 min calculated for 0.022 af (100% of inflow)
Center-of-Mass det. time= 3.0 min (814.7 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.18 cfs @ 12.24 hrs HW=308.11' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 1.63" for 2-yr Storm event
Inflow = 0.81 cfs @ 12.08 hrs, Volume= 0.054 af
Outflow = 0.23 cfs @ 12.44 hrs, Volume= 0.054 af, Atten= 72%, Lag= 21.7 min
Discarded = 0.23 cfs @ 12.44 hrs, Volume= 0.054 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.56' @ 12.44 hrs Surf.Area= 1,083 sf Storage= 529 cf

Plug-Flow detention time= 14.6 min calculated for 0.053 af (100% of inflow)
Center-of-Mass det. time= 14.4 min (802.4 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.23 cfs @ 12.44 hrs HW=308.56' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2AP1: Infiltration Basin #3

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth > 0.74" for 2-yr Storm event
Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.05 cfs @ 12.44 hrs, Volume= 0.009 af, Atten= 65%, Lag= 21.2 min
Discarded = 0.05 cfs @ 12.44 hrs, Volume= 0.009 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.52' @ 12.44 hrs Surf.Area= 222 sf Storage= 82 cf

Plug-Flow detention time= 12.7 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 12.4 min (839.2 - 826.8)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	807 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	102	0	0	102
309.00	376	225	225	381
310.00	818	583	807	831

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.05 cfs @ 12.44 hrs HW=308.52' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2BP1: Infiltration Basin #4

Inflow Area =	0.087 ac, 57.93% Impervious, Inflow Depth > 0.84" for 2-yr Storm event				
Inflow =	0.09 cfs @	12.09 hrs, Volume=	0.006 af		
Outflow =	0.03 cfs @	12.45 hrs, Volume=	0.006 af, Atten= 67%, Lag= 21.9 min		
Discarded =	0.03 cfs @	12.45 hrs, Volume=	0.006 af		
Primary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.50' @ 12.45 hrs Surf.Area= 135 sf Storage= 54 cf

Plug-Flow detention time= 12.9 min calculated for 0.006 af (100% of inflow)
Center-of-Mass det. time= 12.6 min (834.2 - 821.6)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	575 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	84	0	0	84
309.00	197	137	137	204
310.00	738	439	575	750

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.70'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.03 cfs @ 12.45 hrs HW=308.50' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Combined

Inflow Area = 0.239 ac, 56.03% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 0.66" for 2-yr Storm event
Inflow = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af
Primary = 1.23 cfs @ 12.08 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.087 ac, 57.93% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SC-1A: Perimeter

Runoff = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.42 cfs @ 12.07 hrs, Volume= 0.096 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A.: 6 Abby Road West

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 0.021 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
3,644	98	Paved parking, HSG A
2,988	39	>75% Grass cover, Good, HSG A
6,632	71	Weighted Average
2,988		45.05% Pervious Area
3,644		54.95% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.013 af, Depth> 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
2,200	98	Paved parking, HSG A
1,598	39	>75% Grass cover, Good, HSG A
3,798	73	Weighted Average
1,598		42.07% Pervious Area
2,200		57.93% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 2.13" for 10-yr Storm event
Inflow = 0.67 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af, Atten= 66%, Lag= 18.7 min
Discarded = 0.23 cfs @ 12.39 hrs, Volume= 0.044 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.41' @ 12.39 hrs Surf.Area= 1,089 sf Storage= 378 cf

Plug-Flow detention time= 10.6 min calculated for 0.044 af (100% of inflow)
Center-of-Mass det. time= 10.3 min (806.1 - 795.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.23 cfs @ 12.39 hrs HW=308.41' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 2.91" for 10-yr Storm event
Inflow = 1.42 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 0.30 cfs @ 12.50 hrs, Volume= 0.096 af, Atten= 79%, Lag= 25.6 min
Discarded = 0.30 cfs @ 12.50 hrs, Volume= 0.096 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.14' @ 12.50 hrs Surf.Area= 1,400 sf Storage= 1,247 cf

Plug-Flow detention time= 31.4 min calculated for 0.095 af (100% of inflow)
Center-of-Mass det. time= 31.2 min (805.6 - 774.4)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.30 cfs @ 12.50 hrs HW=309.14' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.30 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2AP1: Infiltration Basin #3

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth > 1.67" for 10-yr Storm event
Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.021 af
Outflow = 0.09 cfs @ 12.48 hrs, Volume= 0.021 af, Atten= 73%, Lag= 23.6 min
Discarded = 0.09 cfs @ 12.48 hrs, Volume= 0.021 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.09' @ 12.48 hrs Surf.Area= 410 sf Storage= 262 cf

Plug-Flow detention time= 27.8 min calculated for 0.021 af (100% of inflow)
Center-of-Mass det. time= 27.5 min (835.6 - 808.2)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	807 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	102	0	0	102
309.00	376	225	225	381
310.00	818	583	807	831

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.09 cfs @ 12.48 hrs HW=309.09' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2BP1: Infiltration Basin #4

Inflow Area =	0.087 ac, 57.93% Impervious, Inflow Depth > 1.82" for 10-yr Storm event				
Inflow =	0.20 cfs @	12.08 hrs, Volume=	0.013 af		
Outflow =	0.05 cfs @	12.47 hrs, Volume=	0.013 af,	Atten= 73%,	Lag= 23.4 min
Discarded =	0.05 cfs @	12.47 hrs, Volume=	0.013 af		
Primary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.13' @ 12.47 hrs Surf.Area= 250 sf Storage= 167 cf

Plug-Flow detention time= 29.9 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 29.6 min (833.7 - 804.1)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	575 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	84	0	0	84
309.00	197	137	137	204
310.00	738	439	575	750

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.70'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.05 cfs @ 12.47 hrs HW=309.13' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Combined

Inflow Area = 0.239 ac, 56.03% Impervious, Inflow Depth = 0.00" for 10-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.30" for 10-yr Storm event
Inflow = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af
Primary = 2.43 cfs @ 12.08 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth = 0.00" for 10-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.087 ac, 57.93% Impervious, Inflow Depth = 0.00" for 10-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SC-1A: Perimeter

Runoff = 3.45 cfs @ 12.08 hrs, Volume= 0.230 af, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
131	32	Woods/grass comb., Good, HSG A
14,767	98	Paved roads w/curbs & sewers, HSG A
11,517	39	Pasture/grassland/range, Good, HSG A
10,251	98	Paved parking, HSG A
36,666	79	Weighted Average
11,648		31.77% Pervious Area
25,018		68.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes Minumum**

Summary for Subcatchment SC-1B1: Roof

Runoff = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
3,924	39	Pasture/grassland/range, Good, HSG A
10,924	77	Weighted Average
3,924		35.92% Pervious Area
7,000		64.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes min**

Summary for Subcatchment SC-1B2: Parking Lot

Runoff = 1.92 cfs @ 12.07 hrs, Volume= 0.131 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
13,816	98	Paved parking, HSG A
3,364	39	Pasture/grassland/range, Good, HSG A
17,180	86	Weighted Average
3,364		19.58% Pervious Area
13,816		80.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 minutes minumum**

Summary for Subcatchment SC-2A.: 6 Abby Road West

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 0.032 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
3,644	98	Paved parking, HSG A
2,988	39	>75% Grass cover, Good, HSG A
6,632	71	Weighted Average
2,988		45.05% Pervious Area
3,644		54.95% Impervious Area

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

Summary for Subcatchment SC-2B: 6 Abby Road East

Runoff = 0.30 cfs @ 12.08 hrs, Volume= 0.020 af, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
2,200	98	Paved parking, HSG A
1,598	39	>75% Grass cover, Good, HSG A
3,798	73	Weighted Average
1,598		42.07% Pervious Area
2,200		57.93% Impervious Area

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

Summary for Pond 1BP1: Infiltration Basin #1

Inflow Area = 0.251 ac, 64.08% Impervious, Inflow Depth > 3.09" for 25-yr Storm event
Inflow = 0.97 cfs @ 12.08 hrs, Volume= 0.065 af
Outflow = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af, Atten= 71%, Lag= 21.3 min
Discarded = 0.28 cfs @ 12.43 hrs, Volume= 0.064 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 308.67' @ 12.43 hrs Surf.Area= 1,329 sf Storage= 682 cf

Plug-Flow detention time= 17.1 min calculated for 0.064 af (100% of inflow)
Center-of-Mass det. time= 16.9 min (804.2 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	3,645 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	748	0	0	748
309.00	1,683	1,184	1,184	1,691
310.00	3,332	2,461	3,645	3,349

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.28 cfs @ 12.43 hrs HW=308.66' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 1CP1: Infiltration Basin #2

Inflow Area = 0.394 ac, 80.42% Impervious, Inflow Depth > 3.98" for 25-yr Storm event
Inflow = 1.92 cfs @ 12.07 hrs, Volume= 0.131 af
Outflow = 0.77 cfs @ 12.30 hrs, Volume= 0.131 af, Atten= 60%, Lag= 13.6 min
Discarded = 0.32 cfs @ 12.30 hrs, Volume= 0.120 af
Primary = 0.45 cfs @ 12.30 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.35' @ 12.30 hrs Surf.Area= 1,516 sf Storage= 1,554 cf

Plug-Flow detention time= 33.3 min calculated for 0.130 af (100% of inflow)
Center-of-Mass det. time= 33.0 min (799.9 - 766.9)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	1,788 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	810	0	0	810
309.00	1,325	1,057	1,057	1,338
309.50	1,602	731	1,788	1,623

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.25'	**6.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.32 cfs @ 12.30 hrs HW=309.35' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=0.45 cfs @ 12.30 hrs HW=309.35' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 0.45 cfs @ 0.75 fps)

Summary for Pond 2AP1: Infiltration Basin #3

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth > 2.54" for 25-yr Storm event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.032 af
Outflow = 0.12 cfs @ 12.49 hrs, Volume= 0.032 af, Atten= 75%, Lag= 24.5 min
Discarded = 0.12 cfs @ 12.49 hrs, Volume= 0.032 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.47' @ 12.49 hrs Surf.Area= 562 sf Storage= 442 cf

Plug-Flow detention time= 37.0 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 36.7 min (835.6 - 798.8)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	807 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	102	0	0	102
309.00	376	225	225	381
310.00	818	583	807	831

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.50'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.12 cfs @ 12.49 hrs HW=309.47' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2BP1: Infiltration Basin #4

Inflow Area =	0.087 ac, 57.93% Impervious, Inflow Depth > 2.72" for 25-yr Storm event				
Inflow =	0.30 cfs @	12.08 hrs, Volume=	0.020 af		
Outflow =	0.08 cfs @	12.45 hrs, Volume=	0.020 af,	Atten= 72%,	Lag= 22.4 min
Discarded =	0.08 cfs @	12.45 hrs, Volume=	0.020 af		
Primary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 309.43' @ 12.45 hrs Surf.Area= 388 sf Storage= 260 cf

Plug-Flow detention time= 35.0 min calculated for 0.020 af (100% of inflow)
Center-of-Mass det. time= 34.7 min (829.8 - 795.1)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	575 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
308.00	84	0	0	84
309.00	197	137	137	204
310.00	738	439	575	750

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	**9.070 in/hr Exfiltration over Wetted area**
#2	Primary	309.70'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.08 cfs @ 12.45 hrs HW=309.43' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=308.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Combined

Inflow Area = 0.239 ac, 56.03% Impervious, Inflow Depth = 0.00" for 25-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-1: Analysis Point #1

Inflow Area = 1.487 ac, 70.76% Impervious, Inflow Depth > 1.94" for 25-yr Storm event
Inflow = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af
Primary = 3.45 cfs @ 12.08 hrs, Volume= 0.240 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 0.152 ac, 54.95% Impervious, Inflow Depth = 0.00" for 25-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: Analysis Point #3

Inflow Area = 0.087 ac, 57.93% Impervious, Inflow Depth = 0.00" for 25-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

APPENDIX C

REDEVELOPMENT CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 / Fax: 207.829.5692
smemaine.com

REDEVELOPMENT TREATMENT LEVEL CALCULATIONS

Project Name: Bangor Savings Bank-Windham Parking
Project Location: 745 Roosevelt Trail, Windham, ME
Project No: **21496**
By: AML
Date: 9/7/2021
Checked By: JTR
Date: 9/30/2021

LISTING OF AREAS - EXISTING

Area	Pollutant Ranking						Notes
	0	1	2	3	4	5	
Pavement				938	22,692		
Concrete				475			
Buildings			5,242				
Landsccaped		5,001					
Walkway Pavement			296				
Grass			19,172				
Brush/Woods	369						
Total	**369**	**5,001**	**24,710**	**1,413**	**22,692**	**0**	**54,184 TOTAL**

LISTING OF AREAS - PROPOSED

Area	Pollutant Ranking						Notes
	0	1	2	3	4	5	
Pavement				5,837	20,446		
Concrete				429			
Buildings			7,049				
Landsccaped		6,247					
Walkway Pavement			896				
Grass			13,146				
Brush/Woods	133						
Total	**133**	**6,247**	**21,092**	**6,266**	**20,446**	**0**	**54,184 TOTAL**

EXISTING POLLUTANT RANKING CALCULATIONS

Land Use Type (from MEDEP Chapter 500)	(Square Feet)	(Acres)	Pollutant Ranking	Total Score
Other Roads/Medium Use Parking Lots	22,692	0.52	4	2.08
Other Parking/Industrial Roofs	1,413	0.03	3	0.10
Other Rooftops/Lawn Areas/Walkways	24,710	0.57	2	1.13
Landscaped/Stormwater Treatment System	5,001	0.11	1	0.11
Forest; Meadow mowed no more than twice per year	369	0.01	0	0.00
Total	**54,184**	**1.24**	**EIR**	**3.43**

PROPOSED POLLUTANT RANKING CALCULATIONS

Land Use Type (from MEDEP Chapter 500)	Area to be Redeveloped	Area to be Redeveloped	Pollutant Ranking	Total Score
Other Roads/Medium Use Parking Lots	20,446	0.47	4	1.88
Other Parking/Industrial Roofs	6,266	0.14	3	0.43
Other Rooftops/Lawn Areas/Walkways	21,092	0.48	2	0.97
Landscaped/Stormwater Treatment System	6,247	0.14	1	0.14
Forest; Meadow mowed no more than twice per year	133	0.00	0	0.00
Total	**54,184**	**1.24**	**PIR**	**3.42**

EIR / Redeveloped Acres =	**2.76**
PIR / Redeveloped Acres =	**2.75**
Ranked Impact Change Due to Redevelopment =	**-0.01**

0% treatment is required per Table 3 of Chapter 500

Total Redeveloped Area (from above table) =	54,184
Impervious Area Treated (from Stormwater Sizing Calculations) =	56,303
Treatment Percentage Provided =	**103.9%**

APPENDIX D

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

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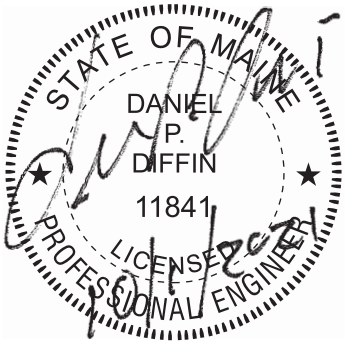
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
BANGOR SAVINGS BANK WINDHAM BRANCH/ OFFICE PARKING EXPANSION

Prepared for

BANGOR SAVINGS BANK

745 Roosevelt Trail and 6 Abby Road

Windham, Maine



October 2021

4 Blanchard Road
P.O. Box 85A
Cumberland, Maine 04021
Phone: 207.829.5016 smemaine.com

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER ENGINEERS

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POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE PARKING EXPANSION
WINDHAM, MAINE

1.0 SITE DESCRIPTION

The site referenced in this document refers to the Bangor Savings Bank (BSB) Windham Branch/Office Parking Expansion project at 745 Roosevelt Trail and 6 Abby Road in Windham, Maine. This Project includes construction of a fifteen (15) space parking lot expansion on a parcel abutting the existing Bangor Savings Bank (BSB) bank branch and Cross Insurance (Cross) office building at the corner of Roosevelt Trail (US-302) and Tandberg Trail (ME-115) in Windham. Additional site improvements include site lighting stormwater management, and minor landscaping. Refer to the site plans prepared by Sevee & Maher Engineers, Inc. (SME) dated October 2021 for referenced site locations. The stormwater management system as referenced within this document refers to the system of swales, and infiltration basins designed to collect, convey, and regulate stormwater runoff from the site.

2.0 FACILITY CONTACTS

Facility: Bangor Savings Bank Branch and Office Parking Expansion
745 Roosevelt Trail
Windham, Maine 04062

Owner Representative: Bangor Savings Bank
11 Hamlin Way
Bangor, Maine 04401
Telephone: 207.262.4991
Jason Donovan, VP Facilities Manager

Consultant/Designer: Sevee & Maher Engineers
4 Blanchard Road
Cumberland, Maine 04021
Telephone: 207.829.5016
Jeffrey T. Read, P.E.
jtr@smemaine.com

3.0 POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES

The Post-Construction Stormwater Management Plan (PSWMP) is an important component of the overall stormwater management system for the site. PSWMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the SWP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This PSWMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

3.1 Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

1. Use slow-release sulfur or plastic coated ureaform fertilizers (e.g., Nutralene).
2. Do not fertilize vegetated swales once vegetation is established.
3. Minimize use of pesticides by using a sound integrated pest management (IPM) approach to monitor and control the actual pests present.
4. Collect and remove autumn leaves to minimize transport to the stormwater treatment system.
5. Minimize use of de-icing materials and sand.
6. Routine sweeping of parking areas and driveways.
7. Fertilizers, pesticides, and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation.
8. Material handling should be conducted to minimize risk of spillage and release to the stormwater treatment system.

3.2 Inspections

A series of routine inspections shall be completed to allow for the early identification of potential problems and to guide routine maintenance activities. Inspections shall be carried out in accordance with

the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log.'

3.3 Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 1) provided in this plan. This schedule is the minimum amount of maintenance required; maintenance that is more frequent may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed within 7 days of the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log'.

During construction, the Sitework Contractor (not yet selected by Bid process) shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Following completion of construction, BSB will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Place removed sediments in an area of low erosion potential, either on-site or off-site, and seed with erosion control seed mix.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, or after a major rainfall event, to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.
2. Vegetated ditches should be mowed at least once during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.
3. Infiltration basins shall be inspected after every major storm (2 inches of rainfall in a 24-hour period) during the first 6 months following construction to ensure proper operation. Thereafter, the facilities shall be inspected at least once every six months following significant rainfall to

ensure that the facility is draining between 24 and 48 hours. Facilities that do not drain shall be rototilled to a depth of 12 inches. If rototilling does not result in improved drainage, the top several inches of material shall be removed and properly disposed of. New material shall be placed and revegetated.

4. Some erosion may occur at the inflow point of the infiltration basins. This needs to be corrected, as necessary. The surface of the infiltration basins may clog with fine sediments over time. Maintenance of good grass cover will minimize this. Any bare areas should be seeded or sodded, as necessary. Inspect the basin's drainage area semi-annually for eroding soil and other sediment sources. Repair eroding areas using appropriate erosion control BMPs immediately. Control sediment sources by removing them from the basin's drainage area or surrounding them with sediment control BMPs. Prohibit vehicle access to all filtration areas. Heavy equipment used to maintain or rehabilitate the basins should work from the basin's perimeter.
5. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

3.4 Maintenance Records

Use the following forms to record the inspection and repair of the stormwater management system.

a. Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion and appropriate steps have been taken to permanently stabilize these areas.
b. Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction and appropriate steps have been taken to repair or replace the system, or portions of the system.
c. Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Town, and the maintenance log is being maintained.

TABLE 1

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE PARKING EXPANSION
LONG-TERM INSPECTION AND MAINTENANCE PLAN

	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments.	X		X	
Replant bare areas or areas with sparse growth.	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		X	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels.	X	X	X	
Remove any obstructions and accumulated sediments or debris.	X	X		
Control vegetated growth and woody vegetation.		X		
Repair any erosion of the ditch lining.		X		
Mow vegetated ditches.		X		
Remove woody vegetation growing through riprap.		X		
Repair any slumping side slopes.		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged.		X		
Driveways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways.	X			
Sweep pavement to remove sediment.	X			
Infiltration Basins				
Inspect soil filter to see that collected water drains within 24 to 48 hours.	X	X	X	
Rototill top 12” soil, or remove and replace the top 3” to 4” of soil with clean soil, when the bed fails to drain dry within 24 to 48 hours.				X
Remove accumulated sediment, dead portions of plants, excessive growth, and weeds.		X		

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2016 (or latest version) and/or the Maine Stormwater Best Management Practices Manual.

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE PARKINH EXPANSION
WINDHAM, MAINE
INSPECTION LOG

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

BANGOR SAVINGS BANK WINDHAM BRANCH/OFFICE PARKING EXPANSION
WINDHAM, MAINE
MAINTENANCE AND REPAIR LOG

Date	Device/Area Maintained or Repaired	Maintenance/Repair Completed By	Maintenance Completed/Corrective Actions Taken

APPENDIX D

FEMA MAP

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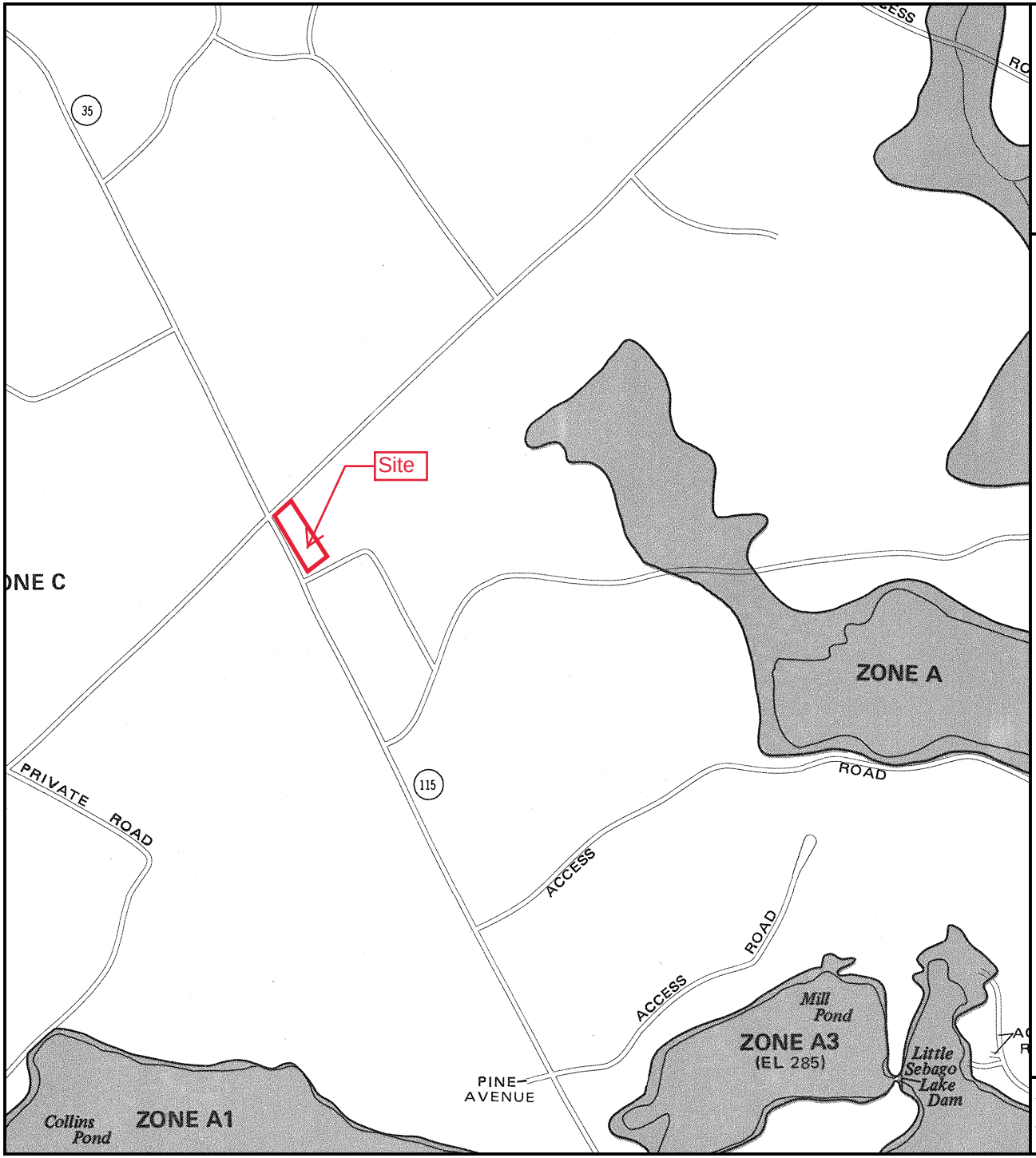

APPROXIMATE SCALE

800 0 800 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
WINDHAM, MAINE
CUMBERLAND COUNTY

PANEL 15 OF 35
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230189 0015 B

EFFECTIVE DATE:
SEPTEMBER 2, 1981

federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX E

EXTERIOR LIGHTING CUT SHEETS

SME
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ENGINEERS

VIPER S SERIES

SMALL VIPER LUMINAIRE

Cat.#	
Job	Type

BEACON design . performance . technology

Approvals

SPECIFICATIONS

Intended Use:

The Beacon Viper luminaire is available with a wide choice of different LED Wattage configurations and optical distributions designed to replace HID lighting up to 400W MH or HPS.

Construction:

- Manufactured with die cast aluminum.
- Coated with a polyester finish that meets ASTM B117 corrosion test requirements and ASTM D522 cracking and loss of adhesion test requirements.
- External hardware is corrosion resistant.
- One piece optical cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel.
- Cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system.
- Two-piece silicone and micro-cellular polyurethane foam gasket ensures a weather-proof seal around each individual LED.

Electrical:

- 100V through 277V, 50 Hz to 60 Hz (UNV), or 347V or 480V input.
- Power factor is ≥.90 at full load.
- Dimming drivers are standard, but must contact factory to request wiring leads for purpose of external dimming controls.
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is certified by UL for use at 600VAC at 90°C or higher.
- Plug disconnects are certified by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only.
- Fixture electrical compartment shall contain all LED driver components and shall be provided with a push-button terminal block for AC power connections.
- The housing is designed for an optional twist lock photo control receptacle.
- Ambient operating temperature -40°C to 40°C
- Surge protection - 20KA.
- Optional 7-pin ANSI C136.41-2013 twist-lock photo control receptacle available. Compatible with ANSI C136.41 external wireless control devices.
- Lifeshield™ Circuit - protects luminaire from excessive temperature. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range. Operation shall be smooth and undetectable to the eye. Thermal circuit is designed to "fail on", allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers. The device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.).

Controls/Options:

- Available with an optional passive infrared (PIR) motion sensor capable of detecting motion 360° around the luminaire. When no motion is detected for the specified time, the Motion Response system reduces the wattage to factory preset level, reducing the light level accordingly. When motion is detected by the PIR sensor, the luminaire returns to full wattage and full light output. Please contact Beacon Products if project requirements vary from standard configuration.
- Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night (see www.beaconproducts.com/products/energeni).
- In addition, Viper can be specified with **SiteSync™** wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www.hubbelllighting.com/sitesync for more details.

Installation:

- Mounting options for horizontal armd, vertical tenon or traditional arm mounting available. Mounting hardware included.

Finish:

- IFS polyester powder-coat electro-statically applied and thermocured.
- IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermosetsuper TGIC polyester powder coat finish.
- The finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds.

Listings:

- DesignLights Consortium (DLC) qualified, consult DLC website for more details: http://www.designlights.org/QPL
- Certified to UL 1598 and CSA C22.2 No.250.0
- IDA approved
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at: http://www.beaconproducts.com/products/vipersmall

Warranty:

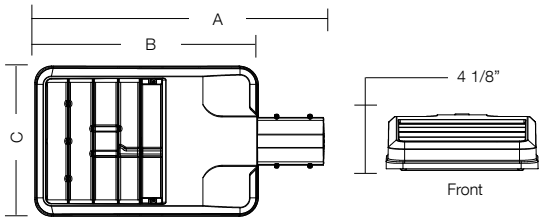
Five year limited warranty for more information visit: www.hubbelllighting.com/resources/warranty

CERTIFICATIONS/LISTINGS

*3000K and warmer CCTs only

PRODUCT IMAGE(S)

DIMENSIONS

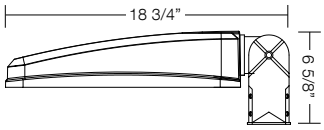


A	B	C	Weight:	EPA
22.75" (578 mm)	16.75" (425 mm)	11.25" (286 mm)	15.0 lbs (6.8 kg)	.67 ft²

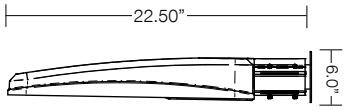
MOUNTING OPTIONS

Side View — RA Rectangular Arm — Back View

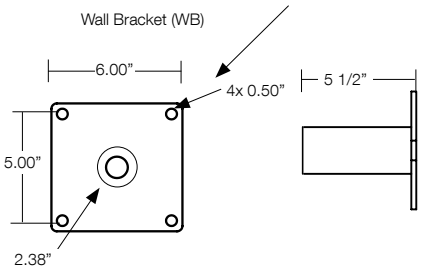
Side View — SF2 2-3/8" OD Slip Fitter — Back View



PK2 2-3/8" Adjustable Knuckle
Limit to 30° tilt - **Sensors, photocells and wireless** controls should not be tilted above horizontal



Wall Bracket (WB)



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HUBBELL Lighting

ORDERING INFORMATION

ORDERING EXAMPLE: VPS/36NB-80/5K/T4/UNV/PEC/SWP/BLC/RA/BBT

VPS

SERIES

VPS viper-small

ENGINE-WATTS

24NB-55 55W, LED array

36NB-80 80W, LED array

48NB-110 110W, LED array

60NB-136 136W, LED array

LED COLOR[8]

3K 3000K

4K 4000K

5K 5000K

VOLTAGE

UNV 120-277V

347V 347V

480V 480V

OPTICS[4]

T1 type I

T2 type II

T3 type III

T4 type IV

T5R type V, rectangular

T5QM type V, square medium

T5W type V, round wide

FR front row auto optic

ELECTRICAL OPTIONS

7PR[9] 7-PIN Receptacle only

PCR-TL 7-PIN Receptacle w/ Twist Lock photo control

PCR-SC 7-PIN Receptacle w/ Shorting Cap

2PF[7] dual power feed

HOUSE SIDE SHIELD OPTIONS

BLC[3] backlight control

BIRD DETERRENT

BSP bird spike

MOUNTING OPTIONS

RA rectangular arm for round or square pole mount. RPA included.

SF2 2 3/8" OD slip-fitter

PK2 2 3/8" adjustable knuckle

wall bracket (use with SF2 or PK2), SF2 standard

CONTROL OPTIONS

GENI-XX[6] Energeni

SWP[1,5] SiteSync Wireless Pre-Commission

SWPM[1,2,5] SiteSync Wireless Pre-Commission w/ Motion Detection

MDD[2,5] Motion Dimming Detector

FINISH

BBT basic black textured

BMT black matte textured

WHT white textured

MBT metallic bronze textured

BZT bronze textured

DBT dark bronze textured

GYS gray smooth

DPS dark platinum smooth

GNT green textured

MST metallic silver textured

MTT metallic titanium textured

OWI old world iron

RAL _____

HOUSE SIDE SHIELD ACCESSORIES

HSS/VP-S/90-FB/XXX 90° shield front or back

HSS/VP-S/90-LR/XXX 90° shield left or right

HSS/VP-S/270-FB/XXX 270° shield front or back

HSS/VP-S/270-LR/XXX 270° shield left or right

HSS/VP-S/360/XXX Full shield

(Replace XXX with notation for desired finish color)
(Refer to page 5 for shield images)

[1] Must specify group and zone information at time of order. See www.hubbelllighting.com/controls/sitesync for further details.
[2] Specify time delay; dimming level and mounting height.
[3] T4 optic only.
[4] To rotate optics Left or right 90 degrees, specify L or R after the optical distribution example T4L.
[5] Not available with other wireless control or sensor options.
[6] When ordering Energeni, specifiy the routine setting code (example GENI-04). See Energeni brochure and instructions for setting table and options. Not available with sensor options.
[7] Not available for 347V or 480V input.
[8] This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at: http://cdn.beaconproducts.com/content/products/specs/specs_files/Viper_Small_LED_turtle_spec_sheet.pdf
[9] Shorting cap, phot control, or wireless control provided by others

PRECOMMISSIONED SITESYNC ORDERING INFORMATION: When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit www.HubbellLighting.com/products/sitesync or contact Hubbell Lighting tech support at (800) 345-4928.

SiteSync fixtures with Motion control (SWPM) require the mounting height of the fixture for selection of the lens.

Examples: VP-S/24NB-55/5K/T3/UNV/SWP/RA/DBT — SiteSync only
VP-S/24NB-55/5K/T3/UNV/SWPM-20F/RA/DBT — SiteSync with Motion Control

MDD ORDERING INFORMATION: When ordering a fixture with the motion detection option (MDD), please specify the appropriate information. These settings are specified in the ordering as shown in the example below.

VP-S/24NB-55/5K/T3/UNV/MDD - 1 to 30 min. - 33% or 50% - ?? / RA/DBT

High to Dim Delay — Low Level — Mounting Height (ft.)

Accessories and Services (Ordered Separately)

Catalog Number	Description
SWUSB*	SiteSync interface software loaded on USB flash drive for use with owner supplied PC (Windows based only). Includes SiteSync license, software and USB radio bridge node
SWTAB*	Windows tablet and SiteSync interface software. Includes tablet with preloaded software, SiteSync license and USB radio bridge node.
SWBRG	SiteSync USB radio bridge node only. Order if a replacement is required or if an extra bridge node is requested.
SCP-REMOTE	Remote Control for SCP/_F option. Order at least one per project to program and control
SW7PR+	SiteSync 7 Pin on fixture module On/Off/Dim, Daylight Sensor 120-480VAC

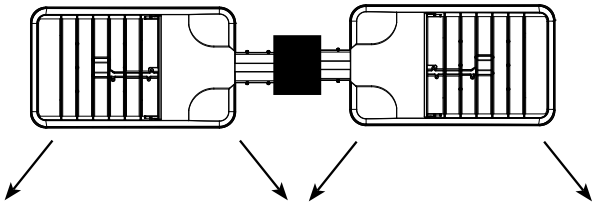
* When ordering SiteSync at least one of these two interface options must be ordered per project.
\+ Available as a SiteSync retrofit solution for fixtures with an existing 7pin receptacle.

Hubbell Control Solutions - Accessories (sold separately)

Catalog Number	Description	HCS System
NXOFM-1R1D-UNV	On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubbNET Radio and Bluetooth® Radio, 120-480VAC	NX Distributed Intelligence™
WIR-RME-L	On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110-480VAC	wiSCAPE® Lighting Control

For additional information related to these accessories please visit www.hubbellcontrolsolutions.com. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

LEFT ROTATED OPTIC — RIGHT ROTATED OPTIC



SiteSync 7-Pin Module

SW7PR

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)
- Does no interface with occupancy sensors

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HUBBELL Lighting

PERFORMANCE DATA

				5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
# LED'S	DRIVE CURRENT (MILLIAMPS)	SYSTEM WATTS	DISTRIBUTION TYPE	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G
24	700 mA	55 W	FR/T1	6339	114	1	0	1	6276	112	1	0	1	5389	97	1	0	1
			T2	5666	102	2	0	2	5610	101	2	0	2	4816	86	1	0	2
			T3	5610	101	1	0	2	5554	100	1	0	2	4784	86	1	0	2
			T4	6171	111	1	0	2	6110	109	1	0	2	5245	94	1	0	2
			T5R	6283	113	3	0	3	6221	111	3	0	3	5341	96	3	0	3
			T5QM	6171	111	3	0	1	6110	109	3	0	1	5245	94	2	0	1
			T5W	6087	109	3	0	1	6027	108	3	0	1	5201	93	3	0	1
36	700 mA	80 W	FR/T1	9515	114	1	0	1	9414	112	1	0	1	8083	96	1	0	1
			T2	8505	101	2	0	3	8415	100	2	0	3	7224	87	2	0	2
			T3	8415	100	2	0	2	8331	99	2	0	2	7175	86	2	0	2
			T4	9256	110	1	0	3	9164	109	1	0	3	7868	94	1	0	3
			T5R	9425	112	3	0	3	9331	111	3	0	3	8011	96	3	0	3
			T5QM	9257	110	3	0	1	9164	109	3	0	1	7868	94	3	0	1
			T5W	9131	109	3	0	2	9040	108	3	0	2	7801	93	3	0	2
48	700 mA	110 W	FR/T1	12679	114	2	0	1	15522	113	2	0	1	10777	97	1	0	1
			T2	11332	102	3	0	3	11220	101	3	0	3	9633	87	2	0	3
			T3	11220	101	2	0	3	11108	100	2	0	3	9567	86	2	0	3
			T4	12342	111	2	0	3	12219	110	2	0	3	10491	95	2	0	3
			T5R	12567	113	4	0	4	12441	112	4	0	4	10682	96	3	0	3
			T5QM	12342	111	3	0	2	12219	111	3	0	2	10491	95	3	0	2
			T5W	12175	110	4	0	2	12053	109	4	0	2	10402	94	4	0	2
60	700 mA	136 W	FR/T1	15848	116	2	0	1	15690	115	2	0	1	13471	98	2	0	1
			T2	14165	103	3	0	3	14025	102	3	0	3	12041	88	3	0	3
			T3	14025	102	3	0	3	13885	101	3	0	3	11959	87	3	0	3
			T4	15427	113	2	0	3	15274	111	2	0	3	13114	96	2	0	3
			T5R	15708	115	4	0	4	15259	111	4	0	4	13352	97	4	0	4
			T5QM	15427	113	4	0	2	15274	111	4	0	2	13314	96	3	0	2
			T5W	15218	111	4	0	2	15066	111	4	0	2	13002	95	4	0	2

[1]Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

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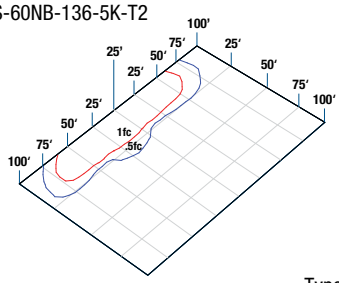
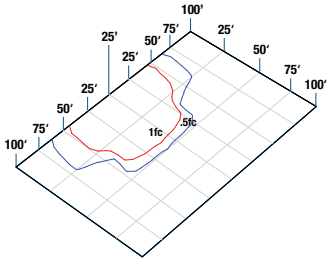
PHOTOMETRICS

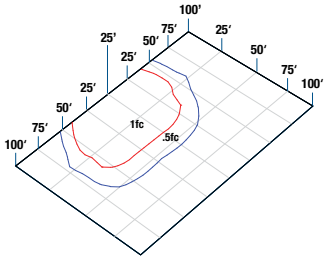
Type II
VP-S-60NB-136-5K-T2



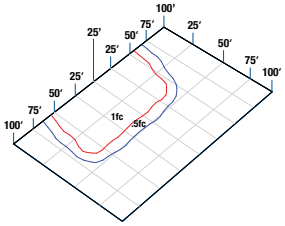
Type III
VP-S-60NB-136-5K-T3



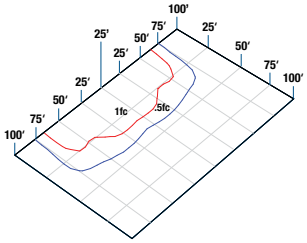
Type IV
VP-S-60NB-136-5K-T4



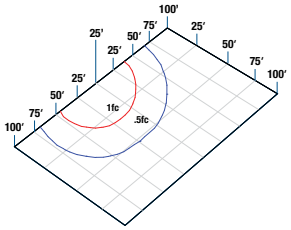
Type V Square Medium
VP-S-60NB-136-5K-T5QM



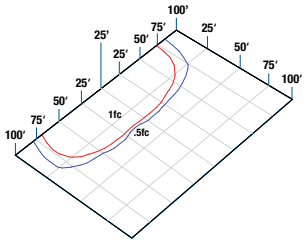
Type V Rectangular
VP-S-60NB-136-5K-T5R



Type V Round Wide
VP-S-60NB-136-5K-T5W



Front Row Auto Optic / Type I
VP-S-60NB-136-5K-FR
VP-S-60NB-136-5K-T1



ELECTRICAL DATA

# OF LEDS	NUMBER OF DRIVERS	DRIVE CURRENT (mA)	INPUT VOLTAGE (V)	SYSTEM POWER (w)	CURRENT (Amps)
24	2	700 mA	120	55	0.5
			277		0.2
			347		0.2
			480		0.1
36	1	700 mA	120	80	0.7
			277		0.3
			347		0.2
			480		0.2
48	1	700 mA	120	110	0.9
			277		0.4
			347		0.3
			480		0.2
60	1	700 mA	120	136	1.1
			277		0.5
			347		0.4
			480		0.3

PROJECTED LUMEN MAINTENANCE

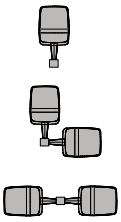
AMBIENT TEMP.	0	25,000	50,000	[1]TM-21-11 60,000	100,000	Calculated L70 (HOURS)
25°C / 77°C	1.00	0.97	0.95	0.95	0.92	>470,000

[1] Projected per IESNA TM-21-11
Data references the extrapolated performance projections for the base model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

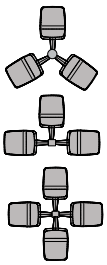
AMBIENT TEMPERATURE		LUMEN MULTIPLIER
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

EPA



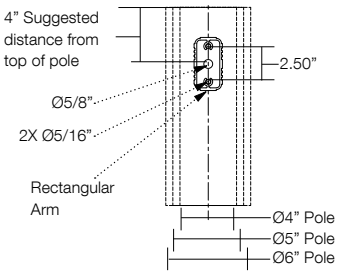
Config.	EPA
1	.67
2 @ 90°	1.06
2 @ 180°	1.34



Config.	EPA
3 @ 120°	1.68
3 @ 90°	1.73
4 @ 90°	2.12

DRILL PATTERN

RECTANGULAR ARM (A)
Compatible with Pole drill pattern B3



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