



City of Biddeford Planning Board

August 21, 2024 at 6:00 PM
City Hall Council Chambers & Zoom

[https://biddeford.zoom.us/j/94983531202?pwd=Q3ZyejcyUVpBaUVVMHduYXJhS
zB4UT09](https://biddeford.zoom.us/j/94983531202?pwd=Q3ZyejcyUVpBaUVVMHduYXJhS
zB4UT09)

Or call in by phone: +1 312 626 6799
Meeting ID: 949 8353 1202
Passcode: 223739

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
3. Adjustment(s) to Agenda
4. Planner's Business
5. Consent Agenda
 - 5.a Approval of Meeting Minutes from 8-7-24
6. Open Public Hearing
 - 6.a 2024.38 Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.
7. Close Public Hearing
8. Unfinished Business
9. New Business
 - 9.a 2024.35 The Planning Board will review a Conditional Use Application for Christine Biyoga to open a day care for up to 12 children between the ages of 6 weeks and 12 years old at 26 Green Street (Tax Map 9, Lot 38 in the MSRD-2 Zone. The subject property is owned by Biddeford Housing Authority. The name of the proposed daycare is Arc-En-Ciel Peaceful Place to Grow and Learn LLC.
 - 9.b 2024.42 The Planning Board will review a Shoreland Zoning Permit (Greatest Practical Extent) request for David Blanchette to rebuild a seawall, house foundation, and make repairs to the existing house due to storm damage from the storms in January. The property is located at 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the CR

zone.

- 9.c 2023.29 The Biddeford Planning Board will review and take comments regarding Phase I of a Preliminary Subdivision Plan Application for One Diamond Development, LLC to construct 477 residential units, multi unit buildings and commercial space at 1 Diamond Street (Tax Maps 40 & 37, Lots 25-1,25-2,24,25,34 & 35) in the B1 & GD1 and in the shoreland overlay zone.

10. Other Business

11. Adjourn

The Board reserves the right to halt official business at 9:30 p.m. Items not heard at tonight's meeting shall be rescheduled to the next meeting of the Board. All materials pertaining to items on the agenda are available for public review at the Biddeford Planning Department, second floor, Biddeford City Hall during normal business hours.



CITY OF BIDDEFORD

Planning and Development Department

205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115

Special Planning Board Meeting Meeting Minutes

DRAFT

Date: August 7, 2024
Time: 6:00 PM
Location: Council Chambers & Zoom

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members: Larry Patoine (Chair), Roch Angers, & Matt Dubois (Alternate Member)
Staff Present: David Galbraith, Adi Iriqat & Nan Whitten
Matt Dubois will be voting tonight in order to make a quorum
3. Adjustments to the Agenda- Items 9A & 9B have been tabled or postponed
4. Planner's Business-None
5. Consent Agenda
Approval of Meeting Minutes from July 17 & 24, 2024
MOTIONS: 6:01
Motion-Angers-Motion to approve the Consent Agenda as presented
Second-Dubois
Vote: Motion passed unanimously
6. Open Public Hearing 6:01 PM
6.a 2024.43 Ordinance Amendment to the City Code of Ordinances, Part III: Land Development Regulations, Article V: Establishment of Zone, Section 11-Establishment of Zones-Item V Attachment 1, Table A-Modification to allow Multi-family Developments, with conditions, within the I-3 zoning District.
 - Galbraith introduced the proposal and changes of allowing multi-unit housing with the IZ stipulation.
 - Only 1 reading is needed
 - No public comments
 - Angers needed clarification on the proposalMOTIONS: 6:06 PM
Motion-Angers-I motion to approve the proposed Zoning Ordinance Text
Amendment: Code of Ordinances, Part III: Table A - Table of Land uses, as written with the addition of letter D.
Second-Dubois
Vote: Motion passed unanimously
7. Close Public Hearing
8. Unfinished Business-None
9. New Business

9.c 2024.17 The Biddeford Planning Board will review and discuss a Final Plan submitted by Indian Cliff Development for an 8 lot subdivision. The project is located on Barra Road (Tax Map 7, Lot 15) in the R-3 zone. One lot of this project is for AVESTA Housing.

- Galbraith re-introduced the project
- Chris MacDonald from BH2M represented the applicant
- The applicants are asking for 2 waivers which were discussed.
- One waiver is for slope to reduce the impact to wetlands
- The other waiver is for pre-construction stormwater run-off which balances off with post-construction stormwater
- MacDonald talked about the change in the hammer head at the end of Trail Side Way and the position of Lot J.
- Other changes made are in response to 3rd party comments.
- The Contract Zone changes are to be consistent with the building setbacks of 25/10/10 instead of 25/25/25
- The Contract Zone obtained preliminary approval by the City Council on the previous night. It will go for final approval on August 20th.
- Patoine confirmed that Contract Zone 23 has gone through staff and peer review. Galbraith responded in the affirmative and handed out copies of the final Contract Zone Agreement
- The applicant, Mike Eon explained the process of the final contract zone agreement and that they made changes at the request of Councilor Belanger.
- Eon explained the waivers being requested
- Galbraith explained that the final agreement has been reviewed by himself, George Gervais, Eon, Belanger and City Attorney Harry Center.
- Galbraith clarified that what they are asking for tonight is approval for the Contract Zone, 2 waivers, subdivision and site plan.
- Changes were made earlier in the day and brought to the Board that night.
- Angers confirmed that the change was only 1 word.
- No public comments
- Angers asked about the impact the waivers would have, it would be erosion control. The slope must be stabilized using an erosion control blanket. Engineering approved this slope.
- MacDonald explained that a 3-1 slope is 3' ahead and 1' down, 2-1 is 2' ahead and 1' down.
- Dubois said he heard it was a very rocky area, MacDonald answered that it has some ledge.

MOTIONS: 6:33 PM

Motion-Dubois- Motion to Approve Waiver Request to Article VI, Section 26. F, for slopes greater than 3:1 and grading within 10' of property lines.

Angers-Second

Vote-Motion Passed Unanimously

Motion-Dubois- Approve Waiver Request to Article XI .Article II.5.B.1.e.1 of the City Code, exceeding pre-development stormwater run-off rates in post-development conditions.

Angers-Second

Vote-Motion passed unanimously

Motion-Angers-Motion to approve Contract Zone #23

Second-Dubois

Vote-Motion passed unanimously

Motion-Angers- Motion to approve Case # 2024.21 Final Subdivision Plan for Indian Cliff Development Corp for a 9-lot subdivision on Barra Road (Tax Map 7, Lot 15) in the R-3 & R-1 zones, with the recommended Conditions of Approval.

Second-Dubois

Vote-Motion passed unanimously

9.d 2024.17 The Biddeford Planning Board will review and discuss a Final Plan submitted by AVESTA Housing for a 46 unit affordable housing project for the elderly. The project is located on Barra Road (Tax Map 7, Lot 15) in the R-3 zone. The lot for this project is one of the proposed lots in the subdivision for Indian Cliff Development.

- **Galbraith introduced the project**
- **Chris MacDonald of BH2M & Ryan Fecteau of AVESTA represented the applicant.**
- **The changes noted are to comply with 3rd party comments.**
- **There is a change in the turning area to accommodate the Fire Department, an additional hydrant has been added with another being re-located on the side of Trail Side Way.**
- **AVESTA is also asking for 2 waivers: slope is 2:1 on the road, most likely ledge because it is rock face; the other waiver is for parking, there is steep slope which they are grading going into the easement areas & proximity.**
- **Bulk & space requirements have been changed for the Contract Zone.**
- **Galbraith mentioned that the language is the same on both Westbrook Development Corp and AVESTA. The approval is good until 12-31-2027 to give the developers more time with Maine State Housing Authority (MSHA).**
- **There were no public comments**

MOTIONS: 6:46 pm

Motion-Dubois-Motion to Approve Waiver Request to Article VI, Section 26. F, for slopes greater than 3:1 and grading within 10' of property lines.

Second-Angers

Vote-Motion passed unanimously

Motion-Dubois-Motion to Approve Waiver Request to Article XI .Article

II.5.B.1.e.1 of the City Code, exceeding pre-development stormwater run-off rates in post-development conditions.

Second-Angers

Vote-Motion passed unanimously

Motion-Dubois-Motion to send Contract Zone #23 to the City Council with a positive recommendation

Second-Angers

Vote-Motion passed unanimously

Motion-Dubois-Motion to approve Case # 2024.18 Final Plan Application for AVESTA Housing to build a 46 unit low income housing project for the elderly.

Property is located at Barra Road (Tax Map 7, Lot 15) in the R-3 zone, Findings of Fact (FOF) and Conditions of Approval (COA) as written.
Second-Angers
Vote-Motion passed unanimously

9.e 2024.29 The Biddeford Planning Board will review and take comments for a Final application for Site Plan/Subdivision for Westbrook Development Corporation. The property is 37 Barra Road (Tax Map 2, P/O Lot 42) in the I3 Zone.

- Galbraith introduced the project
- Tyler Norod of Westbrook Development Corp represented the applicant
- The applicant had heard about some changes the City would like to see today therefore these changes will be on the plan to be signed by the Planning Board.
- Galbraith outlined the changes as adding a pedestrian crosswalk, the traffic counts are very high and this is a high crash location therefore there will be a protected left hand turn lane at the corner of Barra Road and Route 111.
- There were no public comments
- Patoine asked if Saucier's comments have been addressed-answer-yes
- Angers would like to compliment Galbraith and staff for working so cohesively with the applicants and other staff members on these projects.

MOTIONS: 7:01 PM

Motion-Dubois-Motion to approve the waiver for Article VI Section 26 for slopes greater than 3:1 in grading within 10' of property lines.

Second-Angers

Vote-Motion passed unanimously

Motion-Dubois-Motion to send Contract Zone #24 as amended to the City Council with a positive recommendation.

Motion-Dubois-Motion to approve Case # 2024.29 Final Site Plan and Subdivision Review for Westbrook Development Corporation (WDC) for the proposed construction of a 76-unit affordable housing development at 37 Barra Road (Tax Map 2, Lot 42), within the I-3 Zone with the attached Findings of Fact (FOF) and Conditions of Approval (COA), as written.

Second-Angers

Vote-Motion approved unanimously

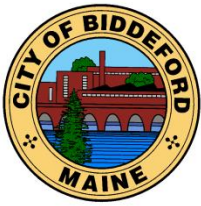
10. Other Business-None

11. Adjourn 7:04 PM

Planning Board Chair/Vice Chair

Date

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.



CITY OF BIDDEFORD

Planning and Development Department

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
David.Galbraith@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, Deputy Director/City Planner

DATE: August 14, 2024

RE: Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.

MEETING DATE: August 21, 2024 at 6:00 PM

I. INTRODUCTION:

The proposed Zoning Text Amendment was initiated by City Council President and Ward 7 Councilor Liam LaFountain (Councilor LaFountain). The proposed amendment relates to establishing more defined setbacks of marijuana / cannabis growing facilities which would require amendment to the City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments. As outlined by Councilor LaFountain the proposed Ordinance amendment would:

“Implement a residential setback for Cannabis Grow Facilities. The aim is to mitigate negative impacts, such as odor, on local residents and properties near these facilities. Considering our current ordinance prohibits new marijuana establishments within 500 feet of another, I propose a minimum 500 ft. setback from any occupied residential unit as our starting point. (See Code of Ordinances: Part III Land Development Regulations, Article VI Performance Standards, Section 77, C).”

II. DRAFT AMENDMENT:

The request to draft an amendment of this nature was forwarded to the Planning Department and developed the below draft amendment. As currently written, Article 77, C states:

C. Separation of marijuana establishments. No new marijuana establishment may be located within any building that is located within 500 feet of any other building containing a marijuana establishment.

Below is Staff’s proposed amendment to the above language (to keep all setback standards under the same subsection) of “C”. The proposed text additions are shown in blue underline, and there are currently no proposed text deletions as usually identified with ~~red strikethrough~~. The proposed text amendment is below:

C. Separation of marijuana establishments. Marijuana Establishments shall meet the minimum standards listed below, which may not be relaxed by variance or waiver:

Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.
Hearing Date: August 21, 2024

- 1) No new marijuana establishment may be located within any building that is located within 500 feet of any other building containing a marijuana establishment.
- 2) [No marijuana establishments shall be sited within 500 feet of the lot lines of a public or private school.](#)
- 3) [No marijuana establishments shall be sited within 500 feet of the lot lines of any public facility, place of worship, residential property, or childcare facility.](#)

III. ITEMS TO CONSIDER:

- 1. In item “3” above should the City consider more restrictive language and such as “residential used or zoned property” rather than “residential property” which could be interpreted as being somewhat vague.
- 2. What about legally non-conforming facilities in regards to setbacks and expansions?
- 3. What about legally non-conforming facilities in regards conversions from or expansions to actual “Use” such as growing to sales?

IV. SECTION 77 MARIJUANA ESTABLISHMENTS: Below is a link to the City’s Marijuana Establishment Ordinance:

<https://ecode360.com/31970024?highlight=&searchId=4386540208712007#31970024>

V. SAMPLE MOTIONS:

- I. Motion to approve: Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments, as written.
- II. Motion to Table: Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments., based upon the following reasons:
 - a) _____
 - b) _____
 - c) _____
- III. Motion to deny the Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments., based upon the following reasons:
 - a) _____

Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.
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- b) _____
- c) _____

Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.

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Section 77 Marijuana establishments.

[Added 1-17-2017 by Ord. No. 2016.88; amended 1-19-2021 by Ord. No. 2021.1]

- A. All marijuana establishments shall be located indoors. Any common areas, including, but not limited to, storage areas and building facilities, shared with another marijuana establishment shall be clearly identified as such on the site plan or conditional use application.
- B. Odor management. For all marijuana establishments, the odor of marijuana shall not be detectable off-premises, meaning not detectable on any property that is not under the control of the establishment. To prevent and control marijuana odors, an odor control plan shall be submitted as part of the site plan application describing the odor(s) originating or anticipated to originate at the premises and the control technologies to be used to prevent such odor(s) from leaving the premises. The odor control plan shall, at a minimum, include the following:
 - 1. A facility floor plan that identifies the locations of all odor-emitting activities and sources. The plan shall also identify the location of doors, windows, vents, HVAC systems, odor control systems and other relevant information.
 - 2. A list of specific odor-emitting activities and sources, and a description of the processes that will take place at the facility, including, but not limited to, vegetative flowering, processing and storage.
 - 3. For each odor-emitting activity or source, a description of the administrative procedures as well as the engineering processes, technologies, and equipment the facility will use.
 - a. Administrative controls shall include, at a minimum: management practices to isolate odor activities and sources, use of standard operating procedures, employee training, regular equipment inspections and maintenance of inspection logs.
 - b. Engineering controls shall include, at a minimum, building design features; use of equipment and technology to address each specific odor-emitting activity or source; a systems and equipment maintenance and replacement schedule; and evidence that proposed equipment and technology are sufficiently capable and appropriately sized consistent with marijuana industry best practices for control technologies designed to effectively mitigate odors.

Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.

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Marijuana establishments shall implement appropriate ventilation and filtration systems to satisfy the odor standard contained herein. While the City does not mandate any particular equipment specifications with regard to filtration, all marijuana establishments are strongly encouraged to adopt best management practices with regard to implementing state-of-the-art technologies in mitigating marijuana odor, such as air scrubbers and charcoal filtration systems.

- c. Noxious gases and fumes. Marijuana establishments shall have appropriate ventilation systems to mitigate noxious gases or other fumes used or created as part of the establishment. Gases or fumes shall not extend beyond the premises of any establishment, meaning not detectable on any property that is not under the control of the establishment.
- d. Sufficient measures and means of preventing smoke, debris, dust, fluids and other substances from exiting a marijuana establishment shall be provided at all times.
- e. All marijuana and marijuana by-products intended for disposal shall be stored indoors in a self-contained room that is intended solely for this purpose and in accordance with all applicable federal, state and local laws and regulations. When moving material from the self-contained storage room for disposal, marijuana and marijuana by-products shall be moved only in receptacles with a cover or lid. Security cameras shall be installed to record activities in the area of the storage room as well the areas between the storage room and where said material is loaded onto vehicle(s) for disposal.

C. Separation of marijuana establishments. [Marijuana Establishments shall meet the minimum standards listed below, which may not be relaxed by variance or waiver:](#)

- 1) No new marijuana establishment may be located within any building that is located within 500 feet of any other building containing a marijuana establishment.
- 2) [No marijuana establishments shall be sited within 500 feet of the lot lines of a public or private school.](#)
- 3) [No marijuana establishments shall be sited within 500 feet of the lot lines of any public facility, place of worship, residential property, or childcare facility.](#)

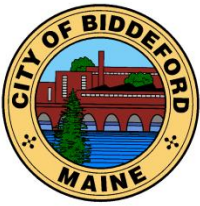
Proposed Zoning Text Amendment – Marijuana Establishments City of Biddeford Code of Ordinances, Part III – Land Development Regulations, Article VI – Performance Standards, Section 77 Marijuana Establishments.

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- D. Odor disobedience process. Any licensed operator who receives multiple, legitimate complaints for the cannabis odor emitted by their business may be unable to renew their business license and therefore also may become unable to operate within the City of Biddeford.

[Added 12-19-2023 by 2023.146]

1. First complaint. The Office of Code Enforcement will review the complaint and current odor abatement plan. The operator will have 30 days to address the problem and come up with a solution, after which they will have another 60 days to fix the issue(s).
2. After these initial 90 days, the business should stay complaint free. If another complaint is made, they will have another 90 days to address and fix the issue.
3. If three complaints are made throughout the licensed year, the operator will need to update their odor abatement plan, go through the site plan review process, and may not be granted a renewed license.
4. If the operator's license is up for renewal within the 90 days of a complaint, the City may offer an extension or temporary license to allow for proper reconditioning of the odor abatement system.



CITY OF BIDDEFORD

Planning and Development Department

Adi Iriqat
Assistant City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207)-284-9115
adi.iriqat@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner

DATE: August 8, 2024

RE: **2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.**

MEETING DATE: August 21, 2024 at 6:00 PM

1. INTRODUCTION

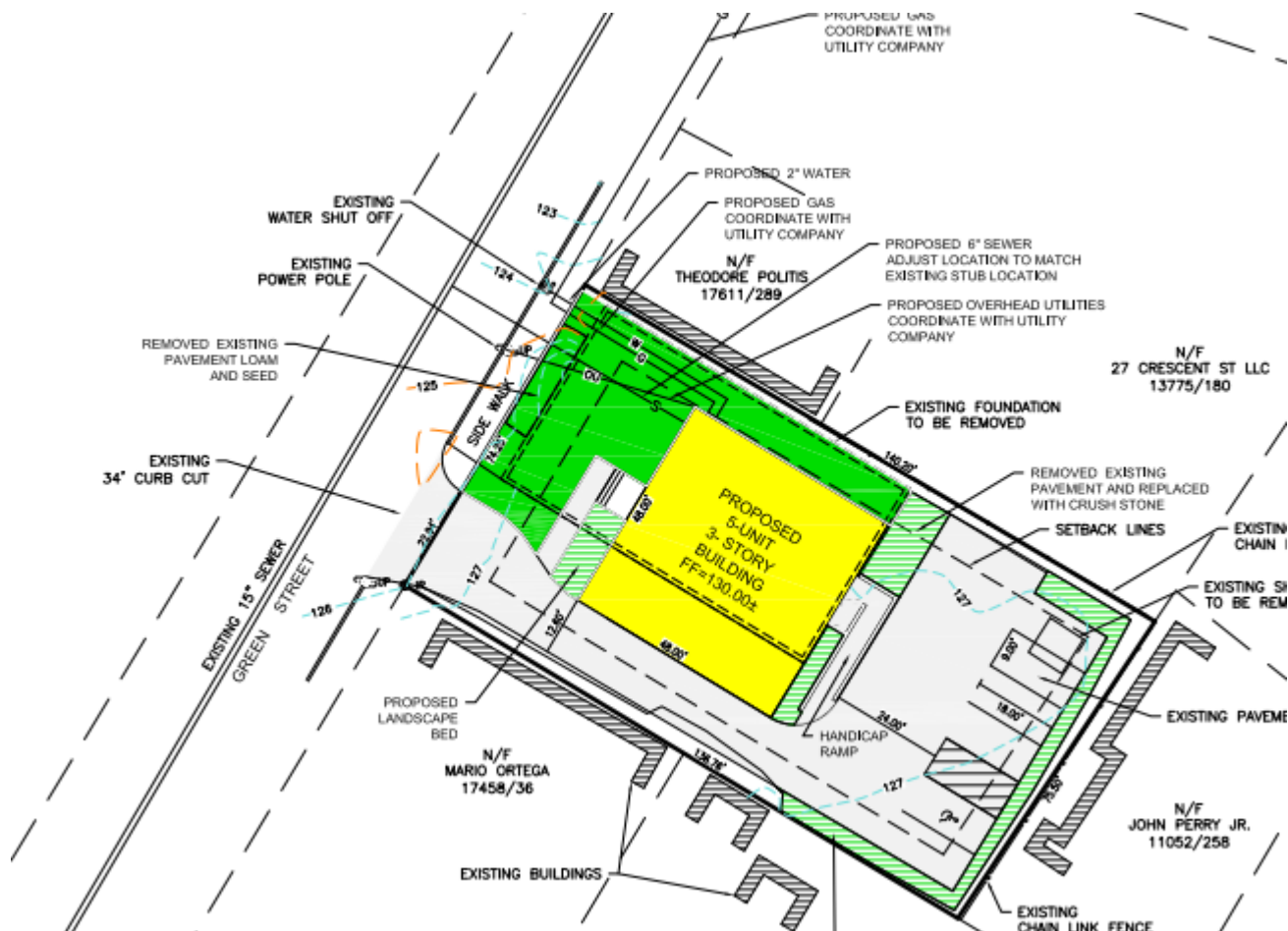
Christine Biyoga seeks to apply for zoning approval for 25 Green Street in Biddeford to open Arc-En-Ciel Peaceful Place to Grow and Learn LLC, a small child care facility. Located in common space of a Biddeford Housing Authority building, the center will care for up to 12 children ages 6 weeks to 12 years old.



The property is approximately 0.27-acres in area and it is located in the City's MSRD-2 Zoning District. The MSRD-2 District classifies "home day cares" (up to 12 children) as a "Conditional Use" which requires Planning Board review and approval. Christine is working with full support of Guy Gagnon, BHA Executive Director, in addition to collaborating with the United Way of Southern Maine and CEI's Child Care Business Lab.

2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.

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The subject property is an existing five (5) unit residential property and the proposal seeks to convert one of the units into a home day care operation. In addition to the existing on-site parking Green Street allows on-site parking so parking is not a concern.

2. PROJECT DATA/INFORMATION

1.	Applicant:	Christine Biyoga 28 ½ Holly Street Portland, ME 04103
2.	Owner of Property:	Biddeford Housing Authority 22 South Street Biddeford, ME, 04005
3.	Agent:	Same as applicant
4.	Engineer:	N/A
5.	Project Location:	25 Green Street
6.	Project Tax Map #/Lot #:	Tax Map 38, Lot 263
7.	Lot Size:	0.27

2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.

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8.	Base Zoning:	MSRD-2
9.	Overlay Zoning:	N/A
10.	Existing Use:	Residential
11.	Proposed Use:	Addition of a facility-based child-care
12.	Approvals Required:	Conditional Use Permit
13.	Uses in the Vicinity:	Residential
14.	Number of Lots/Units in Subdivision:	N/A
15.	Minimum Lot Size Required: Provided:	2000 S.F per unit 10,000 S.F
16.	Frontage Required: Provided:	50' >76'
17.	Front Setback Required: Provided:	15' 6'
18.	Side Setbacks Required: Provided:	10' >27'
19.	Rear Setback Required: Provided:	10' >50'
20.	Height Requirements: Provided:	35 feet or 3 stories
21.	Water Supply:	Public Water
22.	Sewage Disposal:	City of Biddeford
23.	Solid Waste Disposal:	N/A
24.	Fire Protection:	City of Biddeford
25.	Floodplain Status:	Property is not within a NFIP Zone A or V flood zone
26.	Wetland/Surface Water Impacts:	None
27.	Soil Study Provided:	N/A
28.	Parking Spaces Required:	1 Space for every 4 Children Facility is Licensed to Care = 4 parking stalls
29.	Parking Spaces Provided (total): # Handicapped Spaces:	15 +/-
30.	Ownership of Road:	Green Street is a Public Road
31.	Impervious Surface Area:	0 SF Change
32.	Total Disturbed Area:	0 SF of Previously Undisturbed Area
32.	Estimated Site Development Costs:	N/A
33.	Financial Capacity Letter:	N/A
34.	Waivers Needed:	N/A
35.	Waivers Granted:	N/A
36.	Variances Needed for Approval:	None
37.	Other Permits Obtained:	N/A
38.	Other Non-City Permits Required:	None
39.	Covenants, By-laws, Restrictions Required:	None
40.	Fees Paid:	Yes
41.	Planning Board Review History:	August 7, 2024-Conditional Use Permit

2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.

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3. EXISTING CONDITIONS

The existing building is a three-story, five (5) unit residential structure.

4. PROJECT PROPOSAL

Home Day-Care Facility

5. STAFF REVIEW

REVIEW STANDARDS: The project is subject to Conditional Use Standards Listed below:

Section 6 Standards:

- A. Applications for conditional use permits must meet the standards specified in Article VI of this ordinance as well as the standards of subdivision or site review. In addition, because of the unique nature and particular concern that the general public may have relating to a conditional use in a particular zone, the Planning Board shall consider each of the applications in light of the guidelines presented below.
- B. The Planning Board shall approve, approve with conditions, or deny all applications for a conditional use permit. The applicant shall have the burden of proving that his or her application is in compliance with the requirements of this ordinance and that none of the conditions listed below would result from the approval of the conditional use permit. Failure of the applicant to submit required information shall constitute a basis for denial without a review of the remainder of the application. After the submission of a complete application and a review of the required submissions, the Planning Board shall approve the application or approve it with conditions if the application meets the following standards:
 - 1. The proposed use meets specific requirements set forth in this ordinance and would be in compliance with applicable state or federal laws; The proposed use will comply with all State and local Codes and Ordinances;
 - 2. The proposed use would not create fire safety hazards by providing adequate access to the site, or to the buildings on the site, for emergency vehicles and would not create hazards through the storage of chemicals and wastes;
 - 3. The proposed exterior lighting, where allowed, would not create hazards to motorists traveling on adjacent public streets or is adequate for the safety of occupants or users of the site or would not damage the value and diminish the usability of adjacent properties;
 - 4. The provisions for buffers and on-site landscaping provide adequate protection to neighboring properties from detrimental or unsightly features of the development;

2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.

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5. The proposed use would not have a significant, detrimental effect on the use and peaceful enjoyment of abutting property as the result of noise, vibrations, fumes, odor, dust, glare, hours of operation, or other causes;
6. The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets would not create hazards to public safety or traffic congestion;
7. The proposed use would generate a volume of traffic that can reasonably be accommodated by the existing road network, or would not create unreasonable traffic hazards or would not exacerbate an existing traffic hazard, or would not create unreasonable traffic congestion;
8. The proposed use would not have a significant, detrimental effect on the value of adjacent properties which could be avoided by reasonable modification of the proposal;
9. The proposed use would not have an adverse impact on the privacy of the residents of the immediate area (within 500 feet) which could be avoided by reasonable modification of the proposal;
10. The proposed use would be in compliance with Biddeford's Comprehensive Plan;
11. The proposed use would not have an adverse impact on the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal;
12. The design of the site would not result in significant flood hazards or flood damage or would be in conformance with applicable flood hazard protection requirements;
13. Adequate provision has been made for disposal of wastewater or solid waste or for the prevention of ground or surface water contamination;
14. Adequate provision has been made to control erosion or sedimentation;
15. Adequate provision has been made to handle stormwater runoff or other drainage problems on the site; and the proposed development will not unduly burden off-site surface water systems;
16. The proposed water supply would meet the demands of the proposed use for fire protection purposes;
17. Adequate provision has been made for the transportation, storage, and disposal of hazardous substances and materials as defined by state law;
18. The proposed use would not have an adverse impact on scenic vistas or on significant wildlife habitat or wetland areas and water bodies which could be avoided by reasonable modification if the proposal;
19. When located in the Shoreland Zone, the proposed use would meet the purposes of Shoreland Zoning as identified in Article XIV, Section 1 (Purposes) of this ordinance.

2024.35 Conditional Use Permit for Arc-En-Ciel Peaceful Place to Grow and Learn LLC at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone.

Planning Board Meeting Date: August 21, 2024 at 6:00 PM

C. WAIVERS REQUESTED / REQUIRED:N/A

6. NEXT STEPS/SUGGESTED ACTIONS

Recommend that if the Planning Board approves the Conditional Use Permit it be approved with the following minimum conditions of approval:

1. Standard Conditions of Approval apply.
2. The applicant shall obtain all other pertinent local, state and federal permits / licenses / insurance such as building, electrical, plumbing, etc., prior to commencing business.

7. SAMPLE MOTIONS:

A. Motion to approve Case # 2024.35 The Conditional Use Permit, Findings of Facts and Conclusions of Law for Home Day Care facility called Arc-En-Ciel Peaceful Place to Grow and Learn LLC located at 25 Green Street (Tax Map 38, Lot 263).

B. Motion to Table Case # 2024.35 The Conditional Use Permit, Findings of Facts and Conclusions of Law for Home Day Care facility called Arc-En-Ciel Peaceful Place to Grow and Learn LLC located at 25 Green Street (Tax Map 38, Lot 263)., based upon the following reasons:

- a) _____
- b) _____
- c) _____

C. Motion to Deny Case # 2024.35 The Conditional Use Permit, Findings of Facts and Conclusions of Law for Home Day Care facility called Arc-En-Ciel Peaceful Place to Grow and Learn LLC located at 25 Green Street (Tax Map 38, Lot 263), based upon the following reasons:

- a) _____
- b) _____
- c) _____

June 24th, 2024

To: Scott Welton, Fire and Life Safety Inspector

Code Enforcement Office

City of Biddeford, Maine

From: Christine Biyoga

RE: Formal Letter of Intent

Mr. Welton,

My name is Christine Biyoga and I reside at 28 ½ Holly Street in Portland. Please accept this as my formal **Letter of Intent** requesting to open a child care facility at 25 Green Street in Biddeford, Maine, property of Biddeford Housing Authority, **Map 9, Block 38**. My business name is Arc-En-Ciel Peaceful Place to Grow and Learn LLC. If approved, I will offer childcare for up to 12 children ages 6 weeks ages 12 years old, encompassing day-long care as well as before/after school care for older children. One of the children will be my 7-year-old daughter. As my business grows, I will need to add one employee to reach the full capacity of 12 children. The hours of operation will be from 7:30am-4:30pm, Monday through Friday. Children who attend will all receive quality early education focused on their individual needs. The childcare will feature an outdoor space for supervised activities.

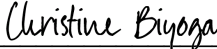
I am working with Coastal Enterprise Inc's Child Care Business Lab, a program designed to support entrepreneurs with the necessary education and resources to successfully start a child care business. I am also working with the United Way of Southern Maine and the Biddeford Housing Authority.

Attached for your review please find: my Planning Board Application form; the project narrative; site and floor plans for 25 Green Street; photos of the classroom; a landlord approval letter from Guy Gagnon, Executive Director of Biddeford Housing Authority; documentation provided by Guy regarding waivers the city granted for parking spaces in 2019; a letter of support from Rebecca Alfredson, Director of Education for the United Way of Southern Maine; and a copy of my CDA.

Thank you for your assistance in helping me take the next steps in the process. I look forward to having you tour my proposed site. I can be reached at 207-518-0593 to arrange for your visit.

My best,

Christine Biyoga

DocuSigned by:

3EEA706C608B4AF...

Revised: May 17, 2022

**City of Biddeford – Planning Department****Planning Board Application**

P.O. Box 586, 205 Main Street Biddeford, Maine 04005

207-284-9115

Type of Application:☐ Shoreland Zoning Permit☐ Site Plan Review☐ Extraction☒ Conditional Use Permit☐ Subdivision☐ Private Way☐ Other: _____**Applicant Information:**Name: Christine BiyogaMailing Address: 2812 Holly Street, Portland ME 04103Telephone: 207-518-0593Email: Chris.Fibi.06@gmail.com

What is your legal interest in the property?

☐ Owner☐ Potential Buyer with Contract☒ Lease/Rental Agreement**Owner's Information:**Name: Biddeford Housing AuthorityMailing Address: 22 South Street, Biddeford ME 04005Telephone: 207-282-6537Email: ggagnon@bhousing.org**Agent's Information:**

Name: _____

Mailing Address: _____

Telephone: _____

Email: _____

Engineer/Surveyor's Information:

Name: _____

Mailing Address: _____

Telephone: _____

Email: _____

Project Location and Lot Information:Street Address: 25 Green Street, Biddeford ME 04005 Drainage Watershed: _____Tax Map: Map 9Lot: 38

Current Zoning: _____

Shoreland Zoning: _____

Size of Lot: _____ () acres () s.f.

Lot Frontage: _____

Existing Use of Property: _____

Property currently serviced by:☒ City Road☒ Public Sewer☒ Public Water☒ Public Trash☐ Private Road ☐ Septic System☐ Private Well☐ Private Hauler**Slope Conditions in Area of Construction (if applicable):**☐ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)Are there any wetlands or waterbodies on the site? ☐ (Yes) ☒ (No) if yes attach informationIs the project within the 100-year floodplain? ☐ (Yes) ☒ (No) if yes attach informationDo you plan to bring fill onto the lot? ☐ (Yes) ☒ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

Addition of a facility-based child care.**Property to be Serviced by:**

☒ City Road ☒ Public Sewer ☒ Public Water ☒ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ☐ Private Hauler

Limits of Disturbance: N/A () acres () s.f.Net change in impervious cover: N/A () acres () s.f.Is this project part of a larger project? ☐ (Yes) ☒ (No)Is the project proposing a new Private or Public Road? ☐ (Yes, Private) ☐ (Yes, Public) ☒ (No)Is this project within the Urbanized Area/MS4 (see City Drainage Map) ☐ (Yes) ☒ (No)Is the project proposing any Stormwater facilities/BMPs? ☐ (Yes) ☒ (No)Will a Traffic Movement Permit (TMP) be required?: ☐ (Yes) ☒ (No)**If in a Shoreland Zone:**

Percent of residential lot coverage (Max 20%): _____

Percent of structure expansion (Max 30%): _____

If Subdivision Review, number of lots proposed: _____**If a Private Way is proposed, number of lots served:** _____**If Site Plan Review, you must provide the following information:**

Total new square feet footprint of structure: _____

Total new square feet paving/parking: _____

Waiver Requests (attach details):

1. _____
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

- A. Letters of Approval
 - ☐ Fire Department – Contact Chief or Deputy Chief – 282-9986
 - ☐ Ability to Serve for Water Service – Maine Water – 282-1543
 - ☐ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
 - ☐ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127
- B. Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.
- C. Photographs of Site.
- D. Architectural renderings/drawings of proposed buildings, as required.
- E. Engineering Plans, as required.
- F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- \$75 Nonrefundable Administration Fee is required for every application.
- Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance?: (Yes) ☒ (No)

- If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.

DocuSigned by:
Signature of Applicant: Christine Biaga DocuSigned by: 3EEA700C606B4A6... **Date** 6/14/2024 | 6:21 PM PDT
Signature of Property Owner: Guy Gagnon DocuSigned by: 2EBFDAF0E9B4402... **Date** 6/13/2024 | 10:13 AM EDT

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

- A) PDF OF SIGNED APPLICATION
- B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

- A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL DRAWING NAME.pdf'
- B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.
- C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)
 - All drawings & CAD reference files must be to-scale and within the following coordinate systems:
 - MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIDUAL DRAWINGS REQUIRING BOARD SIGNATURE
- B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

Arc-En-Ciel Peaceful Place to Grow and Learn LLC

Project Narrative

25 Green Street, Biddeford, ME 04005

June 25, 2024

1) Project Description

Christine Biyoga seeks to apply for zoning approval for 25 Green Street in Biddeford to open Arc-En-Ciel Peaceful Place to Grow and Learn LLC, a small child care facility. Located in common space of a Biddeford Housing Authority building, the center will care for up to 12 children ages 6 weeks to 12 years old. Christine is working with full support of Guy Gagnon, BHA Executive Director, in addition to collaborating with the United Way of Southern Maine and CEI's Child Care Business Lab.

2) Roles and Responsibilities

Christine Biyoga will be the owner and director of Arc-En-Ciel Peaceful Place to Grow and Learn LLC. She is an early childhood educator with 5 years of experience. She began her career as a lead teacher for infants and toddlers, eventually transitioning to working as an ed tech with preschoolers. Christine earned her CDA in 2022 and is a patient professional who loves working with children and families. As described by one of her colleagues, "Caring for children is in Christine's nature."

3) Mentor and Community Support

- Guy Gagnon is the Executive Director of Biddeford Housing Authority. Christine will rent the first floor of 25 Green Street from him to operate the business. Guy is enthusiastic about the opportunity for BHA residents to access quality care for their children and is fully supportive of the project (see "Landlord Approval Letter").
- The United Way of Southern Maine facilitated the connection between Guy and Christine. They continue to be supporters of the project as they want to see Christine succeed as a business owner and give back to the community (see "Letter of Support").
- CEI's Child Care Business Lab is a team based out of Brunswick who is helping Christine navigate the child care licensing process and set her business up for financial success. They are also helping her to apply for the Maine State Child Care Infrastructure Grant Program, funding which would cover many of Christine's startup costs. Christine has been involved with the Child Care Business Lab since 2023.

4) Project Goals and Outcomes

Arc-En-Ciel Peaceful Place to Grow and Learn LLC is an early learning center whose goal is to treat every child as an individual and encourage them to learn through play. As the director, Christine will welcome children and families into the space to build community and trust. She will help children reach their developmental milestones and collaborate with support services as needed. Christine will teach children to communicate through sign language and French. Families will initially provide their own meals for their children, but in the future Christine hopes to cook meals fresh. Snacks will be provided.

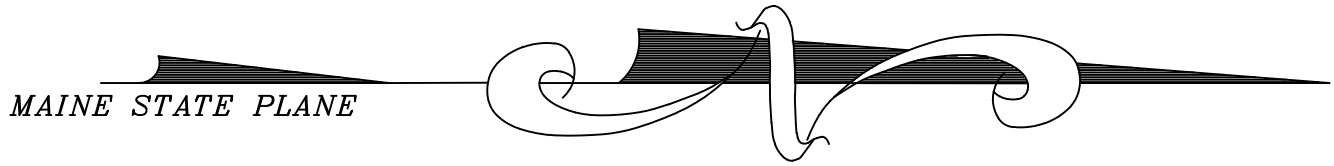
As an entrepreneur, Christine will be creating a good job for herself as a new business owner. She also plans to hire one staff member to help care for the 12 children and maintain state-mandated ratios. Because Arc-En-Ciel Peaceful Place to Grow and Learn LLC will be in a Biddeford Housing Authority space, slots will be prioritized for BHA families. This will have a huge impact on the lives of parents who are hoping to return to the workforce but are struggling to find quality care.

5) Parking Plan

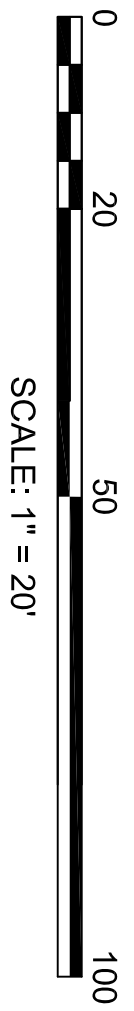
As raised during discussions with the City of Biddeford's Planning Office, parking is a key concern. In 2019, the Planning Board waived the requirement for ten off-street parking spaces and allowed only five off-street (on-site) parking spaces (see "Notice of Decision- March 11, 2019"). Currently only three resident vehicles are using the site which is typical for the low-income housing area. BHA proposes that one space out back be used for staff parking and that a drop-off space be created adjacent to the front driveway entrance by slightly widening the entry drive. All other parking would be located on the street.

6) Outdoor Space

The Maine Facility Child Care Rule book states that children shall have a minimum of 60 minutes of active play outdoors daily. Currently 25 Green Street has a paved back area. Guy Gagnon and Christine have discussed laying down turf (or a similar play-safe material) and fencing in the area for outdoor play.



- LEGEND**
- △ SURVEYORS TRAVERSE POINT
 - FOUND IRON ROD OR PIPE
 - PROPERTY LINE
 - ABUTTERS PROPERTY LINE
 - - - SETBACK LINE
 - N/F NOW OR FORMERLY
 - UTILITY POLE
 - OVERHEAD UTILITIES
 - EXISTING FIRE HYDRANT
 - ⊙ SEWER MANHOLE
 - ⊙ DRAIN MANHOLE
 - CATCH BASIN
 - ⊕ WATER SHUTOFF



NOTES:

- RECORD OWNER: HOUSING OPTIONS LLC
13 CROSS STREET
SACO, MAINE
- NAME OF APPLICANT: BIDDEFORD HOUSING
22 SOUTH STREET
BIDDEFORD, MAINE
- TAX MAP 38, LOT 263
- TOTAL AREA OF PROPERTY 10,000 SQUARE FEET, MORE OR LESS.
- PROPERTY IS LOCATED IN THE MSRD ZONE
- THE PROJECT HORIZONTAL DATUM: MAINE STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE. PROJECT VERTICAL DATUM: NORTH AMERICAN DATUM 1988 (NAVD88). ALL DATA WAS DERIVED USING LEICA GS14 REAL TIME KINEMATICS GPS.
- PROPERTY TO BE SERVED BY PUBLIC SEWER, PUBLIC WATER, NATURAL GAS AND OVERHEAD UTILITIES.
- THE PARKING SHALL BE PAINTED WITH 4 INCH STRIPES TO DELINEATE PARKING STALLS.
- NUMBER OF PARKING SPACES REQUIRED IS 10. THE NUMBER OF PARKING SPACES PROVIDED IS 6 (INCLUDING 1 HANDICAP). THE APPLICANT IS REQUESTING A WAIVER FROM THE PARKING STANDARDS.

LOCUS DEED REFERENCE:

- A. WARRANTY DEED STEPHEN J. RYAN AND JAMES C. BISHOP TO HOUSING OPTIONS, LLC DATED NOVEMBER 14, 2003 AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 13805, PAGE 34.

PLAN REFERENCE:

- A. CITY OF BIDDEFORD AS-BUILT SEWER AND STORM PLAN REVISED MAY 2010 FILE #TD-1763.

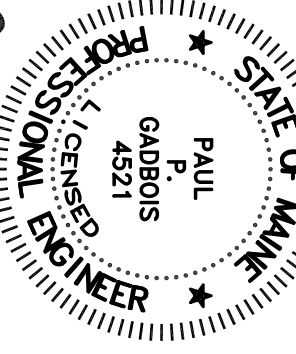
ZONE REQUIREMENTS: MSRD2

- MIN. LOT SIZE 2,000 SF PER UNIT
MIN. STREET FRONTAGE 50 FEET
MIN. FRONT YARD 15 FEET
MIN. REAR AND SIDE YARD 10 FEET
MAX. HEIGHT 35 FEET

LOT COVERAGE			
	EXISTING	PROPOSED	
BUILDING	3,250 SF	2,304 SF	
PAVEMENT	6,175 SF	4,160 SF	
TOTAL	9,425 SF	6,464 SF	

YORK,ss REGISTRY OF DEEDS
Received _____
at _____ h _____ m _____ M., and
Filed in Plan Book _____ Page _____
ATTEST: _____
Register

I HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE.



Paul P. Gadbois
PAUL P. GADBOIS, P.E. # 4521

APPROVAL
CITY OF BIDDEFORD
PLANNING BOARD

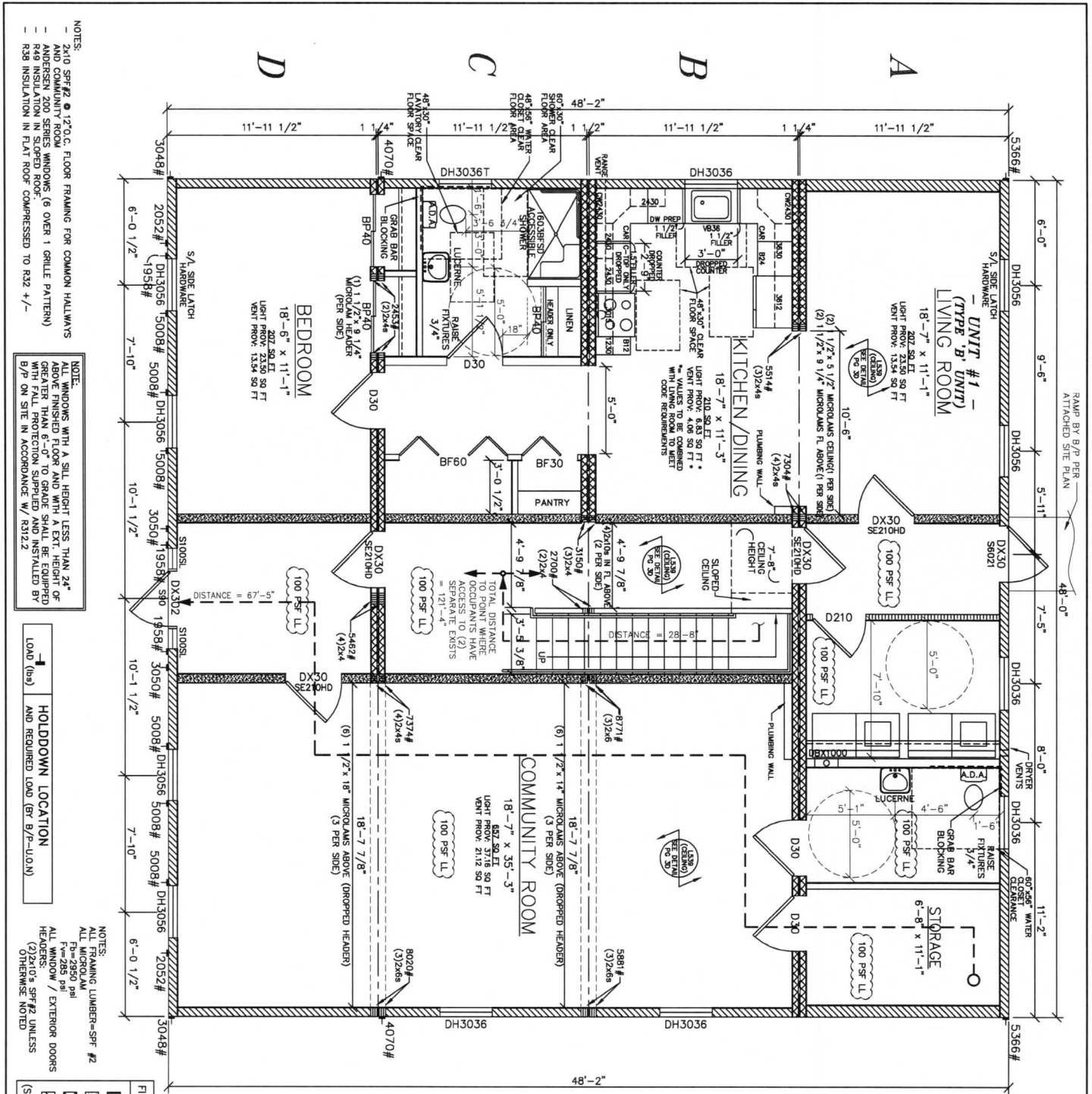
DATE	_____
CHAFFERSON	_____
_____	_____
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_____	_____
_____	_____

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

SITE PLAN
BIDDEFORD HOUSING
25 GREEN STREET
BIDDEFORD, MAINE

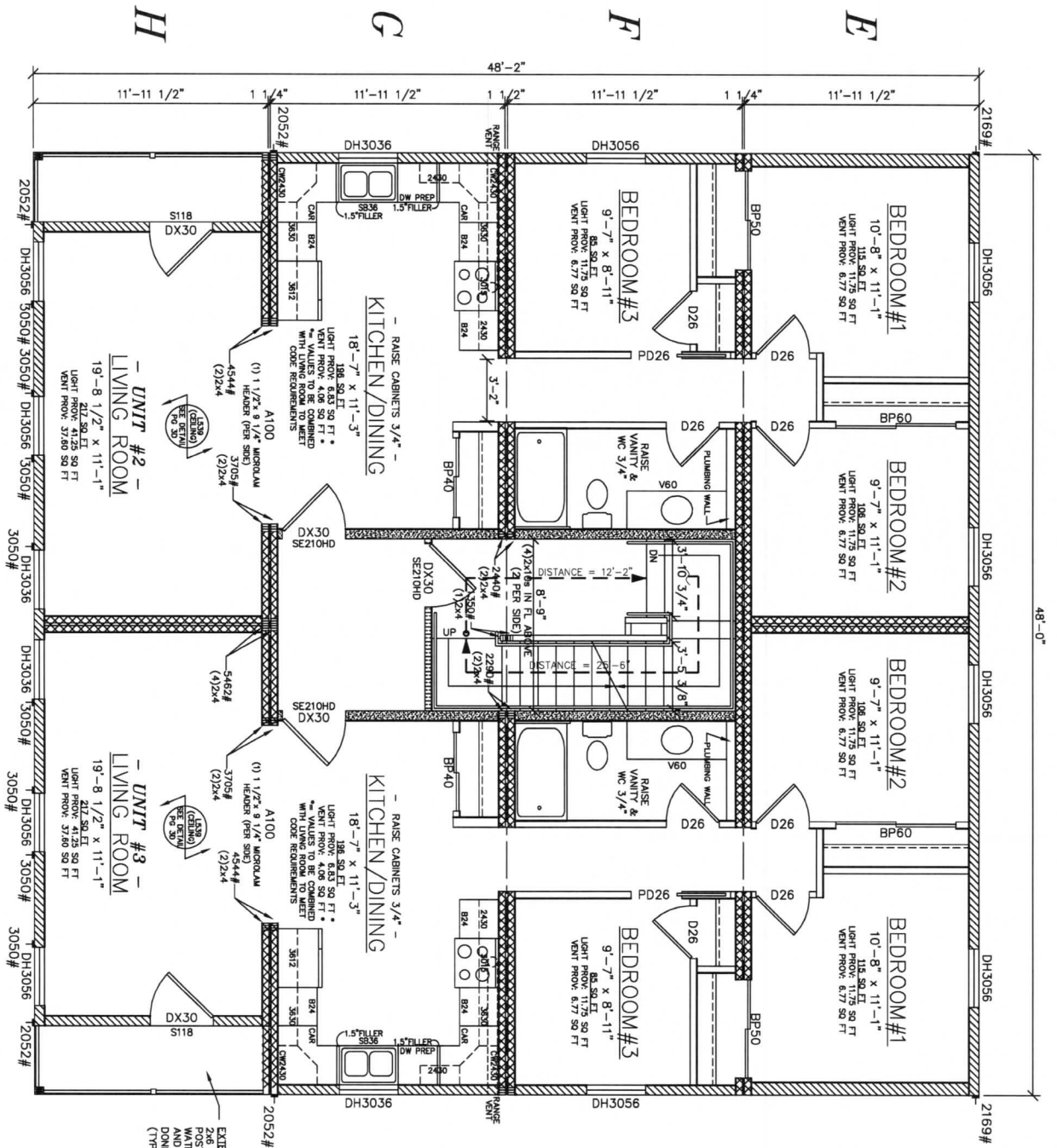
NAME OF APPLICANT
BIDDEFORD HOUSING
22 SOUTH STREET
BIDDEFORD, MAINE 04005

DRAWN: P.P.G.	REVISIONS:
CHECKED: P.P.G.	
SCALE: 1"= 20'	
FIELD BOOK:	
DATE: 01-15-2019	
JOB NO. 1703	
SHEET 1 OF 1	



SEE STANDARD NOTES & DETAILS DWG #8

USE GROUP: R2 CONST. TYPE: VB DESIGNER: C. LARRBYNAGA DATE: 05/07/19 SCALE: 1/4" = 1'-0" PAGE: 3A	BUILDER: EXQUISITE HOMES 41 SMITH RD MAPLETON, ME 04787	HOMEOWNER: BIDDEFORD HOUSING GUY GAGNON SITE: 25 GREEN ST BIDDEFORD, ME 04005	SERIAL No. 19057 PRODUCTION No. <table border="1"> <tr> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td> </td> <td>06/14/19</td> </tr> <tr> <td> </td> <td>09/03/19</td> </tr> <tr> <td> </td> <td>09/06/19</td> </tr> <tr> <td> </td> <td>12/03/19</td> </tr> <tr> <td> </td> <td>12/12/19</td> </tr> </table> <table border="1"> <tr> <th>CHECK</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISION	DATE		06/14/19		09/03/19		09/06/19		12/03/19		12/12/19	CHECK	DATE			PE / RA 	THIRD PARTY INSPECTION AGENCY
REVISION	DATE																				
	06/14/19																				
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	09/06/19																				
	12/03/19																				
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CHECK	DATE																				



NOTES:
 - 2x10 SFR #2 @ 12" O.C. FLOOR FRAMING FOR COMMON HALLWAYS
 - AND COMMON HALLWAYS
 - ANDERSEN 200 SERIES WINDOWS (6 OVER 1 GRILLE PATTERN)
 - R48 INSULATION IN SLOPED ROOF.
 - R38 INSULATION IN FLAT ROOF COMPRESSED TO R32 +/-

NOTE:
 ALL WINDOWS WITH A SILL HEIGHT LESS THAN 24" ABOVE FINISHED FLOOR AND WITH A EXT. HEIGHT OF GREATER THAN 6'-0" TO GRADE SHALL BE EQUIPPED WITH FALL PROTECTION SUPPLIED AND INSTALLED BY B/P ON SITE IN ACCORDANCE W/ R312.2

LOAD (lbs)
HOLDOWN LOCATION
 AND REQUIRED LOAD (BY B/P-U.O.M.)

NOTES:
 ALL FRAMING LUMBER-SFR #2
 ALL MICROSLAM
 F=2850 psi
 ALL HEADERS
 (2)2x10+ SFR #2 UNLESS OTHERWISE NOTED

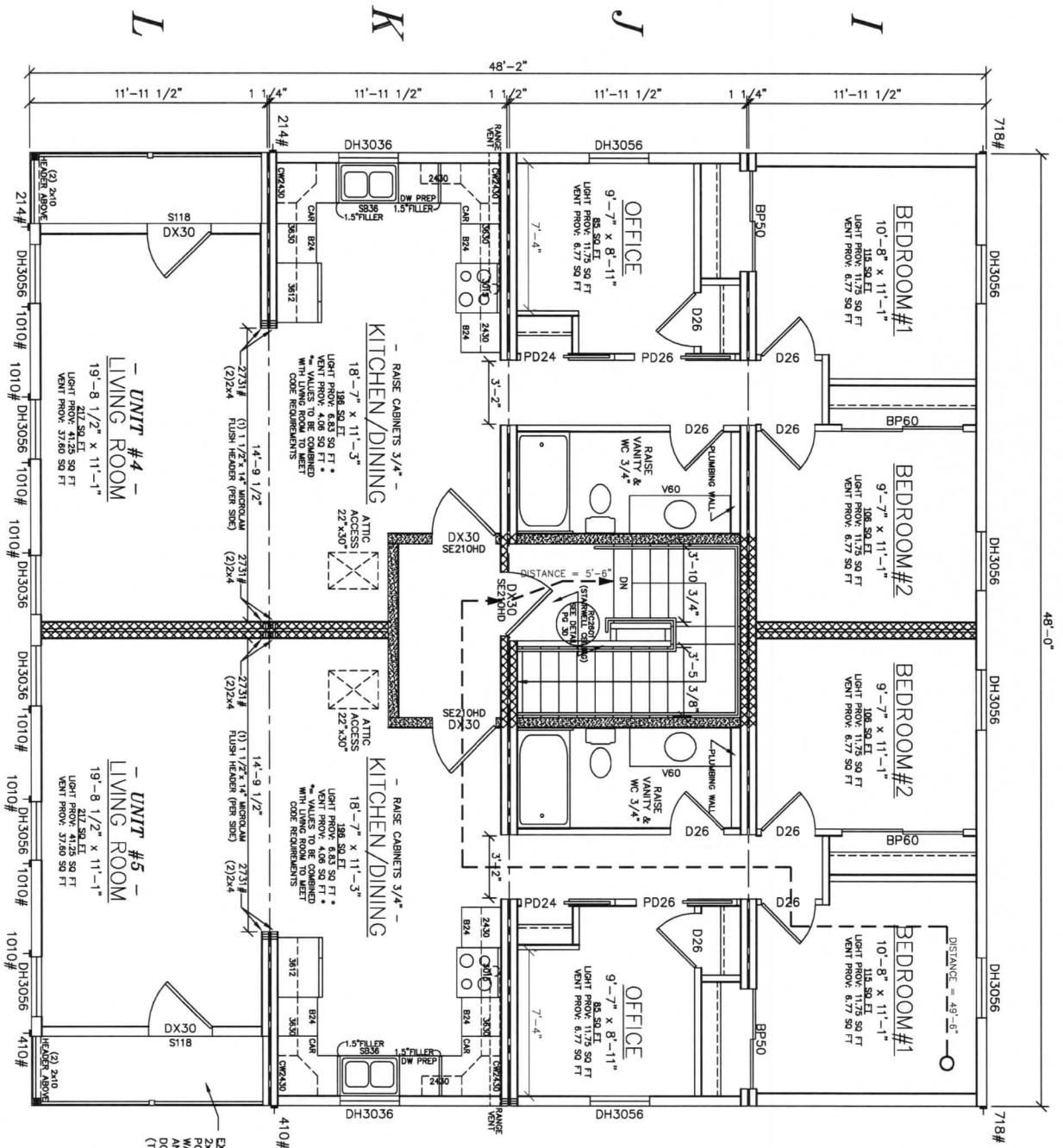
FIRE SEPARATION LEGEND
 [Symbol] = U376-A
 [Symbol] = U376-B
 [Symbol] = U376-C
 [Symbol] = U356
 (SEE PAGE 3D FOR DETAILS)

SEE STANDARD NOTES & DETAILS DWG #8

USE GROUP: R2 CONST. TYPE: VB DESIGNER: C. LARRY NAGA DATE: 05/07/19 SCALE: 1/4" = 1'-0" PAGE: 3B	BUILDER: EXQUISITE HOMES 41 SMITH RD MAPLETON, ME 04787	HOMEOWNER: BIDDEFORD HOUSING GUY GAGNON SITE: 25 GREEN ST BIDDEFORD, ME 04005	SERIAL No. 19057 PRODUCTION No. REVISION DATE 06/14/19 09/03/19 09/06/19 12/03/19 12/12/19 CHECK DATE	PE / RA THIRD PARTY INSPECTION AGENCY
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MULTI-FAMILY BLD CTM-R
SECOND FLOOR PLAN

Westchester Modular Homes Inc
 30 Reagans Mill Road, Wingdale, New York, 12594
 Tel (845)832-9400 Fax (845)832-6698



NOTES:
 - 2x10 SFR#2 @ 12" O.C. FLOOR FRAMING FOR COMMON HALLWAYS
 - AND COMMUNITY ROOM
 - ANDERSEN 200 SERIES WINDOWS (6 OVER 1 GRILLE PATTERN)
 - R49 INSULATION IN FLAT ROOF COMPRESSED TO R32 +/-

NOTE:
 - WINDOWS WITH A SILL HEIGHT LESS THAN 24"
 - ABOVE FINISHED FLOOR AND WITH A EXT. HEIGHT OF
 - GREATER THAN 6'-0" TO GRADE SHALL BE EQUIPPED
 - WITH FALL PROTECTION SUPPLIED AND INSTALLED BY
 - B/P ON SITE IN ACCORDANCE W/ R312.2

LOAD (lbs) AND REQUIRED LOAD (BY B/P-U.O.M.)

NOTES:
 - ALL FRAMING LUMBER-SFR #2
 - ALL MICROUM
 - Fb-2850 psi
 - ALL DOOR / EXTERIOR DOORS
 - HEADERS (22x10" SFR#2 UNLESS
 - OTHERWISE NOTED

FIRE SEPARATION LEGEND

[Pattern]	= U376-A
[Pattern]	= U376-B
[Pattern]	= U376-C
[Pattern]	= U356

SEE STANDARD NOTES & DETAILS DWG #8

USE GROUP: R2 CONST. TYPE: VB DESIGNER: C. LARRY NACA DATE: 05/07/19 SCALE: 1/4" = 1'-0" PAGE: 3C	BUILDER: EXQUISITE HOMES 41 SMITH RD MAPLETON, ME 04787	HOMEOWNER: BIDDEFORD HOUSING GUY GAGNON SITE: 25 GREEN ST BIDDEFORD, ME 04005	SERIAL No. 19057 PRODUCTION No. <table border="1"> <tr> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td></td> <td>06/14/19</td> </tr> <tr> <td></td> <td>06/03/19</td> </tr> <tr> <td></td> <td>09/06/19</td> </tr> <tr> <td></td> <td>12/03/19</td> </tr> <tr> <td></td> <td>12/12/19</td> </tr> <tr> <th>CHECK</th> <th>DATE</th> </tr> <tr> <td></td> <td></td> </tr> </table>	REVISION	DATE		06/14/19		06/03/19		09/06/19		12/03/19		12/12/19	CHECK	DATE			PE / RA 	THIRD PARTY INSPECTION AGENCY
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CHECK	DATE																				

MULTI-FAMILY BLD CTM-R
THIRD FLOOR PLAN

Westchester Modular Homes Inc
 30 Reagans Mill Road, Wingdale, New York, 12594
 Tel (845)832-9400 Fax (845)832-6698

Photos of 25 Green St.







Landlord Approval Letter

Date: 6-17-24

Re: Tenant Child Care Approval

To Whom It May Concern:

I, Guy M. Gagnon, Exec Dir. BHA (Landlord Name), hereby grant permission for Christine Biyoga (Tenant Name) to use my property located at 25 Green St. first floor (Address), which they are renting from me, to operate a child care business with a maximum number of 12 children as of tbd (Start Date) and for the duration of their lease. If you have any questions regarding this correspondence, please contact me at:

Property Owner Name: Biddeford Housing Authority (BHA)

Property Owner Mailing Address: 22 South St.

City, State, Zip Code: Biddeford, Me. 04005

Phone Number: 207-415-2939

Email Address: ggagnon@bhousing.org

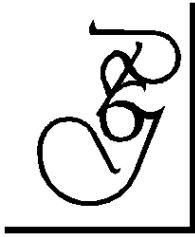
Sincerely,

Guy M. Gagnon
Exec Dir. BHA

Property Owner Name Print



Property Owner Signature



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois53@gmail.com

Greg Tansley, Planner
City of Biddeford
P.O. Box 586
Biddeford, Maine

January 16, 2019

Re: Biddeford Housing, 25 Green Street, Tax Map 38 Lot 263

Dear Mr. Tansley:

The applicant has a purchase sales agreement and wishes to construct a 48 x 48 (2304 square foot) three story building to house 5 residential units.

The site originally had a 3-story 10 unit apartment building along with associated paved access and parking.

The applicant is proposing to use the existing access and paved parking. The project as designed reduces the overall impervious area by 30 %.

The applicant is requesting a waiver for the number of parking spaces. (See attached letter)

A lighting plan along with proposed landscaping will be included in future submissions.

If you have any questions, or need any additional information, please call.

Very truly yours,

Paul P. Gadbois, P.E., P.L.S.

CITY OF BIDDEFORD, MAINE
PLANNING BOARD
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

APPLICATION FORM

Type of Application:

☐ Shoreland Zoning Permit ☒ Site Plan Review ☐ Extraction
☐ Conditional Use Permit ☐ Subdivision ☐ Private Way
☐ Other: _____

Applicant Information:

Applicant's Name: BIDDEFORD HOUSING AUTHORITY
Applicant's Mailing Address: 22 SOUTH STREET BIDDEFORD
Applicant's Telephone: (207) 415-2939

What is Applicant's legal interest in the property?

☐ Owner ☒ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Name: _____
Owner's Address: _____
Owner's Telephone: _____

Agent's Name: PAUL P. GADBOIS
Agent's Address: P.O. Box 327 SACO, ME 04072
Telephone: (207) 283-3980

Engineer/Surveyor: PAUL P. GADBOIS
Engineer/Surveyor's Address: P.O. Box 327 SACO ME 04072
Telephone: (207) 283-3980

Project Location and Lot Information:

Street Address: 25 GREEN STREET
Tax Map: 38 Lot: 263
Current Zoning: MSRD-2 Shoreland Zoning: N/A

Size of lot: 10,000 ☐ acres ☒ s.f. Lot Frontage: 74'

Existing Use of Property: VACANT

Property currently serviced by:

☒ City Road	☐ Private Road
☒ Public Sewer	☐ Septic System
☒ Public Water	☐ Private Well
☒ Public Trash	☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☒ Flat (0-3 % slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15% + slope)

Are there any wetlands or waterbodies on the site? ☐ Yes ☒ No If yes, attach information

Do you plan to bring fill onto the lot? ☐ Yes ☒ No If yes, attach information

Description of proposed use of property:

Project/Proposed Use Description: CONSTRUCT 3-STORY, 5-UNIT RESIDENTIAL BUILDING. UTILIZE THE EXISTING PAVEMENT FOR ACCESS AND PARKING.

Property to be serviced by:

☒ City Road	☐ Private Road
☒ Public Sewer	☐ Septic System
☒ Public Water	☐ Private Well
☒ Public Trash	☐ Private Hauler

Is this project part of a larger project? ☐ Yes ☒ No

☐ If in a Shoreland Zone:

Percent of residential lot coverage (Max. 20%): _____

Percent of structure expansion (Max. 30%): _____

☐ If Subdivision Review, number of lots proposed: _____

☐ If a Private Way is proposed, number of lots served: _____

☒ If Site Plan Review, you must provide the following information:

Total new square feet footprint of structures: 2,304 SF

Total new square feet paving/parking: 4,160 SF

Waiver Requests (attach details):

1. PARKING REQUIREMENTS
2. _____
3. _____
4. _____
5. _____

Attachments:

A. Letters of Approval

- ☐ Fire Department - Contact Chief or Deputy Chief - 282-9986
- ☐ Ability to Serve for Water Service – Maine Water - 282-1543
- ☐ Ability to Serve for Sewer Service- Engineering Dept (Sewer) - Tom Milligan 284-9118
- ☐ Police Department - E-911 Road Name Designation - Contact Joanne Fisk - 282-5127

B. Letter to Planning Board describing project, waiver requests, proposed improvements, addressing permit requirements, etc.

C. Photographs of site.

D. Architectural renderings/drawings of proposed buildings, as required.

E. Engineered Plans, as required.

Fees (due at time of application):

Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and it's attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting this application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

☐ Project proposed to have 1 acre or more of site disturbance:

-Project may need to apply for a Maine Construction General Permit and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.

Signature of applicant:



Date: 1-15-19

Signature of owner of property:

Date: _____

**IF PLAN APPROVAL IS ANTICIPATED, PROVIDE 2 FULL SIZE MYLARS & 2 FULL SIZE PAPER COPIES FOR BOARD SIGNATURE (AS APPLICABLE).
CHECK WITH PLANNING STAFF FOR CLARIFICATION.**

CHECKLIST FOR SITE PLAN REQUIREMENTS

YES **NO**

- | | | |
|---|--------------------------|--|
| ☒ | ☐ | Be on sheet size of 24 by 36 inches. |
| ☒ | ☐ | The scale of said plan shall be not less than one inch equals 50 feet and shall be indicated on the plat by use of a bar scale. |
| ☒ | ☐ | The plan shall bear the date, title, north point. |
| ☒ | ☐ | The plan shall contain a location or vicinity sketch (suggested scale one inch equals 800 feet). |
| ☒ | ☐ | The plan shall contain the name and address of the developer and applicant. |
| ☒ | ☐ | All appropriate dimensional requirements. |
| N/A ☒ | ☐ | Existing and proposed easements. |
| N/A ☒ | ☐ | Plan of the site showing existing watercourses and water bodies, seasonal wet areas. |
| N/A ☒ | ☐ | Plan of the site showing soil type and location of test borings. |
| ☒ | ☐ | Location of all existing and proposed utilities. |
| ☒ | ☐ | Topographic contours (every five percent for zero to three percent slope; or every two feet for steeper areas). |
| ☒ | ☐ | Plan should include preservation and supplementation of existing dominant vegetation. |
| ☒ | ☐ | Plan shall indicate which features are to be retained and which are to be removed or altered. |
| ☒ | ☐ | Location of stonewalls, graveyards, fences, stands of trees, and other important 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, together with description of such features. |
| ☒ | ☐ | Plan view of all buildings with their use, size, location, and first-floor elevation in respect to grade. |
| ☒ | ☐ | Standard elevation view of existing and proposed buildings or structures on-site. |

YES NO

- ☒ ☐ Outline of any buildings located within 200 feet of such existing or proposed buildings or structures indicating their shape, size, location, heights and volume.
- ☒ ☐ Existing use of abutting properties shall be identified with approximate location of any structures thereon including access roads.
- ☒ ☐ Location, width, curbing, and paving of access ways, egress ways, and streets within the site for both pedestrian and vehicular use.
- ☒ ☐ The location of off-street parking and loading spaces with a layout of the parking indicated.
- ☒ ☐ The size and proposed location of water mains and sanitary sewerage facilities will all necessary engineering data.
- ☒ ☐ The size and location of all other existing and proposed public service connections including, without limitation, gas lines, power lines, telephone lines, and fire alarm connections and locations, indicating whether above or below ground.
- N/A ☒ ☐ The type, nature, and composition of all solid, liquid, and gaseous waste, industrial or otherwise, and the location, type, and design criteria of the storage and disposal facilities dealing with such waste.
- ☐ ☒ A landscape plan and open space areas indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening; plus size, location, purpose and type of vegetation. **TO BE SUBMITTED**
- ☒ ☐ A drainage plan including location, elevation, layout of catch basins and other surface and subsurface drainage features.
- N/A ☒ ☐ Location, size and design of proposed signs and other advertising or instructional devices.
- ☒ ☐ Existing and proposed contours and finished grade elevations as well as the type, extent, and location of existing and proposed landscaping and open space areas which will be retained.
- ☐ ☒ Location and type of lighting for outdoor facilities. **TO BE SUBMITTED**
- ☒ ☐ Lines of existing and proposed abutting streets showing width.
- ☒ ☐ Surveyed property lines showing their bearing and distances and monument locations.
- N/A ☒ ☐ If subdivision is involved, the lines and names of all proposed streets, lanes, ways, or easements intended to be dedicated for public or private use.

YES NO

- n/A ☒ ☐ Provide copies of any covenants or restrictions that are intended to cover all or part of the land area to be developed.
- n/A ☒ ☐ Indicate limits of the wetland areas on the property.
- ☒ ☐ Delineate existing zoning boundaries within 1,000 feet of the site.
- ☒ ☐ Stamp and signature of either a Maine licensed land surveyor, professional engineer, or architect responsible for said plan.
- ☐ ☒ Any other exhibits or data deemed necessary by the Planning Board to evaluate the proposed development for site plan review purposes.

PURCHASE AND SALE AGREEMENT

THIS AGREEMENT made and entered into as of September 1, 2018, by and between Housing Options LLC of Saco, Maine, with a mailing address 13 Cross St Saco, ME, 04072, Maine 04072 ("Seller") and BIDDEFORD HOUSING AUTHORITY, a Maine nonprofit corporation with a place of business in Biddeford, Maine and mailing address of 22 South Street, Biddeford, Maine 04005, or its assignee (the "Buyer")

WITNESSETH:

FOR VALUABLE CONSIDERATION, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Property to be Sold. Seller agrees to Sell and Buyer agrees to buy a certain parcel of land with improvements thereon, located at 25 Green Street, Biddeford, Maine and described as Map 38: Lot 263 in the tax maps of the Town of Biddeford (collectively, the "Premises"). Included in the sale of the Premises shall be all personal property owned by Seller and located at the Premises as of July 16, 2018 (the "Personal Property"). If a survey is necessary, the Buyer shall pay for the cost of a survey.

2. Purchase Price. Subject to the adjustments and prorations hereinafter described, Buyer agrees to pay for the Premises the sum of Seventy-Five Thousand Dollars (\$75,000.00) (the "Purchase Price"), payable as follows:

(a) Deposit. Two Thousand Dollars (\$2,000.00) as a deposit (the "Deposit") to be paid at the time of the execution of this Agreement. The Deposit shall be kept in a non-interest-bearing account and shall be credited toward the Purchase Price at the closing. Except as otherwise provided in this Agreement, the Deposit shall be fully refundable.

(b) Balance at Closing. The balance of the purchase price, Seventy-three Thousand Dollars (\$73,000.00) shall be paid by certified check, bank cashier's check or wire transfer at the closing.

3. Title. Seller shall convey the Premises to Buyer at the closing in fee simple with good and marketable title, free and clear of all liens, claims and encumbrances. If title to the Premises shall not be good and marketable or shall prove to be defective in any respect, Buyer shall so notify Seller no later than thirty (30) days prior to the Closing Date. In the event that Seller is unable to convey title as aforesaid, Seller shall be given a reasonable period of time (not to exceed 30 days), after notice in writing, in which to remedy any title defects. Seller shall use diligent efforts to remedy any title defects. In the event that said defects cannot be corrected or remedied, then this Agreement, and Seller's and Buyer's obligations hereunder, will terminate and the Deposit shall be returned to Buyer. Buyer may, at Buyer's option, elect to close notwithstanding such defects as may exist.

4. Closing. This transaction shall be closed on the later of October 31, 2018 or 7 days after receiving final city codes and planning department approval of proposed improvements (the "Closing Date") at the offices of Buyer's counsel, or if the Seller and Buyer shall mutually agree in advance, at another time and place. At the closing, Seller shall execute and deliver to Buyer, against payment of the balance of the purchase price, a Quitclaim Deed with Covenant (the "Deed"). In addition, Seller shall execute and deliver a warranty bill of sale for all personal property to be transferred to Buyer and such other customary transfer documents as Buyer may reasonably request, including without limitation, a seller's affidavit for title insurance purposes, a FIRPTA affidavit, an underground storage tank notification and disclosure form, REW forms and a transfer tax form.

5. Risk of Loss, Damage, Destruction and Insurance. Before closing, Seller shall bear the risk of any loss to the Premises by fire or otherwise. Seller agrees to maintain casualty insurance or self-insurance under its self-insurance program upon the Premises in an amount equal to at least the purchase price. In the event of any casualty loss, either Buyer or Seller shall have the right to terminate this Agreement by written notice, whereupon Buyer shall receive back the Deposit.

6. Representations and Warranties of Seller. Seller represents and warrants to Buyer as follows:

(a) There is no litigation, administrative hearing, arbitration, or any other proceeding pending or, to the knowledge of Seller, threatened against Seller with respect to the Premises or the Personal Property with respect to any violation of law, rule or regulation.

(b) Seller has received no written notice from any governmental body or agency alleging a violation of any environmental, zoning or land use law, rule, regulation or ordinance.

(c) Seller is in good standing under the laws of Maine and has all necessary power and authority to enter into this Agreement and to transfer the Premises to Buyer as provided hereunder.

(d) Seller makes no representations or warranties concerning the condition of the improvements on the Premises. Such improvements are conveyed AS IS, WHERE IS.

7. Inspection. At all reasonable times upon reasonable prior notice, Buyer shall have the right to enter the Premises and perform, at Buyer's expense, any and all inspections, tests, surveys or other due diligence inquiries with respect to the Premises as Buyer deems necessary or appropriate. Buyer agrees to return the Premises as nearly as possible to their original condition after all of such tests and inspections. Seller shall provide Buyer with access to all information and records in Seller's possession relating to the Premises and Personal Property. Seller shall cooperate with Buyer in such inspections, but without being required to expend any funds in doing so. In the event Buyer is not satisfied for any reason with the results of such due diligence inspections, Buyer shall have the option of terminating this Agreement by written notice to Seller and receiving back the Deposit. Buyer's option to terminate this Agreement and receive back the Deposit as provided in this Section 7 shall expire unless such written notice is

delivered to Seller not later than twenty-one (21) days after the October 21, 2018 (the "Due Diligence Completion Date"). If such written notice is not delivered to Seller prior to Due Diligence Completion Date, Buyer shall be deemed to have waived its right to return of the Deposit as set forth in this Section 7.

8. Possession. Seller shall deliver the Premises to Buyer at closing free and clear of all leases, tenancies and occupancies by any person.

9. Prorations; Costs. Real estate taxes and assessments and all utilities shall be prorated as of the closing on the basis of the latest available tax bill. The Maine real estate transfer tax shall be paid by Seller and Buyer. The recording fee for the Deed and any expenses relating to Buyer's financing will be paid for by Buyer.

10. Conditions Precedent. Buyer's obligation to close hereunder is subject to Buyer's full and complete satisfaction with all of the following:

(a) Buyer shall have received binding written commitments on terms satisfactory to Buyer in its sole discretion from lenders and/or investors committing to finance Buyer's acquisition of the Premises. Buyer agrees to exercise diligent efforts to secure such approvals.

(b) Buyer shall have timely completed its due diligence on the Premises, satisfactory to the Buyer in its sole discretion, such due diligence to include an appraisal the results of which are satisfactory to Buyer in its sole discretion;

(c) There shall have been no material adverse change in the condition of the Premises or the Personal Property occurring after the conclusion of Buyer's inspections under Section 7 above, and the Premises and the Personal Property shall be substantially in the same condition at the Closing Date as they were at the time of the inspections, reasonable wear and tear excepted;

(d) Approval from local codes and/or planning for planned improvements

(e) Title to the Premises and the Personal Property shall be good and marketable, and the same shall be conveyed to Buyer free and clear of all liens, claims and encumbrances; and

(f) As of the date hereof, and as of the date of closing, all of Seller's representations and warranties shall be true and correct in all material respects;

If the conditions described in subsections (a) through (e) above are not satisfied as of the dates specified, or if no date is specified, by the Closing Date, then Buyer shall have the option of terminating this Agreement in writing, and the Deposit shall be handled in accordance with Section 11 below.

11. Status of the Deposit. If after the Due Diligence Completion Date Buyer has not terminated this Agreement as provided herein, the Deposit shall become nonrefundable, except (i) in the event of a material adverse change in the physical condition of the Premises that is in

no way due to the fault of Buyer, (ii) if Seller defaults under this Agreement (iii) if Seller is unable to deliver title to the Premises as required in Paragraph 3 above.

12. Default and Remedies. In the event that Buyer defaults under this Agreement, Seller shall retain the Deposit as full and complete liquidated damages in lieu of any other legal or equitable remedy, whereupon this Agreement will terminate and neither party will be under any further obligation hereunder. In the event of Seller's default hereunder, Buyer's exclusive remedy shall be either to terminate the agreement (and receive back the Deposit) or to pursue such rights as it may have to seek an order of specific performance for conveyance of the Premises in their then-current condition.

13. Assignment. Upon written notice to Seller, Buyer may assign this Agreement and all its rights and obligations hereunder to an affiliate of Buyer's.

14. Brokers : The parties represent to each other that neither has had any dealings with any real estate broker in connection with this transaction. Each party agrees to indemnify the other from and against the claims of any other brokers arising from this transaction, which indemnity shall survive the closing and shall include reasonable costs of collection, including reasonable attorneys' fees.

15. Further Assurances. Each party agrees to execute and deliver such corrections to any documents signed at closing, or further documents, as may be reasonably requested by either party after the Closing Date, in order to more fully complete the transactions described in this Agreement.

16. Miscellaneous. Time is of the essence under this Agreement. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein. The parties' respective representations, warranties and indemnities shall survive the closing. This Agreement will inure to the benefit of and bind the respective successors and assigns of Seller and Buyer. This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one and the same instrument. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof. Seller acknowledges receipt of the letter attached hereto as Exhibit A, which provides notice that Buyer's acquisition is in part being funded through the Community Development Block Grant program.

IN WITNESS WHEREOF, Seller and Buyer have executed this Agreement as of the date written above.

WITNESS:



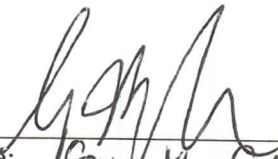
Seller

By: Stephen Ryan
Name:
Its:

Seller

By: _____
Name:
Its:

BIDDEFORD HOUSING AUTHORITY,
Buyer

By: 
Name: Guy M. Gagnon
Title: Executive Director

WARRANTY DEED
Maine Statutory Short Form

098588

KNOW ALL BY THESE PRESENTS, that we, **STEPHEN J. RYAN and JAMES C. BISHOP**, with a mailing address of P.O. Box 35, Bar Mills, Maine, for consideration paid, **GRANT** to **HOUSING OPTIONS, LLC**, a Maine limited liability company, with a principal place of business located in Bar Mills, Maine with **WARRANTY COVENANTS**, the following described premises in the City of Biddeford, County of York, and State of Maine, described as follows:

SEE SCHEDULE A ATTACHED HERETO AND MADE A PART HEREOF.

WITNESS our hands and seals this 14 day of November, 2003.

**SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF**

Witness

Witness

Stephen J. Ryan

James C. Bishop

STATE OF MAINE
COUNTY OF CUMBERLAND

November 14th, 2003

Then personally appeared the above-named Stephen J. Ryan and James C. Bishop and acknowledged the foregoing instrument to be their free act and deed.

Before me,

~~Notary Public~~ Attorney-at-Law

Print name: Robert M. Raftice Jr.

Robert M Raftice Jr

NO R.E. TRANSFER TAX PAID

SCHEDULE A

A certain lot or parcel of land with all the buildings thereon, situated on the Easterly side of Green Street in said Biddeford, bounded and described as follows:

Beginning on said side of said Street at the Southwesterly corner of land formerly owned by Thomas H. Cole; thence Easterly by said Cole land and by land formerly owned by Jere Simpson to land formerly owned by Edward F. Dow; thence Southerly by said Dow land to land of Eliza Knox and sister; thence Westerly by said Knox land and by land of owner unknown to said Green Street; thence Northerly by said Green Street to the point of beginning, said lot measuring eight and one-fourth (8 1/4) rods on its side lines, more or less, and four and one-half (4 1/2) rods, more or less, on its front and rear lines.

Being the same premises conveyed by deed of Ronald G. Berube and Marie R. Berube to Stephen Ryan and James Bishop, dated February 4, 1998 and recorded in the York County Registry of Deeds in Book 8625, Page 215.

RECEIVED YORK S S.

2003 DEC 22 AM 9: 29

SELLER'S PROPERTY DISCLOSURE

Under Maine Law, certain information must be made available to buyers prior to or during preparation of an offer. This statement has been prepared to assist prospective buyers in evaluating this property. This disclosure is not a warranty of the condition of the property and is not part of any contract between the Seller and any Buyer. The Seller authorizes the Listing Broker in this transaction to disclose the information in this statement to other real estate licensees and to prospective buyers of this property. The Seller agrees to notify the Listing Broker promptly of any changes in the information and this form will be appropriately changed with an amendment date. Inspections are highly recommended.

NOTE: DO NOT LEAVE ANY QUESTIONS BLANK. WRITE N/A (NOT APPLICABLE) OR UNKNOWN IF NEEDED.

PROPERTY LOCATED AT: 25 Green ST., Biddeford, ME 04005

SECTION I. WATER SUPPLY

TYPE OF SYSTEM: ☒ Public ☐ Private ☐ Seasonal ☐ Unknown
☐ Drilled ☐ Dug ☐ Other

MALFUNCTIONS: Are you aware of or have you experienced any malfunctions with the (public/private/other) water system?

Pump: ☐ Yes ☒ No ☐ N/A

Quality: ☐ Yes ☒ No ☐ Unknown

Quantity: ☐ Yes ☒ No ☐ Unknown

If YES to any question, please explain in the comment section below or with attachment.

WATER TEST: Have you had the water tested? ☐ Yes ☒ No

IF YES: Date of most recent test: ☐ Yes ☐ No

To your knowledge, have any test results ever been reported as unsatisfactory or satisfactory with notation? ☐ Yes ☐ No

IF YES, are test results available? ☐ Yes ☐ No

What steps were taken to remedy the problem?

• IF PRIVATE:

INSTALLATION: Location:

Installed BY:

DATE of Installation:

USE: Number of Persons currently using system?

Does system supply water for more than one household?

☐ Yes ☐ No ☐ Unknown

COMMENTS: 12 UNIT Building on site build in 2015 No water usage since then

Source of SECTION I information:

SECTION II. WASTE WATER DISPOSAL

TYPE OF SYSTEM: ☒ Public ☐ Private ☐ Quasi-Public ☐ Unknown

• IF PUBLIC OR QUASI-PUBLIC:

Have you had the sewer line inspected? ☐ Yes ☒ No If yes, what results:

Have you experienced any problems such as line or other malfunctions? ☐ Yes ☒ No

What steps were taken to remedy the problem?

• IF PRIVATE:

TANK: ☐ Septic Tank ☐ Holding Tank ☐ Cesspool ☐ Other:

Tank Size: ☐ 500 Gal. ☐ 1000 Gal. ☐ Unknown ☐ Other:

Tank Type: ☐ Concrete ☐ Metal ☐ Unknown ☐ Other:

Location: ☐ Unknown Date of Installation:

Date Last Pumped: Name of Company Pumping Tank:

Have you experienced any malfunctions? ☐ Yes ☐ No

If yes, give the date and describe the problem:

Date of Last Servicing of tank: Name of Company Servicing Tank:

LEACH FIELD: ☐ Yes ☐ No ☐ Unknown

IF YES: Location:

Date of installation of leach field: Installed by:

Date of Last Servicing of leach field: Name of Company Servicing leach field:

Have you experienced any malfunctions? ☐ Yes ☐ No

If yes, give the date and describe the problem & what steps were taken to remedy:

Does Seller have records of the septic system design indicating the number of bedrooms the system was designed for? ☐ Yes ☐ No

IF YES, is it available?

Is System located in a Shoreland Zone? ☐ Yes ☐ No ☐ Unknown

Is System located in a Coastal Shoreland Zone? ☐ Yes ☐ No ☐ Unknown

COMMENTS:

Source of SECTION II information:

2016

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Buyer(s) Initials

Seller(s) Initials

RE/MAX Horizon, 22 Cottage Road South Portland, ME 04106

Brian Linscott

Produced with zipForm® by zipLogix 18070 Fifteen Mile Road, Fraser, Michigan 48026 www.zipLogix.com

Phone: (207) 767-3366

Fax: (207) 767-5738

Forms2

PROPERTY LOCATED AT 25 Green ST., Biddford, ME 04803

SECTION III. HEATING SYSTEM(S)/SOURCE(S)

Heating System(s)/Source(s)	SYSTEM 1	SYSTEM 2	SYSTEM 3	SYSTEM 4
TYPE(S)	NA			
Age of system(s)/source(s)	NA			
Name of company that services system(s)/source(s)	NA			
Date of most recent service call	NA			
Annual consumption per system/ source (i.e., gallons, kilowatt hours, cord(s))	NA			
Malfunction per system(s)/ source(s) within past 2 years	NA			
Other pertinent information	NA			

Is there an oil supply line? ☐ Yes ☒ No ☐ Unknown Is it buried? ☐ Yes ☒ No ☐ Unknown Is it sleeved? ☐ Yes ☐ No ☒ Unknown
Chimney(s): ☐ Yes ☒ No If yes, lined: ☐ Yes ☐ No ☐ Unknown Last cleaned: NA
Is more than one heat source vented through one flue? ☐ Yes ☐ No ☐ Unknown NA Had a chimney fire: ☐ Yes ☐ No ☒ Unknown
Has chimney been inspected? ☐ Yes ☐ No ☐ Unknown; If Yes, when: NA Direct/Power Vent: ☐ Yes ☐ No ☒ Unknown
COMMENTS: 12 unit building burned in 2015 there is no heating system
Source of SECTION III information: _____

SECTION IV. HAZARDOUS MATERIAL

The licensee is disclosing that the Seller is making representations contained herein.

A. UNDERGROUND STORAGE TANKS - Current or previously existing:

Are there now, or have there ever been, any underground storage tanks on your property? ☐ Yes ☐ No ☒ Unknown
IF YES: Are tanks in current use? ☐ Yes ☐ No ☐ Unknown

IF NO above: How long have tank(s) been out of service? _____

What materials are, or were, stored in the tank(s)? _____

Age of tank(s): _____ Size of tank(s): _____

Location: _____

Have you experienced any problems such as leakage? _____

Are tanks registered with the Dept. of Environmental Protection? ☐ Yes ☐ No ☒ Unknown

If tanks are no longer in use, have tanks been abandoned according to D.E.P.? ☐ Yes ☐ No ☒ Unknown

COMMENTS: _____

Source of information: _____

B. ASBESTOS - Current or previously existing:

- as insulation on the heating system pipes or duct work? ☐ Yes ☐ No ☒ Unknown
- in the siding? ☐ Yes ☐ No ☒ Unknown
- in the roofing shingles? ☐ Yes ☐ No ☒ Unknown
- in flooring tiles? ☐ Yes ☐ No ☒ Unknown
- other: _____ ☐ Yes ☐ No ☒ Unknown

Source of information: _____

COMMENTS: _____

C. RADON/AIR - Current or previously existing:

Has the property been tested? ☒ Yes ☐ No ☐ Unknown

IF YES: Date: 3/18/14 By: JAMES Bishop

Results: 1.505 Bq/m³ If applicable, What remedial steps were taken? NONE

Has the property been tested since remedial steps? ☐ Yes ☒ No ☐ Unknown

Are test results available? ☒ Yes ☐ No Results & Comments: _____

Source of information: ALPHA Energy Laboratories

D. RADON/WATER - Current or previously existing:

Has the property been tested? ☐ Yes ☐ No ☒ Unknown

IF YES: Date: _____ By: _____

Results: _____ If applicable, What remedial steps were taken? _____

Has the property been tested since remedial steps? ☐ Yes ☐ No ☒ Unknown

Are test results available? ☐ Yes ☐ No Results & Comments: _____

Source of information: _____

E. LEAD-BASED PAINT/PAINT HAZARDS - Current or previously existing: (Note: Lead-based paint is most commonly found in homes constructed prior to 1978)

Is there now or has there ever been lead-based paint and/or lead-based paint hazards on the property? ☐ Yes ☐ No ☐ Unknown

IF YES, describe location and the basis for the determination: ☒ Unknown but possible due to age

Do you know of any records or reports pertaining to such lead-based paint or lead-based paint hazards: ☐ Yes ☒ No

IF YES, describe: _____

Are you aware of any cracking, peeling or flaking paint? ☐ Yes ☒ No

COMMENTS: Building burned in 2015 this is a lot with a shed only

Source of information: _____

PROPERTY LOCATED AT 25 Green ST., Biddeford, ME 04005

F. OTHER HAZARDOUS MATERIALS - Current or previously existing:

TOXIC MATERIAL: ☐ Yes ☐ No ☒ Unknown
LAND FILL: ☐ Yes ☐ No ☒ Unknown
RADIOACTIVE MATERIAL: ☐ Yes ☐ No ☒ Unknown

OTHER: _____

Source of information: _____

Buyers are encouraged to seek information from professionals regarding any specific issue or concern.

SECTION V. GENERAL INFORMATION

Is the property subject to or have the benefit of any encroachments, easements, rights-of-way, leases, rights of first refusal, life estates, private way, private road/homeowner associations (including condominiums and PUD's) or restrictive covenants? ☐ Yes ☐ No ☒ Unknown

IF YES: Explain: _____

What is your source of information: _____

Are there any tax exemption or reduction for this property for any reason including but not limited to: Tree Growth, Open Space and Farmland, Veteran's, Homestead Exemption, Blind, Working Waterfront? ☐ Yes ☐ No ☒ Unknown

IF YES: Explain: _____ Forest Management and Harvest Plan available? ☐ Yes ☒ No ☐ Unknown NA

• Is this house currently covered by a flood insurance policy? ☐ Yes ☐ No ☐ Unknown NA

• Equipment leased or not owned (e.g., propane tank, hot water heater, satellite dish): Type: NA

• Year Principal Structure Built: NA What year did Seller acquire property? 1998 - converted

• Roof: Year Shingles/Other Installed: NA Tolled in 2003

Water, moisture or leakage: NA

Comments: NA

• Foundation/Basement: Sump Pump: ☐ Yes ☒ No ☐ Unknown Comments: _____

Water, moisture or leakage since you owned the property: ☐ Yes ☒ No ☐ Unknown Comments: _____

Prior water, moisture or leakage? ☐ Yes ☒ No ☐ Unknown Comments: _____

• Mold: Has the property ever been tested for mold? ☐ Yes ☒ No ☐ Unknown If YES, are test results available? ☐ Yes ☐ No

• Electrical: ☐ Fuses ☐ Circuit Breaker ☐ Other: None NA ☐ Unknown

• Has all or a portion of the property been surveyed? ☐ Yes ☐ No ☒ Unknown If YES, is the survey available? ☐ Yes ☐ No

• Manufactured Housing: Mobile Home - ☐ Yes ☐ No ☐ Unknown NA Modular - ☐ Yes ☐ No ☐ Unknown NA

• KNOWN MATERIAL DEFECTS about Physical Condition and/or value of Property, including those that may have an adverse impact on health/safety: NA

Source of SECTION V information: _____

Seller shall be responsible and liable for any failure to provide known information regarding known material defects to the Buyer.

ATTACHMENTS EXPLAINING CURRENT PROBLEMS, PAST REPAIRS OR ADDITIONAL INFORMATION IN ANY SECTION IN DISCLOSURE: ☐ Yes ☐ No NA

SECTION VI. ADDITIONAL INFORMATION

This property is a vacant lot with the remains of a granite/stone foundation. There is a small shed on the property - the rest of the lot is paved.

As Sellers, we have provided the above information and represent that all information is correct. To the best of our knowledge, all systems and equipment, unless otherwise noted on this form, are in operational condition.

Neither Seller nor any Broker makes any representations as to the applicability of, or compliance with, any codes of any sort, whether state, municipal, federal or any other, including but not limited to fire, life safety, building, electrical or plumbing.

[Signature]
SELLER

8/30/18
DATE

[Signature]
SELLER

8/30/18
DATE

I/We have read and received a copy of this disclosure, the arsenic in wood fact sheet, the arsenic in water brochure, and understand that I/we should seek information from qualified professionals if I/we have questions or concerns.

[Signature]
BUYER

8/30/18
DATE

BUYER

DATE



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Page 3 of 3 - SPD

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Forms2



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois53@gmail.com

January 16, 2019

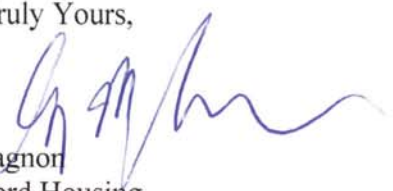
Paul P. Gadbois, P.E., P.L.S.
Paul P. Gadbois Engineering
P.O. Box 327
Saco, Maine 04072

RE: Biddeford Housing 25 Green Street.

Dear Paul,

This letter will serve as authorization for Paul P. Gadbois Engineering to act as agent on the above referenced project with regards to various land use permitting requirements for the property (Tax Map 38, Lot 263) located at 25 Green Street in Biddeford.

Very Truly Yours,


Guy Gagnon
Biddeford Housing

BIDDEFORD HOUSING AUTHORITY

P.O. BOX 2287/Biddeford, Maine 04005
(207) 282-6537 Fax (207) 286-0580



Narrative:

The 25 Green Street project is the redevelopment of a vacant in-town lot which once housed a ten-unit apartment building that tragically burned down a few years ago, luckily no one was injured. The five units proposed are conforming to the current zoning in all aspects including density and set back requirements. Because the project is considered a “minor development” under Biddeford’s ordinances, a staff review, and approval is all that is required, thus the turnaround will be very quick and not delay construction. If approved for funding we would be prepared to begin construction immediately once all the predevelopment planning and documentation is completed. Another advantage to modular is that the building pieces can be constructed during the cold months at the plant and be ready for transport any time we request with only about 6 weeks lead time.

We have had the site reviewed by our engineer and also a local site contractor who has provided us with an estimate for the foundation, utility connections and site work. There are no known environmental concerns or issues that will inhibit the construction of the building planned. It should also be noted that this location has received a very high walkability score due to very close proximity to grocery stores, food pantries, library, government buildings, post office, public parks, etc...

Modular construction: Our proposal is to use a modular construction method from one of the highest quality modular builders in the region. Not only is the quality excellent, but it will reduce construction time considerably. It will also avoid many of the unknowns and unpredictability of ground-up construction from both a cost and scheduling standpoint. A summary of the specifications for their structures as well as info on the modular company and US. Manufacturing rep are included. I personally have worked with Pro-fab homes in the past and found them to be extremely good partners and equally as concerned about the quality of housing they deliver. Changes can be made if needed to address any Maine Housing construction standards.

Community Space: A small area of community space is proposed which will serve the resident’s needs including laundry facility. Another aspect of the project is the inclusion of services to be provided by York County Community Action, which are described in the attachments and are included in our expense portion of the operating budget. The goal of those services will be to assist these families with all aspects of their lives that need support in order for them to get gain stability and flourish.

Consolidated Plan Priorities: Housing stability is the primary need being met for these families. The Housing First model is more than just a slogan, it is reality, because without stable housing, nothing else really matters.



Also, the stresses in the rental market are forcing rent prices up dramatically, reducing the ability for lower income families to find decent, quality housing. These 5 units will continue on with the mission of Biddeford Housing to create affordable, quality housing for all demographics.

Funding Request: As stated in the pro forma attached, we are seeking \$897,959, which breaks down to \$179,592 per unit. This amount is able to be lower than average because of our lower than market land acquisition price, our strong local subcontractor relationships and using the predicable modular construction approach. BHA is also willing to contribute toward the construction financially if needed and will fund any shortfall if one occurs.

Does the applicant, any principal or affiliate of the applicant, or anyone who will be paid for work on the project have business ties, family relationships, or other close personal relationships with a current Maine Housing employee or commissioner or anyone who was a Maine Housing employee or commissioner within the past year?: No

Accessibility: We are providing 1 fully accessible unit which is 20% of the total of 5 units. In addition, the entire community space and laundry areas would be fully accessible. We can also make adjustment to the plan to add more adaptable units if needed.

Local Support: Biddeford Housing has been part of a regular planning group which included the city planning director, the Director of Seeds of Hope, a neighborhood drop in center for homeless and others, the Mayor of Biddeford, representatives from York County Community action, the director of the local public library, Stone Soup food pantry, etc... Then group has divided into sub committees in order to address homeless issues from all angles. Biddeford Housing is and will continue to be part of this group as well as others looking to solve homeless problems in Biddeford-Saco region. The experience of the group and from inquiries received at BHA every day it is clear that there are numerous homeless families in our region. Families of all sizes are in need. This application hopes to allow for those with children to find a home. We will work with Maine Housing's wait list as well as our own local inquiry list and applicants to the city's general assistance department in order to find the best occupants.

Over the past eight years, Biddeford Housing has taken a more aggressive approach to solving the affordable housing issues in our region. Without the assistance of Maine Housing, our efforts would have had much less of an impact. The two small 4-unit supportive housing projects funded by MH have been a blessing to our community and 5 more units will allow us to say yes to a few more of the calls we get daily from service providers and their clients in desperate need of shelter. For a community the size of Biddeford, even if this project moves forward, we are not nearly meeting the needs of our lowest income residents but at least we would be getting closer.

BIDDEFORD HOUSING AUTHORITY

P.O. Box 2287, 22 South St., Biddeford, Maine 04005 Tel. (207) 282-6537 Fax. (207) 286-0580

January 8, 2019

Biddeford Historic Preservation Commission
City Hall
Biddeford, Me. 04005

Re: 25 Green Street, **Biddeford**

Biddeford Housing is proposing to construct a new 3-story/5-unit building, at 25 Green Street. Some may remember a fire destroyed the previous 12-unit structure there a few years ago. Our project is being financed through Maine State Housing. We feel our proposed building will enhance the neighborhood and help the city in the redevelopment of the central core of Biddeford.

We intend to construct the building in a manner consistent with the features found on other structures in the neighborhood. We will use a high-quality vinyl siding for the body of the building and trim details around the windows, doors and building corners to match details that would have existed in the past. Our plan will result in a very authentic look for the building once completed. Windows are designed with the classic Colonial grid pattern of 8 or 6 over 1.

Appropriate landscaping will be installed around the perimeter of the lot including a significant green area in front which will help soften the feel of this portion of Green Street.

In addition to preliminary plans and some siding details, we have attached current photos of the buildings in the adjacent area plus photos of the existing site conditions. We would welcome any suggestions on design from the commission members.

Thank you and don't hesitate to call if you need further documentation.

Sincerely,



Guy M. Gagnon
Executive Director

BIDDEFORD HOUSING AUTHORITY

P.O. Box 2287, 22 South St., Biddeford, Maine 04005 Tel. (207) 282-6537 Fax. (207) 286-0580

January 12, 2019

Biddeford Planning Department
City Hall
Biddeford, Me. 04005

Re: 25 Green Street, **Biddeford**

Biddeford Housing is proposing to construct a new 3-story/5-unit building, at 25 Green Street. Some may remember a fire destroyed the previous 12-unit structure there a few years ago. Our project, which is being financed through Maine State Housing, will undoubtedly enhance the neighborhood and help the city in the continued redevelopment of the central core of Biddeford.

Because of the population demographic being served and based on our development of other similar properties in the past, we feel confident that the 6 on-site parking spaces included in our design are more than adequate. Therefore, we would respectfully request a waiver from the 10 space requirement.

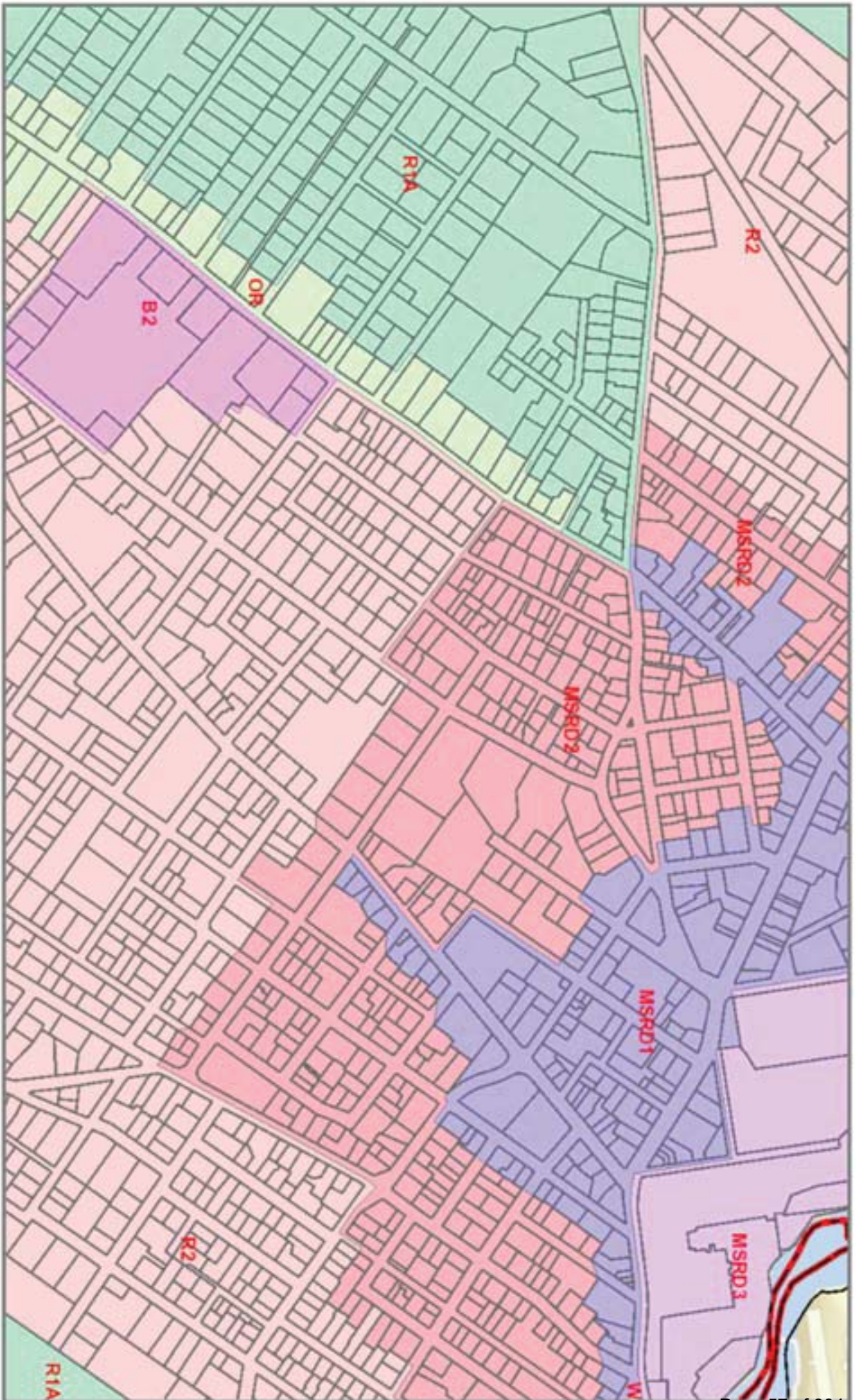
A secondary benefit of this waiver will be to allow for more landscaping around the perimeter of the lot including a significant green area in front which will help soften the feel of this portion of Green Street.

Thank you and don't hesitate to call if you need further documentation.

Sincerely,



Guy M. Gagnon
Executive Director



Property Map

1 inch = 591 feet



Data and scale shown on this map are provided for planning and informational purposes only. BIDDEFORD (ME) and Vision Government Solutions are not responsible for any use for other purposes or misuse or misrepresentation of this information.

1/16/2019



Imagery ©2018 Google, Map data ©2018 Google 20 ft

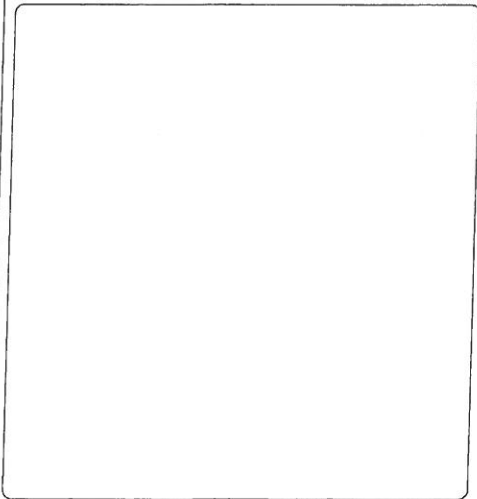
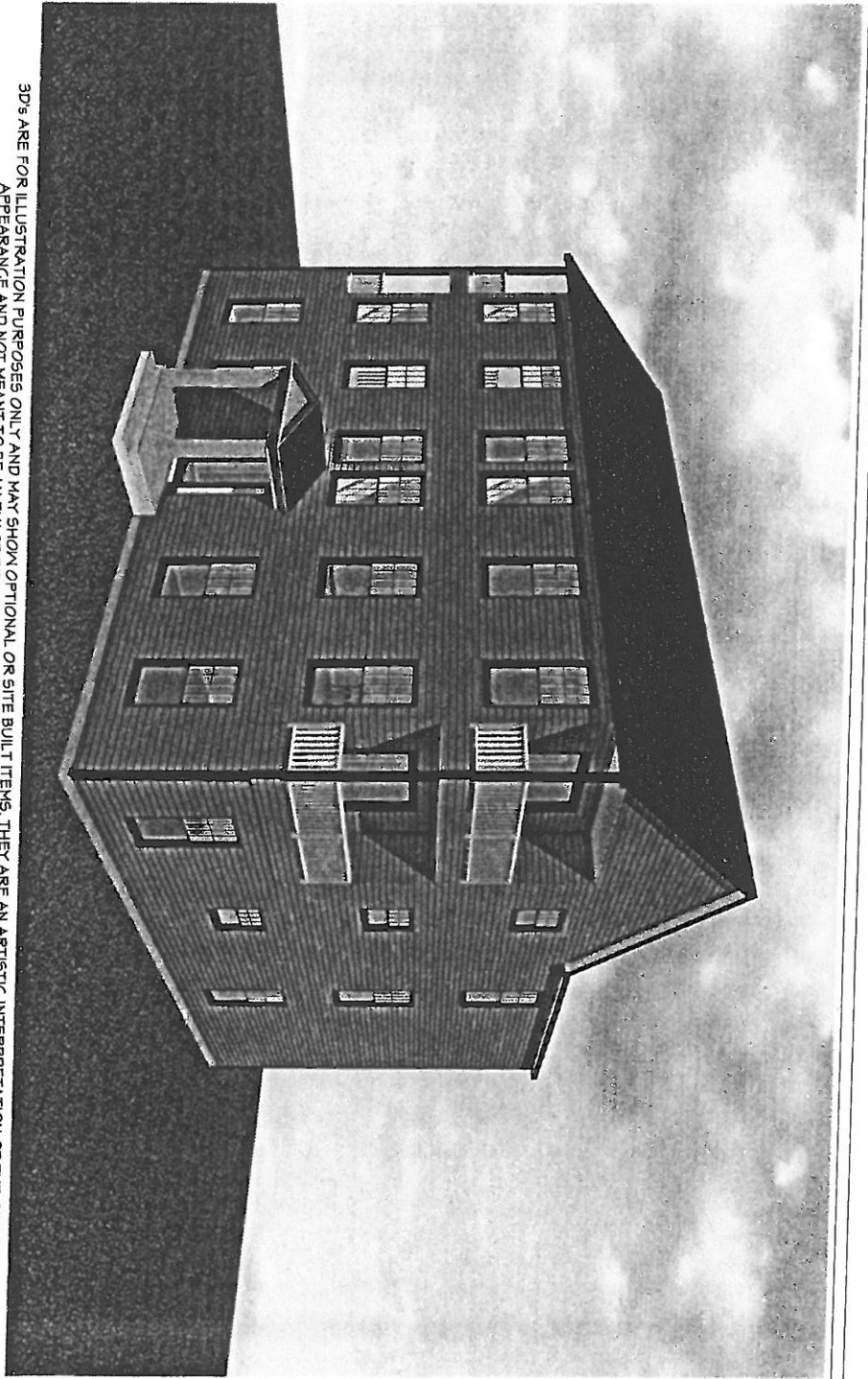


Building Destroyed
by fire.

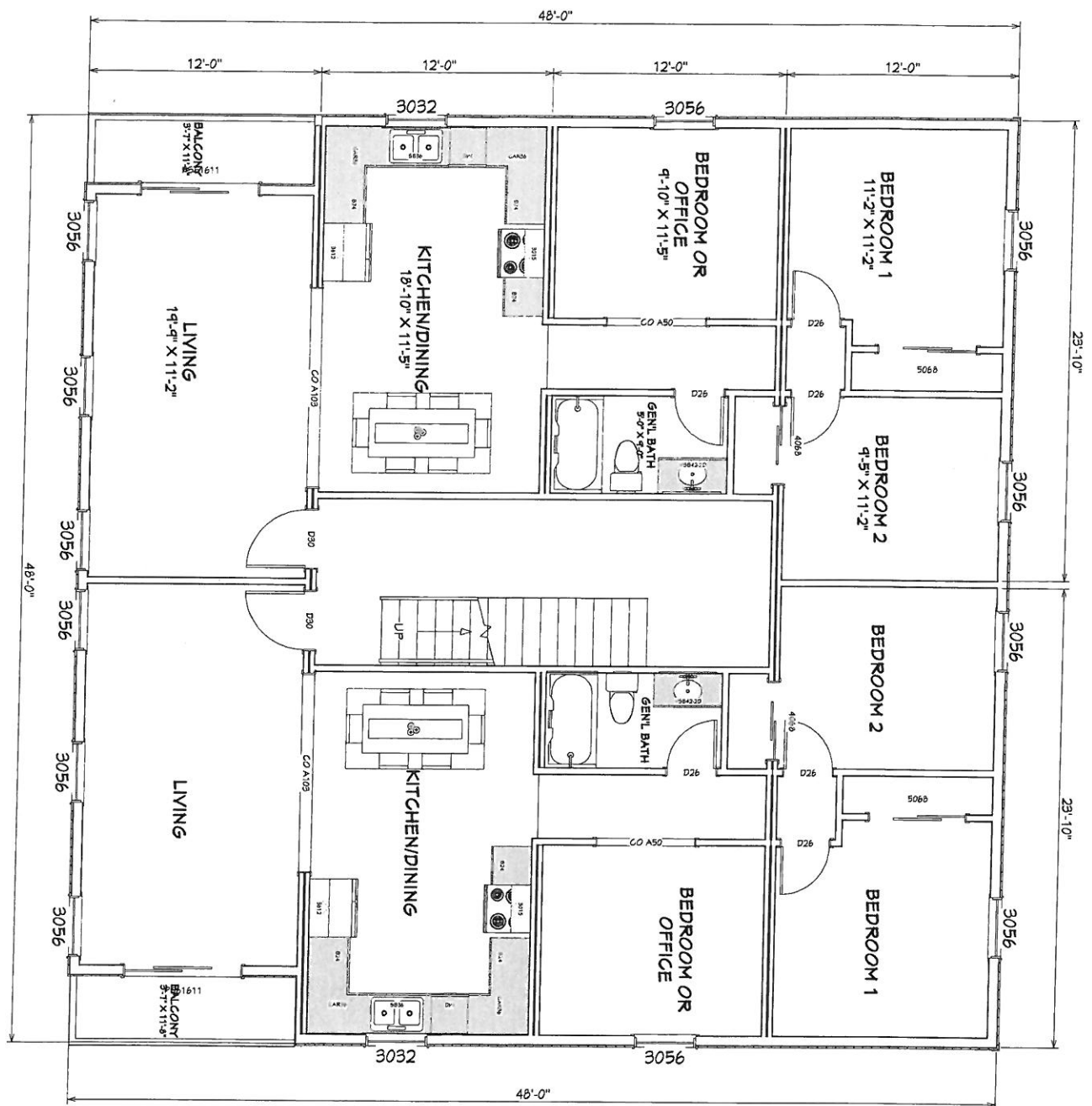
25 Green St
Biddeford, ME 04005



3D's ARE FOR ILLUSTRATION PURPOSES ONLY AND MAY SHOW OPTIONAL OR SITE BUILT ITEMS. THEY ARE AN ARTISTIC INTERPRETATION OF THE GENERAL APPEARANCE AND NOT MEANT TO BE AN EXACT RENDITION. PLEASE REFER TO BUILDER CONTRACTS FOR PRODUCTS INCLUDED.



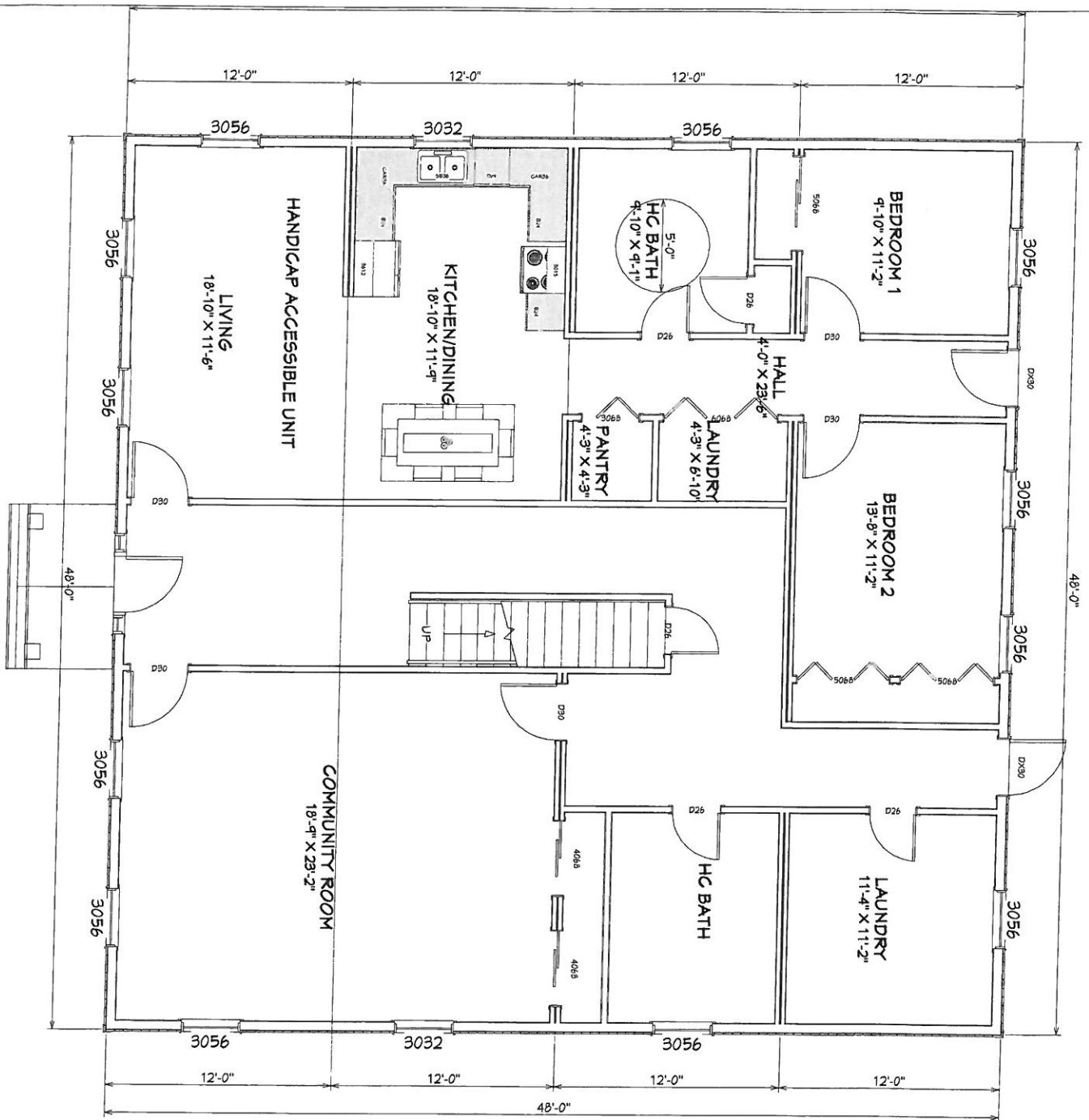
USE GROUP R3	BUILDER BUILDER	HOME OWNER CUSTOMER	SERIAL No	PE/RA	THIRD PARTY INSPECTION AGENCY
CONST TYPE WOOD FRAME (VB)		SITE ADDRESS	PRODUCTION No		
DESIGNER DWW	CUSTOM 2 STORY		REVISION 6	DATE 12/2/15	
DATE 12/19/2018					
SCALE AS NOTED					
PAGE 1					



SCALE: 1/4" = 1'0"

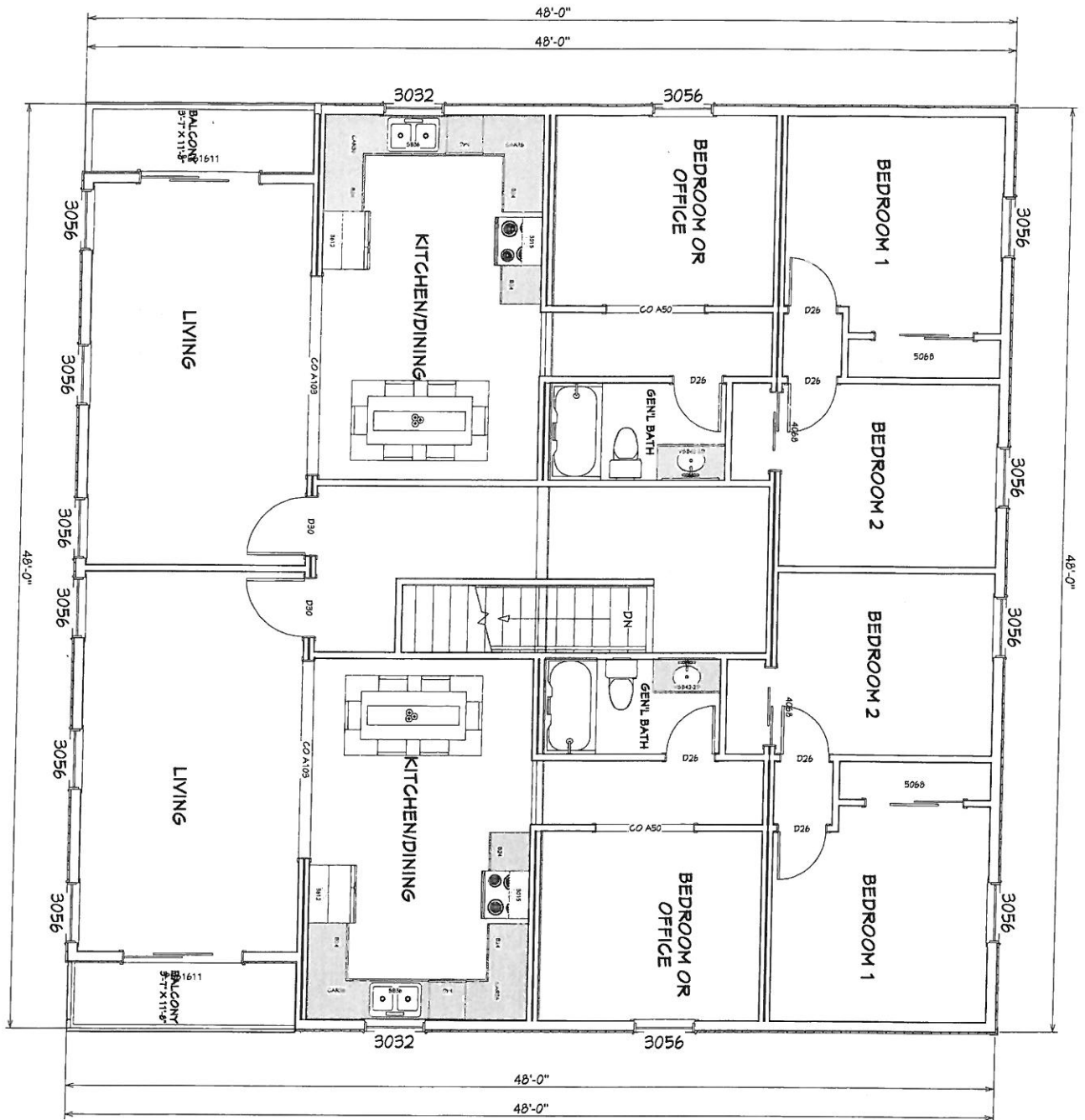
USE GROUP R3	BUILDER BUILDER	HOME OWNER CUSTOMER	SERIAL No	PE/RA	THIRD PARTY INSPECTION AGENCY
CONST TYPE WOOD FRAME (VB)		SITE ADDRESS	PRODUCTION No		
DESIGNER DWW			REVISION	DATE	
DATE 12/19/2018			6	12/2/15	
SCALE AS NOTED					
PAGE 5					

**CUSTOM 2 STORY
SECOND FLOOR**



SCALE: 1/4" = 1'0"

USE GROUP R3	BUILDER	HOME OWNER	SERIAL No	PE/RA	THIRD PARTY INSPECTION AGENCY
CONST TYPE WOOD FRAME (VB)	BUILDER	CUSTOMER	PRODUCTION No		
DESIGNER DWW		SITE ADDRESS	REVISION	DATE	
DATE 12/19/2018			6	12/2/15	
SCALE AS NOTED					
PAGE 4	CUSTOM 2 STORY FIRST FLOOR				



USE GROUP R3	BUILDER BUILDER	HOME OWNER CUSTOMER	SERIAL No	PE/RA	THIRD PARTY INSPECTION AGENCY
CONST TYPE WOOD FRAME (VB)		SITE ADDRESS	PRODUCTION No		
DESIGNER DWW	CUSTOM 2 STORY THIRD FLOOR/ ROOF		REVISION	DATE	
DATE 12/19/2018			6	12/2/15	
SCALE AS NOTED					
PAGE 6					



LEGEND

- ▲ SURVEYORS TRAVERSE POINT
- FOUND IRON ROD OR PIPE
- PROPERTY LINE
- ADJUTERS PROPERTY LINE
- SETBACK LINE
- N/F NOT ON POWER
- UTILITY POLE
- OVERHEAD UTILITIES
- EXISTING FIRE HYDRANT
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- ▽ WATER SHUTOFF

SOUTH STREET

EXISTING HYDRANT

EXISTING CB
RM EL= 115.32

EXISTING
SEWER MANHOLE
RM EL= 115.14
RM EL= 115.14

EXISTING GAS MAIN
TO BE
VERIFIED BY
UTILITY COMPANY
EXISTING
GAS VALVE

CRESCENT STREET

PROPOSED 2" WATER
ADJUST LOCATION TO MATCH
EXISTING SUB LOCATION
COORDINATE WITH UTILITY
COMPANY

EXISTING
POWER POLE

EXISTING
WATER SHUT OFF

REMOVED EXISTING
PAVEMENT (LOAM
AND SEED)

EXISTING 15" SEWER
GREEN STREET

EXISTING 34" CURB CUT

EXISTING 15" SIDE WALK

PROPOSED LANDSCAPING
DECK

N/F
MASS DECK
17'x50'x26'

EXISTING BUILDINGS

N/F
RICHARD J. PICKEN
LINDA M. LAMME
8418/196

REMOVED EXISTING
WITH CRUSH STONE

EXISTING CHAIN LINK FENCE

EXISTING CB
RM EL= 125.37

EXISTING
DRAIN MANHOLE

EXISTING CB
RM EL= 125.07

0 20 50 100
SCALE: 1" = 20'

THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL
LAND SURVEYORS, RULES OF APRIL 2001, CHAPTER 80, STANDARDS OF PRACTICE.
WITH THE EXCEPTION THAT NO REPORT WAS WRITTEN.
Paul P. Gadbois
PAUL P. GADBOIS, PLS 2104 DATE 01-15-19



YORK, ss. REGISTRY OF DEEDS
Received _____ of _____
Attest: _____
Register

APPROVAL
CITY OF BIDDEFORD
PLANNING BOARD

DATE

CHAIRMAN

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

ZONE REQUIREMENTS: MSRD2
MIN. LOT SET FRONTAGE 2,000 SF PER UNIT
MIN. SET FRONTAGE 15 FEET
MIN. FRONT YARD 15 FEET
MIN. SIDE YARD 15 FEET
MAX. HEIGHT 35 FEET

LOT COVERAGE		
	EXISTING	PROPOSED
BUILDING	3,260 SF	2,304 SF
PAVEMENT	6,175 SF	4,160 SF
TOTAL	9,425 SF	6,464 SF

LOCUS DEED REFERENCE:

A. WARRANT DEED STEPHEN J. VAN AND JAMES C. BRING TO
THE RECORDS OF THE CLERK OF THE SUPERIOR COURT OF THE STATE OF MAINE
IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 13805, PAGE 34.

PLAN REFERENCE:

A. CITY OF BIDDEFORD 15-BUILT SEWER AND STORM PLAN REVISED
MAY 2010 FILE #FD-1753

NOTES:

1. RECORD OWNER: HOUSING OPTIONS LLC
SACO, MAINE
2. NAME OF APPLICANT: BIDDEFORD HOUSING
BIDDEFORD, MAINE
3. TAX MAP 28, LOT 263
4. TOTAL AREA OF PROPERTY 10,000 SQUARE FEET, MORE OR LESS.
5. PROPERTY IS LOCATED IN THE MSRD2 ZONE
6. THE PROJECT HORIZONTAL DATUM: MAINE STATE PLANE COORDINATE
AMERICAN DATUM 1983 (NAD83). ALL DATA WAS DERIVED USING
LEICA GS14 REAL TIME KINEMATIC GPS.
7. PROPERTY TO BE SERVED BY PUBLIC SEWER, PUBLIC WATER,
NATURAL GAS AND OVERHEAD UTILITIES.
8. THE PARKING SHALL BE PAINTED WITH 4 INCH STRIPES TO DELINEATE
PARKING SPACES.
9. NUMBER OF PARKING SPACES REQUIRED IS 10. THE NUMBER OF
APPLICANT IS REQUESTING A WATER FROM THE PARKING STANDARDS.

DRAWN: P.P.G.
CHECKED: P.P.G.
SCALE: 1" = 20'
FIELD BOOK:
DATE: 01-15-2019
JOB NO. 1703
SHEET 1 OF 1

REVISIONS:

SITE PLAN
BIDDEFORD HOUSING
25 GREEN STREET
BIDDEFORD, MAINE

NAME OF APPLICANT
BIDDEFORD HOUSING
22 SOUTH STREET
BIDDEFORD, MAINE 04005



CITY OF BIDDEFORD

PLANNING DEPARTMENT

Greg D. Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@Biddefordmaine.org

NOTICE OF DECISION

March 11, 2019

Guy Gagnon, Executive Director (via e-mail: ggagnonbha@maine.rr.com)
Biddeford Housing Authority
22 South Street
Biddeford, ME 04005

RE: 2019.08 Preliminary and Final Site Plan and Subdivision Plan Review for Biddeford Housing Authority to construct a three story, five unit residential building on a vacant lot located on 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 zone.

Dear Guy,

At their meeting of February 6, 2019, the Biddeford Planning Board reviewed the Preliminary and Final Subdivision/Site Plan for Biddeford Housing Authority to create a 5-Unit Multi-family building at 25 Green Street (Tax Map 38, Lot 263) in the MSRD-2 Zone. Housing Options, LLC owns the property and you presented the application proposal to the Planning Board.

Based on the presentation and the materials submitted, the Planning Board waived the requirement for ten (10) parking off-street parking spaces allowing only five (5) off-street (on-site) parking spaces. The Planning Board then granted the site plan and subdivision approval, agreed to sign the plans, and approved the findings of fact conditioned on the following:

1. **Prior to any ground disturbance or issuance of any permits:**
 - a. A pre-construction meeting with the contractor needs to be held with the Engineering Department to discuss inspection requirements.
 - b. An Erosion and Sedimentation Control Performance Guarantee (acceptable to the Planning Department) in an amount to be determined by the Planning Department shall be submitted to the Planning Department.
 - c. Stabilized Construction Access shall be constructed to the satisfaction of the Engineering Department.
2. **Prior to the issuance of any occupancy permits:**
 - a. The applicant must submit a recorded copy of the Notice of Decision for the subdivision/site plan approval to the Planning Office.
 - b. A sewer permit is required prior to any permit issuance. Sewer impact fee will be assessed once final flow numbers are provided to the Director.

- c. A Performance Guarantee acceptable to the Planning Department shall be submitted in an amount of 150% of all remaining site improvements.
3. If any roof drains are connected to the sewer system they must be disconnected as part of this approval.
4. A sewer permit is required prior to any permit issuance. Sewer impact fee will be assessed once final flow numbers are provided to the Director.
5. No trash is permitted to be placed at the curb for City pickup. Trash pickup and disposal, for all units associated with this approval or previous approvals, is the responsibility of the applicant.
6. Standard Conditions of Approval apply.

The Planning Board Site Plan Review approval shall be valid for one (1) year from the date of said approval. If a building permit has not been issued within one (1) year, then said approval shall become automatically null and void.

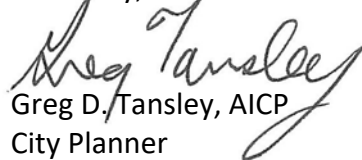
The final approval of the subdivision plan shall be valid for a period of two years. If within that time period, proposed infrastructure improvements, such as roadways, sewer or and water lines, are not completed in such a manner as to serve, or service, 75 percent of the lots/units approved, approval for lots not served or serviced, by the existing in-place improvements shall be voided and no permits shall be issued for such lots not serviced.

Appeals of the Planning Board's decision may be made as per the Biddeford Revised Code of Ordinances.

Please contact us at 284-9115 if you have any questions.

FOR THE BIDDEFORD PLANNING BOARD

Sincerely,


Greg D. Tansley, AICP
City Planner

Cc: J. Malloy P.E., Staff Engineer (via e-mail)
R. Fecteau, Code Enforcement Officer (via e-mail)
M. Eddy, Economic Development (via e-mail)
File



CITY OF BIDDEFORD

PLANNING DEPARTMENT

Greg D. Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@Biddefordmaine.org

Standard Conditions of Approval

Owner/Applicant: Guy Gagnon, Executive Director (via e-mail:
ggagnonbha@maine.rr.com)
Biddeford Housing Authority
22 South Street
Biddeford, ME 04005

Project Description: New 5-Unit Multi-family Structure

Project Location: 25 Green Street

Tax Map / Lot Number: Tax Map 38, Lot 263

Project ID: 2019.08

1. The material provided for the proposed project has been reviewed only for general conformance to the City technical requirements. The applicant(s) and/or their technical consultant shall be responsible for the actual design details and completeness of their work. It is incumbent upon the applicant(s) to ensure that the project is in conformance and complies with all City Codes, ordinances and regulations as well as with all state regulations, including, but not limited to, space and bulk standards, performance standards, use standards and other zoning type requirements.
2. All work shall be in conformance with the approved plans and submission documents. No deviations from the approved plans are permitted without prior approval from the Planning Board for major changes, and from the City Planner and City Engineer for minor changes. The City Planner shall make the determination of major or minor.
3. If Site Development is required as part of the project, a Letter of Credit or other surety acceptable to the City of Biddeford shall be submitted prior to the issuance of permits or site work being initiated. The financial guarantee shall be established for 150% of the cost of the remaining project improvements. (Items include but are not limited to the following):
 - a. Landscaping
 - b. Paving

- c. Work within ROW (existing or proposed)
 - d. Drainage
 - e. Loam & seed
 - f. Sediment & erosion control
 - g. As-builts
 - h. Monuments
4. Prior to any ground disturbance, the applicant shall establish a construction inspection account equal to: PAID in Review Fee.
 5. Prior to any ground disturbance, a pre-construction meeting with the owner/applicant, contractor, and City is required. Contact the Engineering Department to schedule this meeting.
 6. Contact the Department of Public Works for driveway location permits, curb cut permits and/or street opening permits prior to the start of construction.
 7. If Site Development is required as part of the project, an as-built plan must be provided to the City of Biddeford Engineering Office at the end of the project on mylar and on a disk, in a format, which can be read by the City of Biddeford's Geographic Information System software. If a disk copy cannot be provided, a charge for staff time to enter the plan into the City system will be assessed to the applicant.
 8. The applicant shall incorporate appropriate erosion control measures into this project to reduce erosion affects from the work. All disturbed areas must be re-vegetated and/or otherwise stabilized at the appropriate stage of the work per Maine DEP standards in the Best Management Practice (BMP) manual.
 9. That the Article VI Performance Standards requirements regarding Dust, Fumes, Vapors & Gases (sect 25), Explosive Materials (sect 28), Glare (sect 37), Noise (sect 48) be followed.
 10. The applicant is required to comply with all applicable requirements of Chapter 70 (Utilities) and Chapter 71 (Utilities/Industrial Pretreatment Program).
 11. The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc prior to commencing business.
 12. If Site Development is required as part of the project, at the completion of the project the owner/applicant shall request a final inspection. This request shall be directed to the Planning Office. Performance Guarantees and remaining escrow accounts shall not be released until the Planning Office certifies that the project has been completed and is in compliance with the approval and all applicable City Ordinances.



United Way
of Southern Maine

June 13, 2024

To: Mr. Scott Welton, Fire & Life Safety Inspector
To: City of Biddeford Planning Board
Re: Letter of Intent to Establish a Childcare Center

Dear Mr. Welton and the City of Biddeford Planning Board,

My name is Rebecca Alfredson, and I am the Director of Education at United Way of Southern Maine. Please accept this letter of support for Christine Biyoga to open a child care center in partnership with the Biddeford Housing Authority at 25 Green St. in Biddeford.

Christine is a participant in United Way of Southern Maine (UWSM) Child Care Incubator program. The Child Care Incubator is a program run in partnership with Coastal Enterprises Inc., the Greater Portland Workforce Initiative, Starting Strong, and UWSM. The goal of this program is to provide an accessible pathway for aspiring entrepreneurs to obtain the necessary training and credentials to become a child care provider. This program is accompanied by intentional support and services to ensure the participants are successful in developing a sustainable business plan that creates access to more affordable child care slots in the community.

It was estimated this spring that less than half of all children aged 0-5 in Biddeford are attending an established child care, and 38% of kindergartners in the 2023-2024 school year were identified with a potential developmental delay during the screening process. We know that adding more high-quality, affordable child care slots will provide Biddeford's youngest learners with the opportunity to thrive as students upon entering school and give their parents the opportunity to reach a place of greater financial stability. Additionally, adding slots will provide a greater opportunity for families to access early intervention services that contribute to kindergarten readiness.

I have had the privilege of working with Christine over the past few months as she has begun her child care training. She is diligent, hard-working, communicative, and hopes to provide a service to the Biddeford community that is urgently needed by families. United Way of Southern ME is excited to have Christine as a Child Care Incubator participant in the coming months and intends to continue to provide, along with the partners above, coaching and support through the program to ensure the launch of her child care business is a success.

Thank you for your consideration and your continued commitment to making Southern Maine a stronger, healthier, better place to live.

All my best,
Rebecca Alfredson
ralfredson@uwsme.org
617-939-1583

Council for Professional Recognition

CHRISTINE N BIYOGA

has satisfactorily demonstrated competence in working with young children through an assessment by the CDA® National Credentialing Program and is hereby awarded the Child Development Associate® (CDA) Credential™

Infant Toddler



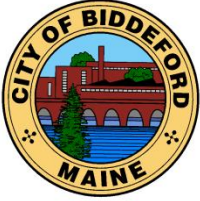

Chief Executive Officer
Council for Professional Recognition

June 26, 2022

Credential Date
June 26, 2025

Expiration Date
C000194182

Credential Number



CITY OF BIDDEFORD

Planning and Development Department

Adi Iriqat
Assistant City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207)-284-9115
adi.iriqat@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner

DATE: Aug 7, 2024

RE: **2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43)
in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.**

MEETING DATE: August 21, 2024 at 6:00 PM

1. INTRODUCTION

The project site is located within the Resource Protection overlay (RP) of the Shoreland Zone and the Coastal Residential (CR) base zone. The subject property has been in the Beaudoin family for more than 100 years. The current generation of owners (the Blanchettes and Tardiffs) grew up in Biddeford, and this property has been an important fixture in their lives. The applicant is requesting, on behalf of the property owners at 67 Fortunes Rocks Road, a Planning Board consideration of a Shoreland Zone Permit Application to rebuild a seawall, house foundation, and make repairs to the existing house on the property.

The unprecedented back-to-back storm events that hit the Maine coastline on January 10th and 13th of this year caused the seawall (installed in 1950) at the property to fail, which left the house and yard vulnerable to the wave action and storm surges (**see photo on page 3 of 6**).

2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.

Planning Board Hearing: August 7, 2024



67 Fortunes Rocks Road (Tax Map 64, Lot 43) - GPE Determination

The seawall and existing house are within the 100-foot setback from the Highest Annual Tide (HAT). As part of the planning process for this project, the owners evaluated the location of the house to consider alternative locations that would provide conformance or better compliance with existing regulations. The septic system encompasses a large section of the property to the north of the existing house (**see below photo**), and the structure currently meets side yard setbacks to the south. Because the property is only 116.66 feet deep there is little space between the 100-foot setback line and the City right-of-way line, therefore the house is currently within the 100-ft setback from the HAT.

2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.

Planning Board Hearing: August 7, 2024



67 Fortunes Rocks facing South

When considering shifting the house away from the seawall, the owners considered the location of the abutting houses in regards to viewshed limitations as well as looked at the recent State of Maine modeling of Sea Level Rise and Storm Surge scenarios. This modeling performed by the Maine Geological Survey (MGS) shows flooding will occur from the pond across Fortunes Rocks Road before it would from the ocean side, as shown in the photos below. The decision to not move the house closer to the area shown as more susceptible to flooding is one of the factors why the house is shown in the same location as it is today on the site.



Spillover from Lords Pond into the property

2. PROJECT DATA/INFORMATION

1.	Applicant:	David Blanchette 52 Osborne Avenue South Portland, ME 04106
2.	Owner of Property:	David Blanchette

2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.

Planning Board Hearing: August 7, 2024

		52 Osborne Avenue South Portland, ME 04106
3.	Agent:	Angela Blanchette 52 Osborne Avenue South Portland, ME 04106
4.	Engineer:	Owen Haskell, Inc 390 US Rt 1, Unit 10 Falmouth, ME 04105
5.	Project Location:	67 Fortunes Rocks Road
6.	Project Tax Map #/Lot #:	Tax Map 67, Lot 43
7.	Lot Size:	11,655 s.f.
8.	Base Zoning:	Coastal Residential (CR)
9.	Overlay Zoning:	Limited Residential & Resource Protection
10.	Existing Use:	Private Residential
11.	Proposed Use:	Reparation and future flood preparedness
12.	Approvals Required:	Greatest Practical Extent
13.	Uses in the Vicinity:	Residential
14.	Number of Lots/Units in Subdivision:	N/A
15.	Minimum Lot Size Required: Provided:	30,000 Square Feet 10,000+ Square Feet
16.	Frontage Required: Provided:	150' 100'
17.	Front Setback Required: Provided:	40' 60'
18.	Side Setbacks Required: Provided:	25' 45'
19.	Rear Setback Required: Provided:	25' 18'
20.	Height Requirements: Provided:	35 feet or 3 stories 25.6
21.	Water Supply:	Public Water
22.	Sewage Disposal:	Private Septic
23.	Solid Waste Disposal:	Public Trash
24.	Fire Protection:	City of Biddeford
25.	Floodplain Status:	Located in the Flood Zone AO
26.	Wetland/Surface Water Impacts:	N/A
27.	Soil Study Provided:	N/A
28.	Parking Spaces Required:	N/A
29.	Parking Spaces Provided (total): # Handicapped Spaces:	N/A
30.	Ownership of Road:	Fortunes Rocks Road is a Public Road
31.	Impervious Surface Area:	0 SF Change
32.	Total Disturbed Area:	0 SF of Previously Undisturbed Area
33.	Waivers Needed:	N/A

2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.

Planning Board Hearing: August 7, 2024

34.	Waivers Granted:	N/A
35.	Variances Needed for Approval:	None
36.	Other Permits Obtained:	N/A
37.	Other Non-City Permits Required:	None
38.	Fees Paid:	Yes
39.	Planning Board Review History:	August 21, 2024-Greatest Practical Extent

3. EXISTING CONDITIONS

The existing property consists of a 2-story structure and a failed seawall, which has a footprint of 1,307 s.f., including deck/porch. In addition, the property currently has a total of 2,020 s.f. of impervious driveway, walkways, and walls. The owners are proposing to put back the existing conditions and is not seeking any additional impervious area as part of this permit application. As a grandfathered site, the total existing impervious coverage on this 11,665 s.f. parcel is 3,327 s.f., which is more than the 20% lot coverage requirement, which is why the proposed project does not include an expansion at this time.

4. PROJECT PROPOSAL

The applicant understands that this site is vulnerable to future storms and therefore have looked to provide a resilient design for the seawall and foundation system to be replaced. The applicant is proposing to elevate the structure on piers to allow waves to move under the house during major storms. By meeting the recently updated floodplain requirements and setting the finished floor elevation at 15.71 or higher, that will extend the longevity of the structure. There will not be any proposed changes to the overall height of the structure. The house will remain at 25.6' high from the sill to the building peak, which is the current condition.

5. NEXT STEPS/SUGGESTED ACTIONS

If the applicant has addressed the outstanding items to the satisfaction of the Planning Board, and Planning Board approves the project, Staff recommend doing so with the following Conditions of Approval:

- 1. The raised building shall not be relocated closer to any of the existing property lines as noted on the approved plan.**
- 2. The Code Enforcement Officer shall review and approve conformance to Section 15 of the Shoreland Zoning Ordinance.**
- 3. Obtain all required permits from Maine Department of Environmental Protection and the Biddeford Code Enforcement Office.**
- 4. This approval shall expire one year from the date below if a substantial start is not made in construction. If a substantial start is made within one year of the date below, the applicant shall have one additional year to complete the project, thereafter this approval shall expire.**

2024.42 Shoreland Zoning Permit for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the Coastal Residential (CR) Zone / Greatest Practical Extent Determination.

Planning Board Hearing: August 7, 2024

6. SAMPLE MOTIONS

A. Motion to approve Case # 2024.42 Shoreland Zoning / Greatest Practical Extent Determination for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the CR Zoning District Determination, with the above listed Conditions of Approval.

B. Motion to Table Case # 2024.42 Shoreland Zoning / Greatest Practical Extent Determination for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the CR Zoning District Determination, based upon the following reasons:

a) _____

b) _____

c) _____

C. Motion to Deny Case # 2024.42 Shoreland Zoning / Greatest Practical Extent Determination for 67 Fortunes Rocks Road (Tax Map 64, Lot 43) in the CR Zoning District Determination, based upon the following reasons:

a) _____

b) _____

c) _____

July 17, 2024

Mr. David Galbraith, City Planner &
Planning Board Members
City of Biddeford Planning Department
P.O. Box 586
Biddeford, Maine 04005

RE: Shoreland Zone Permit Application
67 Fortunes Rocks Road

Dear Mr. Galbraith and Planning Board Members;

I am writing on behalf of the property owners at 67 Fortunes Rocks Road to request Planning Board consideration of a Shoreland Zone Permit Application to rebuild a seawall, house foundation, and make repairs to the existing house on the property. The unprecedented back-to-back storm events that hit the Maine coastline on January 10th and 13th of this year caused the seawall at the property to fail, which left the house and yard vulnerable to the wave action and storm surges.

Background Information

The subject property has been in the Beaudoin family for more than 100 years. The current generation of owners (the Blanchettes and Tardiffs) grew up in Biddeford, and this property has been an important fixture in their lives. During the January storms the existing seawall, which was installed in 1950, failed and the property was left vulnerable to the full power of the ocean waves.

The existing property consists of a 2-story structure, which has a footprint of 1,307 s.f., including deck/porch. In addition, the property currently has a total of 2,020 s.f. of impervious driveway, walkways, and walls. The owners are proposing to put back the existing conditions and is not seeking any additional impervious area as part of this permit application. As a grandfathered site, the total existing impervious coverage on this 11,665 s.f. parcel is 3,327 s.f., which is more than the 20% lot coverage requirement, which is why the proposed project does not include an expansion at this time.

The site is relatively flat with slopes of 0-3% and an existing septic system on the northern side of the lot. The property is connected to municipal water. The vegetation on the site is limited, however will be preserved.

Project Description

The seawall and existing house are within the 100-foot setback from the Highest Annual Tide (HAT). As part of the planning process for this project, the owners evaluated the location of the house to consider alternative locations that would provide conformance or better compliance with existing regulations. The septic system encompasses a large section of the property to the north of the existing house, and the structure currently meets side yard setbacks to the south. Because the property is only 116.66 feet deep there is little space between the 100-foot setback line and the City right-of-way line, therefore the house is currently within the 100-ft setback from the HAT. When considering shifting the house away from the seawall, the owners considered the location of the abutting houses in regards to viewshed limitations as well as looked at the recent State of Maine modeling of Sea Level Rise and Storm Surge scenarios. This

modeling performed by the Maine Geological Survey (MGS) shows flooding will occur from the pond across Fortunes Rocks Road before it would from the ocean side, as shown in the attachments. The decision to not move the house closer to the area shown as more susceptible to flooding is one of the factors why the house is shown in the same location as it is today on the site.

We understand that this site is vulnerable to future storms and therefore have looked to provide a resilient design for the seawall and foundation system to be replaced. We are proposing to elevate the structure on piers to allow waves to move under the house during major storms. We believe by meeting the recently updated floodplain requirements and setting the finished floor elevation at 15.71 we will extend the longevity of the structure. We are not proposing any changes to the overall height of the structure. The house will remain at 25.6' high from the sill to the building peak, which is the current condition.

The owners of 67 Fortunes Rocks Road seek to protect our property from future storm damage, therefore we appreciate your time and consideration of this application, and look forward to discussing this project at your next Planning Board meeting. Please contact me at 207-329-7679 or angblanchette8@gmail.com if additional information is needed.

Sincerely,

A handwritten signature in black ink that reads "Ang Blanchette". The signature is written in a cursive, flowing style.

Angela J. Blanchette, P.E.

Attachments:

Attachment A – Application

Attachment B – Location Map

Attachment C – Agent Letter & Deed

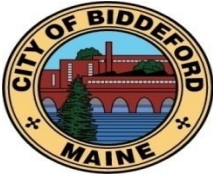
Attachment D – Flood Insurance Rate Map, Maine Hazard Flood Map, MGS Sea Level Rise Modeling

Attachment E – Photographs

Attachment F – Existing Conditions Survey & Reconstruction Plan

ATTACHMENT A

Application

**City of Biddeford – Planning Department****Planning Board Application**

P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

Type of Application:

☒ Shoreland Zoning Permit ☐ Site Plan Review ☐ Extraction
☐ Conditional Use Permit ☐ Subdivision ☐ Private Way
☐ Other: _____

Applicant Information:

Name: David Blanchette
Mailing Address: 52 Osborne Avenue, South Portland, Maine
Telephone: 207-239-6735
Email: dblanc8@hotmail.com

What is your legal interest in the property?

☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: David Blanchette
Mailing Address: 52 Osborne Avenue, South Portland, Maine 04106
Telephone: 207-239-6735
Email: dblanc8@hotmail.com

Agent's Information:

Name: Angela Blanchette
Mailing Address: 52 Osborne Avenue, South Portland, Maine 04106
Telephone: 207-329-7679
Email: angblanchette8@gmail.com

Engineer/Surveyor's Information:

Name: Owen Haskell, Inc
Mailing Address: 390 US Rt 1, unit 10, Falmouth, Maine 04105
Telephone: 207-774-0424
Email: rcroteau@owenhaskell.com

Project Location and Lot Information:

Street Address: 67 Fortunes Rocks Road Drainage Watershed: Atlantic Ocean

Tax Map: 64 Lot: 43

Current Zoning: Coastal Residential Shoreland Zoning: Limited Residential

Size of Lot: 11,665 () acres (X) s.f. Lot Frontage: 100 feet

Existing Use of Property: Residential dwelling

Property currently serviced by:

☒ City Road ☐ Public Sewer ☒ Public Water ☒ Public Trash
☐ Private Road ☒ Septic System ☐ Private Well ☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☒ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ☐ (Yes) ☒ (No) if yes attach information

Is the project within the 100-year floodplain? ☒ (Yes) ☐ (No) if yes attach information

Do you plan to bring fill onto the lot? ☒ (Yes) ☐ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use: The project will include the reconstruction of an existing seawall and repairs to the existing house that withstood damage during the January 2024 storm events. In addition, the house will be placed on piers in order to meet the current State and Federal regulations. Fill will be brought on site only to the extent to reestablish preexisting conditions elevations at the property.

Property to be Serviced by:

☒ City Road ☐ Public Sewer ☒ Public Water ☒ Public Trash
☐ Private Road ☒ Septic System ☐ Private Well ☐ Private Hauler

Limits of Disturbance: ☐ N/A ☐ () acres () s.f.

Net change in impervious cover: ☐ 0 ☐ () acres () s.f.

Is this project part of a larger project? ☐ (Yes) ☒ (No)

Is the project proposing a new Private or Public Road? ☐ (Yes, Private) ☐ (Yes, Public) ☒ (No)

Is this project within the Urbanized Area/MS4 (see [City Drainage Map](#)) ☐ (Yes) ☒ (No)

Is the project proposing any Stormwater facilities/BMPs? ☐ (Yes) ☒ (No)

Will a Traffic Movement Permit (TMP) be required?: ☐ (Yes) ☒ (No)

If in a Shoreland Zone:

Percent of residential lot coverage (Max 20%): ☐ n/a ☐

Percent of structure expansion (Max 30%): ☐ 0 ☐

If Subdivision Review, number of lots proposed: ☐ n/a ☐

If a Private Way is proposed, number of lots served: ☐ n/a ☐

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: ☐ n/a ☐

Total new square feet paving/parking: ☐ n/a ☐

Waiver Requests (attach details):

1. ☐
2. ☐
3. ☐
4. ☐
5. ☐

Required Submittal Attachments:

- A. Letters of Approval
 - ☐ Fire Department – Contact Chief or Deputy Chief – 282-9986
 - ☐ Ability to Serve for Water Service – Maine Water – 282-1543
 - ☐ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
 - ☐ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127
- B. Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.
- C. Photographs of Site.
- D. Architectural renderings/drawings of proposed buildings, as required.
- E. Engineering Plans, as required.
- F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- \$75 Nonrefundable Administration Fee is required for every application.
- Refer to “Attachment A Fees and Charges” of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance?: __ (Yes) X (No)

- **If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.**

Signature of Applicant:



Date

7/15/24

Signature of Property Owner:



Date

7/15/24

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

- A) PDF OF SIGNED APPLICATION
- B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

- A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - *Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL DRAWING NAME.pdf'*
- B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.
- C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)
 - *All drawings & CAD reference files must be to-scale and within the following coordinate systems:*
 - MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

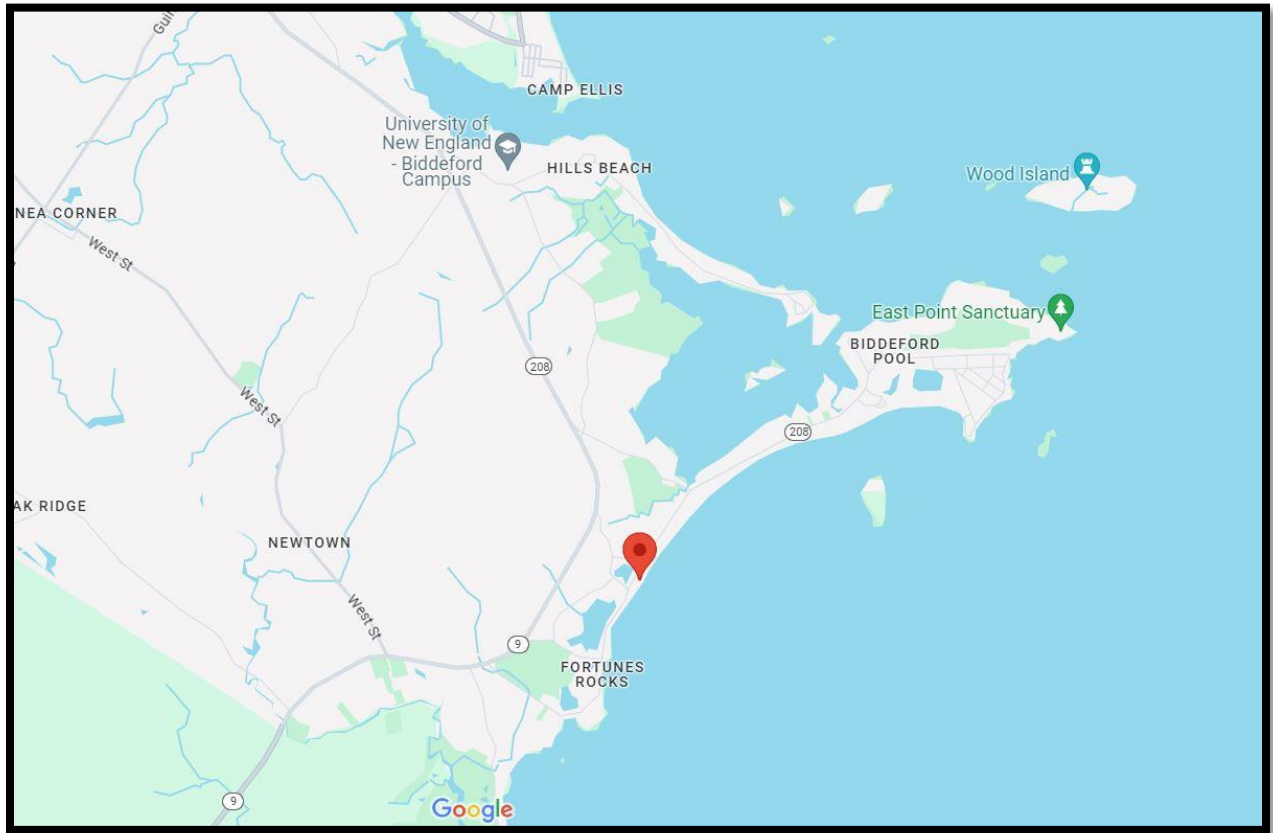
HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIDUAL DRAWINGS REQUIRING BOARD SIGNATURE
- B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

ATTACHMENT B

Location Map



Location Map for 67 Fortunes Rocks Road

ATTACHMENT C

Agent Letter and Deed

July 17, 2024

David Galbraith, City Planner &
Planning Board Members
City of Biddeford Planning Department
P.O. Box 586
Biddeford, Maine 04005

RE: Shoreland Zone Permit Application
67 Fortunes Rocks Road

Dear Mr. Galbraith and Planning Board Members;

In my capacity as an owner of 67 Fortunes Rocks Road, I authorize Angela Blanchette, P.E. to submit a Shoreland Zone Application, meet with staff as necessary, and represent me at Planning Board meetings.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Blanchette', with a stylized flourish at the end.

David Blanchette

DLN: 1002240200291

After recording return to:
Odelle M. Loignon
8 Romeo Lane
Biddeford, ME 04005

(space above reserved for recording information)

DEED OF DISTRIBUTION
BY
PERSONAL REPRESENTATIVE
Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS, That **ODELLE M. LOIGNON** Personal Representative of the Estate of **Jocelyn H. Blanchette** (York County Probate Docket Number 2022-0041) with a mailing address of 8 Romeo Lane, Biddeford, ME 04005, by the power conferred by law, and every other power, for consideration paid, in distribution of the estate grant to **Odelle M. Loignon, Marc L. Blanchette and David J. Blanchette**, all having a mailing address in care of Odelle M. Loignon as set forth above, ***as tenants in common***, a one half interest in the land in the City of Biddeford in the County of York and State of Maine, described as follows:

BEGINNING on the road leading from Fortunes Rocks to the Pool now called Fortunes Rocks Road at the northwest corner of land formerly of Clara Beauregard and Marnie Baillargeon;

THENCE northerly by said road Fifty (50) feet to land now or formerly of C. Fred Jones;

THENCE at right angles easterly to the seawall;

THENCE southerly by the seawall Fifty (50) feet to land of said Beauregard and Baillargeon;

THENCE westerly by land of said Beauregard and Baillargeon to said road and to point begun at.

ALSO, another certain lot or parcel of land with the buildings thereon situated on the easterly side of the road leading from Fortunes Rocks to the Pool and bounded on the westerly side by said road;

On the northeasterly side by land now or formerly of C. Fred Jones and John Kimball;

On the east by the seawall;

And on the south by land now or formerly of the Chamberlain heirs.

ALSO conveying herewith all of the Grantor's right, title and interest, however acquired by Grantor and her predecessors in title to that real estate lying between the sidelines of the above described premises as extended easterly to low water mark of the Atlantic Ocean or however far

No Transfer Tax

Grantor may own.

Being the same premises described in deed of Bernard Beaudoin, Personal Representative of the Estate of Gabrielle M. Beaudoin to Jocelyn R. Blanchette and Yolande M. Tardiff, as tenants in common, dated May 2, 1986, and recorded in York Registry of Deeds in Book 3831, page 339.

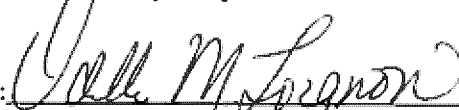
WITNESS my hand and seal in my said capacity this 30th day of June, 2022.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF:



Witness

ESTATE OF Jocelyn H. Blanchette

By: 

Odelle M. Loignon, Personal Representative

STATE OF MAINE
COUNTY OF YORK

June 30, 2022

Personally appeared the above named Odelle M. Loignon, Personal Representative of the Estate of Jocelyn H. Blanchette, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of said estate.

Before me,



~~Notary Public~~/Attorney-At-Law

Print Name: _____

My Commission Expires: _____

L:\Clients\19858\001\deedofdistribution

Richard A. Hull III
Maine Attorney-at-law
Bar No. 000964



DEED OF DISTRIBUTION BY PERSONAL REPRESENTATIVE

I, **CELESTE Y. GUAY** of 4 Pinewood Circle Biddeford, Maine, duly appointed and acting Personal Representative of the Estate of **YOLANDE M. TARDIF** deceased, whose Will was duly admitted to probate in the Probate Court Docket No. 2018-0187 for York County, Maine, by the power conferred by law, and every other power, in distribution of the estate, grant to **PETER R. TARDIF** of Portsmouth, Rhode Island, **MICHELLE T. SHEKARCHI** of Bethesda, Maryland, **CELESTE Y. GUAY** of Biddeford, Maine, and **JUDITH T. LAFLAMME** of Biddeford, Maine, being the persons entitled to distribution, as tenants in common, all of Yolande M. Tardif's interest in the real property, together with any improvements thereon, located at **67 FORTUNES ROCKS ROAD**, in the Town of Biddeford, County of York, State of Maine; more particularly described as follows:

Beginning on the road leading from Fortunes Rocks to the Pool at the northwest corner of land formerly of Clara Beauregard and Mamie Baillargeon, thence northerly by said road fifty (50) feet to land now or formerly of C. Fred Jones, thence at right angles easterly to the seawall, thence southerly by the seawall fifty (50) feet to land of said Beauregard and Baillargeon, thence westerly by land of said Beauregard and Baillargeon to said road and to point begun at. And another certain piece of land with the buildings thereon situated on the easterly side of the road leading from Fortunes Rocks to the Pool and bounded on the westerly by said road, on the northeasterly by land now or formerly of C. Fred Jones and John Kimball, on the east by the seawall, and on the south by land now or formerly of the Chamberlain heirs.

Meaning and intended to convey the same premises granted to Jocelyn H. Blanchette and Yolande M. Tardif by Bernard R. Beaudoin in deed dated May 2, 1986 and recorded in the York County Registry of Deeds, Book 3831, Page 339.

WITNESS my hand and seal this 18 day of September, 2018.

Witness

Celeste Y. Guay
CELESTE Y. GUAY Personal
 Representative of the Estate of
YOLANDE M. TARDIF

Toole Bowers + Griffin P.A.
 75 Market St. Ste 301
 20 -> Portland, Me. 04101

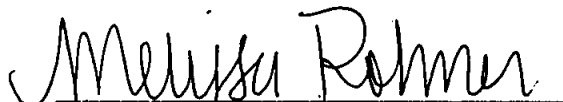
STATE OF MAINE,

York, SS.

September 18, 2018

PERSONALLY APPEARED the above-named **CELESTE Y. GUAY**, Personal Representative as aforesaid, and acknowledged the foregoing instrument to be a free act and deed in said capacity.

Before me,


Notary Public/Attorney at Law

Melissa Rohner
Notary of the State of Maine
My Commission Expires May 10, 2020

Seal

ATTACHMENT D

Flood Maps and
Sea Level Rise/Storm Surge Figure



Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.



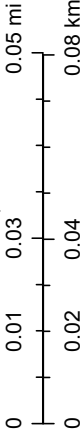
Maine Flood Hazard Map



7/9/2024, 6:13:45 PM

- Pending Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Pending Flood Hazard Boundaries
- SFHA / Flood Zone Boundary
- Pending FIRM Panels
- Pending FIRM Panel Index

1:2,257



Esri Community Maps Contributors, City of Biddeford, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar, Microsoft

Sea Level Rise/Storm Surge Scenarios

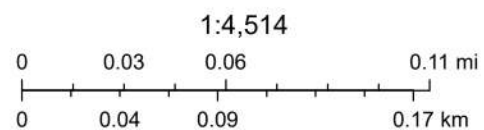


7/15/2024, 7:52:08 PM

-  Highest Astronomical Tide
-  Highest Astronomical Tide Plus 3.9 Feet

Maine Orthoimagery 2018 (image layer)

-  Red: Red
-  Green: Green
-  Blue: Blue



Maine GeoLibrary, Esri, HERE, Garmin, iPC, Maxar

ATTACHMENT E

Photographs



Photo 1: 67 Fortunes Rocks Road facing south



Photo 2: 67 Fortunes Rocks Road facing north



Photo 3: 67 Fortunes Rocks Road facing northwest



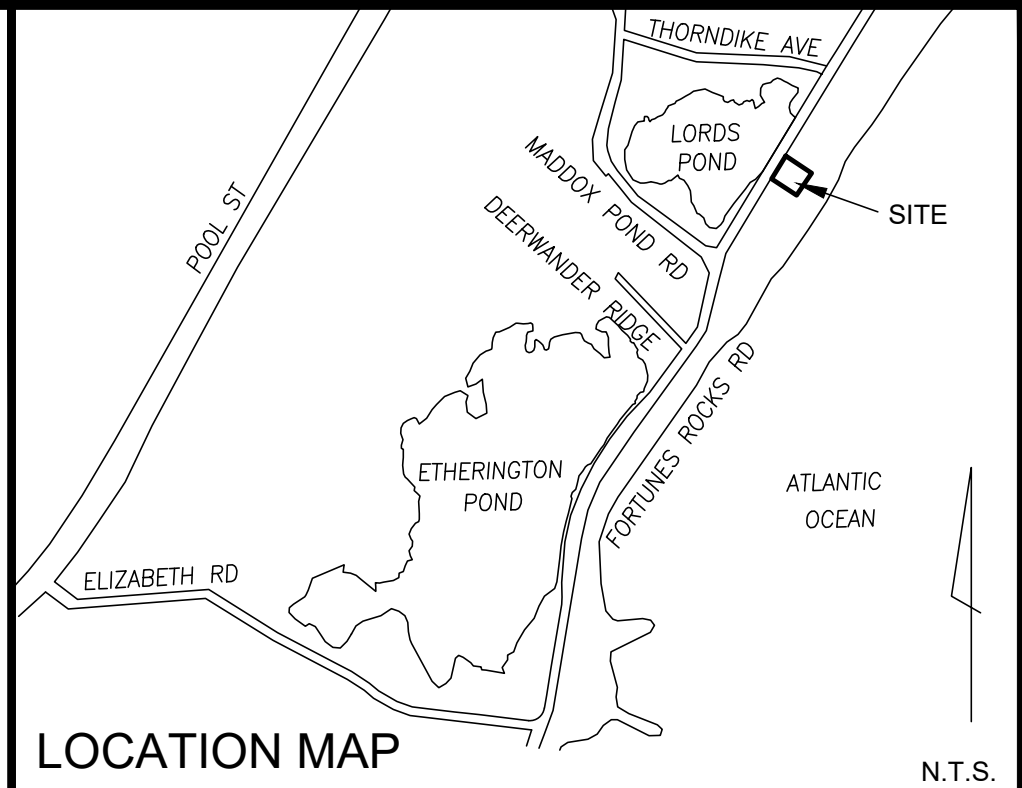
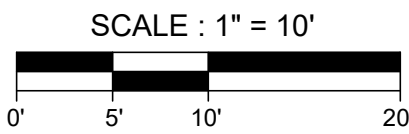
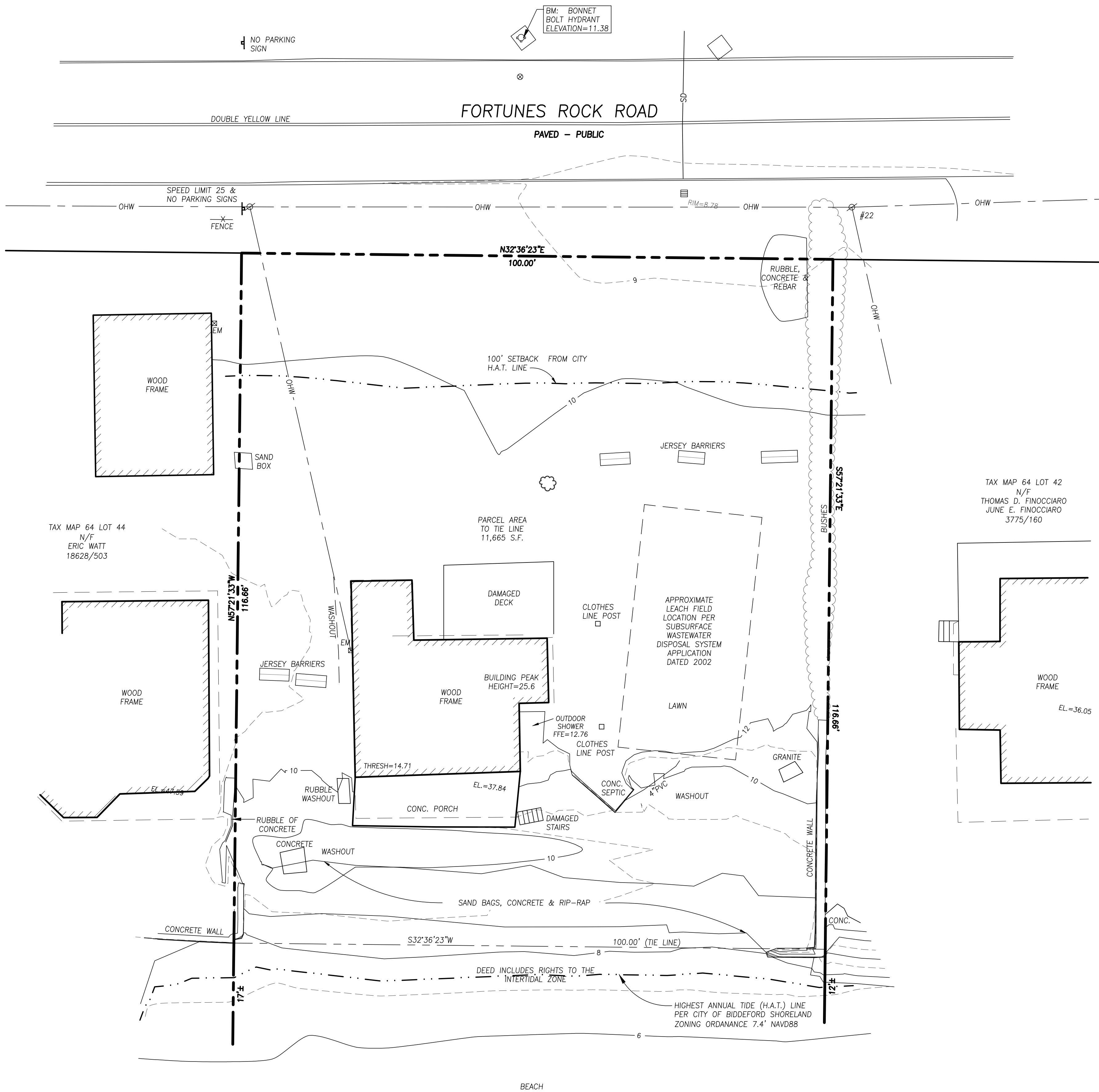
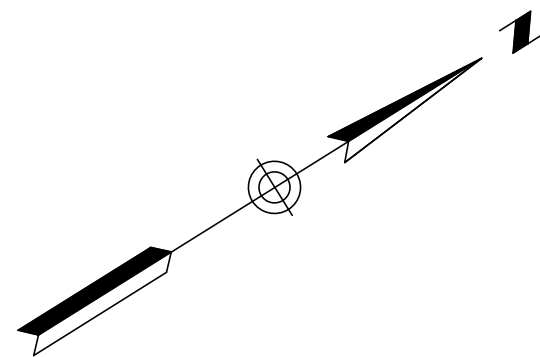
Photo 4: 67 Fortunes Rocks Road facing west



Photo 5 & 6: 67 Fortunes Rocks Road facing Fortunes Rocks Road

ATTACHMENT F

Existing Conditions & Reconstruction Plan



LEGEND			
●	IRON PIPE OR ROD FOUND	—X—X—	FENCE
⊕	UTILITY POLE	—OHW—	OVERHEAD WIRES
—T—	SIGN	—W—	WATER LINE
⊕	HYDRANT	—SD—	STORM DRAIN
⊗	WATER VALVE OR SHUTOFF	—100—	1' CONTOUR
⊗	BUSH / SHRUB	IPF/IRF	IRON PIPE/ROD FOUND
		N/F	NOW OR FORMERLY
		000/000	DEED BOOK / PAGE
		CONC.	CONCRETE

- PLAN REFERENCES**
- "CONDOMINIUM PLAT, CEDAR WINDS CONDOMINIUM, FORTUNES ROCKS ROAD, BIDDEFORD, MAINE, RECORD OWNER JAMES & MONA KARTER" MAY 25, 1997 BY PAUL P. GABBOIS, P.L.S. RECORDED IN YORK COUNTY REGISTRY OF DEEDS IN CONDO FILE 491 PAGE 1.
 - "REVISED STANDARD BOUNDARY SURVEY & SITE PLAN, 80 FORTUNES ROCKS ROAD, BIDDEFORD, MAINE OWNED BY LOUIS L. & CHARLENE RANA FOR THOM ROUSSELLE" SEPT. 5, 2006 BY LOWER VILLAGE SURVEY CO.
 - "STANDARD BOUNDARY SURVEY" MADE FOR EDMUND MURPHY BY DOW & COULOMBE, INC. DATED DECEMBER 1, 1987.
 - SURVEY FIELD NOTE INFORMATION OF THESE PROPERTIES PROVIDED BY DOW & COULOMBE CIRCA 1927 AND 1949.

- GENERAL NOTES**
- OWNER OF RECORD: ODELE M. LOIGNON, MARC L. BLANCHETTE & DAVID J. BLANCHETTE
TAX MAP 64 LOT 43
C.C.R.D. BOOK 19061 PAGE 642
 - BEARINGS ARE BASED ON GRID NORTH PER THE MAINE STATE COORDINATE SYSTEM, WEST ZONE, NAD83. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
 - PROPERTIES ARE LOCATED WITHIN ZONE V2, BASE FLOOD ELEVATION 13 FEET OF THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 OR 12.3 FEET OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 PER FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 230145 0011 B DATED MAY 15, 1984.
 - PROPERTIES ARE LOCATED WITHIN ZONE AE, BASE FLOOD ELEVATION 13 AND ZONE VE, BASE FLOOD ELEVATION 16 NORTH AMERICAN VERTICAL DATUM OF 1988 PER PROPOSED FLOOD INSURANCE RATE MAP 23031C0467G & 23031C0486G WITH AN EFFECTIVE DATE OF JUNE 17, 2024
 - THE SUBJECT PROPERTIES ARE LOCATED IN THE CITY OF BIDDEFORD LIMITED RESIDENTIAL DISTRICT & THE SHORLAND OVERLAY ZONE. SEE THE ZONING ORDINANCE OR TOWN CODE ENFORCEMENT OFFICER FOR APPLICABLE ZONING REQUIREMENTS/RESTRICTIONS.
 - FORTUNE ROCKS RIGHT OF WAY LINE AND PROPERTY LINES SHOWN WERE DETERMINED UTILIZING BOUNDARY MARKERS FOUND AS SHOWN ON PLAN REFERENCES 3 & 4.
 - NO DETERMINATION HAS BEEN MADE TO RIGHTS BETWEEN HIGH WATER AND LOW WATER.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

REX J. CROTEAU, PLS #2273

DATE



Boundary & Topographic Survey
At
67 Fortune Rocks Road, Biddeford, Maine
Made for
Angela Blanchette
52 Osbourne Ave., South Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: RJC/JLW	DATE: May 21, 2024	JOB NO.: 2024-062 B-Y
CHECKED BY: RRL	SCALE: 1" = 10'	DRWG. NO. 1

July 17, 2024

REVISED: August 5, 2024

Mr. David Galbraith, City Planner &
Planning Board Members
City of Biddeford Planning Department
P.O. Box 586
Biddeford, Maine 04005

RE: Shoreland Zone Permit Application
67 Fortunes Rocks Road

Dear Mr. Galbraith and Planning Board Members;

I am writing on behalf of the property owners at 67 Fortunes Rocks Road to request Planning Board consideration of a Shoreland Zone Permit Application to rebuild a seawall, house foundation, and make repairs to the existing house on the property. The unprecedented back-to-back storm events that hit the Maine coastline on January 10th and 13th of this year caused the seawall at the property to fail, which left the house and yard vulnerable to the wave action and storm surges.

Background Information

The subject property has been in the Beaudoin family for more than 100 years. The current generation of owners (the Blanchettes and Tardiffs) grew up in Biddeford, and this property has been an important fixture in their lives. During the January storms the existing seawall, which was installed in 1950, failed and the property was left vulnerable to the full power of the ocean waves.

The existing property consists of a 2-story structure, which has a footprint of 1,307 s.f., including deck/porch. In addition, the property currently has a total of 2,020 s.f. of impervious driveway, walkways, and walls. The owners are proposing to put back the existing conditions and is not seeking any additional impervious area as part of this permit application. As a grandfathered site, the total existing impervious coverage on this 11,665 s.f. parcel is 3,327 s.f., which is more than the 20% lot coverage requirement, which is why the proposed project does not include an expansion at this time.

The site is relatively flat with slopes of 0-3% and an existing septic system on the northern side of the lot. The property is connected to municipal water. The vegetation on the site is limited, however will be preserved.

Project Description

The seawall and existing house are within the 100-foot setback from the Highest Annual Tide (HAT). As part of the planning process for this project, the owners evaluated the location of the house to consider alternative locations that would provide conformance or better compliance with existing regulations. The

septic system encompasses a large section of the property to the north of the existing house, and the structure currently meets side yard setbacks to the south. Because the property is only 116.66 feet deep there is little space between the 100-foot setback line and the City right-of-way line, therefore the house is currently within the 100-ft setback from the HAT. When considering shifting the house away from the seawall, the owners considered the location of the abutting houses in regards to viewshed limitations as well as looked at the recent State of Maine modeling of Sea Level Rise and Storm Surge scenarios. This modeling performed by the Maine Geological Survey (MGS) shows flooding will occur from the pond across Fortunes Rocks Road before it would from the ocean side, as shown in the attachments. The decision to not move the house closer to the area shown as more susceptible to flooding is one of the factors why the house is shown in the same location as it is today on the site.

We understand that this site is vulnerable to future storms and therefore have looked to provide a resilient design for the seawall and foundation system to be replaced. We are proposing to elevate the structure on piers to allow waves to move under the house during major storms. We believe by meeting the recently updated floodplain requirements and setting the finished floor elevation at 15.71 or higher, we will extend the longevity of the structure. We are not proposing any changes to the overall height of the structure. The house will remain at 25.6' high from the sill to the building peak, which is the current condition.

Shoreland Zoning Requirements

Article XIV, Section 12(C)(2) Foundations. Whenever a new, enlarged, or replacement foundation is constructed under a nonconforming structure, the structure and new foundation must be placed such that the setback requirement is met to the greatest practical extent as determined by the Planning Board, basing its decision on the criteria specified in Section 12(C)(3) below.

Pursuant to the City's Code, when relocating a non-conforming structure in compliance with the shoreline setback to the greatest practical extent, the Planning Board shall consider 6 specific criteria (see Article XIV, Section 12 (C)(3). These criteria include, and are limited to the following:

- 1) Size of the lot:** 11,665 s.f.
- 2) Slope of the land:** The site is relatively flat with slopes of 0-3% (no change proposed).
- 3) Potential for soil erosion:** With the seawall in place and flat soils on the parcel, there is low potential for soil erosion on the property. The entire site will be stabilized. All non-impervious surfaces will be loamed and seeded.
- 4) Location of other structures on the property and on adjacent properties:** No other structures are located on the property. There are houses and a garage located to the north and the south of the property.
- 5) Location of the septic system and other on-site soils suitable for septic systems:** An existing septic system is located on the northern side of the lot, which is 25 feet from the HAT. The existing system is functioning and there are no changes to the system being proposed at this time.
- 6) The type and amount of vegetation to be removed to accomplish the relocation:** The vegetation on the site is limited, however will be preserved.

The owners of 67 Fortunes Rocks Road seek to protect our property from future storm damage, therefore we appreciate your time and consideration of this application, and look forward to discussing this project at your next Planning Board meeting. Please contact me at 207-329-7679 or angblanchette8@gmail.com if additional information is needed.

Sincerely,

A handwritten signature in black ink that reads "Angela J. Blanchette". The signature is written in a cursive, flowing style.

Angela J. Blanchette, P.E.

Attachments:

Attachment A – Application

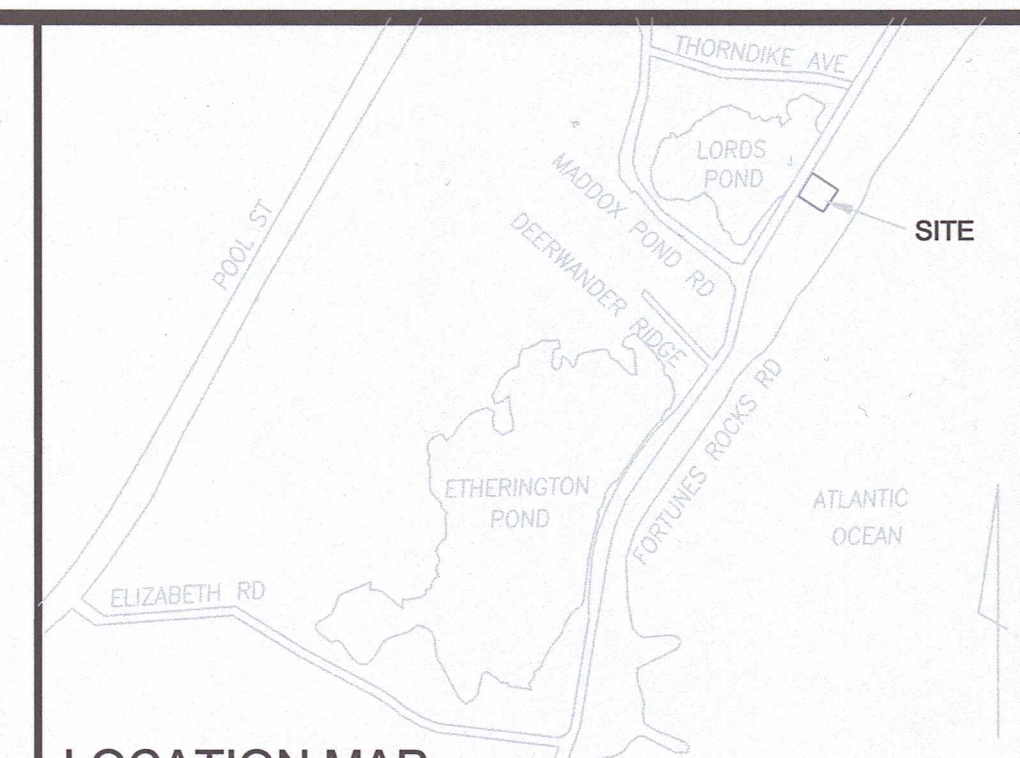
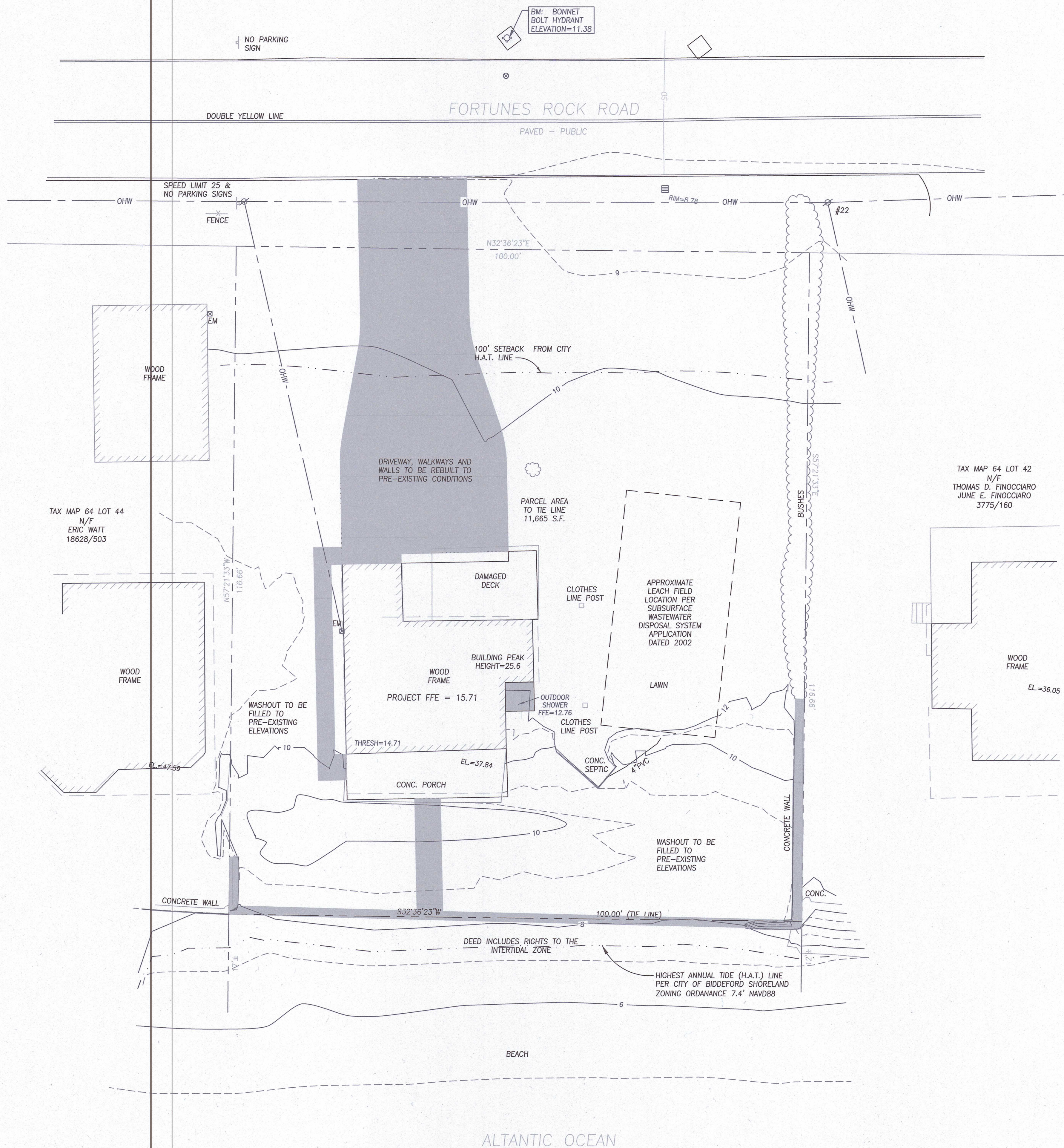
Attachment B – Location Map

Attachment C – Agent Letter & Deed

Attachment D – Flood Insurance Rate Map, Maine Hazard Flood Map, MGS Sea Level Rise Modeling

Attachment E – Photographs

Attachment F – Existing Conditions Survey & Reconstruction Plan



	IRON PIPE OR ROD FOUND			FENCE
	UTILITY POLE			OVERHEAD WIRES
	SIGN			WATER LINE
	HYDRANT			STORM DRAIN
	WATER VALVE OR SHUTOFF			1' CONTOUR
	BUSH / SHRUB			IRON PIPE/ROD FOUND
	CATCH BASIN			NOW OR FORMERLY
	IMPERVIOUS AREA			DEED BOOK / PAGE
	BUILDING AREA			CONCRETE

TOTAL LOT AREA: 11,665 S.F.
 LOT FRONTAGE: 100 FT
 TOTAL PRE-EXISTING IMPERVIOUS AREA: 3,298 S.F.
 TOTAL RECONSTRUCTION IMPERVIOUS AREA: 3,298 S.F.
 TOTAL HEIGHT OF STRUCTURE: 25.6 FEET
 CHANGE IN HEIGHT OF STRUCTURE: 0 FEET
 FINISH FLOOR ELEV PRE-EXISTING: 14.71
 FINISH FLOOR ELEV RECONSTRUCTION: 15.71

WASHOUTS WILL BE FILLED AND GRADED WITH CLEAN MATERIAL TO PRE-EXISTING ELEVATIONS.

ALL NON-IMPERVIOUS AREAS WILL BE LOAMED AND SEEDDED.

RECONSTRUCTION PLAN
At
67 Fortune Rocks Road, Biddeford, Maine
Submitted by
Angela Blanchette
52 Osbourne Ave., South Portland, Maine

DRAWN BY: AJB	DATE: JULY 10, 2024	
	SCALE: 1" = 10'	DRWG. NO. 2

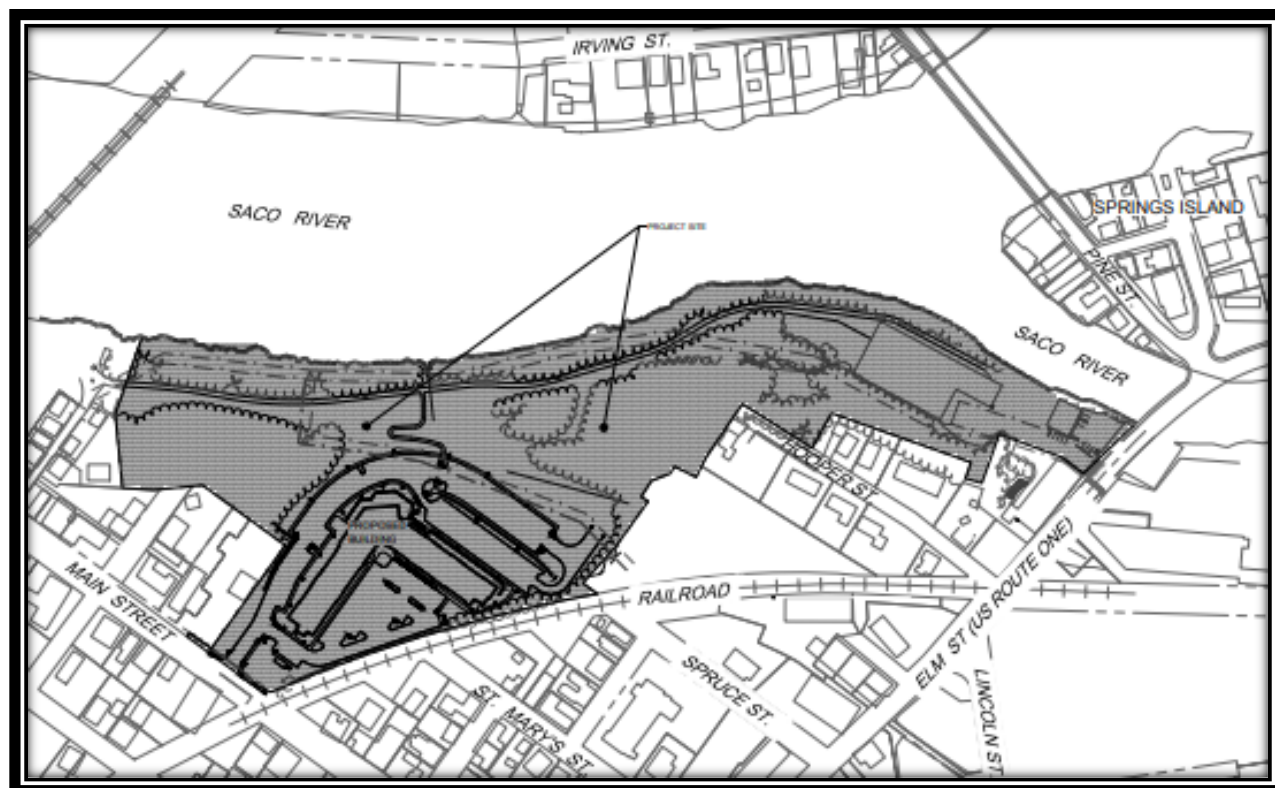
Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

The Project was being proposed in three (3) phases and the Applicant received preliminary approval of Phase I of the development, in concurrence with the Master and Phasing Plan. Phase I consisted of 146 residential units, 3,000 square feet of commercial space, parking for Phase 1, access from Elm Street and Main Street via a private roadway which would connect all three Phases of the development. The original proposal was to develop the 18+ Acre Downtown / Riverfront Property with 7 multi-story structures that would be constructed in three phases which are being designed as a single development as it relates to parking, traffic, utilities, design, etc. It would have featured 477 market rate residential units and approximately 14,125 square feet of mixed use commercial (1 -2 restaurants). The plan also provided 615 parking stalls would be provided, including 421 at-grade and 194 understory parking stalls. Per City ordinance, the project application would be subject to Site Plan Review (Land Development Regulations, Article XI), Shoreland Zoning and Subdivision review and approval (Code of Ordinances, Chapter 66).

Revised Application:

Since the Preliminary Approval of Phase One of the development, the scope of the project has changed and the new proposal is for a single phase project comprised of a 5-story multifamily residential building with up to 209 residential condominium units. The future buildout of the remaining site is undetermined at this time.



Proposed 5-story multifamily residential building with up to 209 residential condominium units.

The proposed building will include 102 studio, 83 one-bedroom, 24 two-bedroom units, as well as amenity spaces. Building amenities and support spaces will include:

- Entry lobby with seating/waiting area;
- Mail room;

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

- Fitness Studio;
- Pet wash (two wash stations);
- Work from home spaces; and
- Community room with kitchen area and lounge seating

The proposed site improvements include:

- The construction of a 166,700 SF, 5-story residential building which will include 209 units.
- Demolition and relocation of existing utilities running through the site will be necessary to accommodate site improvements. Two existing buildings near Main Street will be removed;
- A private roadway identified as Diamond Street will be constructed off of Main Street to serve the building with a terminus for a future extension.
- Construction of a public riverwalk trail that will connect Elm Street to the Horrigan Court area. The trail and associated open space will be for public use and has been designed to capitalize on the existing natural beauty of the Saco River;
- A minimum of two acres of passive open space available to the public;
- The existing paved area off of Elm Street will be striped and signed to provide Riverwalk parking with an easement for access. Six parking spaces for public use have been provided for the trail (including 1 ADA space);
- A total of 239 surface parking spaces are to be provided (including 8 ADA spaces); A waiver for 5% of the residential parking is requested;
- A portion of an existing public sewer main will be removed and relocated to avoid placing significant fill over the public sewer. A new sewer to main will be constructed to serve the development. The revised plan locates the sewer extension along the riverwalk trail for maintenance access and to allow for future development on the site. The sewer main will be enlarged to provide inline storage as a Combined Sewer Overflow (CSO) control measure. Sebago Technics has worked closely with the City Engineering and Public Works Departments on the sewer main relocation and sizing;
- A larger diameter storm drain pipe will be removed and relocated. To avoid placing significant fill over the storm drain. The storm drain pipe conveys flows from a large offsite drainage area, and discharges directly into Saco River. The outlet at the river will remain at its existing location and condition and will not be modified;
- Stormwater from the proposed development will be detained with an underground pipe storage system and treated with filters prior to discharging. Treated runoff from the proposed development will be discharged to the Saco River through a new storm drain outfall, parallel to the existing storm drain outfall. Providing capacity for the site development without impact the existing City system;
- Water and underground utilities (power, telephone, and cable) will be extended from Main Street for the residential development;
- Power will be provided from Horrigan court for lighting along the Riverwalk; and

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

- Other site amenities such as landscaping and lighting are proposed.



Proposed 5-story building - 209 residential condominium units as viewed from Main Street



Proposed 5-story building - 209 residential condominium units - North Elevation

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.



Proposed 5-story building - 209 residential condominium units - North Elevation

As the Board may recall from previous reviews of the development / property, the site includes a small, approximately .51-acre parcel that has been identified as a Brownfield site in need of environmental clean-up. Until recently, the property was owned, according to tax records, by Union Oil Co. of Maine (PID# Map 040 Map 074). The property has been tax delinquent for the past 13 years, although the City didn't acquire the property due to the known Brownfield's status. The City Council has approved transferring this property to the Applicant, who has agreed to provide the City full environmental indemnification. This property is now included as part of the current development proposal.



Brownfield's Site – Proposed Clean-up / Remediation within Project Area

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

This property is approximately .51-acres in area (highlighted in red on the above map) and includes an identified Brownfield's Site, which requires clean-up / remediation. One Diamond Development has offered to purchase the land from the City, post City tax acquiring, with the agreement that One Diamond indemnifies the City from all environmental clean-up measures as a condition of their purchase agreement. Following the site environmental clean-up, One Diamond will utilize the subject property within the expanded development area.

River Walk Master Plan: The Applicant is providing the City a pedestrian access agreement, for the extension of the River Walk the entire length of the subject property. The project design will include 2+ acres of "openspace" as required in the JDA. The Applicant is proposing to continue the same design elements, such as pedestrian scale lighting, design connectivity, public art, scenic overlooks, benches, waste receptacles, bike racks, landscape design, uniform informational and directional signage, etc. as being utilized at the adjacent development, across Elm Street at 10-30 Upper Falls Road. The majority of these improvements are NOT being proposed at this time due to the unknown future development of the remainder of the 18+ acre property.

2. PROJECT DATA/INFORMATION:

1.	Applicant:	One Diamond Development, LLC 2 Livewell Drive, Suite 201 Kennebunk, ME 04043
2.	Owner of Property:	Same as applicant
3.	Agent:	Dan Riley Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, ME 04106
4.	Surveyor:	Sebago Technics, Inc. 75 John Roberts Road South Portland, ME 04106
5.	Project Location:	1 Diamond Street
6.	Project Tax Map #/Lot #:	Tax Maps 40 & 37, Lots 25-1,25-2,24,25,34,35
7.	Lot Size:	18.27 Acres
8.	Base Zoning:	B1 & GD 1
9.	Overlay Zoning:	WR
10.	Existing Use:	Former Diamond Match Site
11.	Proposed Use:	Mixed Use
12.	Approvals Required:	Preliminary Site Plan Review
13.	Uses in the Vicinity:	Mixed Use
14.	Waivers Needed:	Parking Waiver - A total of 239 surface parking spaces are to be provided (including 8 ADA spaces); A waiver for 5% of the residential parking is requested
18.	Waivers Granted:	N/A
22.	Other Non-City Permits Required:	See Below #3 "Required Agreements / Approvals.
23.	LDR Attachment A: Fees Paid:	Yes

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

25.	Planning Board Review History: August 21, 2024 – 1 st review of modified proposal
-----	--

3. REQUIRED AGREEMENTS / APPROVALS:

- A. Joint Development Agreement (JDA): As outlined above, the Joint Development Agreement (JDA) between the Applicant and the City remains in place but amendments / modifications to the agreement will need to be reviewed and approved by the City Council, followed by Planning Board review of the project, and the conformance with the JDA, with a recommendation back to the City Council from the Planning Board.
- B. Planning Board Review: The project will require Site Plan Review / Major Subdivision and Phased Development Plan approval: Per City ordinance, the project application would be subject to Site Plan Review (Land Development Regulations, Article XI) and Subdivision review and approval (Code of Ordinances, Chapter 66). Subdivision applications generally follow a three-tier approval process beginning with a Preliminary Plan review, and followed by a preliminary plan review and approval and a final plan approval. Site Plan and Subdivisions may be reviewed by the Planning Board concurrently (Recommended).
- C. Maine DEP Stormwater Permit: The project requires a Maine DEP Stormwater Permit.
- D. Maine Site Law Review: The City of Biddeford is classified as having capacity to review projects triggering the Maine Site Location of Development Act (SLODA) in areas of the City designated for priority growth as part of the Comprehensive Plan. The City has the capacity to review authority, permits certain municipalities to review projects triggering site location reviews under their local land use regulations (i.e. site plan, subdivision, shoreland zone, etc.), without formal review by the DEP. Therefore, the project will likely be reviewed under applicable local review standards.
- E. Maine Department of Transportation (MDOT) - Traffic Movement Permit (TMP): The amended project, for a single building, may trigger a MDOT traffic movement permit (TMP) review process. The City has a third-party traffic consultant, who may be requested to participate in the TMP process and provide input to the City.
- F. Saco River Corridor Commission (SRCC): Due to the project being proposed immediately adjacent to the Saco River the review and approval from the Saco River Corridor Commission (SRCC).
- G. Biddeford Conservation Commission (BCC): The project is required to be reviewed by the Biddeford Conservation Commission (BCC), a recommending authority, who will provide comments and recommendations to the Planning Board for their consideration. Although the 18-acre parcel is located in the heart of the City the Applicant has conducted a tree inventory and, as required by Ordinance, have submitted a tree removal and preservation plan which is focusing on preserving the existing vegetation along the river.

4. STAFF REVIEW:

- APPLICATION COMPLETENESS: The Application before the Planning Board is for "Preliminary Plan Review" so a determination of completeness, as specified under Section 66-35 (Required Information for Final Plan Submissions), can't be issued at this time.

Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 21, 2024.

- ZONING: With respect to applicable dimensional requirements, the project would comply with all applicable requirements, including building height, building setback, frontage, and lot coverage requirements. The proposal will also be in full compliance with the Shoreland Zoning Ordinance requirements.
- WAIVER REQUEST: No waivers are being sought at this time.

5. RECOMMENDATION:

The Applicant is seeking preliminary approval of the development, in concurrence with the Master Development Plan. It should be noted that City Staff presented the proposed Master Plan to the City Council on July 18, 2023 and the Council was supportive of the direction / expansion of the project. Each subsequent Phase of the development will require Planning Board review and approval.

At this time, Staff recommends the Planning Board grant preliminary approval of the development in concurrence with the adopted Master Plan.

6. SAMPLE MOTIONS:

- A. Motion to Approve: I motion to APPROVE Case # 2023.29: Preliminary Site Plan approval for One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street., located within Business 1 (B1), High Density/Mixed Use (MSRD-3) and Waterfront Renaissance (WR) Districts.
- B. Motion to Deny: I motion to DENY Case # 2023.29: Preliminary Site Plan approval for Preliminary Site Plan approval for One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street. for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.
- C. Motion to Table: I motion to TABLE Case # 2023.29: One Diamond Street Development / Site Plan Review for a five (5) story, 209 residential condominium units and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street., for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.

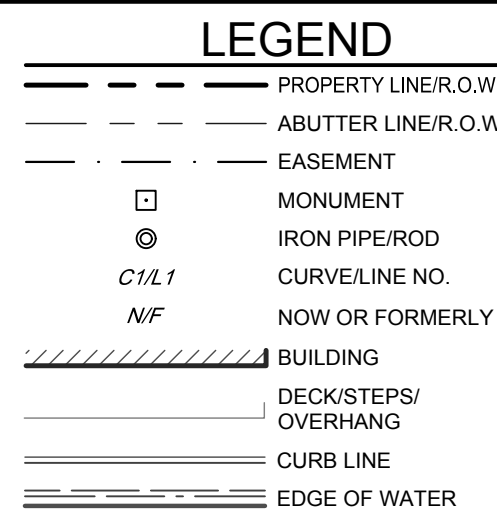
<i>LINE</i>	<i>DIRECTION</i>	<i>DISTANCE</i>
<i>L1</i>	<i>S 71°30'14" E</i>	<i>42.65'</i>
<i>L2</i>	<i>N 33°51'46" E</i>	<i>9.23'</i>
<i>L3</i>	<i>N 18°40'1" E</i>	<i>34.72'</i>
<i>L4</i>	<i>N 63°43'53" W</i>	<i>49.07'</i>
<i>L5</i>	<i>S 31°51'37" W</i>	<i>16.80'</i>
<i>L6</i>	<i>S 68°55'08" W</i>	<i>41.00'</i>
<i>L7</i>	<i>S 32°41'23" W</i>	<i>38.80'</i>
<i>L8</i>	<i>S 55°50'03" E</i>	<i>16.79'</i>
<i>L9</i>	<i>S 40°10'55" W</i>	<i>31.47'</i>
<i>L10</i>	<i>S 34°1003" W</i>	<i>17.70'</i>

<i>PROPERTY LINE TABLE</i>		
<i>L</i>	<i>DIRECTION</i>	<i>DISTANCE</i>
L11	S 53°30'06" E	36.61'
L12	N 35°46'24" E	18.30'
L13	S 46°09'03" W	49.15'
L14	S 35°38'37" W	115.08'
L15	S 26°16'07" W	43.80'
L16	S 34°09'57" W	98.17'
L17	S 34°09'37" W	34.30'
L18	N 17°40'29" E	34.80'
L19	N 86°28'14" W	64.01'

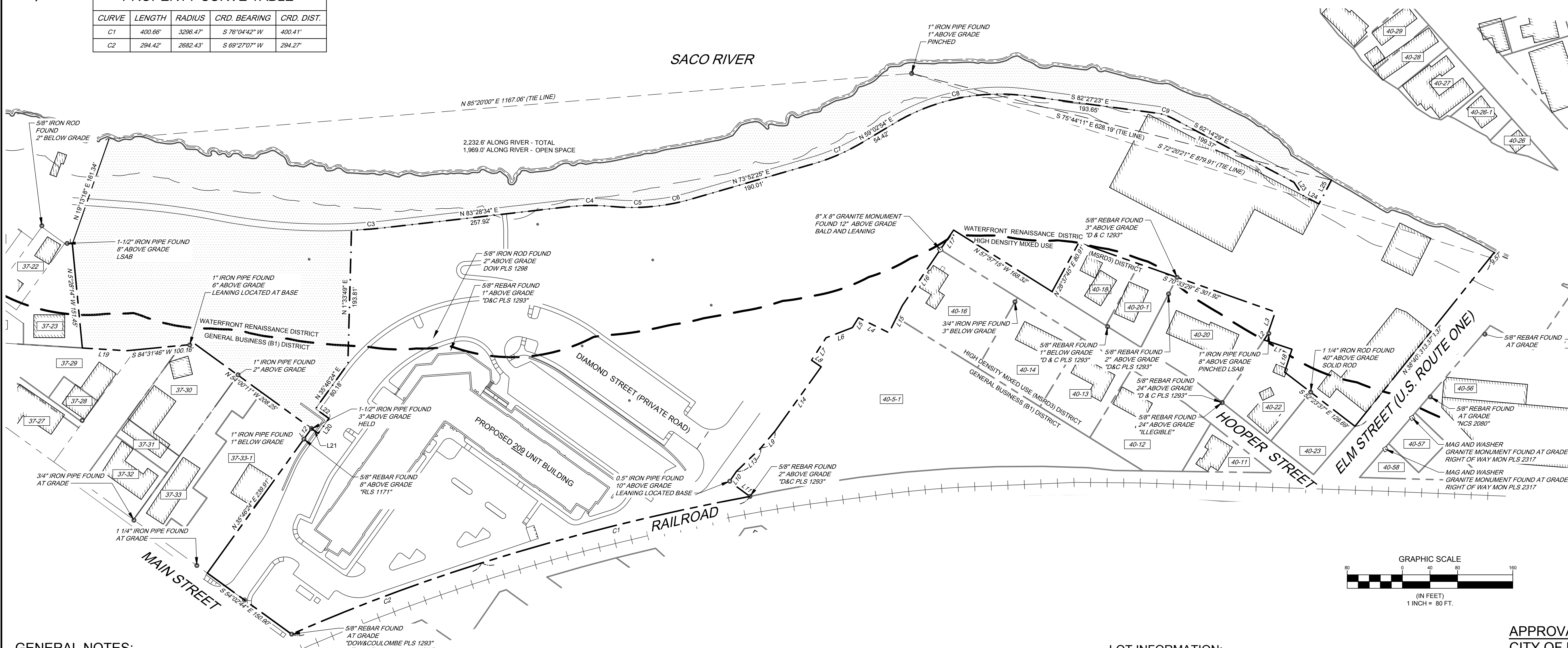
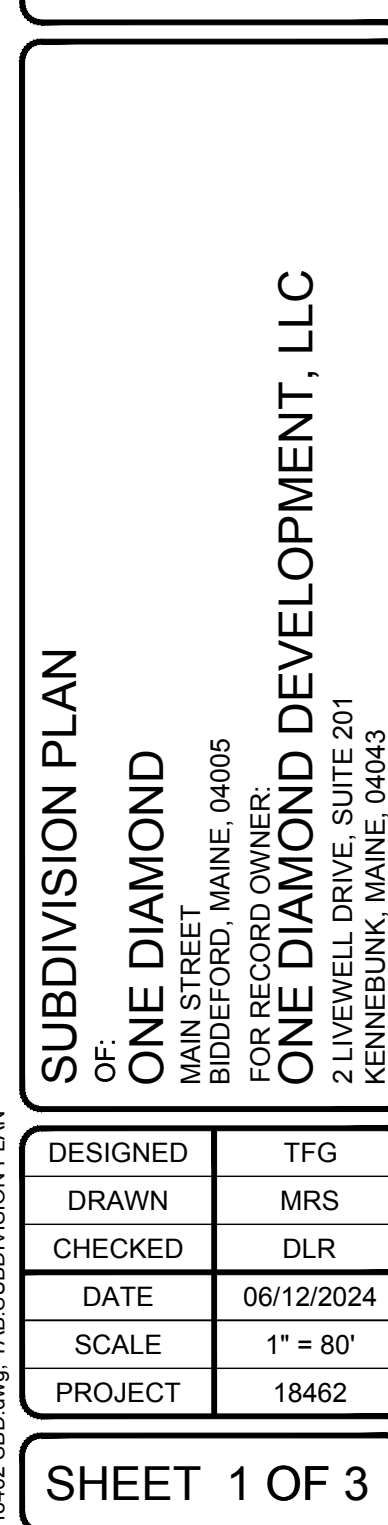
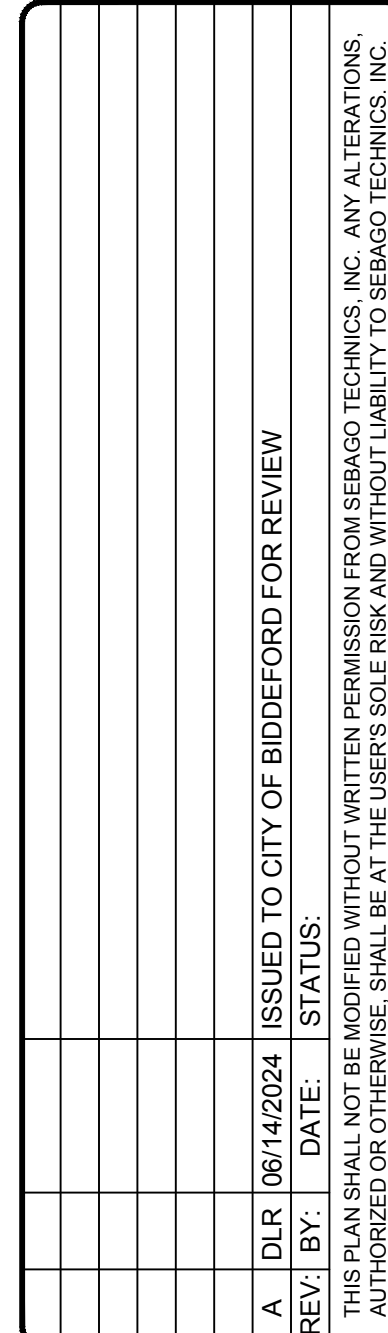
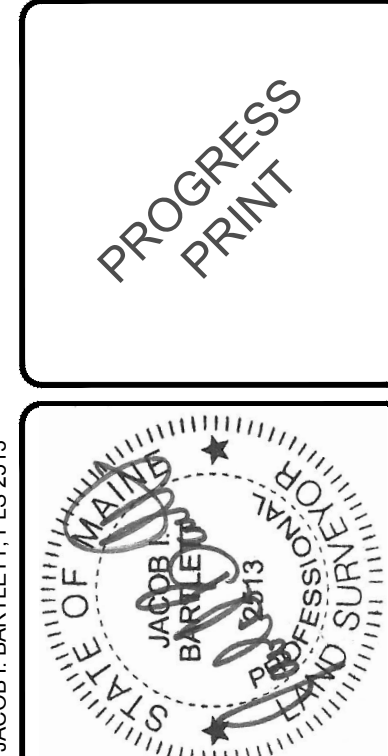
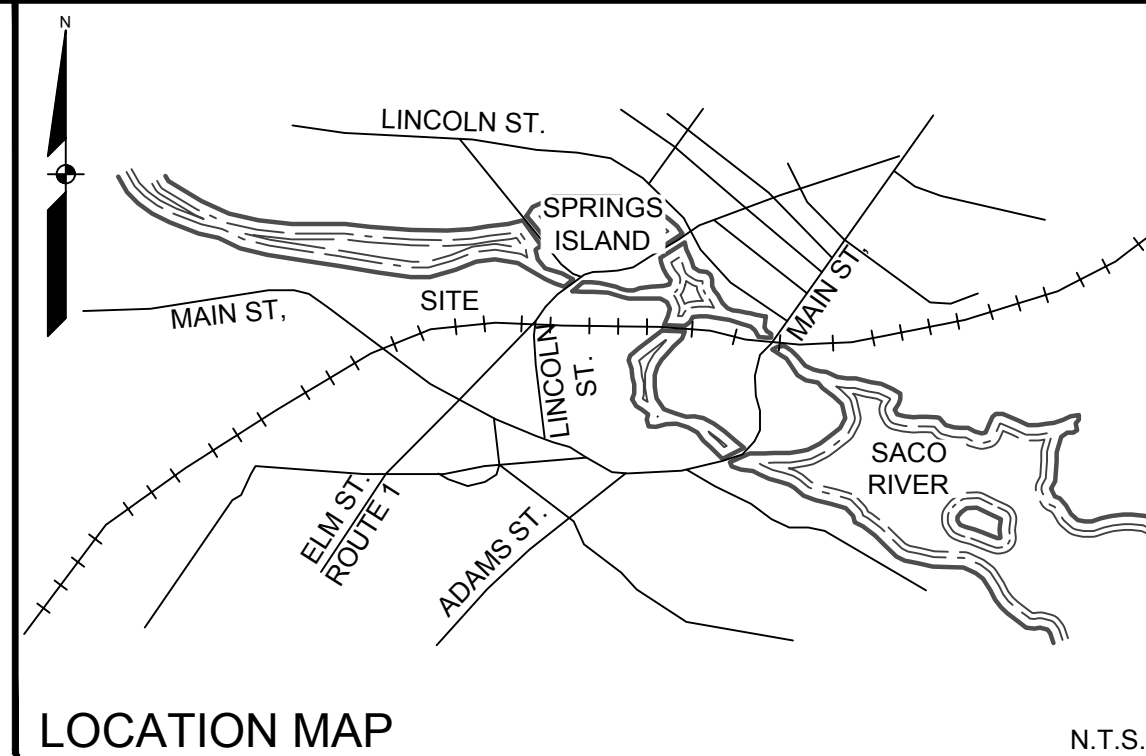
LINE	DIRECTION	DISTANCE
L20	N 35°46'24" E	26.74'
L21	S 54°00'50" E	12.00'
L22	N 54°13'36" W	24.00'
L23	S 33°31'58" E	22.83'
L24	S 62°11'40" E	26.72'
L25	N 27°40'42" E	39.10'

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C3	57.91'	810.00'	N 85°13'39" E	57.90'
C4	62.93'	295.00'	N 89°35'20" E	62.81'
C5	76.67'	305.00'	N 88°29'53" E	76.47'
C6	37.78'	305.00'	N 77°44'53" E	37.75'
C7	74.51'	305.00'	N 66°04'44" E	74.33'
C8	194.06'	295.00'	N 77°53'39" E	190.58'
C9	25.15'	70.05'	S 72°31'47" E	25.01'

<i>PROPERTY CURVE TABLE</i>				
<i>CURVE</i>	<i>LENGTH</i>	<i>RADIUS</i>	<i>CRD. BEARING</i>	<i>CRD. DIST.</i>
<i>C1</i>	<i>400.66'</i>	<i>3296.47'</i>	<i>S 76°04'42" W</i>	<i>400.41'</i>
<i>C2</i>	<i>294.42'</i>	<i>2682.43'</i>	<i>S 69°27'07" W</i>	<i>294.27'</i>



PARCEL	5739.9 FT 792849.5 SQFT
OPEN SPACE	211407.8 SQFT
DIST. ALONG RIVER	2232.7 FT



GENERAL NOTES:

- | | | | | |
|----|---|------------------------|----------------|-----------|
| 1. | THE RECORD OWNER OF THE PARCEL IS AS FOLLOWS BY DEEDS RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD). | | | |
| | ONE DIAMOND DEVELOPMENT, LLC | MAP 37, LOT 34 | 1894/1666 | |
| | ONE DIAMOND DEVELOPMENT, LLC | MAP 37, LOT 35 | 1894/1668 | |
| | ONE DIAMOND DEVELOPMENT, LLC | MAP 40, LOT 25-1 | 1893/396 | |
| | ONE DIAMOND DEVELOPMENT, LLC | MAP 40, LOT 24 | 18996/930 | |
| | ONE DIAMOND DEVELOPMENT, LLC | MAP 40, LOT 25 | 1894/1344 | |
| | UNION OIL CO. OF MAINE | MAP 40, LOT 74 | 7465/84 | |
| | CITY OF BIDDEFORD | MAP 40, LOT 25-2 | 2158/491 | |
| 2. | THE PROPERTY IS SHOWN AS LOTS 24, 25, 25-1, 25-2 AND 74 ON THE CITY OF BIDDEFORD TAX MAP 40 AND LOTS 34 AND 35 ON MAP 37 AND IS LOCATED IN THE WATERFRONT RENAISSANCE, HIGH DENSITY MIXED USE(MSRD3), AND GENERAL BUSINESS (B1) DISTRICTS. | | | |
| 3. | SPACE AND BULK CRITERIA FOR DISTRICTS ARE AS FOLLOWS: (AREA IS IN SQUARE FEET) | | | |
| | | WATERFRONT | MSRD3 | B1 |
| | NET RESIDENTIAL DENSITY: | 425/UNIT - RESIDENTIAL | -- | -- |
| | MINIMUM LOT SIZE: | 5,000 -COMMERCIAL | -- | 1,000 |
| | | 425 - RESIDENTIAL | -- | -- |
| | MINIMUM STREET FRONTAGE: | -- | -- | -- |
| | MINIMUM SHORE FRONTAGE: | NONE(RESIDENTIAL) | -- | -- |
| | | 100 FT -COMMERCIAL | -- | -- |
| | MINIMUM SHORE SETBACK: | 25 FT | -- | -- |
| | MINIMUM FRONT YARD: | -- | -- | 10 FT |
| | MINIMUM SIDE YARD: | -- | -- | 10 FT |
| | MINIMUM REAR YARD: | -- | -- | 10 FT |
| | MAXIMUM BUILDING HEIGHT: | -- | MINIMUM 26 FT/ | 60 FT/ |
| | | | 2 STORIES | 6 STORIES |
| | MAXIMUM LOT COVERAGE: | 55% | | |
| | * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION. | | | |
| 4. | TOTAL AREA OF PARCEL IS APPROXIMATELY 18.20 ACRES TO THE TIE LINE AT THE WESTERN SIDE OF THE LOT. | | | |
| 5. | BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHINICS, INC. IN JANUARY AND FEBRUARY OF 2022. | | | |
| 6. | PLAN REFERENCES: | | | |
| | A. "PLAN SHOWING A SURVEY OF LAND FOR DIAMOND INTERNATIONAL CORP. BIDDEFORD, MAINE MADE BY DOW, COULOMBE & BROWN INCORPORATED ENGINEERS & SURVEYORS SACO, MAINE, DATED JANUARY 1973. | | | |
| | B. "PLAN OF DIAMOND MATCH PARK BIDDEFORD, MAINE" FOR GORRILL-PALMER MADE BY TITCOMB ASSOCIATES FALMOUTH MAINE, DATED APRIL 27, 2012. | | | |
| | C. "PLAN SHOWING A BOUNDARY SURVEY AND TOPOGRAPHIC SURVEY MADE FOR THE CITY OF BIDDEFORD" DATED APRIL 6, 2021 BY DOW & COULOMBE, INC. | | | |
| | D. "PLAN SHOWING LAND ON RIVER STREET - BIDDEFORD, MAINE" DATED OCTOBER 11, 1950 BY LIBBY & DOW ENGINEERS AND RECORDED AT THE YCRD IN PLAN BOOK 15, PAGE 36. | | | |
| | E. WAKEFIELD BROOK LOT, BELONGING TO THE ESTATE OF DOMINICUS CUTTS, DATED JULY 20, 1846 BY TRISTRIM JORDAN, JR. AND RECORDED AT THE YCRD IN PLAN BOOK 2, PAGE 46. | | | |
| | F. "LAND IN BIDDEFORD, ME," DATED JULY 29, 1925 BY E.W. CHAPMAN AND RECORDED AT THE YCRD IN PLAN BOOK 10, PAGE 9. | | | |
| | G. "PLAN SHOWING A BOUNDARY SURVEY OF LAND LOCATED AT 368 MAIN STREET BIDDEFORD, MAINE" DATED MAY 10, 2019 BY DOW & COULOMBE, INC. AND RECORDED AT THE YCRD IN PLAN BOOK 402, PAGE 3. | | | |
| | H. "PLAN OF LAND TO THE HEIRS OF WILLIAM D. SOONER, ESQ. SITUATED IN BIDDEFORD IN THE COUNTY OF YORK" DATED OCTOBER 6, 1958 BY G.W. LUQUES AND RECORDED AT THE YCRD IN PLAN BOOK 1, PAGE 47. | | | |
| | I. CROCKETT LOT IN HOLLIS BY LIBBY & DOW, ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 25, PAGE 28. | | | |
| | J. "PLAN SHOWING A PROPOSED SEWER EASEMENT BIDDEFORD, MAINE" DATED APRIL 6, 1964 BY LIBBY & DOW ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 38, PAGE 11. | | | |
| | K. "PLAN SHOWING A PROPOSED SEWER EASEMENT AND PUMPING STATION LOT BIDDEFORD, MAINE" DATED MARCH 24, 1964 BY LIBBY & DOW AND RECORDED AT THE YCRD IN PLAN BOOK 38, PAGE 40. | | | |
| | L. "PLAN SHOWING LAND IN KENNEBUNK, MAINE TO BE CONVEYED BY ROBINSON TO THE ROMAN CATHOLIC BISHOP OF PORTLAND" BY LIBBY & DOW ENGR'S DATED JANUARY 23, 1967 AND RECORDED AT THE YCRD IN PLAN BOOK 43, PAGE 20. | | | |
| | M. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "T" BIDDEFORD YORK COUNTY FEDERAL AID PROJECT NO. BR-01-01(74)" DATED JANUARY 1985, MAY 1985, BY RICHARD A. COLEMAN AND RECORDED AT THE YCRD IN BOOK 161, PAGE 16. | | | |

- N. "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE LYING UPON THE NORTH WESTERLY SIDE OF MAIN STREET IN BIDEFORD, YORK CO., ME" BY G.W. LUQUES DATED APRIL 19, 1850 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 010.
- O. "PLAN OF LAND OF E.H.C. HOOPER AND LAND OF HEIRS OF HON. H. HOOPER IN BIDEFORD" BY G.W. LUQUES DATED JULY 14, 1859 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 43.
- P. "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE IN BIDEFORD ON THE SOUTHWESTERLY SIDE OF A RESERVED STREET FROM MAIN STREET TOWARDS THE 'STEAM MILL' BY G.W. LUQUES DATED OCTOBER 2, 1856 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 0048.
7. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE NAVD83, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.
8. SEE FULL SHEET SET FOR DESIGN ELEMENTS. THE SURVEYING STAMP HEREON IS FOR THE EXTERIOR BOUNDARY AND UNIT DIVISION ON THE PARCEL. IMPROVEMENTS NEAR MAIN STREET OVERALL PROPOSED AT THE TIME.
9. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD GIACSE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND AROUND EXCAVATION.
10. THE LOCUS PROPERTY AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDEFORD, MAINE, YORK COUNTY, COMMUNITY-PANEL NUMBER 230145 0003 B, HAVING AN EFFECTIVE DATE OF MAY 15, 1984. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE A& A11. AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS; AND FLOOD HAZARD FACTORS DETERMINED. A PORTION OF THE PARCEL ALSO FALLS WITHIN AN AREA IDENTIFIED AS ZONE B, SUBJECT BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD.
11. A PORTION OF THE SHED UTILIZED BY GAMBOA & DYER IS OVER THE PROPERTY LINE ON THE SURVEYED PREMISES. NO RECORD WAS FOUND ALLOWING THIS USE.

LOT INFORMATION:

MAP LOT	OWNER (NOW OR FORMERLY)	DEED (BOOK-PAGE)	PROPERTY ADDRESS
37-16	CITY OF BIDDEFORD	2482-220	432 MAIN STREET
37-16-1	CITY OF BIDDEFORD	1619-477	20 HERRIGAN COURT
37-21	ROBERT E. DEMELLO	17700-196	11 HERRIGAN COURT
37-22	ROBERT E. DEMELLO	17191-396	10 HERRIGAN COURT
37-23	BRUCE A. HUBERT	16187-870	8 HERRIGAN COURT
37-29	MEREDITH L. CRAIN	14025-944	6 HARVEY STREET
37-30	BALDWIN, LLC	18612-443	3 HARVEY STREET
37-33	386 MAIN STREET, LLC	16272-139	386 MAIN STREET
37-33-1	WILLIAM R. & CATHY T. LANGEVIN	3580-212	382 MAIN STREET
37-34	ABILITY EQUIPMENT SALES	16704-200	378 MAIN STREET
37-35	ABILITY PROPERTIES, LLC.	17956-129	368 MAIN STREET
40-5-1	BOSTON & MAINE RAILROAD	1757-20 & 3266-182	OFF HAZEL STREET
40-16	SEAN O'KEEFE & REBECCA O'KEEFE	17144-62	31 HOOPER STREET
40-18	MARK P. TIBBETS	13777-62	24 HOOPER STREET
40-20	KELLY T. WILMOT & DANIEL J. WILMOT	12516-345	20 HOOPER STREET
40-20-1	DEBRA M. ARGETS	14613-684	22 HOOPER STREET
40-22	DEANNA GAMBOA & JESSICA J. DYER	18175-71	6 HOOPER STREET
40-23	88 ELM STREET, LLC	14739-651	88 ELM STREET
40-24 (LOCUS)	PPF LAWRENCE, INC.	15374-58	68 ELM STREET
40-25 (LOCUS)	RSTBR, LLC	12912-263	52 ELM STREET
40-25-1 (LOCUS)	ONE DIAMOND DEVELOPMENT, LLC	18913-96	1 DIAMOND STREET
40-25-2 (LOCUS)	TOWN OF BIDDEFORD	2158-491	OFF MAIN STREET
40-74	UNION OIL COMPANY OF MAINE	7465-84	OFF MAIN STREET

APPROVAL-
CITY OF BIDDEFORD
PLANNING BOARD

DATE _____

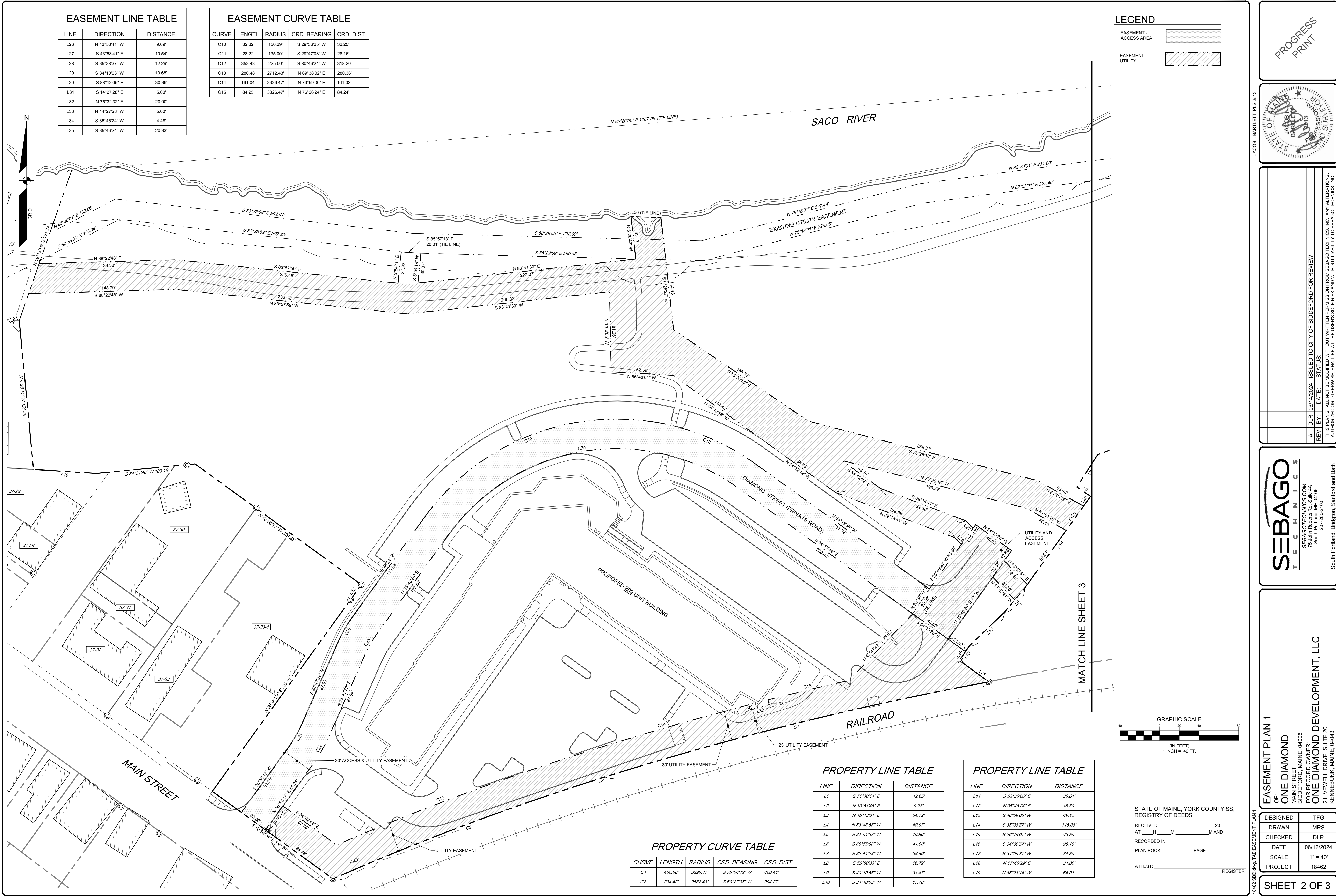
CHAIRPERSON _____

STATE OF MAINE, YORK COUNTY SS,
REGISTRY OF DEEDS

RECEIVED _____, 20____
AT ____H ____M _____, AND
RECORDED IN _____
PLAN BOOK _____ PAGE _____

ATTEST: _____

F:\Projects\180001\18462\DWG\Design\18462_SBD.dwg - 02/28/2024 12:28 PM - SHELLEY STACEY



EASEMENT LINE TABLE		
LINE	DIRECTION	DISTANCE
L26	N 43°53'41\"	9.69'
L27	S 43°53'41\"	10.54'
L28	S 35°38'37\"	12.29'
L29	S 34°10'03\"	10.68'
L30	S 88°12'05\"	30.36'
L31	S 14°27'28\"	5.00'
L32	N 75°32'32\"	20.00'
L33	N 14°27'28\"	5.00'
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L35	S 35°46'24\"	20.33'

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C10	32.32'	150.29'	S 29°36'25\"	32.25'
C11	28.22'	135.00'	S 29°47'08\"	28.16'
C12	353.43'	225.00'	S 80°46'24\"	318.20'
C13	280.48'	2712.43'	N 69°38'02\"	280.36'
C14	161.04'	3326.47'	N 73°59'00\"	161.02'
C15	84.25'	3326.47'	N 76°26'24\"	84.24'

LEGEND	
EASEMENT - ACCESS AREA	
EASEMENT - UTILITY	

PROPERTY CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
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STATE OF MAINE, YORK COUNTY SS,
REGISTRY OF DEEDS
RECEIVED _____ 20____
AT _____ H _____ M _____ AND _____
RECORDED IN _____
PLAN BOOK _____ PAGE _____
ATTEST: _____ REGISTER

PROGRESS PRINT

STATE OF MAINE
JACOB I. BARTLETT
REGISTERED PROFESSIONAL SURVEYOR
NO. 12513

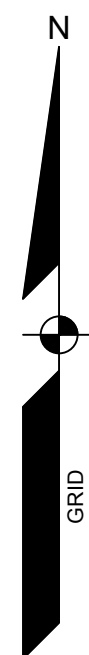
ISSUED TO CITY OF BIDDEFORD FOR REVIEW
REV. BY: DATE: STATUS:
A. DLR 06/14/2024
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHINCS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHINCS, INC.

SEBAGO
TECHNICS
SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04106
207-260-2100
South Portland, Bridgton, Sanford and Bath

EASEMENT PLAN 1
OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE, 04005
FOR RECORD OWNER:
ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, MAINE, 04043

DESIGNED TFG
DRAWN MRS
CHECKED DLR
DATE 06/12/2024
SCALE 1" = 40'
PROJECT 18462

SHEET 2 OF 3



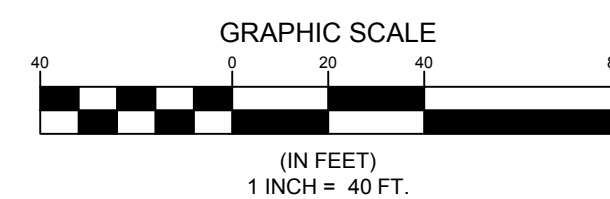
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CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C10	32.32'	150.29'	S 29°36'25" W	32.25'
C11	28.22'	135.00'	S 29°47'08" W	28.16'
C12	353.43'	225.00'	S 80°46'24" W	318.20'
C13	280.48'	2712.43'	N 69°38'02" E	280.36'
C14	161.04'	3326.47'	N 73°59'00" E	161.02'
C15	84.25'	3326.47'	N 76°26'02" E	84.24'



STATE OF MAINE, YORK COUNTY SS,
REGISTRY OF DEEDS

RECEIVED _____, 20____
AT ____H ____M _____M AND
RECORDED IN
PLAN BOOK _____ PAGE _____

ATTEST: _____

REGISTERED

DESIGNED	TFG
DRAWN	MRS
CHECKED	DLR
DATE	06/12/2024
SCALE	1" = 40'
PROJECT	18462

SHEET 3 OF 3

18462 SBD dvg TAB-EASEMENT PLAN 2

EASEMENT PLAN 2
OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE 04005
FOR RECORD OWNER:
ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, MAINE, 04043

SEBAGO
TECHNICS

SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04106
207-200-2100

South Portland, Bridgton, Sanford and Bath

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

IACOB | BARTLETT | P1 S2513



PROGRESS
PRINT



Site Plan Review Application

To:

City of Biddeford

For:

One Diamond Street Development

Biddeford, Maine

Prepared for:

Mr. Tim Harrington

One Diamond Development, LLC

2 Livewell Drive, Suite 201

Kennebunk, Maine 04043

Prepared by:

Sebago Technics, Inc.

75 John Roberts Road, Suite 1A

South Portland, Maine 04106

June 2024

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June 12, 2024
18462

David Galbraith, City Planner
City of Biddeford
205 Main Street
Biddeford, ME 04005

Site Plan Submission, One Diamond Street Project
One Diamond Street, Tax Map 40/Lots 25-1, 25-2, 24, 25, and 74 and Tax Map 37/Lots 34 and 35
One Diamond Development, LLC.

Dear David:

On behalf of the applicant, One Diamond Development, LLC., we are pleased to submit the enclosed Site Plan Application for a new residential development to be located at 1 Diamond Street in Biddeford. The approximate 18-acre subject site extends between Elm Street and Main Street and has extensive frontage along Saco River. The proposed project is to be constructed in a manner that aligns with Biddeford's vision for the growing downtown area.

The project was last presented to the Planning Board and received preliminary approval on August 16, 2023 for a 3-phase buildout beginning at Elm Street and progressing through the site toward Main Street.

Since the Planning Board's preliminary approval, the applicant has engaged a construction management firm for project pricing and refined the proposed building designs and performed traffic analysis for the full build-out of the project.

In the course of this work, the City and MDOT inquired if the project plans could be adjusted to consider developing the first phase of the development with access from Main Street, rather than Elm Street to relieve traffic pressure on Elm Street and facilitate potential Elm Street improvements, based on the Elm Street master plan.

The applicant has evaluated this request in light of the expected project costs, specifically the infrastructure and utility costs associated with development nearest to Elm Street. The applicant has reviewed the building program and has accommodated this request.

The enclosed application is for a single phase project comprised of a 5-story multifamily residential building with up to 209 residential condominium units. The future buildout of the remaining site is undetermined at this time.

Project Site:

The approximately 18-acre property is identified on Tax Map 40 as Lots 25-1, 25-2, 24,25, and 74, and on Tax Map 37 as Lots 34 and 35. The property consists of seven (7) parcels located within the Business 1 (B1), High Density/Mixed Use (MSRD-3), and Waterfront Renaissance (WR) Districts.

The majority of the site was previously developed for the Diamond Match Company in the late 1800's. The site was completely developed with a sawmill, numerous buildings and a log yard. Two fires in 1963 destroyed the industrial site and the nearby Hooper Street neighborhood. Manufacturing buildings were rebuilt and the land was gifted to the City of Biddeford in 1976. Operations continued until 1984 when another fire destroyed all the buildings.

Existing today are remnants of the former manufacturing buildings, as well as newer buildings housing active commercial uses. The gravel and paved access roads storage areas in the northerly portions of the site have been used by the City of Biddeford in recent years to store materials.

Phase 1 and Phase 2 Environmental Site Assessments (ESA) were completed at the project site which identified potential soil contamination associated with the historic uses. A Voluntary Response Action Program (VRAP) application has been submitted to the Maine DEP and their comments are being addressed so that any needed site cleanup standards can be integrated as part of the site redevelopment.

Site Development Program:

The proposed improvements include:

- The construction of a 166,700 SF, 5-story residential building which will include 209 units.
- Demolition and relocation of existing utilities running through the site will be necessary to accommodate site improvements. Two existing buildings near Main Street will be removed;
- A private roadway identified as Diamond Street will be constructed off of Main Street to serve the buildign with a terminus for a future extention.
- Construction of a public riverwalk trail that will connect Elm Street to the Horrigan Court area. The trail and associated open space will be for public use and has been designed to capitalize on the existing natural beauty of the Saco River;
- A minimum of two acres of passive open space available to the public;
- The existing paved area off of Elm Street will be striped and signed to provide Riverwalk parking with an easement for access. Six parking spaces for public use have been provided for the trail (including 1 ADA space);
- A total of 239 surface parking spaces are to be provided (including 8 ADA spaces); A waiver for 5% of the residential parking is requested;
- A portion of an existing public sewer main will be removed and relocated to avoid placing significant fill over the public sewer. A new sewer to main will be constructed to serve the development. The revised plan locates the sewer extension along the riverwalk trail for maintenance access and to allow for future development on the site. The sewer main will be enlarged to provide inline storage as a Combiend Sewer Overfrlow (CSO) control measure. Sebago Technics has worked closely with the City Engineering and Public Works Departments on the sewer main relocation and sizing;
- A larger diameter storm drain pipe will be removed and relocated. To avoid placing significant fill over the storm drain. The storm drain pipe conveys flows from a large offsite drainage area,

and discharges directly into Saco River. The outlet at the river will remain at its existing location and condition and will not be modified;

- Stormwater from the proposed development will be detained with an underground pipe storage system and treated with filters prior to discharging. Treated runoff from the proposed development will be discharged to the Saco River through a new storm drain outfall, parallel to the existing storm drain outfall. Providing capacity for the site development without impact the existing City system;
- Water and underground utilities (power, telephone, and cable) will be extended from Main Street for the residential development;
- Power will be provided from Horrigan Court for lighting along the Riverwalk; and
- Other site amenities such as landscaping and lighting are proposed.

Architectural Program:

The architectural approach to the One Diamond site development is attributed to its context. The project will celebrate the historic structures within the Mill District, relate to the adjacent residential neighborhoods and create individual character within the greater urban fabric of Biddeford.

The building will include 102 studio, 83 one-bedroom, 24 two-bedroom units, as well as amenity spaces. Building amenities and support spaces will include:

- Entry lobby with seating/waiting area;
- Mail room;
- Fitness Studio;
- Pet wash (two wash stations);
- Work from home spaces; and
- Community room with kitchen area and lounge seating.

A copy of the preliminary building design is included in the application package.

Stormwater:

Stormwater best management practice (BMP) design is designed to detain flows and improve water quality discharged from the site. Runoff from the new development is proposed to be treated by a subsurface corrugated metal pipe (CMP) detention and proprietary stormwater filter system that will convey treated flow from the project to the Saco River. The system will drain to a 36" diameter pipe outfall, providing for future capacity. The proposed treatment method is in compliance with the applicable Maine Department of Environmental Protection Chapter 500 standards for a redevelopment project.

Permitting:

Permits from the City of Biddeford, Saco River Corridor Commission, U.S. Army Corps of Engineers, Maine Department of Environmental Protection (Maine DEP) and Maine Department of Transportation (Maine DOT) will be required.

- The City of Biddeford requires site review as this is a residential development.
- Saco River Corridor Commission will review impacts along Saco River. The SRCC application be submitted shortly after the City submittal.
- Site Location of Development Law (Site Law) review and approval from Maine DEP will be required for a project that creates more than three acres of new "Structure" as defined in the Site Law statutes standards including proposed impervious surfaces (pavement, building, etc.).

The Site Law application will be reviewed by the City of Biddeford under its delegated review authority

- A Maine DEP Chapter 500 Stormwater Permit is required. The project's Stormwater design will be reviewed by Maine DEP as the City does not have delegated review authority for this aspect of the project.
- A Maine DEP Permit-By-Rule (PBR) through the Natural Resources Protection Act (NRPA) is also needed for the proposed stormwater outfall and work adjacent to Saco River.
- U.S. Army Corps of Engineers review is required for fill placed in wetlands. Approximately 621 square feet of wetland fill is proposed.
- Traffic generated from this project will not require a Maine DOT Traffic Movement Permit (TMP). A traffic memorandum summarizing the expected trip generation is included in the application

Schedule:

Site construction is expected to commence in Fall of 2024 upon receipt of approvals. There is much support from the City of Biddeford to have this project start construction given its positive impact on the community.

Closure:

On behalf of One Diamond Development, LLC, we look forward to working with the City of Biddeford to permit this exciting project. We appreciate your attention to this project and we look forward to its successful completion. Upon your review of the enclosed applications, please contact me with any questions or if you require additional information.

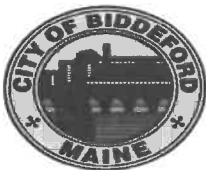
Sincerely,

SEBAGO TECHNICS, INC.



Daniel L. Riley, P.E.
Vice President

Cc: One Diamond Development, LLC



City of Biddeford – Planning Department

Planning Board Application

P.O. Box 586, 205 Main Street Biddeford, Maine 04005

207-284-9115

Revised: May 17, 2022

Type of Application:

☐ Shoreland Zoning Permit

☒ Site Plan Review

☐ Extraction

☐ Conditional Use Permit

☐ Subdivision

☐ Private Way

☐ Other: _____

Applicant Information:

Name: One Diamond Development, LLC

Mailing Address: 2 Livewell Drive, Suite 201 Kennebunk, ME 04043

Telephone: 207-467-3688

Email: klord@thomasandloird.com

What is your legal interest in the property?

☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: same as applicant

Mailing Address: _____

Telephone: _____

Email: _____

Agent's Information:

Name: Sebago Technics, Inc. attn Dan Riley, P.E.

Mailing Address: 75 John Roberts Road, Suite 4A South Portland ME 04106

Telephone: 207-200-2081

Email: driley@sebagotechnics.com

Engineer/Surveyor's Information:

Name: same as agent

Mailing Address: _____

Telephone: _____

Email: _____

Project Location and Lot Information:

Street Address: 1 Diamond St Drainage Watershed: Saco River

Tax Map: 40 & 37 Lot: 25-1,25-2,25,24,34,35,74

Current Zoning: MSRD3 Shoreland Zoning: WR

Size of Lot: 18.27 (X) acres () s.f. Lot Frontage: 2190 ft

Existing Use of Property: Partially developed land located at the former Diamond Match Site. Other portions of the land have been developed with paved/gravel access roads and lay-down areas.

Property currently serviced by:

☐ City Road ☒ Public Sewer ☒ Public Water ☐ Public Trash

☒ Private Road ☐ Septic System ☐ Private Well ☒ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☒ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ☒ (Yes) ☐ (No) if yes attach information

Is the project within the 100-year floodplain? ☒ (Yes) ☐ (No) if yes attach information

Do you plan to bring fill onto the lot? ☒ (Yes) ☐ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use: _____

Residential Use - The proposed project involves the construction of a 5-story, 209 unit residential condominium.

Property to be Serviced by:

☐ City Road ☒ Public Sewer ☒ Public Water ☐ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ☒ Private Hauler

Limits of Disturbance: 8.8 (X) acres () s.f.

Net change in impervious cover: 0.9 (X) acres () s.f.

Is this project part of a larger project? ☐ (Yes) ☒ (No)

Is the project proposing a new Private or Public Road? ☒ (Yes, Private) ☐ (Yes, Public) ☐ (No)

Is this project within the Urbanized Area/MS4 (see City Drainage Map) ☐ (Yes) ☒ (No)

Is the project proposing any Stormwater facilities/BMPs? ☒ (Yes) ☐ (No)

Will a Traffic Movement Permit (TMP) be required?: ☐ (Yes) ☐ (No)

If in a Shoreland Zone:

Percent of residential lot coverage (Max 20%): 25% (60% allowed in WR)

Percent of structure expansion (Max 30%): No new structure

If Subdivision Review, number of lots proposed: 209 units

If a Private Way is proposed, number of lots served: 209 units

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: 34,410 GSF

Total new square feet paving/parking: 143,820 sf

Waiver Requests (attach details):

1. See Exhibit 16
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval

☐ Fire Department – Contact Chief or Deputy Chief – 282-9986

☐ Ability to Serve for Water Service – Maine Water – 282-1543

☐ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118

☐ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127

B. Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.

C. Photographs of Site.

D. Architectural renderings/drawings of proposed buildings, as required.

E. Engineering Plans, as required.

F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- \$75 Nonrefundable Administration Fee is required for every application.
- Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

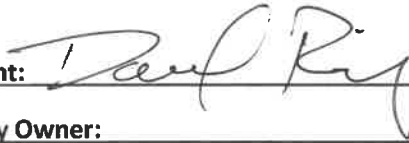
By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance?: __ (Yes) __ (No)

- If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.

Signature of Applicant:



Date

6-12-2024

Signature of Property Owner:

Date

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

- A) PDF OF SIGNED APPLICATION
- B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

- A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL DRAWING NAME.pdf'
- B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.
- C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)
 - All drawings & CAD reference files must be to-scale and within the following coordinate systems:
 - MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIDUAL DRAWINGS REQUIRING BOARD SIGNATURE
- B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

AGENT AUTHORIZATION

APPLICANT/ OWNER	Name	Tim Harrington/One Diamond Development, LLC		
PROPERTY DESCRIPTION	Physical Address	Diamond Street, Biddeford	Map	40/37
			Lot	25-1,-2,24/34,35
APPLICANT'S AGENT INFORMATION	Name	Craig Burgess, P.E. / Dan Riley, P.E.		
	Phone		Business Name & Mailing Address	SEBAGO TECHNICS, INC 75 John Roberts Road, Suite 4a South Portland, ME 04106

APPLICANT SIGNATURE DATE
 05/03/2023
 Timothy Harrington

PLEASE TYPE OR PRINT NAME HERE

APPLICANT'S AGENT SIGNATURE DATE
 05/03/2023

Craig Burgess, P.E.

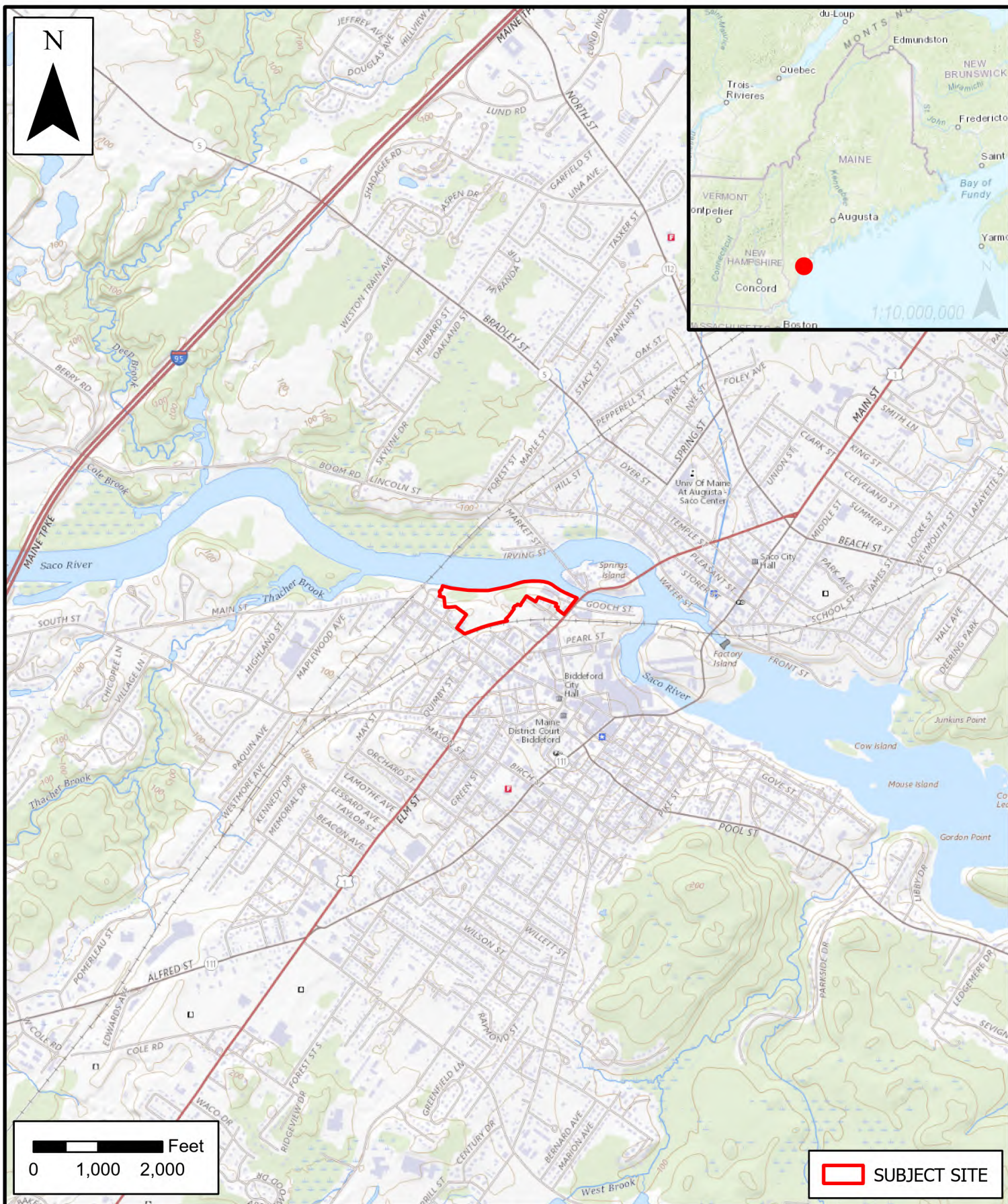
PLEASE TYPE OR PRINT NAME HERE



Dan Riley, P.E.

Exhibit 1

Site Location Map



SEBAGO
TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel: 207-200-2100

LOCATION MAP ONE DIAMOND DEVELOPMENT, LLC

LOCATION:
DIAMOND STREET
BIDDEFORD, ME

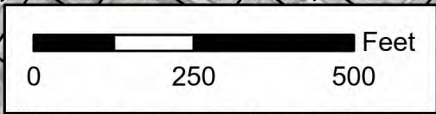
INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE

SCALE: 1:24,000

DATE: 3/14/2023

Exhibit 2

Tax Map and Abutter List



WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

TAX PARCEL MAP
ONE DIAMOND DEVELOPMENT, LLC

LOCATION:
DIAMOND STREET
BIDDEFORD, ME

INFORMATION:
MAINE GEOLIBRARY
CITY OF BIDDEFORD, ME

SCALE: 1:3,600
DATE: 5/11/2023

FRANKLIN, NEIL P	40 ST MARYS ST	BIDDEFORD, ME 04005		
BELL, DANIEL J			226 BRYANT RD	BUCKFIELD, ME 04220
CANTERBURY ROAD LLC	30 FOREST ST	SACO, ME 04072		
ONE DIAMOND DEVELOPMENT LLC	2 LIVEWELL DR SUITE 201	KENNEBUNK, ME 04043		
ANASTASOFF, ALEXANDER P	PO BOX 2895	SOUTH PORTLAND, ME 04106		
CHRETIEN PROPERTIES LLC	10 MCKENNEY DR	BIDDEFORD, ME 04005		
MERCHANT, KEITH	8 HARVEY ST	BIDDEFORD, ME 04005		
B & D MEREALTY, LLC	172 WORCESTER RD	NATICK, MA 01760		
KEISTER, TIMOTHY J	6 STONE ST	SACO, ME 04072		
TRACY, SUSAN A	HALE, SHER A	3 HOOPER ST	BIDDEFORD, ME 04005	
CITY OF BIDDEFORD	OLD DIAMOND INTERNATIONAL PROP	PO BOX 586	BIDDEFORD, ME 04005-0586	
BOSTON & MAINE RAILROAD	C/O GUILFORD TRANS INDUSTIRES	IRON HORSE PARK	NORTH BILLERICA, MA 01862-1681	
ST MARY APARTMENTS LLC	174 NARRAGANSETT TRAIL	BUXTON, ME 04093		
ST MARY APARTMENTS LLC	174 NARRAGANSETT TRAIL	BUXTON, ME 04093		
HOME STATE PROPERTIES, LLC	150 GLENWOOD AVE	PORTLAND, ME 04103		
WOODRUFF, SANDRA			6 HERRIGAN CT	BIDDEFORD, ME 04005
CURLEW, JOHN E	15 HAZEL ST	BIDDEFORD, ME 04005-2001		
WHITE, DAVID E & ELIZABETH S	188 NARRAGANSETT TRAIL	BUXTON, ME 04093		
HARKNESS, SETH S	25 SUMMER ST	PORTLAND, ME 04102		
PENSCO TRUST CO FBO	SARAH D THOMPSON IRA		6 WHIPPORWILL CIR	KENNEBUNK, ME 04043
PENSCO TRUST CO FBO	SARAH D THOMPSON IRA		6 WHIPPORWILL CIR	KENNEBUNK, ME 04043
ERICKSON, RICHARD & CHERYL	377 MAIN ST	BIDDEFORD, ME 04005-2360		
BALDWINS, LLC	30 FOREST ST	SACO, ME 04072		
CITY OF BIDDEFORD	PO BOX 586	BIDDEFORD, ME 04005-0586		
,				
FEELY, EVAN	381 MAIN ST	BIDDEFORD, ME 04005		
LUANDA, EDUARDO & MARLIDA	399 MAIN ST UNIT 2	BIDDEFORD, ME 04005		
AJLEGERE, LLC	68 SUMMITT PARK AVE	PORTLAND, ME 04103		
GEARY, JESSICA L	30 ST MARYS ST	BIDDEFORD, ME 04005		
WEYAND, RACHAEL			2 SUMMER ST	PORTLAND, ME 04102
BOSTON & MAINE RAILROAD	C/O GUILFORD TRANS INDUSTRIES	IRON HORSE PARK	NORTH BILLERICA, MA 01862-1681	
MEAS, NAVANN			42 MILES LANE	WESTBROOK, ME 04092
DUMONT, NEIL C	O'DONNELL, HALEIGH	21 THUNDER RD	SACO, ME 04072	
BERUBE, RICHARD J			C/O BELLPORT PROI 536 WASHINGTON AVE	PORTLAND, ME 04103
207 RENTALS LLC	PO BOX 1503	SACO, ME 04072		
CITY OF BIDDEFORD	SEWAGE PLANT HERRIGAN'S CT	PO BOX 586	BIDDEFORD, ME 04005-0586	
CRAIN, MEREDITH L	52 CUTTS ST	BIDDEFORD, ME 04005-2334		
9 PINE STREET LLC	PO BOX 12	OLD ORCHARD BEACH, ME 04064		
SACO LOWELL LLC			82 HANOVER ST STE 5	PORTLAND , ME 04101
SACO LOWELL LLC			82 HANOVER ST STE 5	PORTLAND , ME 04101
SACO LOWELL LLC			82 HANOVER ST STE 5	PORTLAND , ME 04101
UPPER MAIN APARTMENTS LLC	174 NARRAGANSETT TRAIL	BUXTON, ME 04093		
CARING COUNSELING BIDDEFORD, LLC			391 MAIN ST	BIDDEFORD, ME 04005
WILMOT, KELLY T & DANIEL J	20 HOOPER ST	BIDDEFORD, ME 04005		
O'KEEFE, SEAN & REBECCA	31 HOOPER ST	BIDDEFORD, ME 04005		
TREADWELL, ASHLEY	11 HOOPER ST	BIDDEFORD, ME 04005		
BIDDEFORD (ZHONGZHOU) CHRISTIAN MINI	15 BIRKDALE RD	FALMOUTH, ME 04105		

Exhibit 3

Right, Title, Interest

Exhibit 3 Right, Title, Interest

The proposed project is to be comprised of seven parcels: Map 37, Lots 34 and 35; Map 40, Lots 24, 25, 25-1, 25-2, and 74. Please see this Exhibit and the plans set general notes for more detailed information on ownership.

AGREEMENT FOR PURCHASE AND SALE

THIS AGREEMENT made this 5th day of April, 2023, by and between **CITY OF BIDDEFORD**, a municipal corporation with a place of business in Biddeford, Maine (hereinafter the "Seller") and **ONE DIAMOND DEVELOPMENT, LLC**, a Maine limited liability company with a place of business in Kennebunk, Maine (hereafter collectively referred to as "Buyer").

WITNESSETH:

In consideration of the covenants hereinafter set forth, Seller and Buyer hereby agree as follows:

- 1) **Purchase and Sale.** Seller agrees to sell to Buyer, and Buyer agrees to buy from Seller, for the price and upon the terms and conditions hereinafter set forth, certain real property situated northerly of but not adjacent to Main Street in Biddeford, Maine, and being Lot 74 on Biddeford Assessor's Tax Map 40; and further being the same premises as described in deed from Elizabeth K. Mantis, Personal Representative of the Estate of Mary V. Kearney to Union Oil Co. of Maine, dated June 23, 1995 and recorded in the York County Registry of Deeds in Book 7465, Page 84 (hereinafter referred to as the "Property").
- 2) **Purchase Price.** The total purchase price for the Property shall be One Dollar (\$1.00) and other consideration as set forth herein, the entire amount of which will be payable at closing.
- 3) **Closing.** Closing shall occur on or before May 12, 2023. The closing will be at the offices of Woodman Edmands, P.A, or at such other time and/or other place as agreed to by the Buyer and Seller.
- 4) **Conveyance; Title.** At the closing, Seller shall execute and deliver to Buyer a good and sufficient quitclaim deed without covenant (release deed) conveying to Buyer the Seller's interest in the Property. Seller makes no covenants or warranties as to the status of title to the Property.
- 5) **Environmental Indemnification.** Buyer acknowledges that the Property was formerly owned by an oil company, and that there is the possibility that the soils on the Property are contaminated by hazardous waste. Buyer agrees, as an integral part of the consideration for this Agreement, that it shall, at its sole cost and expense, indemnify, protect, defend, and save harmless Seller, and Seller's officials and employees, from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and expenses (including, without limitation,

reasonable attorney's fees and expenses) of any kind or nature asserted by any person, entity, or government relating to, resulting from, or arising out of the presence of any hazardous waste (as defined in either Federal or State law or regulation) on the Property. Buyer further agrees to provide to Seller at closing a separate Environmental Indemnification Agreement, in form and substance approved by Seller.

- 6) **Closing Contingencies.** The Property is subject to numerous tax liens filed against it by the Seller from 2013 through 2020. This Agreement is contingent upon and subject to Seller completing the lien foreclosure process and acquiring title to the Property.
- 7) **Possession; Prorations; Expenses.** Full possession of the Property will be transferred to Buyer at Closing. There will be no prorations between Seller and Buyer. Seller and Buyer shall each pay their own real estate transfer tax as assessed by Maine law; and each shall be responsible for its own expenses in accordance with standard Maine real estate practice.
- 8) **Risk of Loss.** Not applicable.
- 9) **Default.** If either the Buyer or the Seller shall fail to close in accordance with this Agreement, the other party, at its election, may either (a) seek to obtain specific performance or (b) cancel this Agreement.
- 10) **Brokerage.** Buyer and Seller each hereby represent and warrant to the other that there are no real estate brokers involved or real estate commissions or finder fees payable in connection with the sale of the Property.
- 11) **State of Maine Withholding.** Not applicable.
- 12) **Notices.** Any notices required or permitted hereunder shall be either hand delivered or mailed by certified mail, return receipt requested as follows:

To Seller:
City of Biddeford
Attn: James A. Bennett
City Manager
205 Main Street
Biddeford, ME 04005

To Buyer:
One Diamond Development, LLC
Attn: Timothy Harrington, Manager
2 Livewell Drive, Suite 201
Kennebunk, ME 04043

13) Miscellaneous. This Agreement shall be binding upon the parties hereto and their successors and assigns. This Agreement represents the entire agreement of the parties and any modification or amendment hereto shall be in writing, signed by the parties hereto. Time is of the essence to this Agreement; wherever the term "days" is used herein, it shall refer to calendar days. This Agreement shall be interpreted in accordance with the laws of the State of Maine.

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the day, month and year first above written.

SELLER:

CITY OF BIDDEFORD

Shelly A. Martell
Witness:

By: James A. Bennett
James A. Bennett, City Manager

BUYER:

ONE DIAMOND DEVELOPMENT, LLC

Valerie Gendron
Witness:

By: Timothy Harrington
Timothy Harrington, Manager

DLN: 1002140178005

WARRANTY DEED

(Statutory Short Form Deeds Act
33 M.R.S.A. § 761 et seq.)

Prepared by
Law Office of Dawn D. Dyer, P. C.
936 Roosevelt Trail, Suite 4
Windham ME 04062-5654
(207) 893-8100

Gloves Etc., Inc., a corporate body duly formed and existing under the laws of the State of Maine, with offices in the City of Biddeford, County of York and State of Maine, and mailing address of 1 Diamond Street, Biddeford, Maine 04005, for consideration paid, grants to **One Diamond Development, LLC**, a limited liability company duly formed and existing under the laws of the State of Maine, with offices in the Town of Kennebunk, County of York and State of Maine, and mailing address of 2 Livewell Drive, Suite 201, Kennebunk, Maine 04043 with **warranty covenants**, the land situated in the City of **Biddeford**, County of York and State of Maine, bounded and described as follows:

Certain lots or parcels of land, together with the buildings and improvements thereon, situated in the City of Biddeford, County of York and State of Maine, viz:

Parcel A: Beginning at an iron pipe driven into the ground on the Southwesterly side of River Street at the Northerly corner of land to be conveyed by one Stimpson to Saco-Lowell Shops, said pipe being 75.63 feet Westerly from the cornerboard at the Southerly corner of the building standing on the Northeasterly side of said Street and on other land of this Grantee, and being 70 feet Southerly from the cornerboard at the Westerly corner of said building; thence Southwesterly by land this day conveyed by said Stimpson to Saco-Lowell Shops and making an included angle of 89° 23' with said Street 61.20 feet to iron pipe driven into the ground at the Northeasterly face of an old retaining wall and land of one Boucher; thence Northwesterly by said Boucher's land and by the Northeasterly face of said retaining wall and making an included angle 89° 29' with the last described line 52.85 feet to a drill hole in the Northeasterly face of said wall and other land of this Grantee; thence Northeasterly by said other land of this Grantee and making an included angle of 89° 40' and the last described line 60.14 feet to an iron pipe driven into the ground on Southwesterly side of said River Street, said line being the prolongation of fence and gate across said River Street if produced Southwesterly; thence Southeasterly by said River Street and making an included angle of 91° 28' with the last described line 51.87 feet to the point of beginning.

Maine R.E. Transfer Tax Paid

Parcel B: Beginning at an iron pipe driven into the ground on the southwesterly side of River Street at the easterly corner of land now or formerly of Edward Hyde or Diamond Match Company, said iron pipe being 75.63 feet westerly from the cornerboard at the southerly corner of the building now or formerly of said Diamond Match Company standing on the northeasterly side of said River Street, and being 70.33 feet southerly from the cornerboard at the westerly corner of said building; thence southwesterly by said land now or formerly of said Hyde or said Diamond Match Company and making an included angle of $90^{\circ} 37'$ with said Street 61.20 feet to an iron pipe driven into the ground at the northeasterly face of an old retaining wall, and land now or formerly of one Boucher; thence southeasterly by said land now or formerly of said Boucher and by the northeasterly face of said retaining wall and making an included angle of $90^{\circ} 31'$ with the last described line 11.90 feet to an iron pipe driven into the ground at the corner of said wall; thence southwesterly by said land now or formerly of said Boucher and by the face of said wall and parallel with the first described line 34.72 feet to an iron pipe driven into the ground at an angle; thence southwesterly by said land now or formerly of said Boucher and making an excluded angle of $165^{\circ} 31'$ with the last described line 10.12 feet to an iron pipe driven into the ground and land of one Addie I. Stimpson; thence southeasterly by said land now or formerly of said Stimpson and making an included angle of $75^{\circ} 37'$ with the last described line 42.65 feet to an iron pipe driven into the ground and land formerly of one Alphonse Goodwin or owner, said line passes 5 feet northeasterly from and parallel to the northeasterly face of the garage standing on said land now or formerly of said Stimpson; thence northeasterly by said land formerly of Goodwin or owner and making an included angle of $88^{\circ} 51'$ with the last described line 105.52 feet to an iron pipe driven into the ground on the southwesterly side of said River Street; thence northwesterly by said River Street 50 feet to the point of beginning.

Being the lot conveyed by said Addie I. Stimpson to Saco-Lowell Shops by deed dated December 19, 1950, recorded in York County Registry of Deeds, Book 1165, Page 412.

Said lot is shown on a Plan of land on River Street, Biddeford, Maine, drawn by Libby & Dow, Engineers, dated October 11, 1950, recorded in said Registry of Deeds Plan Book 15, Page 36.

Parcel C: A certain lot or parcel of land, situated in the City of Biddeford, County of York and State of Maine bounded and described as follows:

Beginning at a spike driven into the pavement at the intersection of the Northeasterly side of River Street with the Northwesterly side of Elm Street; thence Northwesterly by said River Street 20 feet to the remaining land of this Grantor; thence Northeasterly by said remaining land of this Grantor and parallel to said Elm Street 10 feet; thence Southeasterly by said remaining land of this Grantor and parallel to said River Street 20 feet to said Elm Street; thence Southwesterly by said Elm Street 10 feet to the point of beginning.

Also, certain lots or parcels of land in Biddeford described in a deed from Thomas H. Cole to Joseph Hobson dated January 12, 1874 and recorded in said York County Registry of Deeds, Book 340, Page 510, as follows: First lot: A piece of land on the Northeast side of River Street as laid down on a plan of land of heirs of William P. Hooper recorded in said York County Registry of Deeds Plan Book No. 1, Page 473; beginning at an iron bolt driven into the ground one foot distant from the Westerly corner of buildings owned by said Cole; thence parallel with the Northeasterly side of said Buildings and one foot distant to West branch of Saco River; thence Northwesterly by said River to said Hobson's land; thence Southwesterly by said Hobson's land to said River Street; thence by said street Southeasterly about one hundred and ninety-two (192) feet to the place begun at. Reserving on the southeasterly end of said lot a free and common passageway thirty (30) feet in width on said River Street and extending the same width to the said river; said passageway being next and parallel with said building. Second lot: Another lot of land on the Southwesterly side of said River Street beginning at a stake driven into the ground fifteen (15) feet Northwesterly from a tenement house belonging to said Cole; thence South $36\frac{1}{2}^{\circ}$ West sixty-nine and one-half ($69\frac{1}{2}$) feet to said Cole's garden fence; thence North 57° West one hundred and eighty-six and one third ($186\frac{1}{3}$) feet to north corner of said Cole's garden; thence on the same course by land of Haley and Getchell forty-five and one third ($45\frac{1}{3}$) feet to an iron driven into the ground; thence South 40° West eighty-two (82) feet to Hooper Street forty-five (45) feet distant Northwesterly from West corner of said Cole's garden; thence by said Hooper Street Northwesterly one hundred and thirteen (113) feet more or less to said River Street; thence Southeasterly by said River Street to point of beginning.

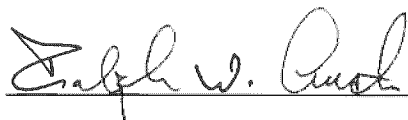
Also a certain other lot or parcel of land in said Biddeford and described in a deed from Gideon Tucker and Thomas M. Hayes to Joseph Hobson dated January 12, 1863, and recorded in said York County Registry of Deeds in Book 279, Page 192, as follows: land adjoining the western branch of Saco River, land formerly of Thomas Cutts and reserved road three rods in width, and extending down on the Northeasterly side of said reserved road three hundred and eighty-seven and four tenths (387.4) feet to an angle in said road where a stone was formerly set in the ground; and thence running North 29 ½° East to where a stone was formerly set upon the bank of said branch of said river; and from thence in the same course to the said western branch of said river. Reference being made to a plan of this and other land made by S. W. Luques, Esq., and to a deed made by Thomas H. Cole and Edward H. C. Hooper of these premises to Thomas Cutts dated March 1st, A.D. 1850 (Book 212, Page 175), for a more particular description. Also conveying to said Hobson the same rights to said reserved road and of passage to Main Street which were conveyed to said Cutts by said deed from said Cole and Hooper.

Any and all other real estate of any nature or description and any and all rights in and appurtenant to real estate of any nature or description situated in Biddeford of which it is this day seized and possessed, excepting only such premises as are conveyed by it to said The Diamond Match Company by another deed of even date herewith.

Four acres of land more or less, being all that portion of the twenty acre wood lot formerly owned by John Hooper which was not lived upon by Samuel F. Chase.

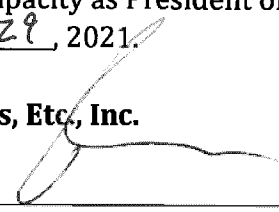
Being the same premises conveyed to Gloves, Etc., Inc., by Special Warranty Deed from 650 Management Corp., dated January 5, 1996 and recorded in York County Registry of Deeds in Book 7692, Page 164.

Witness the hand and seal of BRIAN T. NESTOR in his capacity as President of Gloves, Etc., Inc., duly authorized and acting, this date: December 29, 2021.



Gloves, Etc., Inc.

By: _____

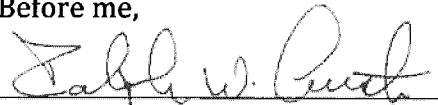

Brian T. Nestor
President

State of Maine
York, ss.

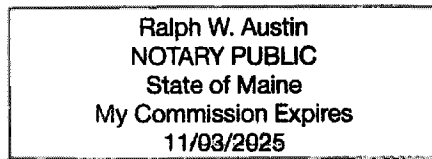
Date: December 29, 2021

Personally appeared the above-named BRIAN T. NESTOR in his capacity as President of Gloves, Etc., Inc., and acknowledged the foregoing instrument to be his free act and deed in said capacity and individually, and the free act and deed of said Corporation.

Before me,



Notary Public / ~~Attorney at Law~~



DLN: 1002240181741

QUITCLAIM DEED
With Covenant

KNOW ALL MEN BY THESE PRESENTS, that **RSTBR, LLC** a Maine limited liability company with a principal place of business in Scarborough, Maine, for consideration paid, grant unto **ONE DIAMOND DEVELOPMENT, LLC**, a Maine limited liability company with a mailing address of 2 Livewell Drive, Suite 201, Kennebunk, Maine 04043, with *Quitclaim Covenants*, a certain lot or parcel of land in Biddeford, County of York, and State of Maine with all improvements thereon and all appurtenances thereto more particularly described as follows:

See Exhibit A attached hereto.

MEANING AND INTENDING to convey the same premises conveyed to RSTBR, LLC by deed from Robert N. Martin and Celeste Martin dated May 17, 2003 and recorded in the York County Registry of Deeds in Book 12912, Page 263.

IN WITNESS WHEREOF, the said Richard J. Flaherty, Member of RSTBR, LLC. has caused this instrument to be signed, sealed and delivered on the date indicated below.

Signed, Sealed and Delivered this 31st day of January 2022.

RSTBR, LLC

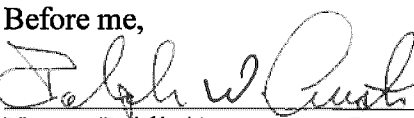

WITNESS


By: Richard J. Flaherty
Its: Member

STATE OF MAINE
York, ss.

January 31, 2022

Personally appeared the above-named Richard J. Flaherty and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,

Notary Public/Attorney-at-Law
Print Name:
My commission expires:

1
Ralph W. Austin
NOTARY PUBLIC
State of Maine
My Commission Expires
11/03/2025

Maine R.E. Transfer Tax Paid

EXHIBIT A

A certain lot or parcel of land together with all of the buildings and improvements thereon, situated on and adjacent to the northwesterly side of U.S. Route 1 in Biddeford, County of York and State of Maine, being more particularly bounded and described as follows:

Beginning at the junction of the northwesterly sideline of Elm Street and the northeasterly sideline of River Street; thence northwesterly by said River Street Forty-two and Five Tenths (42.5) feet, more or less, to an angle in said street; thence northwesterly by said River Street and deflecting to the left by an angle of $18^{\circ} 22'$ a distance of Fifty-three and Fifty-five Hundredths (53.55) feet, more or less, to a point which is Fifty-two and Twenty-five Hundredths (52.25) feet northerly from the northerly corner of the brick garage building standing on the southwesterly side of River Street and being One (1) foot northwesterly from the northwesterly face of the building which stood on the "Clara Hyde Lot" in 1934 and which is now gone; thence northeasterly by a line which is One (1) foot northwesterly from and parallel with the northwesterly face of said Hyde building and making an included angle of $87^{\circ} 34'$ with the last described line Seventy-two and Two Tenths (72.2) feet to an iron pipe driven into the ground at Saco River; thence continuing the same course to said River or so far as we own; thence southeasterly by said River to said Elm Street; thence southwesterly by said Elm Street Ninety-three (93) feet, more or less, to the point of beginning.

Also another certain lot or parcel of land with the buildings thereon beginning at a spike driven into the pavement on the northeasterly side of River Street at the westerly corner of other land now or formerly of Villa, Incorporated (the hereinabove described lot), said spike being Fifty-two and Six Tenths (52.6) feet northeasterly of the brickwork at the northerly corner of the building standing on the southwesterly side of said street and being Twenty-nine and Twenty-four Hundredths (29.24) feet northwesterly of the brickwork at the southerly corner of the building standing partly on land hereby conveyed; thence northwesterly by said street Thirty-three and Fifty-six Hundredths (33.56) feet to an iron pipe driven into the ground and remaining land of Diamond International Corporation; thence northeasterly by said remaining land of Diamond International Corporation and by the remains of an old fence and forming an included angle of $87^{\circ} 41'$ with said street and by a line which passes Twenty-two and Sixteen Hundredths (22.16) feet northwesterly of the concrete blocks at the westerly corner of the building standing partly on land hereby conveyed and passes Twenty-seven and Five Hundredths (27.05) feet northwesterly of the concrete blocks at the northerly corner of said building Seventy-three and Eleven Hundredths (73.11) feet to an iron pipe driven into the ground near the top of the bank of the Saco River; thence continuing by the same course to said River or so far northeasterly as we own; thence southeasterly by said River to land now or formerly of Villa Incorporated, (the hereinabove described lot); thence southwesterly by land now or formerly of Villa Incorporated (the hereinabove described lot) to the point of beginning. The last described line makes an included angle of $92^{\circ} 26'$ with said street.

Excepting and reserving herefrom (from the first described lot) a certain lot or parcel of land conveyed by Villa, Incorporated to Diamond International Corporation by deed dated February 5, 1973 and recorded in said Registry in Book 1980, Page 872, bounded and described in the said deed to Diamond International as follows:

Beginning at a spike driven into the pavement at the intersection of the northeasterly side of River Street with the northwesterly side of Elm Street; thence northwesterly by said River Street Twenty (20) feet to remaining land of Villa, Inc.; thence northeasterly by said remaining land of Villa, Inc., and parallel to said Elm Street Ten (10) feet; thence southeasterly by said remaining land of Villa, Inc., and parallel to said River Street Twenty (20) feet to said Elm Street; thence southwesterly by said Elm Street Ten (10) feet to the point of beginning.

DLN: 1002240181785

**QUITCLAIM DEED
(With Covenant)**

KNOW ALL MEN BY THESE PRESENTS

That, **ABILITY EQUIPMENT SALES, INC.**, a corporation duly organized and existing under the laws of the State of Maine with a principal place of business located in the City of Biddeford, County of York and State of Maine, 04005

for consideration paid,

hereby grants to **ONE DIAMOND DEVELOPMENT, LLC**, a limited liability company duly organized and existing under the laws of the State of Maine, with a principal place of business located in the Town of Kennebunk, County of York and State of Maine, whose mailing address is 2 Livewell Drive, Suite 201, Kennebunk, Maine 04043

with **QUITCLAIM COVENANT**,

A certain lot or parcel of land with the buildings thereon situated on the northerly side of Main Street in the City of Biddeford, County of York and State of Maine, formerly known as the Deering Packing Company, bounded southwesterly by said Main Street, southeasterly by premises of the Boston & Maine Railroad and the Diamond Match Company; northeasterly by property formerly of the Saco River Lumber Company, now or formerly of the Diamond Match Company and northwesterly by land now or formerly of William H. Deering, et als, said building thereon being numbered 378 on Main Street.

Being the same premises conveyed to the Grantor herein by quitclaim deed of Ladedo, Inc. dated September 26, 2013 and recorded in the York County Registry of Deeds in Book 16704, Page 200.

Excepting a certain lot or parcel of land as described in Notice of Layout and Taking from the State of Maine by its Department of Transportation dated June 18, 2015 and recorded in the said Registry of Deeds in Book 17064, Page 821.

WITNESS WHEREOF, the said Ability Equipment Sales, Inc., has caused this instrument to be signed in its corporate name by John Leclerc, its President thereunto duly authorized, this 31st day of January, 2022.

Maine R.E. Transfer Tax Paid

Ability Equipment Sales, Inc.

Ralph W. Austin

John Leclerc
By John Leclerc
Its: President

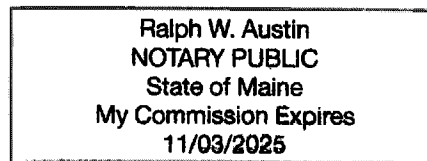
STATE OF MAINE,
YORK, SS.

January 3, 2022

Personally appeared the above named John Leclerc, President of said grantor corporation as aforesaid and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

Before me,

Ralph W. Austin
~~Notary Public / Attorney-at-Law~~
Printed Name: _____



DLN: 1002240181791

QUITCLAIM DEED (With Covenant)

KNOW ALL MEN BY THESE PRESENTS

That, **ABILITY PROPERTIES, LLC**, a limited liability company duly organized and existing under the laws of the State of Maine with a principal place of business located in the City of Biddeford, County of York and State of Maine, 04005

for consideration paid,

hereby grants to **ONE DIAMOND DEVELOPMENT, LLC**, a limited liability company duly organized and existing under the laws of the State of Maine, with a principal place of business located in the Town of Kennebunk, County of York and State of Maine, whose mailing address is 2 Livewell Drive, Suite 201, Kennebunk, Maine 04043

with **QUITCLAIM COVENANT**,

A certain lot or parcel of land, together with the buildings and improvements thereon, situated in the City of Biddeford, County of York and State of Maine, bounded and described as follows:

Beginning at an iron rod with surveyor's cap driven into the ground on the northeasterly side of Main Street at a point located 25.00 feet northerly of the centerline of the existing railroad tracks of the Boston and Maine Corporation; said point of beginning is also located approximately 38.0 feet northerly of, and radial to, baseline station 5221+81.01; thence North 38° 27' 30" West by said northeasterly side of Main Street, a distance of 84.24 feet to a "Mag Nail" set in pavement; thence North 51° 23' 10" East partly by land described in the deed from Ladedda, Inc. to Ability Properties, LLC dated September 26, 2013 and recorded in the said Registry of Deeds in Book 16704, Page 200, and partly by land described in the deed from Diamond International Corporation to the Inhabitants of the City of Biddeford dated October 5, 1976 and recorded in the said Registry of Deeds in Book 2158, Page 491, and shown on a "Plan Showing a Survey of Land for Diamond International Corp." dated January, 1973 by Dow, Coulombe & Brown, Inc., a distance of 468.26 feet to an iron rod with surveyor's cap driven into the ground; thence by land described in the deed from Elizabeth K. Mantis, Personal Representative of the Estate of Mary V. Kearney, to Union Oil of Maine dated June 23, 1995 and recorded in the said Registry of Deeds in Book 7465, Page 84, and shown on a plan entitled "Land in Biddeford, Maine, Boston and Maine Railroad to Bugbee-Brown, Inc." dated December, 1959, file R2-98-46 and recorded in the said Registry of Deeds in Plan Book 28, Page 28, by the following six (6) described lines: South 37° 58' 50" East a distance of 31.04 feet to an iron rod with surveyor's cap driven into the ground; thence South 52° 01' 10" West a distance of 62.41 feet to an iron rod

Maine R.E. Transfer Tax Paid

with surveyor's cap driven into the ground; thence South 34° 06' 50" East a distance of 101.94 feet to an iron rod with surveyor's cap driven into the ground; thence North 57° 00' 20" East by a line located 4.65 feet northerly of and parallel with the centerline of existing railroad tracks located on the parcel herein described a distance of 68.36 feet to an iron rod with surveyor's cap driven into the ground; thence South 37° 59' 30" East a distance of 90.10 feet; thence North 52° 00' 30" East a distance of 88.40 feet to an iron pipe found driven into the ground at said land of the City of Biddeford; thence South 37° 59' 30" East partly by said City of Biddeford land and partly by remaining land of Boston and Maine Corporation a distance of 276.80 feet to an iron rod with surveyor's cap driven into the ground at a point located 25.00 feet northerly of the centerline of the existing railroad tracks on land of said Boston and Maine Corporation; said last described point is also located North 37° 59' 30" West a distance of 55.06 feet from baseline station 5229+05.10; thence westerly by remaining land of said Boston and Maine Corporation and by a circular curve deflecting to the left having a radius of 3296.47 feet and located 25.00 feet northerly of and concentric with the centerline of the existing railroad tracks, an arc distance of 400.66 feet to an iron rod with surveyor's cap driven into the ground (a chord between the last two described points bears North 88° 18' 05" West a distance of 400.41 feet); said last described point is located approximately 37.9 feet northerly of and radial to baseline station 5224+61.56; thence westerly by remaining land of said Boston and Maine Corporation and by a circular curve deflecting to the left having a radius of 2682.44 feet, and located 25.00 feet northerly of and concentric with the centerline of the existing railroad tracks, an arc distance of 294.42 feet to the point of beginning (a chord between the last two described points bears South 85° 04' 20" West a distance of 294.27 feet).

Containing 127,670 square feet or 2.930 acres.

Subject to driveway and easement rights described in said deed recorded at the York County Registry of Deeds in Book 7465, Page 84 and shown on said plan recorded in the said Registry of Deeds in Plan Book 28, Page 28.

The bearings used in this description refer to the 2005 Magnetic Meridian.

The baseline stationing used in this description was calculated from holding station 5229+05.10 as shown on said plan recorded in the York County Registry of Deeds in Plan Book 28, Page 28 and recited in said deed recorded in the said Registry of Deeds in Book 7465, Page 84.

Also subject to any rights for utility poles and overhead utility lines that are located on, and over the described parcel of land.

Reference is made to "Plan Showing a Boundary Survey of Land Located at 368 Main Street, Biddeford, Maine, Boston and Maine Corporation to Ability Equipment Sales, Inc." dated May 10, 2019 by Dow & Coulombe, Inc.

This conveyance is subject to the following reservations, conditions, covenants, and agreements:

1. This conveyance is made without granting any right of way, either by necessity or otherwise, over any remaining land or location of the Boston and Maine Corporation.

2. The Boston and Maine Corporation hereby reserves a permanent, exclusive right of way and easement in, on, over, under, across and through the Premises for the purpose of accessing, constructing, installing, operating, maintaining, modifying, repairing, replacing, relocating and removing a telecommunications system or other system for transmission of intelligence or information by any means, whether now existing or hereafter devised, including such poles, pipes, wires, fibers, fiber optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description necessary or useful for the same (the "Telecommunications Easement"). The said Boston and Maine Corporation further reserves the right to freely lease, license, mortgage, assign, pledge and otherwise alienate the telecommunications Easement. The Grantee hereby covenants with the said Boston and Maine Corporation to recognize the Telecommunications Easement and without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for recording with the Registry of Deeds as the said Boston and Maine Corporation may reasonably require to acknowledge title to the Telecommunications Easement in the said Boston and Maine Corporation. The Boston and Maine Corporation covenants to reasonably repair and restore the surface of the easement area after any work.
3. The Boston and Maine Corporation excepts from this conveyance any and all railroad tracks, railroad track materials (including, but not limited to, ties, connections, switches and ballast) and/or related equipment of any description located in whole or in part within the Premises (the "Trackage") and this conveyance is subject to the right of the said Boston and Maine Corporation to enter the Premises from time to time and at any and all times within the ninety (90) day period commencing with and subsequent to May 15, 2019, with such men, equipment and materials as, in the reasonable opinion of the Principal Engineering Officer of the said Boston and Maine Corporation, are necessary for the removal of the Trackage. Days during the months of December, January, February, and March shall not be included in the aforesaid ninety (90) day period. If the Trackage is not removed from the Premises by the expiration of said ninety (90) day period, the Trackage shall be deemed abandoned by the said Boston and Maine Corporation and shall then become the property of the Grantee.
4. By the acceptance of this deed and as part consideration therefor, the Grantee hereby assumes any and all agreements, covenants, obligations and liabilities of the said Boston and Maine Corporation in respect to any underground facilities, drainage culverts, walls, crossings and/or other structures of any nature and description located in whole or in part within the Premises.
5. By the acceptance of this deed and as part consideration therefor, the Grantee agrees to irrevocably waive, give up and renounce any and all claims or causes of action against the said Boston and Maine Corporation in respect of claims, suits and/or enforcement actions (including any administrative or judicial proceedings and any remedial, removal or response actions) ever asserted, threatened, instituted or requested by any person and/or governmental agency on account of (a): any release of oil or hazardous materials or substances of any description on, upon or into the Premises in contravention of any ordinances, law or statute (including, but not limited to, the Comprehensive

Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601, et seq., as amended); and (b) any and all damage to real or personal property, natural resources and/or harm or injury to persons alleged to have resulted from such release of oil or hazardous materials or substances.

6. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to build and forever maintain fences (together with any necessary gates), suitable to the Principal Engineering Officer of the said Boston and Maine Corporation, along the boundaries of the Premises which are common to remaining land or location of the Boston and Maine Corporation (the "Fences"), if Fences are ever required in the sole and reasonable opinion of said Principal engineering Officer.
7. This conveyance is subject to the following restrictions for the benefit of other land or location of the said Boston and Maine Corporation to wit: that from the date of delivery of this deed, the said Boston and Maine Corporation shall not be liable to the Grantee or any lessee or user of the Premises (or any part thereof) for any damage to any buildings or property upon them caused by fire, whether communicated directly or indirectly by or from locomotive engines of any description upon the railroad operated by the said Boston and Maine Corporation, or otherwise.
8. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to make no use of the Premises which, in the sole and reasonable opinion of the Principal Engineering Officer of the said Boston and Maine Corporation, adversely affects, increases or decreases drainage to, from, upon or in any remaining land or location of the said Boston and Maine Corporation. The Grantee agrees to indemnify and save the said Boston and Maine Corporation harmless from and against any and all loss, cost, damage or expense including, but not limited to, the cost of defending all claims and/or suits for property damage, personal injury or death arising out of or in any way attributable to any breach of the foregoing covenant.
9. The said Boston and Maine Corporation excepts from this conveyance any and all overhead, surface or underground signal and communication line facilities of the said Boston and Maine Corporation located within the limits of the Premises and this conveyance is subject to the said Boston and Maine Corporation's use of any such facilities in their present locations and entry upon the Premises from time to time to maintain, repair, replace, renew, relay or remove such facilities.
10. Whenever used in this deed, the term "Grantor" shall not only refer to the BOSTON AND MAINE CORPORATION, but also its successors, assigns and affiliates and the term "Grantee" shall not only refer to the above named Grantee, but also the Grantee's successors, assigns and grantees, as the case may be.
11. The several exceptions, exceptions, reservations, condition, covenants and agreements contained in this deed shall be deemed to run with the land and be binding upon the Grantee forever. In addition to the acceptance and recording of this deed, the Grantee

hereby signifies assent to the said several exceptions, reservations, conditions, covenant and agreements, by joining in its execution.

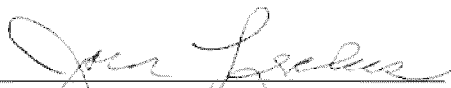
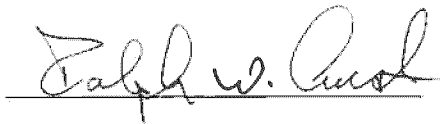
Being the same premises conveyed to the Grantor herein by release deed of the Boston and Maine Corporation dated May 15, 2019 and recorded in the York County Registry of Deeds in Book 17956, Page 129.

Also a certain one and one-half story building, which includes an office, garage, and second floor storage, located at 374 Main Street, in the City of Biddeford, County of York and State of Maine, Said building or structure is located on land owned now or formerly by the Boston and Maine Railroad in accordance with a certain agreement governing the use of the said Boston and Maine Railroad and the late Harry A. Mapes, of the City of Sanford, which Agreement was assigned by said Harry A. Mapes by assignment dated June 29, 1953 from Harry A. Mapes, Inc., a corporation now known as H.A. Mapes, Inc.

Being the same premises conveyed to the Grantor herein by warranty deed of Depot Trucking of Southern Maine, Inc. and Edward A. Handlin, Jr. dated September 24, 2019 and recorded in the York County Registry of Deeds in Book 18055, Page 740.

WITNESS WHEREOF, the said Ability Properties, LLC., has caused this instrument to be signed in its limited liability company name by John Leclerc, its Member thereunto duly authorized, this 31st day of January, 2022.

Ability Properties, LLC

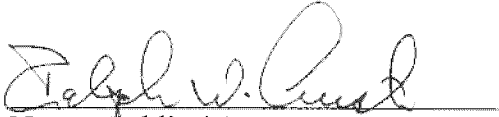

By John Leclerc
Its: Member

STATE OF MAINE,
YORK, SS.

January 31, 2022

Personally appeared the above named John Leclerc, Member of said grantor company as aforesaid and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said company.

Before me,



Notary Public / ~~Attorney-at-Law~~

Printed Name: _____

Ralph W. Austin
NOTARY PUBLIC
State of Maine
My Commission Expires
11/03/2025

024139

DEED OF SALE BY PERSONAL REPRESENTATIVE

ELIZABETH K. MANTIS of Biddeford in the County of York and State of Maine, PERSONAL REPRESENTATIVE OF THE ESTATE OF MARY V. KEARNEY, deceased, testate, as shown by the probate records of York County, Maine, Docket No. 1994-0729, by the power conferred by the Maine Probate Code and every other power, for consideration paid, grants to UNION OIL CO. OF MAINE, a corporation duly organized and existing under the laws of the State of Maine with a principal place of business in Portland, County of Cumberland and the State of Maine, the land in Biddeford, York County, Maine, and being those premises described in a Deed from the Boston and Maine Railroad to Bugbee-Brown, Inc. dated April 2, 1960 and recorded in the York County Registry of Deeds in Book 1427, Page 138; the verbatim and perimeter description of said premises as given in the aforesaid deed being as follows:

beginning at remaining land of the Boston and Maine Railroad at an iron pipe located three hundred thirty-one and eighty-six hundredths (331.86) feet North 53° 54' 50" West from Station 5229 plus 05.10 on the center line of the East bound Track, Maine Line-Portland-Boston Division of said Railroad, thence running by six (6) courses by said remaining land of said Railroad as follows: South 36° 05' 10" West eighty-eight and forty hundredths (88.40) feet to an iron pipe, North 53° 54' 50" West ninety (90.00) feet to an iron pipe, South 40° 12' West sixty-eight and thirty-six hundredths (68.36) feet to an iron pipe, North 49° 48' West one hundred two and ten hundredths (102.10) feet to an iron pipe, North 35° 37' East sixty-two and forty-one hundredths (62.41) feet to an iron pipe, North 54° 23' West thirty-one and four hundredths (31.04) feet to an iron pipe at land of the Diamond Match Company; thence turning and running by three (3) courses by said last mentioned land as follows: North 34° 59' 00" East twenty-five and twenty-one hundredths (25.21) feet to an iron pipe, North 81° 34' East eighty-eight and twenty-five hundredths (88.25) feet to a wooden fence post, South 53° 54' 50" East one hundred sixty-five and eighty-five hundredths (165.85) feet to the point of beginning, be all of said measurements more or less, and containing about twenty-four thousand nine hundred and seventy seven (24977) square feet of land, as shown on a plan entitled "Land in Biddeford, Maine, Boston and Maine Railroad to Bugbee-Brown, Inc. J. F. Kerwin Asst Chief Eng'r, December 1959" to be recorded herewith a copy of which is hereto attached, to which reference is hereby made for a further description of the premises hereby conveyed.

Together with the right to use in common with the Boston and Maine Railroad, its successors and assigns, for all purposes for which driveways may now or hereafter be customarily used in said Biddeford, two certain strips of

MAINE REAL ESTATE TRANSFER TAX PAID

(36)

land twenty (20) feet wide, one running in a Southwesterly direction from the Southwesterly side of the above described premises to Main Street and about four hundred and five (405) feet in length, the other also running in a Southwesterly direction from the Southwesterly side of said above described premises to two points on the Southeasterly side of the first driveway, which points are twenty and seventy-nine hundredths (20.79) feet and forty-four and eighty hundredths (44.80) feet respectively from the Northeasterly side line of said Main Street, all as shown on said plan, subject however to the rights of the said Railroad, its successors and assigns to (a) maintain and use the tracks now crossing said driveways (b) lay additional tracks across said driveways and (c) operate trains, engines and cars upon said tracks or any additions thereto. By acceptance of this deed the Grantor its successors or assigns hereby covenant to agree to indemnify and save harmless the said Railroad from and against any and all loss, cost, damage, expense, claims and law suits for property damages, personal injury or death, arising out of or in anyway attributable to the use of said driveways. The Grantee also covenants and agrees that the said Grantor shall have no duty to maintain, repair or remove ice and snow from said driveways.

This conveyance is made subject to the following restriction for the benefit of other land of the grantor, to wit: that neither the grantor nor its successors or assigns shall ever be liable to the said grantee, or its successors, or assigns, or to any lessee of said parcel of land or of any part thereof, for any damages to any buildings or property upon the above described premises caused by fire whether communicated directly or indirectly by or from locomotive engines upon the railroad operated by the grantor or otherwise.

By the acceptance of this deed the grantee hereby covenants and agrees for itself, its successors and assigns to erect and forever maintain a suitable fence for the benefit of the remaining land of the grantor along the Southeasterly and Southwesterly boundaries of said parcel, if a fence is ever required by the grantor or its successors and assigns at anytime hereafter. This covenant is to run with the land hereinabove described and is to be binding upon the grantee, its successors and assigns, forever.

The premises hereby conveyed are conveyed without any right of way either by necessity or otherwise, over, upon, above, across, through or on the remaining land or location of said grantor.

There is excepted from this conveyance all poles, wires and underground facilities as now located within the limits of said parcel. Said grantor hereby reserves unto itself, its successors and assigns and/or licensees the right to maintain and use said poles, wires and underground facilities and the right to enter upon said parcel from time to time and at any and all times to inspect, repair, replace, maintain, use or remove said poles, wires and underground facilities.

Title reference - with respect to sources of title to the hereinabove described property reference may be had to a deed from Bugbee-Brown, Inc. to Mary V. Kearney dated March 12, 1990 and recorded in the York County Registry of Deeds in Book 5349, Page 244.

WITNESS my hand this 23rd day of June, 1995.

ESTATE OF MARY V. KEARNEY

Robert B. Woodman
Witness

By: Elizabeth K. Mantis
Elizabeth K. Mantis
Personal Representative

STATE OF MAINE
COUNTY OF YORK, ss.

June 23, 1995

Then personally appeared the above named ELIZABETH K. MANTIS, in her said capacity, and acknowledged the foregoing instrument to be her free act and deed.

Before me,

Robert B. Woodman
Notary Public/Attorney-at-Law

Print Name:

Robert B. Woodman

RBW\DEED.DES\UNIONOIL.MVK (slhr)

3

RECEIVED YORK S.S.

95 JUL -3 AM 11:58

ATTEST: Levi M. Mose
REGISTER OF DEEDS

Exhibit 4

Statement of Technical and Financial Capability

Exhibit 4 Statement of Technical & Financial Capability

Technical Capability

The applicant has brought to fruition many large scale, multifaceted projects and has retained the services of several consulting firms to comprise the project team.

SMRT is a multi-disciplinary engineering and architectural firm offering services in architecture, engineering, interiors, planning, site design, and the energy sector.

S.W. Cole founded in 1979 provides services in geotechnical engineering, construction materials testing and special inspections, geo-environmental services and test boring explorations. With an employee base of more than 90 engineers, scientist and technicians they have provided services on more than 1,800 projects.

St. Germain is an environmental, EHS compliance and engineering firm specializing in environmental risk management; site investigation, characterization and cleanup; environmental health and safety (EHS) compliance; and civil design, permitting and construction administration.

Sebago Technics, Inc. (STI) is a multi-disciplinary engineering firm with over 40 years of experience, that offers a wide range of services specializing in land development, planning, permitting and engineering design services. We maintain a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, land surveying, and environmental services.

Financial Capability

The applicant anticipates financing the project through Mutual One. A letter from the financier confirming financial capacity based on the latest estimates will be forwarded under separate cover.

Exhibit 5

Standards Review

Exhibit 5 Standards Review

Sec 66-39 Board action on approval of preliminary plan

The Board shall base its decision on the plans meeting the conditions and requirements outlined in this chapter; and that the plan meets in a positive fashion, the following:

1. The project will not result in undue water or air pollution. In making this determination the Board shall consider:

The proposed project will not result in undue water or air pollution. The proposed project was designed taking in consideration the land elevation and its relation to the floodplains; the nature of the soils and the subsoils; and the applicable state and local health and water resources regulations.

2. The project has sufficient water available for the reasonably foreseeable needs of the subdivision;

There is sufficient water available for the needs of the proposed development. The applicant has been in correspondence with Maine Water and will provide confirmation of capacity with a later submittal.

3. The project will not cause an unreasonable burden on an existing water supply, if one is utilized;

The proposed project will not cause an unreasonable burden on the existing water supply. The applicant has been in correspondence with Maine Water and will provide confirmation of capacity with a later submittal.

4. The project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy, condition may result;

The proposed project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water. Please see Exhibit 12 for the stormwater management report and the plan set for the erosion control measures. The project's drainage design will be reviewed by the Maine Department of Environmental Protection and is designed to meet the current MaineDEP Chapter 500 stormwater rules.

5. The project will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed;

The proposed project will not result in unreasonable highway or public road congestion or unsafe conditions. Please see Exhibit 10 for information regarding traffic and the plan set for site access and circulation information.

6. The project will provide for adequate sewage waste disposal;

The proposed project will utilize the public sewer system. The applicant has been in correspondence with the City of Biddeford Wastewater Division and a confirmation of capacity letter will be submitted with a later submission.

The applicant's engineers have worked with the Public Works and Sewer Department staff to design an enlarged sewer through the site to provide additional in-line storage as a Combined Sewer Overflow (CSO) mitigation measure, advancing the City's goals for CSO reduction.

7. The project will not cause unreasonable burden on the ability of the municipality to disposal of solid waste and sewage if municipal services are to be utilized;

The proposed project will utilize the public sewer system. There is adequate capacity for the proposed project and it will not result in an unreasonable burden on the ability of the City to dispose of solid waste or sewage. The applicant has been in correspondence with the City of Biddeford Wastewater Division and a confirmation of capacity letter will be submitted with a later submission.

The applicant's engineers have worked with the Public Works and Sewer Department staff to design an enlarged sewer through the site to provide additional in-line storage as a Combined Sewer Overflow (CSO) mitigation measure, advancing the City's goals for CSO reduction.

8. The project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline. Further, the plan shall reflect the natural capabilities of the site to support development. Buildings, lots, and support facilities will be clustered in those portions of the site that have the most suitable conditions for development. Environmentally sensitive areas, including but not limited to wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and sand and gravel aquifers will be maintained and preserved to the maximum extent. The development shall include appropriate measures for protecting these resources, including but not limited to modification of the proposed design of the site, timing of construction, and limiting the extent of excavation;

The proposed project will not result in an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline. The proposed project has been designed to include an extension of the Riverwalk; a public pathway situated along the Saco River that upon completion will connect to downtown Biddeford. The proposed building has been designed to be reminiscent to Biddeford's history as a mill town while also providing modern elements that align with Biddeford today. Please see Exhibit 7 for wetlands information, Exhibit 11 for Agency Correspondence, and the plan set for site design and architectural elevations.

9. The project is in conformance with a duly adopted subdivision regulation or ordinance, Comprehensive Plan, development plan, or land use plan, if any. In making this determination the Board is authorized to interpret these ordinances and plans;

The proposed project has been designed to be in compliance with the City's Ordinance. Please see the submission materials and the plan set.

10. The subdivider has adequate financial and technical capacity to meet the above stated standards;

The applicant has adequate financial and technical capacity for the completion of this project in accordance with the City requirements. Please see Exhibit 4 for more detailed information.

11. Whenever situated, in whole or in part, within 250 feet of any lake, pond, river or tidal waters, the project will not adversely affect the quality of that body of water, or unreasonably affect the shoreline of that body of water, as indicated on the City of Biddeford, Official Zoning Map and referenced in the City's Comprehensive Plan;

A portion of the proposed project is located within 250' of the Saco River. The project has been designed to not adversely affect the quality of the Saco River, or unreasonably affect the shoreline. Please see Exhibit 12 for the Stormwater Management report and the plan set for additional information.

12. The project will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of ground water;

The proposed project will not result in an adverse impact to area ground water. Please see Exhibit 12 for the Stormwater Management report and plan set. There is no proposed extraction of groundwater at the site. The project will be constructed in conformance with a Voluntary Remedial Action Program, currently under development.

13. The subdivider will provide information, based on FEMA flood boundary, floodway, and flood insurance maps, whether or not the project is in a flood prone area;

Please see the plan set for flood boundary information. Portions of the site are located within a 100 year floodplain. No buildings are proposed within the floodplain.

14. The project will not unreasonably obstruct abutting properties or structures access to direct sunlight;

The proposed project will not result in unreasonable obstruction of direct sunlight to abutting properties. Please see the plan set for building siting information. The proposed building has been designed to comply with the height limitation of the applicable zone.

15. If any portion of the site has been identified as containing historic or archaeological resources, the development shall include appropriate measures for protecting these resources, including but not limited to modification of the proposed design of the site, timing of construction, and limiting the extent of construction.

The proposed project area is located in close proximity to the Historic District of Biddeford and some of the buildings associated with the Dimond Match Company remain on site. As there have been several fires over the years in the subject area, the integrity of remaining structures is compromised. It is not anticipated that the project area contains any significant historic or archaeological resources. A response letter was received by the Maine Historic Preservation Commission (MHPC). It is not anticipated that architectural or prehistoric archaeological resources will be affected by the proposed project. A request for a historic archaeology survey was recommended because of the historic presence of a steam sawmill on site. A Phase 0 archeological review was completed for portions of the site and the applicant is in correspondence with the MHPC. Please see Exhibit 11

B. New buildings constructed within the MSRD Districts.

1. Parking lots shall be prohibited in side and front yards, except if the application involves the renovation of existing structures where such a configuration currently exists. In cases where such parking configurations exist, the parking area shall be screened from the street with landscaping or fencing not to exceed three feet in height. (Refer to Article VI Section 49, Off-street parking, for further details).

All parking areas have been designed according to the City standard. Please see the plan set.

2. Site plans shall identify pedestrianways and connections from parking areas to streets. Pedestrian paths to, from and across parking lots to the street shall be required.

Please see the plan set.

3. All dumpsters and mechanical equipment shall be located 25 feet away from a right-of-way and shall be screened from view of a public street.

Please see the plan set.

4. Where a side setback exists it shall be at least 10 feet wide. Side yards of more than 10 feet shall be landscaped and may be used as driveways, pedestrian pathways and semipublic spaces, such as restaurant patios.

Please see the plan set.

5. All new buildings along a right-of-way may not be set back from the property line. This may be waived if at least 60% of the building's front facade is on the property line.

Please see the plan set.

Exhibit 6

Soils



REPORT

21-1652 S

January 19, 2022

Preliminary Geotechnical Services

Proposed One Diamond Residential
Development
One Diamond Street
Biddeford, Maine

Prepared For:
Barrett Made
65 Hanover Street
Portland, ME 04101

Prepared By:
S. W. Cole Engineering, Inc.
10 Centre Road
Somersworth, NH 03878-2926
T: 603-692-0088

www.swcole.com | info@swcole.com

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21-1652 S

January 19, 2022

Barrett Made
Attention: Philip Chaney, AIA
65 Hanover Street
Portland, Maine 04101

Subject: Preliminary Geotechnical Services
Proposed One Diamond Residential Development
One Diamond Street
Biddeford, Maine

Dear Philip:

In accordance with our Agreement dated November 3, 2021, we have performed preliminary subsurface explorations for the subject project. This report summarizes our findings and preliminary geotechnical recommendations, and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to obtain subsurface information at the site in order to develop preliminary geotechnical recommendations relative to foundations, earthwork and pavement associated with the proposed construction. Our scope of services included observation of widely-spaced test boring explorations, a preliminary geotechnical analysis of the subsurface findings and preparation of this report.

1.2 Site and Proposed Construction

The site consists of an approximate 16.8-acre parcel located along the south bank of the Saco River which is accessed from Diamond Street and Main Street. The site is bounded by Elm Street (U.S. Route 1) to the east, residential properties, and an existing rail line to the south, and Main Street and Horrigan Court to the west. An existing single story commercial building occupying a plan area of about 19,000 SF fronts onto Diamond Street at the east end of the site. Existing grades slope downward to the

northeast varying from approximate elevation 75 feet to about elevation 55 feet along the top of the riverbank. We understand much of the riverbank falls within the 100-year flood zone.

Based on the available information, we understand the site has a long history of use as a log yard and sawmill. The Saco River Lumber Company is indicated on historic maps of the late 19th century and the Diamond Match Company was operational on the site from approximately 1881 until the 1970s. From historic records, we understand that most of the buildings were razed in the 1980s following a fire. Numerous previous structures associated with previous sawmills and lumber yards are indicated on the historic aerial images and Sanborn Insurance Maps presented in Appendix E. The images and maps span a time frame from approximately 1885 through 2015.

We understand the proposed development includes six, multi-story residential buildings with one level of below-grade parking and mixed use on the ground floor. We understand the residences will contain a mix of studio, 1-bedroom and 2-bedroom apartments. The proposed residential buildings are summarized as follows:

- Building A: proposed footprint of 19,560 SF - 6 stories;
- Building B: proposed footprint of 14,288 SF - 6 stories;
- Building C: proposed footprint of 19,000 SF - 5 stories;
- Building D: proposed footprint of 18,000 SF - 5 stories;
- Building E: proposed footprint of 21,200 SF - 5 stories;
- Building F: proposed footprint of 16,400 SF - 5 stories;

We understand the development plans also call for a three-story parking garage with a footprint of approximately 28,000 SF and no below-grade space. Proposed surface parking for approximately 165 vehicles is planned along with a riverfront walk, parks and a playground.

Proposed and existing site features are shown on the “Exploration Location Plan” attached in Appendix B.

2.0 EXPLORATION AND TESTING

2.1 Explorations

On December 20 and 21, 2021, eight, widely-spaced test borings (B-1 through B-8) were made across the site by S. W. Cole Explorations, LLC. The exploration locations were selected by S. W. Cole Engineering, Inc. (S.W.COLE) and established in the field using GPS methods.

The approximate exploration locations are shown on the “Exploration Location Plan” attached in Appendix B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix C. Ground surface elevations noted on the logs were estimated from topographic information shown on the “Exploration Location Plan”.

2.2 Testing

The test borings were drilled using hollow stem auger techniques. The soils were sampled at 2-to-5-foot intervals using a split spoon sampler and Standard Penetration Testing (SPT) methods. SPT blow counts are shown on the logs.

Soil samples obtained from the explorations were returned to our laboratory for further classification and testing. Laboratory testing include two gradation analyses which are presented in Appendix D.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

Test boring B-1 was located immediately adjacent to the proposed Building A footprint and the existing structure. This test boring encountered a soil profile generally consisting of uncontrolled fill overlying native deposits of glaciomarine sand, silt, clay, and gravel, overlying a refusal surface (probable bedrock) at a depth of approximately 31.6 feet below existing grade. The uncontrolled fills generally consisted of several feet of granular fill overlying about 3 feet of granular fill with sawdust and organics overlying granular fill to a depth of approximately 10 feet below existing grade at B-1.

Test boring B-2 was located within the proposed Building B footprint. This test boring encountered a soil profile generally consisting of a thin veneer of topsoil overlying

uncontrolled fill overlying native deposits of glaciomarine silt, clay, sand, and gravel, overlying a refusal surface (probable bedrock) at a depth of approximately 19.5 feet below existing grade. The topsoil and granular fills extended to a depth of approximately 2 feet below existing grade at B-2.

Test boring B-3 was located within the proposed Building C footprint. This test boring encountered a soil profile generally consisting of a thin veneer of topsoil overlying uncontrolled fill overlying native deposits of glaciomarine sand, silt, and gravel, overlying a refusal surface (probable bedrock) at a depth of approximately 10.5 feet below existing grade. The topsoil and granular fills extended to a depth of approximately 5 feet below existing grade at B-3

Test boring B-4 was located within the proposed Building D footprint. This test boring encountered a soil profile generally consisting of uncontrolled fill overlying native deposits of glaciomarine sand, silt and clay overlying a refusal surface (probable bedrock) at a depth of approximately 22.0 feet below existing grade. The uncontrolled fills extended to a depth of approximately 14 feet below existing grade with the lower 9-foot thickness consisting primarily of wood and sawdust at B-4.

Test boring B-5 was located within a proposed riverbank recreation area at the west end of the site. The test boring encountered a soil profile generally consisting of uncontrolled fill overlying native deposits of glaciomarine silt and clay which extended to the bottom of the exploration at a depth of approximately 27 feet below the existing ground surface. The uncontrolled fills extended to a depth of approximately 11 feet below the existing grade with the lower 8-foot thickness consisting primarily of wood and sawdust.

Test boring B-6 was located within the proposed Building E footprint. This test boring encountered a soil profile generally consisting of a thin veneer of topsoil and uncontrolled fills overlying a shallow refusal surface (probable bedrock) at depths ranging from about 2 to 2.5 feet below the existing ground surface.

Test boring B-7 was located within the proposed Building F footprint. This test boring encountered a soil profile generally consisting of uncontrolled fill overlying native deposits of glaciomarine silt, clay, and sand, overlying a refusal surface (probable bedrock) at a

depth of approximately 10.5 feet below existing grade. The uncontrolled fills extended to a depth of approximately 5 feet below existing grade at B-7.

Test boring B-8 was located within the proposed Parking Garage footprint. This test boring encountered a soil profile generally consisting of uncontrolled fill overlying native deposits of glacial outwash gravel and sand, overlying a refusal surface (probable bedrock) at a depth of approximately 9.2 feet below existing grade. The uncontrolled fills extended to a depth of approximately 5 feet below existing grade with the lower 3-foot thickness consisting primarily of wood and sawdust at B-8.

Not all the strata were encountered in each exploration; refer to the attached logs for more detailed subsurface information.

3.2 Groundwater

Groundwater was observed in test boring B-1 (Building A) at a depth of approximately 13.0 feet below grade which corresponds to approximate elevation 46 feet.

Groundwater was observed in test boring B-2 (Building B) at a depth of approximately 10.0 feet below grade which corresponds to approximate elevation 53.4 feet.

Groundwater was observed in test boring B-3 (Building C) at a depth of approximately 3.0 feet below grade which corresponds to approximate elevation 72 feet. It is anticipated that the groundwater at this location is perched on the relatively impervious glaciomarine deposit and bedrock.

Groundwater was observed in test boring B-4 (Building D) at a depth of approximately 9.0 feet below grade which corresponds to approximate elevation 50.3 feet.

Groundwater was observed in test boring B-5 (West Recreation Area) at a depth of approximately 10.0 feet below grade which corresponds to approximate elevation 45 feet.

Groundwater was not observed in test boring B-6 (Building E) as the two exploration attempts encountered shallow refusals at depths of 2.1 and 2.8 feet below ground surface.

Groundwater was observed in test boring B-7 (Building F) at a depth of approximately 5.0 feet below grade which corresponds to approximate elevation 69.7 feet. It is anticipated that the groundwater at this location is perched on the relatively impervious glaciomarine deposit and bedrock.

Groundwater was observed in test boring B-8 (Parking Garage) at a depth of approximately 5.0 feet below grade which corresponds to approximate elevation 63 feet. It is anticipated that the groundwater at this location is perched on the relatively shallow bedrock surface.

Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to periods of snowmelt, precipitation, changes in river levels, alterations of existing drainage courses and changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Foundation and Floor Slab Considerations

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. The principal foundation and floor slab considerations include:

Building A (assumed FFE ~ 64 feet; BFE ~ 55 feet): The subsurface conditions encountered beneath the proposed Building A structure are generally unsuitable for direct support of spread footing foundations; consequently, we recommend pile-supported foundations.

An on-grade basement garage slab bearing on compacted Crushed Stone and filter fabric overlying the native glaciomarine deposits appears to be feasible provided that the slab is drained and above the flood elevation of the river. If drainage of the slab is not feasible or the slab is below the flood elevation of the river, it may have to be designed to withstand hydrostatic forces associated with the maximum anticipated head condition. In this case, membrane waterproofing of foundation walls and slabs would likely be required.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building A to correspond to Seismic Soil Site Class E (IBC 2015).

Building B (assumed FFE ~ 67 feet; BFE ~ 58 feet): The subsurface conditions encountered beneath the proposed Building B structure are generally unsuitable for direct support of spread footing foundations; consequently, we recommend pile-supported foundations.

An on-grade basement garage slab bearing on compacted Crushed Stone and filter fabric overlying the native glaciomarine deposits appears to be feasible provided that the slab is drained. If drainage of the slab is not feasible, it may have to be designed to withstand hydrostatic forces associated with the maximum anticipated head condition. In this case, membrane waterproofing of foundation walls and slabs would likely be required.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building B to correspond to Seismic Soil Site Class D (IBC 2015).

Building C (assumed FFE ~ 70 feet; BFE ~ 61 feet): The subsurface conditions encountered beneath the proposed Building C structure are anticipated to be suitable for direct support of spread footing foundations on bedrock transitioning to pile-supported foundations as the bedrock surface becomes deeper. Groundwater was observed at approximately 5 feet below grade and the bedrock surface is anticipated to be sloping across the building pad.

Assuming the basement level slab can be drained, an on-grade floor slab bearing on compacted Crushed Stone and filter fabric overlying the native glaciomarine deposits or bedrock appears to be feasible. Based on the groundwater levels, drainage mats and moisture proofing may be required for the foundation walls.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building C to correspond to Seismic Soil Site Class C (IBC 2015).

Building D (assumed FFE ~ 70 feet; BFE ~ 61 feet): The subsurface conditions beneath the proposed Building D structure are generally unsuitable for direct support of spread footing foundations; consequently, we recommend pile-supported foundations.

Due to the presence of wood and sawdust fill extending below groundwater to a depth of approximately 14 feet, it may be advantageous to delete the basement level, and raise the

elevation of the proposed basement level to about elevation 61 feet providing a walk-out basement level leaving the wood and sawdust fill in-place and supporting the building on a pile-supported structural mat slab. Considering progressive decay of the wood and sawdust, a under slab venting system is recommended to mitigate potential infiltration of methane gas into the garage and building.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building D to correspond to Seismic Soil Site Class F (IBC 2015).

Building E (assumed FFE ~ 75 feet; BFE ~ 66 feet): The subsurface conditions beneath the proposed Building E structure are anticipated to be suitable for direct support of spread footing foundations on bedrock. However, bedrock was encountered at less than 3 feet below the existing grade; consequently, we consideration be given to eliminating the basement to avoid bedrock excavation.

An on-grade floor slab bearing on a layer of compacted Structural Fill and Crushed Stone overlying the bedrock appears to be feasible. A radon venting system should be planned considering the shallow depth to bedrock.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building E to correspond to Seismic Soil Site Class C (IBC 2015).

Building F (assumed FFE ~ 75 feet; BFE ~ 66 feet): The subsurface conditions beneath the proposed Building F structure are anticipated to be suitable for direct support of spread footing foundations on bedrock at approximately one level below grade. Groundwater was observed at approximately 5 feet below existing grade which could impact the design of the below-grade parking space. Therefore, it may be advantageous to further investigate groundwater levels across Building F and evaluate potential drainage options in consideration of the proposed basement elevation.

Assuming the basement level slab can be drained, an on-grade floor slab bearing on compacted Crushed Stone overlying the glaciomarine deposits or bedrock appears to be feasible. Based on the groundwater levels, drainage mats and moisture proofing may be required for the foundation walls.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath Building F to correspond to Seismic Soil Site Class D (IBC 2015).

Parking Garage (assumed FFE ~ 70 feet; BFE ~ 61 feet): The subsurface conditions beneath the proposed Parking Garage structure are anticipated to be suitable for direct support of spread footing foundations on the very dense glaciomarine deposit or on bedrock. Overexcavations of unsuitable fill materials will be required within the proposed building footprint. An on-grade floor slab at the approximate existing grade bearing on compacted Structural Fill overlying the native very dense glaciomarine deposits appears to be feasible.

Considering the subsurface conditions, the elevation of the bearing strata, the need to remove unsuitable soils beneath an on-grade slab and the potential loss of below grade parking beneath Building E, it may be advantageous to consider adding a level of below grade parking beneath the proposed parking garage.

Based on the available subsurface information, we preliminarily interpret the soil profile beneath the Parking Garage to correspond to Seismic Soil Site Class C (IBC 2015) which may improve to Site Class B if a basement level is added.

Riverfront Walk and Recreation Areas: The subsurface conditions in the proposed recreation areas at the west end of the site indicate the presence of wood and sawdust fill from approximately 5 to 9 feet below the existing grade. Accordingly, we recommend that granular fill be placed to raise the grade and provide improved base materials for proposed surface treatments. Additionally, we recommend that proposed underground utilities be located outside areas underlain by sawdust and organics.

4.2 Excavation, Dewatering and Grading Considerations

Excavation work will generally encounter uncontrolled fills, relic foundations, relic utilities, relic structures, sawdust, wood and native deposits of gravel, sand, silt, and clay. Groundwater and bedrock are also anticipated to be encountered. Care must be exercised during construction to limit disturbance of the site soils. Earthwork and grading activities should occur ideally during drier, non-freezing weather of Spring, Summer, and Fall. Rubber tired construction equipment should not operate directly on the native silts

and clays, particularly when wet. Final cuts to soil subgrades should be performed with a smooth-edged bucket to help reduce strength loss from soil disturbance.

Based on the subsurface findings, we anticipate blasting may be required for bedrock removal. If bedrock removal by drilling and blasting is permitted, a licensed drilling and blasting contractor should be engaged to plan and undertake blasting. If blasting is not permitted, bedrock removal by hoe-ramming should be anticipated. In all cases, we recommend pre-construction surveys be completed on surrounding structures, water supply wells and infrastructure prior to mobilization and commencing construction activities.

Vibrations from construction should be controlled below threshold limits of 0.5 in/sec for structures, water supply wells and infrastructure within 500 feet of the project site. More restrictive vibration limits may be warranted in specific cases with sensitive equipment, historic structures, or artifacts on-site or within close proximity.

Sumping and pumping dewatering techniques should be adequate to control groundwater in most foundation and utility excavations. Excavations into sawdust and below groundwater are anticipated to require interlocking steel sheetpiling for excavation support and groundwater cutoff. Controlling the water levels to at least one foot below planned excavation depths will help stabilize subgrades during construction.

Excavations must be properly shored or sloped in accordance with OSHA Regulations to prevent sloughing and caving of the sidewalls during construction. Care must be taken to preclude undermining adjacent utilities, railways, and roadways. The design and planning of excavations, excavation support systems, and dewatering is the responsibility of the contractor.

The on-site granular fills and native sands may be suitable for reuse as compacted Granular Borrow in paved and landscape areas. The native silts and clays are unsuitable for reuse in building, paved and hardscape areas, but may be reused in landscape areas. The sawdust is unsuitable for reuse in construction and should be properly disposed off-site.

4.3 Pavement Considerations

We anticipate that new pavements will be subjected to primarily passenger car traffic, with occasional delivery truck traffic. Considering the site soils and anticipated usage, we recommend that imported base and subbase materials be provided for support of new pavements.

Paved areas should be graded to promote surface drainage away from structures. Frost penetration can be on the order of 4 feet or more in this area. In the absence of full frost depth excavation of frost susceptible soils or use of insulation, frost will penetrate into the subgrade and some frost heaving and pavement distress will occur and must be anticipated.

4.4 Recommendations for Additional Study

S.W.COLE should be engaged to perform additional test boring and test pit explorations to further define the subsurface soil, bedrock, and groundwater conditions within each of the proposed building and proposed garage footprints

S.W.COLE should be engaged to perform geophysical surveys to aid in determining the final Seismic Site Class and profile the bedrock surface for each building.

S.W.COLE should be engaged to prepare a Design-Phase Geotechnical Report considering the additional explorations and geophysical surveys and schematic designs for the site, utilities, and buildings.

5.0 CLOSURE

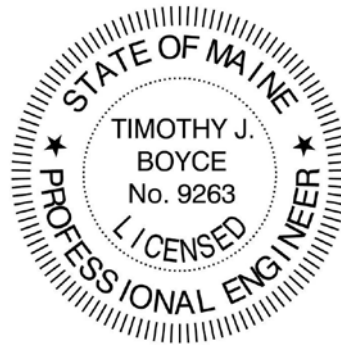
It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the final design and construction phases of the project.

Sincerely,

S. W. Cole Engineering, Inc.

Paul R. Wadsworth, P.E.
Senior Geotechnical Engineer

Timothy J. Boyce, P.E.
Principal Geotechnical Engineer



PRW:tjb

APPENDIX A

Limitations

This preliminary geotechnical report has been prepared for the exclusive use of Barrett Made for specific application to the proposed One Diamond Residential Development in Biddeford, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

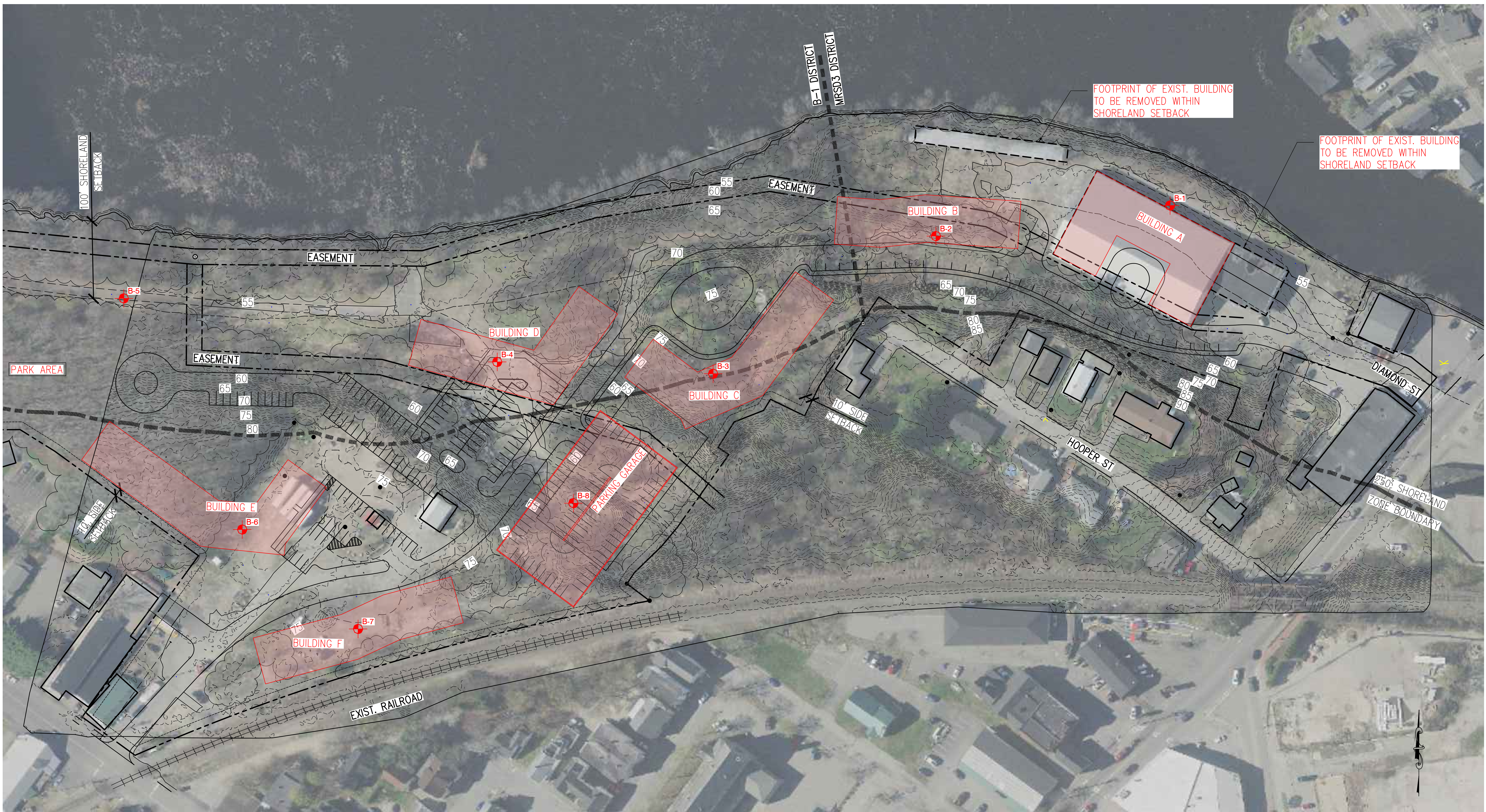
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

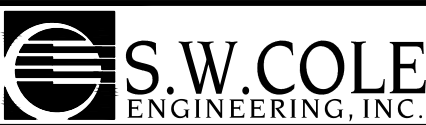
 APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=100' SCALE PLAN OF THE SITE ENTITLED "PROPOSED GRADING AND DRAINAGE PLAN," PREPARED BY TRILLIUM ENGINEERING GROUP, DATED 5/27/2021.
2. THE BORINGS WERE LOCATED IN THE FIELD BY GPS SURVEY BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE GPS RECEIVER.

3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 60 120 Feet



BARRETT MADE
EXPLORATION LOCATION PLAN
ONE DIAMOND
ONE DIAMOND STREET
BIDDEFORD, MAINE

Job No.: 21-1652 Scale: 1" = 60'
Date: 01/17/2022 Sheet: 1

APPENDIX C

Exploration Logs and Key



BORING LOG

CLIENT: Barrett Made
 PROJECT: Proposed One Diamond Residential Development
 LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: **B-1**
 SHEET: 2 of 2
 PROJECT NO. 21-1652
 DATE START: 12/20/2021
 DATE FINISH: 12/20/2021

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			7D		25-27	24/9	1-2-2-1		25.0 Medium stiff, gray silty CLAY		
	30		8D		30-30.9	11/11	38-50/5"		30.0 Very dense, gray clayey GRAVEL		

Auger Refusal at 31.6 feet
 Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-1**



BORING LOG

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-2
SHEET: 1 of 1
PROJECT NO.: 21-1652
DATE START: 12/21/2021
DATE FINISH: 12/21/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 63.4' +/- TOTAL DEPTH (FT): 19.5 LOGGED BY: Afeez Akanbi
DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
WATER LEVEL DEPTHS (ft): 10 ft soils appear saturated at 10 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
At time of Drilling
At Completion of Drilling
After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D		0-2	24/12	4-2-2-4		0.3 Surface; Topsoil = 3 inches thick Loose, brown gravelly silty fine SAND (Fill)		
			2D		2-4	24/22	5-5-5-5		2.0 Stiff to very stiff gray silty CLAY, trace fine sand		
60	5		3D		5-7	24/12	5-11-14-17				
55	10		4D		10-12	24/0	36-32-22-10		10.0 No recovery (probable sand and gravel with cobbles)		
50			5D		12.5-14.5	24/18	4-3-4-3		12.5 Loose, gray sandy SILT, some clay		
45	15		6D		15-17	24/18	3-2-7-8		15.0 Loose, gray fine SAND and SILT, some clay, trace gravel		

Auger Refusal at 19.5 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-2

BORING / WELL 21-1652.GPJ SWCE TEMPLATE.GDT 1/13/22



BORING LOG

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-3
SHEET: 1 of 1
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 75' +/- TOTAL DEPTH (FT): 10.5 LOGGED BY: Afeez Akanbi
DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
WATER LEVEL DEPTHS (ft): 3 ft Soils appear saturated at 3 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
▽ At time of Drilling
▽ At Completion of Drilling
▽ After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
70	5		1D		0-2	24/18	2-5-4-6		Surface; Topsoil = 4 inches thick Loose to medium dense, brown gravelly silty SAND (Fill)	▽	
			2D		2-4	24/6	9-5-6-8				
			3D		5-7	24/20	8-10- 13-13				
65	10		4D		10-10.3	3/0	50/3"		Medium dense, brown silty SAND, some gravel		

Auger Refusal at 10.5 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-3



BORING LOG

CLIENT: Barrett Made
 PROJECT: Proposed One Diamond Residential Development
 LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-4
 SHEET: 1 of 1
 PROJECT NO. 21-1652
 DATE START: 12/20/2021
 DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 59.3' +/- TOTAL DEPTH (FT): 22.0 LOGGED BY: Afeez Akanbi
 DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
 RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
 HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
 HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
 WATER LEVEL DEPTHS (ft): 9 ft soils appear saturated at 9 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
 ∇ At time of Drilling
 ▽ At Completion of Drilling
 ▽ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D		0-2	24/21	12-12- 11-27		0.3 Surface; Topsoil = 4 inches thick Dense, brown/black gravelly silty SAND (Fill)		
			2D		2-4	24/8	15-15- 12-5		2.0 Medium dense, brown gravelly SAND, some silt (Fill)		
55	5		3D		5-7	24/10	3-3-3-3		5.0 Very loose to loose dark brown WOOD, SAWDUST and ORGANIC SILT (Fill)		
50	10		4D		10-12	24/24	2-1-1-3			∇	
45	15		5D		15-17	24/22	2-2-2-2		14.0 Medium stiff, gray silty CLAY		
40	20		6D		20-22	24/18	5-3-3-3		20.0 Loose, gray-brown sandy SILT, trace gravel, trace clay		

Auger Refusal at 22.0 feet
 Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-4

BORING / WELL 21-1652.GPJ SWCE TEMPLATE.GDT 1/13/22



BORING LOG

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-5
SHEET: 1 of 2
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 55' +/- TOTAL DEPTH (FT): 27.0 LOGGED BY: Afeez Akanbi
DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
WATER LEVEL DEPTHS (ft): 10 ft Soils appear saturated at 10 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
At time of Drilling
At Completion of Drilling
After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D		0-2	24/12	1-6-10-11		0.3 Surface; Topsoil = 4 inches thick Medium dense, brown gravelly silty SAND (Fill)		
			2D		2-4	24/0	6-3-4-3		2.0 No recovery, probably SAND, similar to previous sample (Fill)		
50	5		3D		5-7	24/10	1-2-1-2		5.0 Very loose dark brown WOOD, SAWDUST and ORGANIC SILT (Fill)		
45	10		4D		10-12	24/15	3-2-2-2		11.0 Medium stiff, gray silty CLAY	10	
40	15		5D		15-17	24/24	3-2-3-2				
35	20		6D		20-22	24/24	2-1-1-1		19.0 Soft gray silty CLAY		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

(Continued Next Page)

BORING NO.: B-5



BORING LOG

CLIENT: Barrett Made
 PROJECT: Proposed One Diamond Residential Development
 LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: **B-5**
 SHEET: 2 of 2
 PROJECT NO. 21-1652
 DATE START: 12/20/2021
 DATE FINISH: 12/20/2021

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			7D	X	25-27	24/24	1-6-8-7		25.0 Stiff gray silty CLAY		

Bottom of Exploration at 27.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-5**



BORING LOG

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-6
SHEET: 1 of 1
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 77.1' +/- TOTAL DEPTH (FT): 2.8 LOGGED BY: Afeez Akanbi
DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
WATER LEVEL DEPTHS (ft): No free water was observed

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level
At time of Drilling
At Completion of Drilling
After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
75			1D		0-2	24/21	10-11- 21-24		0.3 Surface; gravelly Topsoil = 3 inches thick Medium dense, black-brown silty gravelly SAND with red brick (Fill)		
			2D		2-2.3	4/2	50/4"		2.0 Very dense, gray GRAVEL (Fill)		

Auger Refusal at 2.8 feet
Probable bedrock at 2.8 feet, boring was
offset, second refusal at 2.1 feet.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-6



BORING LOG

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-7
SHEET: 1 of 1
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 74.7' +/- TOTAL DEPTH (FT): 10.5 LOGGED BY: Afeez Akanbi
DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
WATER LEVEL DEPTHS (ft): 5 ft Soils appear saturated at 5 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
▽ At time of Drilling
▽ At Completion of Drilling
▽ After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
70 5 65 10			1D	×	0-2	24/21	4-7-10-5	ID 21427S ASTM C-136	0.3 Surface Gravel = 3 inches thick (Fill) Medium dense, black-brown silty gravelly SAND (Fill)	▽	
			2D	×	2-4	24/12	5-10-10-5		2.0 Medium dense, brown SAND, some gravel, trace silt (Fill)		
			3D	×	5-7	24/18	1-3-2-2		5.0 Medium stiff gray-brown clayey SILT, some sand, trace gravel		
			4D	×	10-10.4	5/5	50/5"		10.0 Very dense gray gravelly silty fine SAND		

Auger Refusal at 10.5 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-7



BORING LOG

CLIENT: Barrett Made
 PROJECT: Proposed One Diamond Residential Development
 LOCATION: Diamond Street, Biddeford, Maine

BORING NO.: B-8
 SHEET: 1 of 1
 PROJECT NO. 21-1652
 DATE START: 12/20/2021
 DATE FINISH: 12/20/2021

Drilling Information

LOCATION: See Exploration Location Plan ELEVATION (FT): 68' +/- TOTAL DEPTH (FT): 9.2 LOGGED BY: Afeez Akanbi
 DRILLING CO.: S. W. Cole Explorations, LLC DRILLER: Eric Baron DRILLING METHOD: Hollow Stem Auger
 RIG TYPE: Track Mounted Diedrich D-50 AUGER ID/OD: 2 1/4 in / 5 5/8 in SAMPLER: Standard Split-Spoon
 HAMMER TYPE: Automatic HAMMER WEIGHT (lbs): 140 / 300 CASING ID/OD: N/A / N/A CORE BARREL:
 HAMMER EFFICIENCY FACTOR: 0.91 HAMMER DROP (inch): 30 / 16
 WATER LEVEL DEPTHS (ft): 5 ft Soils appear saturated at 5 feet and below

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS: Water Level
 ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
65	5		1D		0-2	24/12	4-5-6-1		0.3 Surface Gravel = 3 inches thick Medium dense, black-brown silty gravelly SAND (Fill)		
			2D		2-4	24/18	2-2-4-27		2.0 Loose dark brown ORGANIC SILT and SAWDUST, some sand (Fill)		
			3D		5-6.4	17/7	11-34-50/5"		5.0 Very dense, gray GRAVEL, trace sand	∇	

Auger Refusal at 9.2 feet
 Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-8

KEY TO NOTES & SYMBOLS

Test Boring and Test Pit Explorations

Stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q _u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S _v	-	field vane shear strength, kips/sq. ft.
L _v	-	lab vane shear strength, kips/sq. ft.
q _p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W _L	-	liquid limit - Atterberg test
W _P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ _T	-	total soil weight
γ _B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	1/2" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: Test Boring Explorations - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: Test Pit Explorations - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

APPENDIX D

Laboratory Test Results

Project Name **BIDDEFORD ME - ONE DIAMOND DEVELOPMENT - PRELIMINARY
PHASE GEOTECHNICAL ENGINEERING SERVICES**

 Client **BARRETT MADE**

 Material Source **B-1, 1D**

 Project Number **21-1652**

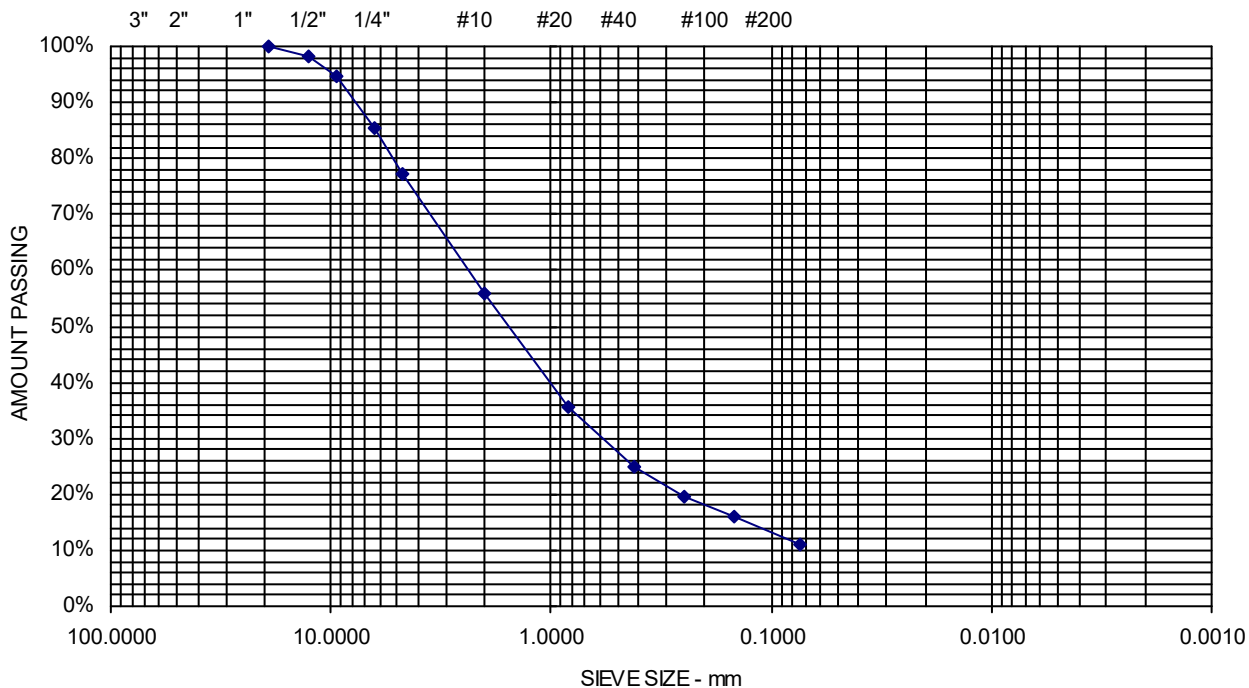
 Lab ID **21426S**

 Date Received **1/12/2022**

 Date Completed **1/13/2022**

 Tested By **BRADLEY GERSCHWILER**

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
19.0 mm	3/4"	100	
12.5 mm	1/2"	98	
9.5 mm	3/8"	95	
6.3 mm	1/4"	85	
4.75 mm	No. 4	77	22.7% Gravel
2.00 mm	No. 10	56	
850 μm	No. 20	36	
425 μm	No. 40	25	66.1% Sand
250 μm	No. 60	20	
150 μm	No. 100	16	
75 μm	No. 200	11.2	11.2% Fines



Comments:

Sheet

Project Name **BIDDEFORD ME - ONE DIAMOND DEVELOPMENT - PRELIMINARY
PHASE GEOTECHNICAL ENGINEERING SERVICES**

Client **BARRETT MADE**

Material Source **B-7. 2D**

Project Number **21-1652**

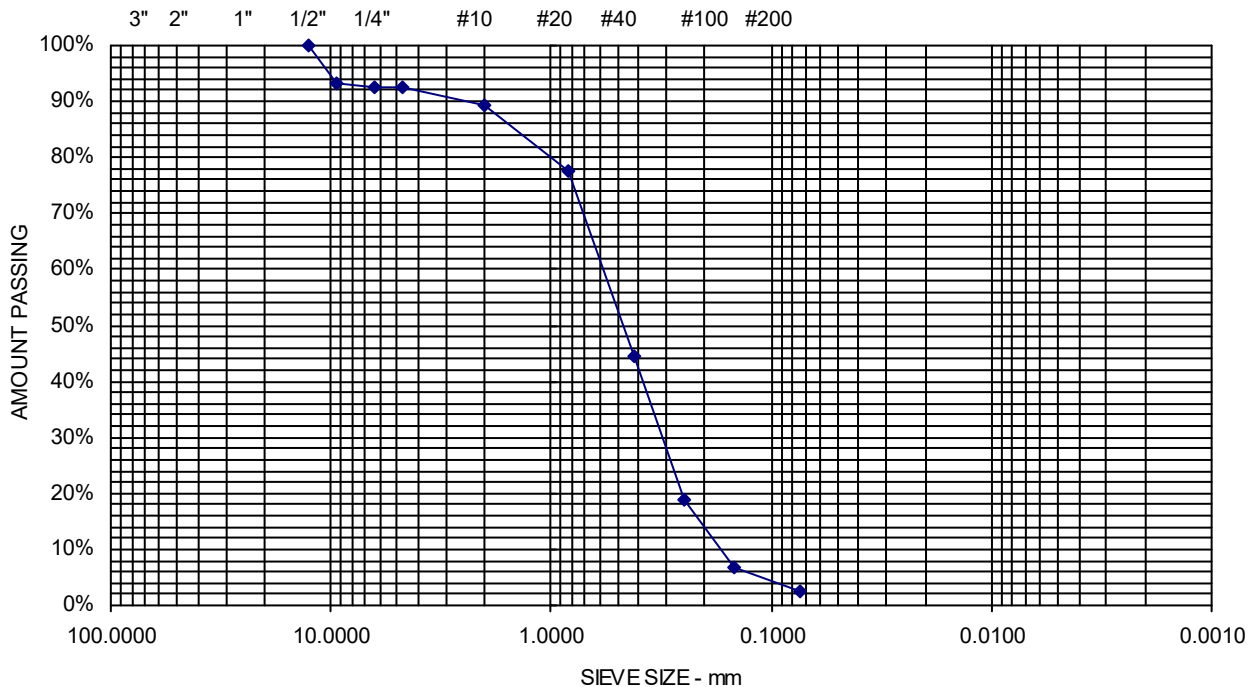
Lab ID **21427S**

Date Received **1/12/2022**

Date Completed **1/13/2022**

Tested By **BRADLEY GERSCHWILER**

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
12.5 mm	1/2"	100	
9.5 mm	3/8"	93	
6.3 mm	1/4"	93	
4.75 mm	No. 4	92	7.6% Gravel
2.00 mm	No. 10	89	
850 μm	No. 20	78	
425 μm	No. 40	45	90% Sand
250 μm	No. 60	19	
150 μm	No. 100	7	
75 μm	No. 200	2.4	2.4% Fines



Comments:

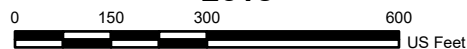
Sheet

APPENDIX E

Historic Aerial Images and Maps



**HISTORICAL IMAGERY
2015**



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 1



HISTORICAL IMAGERY
1986

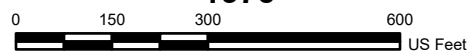
0 150 300 600
US Feet



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 2



HISTORICAL IMAGERY **1970**



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 3



S.W.COLE
ENGINEERING, INC.

HISTORICAL IMAGERY

1956

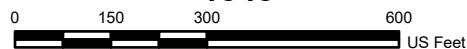
0 150 300 600
US Feet



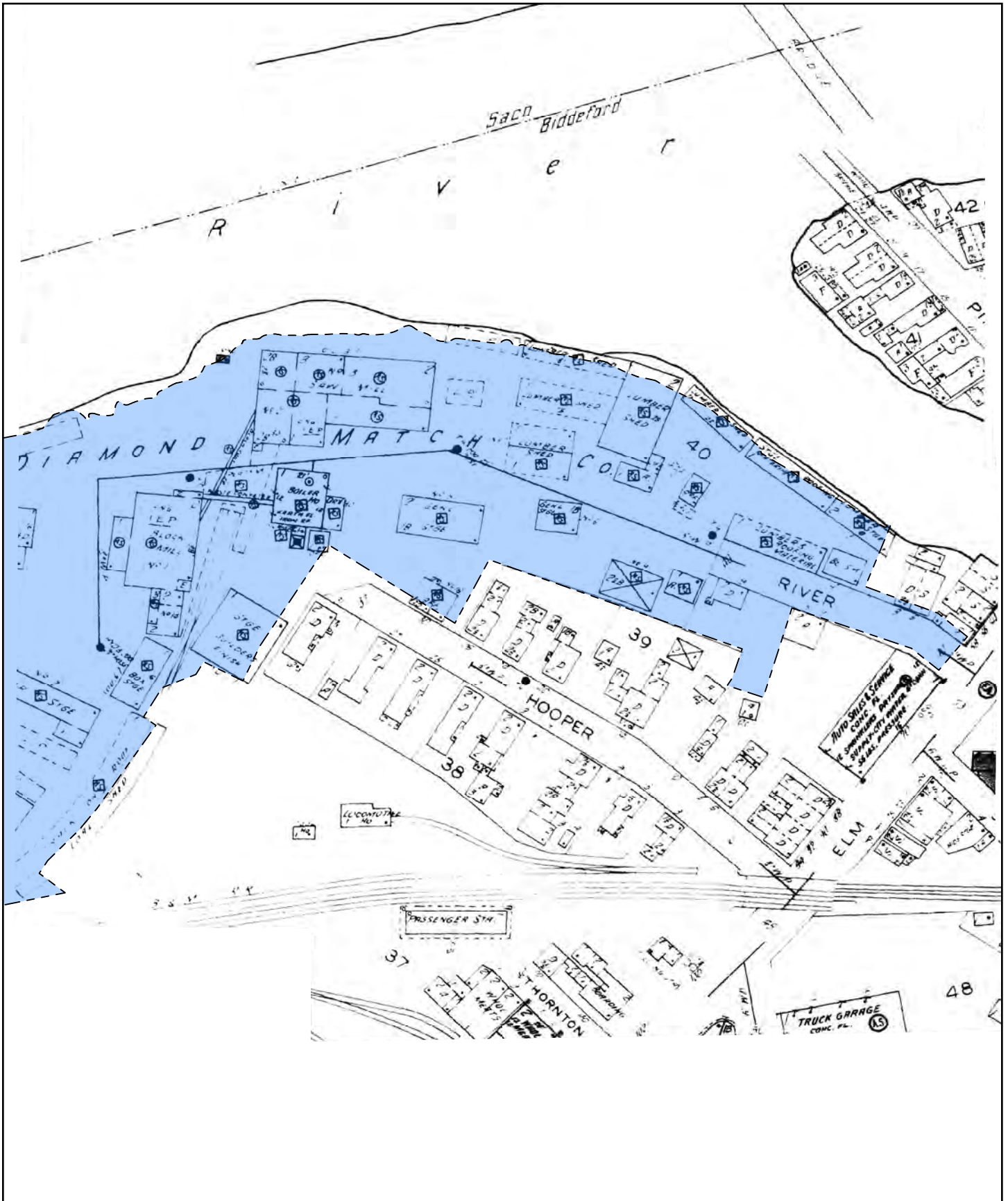
Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 4

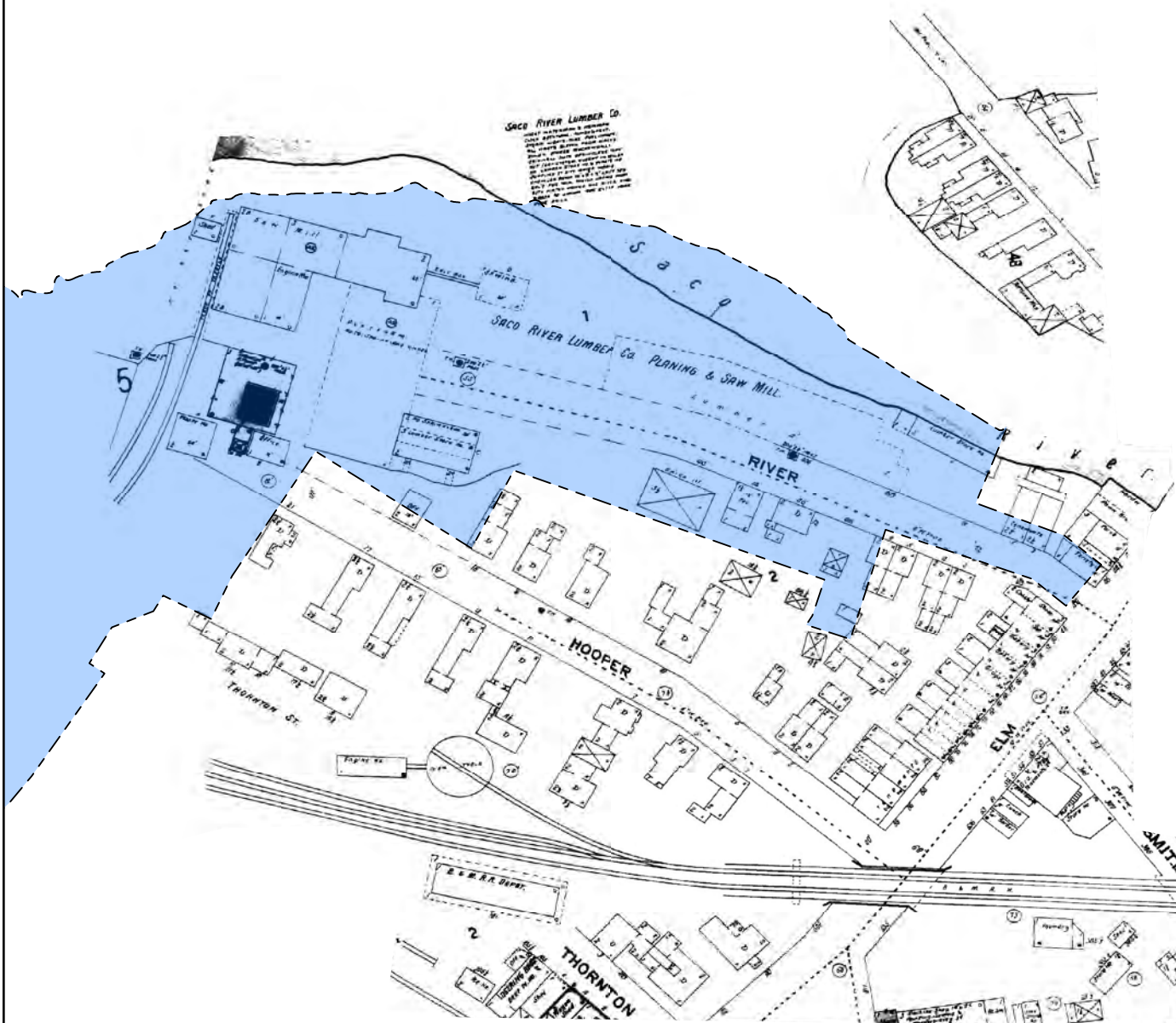


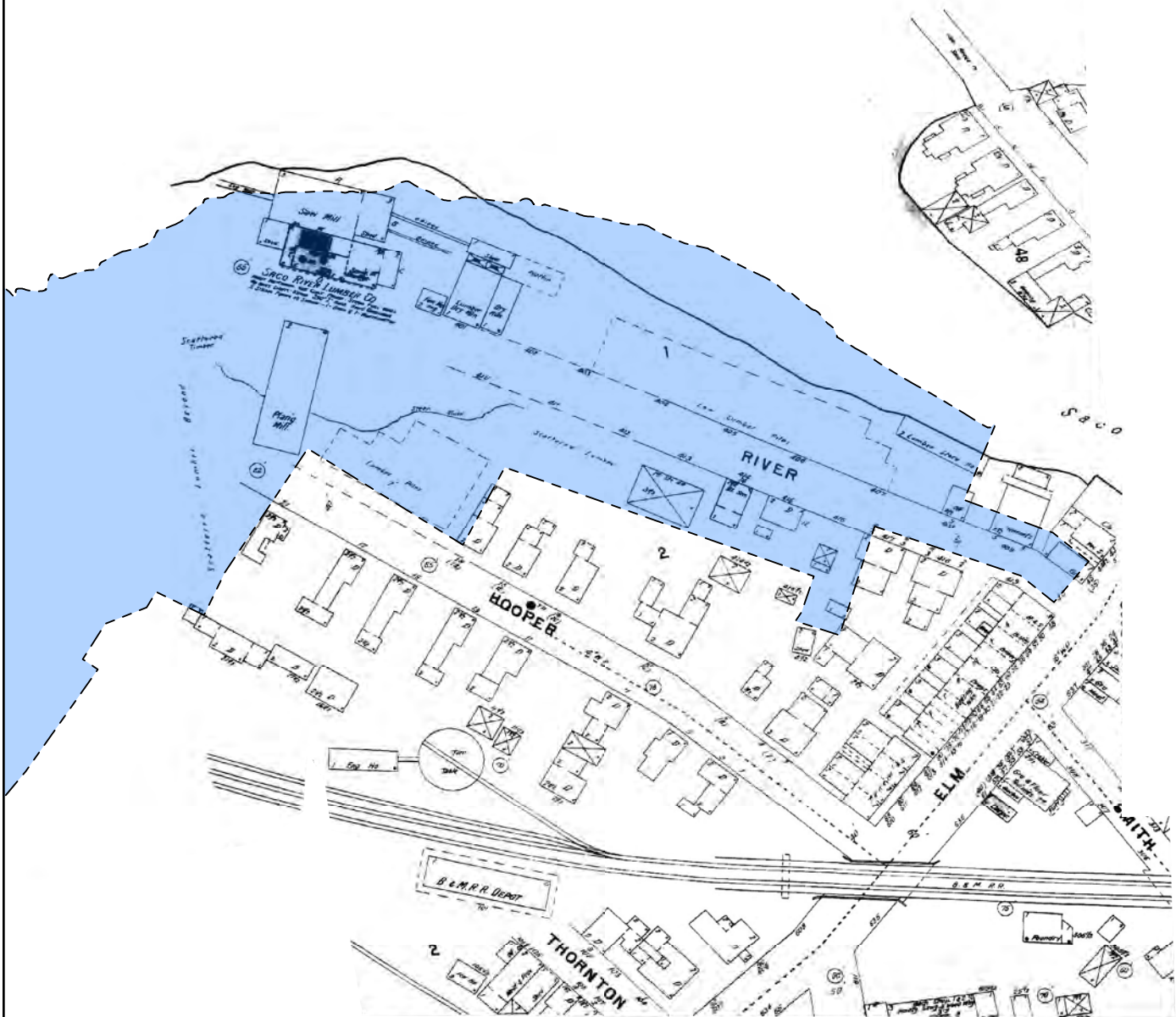
HISTORICAL IMAGERY
1940

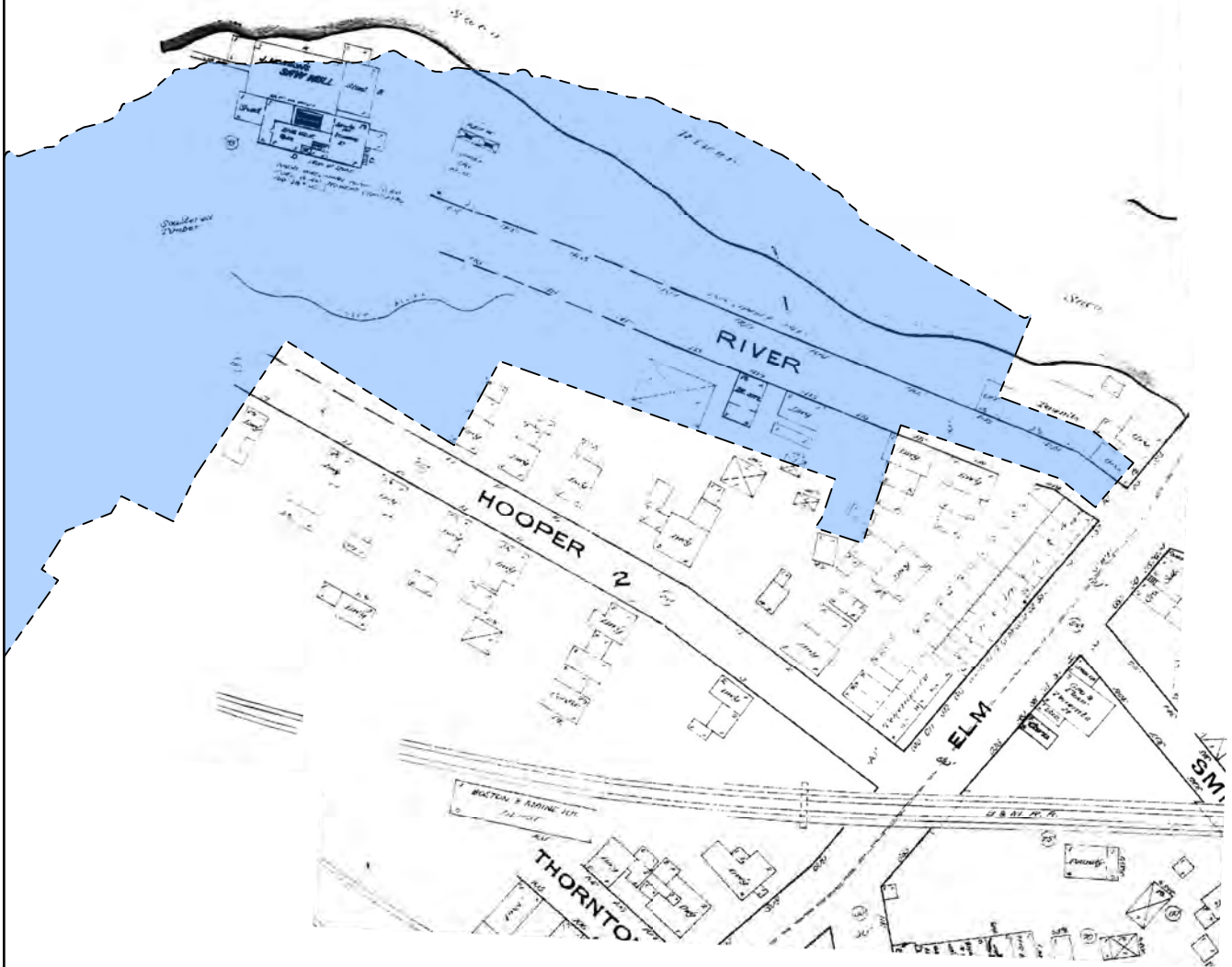


Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 5









S.W. COLE
ENGINEERING, INC.

HISTORICAL MAP **1885**

0 75 150 300
US Feet



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 150'
Sheet: 10



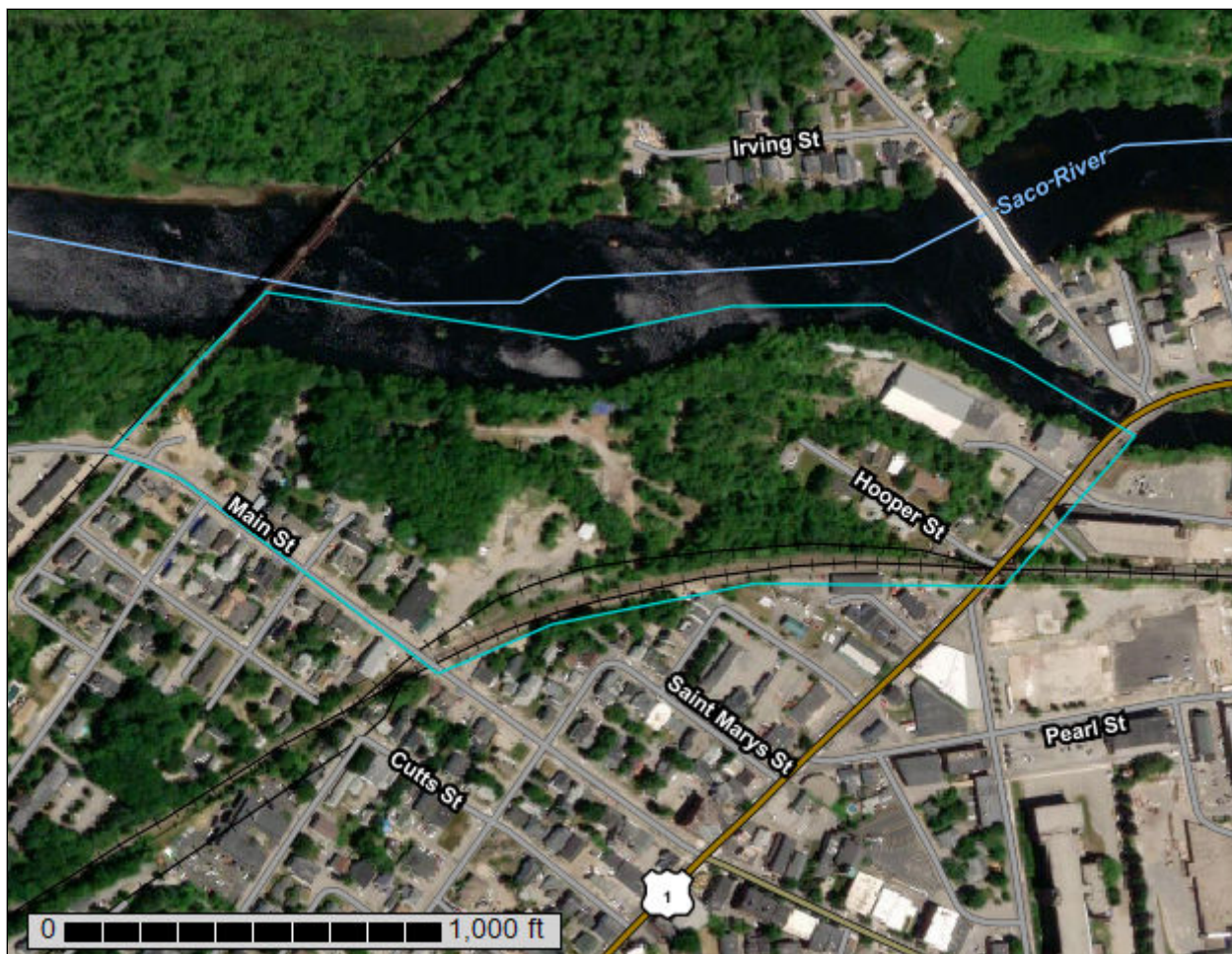
United States
Department of
Agriculture

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 York County, Maine



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 20, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ra	Raynham silt loam	0.3	0.8%
Ur	Urban land	33.0	82.7%
W	Water bodies	6.6	16.4%
Totals for Area of Interest		39.9	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.

York County, Maine

Ra—Raynham silt loam

Map Unit Setting

National map unit symbol: 9k6d
Elevation: 10 to 1,750 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Raynham and similar soils: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raynham

Setting

Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits derived from sandstone and siltstone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 36 inches: silt loam
H3 - 36 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 14.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Ur—Urban land

Map Unit Composition

Urban land: 90 percent

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

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

H1 - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent

Drainage class: Moderately well drained

Depth to water table: About 24 to 72 inches

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

W—Water bodies

Map Unit Composition

Water: 100 percent

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

Description of Water

Setting

Landform: Hills

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

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

Custom Soil Resource Report

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

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

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

Custom Soil Resource Report Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
 Survey Area Data: Version 20, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ra	Raynham silt loam	C/D	0.3	0.8%
Ur	Urban land		33.0	82.7%
W	Water bodies		6.6	16.4%
Totals for Area of Interest			39.9	100.0%

Rating Options—Hydrologic Soil Group*Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

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Exhibit 7

Wetlands Report

Wetland and Vernal Pool Memo

To: Daniel Riley, Vice President, Engineering, PE, CFM

From: Anna Biddle, Environmental Scientist, LSS



Date: June 12, 2023

Project: #18462 – One Diamond Street, Biddeford

Methods of Investigation:

The wetlands on the site were delineated by Anna Biddle of Sebago Technics, Inc. on 6/14/2022. This delineation conforms to the standards and methods outlined in the 1987 Wetlands Delineation Manual and 2012 Northeast Regional Supplement authored and published by the U.S. Army Corps of Engineers. The wetlands were marked in the field with alpha numeric pink “wetland delineation” flagging. The flags were then located using a Trimble GPS backpack unit capable of submeter accuracy.

West of Penobscot Bay and southward from Augusta to Fryeburg, the Maine Department of Inland Fisheries and Wildlife (MDIFW) recommends evidence of Vernal Pool (VP) indicator species egg masses be observed on separate dates during periods established for wood frogs (April 25th- May 10th) and spotted salamanders (May 5th-May 25th). Potential vernal pools (PVPs) can be identified outside (before/after) the recommended survey period but are not necessarily indicative of regulatory jurisdiction. During the recommended survey periods however, VP and Significant Vernal Pool (SVP) characteristics are to be documented on MDIFW data forms and located with submeter accuracy GPS in order to identify the portion of Critical Terrestrial Habitat (CTH) within 250 ft around an SVP referred to as Significant Vernal Pool Habitat (SVPH).

The site was surveyed for vernal pools by Anna Biddle on 4/10/2023.

Location and Description:

The area of investigation (two parcels, for a total of approximately 13 acres) in Biddeford was surveyed for wetlands. The site is bordered by the Saco River to the north.

Results of Wetland Survey:

One small wetland was delineated. The wetland type is Palustrine, Forested, deciduous (PFO1) as defined by the Classification of Wetlands and Deepwater Habitats (Cowardin, et al., 1979). The dominant vegetation found in the wetlands was red maple, sensitive fern, and dogwood. The wetland occupied the low point of a narrow drainage swale. The soil was saturated, with a high water table within six inches.



The wetland does not appear to be a Wetland of Special Significance (WOSS) per the Maine Department of Environmental Protection. WOSS is defined in the Natural Resources Protection Act, Chapter 310 – Wetlands and Waterbodies Protection, Section 4. No streams were delineated on the site. No vernal pool survey has been completed by Sebago Technics, Inc.

Results of Vernal Pool Survey:

No PVPs, VPs or SVPs were observed on the April 10, 2023 Site survey specifically conducted for vernal pools. Depressions do not occur in the forested areas of Site for ponding of surface water and the occurrence of any form of vernal pool. Therefore, a second follow up visit is unnecessary.

Please contact me if you have any questions or need additional information.

Exhibit 8

Water and Sewer

Exhibit 8 Water and Sewer

The proposed project will utilize public water and sewer. The applicant has been in correspondence with Maine Water and the City of Biddeford Wastewater Division. Confirmation of capacity letters will be forwarded with later submittals.

Exhibit 9

Lighting



Date: May 28, 2024

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
Fax: (207) 885-9606

Job Name
ONE DIAMOND STREET
SLA23-55190
BIDDEFORD ME

Bid Date
May 28, 2024

Submittal Date
May 28, 2024

Engineer:
SMRT
144 FORE STREET
PORTLAND ME 04104

Engineer:
SEBAGO TECHNICS
75 JOHN ROBERTS ROAD
SOUTH PORTLAND ME 04106



Transmittal

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
From: Therese Freeman X-103

Project ONE DIAMOND STREET
Quote# SLA23-55190
Location BIDDEFORD ME
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- | | | |
|-----------------------------------|--|--------|
| ☐ Drawings | ☐ Specifications | Other: |
| ☐ Prints | ☐ Information | |
| ☐ Plans | ☒ Submittals | |

THESE ARE TRANSMITTED FOR:

- | | | |
|--|---|---------------------------------|
| ☒ Prior Approval | ☐ Resubmittal for Approval | ☐ Record |
| ☐ Approval | ☐ Corrections | Bids due on: |
| ☐ Approval as Submitted | ☐ Your Use | Other: |
| ☐ Approval as Noted | ☐ Review and Comment | |

Type	MFG	Part
A4	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-4W-UNV-A5-***
A4	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
A5	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-5QW-UNV-A5-***
A5	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
B5	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-5QW-UNV-A5-***
	Item Note: 2@180DEG	
B5	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
U2	BEACON PRODUCTS	URBCAP-21/18L-90/3K7/UNV/2/NRNW/PM/***
U2	BEACON PRODUCTS	AA-44/S/5/B/P/2CC/***
	Item Note: INITIAL ARM OFFERING	
U2	BEACON PRODUCTS	RSSB12-50B-OT-***
U5	BEACON PRODUCTS	URBCAP-21/18L-90/3K7/UNV/5QW/NRNW/PM/***
U5	BEACON PRODUCTS	AA-44/S/5/B/P/2CC/***
	Item Note: INITIAL ARM OFFERING	
U5	BEACON PRODUCTS	RSSB12-50B-OT-***
LCP	NX LIGHTING CONTROLS	CX042S042NN
	CX Lighting Control Panel, 4 Relay 120/277V Input, with 4-20A/1P Elect. Held N/O Relays Nema 1 Sur. Encl. Stand Alone	
\$OR	NX LIGHTING CONTROLS	LVSM1NPWH
	Low Voltage Switch, Momentary, 1 Button, No Pilot, White	



VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY



SERVICE PROGRAMS



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

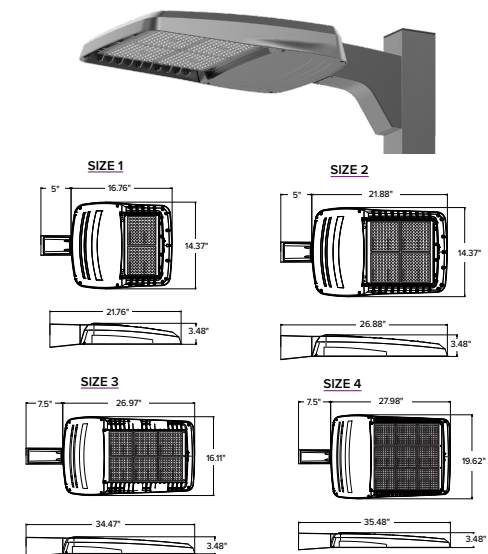
CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0-10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

MICROSTRIKE | STRIKE



	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to <https://www.currentlighting.com/resources/america-solutions>).

WARRANTY

- 5 year warranty



VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

STRIKE OPTIC – ORDERING GUIDE

Example: VP-ST-1-36L-39-3K7-2-UNV-A-BLT

CATALOG #

VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	ST Strike	1 Size 1	36L-39 [*] 5500 lumens 36L-55 [*] 7500 lumens 36L-85 10000 lumens 36L-105 12500 lumens 36L-120 14000 lumens 72L-115 15000 lumens 72L-145 18000 lumens 72L-180 21000 lumens 72L-210 24000 lumens 72L-240 27000 lumens 108L-215 [*] 27000 lumens 108L-250 30000 lumens 108L-280 33000 lumens 108L-325 36000 lumens 108L-365 40000 lumens 162L-320 40000 lumens 162L-365 ¹⁰ 44000 lumens 162L-405 48000 lumens 162L-445 52000 lumens 162L-485 55000 lumens 162L-545 [*] 60000 lumens CLO Custom Lumen Output ¹	AM monochromatic amber, 595nm 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 3K9 3000K, 90 CRI 35K8 3500K, 80 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	FR Auto Front Row 2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QN Type 5 Square Narrow 5QW Type 5 Square Wide 5QM Type 5 Square Medium 5W Type 5 Wide (Round) 5RW Type 5 Rectangular C Corner Optic TC Tennis Court Optic	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2					
		3 Size 3					
		4 Size 4					

Mounting	Specify Std. finish	Options	Network Control Options
A Arm mount for square pole/flat surface A_ Arm mount for round pole ³ ASQU Universal arm mount for square pole A_U Universal arm mount for round pole ³ AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ³ ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ³ MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{12,7,9} 2PF Dual Power Feed 2DR Dual Driver TE Toolless Entry BC Backlight Control TB Terminal Block	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{4,5} WIR LightGRID+ In-Fixture Module ^{4,5} WIRSC LightGRID+ Module and Occupancy Sensor ^{4,5} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP_F Sensor Control Programmable, 8F or 40F ¹¹ ADD AutoDim Timer Based Dimming ⁴ ADT AutoDim Time of Day Dimming ⁴ Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option

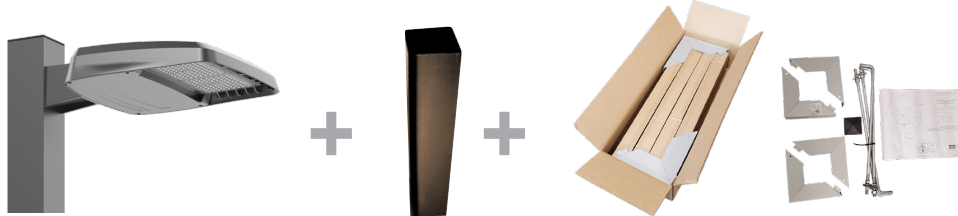
9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration





VIPER Area/Site
VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

OUTDOOR LIGHTING CONTROLS OPTIONS CONTROLS FUNCTIONALITY LIGHTGRID+ NX

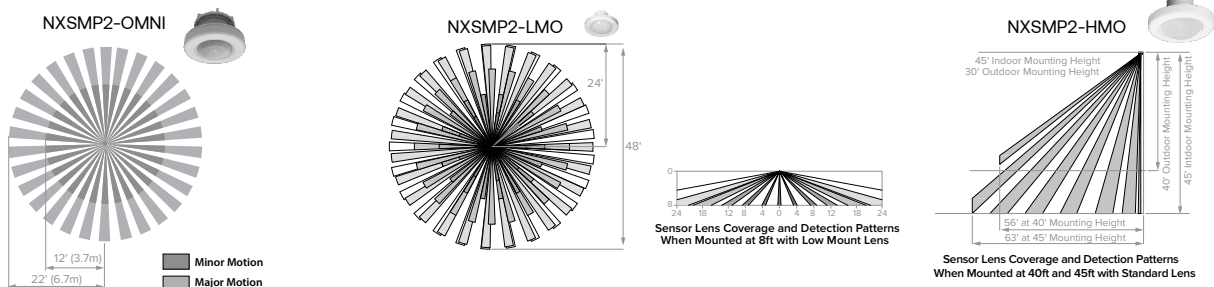
Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
NX Wireless	NXOFMIRID-UNV	✓	✓	✓	Paired with external control	✓	✓	✓	✓	-	 NXOFM-IRID-UV
	NXW	✓	✓	✓	-	-	✓	✓	✓	-	 NXRM2-H
	NXWS12F	✓	✓	✓	✓	✓	✓	✓	✓	12ft	 NXSMP2-OMNI-O
	NXWS16F	✓	✓	✓	✓	✓	✓	✓	✓	16ft	 NXSMP2-LMO
	NXWS40F	✓	✓	✓	✓	✓	✓	✓	✓	40ft	 NXSMP2-HMO
LightGRID+	WIR	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR
	WIR-RME-L	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR-RME-L
	WIRSC	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft	 BTMSP
Independent	BTSO-12F	-	-	-	✓	✓	✓	✓	✓	12ft	 BTSMP-OMNI-O
	BTS-14F	-	-	-	✓	✓	✓	✓	✓	14ft	 BTSMP-LMO
	BTS-40F	-	-	-	✓	✓	✓	✓	✓	40ft	 BTSMP-HMO

DEFAULT SETTINGS

NX Wireless	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	15 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	0%
	Daylight Sensor	Disabled
	Bluetooth	Enabled
	2.4GHz Wireless Mesh	On
*Passcode Factory Passcode: HubBN3T!		Enabled

Stand Alone	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	8 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	50%
	Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&q=US



Apple App



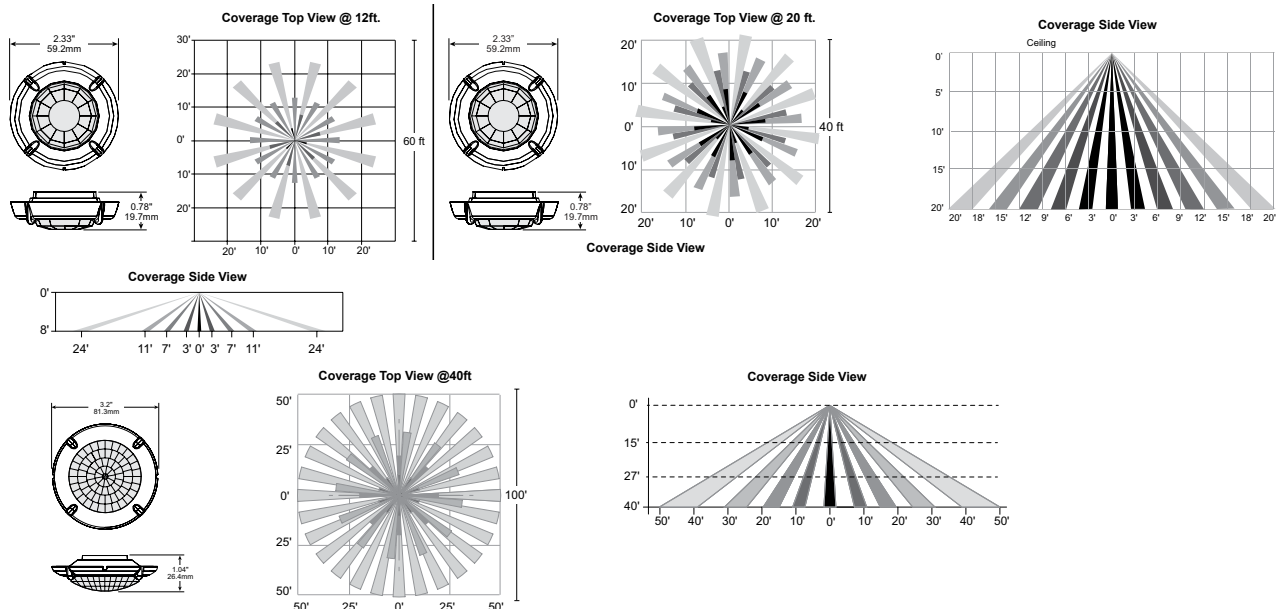
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

	Control Option Ordering Logic & Description	Control Option Functionality									Control Option Components
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	SCP_F Sensor Control Programmable, 8F or 40F	-	-	-	✓	✓	✓	✓	-	8ft or 40ft	SCP_F
	ADD AutoDIM Timer Based Dimming	-	-	✓	-	-	-	✓	-	-	ADD
	ADT AutoDIM Time of Day Dimming	-	-	✓	-	-	-	✓	-	-	ADT
	7PR 7-Pin Receptacle	-	-	Paired with external control	-	Paired with external control	-	Paired with external control	-	-	7PR
	7PR-SC 7-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	7PR-SC
	3PR 3-Pin twist lock	-	-	-	-	-	-	Paired with external control	-	-	3PR
	3PR-SC 3-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	3PR-SC
	3PR-TL 3-Pin with photocontrol	-	-	-	-	✓	-	✓	-	-	3PR-TL

COVERAGE PATTERNS FOR SCP_F





VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier	Micro Strike Lumen Multiplier				Strike Lumen Multiplier			
0°C	32°F	1.03	CCT	70 CRI	80 CRI	90 CRI	CCT	70 CRI	80 CRI	90 CRI
10°C	50°F	1.01	2700K	–	0.841	–	2700K	0.9	0.81	0.62
20°C	68°F	1.00	3000K	0.977	0.861	0.647	3000K	0.933	0.853	0.659
25°C	77°F	1.00	3500K	–	0.900	–	3500K	0.959	0.894	0.711
30°C	86°F	0.99	4000K	1	0.926	0.699	4000K	1	0.9	0.732
40°C	104°F	0.98	5000K	1	0.937	0.791	5000K	1	0.9	0.732
			AP-Amber Phosphor Converted Multiplier				Monochromatic Amber Multiplier			
			Amber	0.710			Amber	See Amber Spec Sheet		



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A5-

Notes:**Type:****A4**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14



VIPER Area/Site

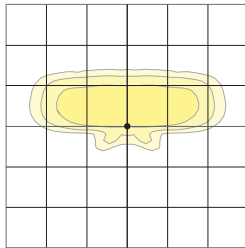
VIPER LUMINAIRE

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

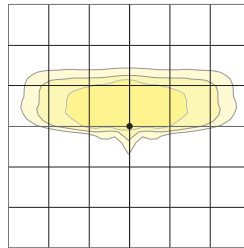
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

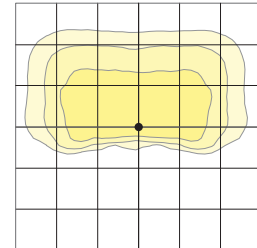
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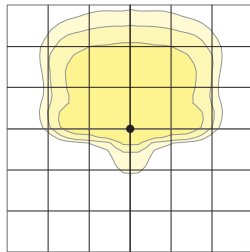
Type 3



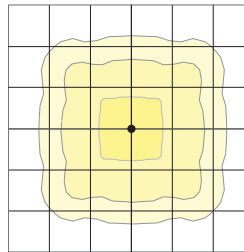
Type 4 Wide



Type 4F



Type 5QW



**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A5-

Notes:**Type:****A4**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

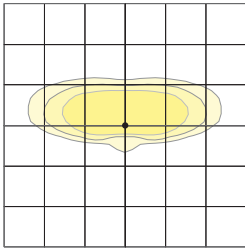
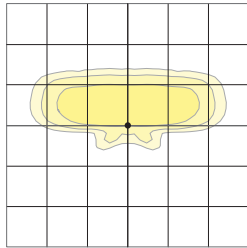
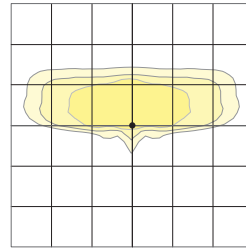
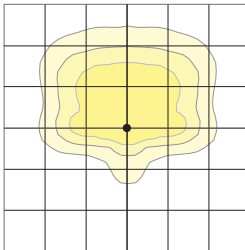
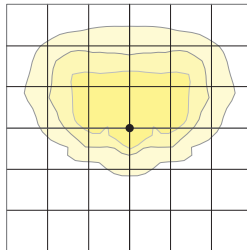
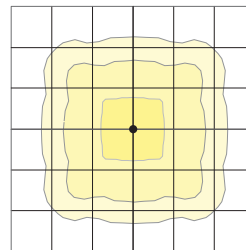
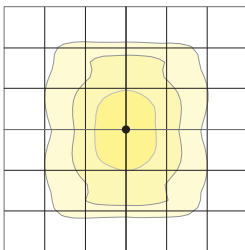
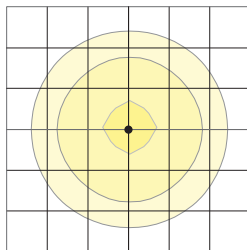
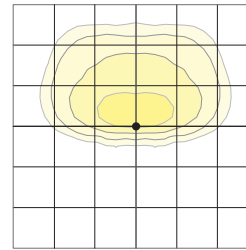
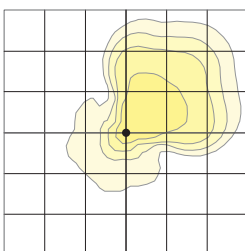
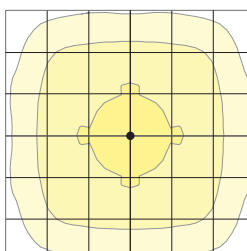
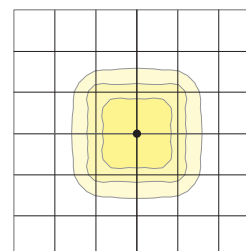
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic**Type 2****Type 3****Type 4 Forward****Type 4 Wide****Type 5QM****Type 5RW (rectangular)****Type 5W (round wide)****Type TC****Type Corner****Type 5QW****Type 5QN**



VIPER Area/Site

VIPER LUMINAIRE

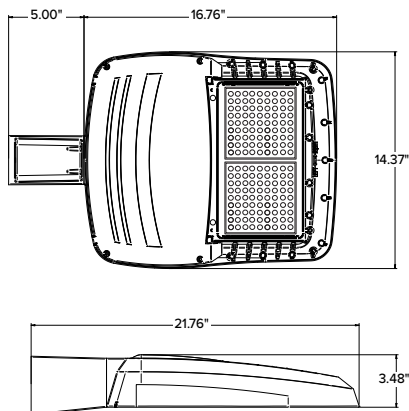
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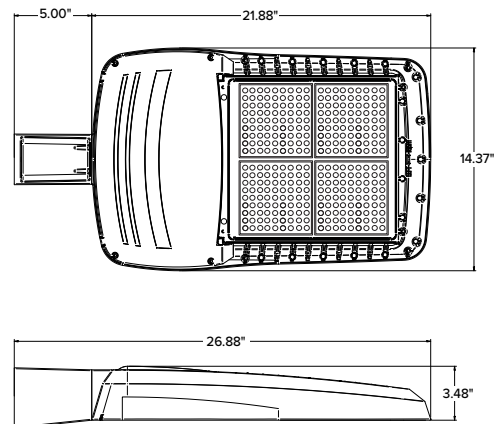
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DIMENSIONS

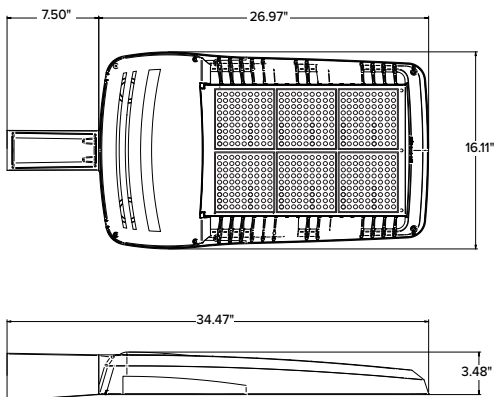
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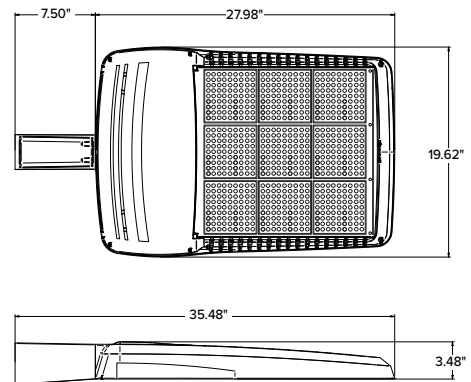
SIZE 2



SIZE 3



SIZE 4



	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

**Job Name:**

ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH
PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A5-

Notes:**Type:****A4**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

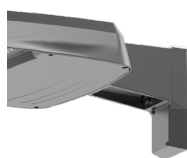
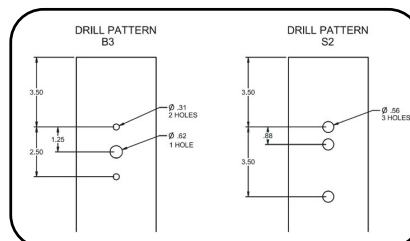
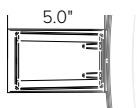
DATE: LOCATION:

TYPE: PROJECT:

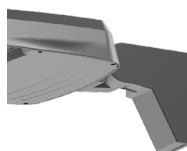
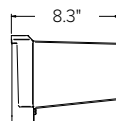
CATALOG #:

MOUNTING**A-STRAIGHT ARM MOUNT**

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

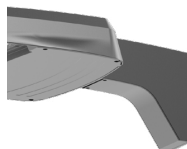
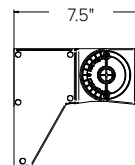
**ASQU-UNIVERSAL ARM MOUNT**

Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

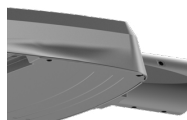
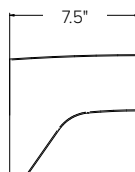
**AAU-ADJUSTABLE ARM FOR POLE MOUNTING**

Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15° aiming angle increments. Micro Strike configurations have a 45° aiming limitation.

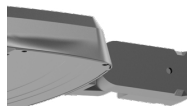
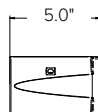
Strike configurations have a 30° aiming limitation.

**ADU-DECORATIVE UPSWEPT ARM**

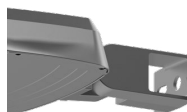
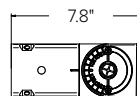
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

**MAF-MAST ARM FITTER**

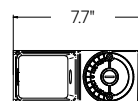
Fits 2-3/8" OD horizontal tenons.

**K-KNUCKLE**

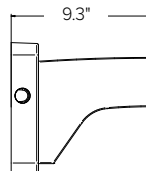
Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

**T-TRUNNION**

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

**WM-WALL MOUNT**

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.

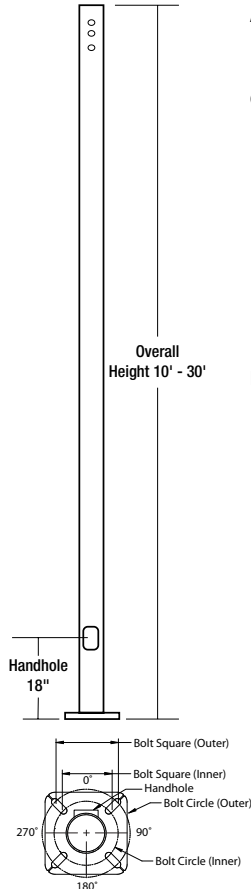




RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

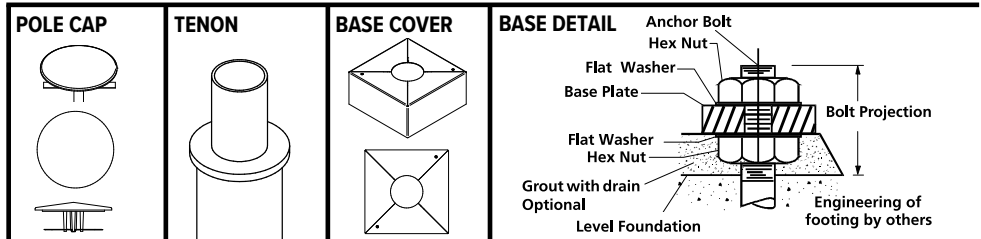
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT:** One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER:** Two-piece square aluminum base cover included standard
- POLE CAP:** Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE:** Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS:** Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING	FINISH	OPTIONS
RSS-B Round Straight Steel Pole Beacon	Reference page 2 Ordering matrix 25	Reference page 2 Ordering matrix 50	Reference page 2 Ordering matrix B	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VG Verde Green Textured Color Option CC Custom Color	GFI 20 Amp GFCI Receptacle and Cover EH Extra Handhole C05 .5" Coupling C07 .75" Coupling C20 2" Coupling MPB Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover

1 Specify option location using logic found on page 2 (Option Orientation)

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

DRILL PATTERN
B1 Cruiser, "AM" arm
B3 2 bolt (2-1/2" spacing), Viper "A" arm
S2 2 bolt (3-1/2" spacing), Viper "AD" arm



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

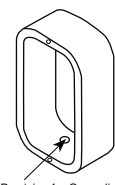
CATALOG #:

ORDERING INFORMATION Cont.

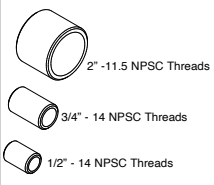
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters										
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING



VM2 - VIBRATION DAMPER 2ND MODE



Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

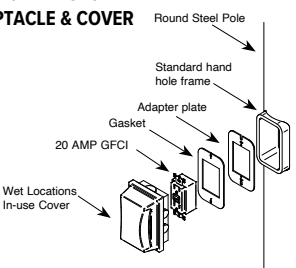
VM2SXX - VIBRATION DAMPER 2ND MODE



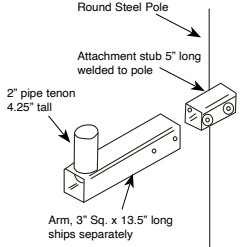
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

GFI – 20 AMP GFCI RECEPTACLE & COVER

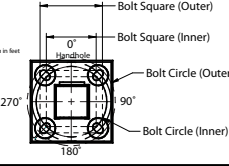


MPB - MID POLE BRACKET



OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

RSSB25-50B-1-B3-***-VM2

Notes:

Type:**A4**

SLA23-55190

**RSS-B-Series**

ROUND STRAIGHT STEEL

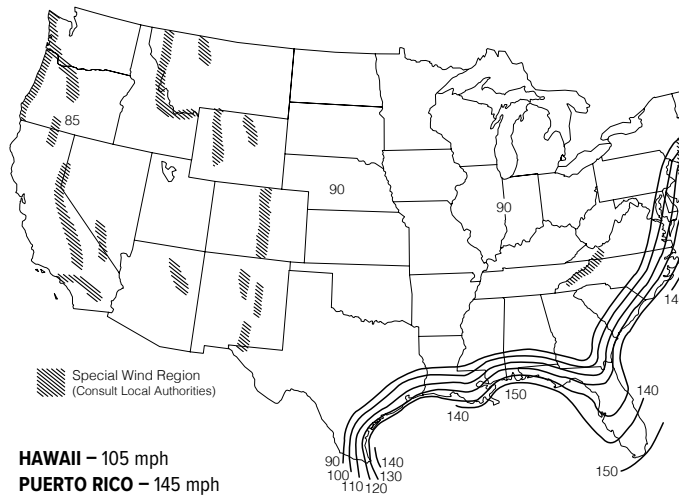
DATE:

LOCATION:

TYPE:

PROJECT:

CATALOG #:

ASCE7-05 WIND MAP

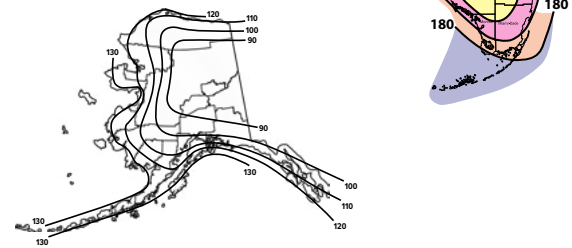
HAWAII – 105 mph

PUERTO RICO – 145 mph

*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP

- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds							
Catalog Number	85	90	100	110	120	105	145
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds							
Catalog Number	115	120	130	140	150	160	170
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0
RSS-B-10-50-B	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	16.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Catalog Number: RSSB25-50B-1-B3-***-VM2 Notes:	Type: A4 SLA23-55190
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

NOTES

Wind-speed Website disclaimer:

Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. <http://windspeed.atcouncil.org>

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLOI0022.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY



SERVICE PROGRAMS



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

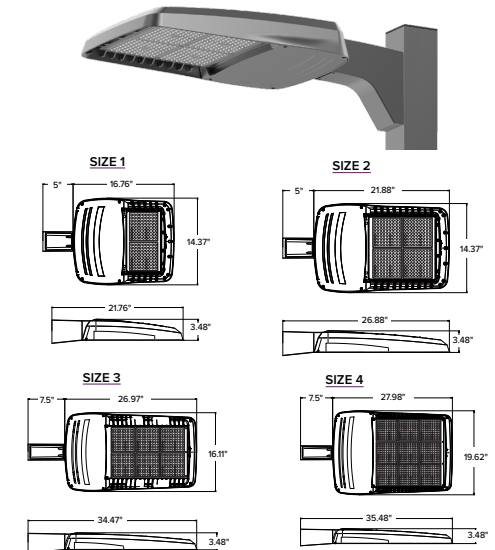
CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0-10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

MICROSTRIKE | STRIKE



	EPA				Config
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to <https://www.currentlighting.com/resources/america-solutions>).

WARRANTY

- 5 year warranty



VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

STRIKE OPTIC – ORDERING GUIDE

Example: VP-ST-1-36L-39-3K7-2-UNV-A-BLT

CATALOG #

VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	ST Strike	1 Size 1	36L-39 [*] 5500 lumens 36L-55 [*] 7500 lumens 36L-85 10000 lumens 36L-105 12500 lumens 36L-120 14000 lumens 72L-115 15000 lumens 72L-145 18000 lumens 72L-180 21000 lumens 72L-210 24000 lumens 72L-240 27000 lumens 108L-215 [*] 27000 lumens 108L-250 30000 lumens 108L-280 33000 lumens 108L-325 36000 lumens 108L-365 40000 lumens 162L-320 40000 lumens 162L-365 ¹⁰ 44000 lumens 162L-405 48000 lumens 162L-445 52000 lumens 162L-485 55000 lumens 162L-545 [*] 60000 lumens CLO Custom Lumen Output ¹	AM monochromatic amber, 595nm 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 3K9 3000K, 90 CRI 35K8 3500K, 80 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	FR Auto Front Row 2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QN Type 5 Square Narrow 5QW Type 5 Square Wide 5QM Type 5 Square Medium 5W Type 5 Wide (Round) 5RW Type 5 Rectangular C Corner Optic TC Tennis Court Optic	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2					
		3 Size 3					
		4 Size 4					

Mounting	Specify Std. finish	Options	Network Control Options
A Arm mount for square pole/flat surface A_ Arm mount for round pole ³ ASQU Universal arm mount for square pole A_U Universal arm mount for round pole ³ AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ³ ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ³ MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{12,7,9} 2PF Dual Power Feed 2DR Dual Driver TE Toolless Entry BC Backlight Control TB Terminal Block	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{4,5} WIR LightGRID+ In-Fixture Module ^{4,5} WIRSC LightGRID+ Module and Occupancy Sensor ^{4,5} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP_F Sensor Control Programmable, 8F or 40F ¹¹ ADD AutoDim Timer Based Dimming ⁴ ADT AutoDim Time of Day Dimming ⁴ Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option

9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration





VIPER Area/Site
VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

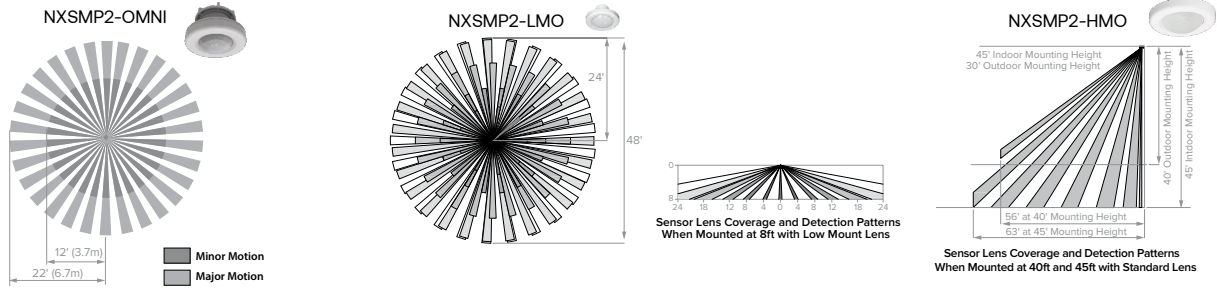
OUTDOOR LIGHTING CONTROLS OPTIONS CONTROLS FUNCTIONALITY LIGHTGRID+ NX

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
NX Wireless	NXOFMIRID-UNV	✓	✓	✓	Paired with external control	✓	✓	✓	✓	-	 NXOFM-IRID-UV
	NXW	✓	✓	✓	-	-	✓	✓	✓	-	 NXRM2-H
	NXWS12F	✓	✓	✓	✓	✓	✓	✓	✓	12ft	 NXSMP2-OMNI-O
	NXWS16F	✓	✓	✓	✓	✓	✓	✓	✓	16ft	 NXSMP2-LMO
	NXWS40F	✓	✓	✓	✓	✓	✓	✓	✓	40ft	 NXSMP2-HMO
LightGRID+	WIR	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR
	WIR-RME-L	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR-RME-L
	WIRSC	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft	 BTMSP
Independent	BTSO-12F	-	-	-	✓	✓	✓	✓	✓	12ft	 BTSMP-OMNI-O
	BTS-14F	-	-	-	✓	✓	✓	✓	✓	14ft	 BTSMP-LMO
	BTS-40F	-	-	-	✓	✓	✓	✓	✓	40ft	 BTSMP-HMO

DEFAULT SETTINGS

NX Wireless	Occupancy Sensor	Enabled	Stand Alone	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7		Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	15 Minutes		Occupancy Sensor Timeout	8 Minutes
	Occupied Dim Level	100%		Occupied Dim Level	100%
	Unoccupied Dim Level	0%		Unoccupied Dim Level	50%
	Daylight Sensor	Disabled		Daylight Sensor	Disabled
	Bluetooth	Enabled			
	2.4GHz Wireless Mesh	On			
	*Passcode Factory Passcode: HubBN3T!	Enabled			

NX WIRELESS COVERAGE PATTERNS





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&q=US



Apple App



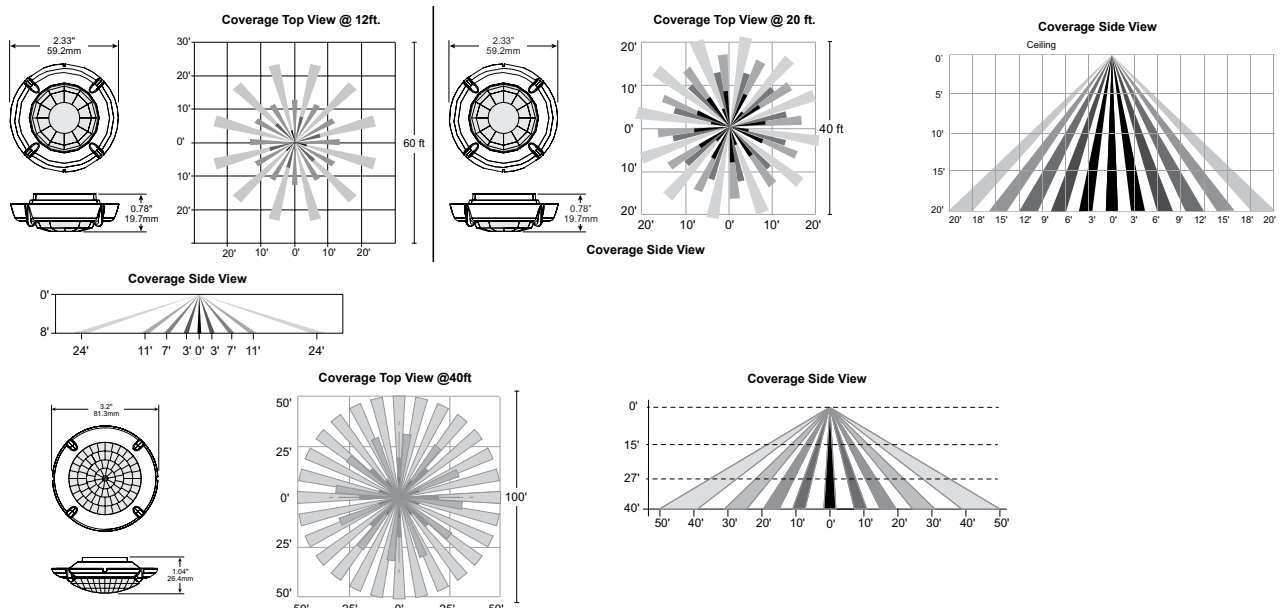
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	-	-	-	✓	✓	✓	✓	-	8ft or 40ft	SCP_F
	ADD	AutoDIM Timer Based Dimming	-	-	✓	-	-	-	✓	-	-	ADD
	ADT	AutoDIM Time of Day Dimming	-	-	✓	-	-	-	✓	-	-	ADT
	7PR	7-Pin Receptacle	-	-	Paired with external control	-	Paired with external control	-	Paired with external control	-	-	7PR
	7PR-SC	7-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-		7PR-SC
	3PR	3-Pin twist lock	-	-	-	-	-	-	Paired with external control	-	-	3PR
	3PR-SC	3-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-		3PR-SC
	3PR-TL	3-Pin with photocontrol	-	-	-	-	✓	-	✓	-	-	

COVERAGE PATTERNS FOR SCP_F





VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier	Micro Strike Lumen Multiplier				Strike Lumen Multiplier			
0°C	32°F	1.03	CCT	70 CRI	80 CRI	90 CRI	CCT	70 CRI	80 CRI	90 CRI
10°C	50°F	1.01	2700K	–	0.841	–	2700K	0.9	0.81	0.62
20°C	68°F	1.00	3000K	0.977	0.861	0.647	3000K	0.933	0.853	0.659
25°C	77°F	1.00	3500K	–	0.900	–	3500K	0.959	0.894	0.711
30°C	86°F	0.99	4000K	1	0.926	0.699	4000K	1	0.9	0.732
40°C	104°F	0.98	5000K	1	0.937	0.791	5000K	1	0.9	0.732
			AP-Amber Phosphor Converted Multiplier				Monochromatic Amber Multiplier			
			Amber	0.710			Amber	See Amber Spec Sheet		



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____

LOCATION: _____

TYPE: _____

PROJECT: _____

CATALOG #: _____

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14



VIPER Area/Site

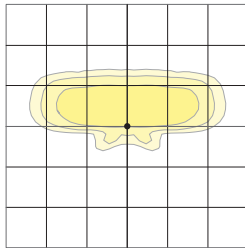
VIPER LUMINAIRE

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

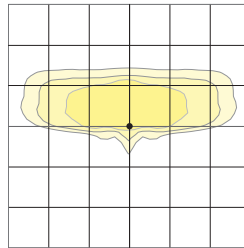
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

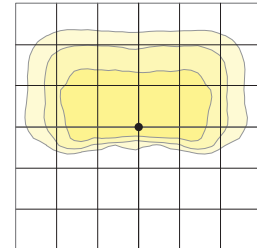
Type 2



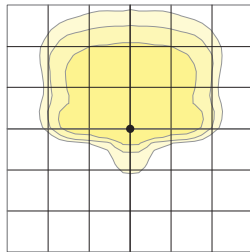
Type 3



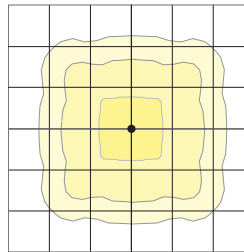
Type 4 Wide



Type 4F



Type 5QW



**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A5-

Notes:**Type:****A5**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

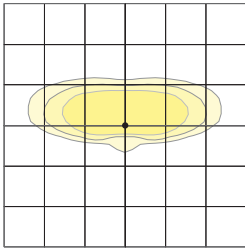
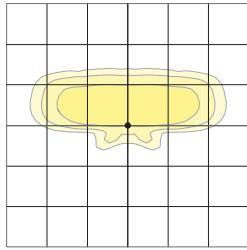
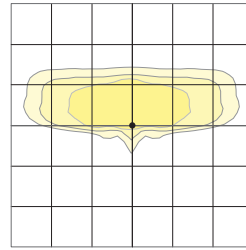
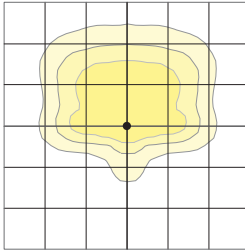
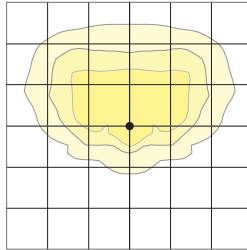
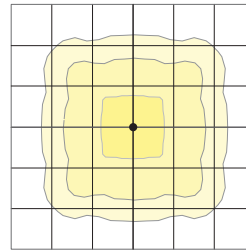
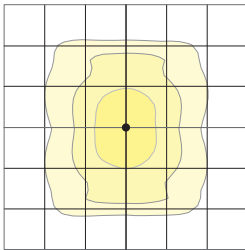
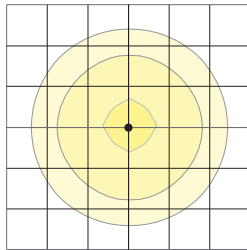
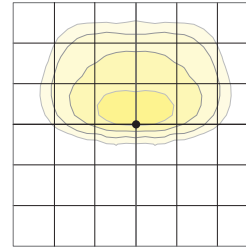
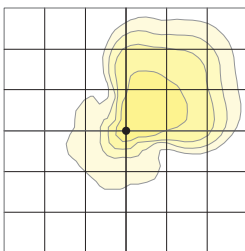
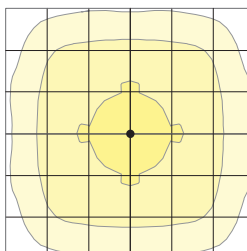
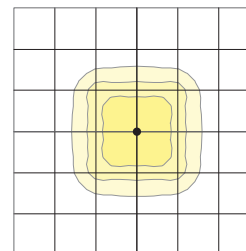
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic**Type 2****Type 3****Type 4 Forward****Type 4 Wide****Type 5QM****Type 5RW (rectangular)****Type 5W (round wide)****Type TC****Type Corner****Type 5QW****Type 5QN**



VIPER Area/Site

VIPER LUMINAIRE

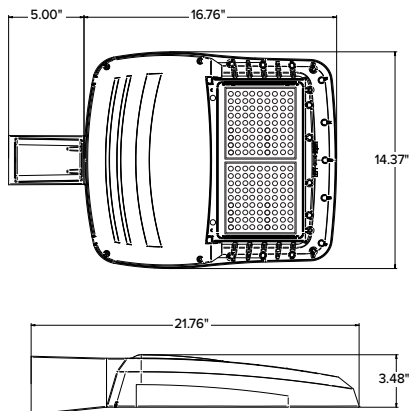
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TYPE: _____ PROJECT: _____

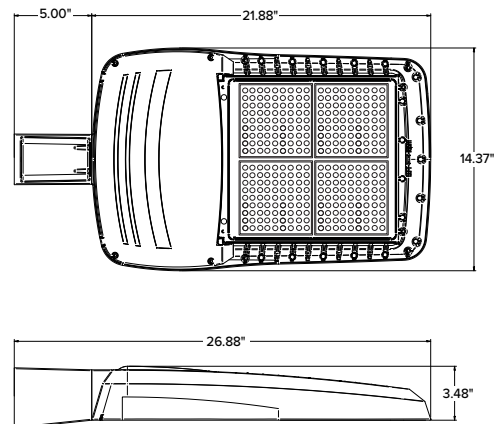
CATALOG #: _____

DIMENSIONS

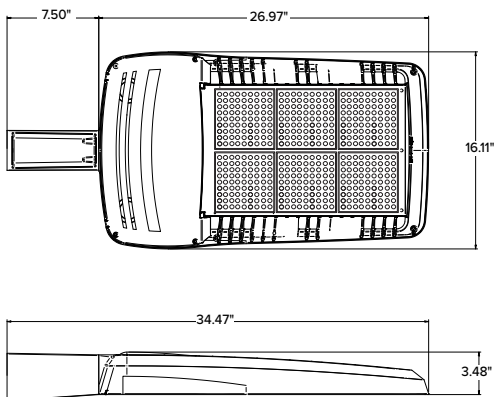
SIZE 1



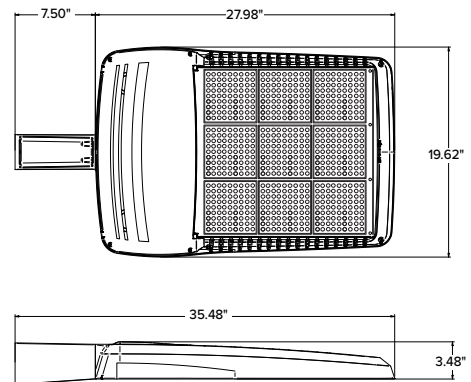
SIZE 2



SIZE 3



SIZE 4



	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

**Job Name:**

ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH
PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A5-

Notes:**Type:****A5**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

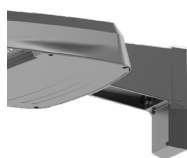
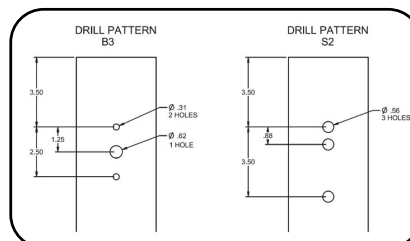
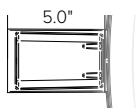
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TYPE: _____ PROJECT: _____

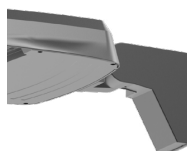
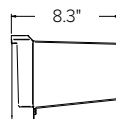
CATALOG #: _____

MOUNTING**A-STRAIGHT ARM MOUNT**

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

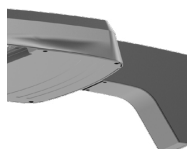
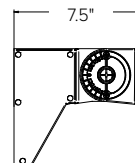
**ASQU-UNIVERSAL ARM MOUNT**

Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

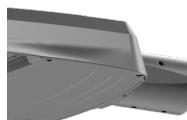
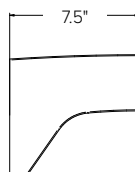
**AAU-ADJUSTABLE ARM FOR POLE MOUNTING**

Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15° aiming angle increments. Micro Strike configurations have a 45° aiming limitation.

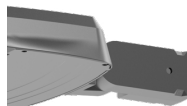
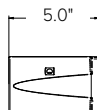
Strike configurations have a 30° aiming limitation.

**ADU-DECORATIVE UPSWEPT ARM**

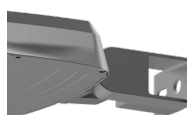
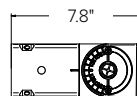
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

**MAF-MAST ARM FITTER**

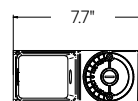
Fits 2-3/8" OD horizontal tenons.

**K-KNUCKLE**

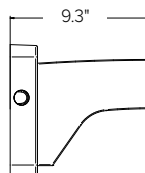
Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

**T-TRUNNION**

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

**WM-WALL MOUNT**

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.

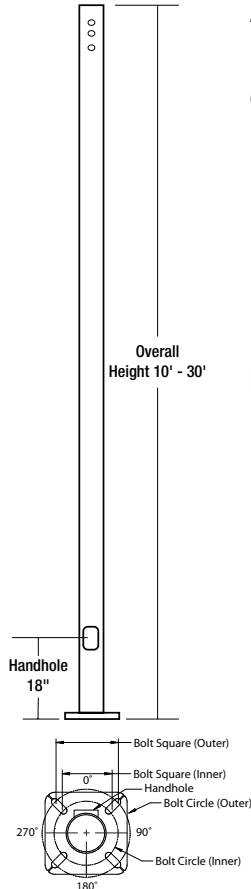




RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

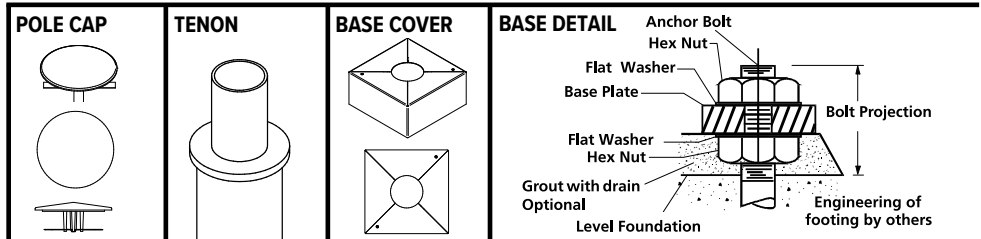
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT:** One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER:** Two-piece square aluminum base cover included standard
- POLE CAP:** Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE:** Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS:** Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING	FINISH	OPTIONS
RSS-B Round Straight Steel Pole Beacon	Reference page 2 Ordering matrix 25	Reference page 2 Ordering matrix 50	Reference page 2 Ordering matrix B	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VG Verde Green Textured Color Option CC Custom Color	GFI 20 Amp GFCI Receptacle and Cover EH Extra Handhole C05 .5" Coupling C07 .75" Coupling C20 2" Coupling MPB Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover

1 Specify option location using logic found on page 2 (Option Orientation)

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

DRILL PATTERN

- B1** Cruiser, "AM" arm
B3 2 bolt (2-1/2" spacing), Viper "A" arm
S2 2 bolt (3-1/2" spacing), Viper "AD" arm

Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)

Catalog Number:
RSSB25-50B-1-B3-***-VM2

Notes:

Type:
A5

SLA23-55190



RSS-B-Series
ROUND STRAIGHT STEEL

DATE: LOCATION:

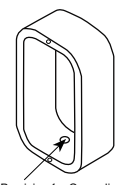
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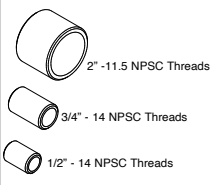
CATALOG #:

ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thick-ness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters										
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE

Provision for Grounding

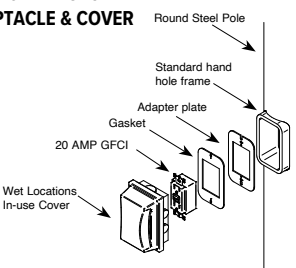
C05 - C07 - C20 - COUPLING

2" - 11.5 NPSC Threads
3/4" - 14 NPSC Threads
1/2" - 14 NPSC Threads

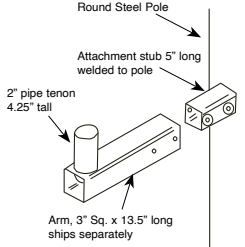
VM2 - VIBRATION DAMPER 2ND MODE

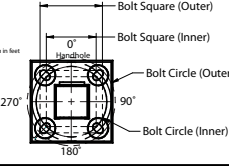
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER

Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

MPB - MID POLE BRACKET

Round Steel Pole
Attachment stub 5" long welded to pole
2" pipe tenon 4.25" tall
Arm, 3" Sq. x 13.5" long ships separately

OPTION ORIENTATION
Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1" spacing required between option. Consult factory for other configurations.

Bolt Square (Outer)
Bolt Square (Inner)
Handhole
Bolt Circle (Outer)
Bolt Circle (Inner)
0°
90°
180°
270°
Height of option in feet

For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.



currentlighting.com/beacon

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Page 2 of 4
Rev 05/17/22
RSS_poles_beacon_R01

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

RSSB25-50B-1-B3-***-VM2

Notes:

Type:**A5**

SLA23-55190



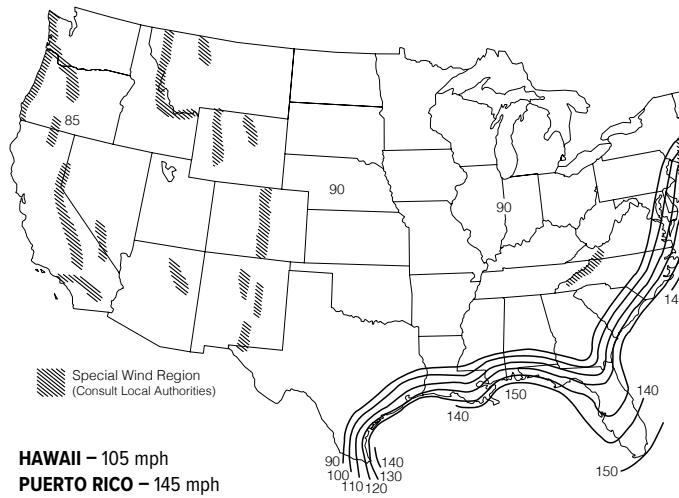
RSS-B-Series

ROUND STRAIGHT STEEL

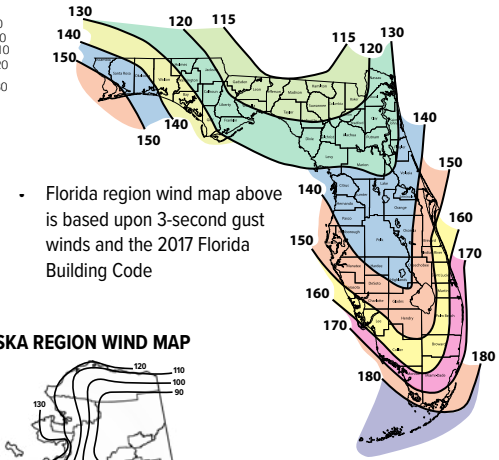
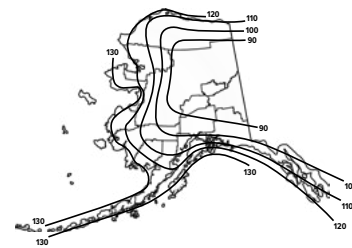
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP

*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP**ALASKA REGION WIND MAP**

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds							
Catalog Number	85	90	100	110	120	105	145
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds							
Catalog Number	115	120	130	140	150	160	170
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	23.6	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	12.1
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Catalog Number: RSSB25-50B-1-B3-***-VM2 Notes:	Type: A5 SLA23-55190
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

NOTES

Wind-speed Website disclaimer:

Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. <http://windspeed.atcouncil.org>

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLOI0022.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY



LIGHTGRID+

SERVICE PROGRAMS

STOCK QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

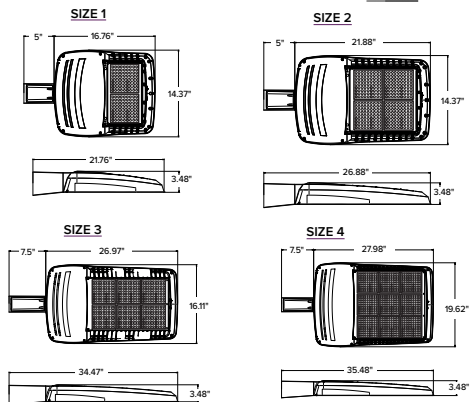
CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0-10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

MICROSTRIKE | STRIKE OPTICS



	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to <https://www.currentlighting.com/resources/america-solutions>).

WARRANTY

- 5 year warranty



VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

STRIKE OPTIC – ORDERING GUIDE

Example: VP-ST-1-36L-39-3K7-2-UNV-A-BLT

CATALOG #							
VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	ST Strike	1 Size 1	36L-39 [*] 5500 lumens 36L-55 [*] 7500 lumens 36L-85 10000 lumens 36L-105 12500 lumens 36L-120 14000 lumens 72L-115 15000 lumens 72L-145 18000 lumens 72L-180 21000 lumens 72L-210 24000 lumens 72L-240 27000 lumens 108L-215 [*] 27000 lumens 108L-250 30000 lumens 108L-280 33000 lumens 108L-325 36000 lumens 108L-365 40000 lumens 162L-320 40000 lumens 162L-365 ¹⁰ 44000 lumens 162L-405 48000 lumens 162L-445 52000 lumens 162L-485 55000 lumens 162L-545 [*] 60000 lumens CLO Custom Lumen Output ¹	AM monochromatic amber, 595nm 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 3K9 3000K, 90 CRI 35K8 3500K, 80 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	FR Auto Front Row 2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QN Type 5 Square Narrow 5QW Type 5 Square Wide 5QM Type 5 Square Medium 5W Type 5 Wide (Round) 5RW Type 5 Rectangular C Corner Optic TC Tennis Court Optic	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2					
		3 Size 3					
		4 Size 4					

Specify Std. finish			
Mounting	Color	Options	Network Control Options
A Arm mount for square pole/flat surface A_ Arm mount for round pole ³ ASQU Universal arm mount for square pole A_U Universal arm mount for round pole ³ AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ³ ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ³ MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{12,7,9} 2PF Dual Power Feed 2DR Dual Driver TE Toolless Entry BC Backlight Control TB Terminal Block	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,5} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{4,5} WIR LightGRID+ In-Fixture Module ^{4,5} WIRSC LightGRID+ Module and Occupancy Sensor ^{4,5} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP_F Sensor Control Programmable, 8F or 40F ¹¹ ADD AutoDim Timer Based Dimming ⁴ ADT AutoDim Time of Day Dimming ⁴ Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option

9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration





VIPER Area/Site
VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

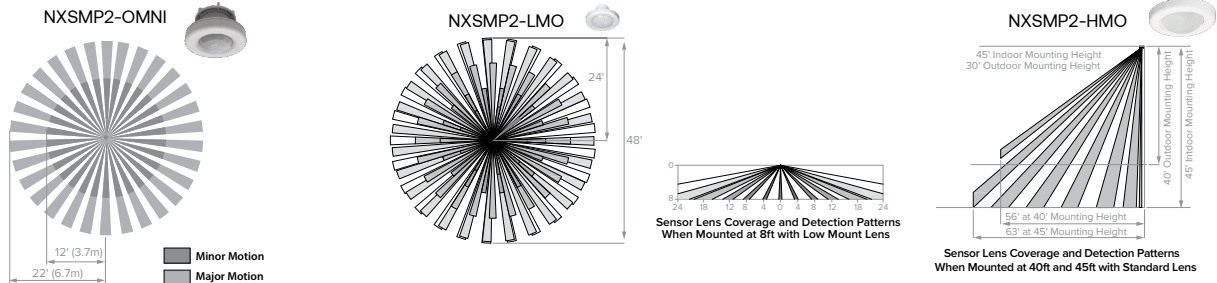
LIGHTGRID+

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
NX Wireless	NXOFMIRID-UNV	✓	✓	✓	Paired with external control	✓	✓	✓	✓	-	 NXOFM-IRID-UV
	NXW	✓	✓	✓	-	-	✓	✓	✓	-	 NXRM2-H
	NXWS12F	✓	✓	✓	✓	✓	✓	✓	✓	12ft	 NXSMP2-OMNI-O
	NXWS16F	✓	✓	✓	✓	✓	✓	✓	✓	16ft	 NXSMP2-LMO
	NXWS40F	✓	✓	✓	✓	✓	✓	✓	✓	40ft	 NXSMP2-HMO
LightGRID+	WIR	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR
	WIR-RME-L	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR-RME-L
	WIRSC	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft	BTMSP
Independent	BTSO-12F	-	-	-	✓	✓	✓	✓	✓	12ft	 BTSMP-OMNI-O
	BTS-14F	-	-	-	✓	✓	✓	✓	✓	14ft	 BTSMP-LMO
	BTS-40F	-	-	-	✓	✓	✓	✓	✓	40ft	 BTSMP-HMO

DEFAULT SETTINGS

NX Wireless	Occupancy Sensor	Enabled	Stand Alone	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7		Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	15 Minutes		Occupancy Sensor Timeout	8 Minutes
	Occupied Dim Level	100%		Occupied Dim Level	100%
	Unoccupied Dim Level	0%		Unoccupied Dim Level	50%
	Daylight Sensor	Disabled		Daylight Sensor	Disabled
	Bluetooth	Enabled			
	2.4GHz Wireless Mesh	On			
	*Passcode Factory Passcode: HubBN3T!	Enabled			

NX WIRELESS COVERAGE PATTERNS





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&q=US



Apple App



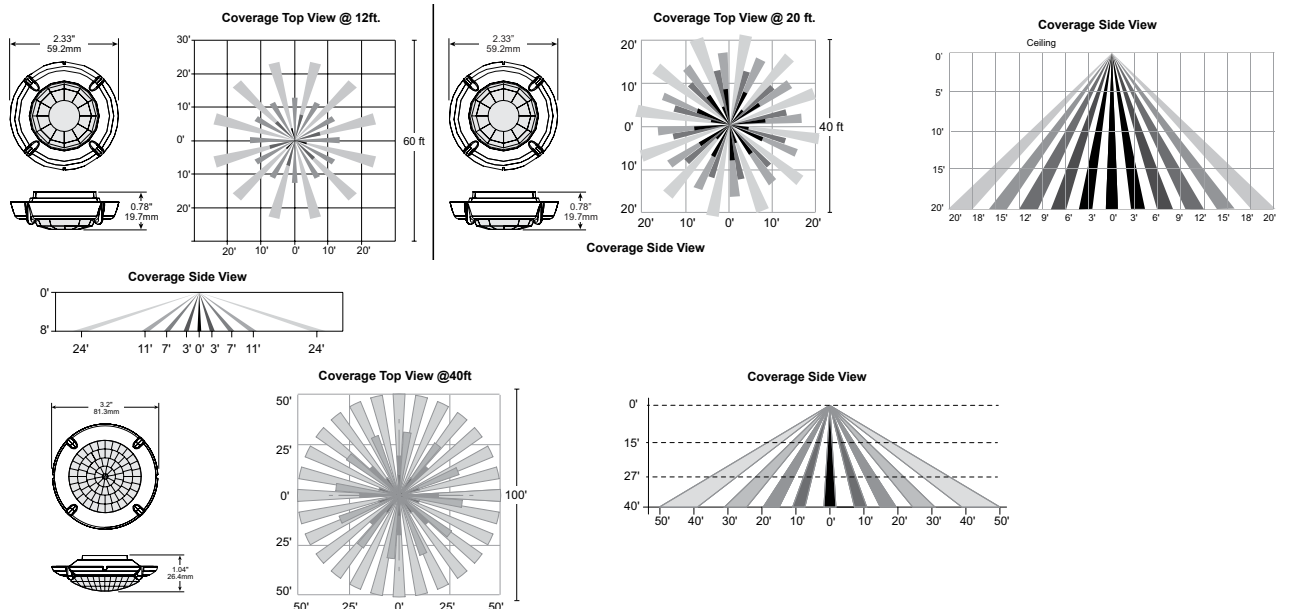
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	-	-	-	✓	✓	✓	✓	-	8ft or 40ft	SCP_F
	ADD	AutoDIM Timer Based Dimming	-	-	✓	-	-	-	✓	-	-	ADD
	ADT	AutoDIM Time of Day Dimming	-	-	✓	-	-	-	✓	-	-	ADT
	7PR	7-Pin Receptacle	-	-	Paired with external control	-	Paired with external control	-	Paired with external control	-	-	7PR
	7PR-SC	7-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-		7PR-SC
	3PR	3-Pin twist lock	-	-	-	-	-	-	Paired with external control	-	-	3PR
	3PR-SC	3-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-		3PR-SC
	3PR-TL	3-Pin with photocontrol	-	-	-	-	✓	-	✓	-	-	

COVERAGE PATTERNS FOR SCP_F





VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier	Micro Strike Lumen Multiplier				Strike Lumen Multiplier			
0°C	32°F	1.03	CCT	70 CRI	80 CRI	90 CRI	CCT	70 CRI	80 CRI	90 CRI
10°C	50°F	1.01	2700K	–	0.841	–	2700K	0.9	0.81	0.62
20°C	68°F	1.00	3000K	0.977	0.861	0.647	3000K	0.933	0.853	0.659
25°C	77°F	1.00	3500K	–	0.900	–	3500K	0.959	0.894	0.711
30°C	86°F	0.99	4000K	1	0.926	0.699	4000K	1	0.9	0.732
40°C	104°F	0.98	5000K	1	0.937	0.791	5000K	1	0.9	0.732
			AP-Amber Phosphor Converted Multiplier				Monochromatic Amber Multiplier			
			Amber	0.710			Amber	See Amber Spec Sheet		



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____

LOCATION: _____

TYPE: _____

PROJECT: _____

CATALOG #: _____

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14



VIPER Area/Site

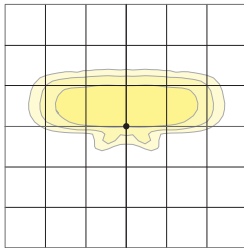
VIPER LUMINAIRE

DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

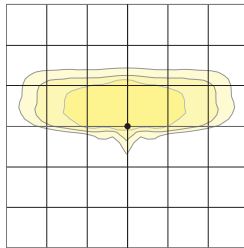
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

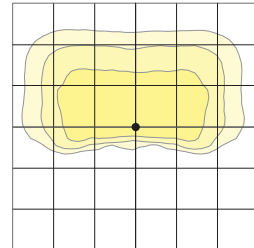
Type 2



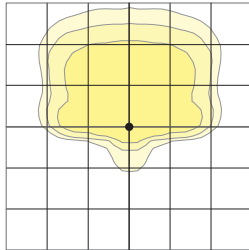
Type 3



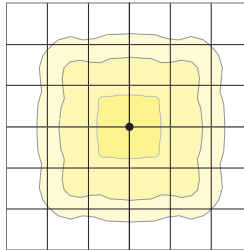
Type 4 Wide



Type 4F



Type 5QW



**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A5-

Notes: 2@180DEG

Type:**B5**

SLA23-55190

**VIPER Area/Site**

VIPER LUMINAIRE

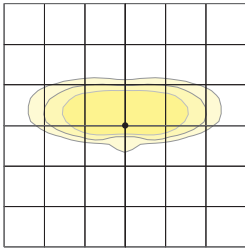
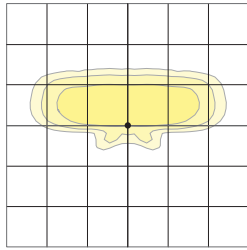
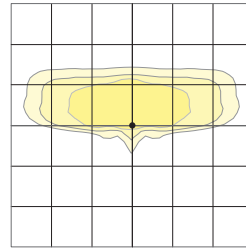
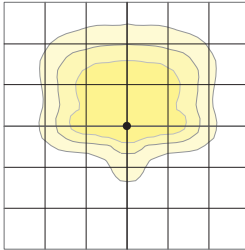
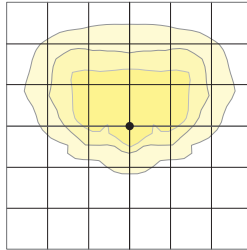
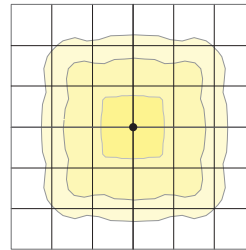
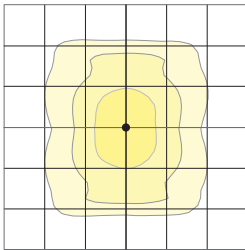
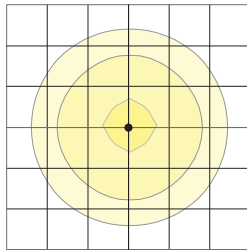
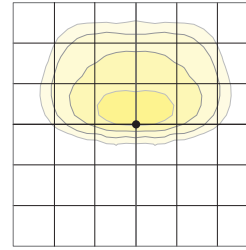
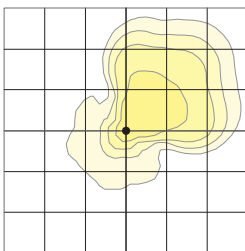
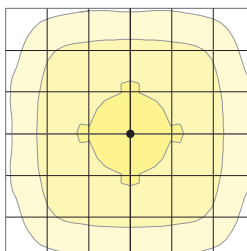
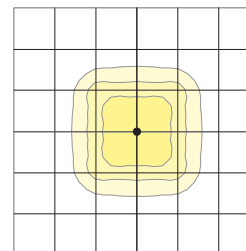
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic**Type 2****Type 3****Type 4 Forward****Type 4 Wide****Type 5QM****Type 5RW (rectangular)****Type 5W (round wide)****Type TC****Type Corner****Type 5QW****Type 5QN**



VIPER Area/Site

VIPER LUMINAIRE

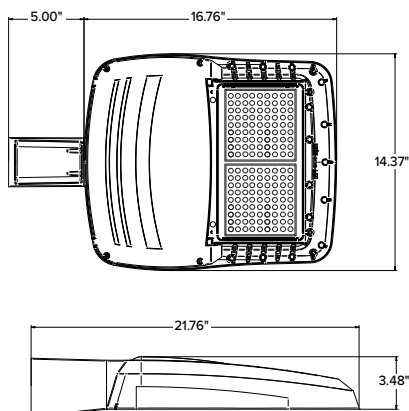
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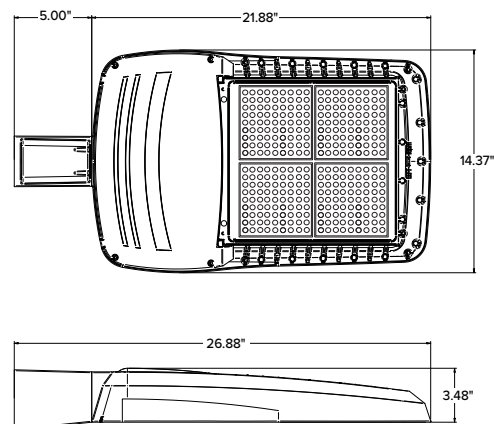
CATALOG #: _____

DIMENSIONS

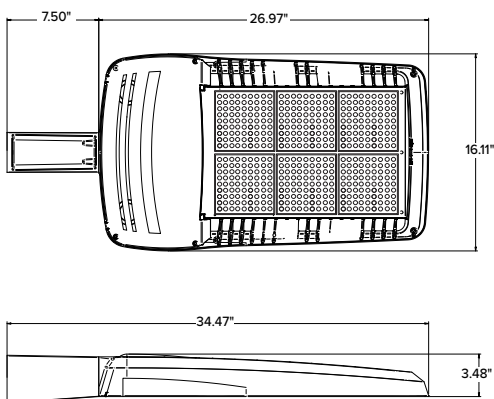
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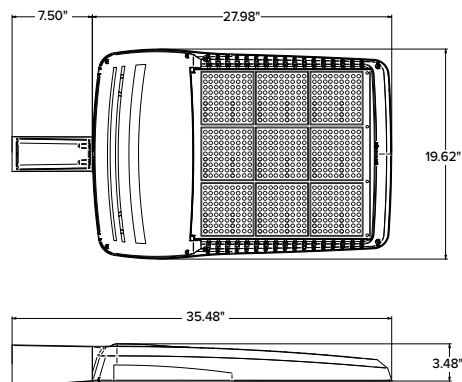
SIZE 2



SIZE 3



SIZE 4



	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

**Job Name:**

ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH
PORTLAND)

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A5-

Notes: 2@180DEG

Type:

B5

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

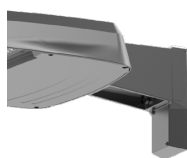
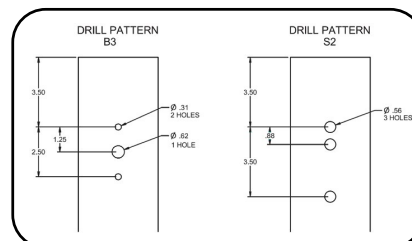
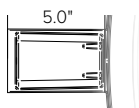
CATALOG #: _____

MOUNTING



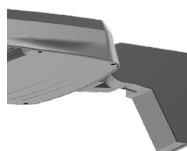
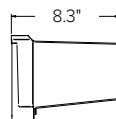
A-STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)



ASQU-UNIVERSAL ARM MOUNT

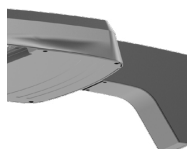
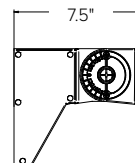
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



AAU-ADJUSTABLE ARM FOR POLE MOUNTING

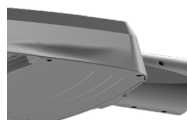
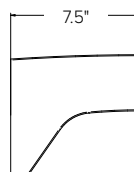
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15° aiming angle increments. Micro Strike configurations have a 45° aiming limitation.

Strike configurations have a 30° aiming limitation.



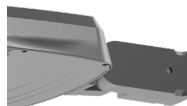
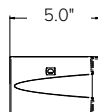
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



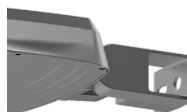
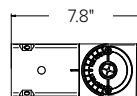
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



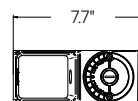
K-KNUCKLE

Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



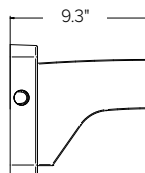
T-TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM-WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.

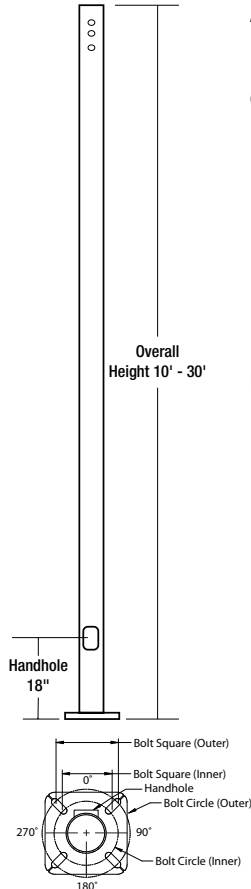




RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

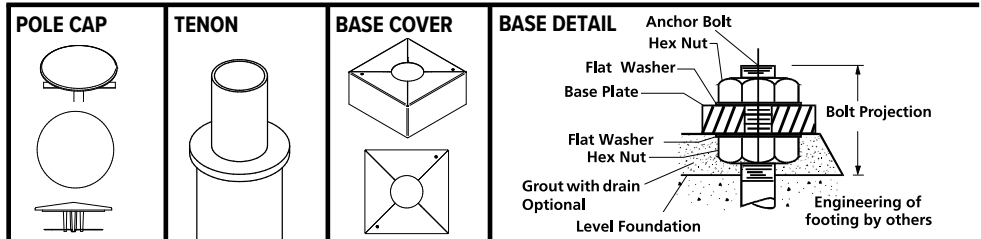
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT:** One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER:** Two-piece square aluminum base cover included standard
- POLE CAP:** Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE:** Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS:** Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B		- 25 -	40 -	A/B/C	- 2L -	B2 -	Specify Stnd. finish	-	UL
SERIES		HEIGHT	SHAFT	THICKNESS	MOUNTING		FINISH		OPTIONS
RSS-B Round Straight Steel Pole Beacon		Reference page 2 Ordering matrix 25	Reference page 2 Ordering matrix 50	Reference page 2 Ordering matrix B	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)		BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color		GF1 20 Amp GFCI Receptacle and Cover EH1 Extra Handhole C05 .5" Coupling C07 .75" Coupling C20 2" Coupling MPB Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover

1

2

3T

3Y

4

2L

TA

TB

TC

OT

MOUNTING ORIENTATION

Denotes handhole location

1 Specify option location using logic found on page 2 (Option Orientation)

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

DRILL PATTERN

- B1** Cruiser, "AM" arm
B3 2 bolt (2-1/2" spacing), Viper "A" arm
S2 2 bolt (3-1/2" spacing), Viper "AD" arm



RSS-B-Series

ROUND STRAIGHT STEEL

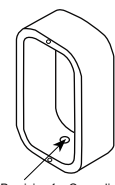
DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

ORDERING INFORMATION Cont.

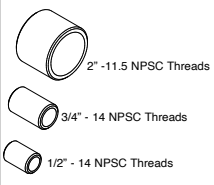
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters										
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING



VM2 - VIBRATION DAMPER 2ND MODE



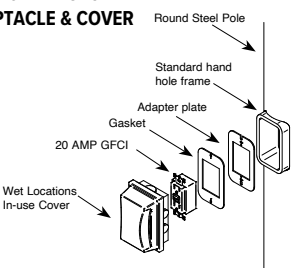
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

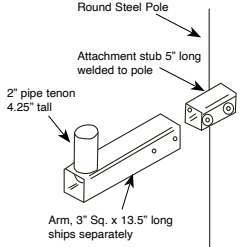


Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER

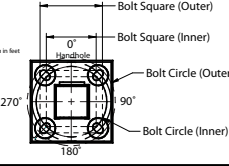


MPB - MID POLE BRACKET



OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1" spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Current

currentlighting.com/beacon

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Page 2 of 4
Rev 05/17/22
RSS_poles_beacon_R01

Submitted On: May 28, 2024

2/4

Index Page

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**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

RSSB25-50B-1-B3-***-VM2

Notes:

Type:**B5**

SLA23-55190

**RSS-B-Series**

ROUND STRAIGHT STEEL

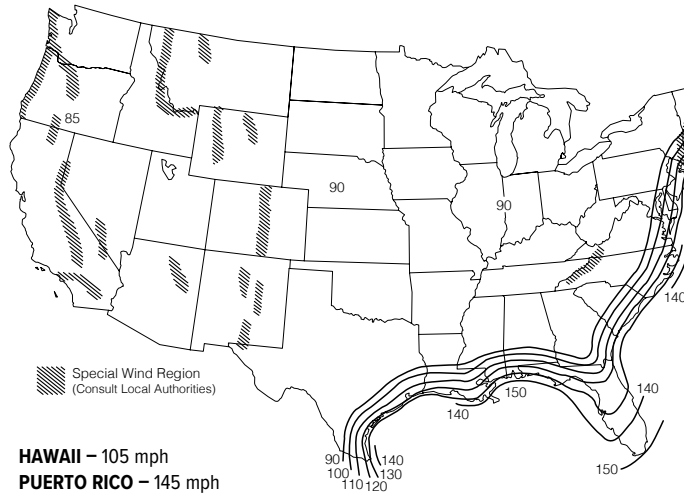
DATE:

LOCATION:

TYPE:

PROJECT:

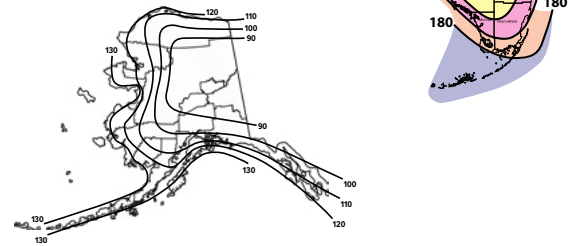
CATALOG #:

ASCE7-05 WIND MAP

*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP

- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds								
Catalog Number	85	90	100	110	120	105	145	
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8	
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1	
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9	
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9	
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2	
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2	
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4	
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1	
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4	
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1	
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9	
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9	
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7	
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3	
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7	
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7	
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0	
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5	
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8	
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8	
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1	
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9	

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds								
Catalog Number	115	120	130	140	150	160	170	180
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0	10.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	9.0	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	7.0	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0	4.5
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	4.0	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.8	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	15.2	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	12.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5	7.0
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0	5.7
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0	3.5
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	16.8	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8	12.1
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4	9.9
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3	8.0
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7	6.5
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5	3.7
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9	12.0
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1	7.6
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7	4.5

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Catalog Number: RSSB25-50B-1-B3-***-VM2 Notes:	Type: B5 SLA23-55190
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

NOTES

Wind-speed Website disclaimer:

Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. <http://windspeed.atcouncil.org>

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLOI0022.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



URBAN SERIES

URBAN LUMINAIRE

FEATURES

- Decorative transitional style lighting fixture series is suitable for walkway lighting and wall mounting
- Two unique shade and style options
- LED turtle-friendly option available
- Integral Surge and Thermal Protection



*3000K and warmer CCTs only

CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- The drivers shall be located in the top cast housing and shall be accessible without tools by hinging the lower shade assembly. The driver and all electrical components shall be on a tray
- The lower shade shall be made from a one-piece aluminum spinning
- The housing is designed for LED thermal management without the use of metallic screens, cages, or fans. The top casting shall be able to be pendent mounted in place with a stainless steel safety pin and then permanently held in place with four stainless steel bolts

ELECTRICAL

- 100V through 277V, 50 Hz to 60 Hz (UNV), or 347V or 480V input
- Power factor is ≥ 0.90 at full load
- Dimming drivers are standard with connections for external dimming equipment available upon request
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher
- Plug disconnects are listed 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
- Button photocell available
- Ambient operating temperature -40°C to 40°C

ELECTRICAL (CONTINUED)

- Surge protection - 20KA
- 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. A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55°C (131°F). 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

- Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night visit

FINISH

- IFS polyester powder-coat electrostatically applied and thermocured
- IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super 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

CERTIFICATIONS

- NRTL Certified, UL8750, UL 1598 and CSA22.2#250. 13-14 for wet locations
- IDA approved
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available.

WARRANTY

- 5 year warranty



Shown with arm

KEY DATA	
Lumen Range	3,300–13,000
Wattage Range	27.8–137.5
Efficacy Range (LPW)	61–87



URBAN SERIES

URBAN LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: URB-CAP-21-36L-120-5K7-UNV-4-NRNW-BLT

CATALOG #

Model	Lens Option	Engine-Watts	CCT/CRI ⁴	Voltage	Optics ²	Electrical Options
URB Urban	CAP-21 21" Capitol MRDS-21 21" Miramar deep shade MAR-21 21" Maritas CAP-26 26" Capitol MRSS-26 26" Miramar shallow shade MRDS-26 26" Miramar deep shade MAR-26 26" Maritas	18L-25 25W, LED array 18L-39 39W, LED array 18L-50 50W, LED array 18L-70 70W, LED array 18L-90 90W, LED array 18L-110 110W, LED array 36L-120 120W, LED array 36L-135 135W, LED array 36L-155 155W, LED array 36L-175 175W, LED array	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI 3K8 3000K, 80 CRI 4K8 4000K, 80 CRI 5K8 5000K, 80 CRI AM Monochromatic Amber, 595nm	UNV 120-277V 347 347V 480 480V	FR Type I 2 Type II 3 Type III 4F Type IV forward 4W Type IV wide 5QN Type V square narrow 5QW Type V square wide 5RW Type V rectangular wide 5W Type V round wide BC Backshield (available for FR, 2, 3, 4, 4W Optics)	PCU Button Photocell, Universal
Control Options	Mounting Style	Style	Specify Stnd. finish		Options	
GENI-XX Energeni ³	PM Pendant mount SM Side mount YM3 Yoke mount, 3" OD YM4 Yoke mount, 4" OD YM5 Yoke mount, 5" OD	NRNW No rings 3RNW Three rings	Finish BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color		BC Backlight Control	

Notes:

1 26" only

2 To rotate optics left or right 90 degrees, specify L or R after the optical distribution example: 4L

3 When ordering Energeni, specify the routine setting code (Example GENI-04). See Energeni brochure and Energeni instructions for setting table and options. Not available with sensor options

4 This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available on our website.

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

URBCAP-21/18L-90/3K7/UNV/2/
 NRNW/PM/***

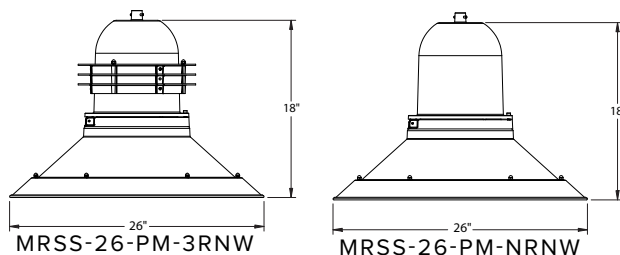
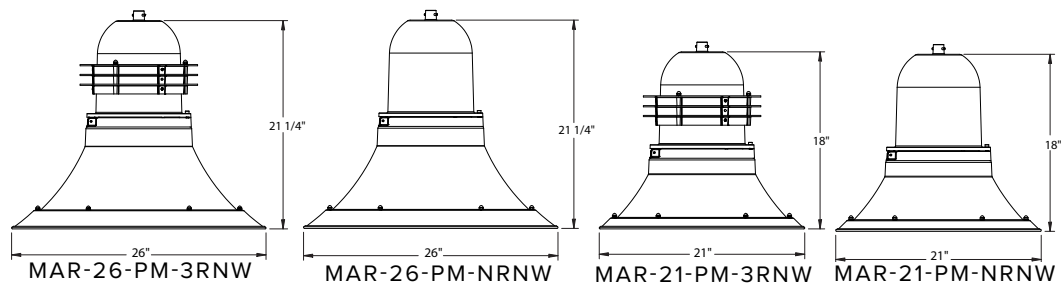
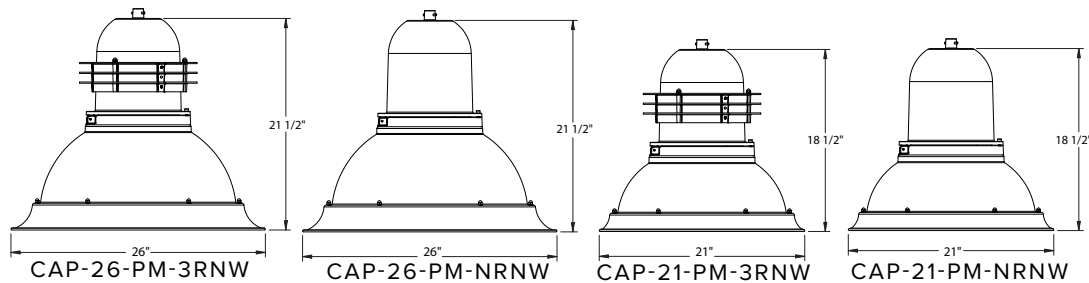
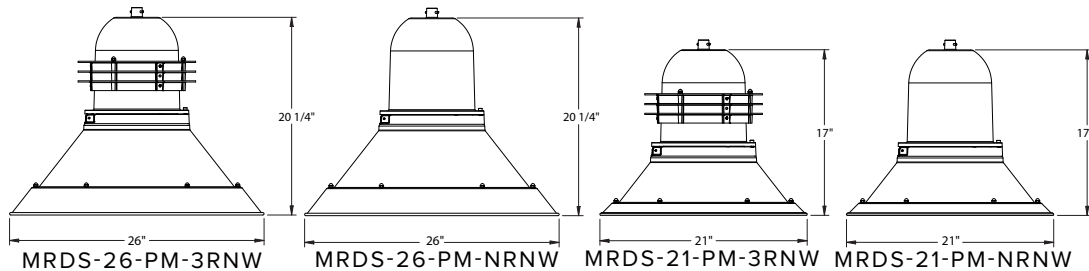
Notes:

Type:**U2**

SLA23-55190

**URBAN SERIES**

URBAN LUMINAIRE

PENDANT MOUNT



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS

DELIVERED LUMENS				5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	25	27.8	FR	3428	123	0	0	0	3496	126	0	0	0	3233	116	0	0	0
			2	3236	117	1	0	1	3300	119	1	0	1	3052	110	1	0	1
			3	3164	114	1	0	1	3226	116	1	0	1	2983	107	1	0	1
			4F	3257	117	0	0	1	3321	120	0	0	1	3071	110	0	0	1
			4W	3114	112	1	0	1	3176	114	1	0	1	2937	106	1	0	1
			5QM	3398	122	2	0	0	3465	125	2	0	0	3204	115	2	0	0
			5QN	3431	124	2	0	0	3499	126	2	0	0	3236	116	2	0	0
			5QW	2937	106	2	0	1	2995	108	2	0	1	2770	100	0	0	0
			5RW	3150	113	2	0	2	3212	116	2	0	2	2970	107	2	0	2
			5W	3207	116	2	0	1	3271	118	2	0	1	3024	109	2	0	1
	39	45.1	FR	4977	110	0	0	0	5076	113	0	0	0	4694	104	0	0	0
			2	4699	104	1	0	1	4791	106	1	0	1	4431	98	1	0	1
			3	4593	102	1	0	1	4684	104	1	0	1	4332	96	1	0	1
			4F	4729	105	0	0	1	4822	107	0	0	1	4459	99	0	0	1
			4W	4522	100	1	0	1	4611	102	1	0	1	4264	95	1	0	1
			5QM	4934	110	2	0	0	5032	112	2	0	0	4653	103	2	0	0
			5QN	4982	111	2	0	0	5081	113	2	0	0	4698	104	2	0	0
			5QW	4522	100	3	0	1	4611	102	3	0	1	4264	95	3	0	1
			5RW	4573	101	2	0	2	4664	104	2	0	2	4313	96	2	0	2
			5W	4657	103	2	0	1	4749	105	2	0	1	4391	97	2	0	1
	50	57.5	FR	6019	105	0	0	0	6138	107	0	0	0	5676	99	0	0	0
			2	5682	99	1	0	1	5794	101	1	0	1	5358	93	1	0	1
			3	5555	97	1	0	1	5665	99	1	0	1	5238	91	1	0	1
			4F	5718	100	0	0	1	5831	101	0	0	1	5392	94	0	0	1
			4W	5468	95	1	0	1	5576	97	1	0	1	5156	90	1	0	1
			5QM	5967	104	2	0	0	6085	106	2	0	0	5627	98	2	0	0
			5QN	6025	105	2	0	0	6144	107	2	0	0	5682	99	2	0	0
			5QW	5468	95	3	0	1	5576	97	3	0	1	5156	90	3	0	1
			5RW	5531	96	2	0	2	5640	98	2	0	2	5215	91	2	0	2
			5W	5632	98	2	0	1	5743	100	2	0	1	5311	92	2	0	1
	70	62.4	FR	6650	107	0	0	0	6781	109	0	0	0	6271	100	0	0	0
			2	6277	101	1	0	1	6401	103	1	0	1	5919	95	1	0	1
			3	6137	98	1	0	1	6258	100	1	0	1	5787	93	1	0	1
			4F	6317	101	0	0	1	6442	103	0	0	1	5957	95	0	0	1
			4W	6041	97	1	0	1	6160	99	1	0	1	5696	91	1	0	1
			5QM	6592	106	2	0	0	6722	108	2	0	0	6216	100	2	0	0
			5QN	6656	107	2	0	0	6788	109	2	0	0	6277	101	2	0	0
			5QW	6041	97	3	0	1	6160	99	3	0	1	5696	91	3	0	1
			5RW	6110	98	2	0	2	6231	100	2	0	2	5762	92	2	0	2
			5W	6221	100	2	0	1	6344	102	2	0	1	5867	94	2	0	1
DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE																		

Notes:

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.

* Available in the 26" Urban only

Type:

U2

SLA23-55190



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS (CONTINUED)

# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	90	82.3	FR	7681	93	0	0	0	7833	95	0	0	0	7244	88	0	0	0
			2	7251	88	1	0	1	7394	90	1	0	1	6838	83	1	0	1
			3	7089	86	1	0	1	7229	88	1	0	1	6685	81	1	0	1
			4F	7297	89	0	0	1	7442	90	0	0	1	6882	84	0	0	1
			4W	6978	85	1	0	1	7116	86	1	0	1	6580	80	1	0	1
			5QM	7614	93	2	0	0	7765	94	2	0	0	7180	87	2	0	0
			5QN	7689	93	2	0	0	7841	95	2	0	0	7251	88	2	0	0
			5QW	6978	85	3	0	1	7116	86	3	0	1	6580	80	3	0	1
			5RW	7058	86	2	0	2	7197	87	2	0	2	6656	81	2	0	2
			5W	7187	87	2	0	1	7329	89	2	0	1	6777	82	2	0	1
	110	98.7	FR	8346	85	0	0	0	8511	86	0	0	0	7870	80	0	0	0
			2	7878	80	1	0	1	8034	81	1	0	1	7429	75	1	0	1
			3	7702	78	1	0	1	7854	80	1	0	1	7263	74	1	0	1
			4F	7929	80	0	0	1	8085	82	0	0	1	7477	76	0	0	1
			4W	7582	77	1	0	1	7731	78	1	0	1	7150	72	1	0	1
			5QM	8273	84	2	0	0	8437	86	2	0	0	7802	79	2	0	0
			5QN	8354	85	2	0	0	8519	86	2	0	0	7878	80	2	0	0
			5QW	7582	77	3	0	2	7731	78	3	0	2	7150	72	3	0	2
			5RW	7668	78	2	0	2	7820	79	2	0	2	7231	73	2	0	2
			5W	7808	79	2	0	1	7963	81	2	0	1	7363	75	2	0	1
36	120	124.9	FR	12463	100	0	0	0	12709	102	0	0	0	11752	94	0	0	0
			2	11765	94	1	0	1	11997	96	1	0	1	11094	89	1	0	1
			3	11501	92	1	0	1	11728	94	1	0	1	10846	87	1	0	1
			4F	11840	95	0	0	1	12074	97	0	0	1	11165	89	0	0	1
			4W	11321	91	1	0	1	11545	92	1	0	1	10676	85	1	0	1
			5QM	12354	99	2	0	0	12598	101	2	0	0	11650	93	2	0	0
			5QN	12475	100	2	0	0	12722	102	2	0	0	11764	94	2	0	0
			5QW	11321	91	3	0	2	11545	92	3	0	2	10676	85	3	0	2
			5RW	11451	92	2	0	2	11677	93	2	0	2	10798	86	2	0	2
			5W	11660	93	2	0	1	11890	95	2	0	1	10995	88	2	0	1
	135	137.5	FR	13255	96	0	0	0	13517	98	0	0	0	12500	91	0	0	0
			2	12513	91	1	0	1	12760	93	1	0	1	11799	86	1	0	1
			3	12232	89	1	0	1	12474	91	1	0	1	11535	84	1	0	1
			4F	12593	92	0	0	1	12841	93	0	0	1	11875	86	0	0	1
			4W	12041	88	1	0	1	12279	89	1	0	1	11355	83	1	0	1
			5QM	13140	96	2	0	0	13399	97	2	0	0	12391	90	2	0	0
			5QN	13268	97	2	0	0	13531	98	2	0	0	12512	91	2	0	0
			5QW	12041	88	3	0	2	12279	89	3	0	2	11355	83	3	0	2
			5RW	12179	89	2	0	2	12420	90	2	0	2	11485	84	2	0	2
			5W	12401	90	2	0	1	12646	92	2	0	1	11695	85	2	0	1
			TCR	13051	95	0	0	0	13308	97	0	0	0	12307	90	0	0	0

DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE

Notes:

- 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.
- * Available in the 26" Urban only



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS (CONTINUED)

# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
36	155	150.6	FR	13992	93	0	0	0	14268	95	0	0	0	13194	88	0	0	0
			2	13208	88	1	0	1	13469	89	1	0	1	12455	83	1	0	1
			3	12912	86	1	0	1	13167	87	1	0	1	12176	81	1	0	1
			4F	13293	88	0	0	1	13555	90	0	0	1	12535	83	0	0	1
			4W	12711	84	1	0	1	12962	86	1	0	1	11986	80	1	0	1
			5QM	13870	92	2	0	0	14144	94	2	0	0	13079	87	2	0	0
			5QN	14006	93	2	0	0	14283	95	2	0	0	13208	88	2	0	0
			5QW	12711	84	3	0	2	12962	86	3	0	2	11986	80	3	0	2
			5RW	12856	85	2	0	2	13110	87	2	0	2	12123	80	2	0	2
			5W	13091	87	2	0	1	13349	89	2	0	1	12345	82	2	0	1
	175	167.3	FR	14784	88	0	0	0	15076	90	0	0	0	13942	83	0	0	0
			2	13956	83	1	0	1	14232	85	1	0	1	13161	79	1	0	1
			3	13644	82	1	0	1	13913	83	1	0	1	12866	77	1	0	1
			4F	14045	84	0	0	1	14323	86	0	0	1	13245	79	0	0	1
			4W	13430	80	1	0	1	13696	82	1	0	1	12665	76	1	0	1
			5QM	14655	88	2	0	0	14945	89	2	0	0	13820	83	2	0	0
			5QN	14799	88	2	0	0	15091	90	2	0	0	13956	83	2	0	0
			5QW	13430	80	3	0	2	13696	82	3	0	2	12665	76	3	0	2
			5RW	13584	81	2	0	2	13852	83	2	0	2	12810	77	2	0	2
			5W	13832	83	2	0	1	14105	84	2	0	1	13044	78	2	0	1

Notes:

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.

* Available in the 26" Urban only

ELECTRICAL DATA

# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
18	25	120	0.23	27.8
		277	0.10	
		347	0.08	
		480	0.06	
	39	120	0.38	45.1
		277	0.16	
		347	0.13	
		480	0.09	
	50	120	0.48	57.7
		277	0.21	
		347	0.17	
		480	0.12	
	70	120	0.52	62.4
		277	0.23	
		347	0.18	
		480	0.13	
	90	120	0.69	82.3
		277	0.30	
		347	0.24	
		480	0.17	
	110	120	0.82	98.7
		277	0.36	
		347	0.28	
		480	0.21	
# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
36	120	120	1.04	124.9
		277	0.45	
		347	0.36	
		480	0.26	
	135	120	1.15	137.5
		277	0.50	
		347	0.40	
		480	0.29	
	155	120	1.26	150.6
		277	0.54	
		347	0.43	
		480	0.31	
	175	120	1.39	167.3
		277	0.60	
		347	0.48	
		480	0.35	



URBAN SERIES

URBAN LUMINAIRE

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	*TM-21-11 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

Notes:

- * 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.

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

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

EPA

EPA: X.XX sqft		PM	SM	YM
CAP	21	1.04	1.14	1.39
	26	1.39	1.49	1.79
MAR	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRDS	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRSS	26	1.17	1.27	1.57

FOR ALL CONFIGURATIONS LINE DRAWINGS PLEASE SEE:

URB-HD-P.PDF
 URB-HD-S.PDF
 URB-HD-YM.PDF

Submitted by Swaney Lighting		Catalog Number: URBCAP-21/18L-90/3K7/UNV/2/ NRNW/PM/*** Notes:	Type: U2 SLA23-55190
	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)		

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**Job Name:**

ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH
PORTLAND)

Catalog Number:

AA-44/S/5/B/P/2CC/***

Type:**U2**

Notes: INITIAL ARM OFFERING

SLA23-55190

**AA-44 Strut**

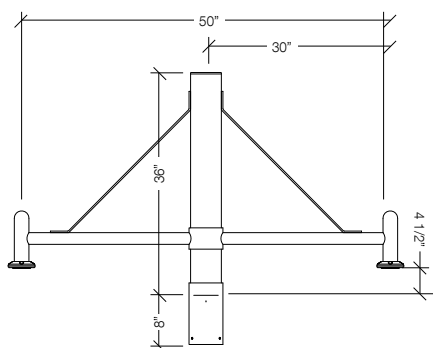
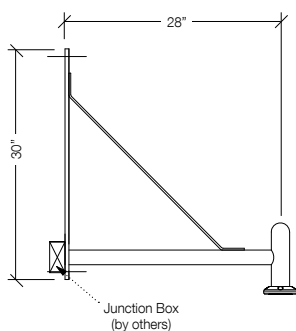
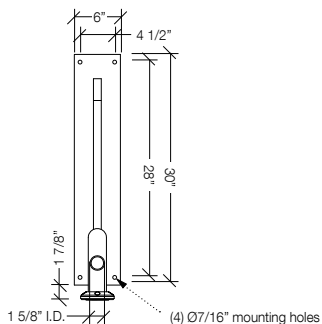
ARMS

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

Sample AA-44 S 4 B P BBT
Ordering / / / / /
A B C D E F

DETAILS**WALL BRACKET DETAILS****WALL PLATE DETAILS**

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

A. MODEL**AA-44** Strut**B. POST SHAFT PROFILE**

W wall mount

S smooth

F fluted

C. POST SHAFT DIAMETER

4 4"

5 5"

6 6"

OTHER _____

D. ARRANGEMENT**B** see arrangement table below**E. LUMINAIRE MOUNTING****P** pendant**F. COLOR** Specify Std. 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 _____

Construction: All cast aluminum parts shall be low copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

EPA (effective projected area): EPA is de-fined as (projected surface area X drag factor) and measured in ft². Allowable post, luminaire arm, luminaire and accessory EPAs are derived from the most current published AASHTO (American Association of State Highway and Transportation Officials) standard, currently AASHTO 2001 (50yr design life). Customer assumes all responsibility for selecting the ap-proprate post for installation (consult factory for assistance). Luminaire arm, luminaire and accessory EPA must be equal to or less than allowable EPA of post. Consult a professional engineer for compliance with local codes and standards.

Fasteners: All fasteners shall be Corrosion Resistant. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, available at additional cost).

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet 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-pound.

Limited Warranty: Beacon Products warrants its products, to the original purchaser, against defects in materials and workmanship for proper usage for a period of 5 years after date of production, when properly installed, maintained and appropriately specified.

2CC - 2" Cast Coupling

		arrangement (EPA index ft ² / weight (lbs))									
		A	B	C	D	E	F	G	H	I	J
shaft Ø											
wall	weight	12	-	-	-	-	-	-	-	-	-
Ø4"	EPA	-	2.34	3.28	3.28	2.73	3.75	3.75	3.75	4.22	4.22
	weight	-	15	20	22	20	25	27	25	30	32
Ø5"	EPA	-	2.67	3.61	3.61	3.06	4.08	4.08	4.08	4.55	4.55
	weight	-	18	23	25	23	28	30	28	33	35
Ø6"	EPA	-	2.82	3.76	3.76	3.21	4.23	4.23	4.23	4.70	4.70
	weight	-	21	26	28	26	31	33	31	36	38

Submitted by Swaney Lighting		Catalog Number: AA-44/S/5/B/P/2CC/***	Type: U2
	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Notes: INITIAL ARM OFFERING	SLA23-55190

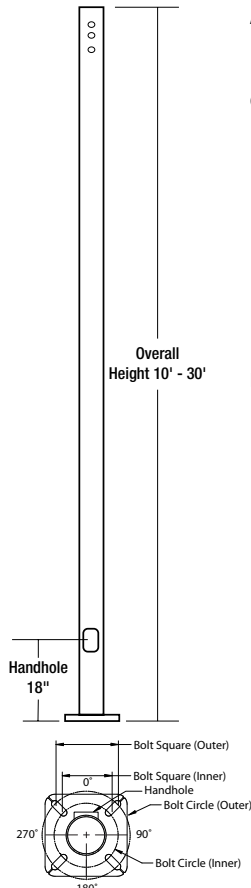
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

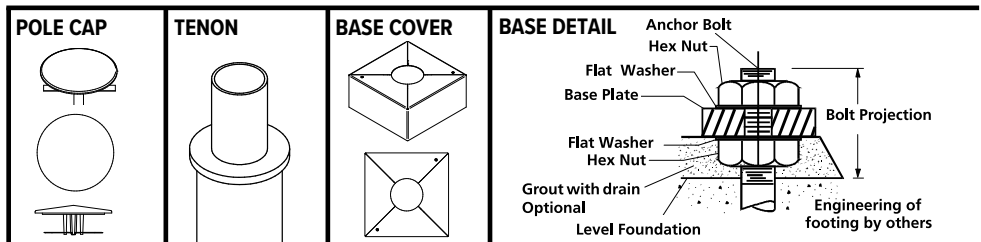
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT:** One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER:** Two-piece square aluminum base cover included standard
- POLE CAP:** Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE:** Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS:** Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B		-	25	-	40	-	A/B/C	-	2L	-	B2	-	Specify Stnd. finish	-	UL
SERIES		HEIGHT		SHAFT		THICKNESS		MOUNTING		FINISH		OPTIONS			
RSS-B Round Straight Steel Pole Beacon		Reference page 2 Ordering matrix 12		Reference page 2 Ordering matrix 50		Reference page 2 Ordering matrix B		1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)		BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color		GFI' 20 Amp GFCI Receptacle and Cover EHH' Extra Handhole C05' .5" Coupling C07' .75" Coupling C20' 2" Coupling MPB' Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover			

1

2

3T

3Y

4

MOUNTING ORIENTATION

Denotes handhole location

1 Specify option location using logic found on page 2 (Option Orientation)

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

DRILL PATTERN

- B1 Cruiser, "AM" arm
B3 2 bolt (2-1/2" spacing), Viper "A" arm
S2 2 bolt (3-1/2" spacing), Viper "AD" arm



RSS-B-Series

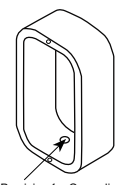
ROUND STRAIGHT STEEL

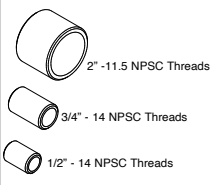
DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

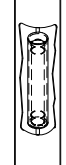
ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters										
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

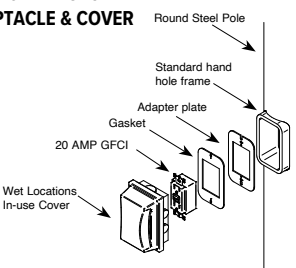
EHH - EXTRA HANDHOLE

Provision for Grounding

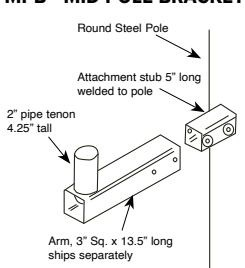
C05 - C07 - C20 - COUPLING

2" - 11.5 NPS Threads
3/4" - 14 NPS Threads
1/2" - 14 NPS Threads

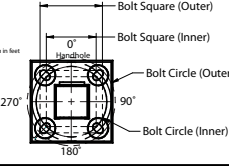
VM2 - VIBRATION DAMPER 2ND MODE

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER

Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

MPB - MID POLE BRACKET

Round Steel Pole
Attachment stub 5" long welded to pole
2" pipe tenon 4.25" tall
Arm, 3" Sq. x 13.5" long ships separately

OPTION ORIENTATION
Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1" spacing required between option. Consult factory for other configurations.

Bolt Square (Outer)
Bolt Square (Inner)
Handhole
Bolt Circle (Outer)
Bolt Circle (Inner)
0°
90°
180°
270°
Height of option in feet

For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

RSSB12-50B-OT-***

Notes:

Type:**U2**

SLA23-55190



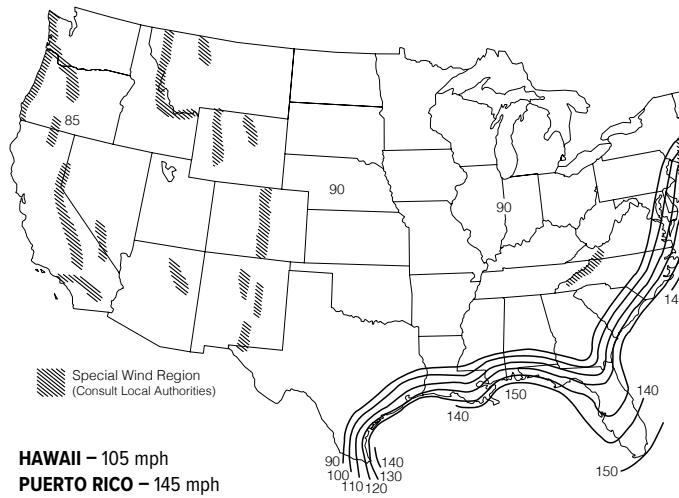
RSS-B-Series

ROUND STRAIGHT STEEL

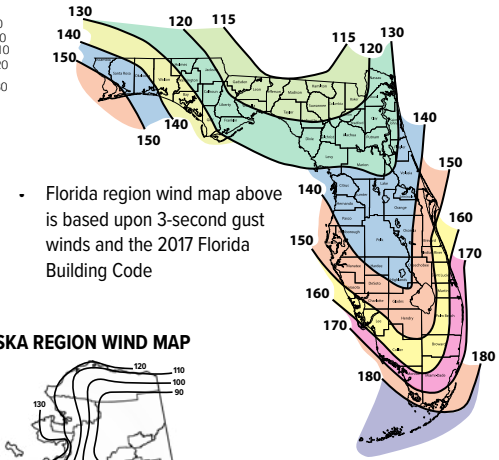
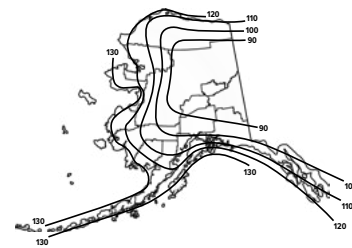
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP

*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP**ALASKA REGION WIND MAP**

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds								
Catalog Number	85	90	100	110	120	105	145	
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8	
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1	
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9	
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9	
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2	
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2	
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4	
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1	
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4	
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1	
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9	
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9	
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7	
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3	
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7	
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7	
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0	
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5	
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8	
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8	
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1	
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9	

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds								
Catalog Number	115	120	130	140	150	160	170	180
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0	10.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	9.0	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	7.0	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0	4.5
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	4.0	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.8	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	15.2	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	12.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5	7.0
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0	5.7
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0	3.5
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	16.8	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8	12.1
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4	9.9
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3	8.0
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7	6.5
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5	3.7
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9	12.0
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1	7.6
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7	4.5

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Catalog Number: RSSB12-50B-OT-*** Notes:	Type: U2 SLA23-55190
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

NOTES

Wind-speed Website disclaimer:

Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. <http://windspeed.atcouncil.org>

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLOI0022.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



URBAN SERIES

URBAN LUMINAIRE

FEATURES

- Decorative transitional style lighting fixture series is suitable for walkway lighting and wall mounting
- Two unique shade and style options
- LED turtle-friendly option available
- Integral Surge and Thermal Protection



*3000K and warmer CCTs only

CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- The drivers shall be located in the top cast housing and shall be accessible without tools by hinging the lower shade assembly. The driver and all electrical components shall be on a tray
- The lower shade shall be made from a one-piece aluminum spinning
- The housing is designed for LED thermal management without the use of metallic screens, cages, or fans. The top casting shall be able to be pendent mounted in place with a stainless steel safety pin and then permanently held in place with four stainless steel bolts

ELECTRICAL

- 100V through 277V, 50 Hz to 60 Hz (UNV), or 347V or 480V input
- Power factor is ≥ 0.90 at full load
- Dimming drivers are standard with connections for external dimming equipment available upon request
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher
- Plug disconnects are listed 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
- Button photocell available
- Ambient operating temperature -40°C to 40°C

ELECTRICAL (CONTINUED)

- Surge protection - 20KA
- 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. A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55°C (131°F). 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

- Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night visit

FINISH

- IFS polyester powder-coat electrostatically applied and thermocured
- IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super 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



Shown with arm

CERTIFICATIONS

- NRTL Certified, UL8750, UL 1598 and CSA22.2#250. 13-14 for wet locations
- IDA approved
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	3,300–13,000
Wattage Range	27.8–137.5
Efficacy Range (LPW)	61–87



URBAN SERIES

URBAN LUMINAIRE

DATE: _____

LOCATION: _____

TYPE: _____

PROJECT: _____

CATALOG #: _____

ORDERING GUIDE

Example: URB-CAP-21-36L-120-5K7-UNV-4-NRNW-BLT

CATALOG # _____

Model	Lens Option	Engine-Watts	CCT/CRI ⁴	Voltage	Optics ²	Electrical Options
URB Urban	CAP-21 21" Capitol MRDS-21 21" Miramar deep shade MAR-21 21" Maritas CAP-26 26" Capitol MRSS-26 26" Miramar shallow shade MRDS-26 26" Miramar deep shade MAR-26 26" Maritas	18L-25 25W, LED array 18L-39 39W, LED array 18L-50 50W, LED array 18L-70 70W, LED array 18L-90 90W, LED array 18L-110 110W, LED array 36L-120 120W, LED array 36L-135 135W, LED array 36L-155 155W, LED array 36L-175 175W, LED array	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI 3K8 3000K, 80 CRI 4K8 4000K, 80 CRI 5K8 5000K, 80 CRI AM Monochromatic Amber, 595nm	UNV 120-277V 347 347V 480 480V	FR Type I 2 Type II 3 Type III 4F Type IV forward 4W Type IV wide 5QN Type V square narrow 5QW Type V square wide 5RW Type V rectangular wide 5W Type V round wide BC Backshield (available for FR, 2, 3, 4, 4W Optics)	PCU Button Photocell, Universal
Control Options	Mounting Style	Style	Specify Stnd. finish		Options	
GENI-XX Energeni ³	PM Pendant mount SM Side mount YM3 Yoke mount, 3" OD YM4 Yoke mount, 4" OD YM5 Yoke mount, 5" OD	NRNW No rings 3RNW Three rings	Finish BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color		BC Backlight Control	

Notes:

1 26" only

2 To rotate optics left or right 90 degrees, specify L or R after the optical distribution example: 4L

3 When ordering Energeni, specify the routine setting code (Example GENI-04). See Energeni brochure and Energeni instructions for setting table and options. Not available with sensor options

4 This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available on our website.

**Job Name:**

ONE DIAMOND STREET
 Engineer: SMRT (PORTLAND)
 Engineer: SEBAGO TECHNICS (SOUTH
 PORTLAND)

Catalog Number:

URBCAP-21/18L-90/3K7/UNV/5QW/
 NRNW/PM/***

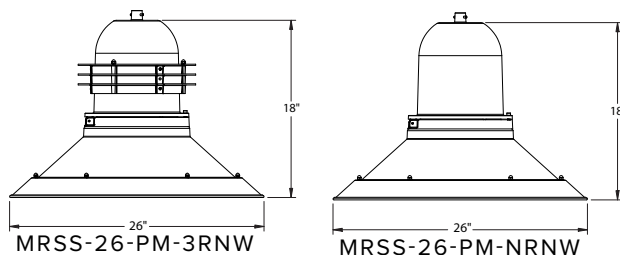
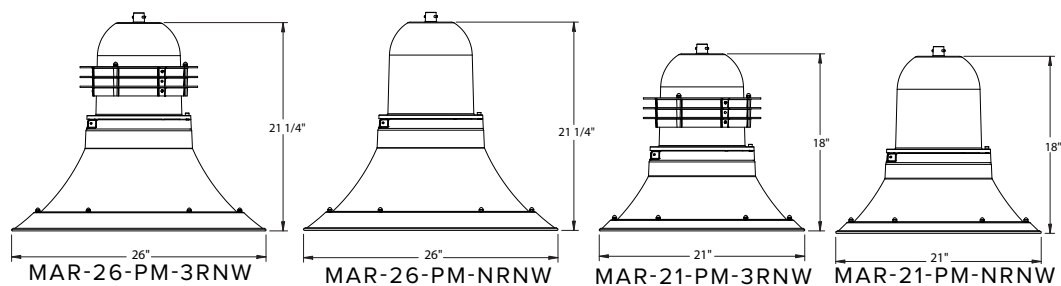
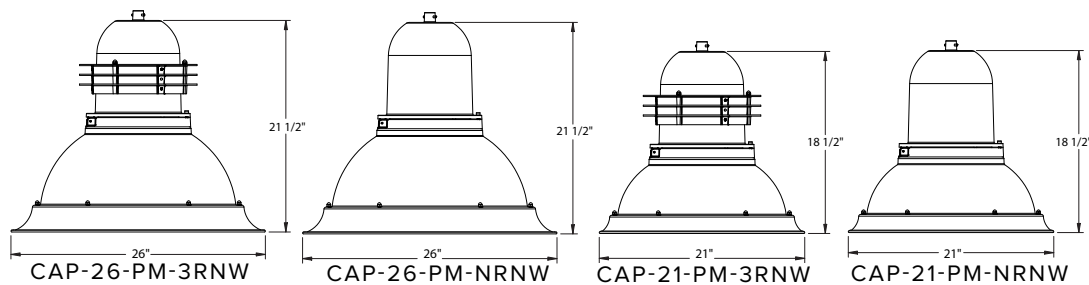
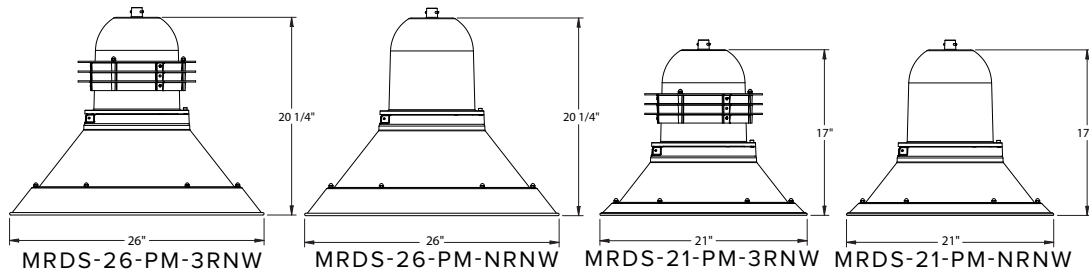
Notes:

Type:**U5**

SLA23-55190

**URBAN SERIES**

URBAN LUMINAIRE

PENDANT MOUNT



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS

DELIVERED LUMENS				5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	25	27.8	FR	3428	123	0	0	0	3496	126	0	0	0	3233	116	0	0	0
			2	3236	117	1	0	1	3300	119	1	0	1	3052	110	1	0	1
			3	3164	114	1	0	1	3226	116	1	0	1	2983	107	1	0	1
			4F	3257	117	0	0	1	3321	120	0	0	1	3071	110	0	0	1
			4W	3114	112	1	0	1	3176	114	1	0	1	2937	106	1	0	1
			5QM	3398	122	2	0	0	3465	125	2	0	0	3204	115	2	0	0
			5QN	3431	124	2	0	0	3499	126	2	0	0	3236	116	2	0	0
			5QW	2937	106	2	0	1	2995	108	2	0	1	2770	100	0	0	0
			5RW	3150	113	2	0	2	3212	116	2	0	2	2970	107	2	0	2
			5W	3207	116	2	0	1	3271	118	2	0	1	3024	109	2	0	1
	39	45.1	FR	4977	110	0	0	0	5076	113	0	0	0	4694	104	0	0	0
			2	4699	104	1	0	1	4791	106	1	0	1	4431	98	1	0	1
			3	4593	102	1	0	1	4684	104	1	0	1	4332	96	1	0	1
			4F	4729	105	0	0	1	4822	107	0	0	1	4459	99	0	0	1
			4W	4522	100	1	0	1	4611	102	1	0	1	4264	95	1	0	1
			5QM	4934	110	2	0	0	5032	112	2	0	0	4653	103	2	0	0
			5QN	4982	111	2	0	0	5081	113	2	0	0	4698	104	2	0	0
			5QW	4522	100	3	0	1	4611	102	3	0	1	4264	95	3	0	1
			5RW	4573	101	2	0	2	4664	104	2	0	2	4313	96	2	0	2
			5W	4657	103	2	0	1	4749	105	2	0	1	4391	97	2	0	1
	50	57.5	FR	6019	105	0	0	0	6138	107	0	0	0	5676	99	0	0	0
			2	5682	99	1	0	1	5794	101	1	0	1	5358	93	1	0	1
			3	5555	97	1	0	1	5665	99	1	0	1	5238	91	1	0	1
			4F	5718	100	0	0	1	5831	101	0	0	1	5392	94	0	0	1
			4W	5468	95	1	0	1	5576	97	1	0	1	5156	90	1	0	1
			5QM	5967	104	2	0	0	6085	106	2	0	0	5627	98	2	0	0
			5QN	6025	105	2	0	0	6144	107	2	0	0	5682	99	2	0	0
			5QW	5468	95	3	0	1	5576	97	3	0	1	5156	90	3	0	1
			5RW	5531	96	2	0	2	5640	98	2	0	2	5215	91	2	0	2
			5W	5632	98	2	0	1	5743	100	2	0	1	5311	92	2	0	1
	70	62.4	FR	6650	107	0	0	0	6781	109	0	0	0	6271	100	0	0	0
			2	6277	101	1	0	1	6401	103	1	0	1	5919	95	1	0	1
			3	6137	98	1	0	1	6258	100	1	0	1	5787	93	1	0	1
			4F	6317	101	0	0	1	6442	103	0	0	1	5957	95	0	0	1
			4W	6041	97	1	0	1	6160	99	1	0	1	5696	91	1	0	1
			5QM	6592	106	2	0	0	6722	108	2	0	0	6216	100	2	0	0
			5QN	6656	107	2	0	0	6788	109	2	0	0	6277	101	2	0	0
			5QW	6041	97	3	0	1	6160	99	3	0	1	5696	91	3	0	1
			5RW	6110	98	2	0	2	6231	100	2	0	2	5762	92	2	0	2
			5W	6221	100	2	0	1	6344	102	2	0	1	5867	94	2	0	1
DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE																		

Notes:

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.

* Available in the 26" Urban only

Type:

U5

SLA23-55190



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS (CONTINUED)

				5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	90	82.3	FR	7681	93	0	0	0	7833	95	0	0	0	7244	88	0	0	0
			2	7251	88	1	0	1	7394	90	1	0	1	6838	83	1	0	1
			3	7089	86	1	0	1	7229	88	1	0	1	6685	81	1	0	1
			4F	7297	89	0	0	1	7442	90	0	0	1	6882	84	0	0	1
			4W	6978	85	1	0	1	7116	86	1	0	1	6580	80	1	0	1
			5QM	7614	93	2	0	0	7765	94	2	0	0	7180	87	2	0	0
			5QN	7689	93	2	0	0	7841	95	2	0	0	7251	88	2	0	0
			5QW	6978	85	3	0	1	7116	86	3	0	1	6580	80	3	0	1
			5RW	7058	86	2	0	2	7197	87	2	0	2	6656	81	2	0	2
	5W	7187	87	2	0	1	7329	89	2	0	1	6777	82	2	0	1		
	110	98.7	FR	8346	85	0	0	0	8511	86	0	0	0	7870	80	0	0	0
			2	7878	80	1	0	1	8034	81	1	0	1	7429	75	1	0	1
			3	7702	78	1	0	1	7854	80	1	0	1	7263	74	1	0	1
			4F	7929	80	0	0	1	8085	82	0	0	1	7477	76	0	0	1
			4W	7582	77	1	0	1	7731	78	1	0	1	7150	72	1	0	1
			5QM	8273	84	2	0	0	8437	86	2	0	0	7802	79	2	0	0
			5QN	8354	85	2	0	0	8519	86	2	0	0	7878	80	2	0	0
			5QW	7582	77	3	0	2	7731	78	3	0	2	7150	72	3	0	2
5RW			7668	78	2	0	2	7820	79	2	0	2	7231	73	2	0	2	
5W	7808	79	2	0	1	7963	81	2	0	1	7363	75	2	0	1			
36	120	124.9	FR	12463	100	0	0	0	12709	102	0	0	0	11752	94	0	0	0
			2	11765	94	1	0	1	11997	96	1	0	1	11094	89	1	0	1
			3	11501	92	1	0	1	11728	94	1	0	1	10846	87	1	0	1
			4F	11840	95	0	0	1	12074	97	0	0	1	11165	89	0	0	1
			4W	11321	91	1	0	1	11545	92	1	0	1	10676	85	1	0	1
			5QM	12354	99	2	0	0	12598	101	2	0	0	11650	93	2	0	0
			5QN	12475	100	2	0	0	12722	102	2	0	0	11764	94	2	0	0
			5QW	11321	91	3	0	2	11545	92	3	0	2	10676	85	3	0	2
			5RW	11451	92	2	0	2	11677	93	2	0	2	10798	86	2	0	2
	5W	11660	93	2	0	1	11890	95	2	0	1	10995	88	2	0	1		
	135	137.5	FR	13255	96	0	0	0	13517	98	0	0	0	12500	91	0	0	0
			2	12513	91	1	0	1	12760	93	1	0	1	11799	86	1	0	1
			3	12232	89	1	0	1	12474	91	1	0	1	11535	84	1	0	1
			4F	12593	92	0	0	1	12841	93	0	0	1	11875	86	0	0	1
			4W	12041	88	1	0	1	12279	89	1	0	1	11355	83	1	0	1
			5QM	13140	96	2	0	0	13399	97	2	0	0	12391	90	2	0	0
			5QN	13268	97	2	0	0	13531	98	2	0	0	12512	91	2	0	0
			5QW	12041	88	3	0	2	12279	89	3	0	2	11355	83	3	0	2
5RW			12179	89	2	0	2	12420	90	2	0	2	11485	84	2	0	2	
5W	12401	90	2	0	1	12646	92	2	0	1	11695	85	2	0	1			
TCR	13051	95	0	0	0	13308	97	0	0	0	12307	90	0	0	0			
DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE																		

Notes:
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.
* Available in the 26" Urban only



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS (CONTINUED)

# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
36	155	150.6	FR	13992	93	0	0	0	14268	95	0	0	0	13194	88	0	0	0
			2	13208	88	1	0	1	13469	89	1	0	1	12455	83	1	0	1
			3	12912	86	1	0	1	13167	87	1	0	1	12176	81	1	0	1
			4F	13293	88	0	0	1	13555	90	0	0	1	12535	83	0	0	1
			4W	12711	84	1	0	1	12962	86	1	0	1	11986	80	1	0	1
			5QM	13870	92	2	0	0	14144	94	2	0	0	13079	87	2	0	0
			5QN	14006	93	2	0	0	14283	95	2	0	0	13208	88	2	0	0
			5QW	12711	84	3	0	2	12962	86	3	0	2	11986	80	3	0	2
			5RW	12856	85	2	0	2	13110	87	2	0	2	12123	80	2	0	2
	175	167.3	5W	13091	87	2	0	1	13349	89	2	0	1	12345	82	2	0	1
			FR	14784	88	0	0	0	15076	90	0	0	0	13942	83	0	0	0
			2	13956	83	1	0	1	14232	85	1	0	1	13161	79	1	0	1
			3	13644	82	1	0	1	13913	83	1	0	1	12866	77	1	0	1
			4F	14045	84	0	0	1	14323	86	0	0	1	13245	79	0	0	1
			4W	13430	80	1	0	1	13696	82	1	0	1	12665	76	1	0	1
			5QM	14655	88	2	0	0	14945	89	2	0	0	13820	83	2	0	0
			5QN	14799	88	2	0	0	15091	90	2	0	0	13956	83	2	0	0
			5QW	13430	80	3	0	2	13696	82	3	0	2	12665	76	3	0	2
			5RW	13584	81	2	0	2	13852	83	2	0	2	12810	77	2	0	2
			5W	13832	83	2	0	1	14105	84	2	0	1	13044	78	2	0	1

Notes:

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.

* Available in the 26" Urban only

ELECTRICAL DATA

# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
18	25	120	0.23	27.8
		277	0.10	
		347	0.08	
		480	0.06	
	39	120	0.38	45.1
		277	0.16	
		347	0.13	
		480	0.09	
	50	120	0.48	57.7
		277	0.21	
		347	0.17	
		480	0.12	
	70	120	0.52	62.4
		277	0.23	
		347	0.18	
		480	0.13	
	90	120	0.69	82.3
		277	0.30	
		347	0.24	
		480	0.17	
	110	120	0.82	98.7
		277	0.36	
		347	0.28	
		480	0.21	
# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
36	120	120	1.04	124.9
		277	0.45	
		347	0.36	
		480	0.26	
	135	120	1.15	137.5
		277	0.50	
		347	0.40	
		480	0.29	
	155	120	1.26	150.6
		277	0.54	
		347	0.43	
		480	0.31	
	175	120	1.39	167.3
		277	0.60	
		347	0.48	
		480	0.35	



URBAN SERIES

URBAN LUMINAIRE

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	*TM-21-11 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

Notes:

- * 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.

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

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

EPA

EPA: X.XX sqft		PM	SM	YM
CAP	21	1.04	1.14	1.39
	26	1.39	1.49	1.79
MAR	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRDS	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRSS	26	1.17	1.27	1.57

FOR ALL CONFIGURATIONS LINE DRAWINGS PLEASE SEE:

URB-HD-P.PDF
 URB-HD-S.PDF
 URB-HD-YM.PDF

Submitted by Swaney Lighting		Catalog Number: URBCAP-21/18L-90/3K7/UNV/5QW/ NRNW/PM/**** Notes:	Type: U5 SLA23-55190
	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)		

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Sample AA-44 S 4 B P BBT

Ordering / / / / /

A B C D E F

DETAILS

WALL BRACKET DETAILS

WALL PLATE DETAILS

A. MODEL

AA-44 Strut

B. POST SHAFT PROFILE

W wall mount

S smooth

F fluted

C. POST SHAFT DIAMETER

4 4"

5 5"

6 6"

OTHER

D. ARRANGEMENT

B see arrangement table below

E. LUMINAIRE MOUNTING

P pendant

F. COLOR Specify Std. 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

Construction: All cast aluminum parts shall be low copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

EPA (effective projected area): EPA is de-fined as (projected surface area X drag factor) and measured in ft2. Allowable post, luminaire arm, luminaire and accessory EPAs are derived from the most current published AASHTO (American Association of State Highway and Transportation Officials) standard, currently AASHTO 2001 (50yr design life). Customer assumes all responsibility for selecting the ap-proprate post for installation (consult factory for assistance). Luminaire arm, luminaire and accessory EPA must be equal to or less than allowable EPA of post. Consult a professional engineer for compliance with local codes and standards.

Fasteners: All fasteners shall be Corrosion Resistant. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, available at additional cost).

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester pow-der coat finish. The finish shall meet 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-pound.

Limited Warranty: Beacon Products warrants its products, to the original purchaser, against defects in materials and workmanship for proper usage for a period of 5 years after date of production, when properly installed, maintained and appropriately specified.

2CC - 2" Cast Coupling

		arrangement (EPA index ft² / weight (lbs))									
		A	B	C	D	E	F	G	H	I	J
shaft Ø	wall	weight	12	-	-	-	-	-	-	-	-
	Ø4"	EPA	-	2.34	3.28	3.28	2.73	3.75	3.75	4.22	4.22
Ø4"	weight	-	15	20	22	20	25	27	25	30	32
	Ø5"	EPA	-	2.67	3.61	3.61	3.06	4.08	4.08	4.55	4.55
Ø5"	weight	-	18	23	25	23	28	30	28	33	35
	Ø6"	EPA	-	2.82	3.76	3.76	3.21	4.23	4.23	4.70	4.70
Ø6"	weight	-	21	26	28	26	31	33	31	36	38

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Submitted by Swaney Lighting		Catalog Number: AA-44/S/5/B/P/2CC/***	Type: U5
	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Notes: INITIAL ARM OFFERING	SLA23-55190

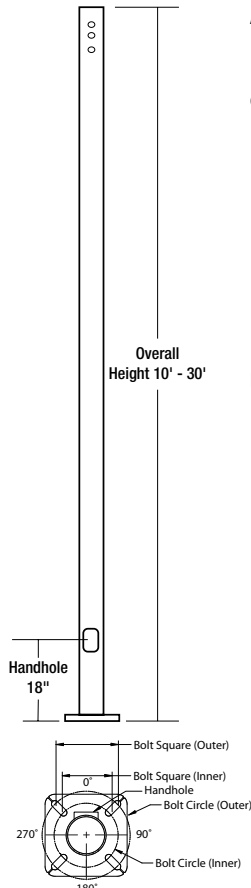
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

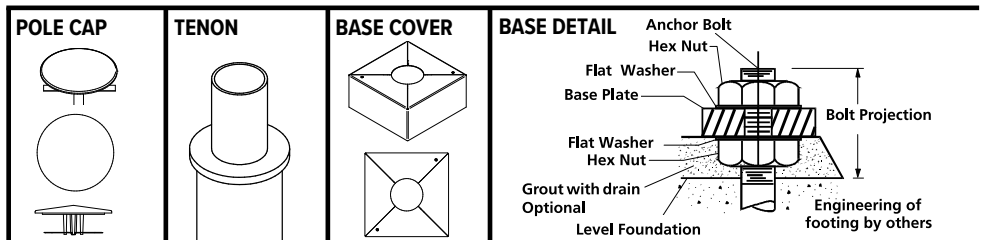
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT:** One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER:** Two-piece square aluminum base cover included standard
- POLE CAP:** Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE:** Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS:** Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B - 25 - 40 - A/B/C - 2L - B2 - Specify Stnd. finish - UL							Reference page 2 for available configurations	
SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING	FINISH	OPTIONS		
RSS-B Round Straight Steel Pole Beacon	Reference page 2 Ordering matrix 12	Reference page 2 Ordering matrix 50	Reference page 2 Ordering matrix B	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VG Verde Green Textured Color Option CC Custom Color	GFI 20 Amp GFCI Receptacle and Cover EH Extra Handhole C05 .5" Coupling C07 .75" Coupling C20 2" Coupling MPB Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover		
							DRILL PATTERN	
							B1 Cruiser, "AM" arm B3 2 bolt (2-1/2" spacing), Viper "A" arm S2 2 bolt (3-1/2" spacing), Viper "AD" arm	

1 Specify option location using logic found on page 2 (Option Orientation)

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper



RSS-B-Series

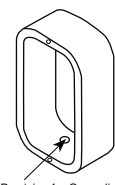
ROUND STRAIGHT STEEL

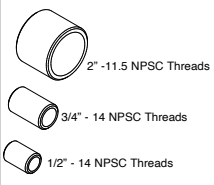
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TYPE: PROJECT:
CATALOG #:

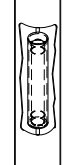
ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters										
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.78"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

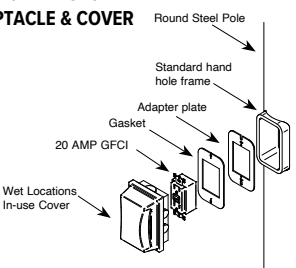
EHH - EXTRA HANDHOLE

Provision for Grounding

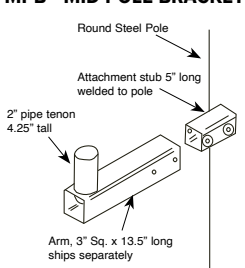
C05 - C07 - C20 - COUPLING

2" - 11.5 NPS Threads
3/4" - 14 NPS Threads
1/2" - 14 NPS Threads

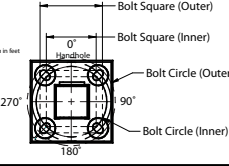
VM2 - VIBRATION DAMPER 2ND MODE

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER

Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

MPB - MID POLE BRACKET

Round Steel Pole
Attachment stub 5" long welded to pole
2" pipe tenon 4.25" tall
Arm, 3" Sq. x 13.5" long ships separately

OPTION ORIENTATION
Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1" spacing required between option. Consult factory for other configurations.

Bolt Square (Outer)
Bolt Square (Inner)
Handhole
Bolt Circle (Outer)
Bolt Circle (Inner)
0°
90°
180°
270°
Height of option in feet

For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

**Job Name:**

ONE DIAMOND STREET
Engineer: SMRT (PORTLAND)
Engineer: SEBAGO TECHNICS (SOUTH
PORTLAND)

Catalog Number:

RSSB12-50B-OT-***

Notes:

Type:**U5**

SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

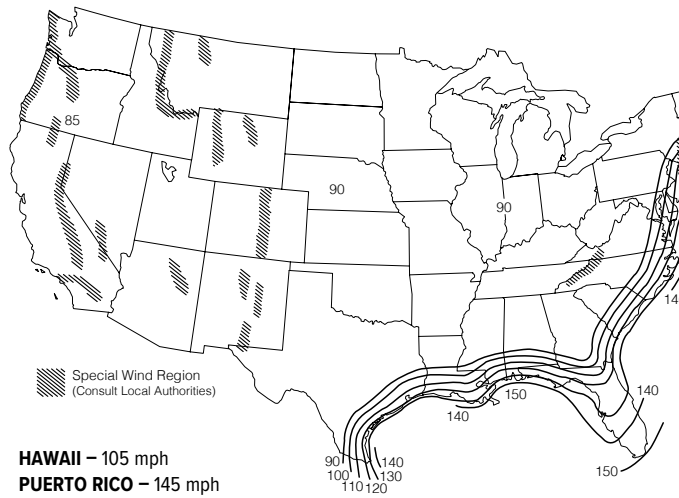
DATE:

LOCATION:

TYPE:

PROJECT:

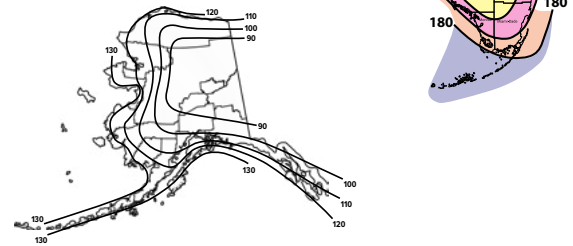
CATALOG #:

ASCE7-05 WIND MAP

*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP

- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds							
Catalog Number	85	90	100	110	120	105	145
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds							
Catalog Number	115	120	130	140	150	160	170
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0
RSS-B-10-50-B	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	22.2	19.3	16.8	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET Engineer: SMRT (PORTLAND) Engineer: SEBAGO TECHNICS (SOUTH PORTLAND)	Catalog Number: RSSB12-50B-OT-*** Notes:	Type: U5 SLA23-55190
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RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

NOTES

Wind-speed Website disclaimer:

Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. <http://windspeed.atcouncil.org>

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLOI0022.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

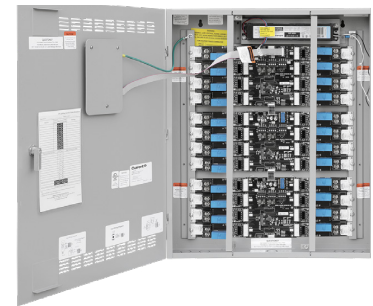
CATALOG #: _____

CX LIGHTING CONTROL PANELS

CX COMMERCIAL LIGHTING CONTROL PANELS

FEATURES

- LCD user interface with keypad
- 4, 8, 16 and 24 relay panel sizes
- Fully populated or empty
- Astronomical and real time clock for scheduling
- Upload or save programming via removable SD memory card
- NEMA 1 surface mount Enclosure
- UL916, UL924 and cUL listed
- 5 year limited warranty



SPECIFICATIONS

CONSTRUCTION

- Keypad user interface mounted on exterior of door (Only on Master or Stand alone versions)
- Knockouts on top and bottom for low voltage and line voltage feeds
- NEMA 1 surface mount enclosure;
- Pre-drilled mounting holes for mounting to wall
- Panels have hinged locking door

INSTALLATION

- All CX panel versions are surface mount enclosures

ELECTRICAL

- CX04 and CX08; 120/277VAC or 120/347VAC
- CX16 and CX24; 120-277VAC or 347-480VAC
- CX04/CX08; 24VDC, 150mA (max. 300mA)
- CX16/CX24; 24VDC, 150mA (max. 900mA)

ELECTRICAL (CONTINUED)

- CXR2N 120/277VAC (50/60Hz)
- CXR3L 120/277/347VAC (50/60Hz)
- CXR3LEM 120/277/347VAC (50/60Hz)
- CXRTN 208/240/480VAC (50/60Hz)
- CXRTC 208/240/480VAC (50/60Hz)
- Wire size 14, 16, 18, 20, 22 AWG
- Recommended Tightening Torque: 0.45 N-m (4 in-lbs.)
- 500A @ 2ms (CXR3LEM only)

OPERATION

- Green indicator light on panel motherboard - indicates panel is receiving power.
- Green indicator light on the relay card - Indicates relay is in the closed position
- Red indicator light on the relay card - Dependent on input status and programming
- Indoor use only

OPERATION (CONTINUED)

- 32° - 112° (0° - 50°C)
- Relative humidity (non-condensing): 10% - 90%

CERTIFICATIONS

- UL916, CAN/CSA C22.2 No. 205
- UL924, CAN/CSA C22.2 No. 141 Emergency Lighting (CXR3LEM)
- Title 24 Certified
- Product configurations meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11). See [Buy America\(n\) Solutions](#).

WARRANTY

- 5 year limited



DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CX LIGHTING CONTROL PANELS

CX COMMERCIAL LIGHTING CONTROL PANELS

ORDERING GUIDE

Example: CX042S00SPN or CX082S083LM

CATALOG #

CX							
Model	Spaces	Input Voltage	Enclosure	Relay Quantity	Relay Type	Options	TAA*
CX CX Lighting Control Panel	04 4 Relay Spaces (Stand Alone version only) 08 8 Relay Spaces	2 120/277VAC 3 120/347VAC	S NEMA 1 Enclosure	00 No relays included (Required SP Relay Type) 04 4 Relays Installed (Fully Populated) 08 8 Relays Installed (Fully Populated)	SP CX Lighting Control Panel 2N 1-Pole Elect. Held N.O. Relays (CXR2N) 3L 1-Pole Latching Relays (CXR3L) TN 2-Pole Elect. Held N.O. Relays (CXRTN)	N Stand-alone (4 Relay Panel is neither a Master or Secondary Panel) M Master (Available in CX08) S Secondary (Available in CX08)	Blank Standard Product * See available Buy American Solutions below

Example: CX162S00SPM or CX242S243LM

CATALOG #

CX							
Model	Spaces	Input Voltage	Enclosure	Relay Quantity	Relay Type	Options	TAA*
CX CX Lighting Control Panel	16 16 Relay Spaces 24 24 Relay Spaces	2 120-277VAC 3 347-480VAC	S NEMA 1 Enclosure	00 No relays included (Required SP Relay Type) 16 16 Relays Installed (Fully Populated) 24 24 Relays Installed (Fully Populated)	SP CX Lighting Control Panel 2N 1-Pole Elect. Held N.O. Relays (CXR2N) 3L 1-Pole Latching Relays (CXR3L) TN 2-Pole Elect. Held N.O. Relays (CXRTN)	M Master (Available in CX16 or CX24) S Secondary (Available in CX16 or CX24)	Blank Standard Product * See available Buy American Solutions below

- Notes:
- 2-Pole relays take the same amount of space as 1-Pole relays.
 - Installed relays must be all of the same type. Relay Type CXR3LEM* and CXRTC* are not available in fully populate panels and must be ordered separately to be installed in the field.
 - "00" option has no relays, any purchase relays must be installed in the field.
 - Secondary panels have a pre-installed Secondary Interface Card and separately packaged Master Interface Card. Join panels with a Cat5e/6 cable, T568B wiring scheme (Not to exceed 750').
 - CX04 Relay panel is Stand Alone only. Does not function with Master/ Satellite Interface cards.
- *Please see Buy American Solutions table to right

*Buy American Solutions
**TAA FAR §52.225-11
CX042S043LN
CX082S083LM
CX083S083LM
CX162S163LM
CX242S243LM

** CX Panels shown in above chart are MTO;
All MTS CX panels also qualify as TAA

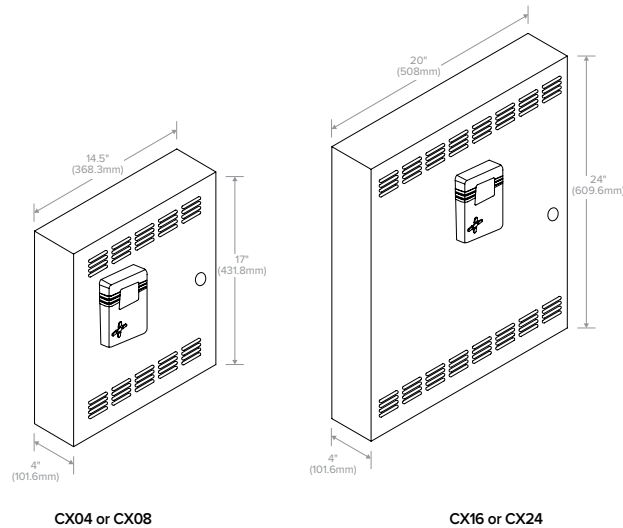


DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

CX LIGHTING CONTROL PANELS

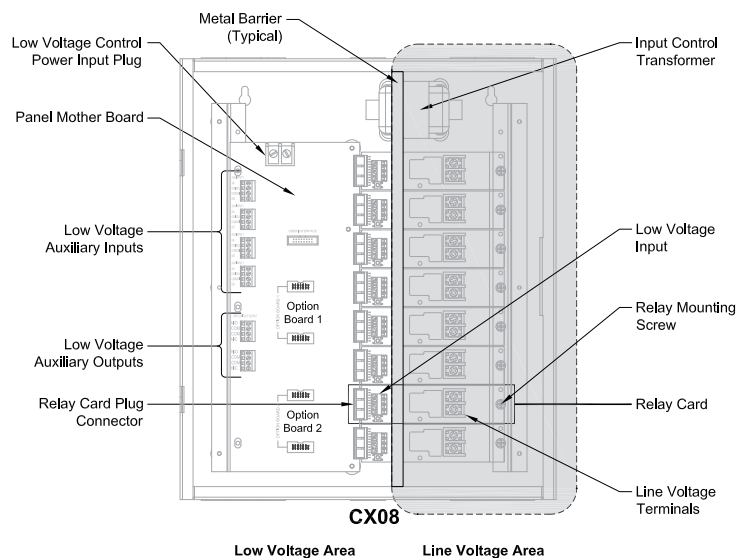
CX COMMERCIAL LIGHTING CONTROL PANELS

DIMENSIONS



ADDITIONAL INFORMATION

Panel Interiors





DATE:LOCATION:

TYPE:PROJECT:

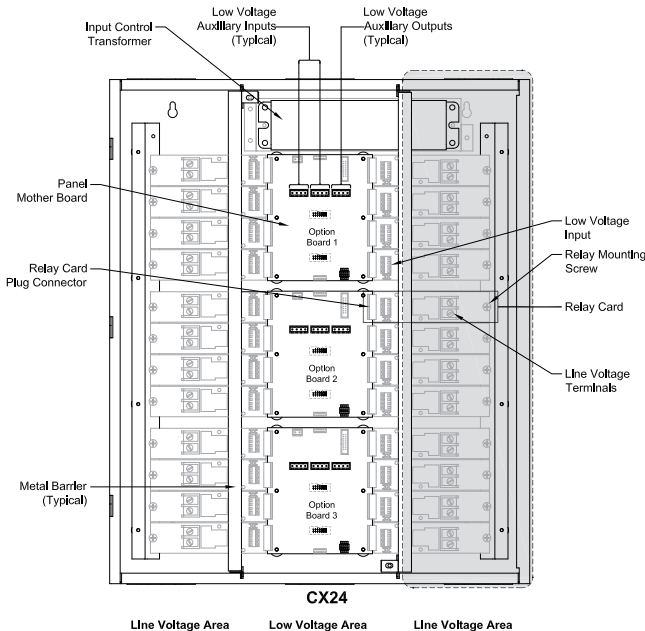
CATALOG #:

CX LIGHTING CONTROL PANELS

CX COMMERCIAL LIGHTING CONTROL PANELS

ADDITIONAL INFORMATION (CONTINUED)

Panel Interiors



Accessory Parts List

CX Relays		
Model	Relay Type	
CXR	2N	1-Pole, Elect. Held N.O. 20A@120VAC-Tungsten; 16A @ 277VAC-Elect. Ballast; 20A @277VAC-Mag. Ballast; 14K SCCR @277VAC
	3L	1-Pole Latching 20A @120VAC-Tungsten; 16A @120/277VAC-Elect. Ballast; 30A @120/277VAC-Mag. Ballast; 20A @347VAC-Elect. Ballast; 18K SCCR @347VAC
	3LEM*	1-Pole, Latching 20A @120VAC-Tungsten; 16A @120/277VAC-Elect. Ballast; 30A @120/277VAC-Mag. Ballast; 20A @347VAC-Elect. Ballast; 20A @347VAC-Mag. Ballast; 5K SCCR @347VAC
	TN	2-Pole, Elect. Held N.O. 20A @208/240/480VAC Mag. Ballast; 14K SCCR @480VAC
	TC*	2-Pole, Elect. Held N.O. 20A @208/240/480VAC Mag. Ballast; 14K SCCR @480VAC

Optional 010V Dimming Interface Card

Model	Description
CXDIMCONTRBD	CX Panel 8-Channel dimming Interface board 0-10V Dimming 30mA, sinking current. 4-RJ45 ports for CXSW wall stations.
	CX04 and CX08 Panels only capable of supporting a single Dimming card (No more than 4 total CXDIMCONTRBD can be used with any Master/Secondary configurations; slots provided)

Optional Master/Satellite Interface Cards

Model	Description
CXKITSECINTFC	Master/Satellite Interface Card Replacement Kit (2card set)



LVS SERIES
LOW VOLTAGE WALL SWITCHES

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

FEATURES

- Attractive, architecturally pleasing design
- Momentary or latching button action
- 1-4 buttons with or without LED
- Mounts to standard single-gang box
- California Title 24 compliant
- Low voltage device: 24 VDC
- Five-year limited warranty



SPECIFICATIONS

CONSTRUCTION

- Housing- Rugged, high-impact, injection-molded plastic
- Color-coded leads
- 1.88" W x 4.25" H x 1.56" D (47.75mm x 107.95mm x 39.63mm)
- 3.0 oz (85.0 g)
- White, Ivory, Light Almond and Gray

MOUNTING

- Single-gang NEMA-style switch box (average switch box)
- Decorator-style wall plate nmot included

ELECTRICAL

- Each switch: 100mA @ 30VDC Max
- Each pilot LED: 18-30VDC, internal 2.2kohm, ½ watt resistor
- 1-4 buttons, with or without pilot LED
- Momentary

OPERATING ENVIRONMENT

- Indoor use only
- Operating temperature: 32° to 122°F (0° to 50°C)
- Relative humidity (non-condensing): 10% to 90%

CERTIFICATIONS

- cUL listed
- California Title 24 compliant
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11).
- See [Buy America\(n\) Solutions](#)

WARRANTY

- 5 year limited

ORDERING GUIDE

Example: LVSM1NPWH

CATALOG #					
LVS	Switch Type	Number of Buttons	Pilot	Color	BAA/TAA*
Model					
LVS Low Voltage: Wall Switch	M Momentary L Latching ¹	1 1 button 2 2 buttons 3 3 buttons 4 4 buttons	PL w/ Pilot LED's NP No Pilot	WH White IV Ivory LA Light Almond GY Gray	Blank Standard Product * See Buy American Solutions to right

*Buy American Solutions	
BAA	TAA
LVSM1NPWH-U	LVSM1NPWH-T
LVSL1NPWH-U	LVSM2NPWH-T
	LVSL1NPWH-T

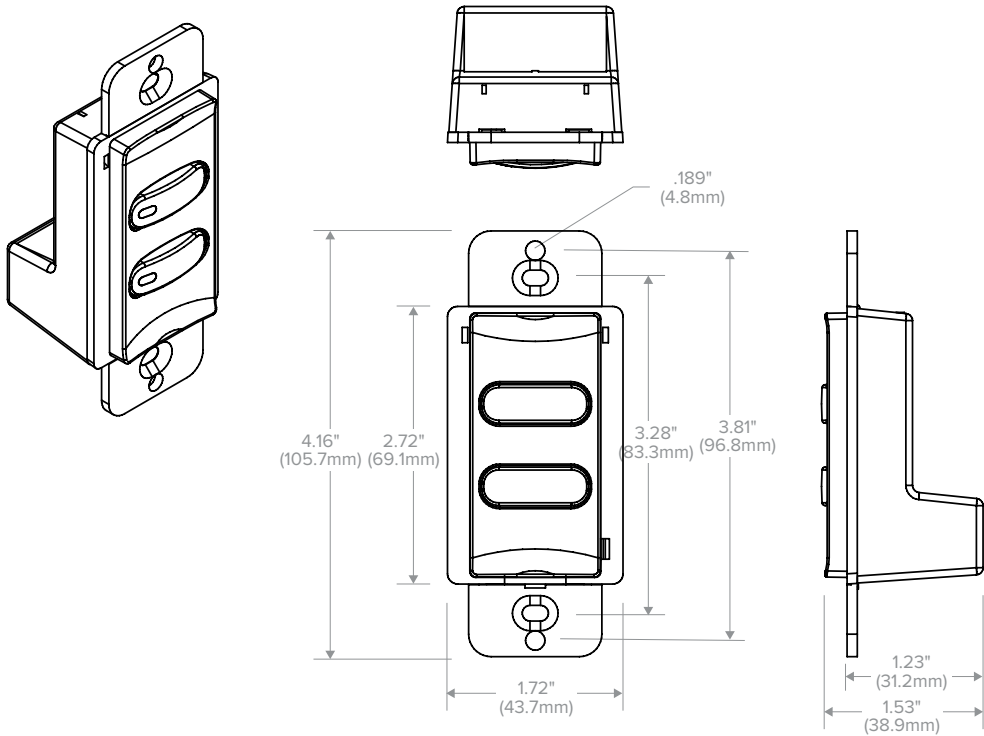
Notes:
1 Latching buttons are for special applications only, consult factory if you are not certain about how to use a latching button

*Please see Buy American Solutions table above

LVS SERIES

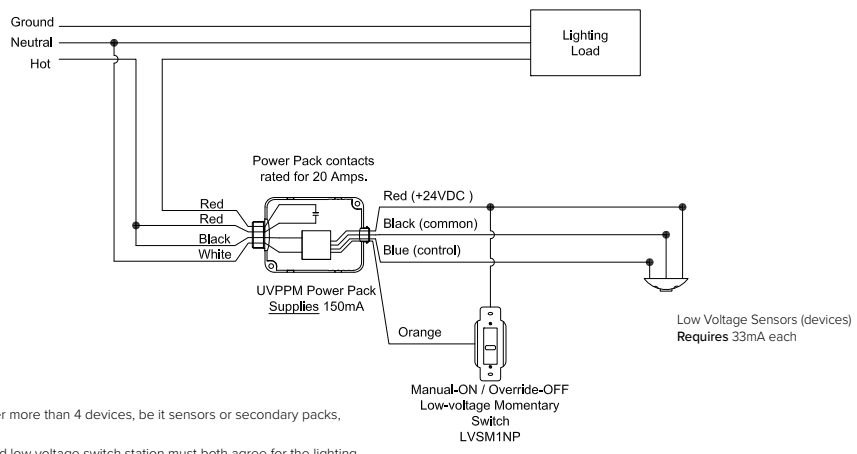
LOW VOLTAGE WALL SWITCHES

DIMENSIONS

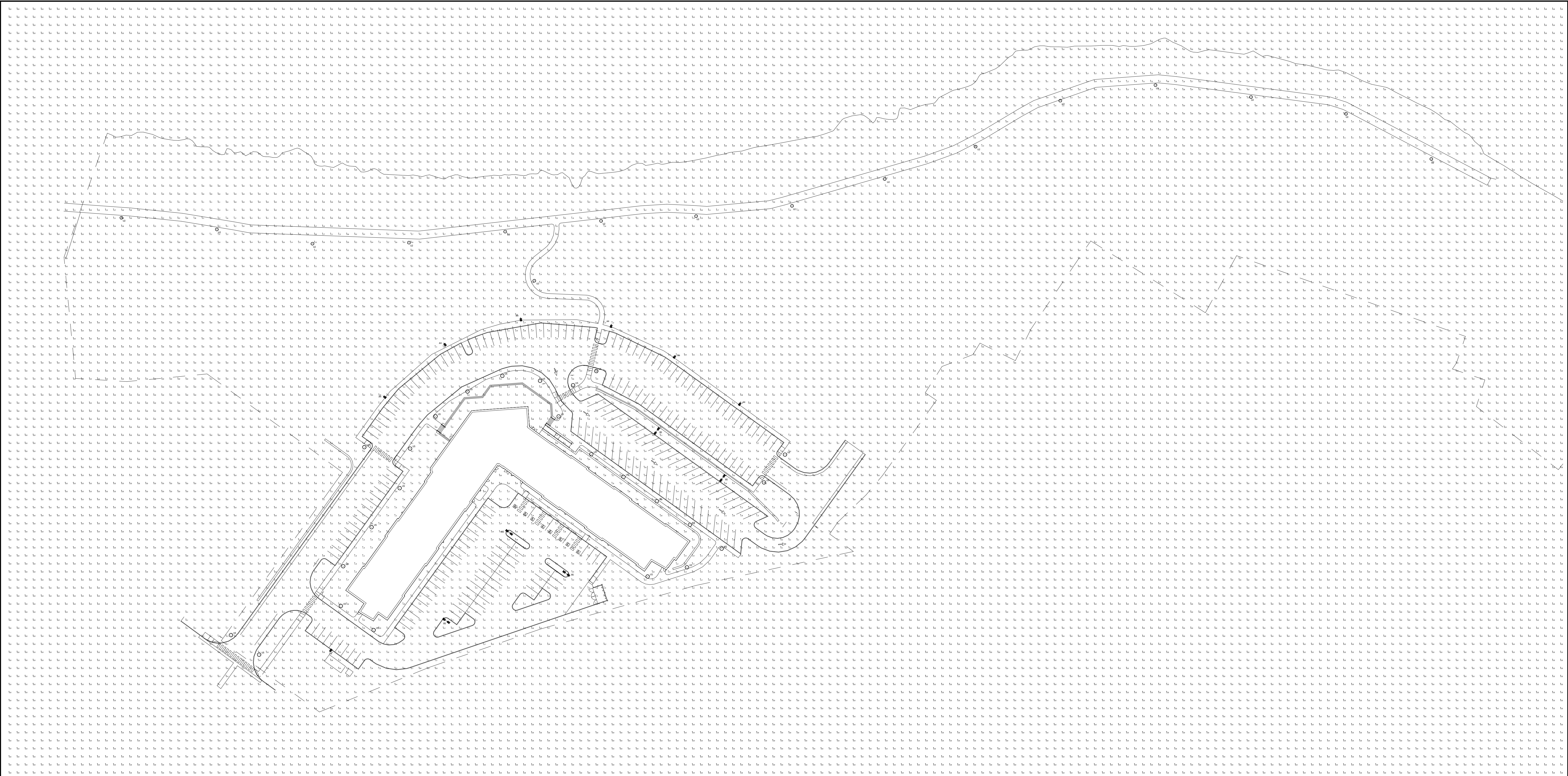


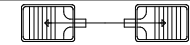
ADDITIONAL INFORMATION

Wiring Diagram

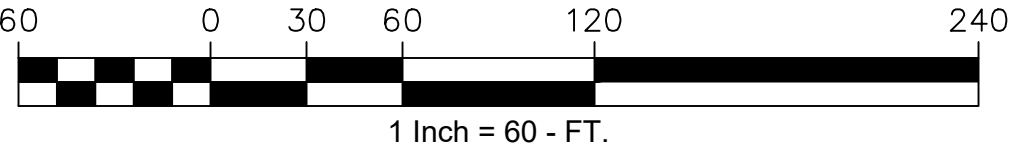


- Notes:
- DO NOT attempt to power more than 4 devices, be it sensors or secondary packs, from a single power pack.
 - The occupancy sensor and low voltage switch station must both agree for the lighting load to turn on. The lighting load will turn off if either the switch station is pressed off or if occupancy is lost.
 - Low Voltage wire to be 18AWG.



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	7	A4	25' - 0" AFG	0.900	19139	180	VP-2-72L-180-4K7-4W
	5	B5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	16	U2	15' - 0" AFG	0.900	6839	82.3	URB-18L-90-3K7-2
	25	U5	15' - 0" AFG	0.900	6208	90	URB-18L-90-3K7-5QW

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.22	6.3	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	2.30	5.4	0.0	N.A.	N.A.
Walking Path	Illuminance	Fc	2.42	6.3	0.1	24.20	63.00



1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.

2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.

3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

ONE DIAMOND STREET
BIDDEFORD, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):

R1: 05/04/23
R2: 06/06/23
R3: 09/20/23
R4: 09/21/23

R5: 10/06/23
R6: 05/20/24
R7: 05/23/24

ON BY:

DHK

REV BY:

DHK

QUOTE: N/A

DATE:

05/01/23

05/23/24

DRAWING / DESIGN NO.:

A230656R7

CHK BY:

N/A

SCALE: AS NOTED

Current

Page 319 of 904

Exhibit 10

Traffic

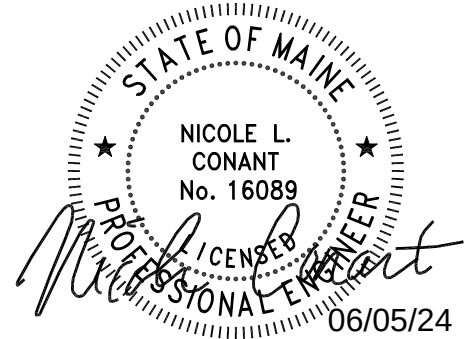
Exhibit 10 Traffic

The proposed project is anticipated to generate 60 new trips for AM and PM hours during the week and 84 new trips during the AM and PM on Saturday. Please see this Exhibit for the Traffic Impact Assessment was completed for this project.

Memorandum

18462

To: Dan Riley, P.E., Sebago Technics
From: Nikki Conant, P.E., Sebago Technics
Griffin Steinman, EI, Sebago Technics
Date: June 5, 2024



Subject: Revised Traffic Impact Assessment, One Diamond Development - Phase 1, Biddeford

Introduction

The purpose of this memorandum is to provide a revised Traffic Impact Assessment (TIA) for the first phase of a proposed redevelopment located off Main Street in Biddeford, Maine. The development is to consist of one building with 209 multi-family residential units. The development replaces an existing use located on land identified by the City of Biddeford as Map and Lot Numbers 37-34 and 37-35.

Access to the site is proposed via an existing connection to Main Street approximately 370 feet northwest of St Mary's Street. A traffic impact memorandum dated June 7, 2023, was previously submitted regarding Phase 1. Additionally, the master plan for this project was originally pursuing a Traffic Movement Permit (TMP) with the Maine Department of Transportation (MaineDOT). However, the development has since changed in both access and timing of total planned buildout since those submissions. As such, this memorandum details the calculated revised trip generation for the development and evaluates sight distance at Main Street.

Trip Generation

Vehicular trip generation was completed for the existing and proposed uses in Phase 1 by utilizing the 11th Edition of the Institute of Transportation Engineers (ITE), *Trip Generation Manual*. The methodologies and results are outlined in the following subsections:

Existing

The lots within the Phase 1 redevelopment include the following existing use:

- 37-34: Approximately 10,300 square foot (SF) food service equipment sales building.

For the development on lot 37-34, land use code (LUC) 180 – Specialty Trade Contractor was utilized as ITE defines this as “a business primarily involved in providing contract repairs and services to meet industrial or residential needs.” A summary of estimated trip generation for existing uses is shown in Table 1:

Table 1 – Existing Trip Generation

<i>Time Period</i>	<i>LUC 180</i>	
	<i>Average Rate</i>	<i>Trips</i>
AM Peak Hour – Adj. Street	1.66	17
AM Peak Hour – Generator	1.98	20
PM Peak Hour – Adj. Street	1.93	20
PM Peak Hour – Generator	2.18	22
Saturday Peak Hour	-	-

As demonstrated in Table 1, the existing parcel is estimated to generate a total of 20 trips and 22 trips during the AM and PM peak hour periods, respectively. As such, these trips are grandfathered to the parcels for determining the need for state traffic permitting.

Proposed

The currently proposed development includes 209 units of multi-family housing across five (5) floors. As such, LUC 221 – Multifamily Housing (Mid-Rise) was utilized as the description for the land use “includes apartments and condominiums located in a building that has between four and 10 floors of living space.” Trip generation for the proposed development is summarized in Table 2.

Table 2 – Phase 1 ITE Trip Generation
Land Use Code 221 – Multifamily Housing (Mid-Rise)
209 Dwelling Units

<i>Time Period</i>	<i>Fitted Curve Equation</i>	<i>Trips</i>	<i>Entering</i>	<i>Exiting</i>
Weekday	$T = 4.77(X) - 46.46$	950	475 (50%)	475 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	$T = 0.44(X) - 11.61$	80	18 (23%)	62 (77%)
AM Peak Hour – Generator*	$T = 0.44(X) - 11.61$	80	18 (23%)	62 (77%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	$T = 0.39(X) + 0.34$	82	50 (61%)	32 (39%)
PM Peak Hour – Generator	$T = 0.32(X) + 15.57$	82	49 (60%)	33 (40%)
Saturday Peak Hour	$\ln(T) = 1.00 \ln(X) - 0.91$	84	43 (51%)	41 (49%)

**Values from Adjacent Street were utilized as it produced the higher result.*

As seen in Table 2, the proposed development is estimated to generate 80 trips, 82 trips, and 84 trips during the AM, PM, and Saturday peak hour periods, respectively. Trip generation for the Phase 1 portion of the redevelopment with credit given from the existing parcel is shown in Table 3.

Table 3 – Phase 1 Trip Generation Comparison

<i>Time Period</i>	<i>LUC 180 (Credit)</i>	<i>LUC 221</i>	<i>Total (New Trips)</i>
AM Peak Hour – Adj Street	-17	80	+63
AM Peak Hour – Generator	-20	80	+60
PM Peak Hour – Adj Street	-20	82	+62
PM Peak Hour – Generator	-22	82	+60
Saturday Peak Hour	-	84	+84

After applying the reduction for the grandfathered trips, the redevelopment is estimated to generate 60 new trips, 60 new trips, and 84 new trips during the AM, PM, and Saturday peak hour periods of the generator, respectively. Given this level of trip generation, a TMP is not required from the Maine MainedOT for this initial development phase as trip generation does not exceed the 100-trip threshold during a peak hour period.

The original TMP application utilized existing available turning movement count (TMC) data and provided trip assignments for the overall master plan. As requested at the Scoping Meeting, updated TMCs were conducted Wednesday, September 27, 2023, at the following locations with associated AM and PM peak hours:

- Elm Street (Route 1) at Main Street – 7 AM to 9 AM and 3 PM to 6 PM
 - AM Peak Hour 7:30 – 8:30 AM
 - PM Peak Hour 3:45 – 4:45 PM
- Elm Street (Route 1) at Pearl Street – 7 AM to 9 AM and 3 PM to 6 PM
 - AM Peak Hour 7:30 – 8:30 AM
 - PM Peak Hour 3:45 – 4:45 PM
- Elm Street (Route 1) at Lincoln Street (Biddeford) – 7 AM to 9 AM and 3 PM to 6 PM
 - AM Peak Hour 7:30 – 8:30 AM
 - PM Peak Hour 4:15 – 5:15 PM
- Elm Street (Route 1) at Pine Street – 7 AM to 7 PM
 - AM Peak Hour 7:30 – 8:30 AM
 - PM Peak Hour 4:15 – 5:15 PM
- Elm Street (Route 1) at Water Street and Lincoln Street (Saco) – 7 AM to 9 AM and 3 PM to 6 PM
 - AM Peak Hour 7:30 – 8:30 AM
 - PM Peak Hour 4:30 – 5:30 PM

Both Main Street and Elm Street in the vicinity of the site are classified as Group I – Urban. As such, the counts were factored to 30th highest hour volumes as they represent peak summer conditions. The counts were factored by a rate of 1.02 (0.90/0.88) by utilizing the 2023 MaineDOT Weekly Group Mean Factors. The 2023 factored volumes are shown in Figure 1 of the attached diagrams.

The existing volumes were reviewed during the AM and PM peak hour periods to determine distributions for primary trip assignment. These traffic patterns are outlined in Figure 2. It should be noted that these distributions did not change significantly from the original distributions outlined within the TMP Application. The trips from Table 3 were assigned to the network based upon the primary trip distributions and trip assignments for reference purposes from the Main Street access are shown in Figure 3.

Sight Distance Analysis

Sight distance was reviewed in the field on January 6, 2022, for the existing connection to Main Street. Measurements were conducted from a point 10 feet behind the edge of the travel way, considering a height of eye of 3.5 feet and a height of object of 4.25 feet. Analysis was completed in accordance with the standards set forth in the *City of Biddeford Code of Ordinances*, shown in Table 4.

Table 4 – City of Biddeford Sight Distance Requirements

<i>Posted Speed (MPH)</i>	<i>Minimum Sight Distance (feet)</i>
25	250'
30	300'
35	350'
40	400'
45	450'
50	500'
55	550'

Main Street is posted in the MaineDOT Public Map Viewer, and verified in the field, to have a speed limit of 25 miles per hour (MPH), corresponding to a minimum sight distance of 250 feet. Sight distance to the left was measured to be 450 feet and exceeded 500 feet to the right. As such, sight distance on Main Street exceeds the required minimum for a 25 MPH roadway.

Conclusion

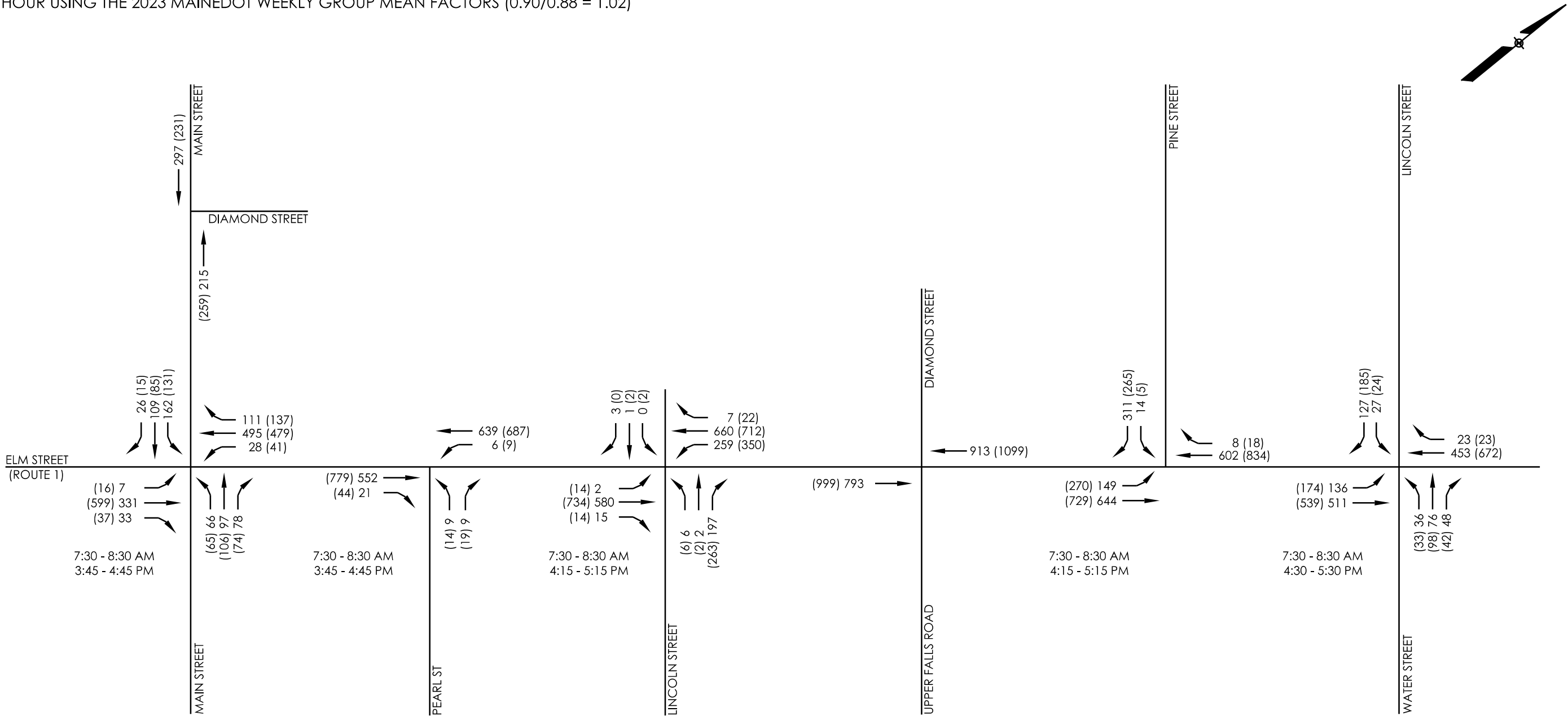
Sebago Technics, Inc. has completed the revised traffic impact assessment for the One Diamond redevelopment in Biddeford, Maine and provides the following conclusions:

- Phase 1 of the One Diamond redevelopment proposes to remove the existing food service equipment sales space on site. The proposed new use consists of 209 multi-family residential dwelling units.
- The redevelopment is calculated to generate 60 new trips, 60 new trips, and 84 new trips during the AM, PM, and Saturday peak hour periods of the generator, respectively after taking credit for the existing parcel use. As such, a TMP is not required by the MaineDOT for Phase 1.
- The total trips for the redevelopment were assigned to the Main Street access and adjacent roadway system utilizing updated turning movement count data collected following the Scoping Meeting for the original TMP application.
- Sight distance from the existing connection at Main Street exceeds the City of Biddeford requirements. It is important to note that no landscaping, signage, or other features shall be located within the sight triangle of the proposed driveway.

Attachments

Trip Assignment Diagrams

NOTE:
VOLUMES COLLECTED ON WEDNESDAY SEPTEMBER 27, 2023 AND FACTORED TO 30TH HIGHEST
HOUR USING THE 2023 MAINEDOT WEEKLY GROUP MEAN FACTORS (0.90/0.88 = 1.02)



AM PEAK HOUR
(PM PEAK HOUR)



WWW.SEAGOTECHNICS.COM

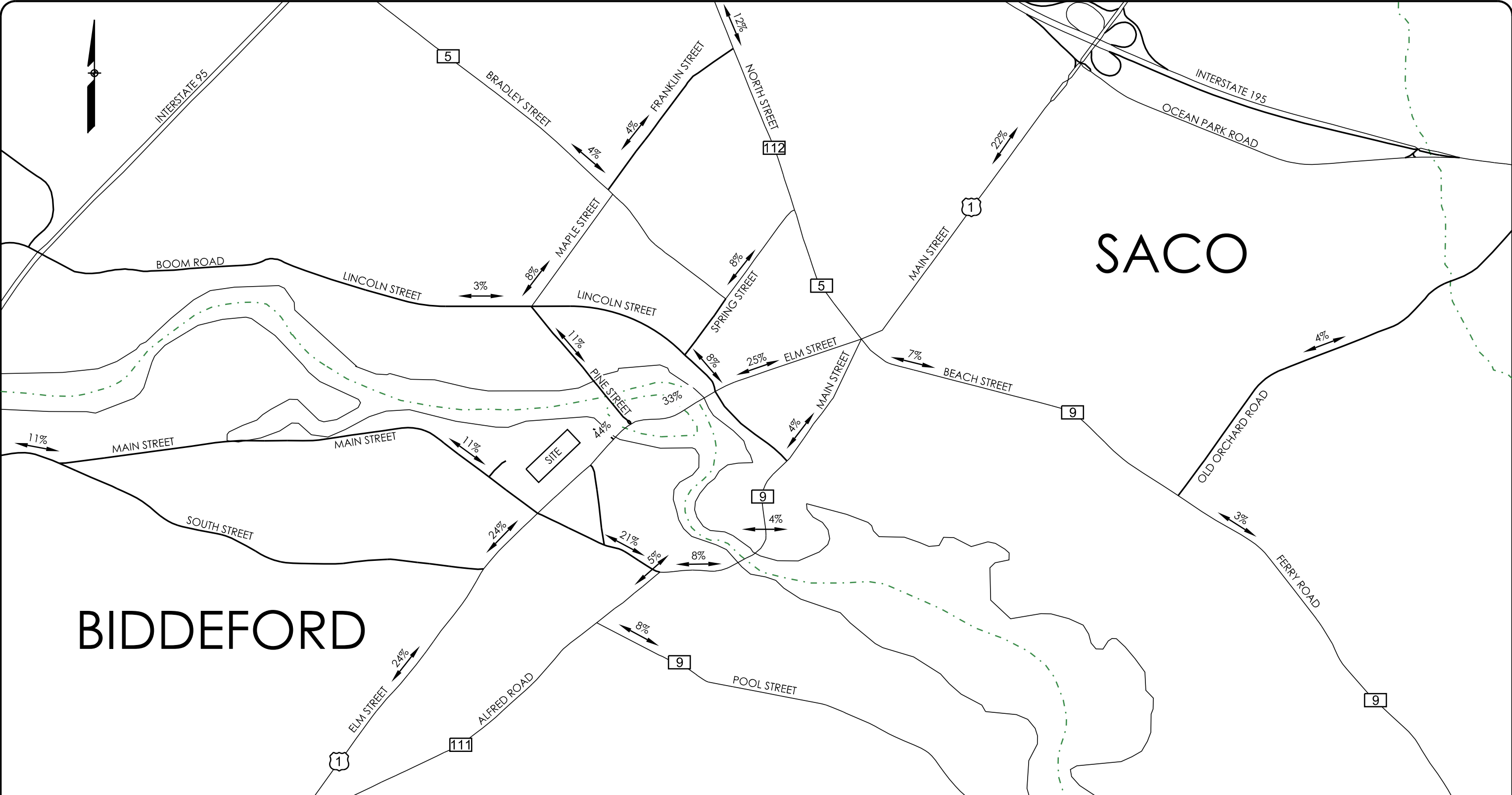
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

2023 BACKGROUND VOLUMES
ONE DIAMOND STREET

LOCATION: MAIN STREET
BIDDEFORD, MAINE

FOR: ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, MAINE 04043

SCALE: N.T.S.
DATE: 06/04/24
FIGURE: 1



WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

TRIP ASSIGNMENTS - PRIMARY TRIP DISTRIBUTION
ONE DIAMOND STREET

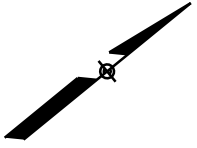
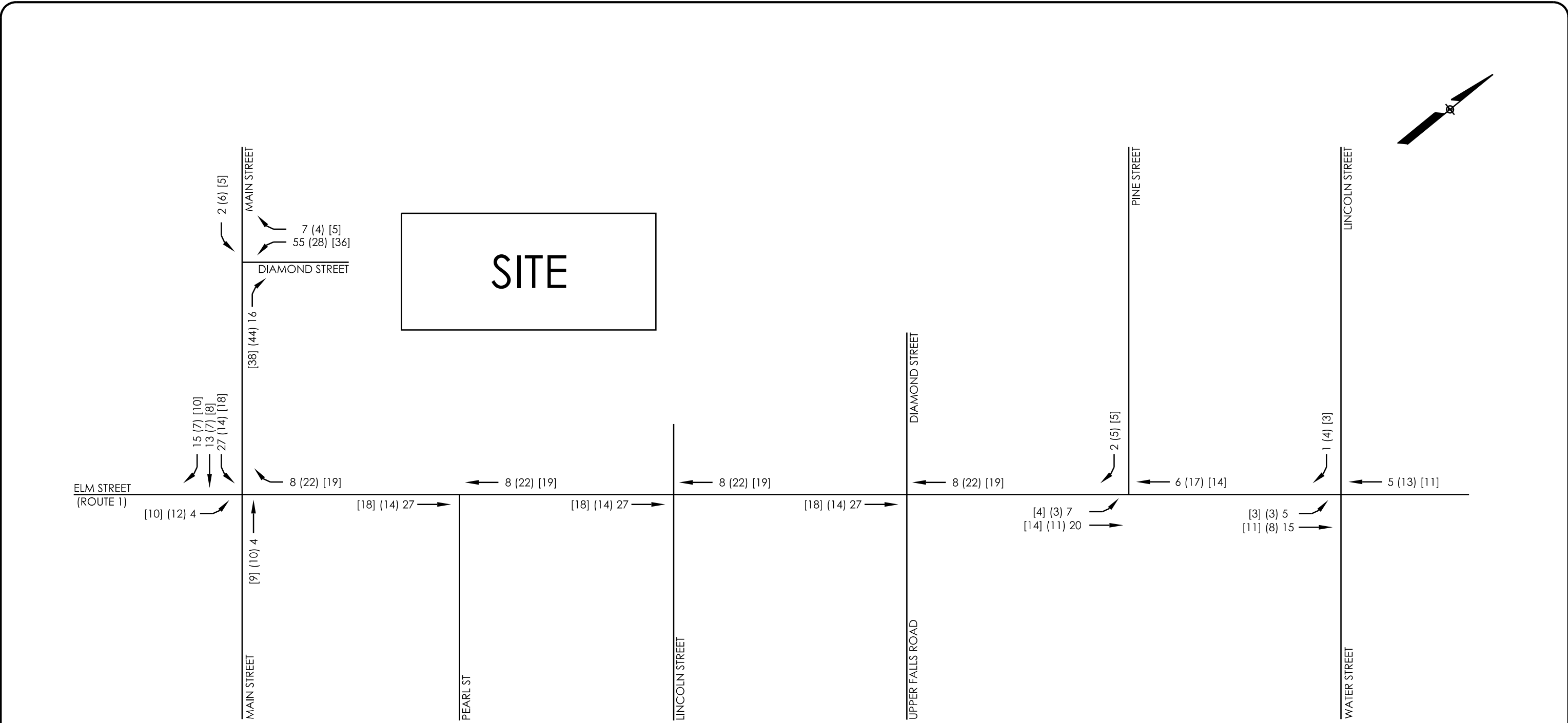
LOCATION:
MAIN STREET
BIDDEFORD, MAINE

FOR: ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, MAINE 04043

SCALE: N.T.S

DATE: 06/04/24

FIGURE:
2



AM PEAK HOUR
(PM PEAK HOUR)
[SAT PEAK HOUR]

PROJECT TRIP GENERATION			
	AM	(PM)	[SAT]
ENTERING	18	(50)	[43]
EXITING	62	(32)	[41]
TOTAL	80	(82)	[84]



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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PRIMARY TRIP ASSIGNMENTS
ONE DIAMOND STREET

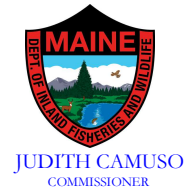
LOCATION:	FOR:	FIGURE:
MAIN STREET	ONE DIAMOND DEVELOPMENT, LLC	
BIDDEFORD, MAINE	2 LIVEWELL DRIVE, SUITE 201	3
	KENNEBUNK, MAINE 04043	

Exhibit 11

Agency Letters



STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



September 18, 2023

Stefanie Nichols
Sebago Technics
75 John Roberts Road, Suite 1A
Portland, ME 04101

RE: Information Request – One Diamond Street Mixed-Use Development, Biddeford Project (ER #6825)

Dear Stefanie:

Per your request, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *One Diamond Street Mixed-Use Development, Biddeford* project. Please note our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project. Essential Habitats are areas formally designated as essential to the conservation of a State Endangered or Threatened species and are protected pursuant to the Maine Endangered Species Act (MESA, 12 M.R.S. §12804.2). Currently, Essential Habitats are only designated for three State Endangered coastal breeding bird species.

Endangered, Threatened, and Special Concern Species

Bats - Of the eight species of bats that occur in Maine, the three *Myotis* species are afforded protection under Maine's Endangered Species Act (MESA, 12 M.R.S. §12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are designated as Species of Special Concern (Rare): big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. Tri-colored bats are currently pending designation as a State Threatened species. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Thus, their absence from resource maps is not necessarily indicative of an absence on the ground. Therefore, we recommend that surveys for vernal pools be conducted within the project

boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Aquatic Resources

Fish Habitat - We recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial rivers and streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats.

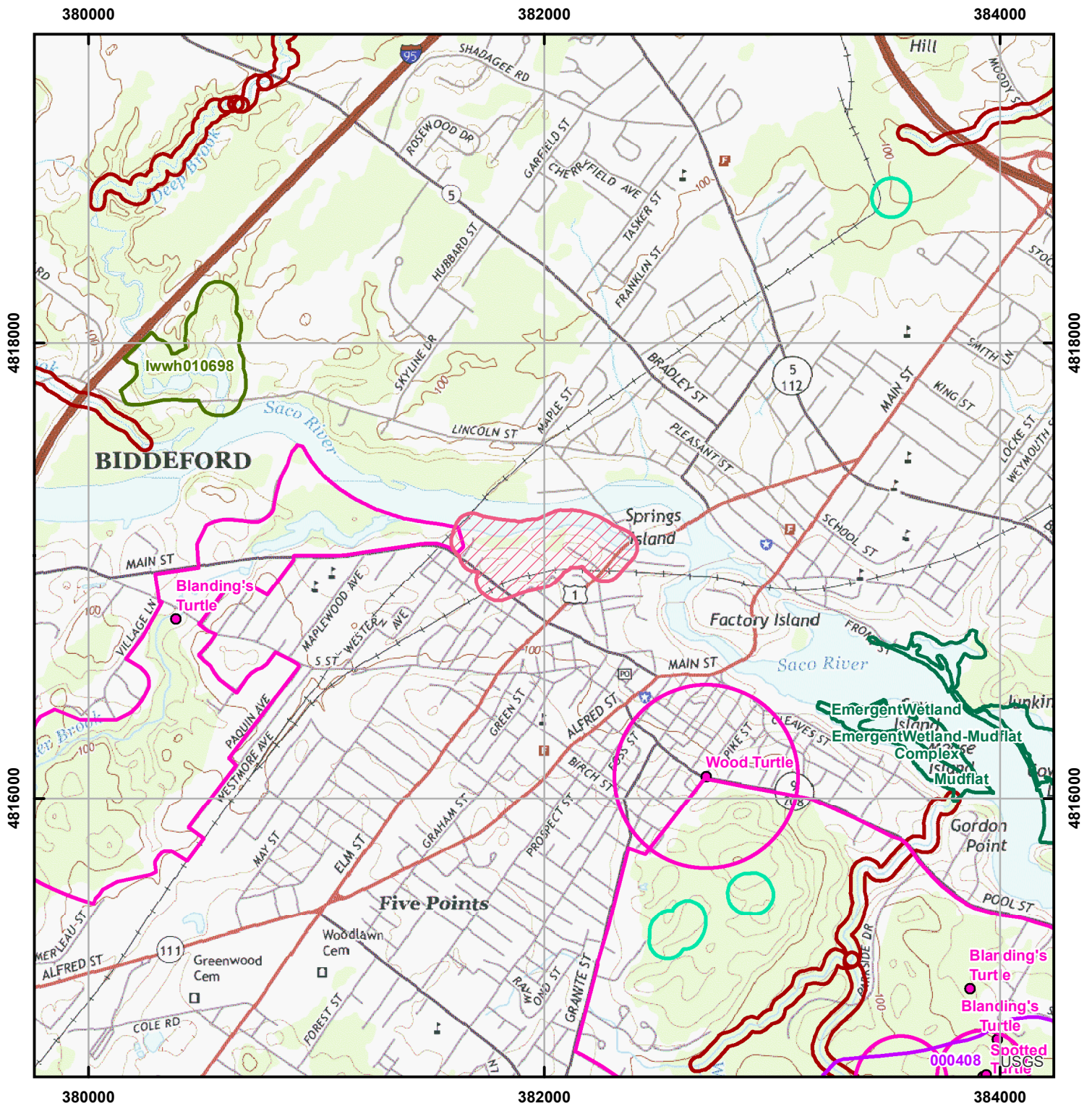
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,



Ciara Hayes
Resource Biologist

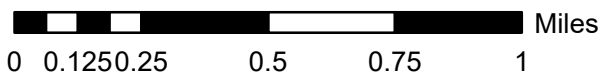


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: One Diamond Street Mixed-Use development, Biddeford
(Version 1)



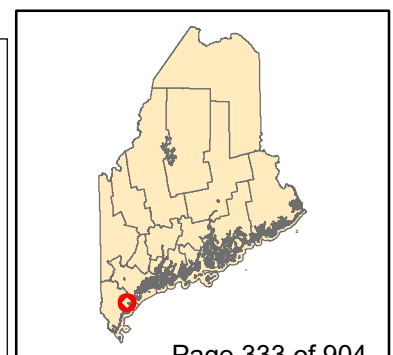
Maine Department of
Inland Fisheries and Wildlife

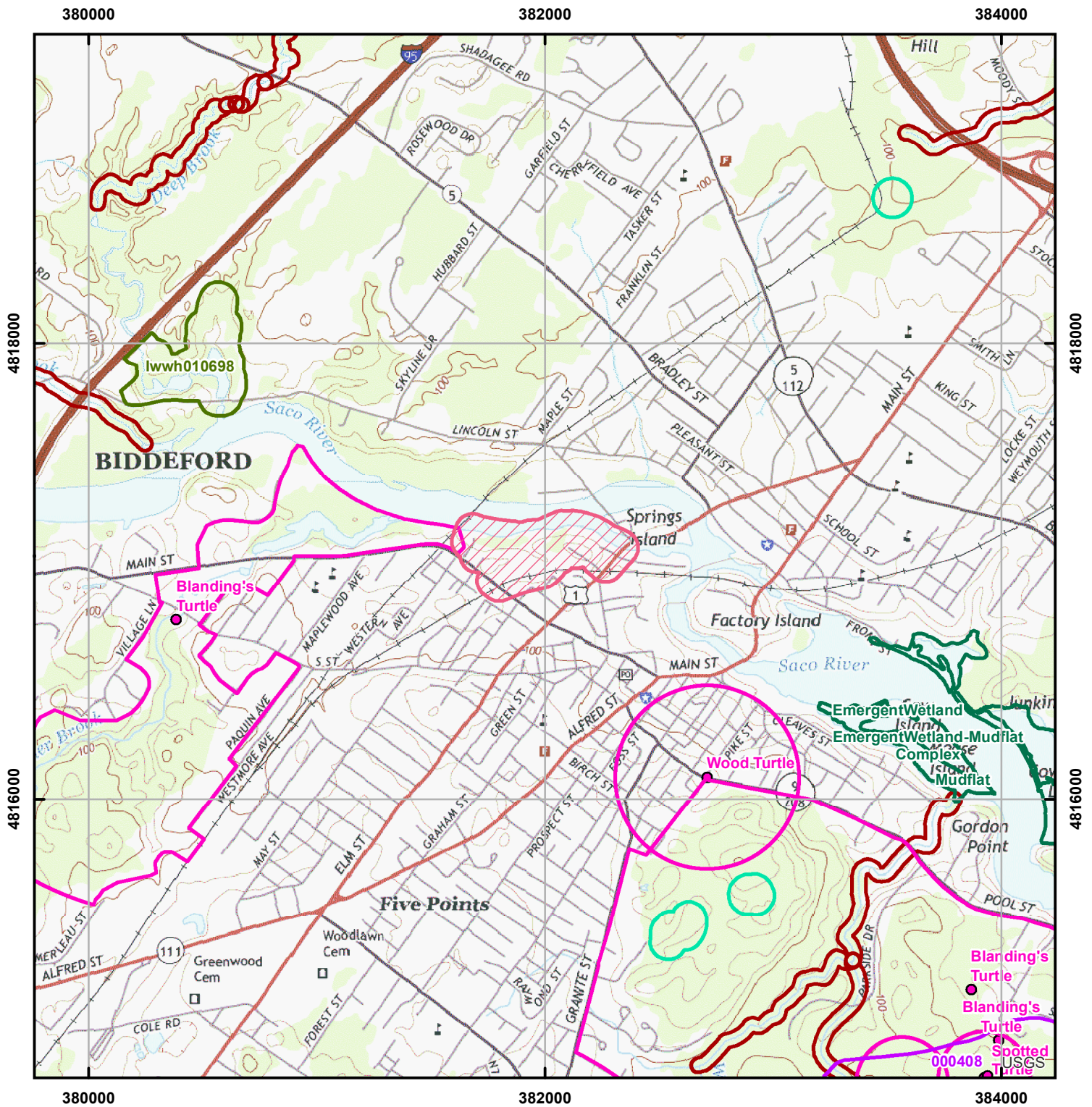


Projection: UTM, NAD83, Zone 19N

Date: 5/3/2023

- | | | |
|-----------------------------------|----------------------------------|---|
| ProjectSearchAreas - All Versions | Deer Winter Area | Roseate Tern |
| Maine Cliff and Talus Areas | LUPC p-fw | Piping Plover and Least Tern |
| | Seabird Nesting Islands | Aquatic ETSc - 2.5 mi review |
| | Shorebird Areas | Rare Mussels - 5 mi review |
| | Inland Waterfowl and Wading Bird | Maine Heritage Fish Waters |
| | Tidal Waterfowl and Wading Bird | Arctic Charr Habitat |
| | Significant Vernal Pools | Redfin Pickerel and Swamp Darter Habitats - buffer100ft |
| | Environmental Review Polygons | Special Concern occupied habitats - 100ft buffer |
| | | Wild Lake Trout Habitats |



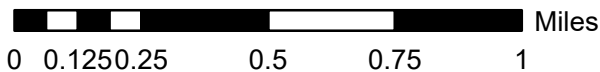


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: One Diamond Street Mixed-Use development, Biddeford
(Version 1)



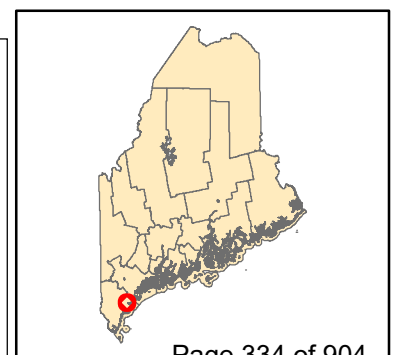
Maine Department of
Inland Fisheries and Wildlife



Projection: UTM, NAD83, Zone 19N

Date: 5/3/2023

- | | | |
|-----------------------------------|----------------------------------|---|
| ProjectSearchAreas - All Versions | Deer Winter Area | Roseate Tern |
| Maine Cliff and Talus Areas | LUPC p-fw | Piping Plover and Least Tern |
| | Seabird Nesting Islands | Aquatic ETSc - 2.5 mi review |
| | Shorebird Areas | Rare Mussels - 5 mi review |
| | Inland Waterfowl and Wading Bird | Maine Heritage Fish Waters |
| | Tidal Waterfowl and Wading Bird | Arctic Charr Habitat |
| | Significant Vernal Pools | Redfin Pickerel and Swamp Darter Habitats - buffer100ft |
| | Environmental Review Polygons | Special Concern occupied habitats - 100ft buffer |
| | | Wild Lake Trout Habitats |





JANET T. MILLS
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

KIRK F. MOHNEY
DIRECTOR

May 17, 2023

Ms. Stefanie Nichols
Sebago Technics
75 John Roberts Rd
Suite 4A
South Portland, ME 04106

Project: MHPC #0585-23 One Diamond Street Development; One Diamond Street
Mixed Use Development
Town: Biddeford, ME

Dear Ms.Nichols:

In response to your recent request, I have reviewed the information received April 27, 2023 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Historic archaeology survey is recommended for the proposed project due to the presence of a steam sawmill on the site as depicted on 19th century maps of the area.

A list of qualified historic archaeologists can be found on our website:
<https://www.maine.gov/mhpc/programs/survey/approved-consultants/historic>

If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov.

No architectural or prehistoric archaeological resources will be affected by this undertaking.

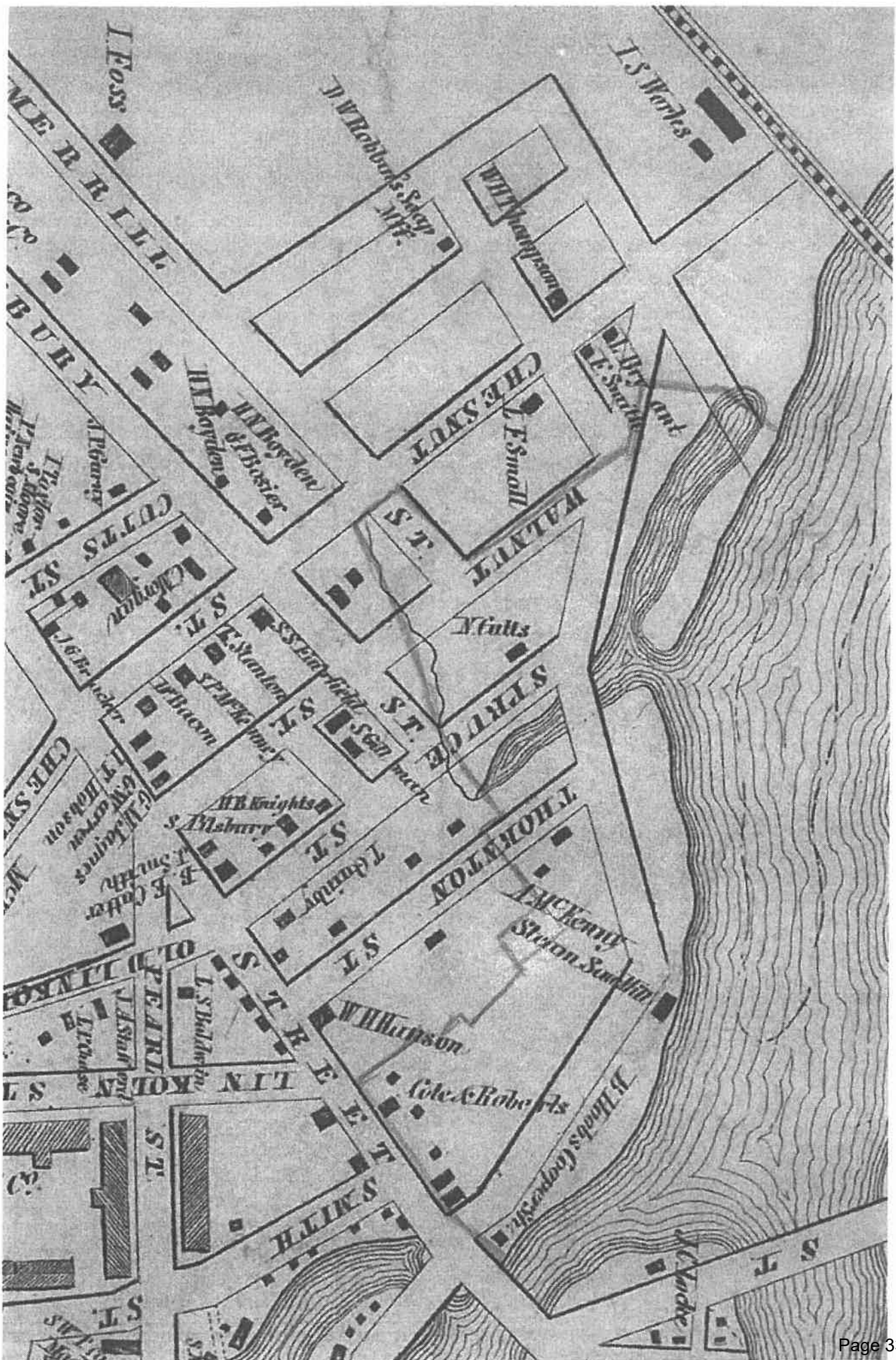
If you have any questions regarding consultation, please contact Megan M. Rideout of this office at, megan.m.rideout@maine.gov.

Sincerely,

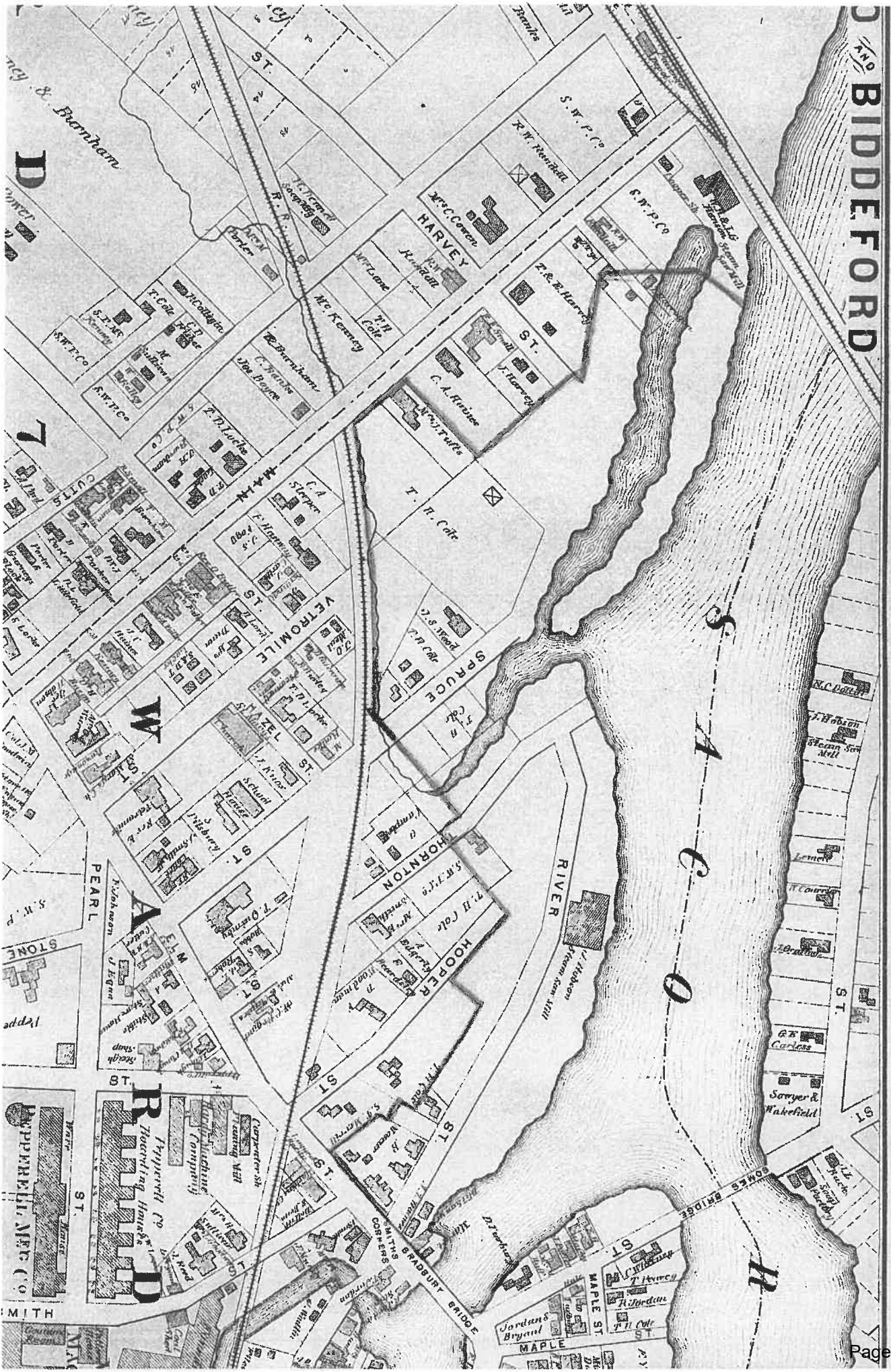
Kirk F. Mohney
State Historic Preservation Officer

1866

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84



285-23 Apr. 27
1872





STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 1, 2023

Kelly Koehler
Sebago Technics
75 John Roberts Road, Suite 4A
South Portland, ME 04106

Via email: kkoehler@sebagotechnics.com

Re: Rare and exemplary botanical features in proximity to: #18462, Mixed-Use Development, 1 Diamond Street, Biddeford, Maine

Dear Kelly Koehler:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received April 27, 2023 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Biddeford, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

**Rare and Exemplary Botanical Features within 4 miles of
Project: #18462, Mixed-Use Development, 1 Diamond Street, Biddeford, ME**

| Common Name | State Status | State Rank | Global Rank | Date Last Observed | Occurrence Number | Habitat |
|------------------------------|--------------|------------|-------------|--------------------|-------------------|---|
| Atlantic White Cedar | | | | | | |
| | SC | S2 | G4 | 2017-07-26 | 3 | Forested wetland |
| Atlantic White Cedar Bog | | | | | | |
| | | S1 | G3G4 | 2017-07-26 | 3 | |
| Beach Plum | | | | | | |
| | E | S1 | G4 | 1933-06-21 | 9 | Rocky coastal (non-forested, upland) |
| | E | S1 | G4 | 1932-09 | 12 | Rocky coastal (non-forested, upland) |
| Beach Wormwood | | | | | | |
| | SC | S1S2 | G5T5 | 2011-10-28 | 6 | |
| Brackish Tidal Marsh | | | | | | |
| | | S3 | GNR | 2009-07-29 | 1 | |
| Butterfly Weed | | | | | | |
| | PE | SX | G5 | 1986 | 1 | Dry barrens (partly forested, upland) |
| Button Sedge | | | | | | |
| | SC | S2 | G5 | 1880-09-06 | 2 | |
| | SC | S2 | G5 | 2000-08-15 | 3 | |
| | SC | S2 | G5 | 2017-07-26 | 5 | |
| Clothed Sedge | | | | | | |
| | E | S1 | G5 | 2006-06-07 | 7 | Dry barrens (partly forested, upland) |
| | E | S1 | G5 | 2006-06-16 | 8 | Dry barrens (partly forested, upland) |
| Coastal Dune-marsh Ecosystem | | | | | | |
| | | S3 | GNR | 2009 | 1 | |
| Creeping Spike-moss | | | | | | |
| | E | S2 | G5 | 1989-08-14 | 2 | Open wetland, not coastal nor rivershore (non-forested, |
| Maine Natural Areas Program | | | | | | |

| | | | | | | |
|------------------------|----|-----|--------|------------|----|---|
| Creeping Spike-moss | E | S2 | G5 | 1920-07-30 | 6 | Open wetland, not coastal nor rivershore (non-forested, |
| Dwarf Glasswort | T | S1 | G5 | 1981-09-16 | 2 | Tidal wetland (non-forested, wetland) |
| Estuary Bur-marigold | SC | S3 | G4 | 2009-07-30 | 35 | Tidal wetland (non-forested, wetland) |
| Freshwater Tidal Marsh | S2 | G4? | | 2009-07-30 | 1 | |
| Hollow Joe-pye Weed | SC | S2 | G5? | 1989-08-21 | 1 | Open wetland, not coastal nor rivershore (non-forested, |
| | SC | S2 | G5? | 1989-08-14 | 2 | Open wetland, not coastal nor rivershore (non-forested, |
| | SC | S2 | G5? | 1989-08-22 | 3 | Open wetland, not coastal nor rivershore (non-forested, |
| Horned Pondweed | SC | S2 | G5 | 1907-08-18 | 10 | Tidal wetland (non-forested, wetland) |
| | SC | S2 | G5 | 2000-08-28 | 15 | Tidal wetland (non-forested, wetland) |
| | SC | S2 | G5 | 2007-07-05 | 19 | Tidal wetland (non-forested, wetland) |
| Lilaeopsis | SC | S2 | G5 | 2012-10-21 | 10 | Tidal wetland (non-forested, wetland) |
| | SC | S2 | G5 | 2007-07-05 | 11 | Tidal wetland (non-forested, wetland) |
| | SC | S2 | G5 | 2007-08-14 | 12 | Tidal wetland (non-forested, wetland) |
| Long's Bulrush | T | S2 | G3 | 2017-07-26 | 10 | Open wetland, not coastal nor rivershore (non-forested, |
| Long-spined Sandbur | PE | SH | G5 | 1984 | 1 | Rocky coastal (non-forested, upland) |
| Mudwort | SC | S3 | G5 | 2009-07-30 | 35 | Tidal wetland (non-forested, wetland) |
| Pale Green Orchis | SC | S2 | G4?T4Q | 2008-06-27 | 52 | Non-tidal rivershore (non-forested, seasonally wet), Open |
| | SC | S2 | G4?T4Q | 2008-06-27 | 53 | Non-tidal rivershore (non-forested, seasonally wet), Open |

| | | | | | | |
|----------------------------|------|------|------------|----|---|--|
| Parker's Pipewort | | | | | | |
| SC | S3 | G3 | 2017-08-31 | 33 | Tidal wetland (non-forested, wetland) | |
| Pendulous Bulrush | | | | | | |
| SC | S2 | G5 | 2008-06-28 | 8 | Open wetland, not coastal nor rivershore (non-forested, | |
| Pitch Pine Bog | | | | | | |
| | S2 | G3G5 | 2017-07-26 | 4 | | |
| | S2 | G3G5 | 2015-09-29 | 20 | | |
| Pitch Pine Dune Woodland | | | | | | |
| | S1 | G2 | 2014-05-08 | 8 | | |
| Pitch Pine Woodland | | | | | | |
| | S3 | G2 | 2016-08-09 | 30 | | |
| Pocket Swamp | | | | | | |
| | S2 | G5 | 2014-05-08 | 4 | | |
| | S2 | G5 | 2020-06-12 | 18 | | |
| | S2 | G5 | 2020-06-12 | 33 | | |
| Pygmyweed | | | | | | |
| SC | S2S3 | G5 | 2009-07-29 | 25 | Open water (non-forested, wetland) | |
| SC | S2S3 | G5 | 2007-07-05 | 28 | Open water (non-forested, wetland) | |
| Raised Level Bog Ecosystem | | | | | | |
| | S4 | GNR | 2017-07-26 | 3 | | |
| Red Maple Swamp | | | | | | |
| | S5 | G3G5 | 2007-06-05 | 17 | | |
| Salt-hay Saltmarsh | | | | | | |
| | S3 | G5 | 2010-10-14 | 12 | | |
| | S3 | G5 | 2009 | 27 | | |
| Saltmarsh False-foxglove | | | | | | |
| SC | S3 | G5 | 1982 | 9 | Tidal wetland (non-forested, wetland) | |
| SC | S3 | G5 | 1982 | 12 | Tidal wetland (non-forested, wetland) | |
| SC | S3 | G5 | 2006-07-17 | 18 | Tidal wetland (non-forested, wetland) | |

| | | | | | | |
|----------------------------------|----|----|--------|------------|----|---|
| Sassafras | SC | S2 | G5 | 2006-07-17 | 16 | Hardwood to mixed forest (forest, upland), Old field/ |
| Schreber's Wood-aster | PE | SX | G4 | 1894-09 | 1 | Rocky coastal (non-forested, upland) |
| Slender Blue Flag | T | S2 | G4G5 | 1995-07-18 | 18 | Tidal wetland (non-forested, wetland) |
| Small Reed Grass | SC | S3 | G5 | 2000-08-15 | 12 | Old field/roadside (non-forested, wetland or upland) |
| | SC | S3 | G5 | 2006-08-08 | 14 | Old field/roadside (non-forested, wetland or upland) |
| Smooth Winterberry Holly | SC | S3 | G5 | 1979 | 13 | Forested wetland |
| | SC | S3 | G5 | 2018-09-15 | 24 | Forested wetland |
| | SC | S3 | G5 | 2011-10-28 | 30 | Forested wetland |
| | SC | S3 | G5 | 2004 | 36 | Forested wetland |
| | SC | S3 | G5 | 2020-6-12 | 39 | Forested wetland |
| | SC | S3 | G5 | 2012-10 | 44 | Forested wetland |
| Southern Slender Ladies'-tresses | PE | SH | G5T4T5 | 1918-08-27 | 1 | Dry barrens (partly forested, upland) |
| Spongy-leaved Arrowhead | SC | S3 | G5T4 | 2012-10-21 | 42 | Tidal wetland (non-forested, wetland) |
| Stiff Arrowhead | SC | S2 | G5 | 2006-06-16 | 15 | Tidal wetland (non-forested, wetland) |
| Sweet Pepper-bush | SC | S2 | G5 | 1917-09 | 9 | Hardwood to mixed forest (forest, upland), Forested |
| Tidal Marsh Estuary Ecosystem | | S3 | GNR | 2010-10-14 | 4 | |
| Water Pimpernel | SC | S3 | G5 | 2012-10-21 | 26 | Tidal wetland (non-forested, wetland) |

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Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

| Rank | Definition |
|----------------------------|--|
| S1
G1 | Critically Imperiled – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. |
| S2
G2 | Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. |
| S3
G3 | Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. |
| S4
G4 | Apparently Secure – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. |
| S5
G5 | Secure – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. |
| SX
GX | Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery. |
| SH
GH | Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery. |
| S#S#
G#G# | Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. |
| SU
GU | Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. |
| GNR
SNR | Unranked – Global or subnational conservation status not yet assessed. |
| SNA
GNA | Not Applicable – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems). |
| Qualifier | Definition |
| S#?
G#? | Inexact Numeric Rank – Denotes inexact numeric rank. |
| Q | Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The “Q” modifier is only used at a global level. |
| T# | Intraspecific Taxon (trinomial) – The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. |

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

| Status | Definition |
|-----------|---|
| E | Endangered – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered. |
| T | Threatened – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened. |
| SC | Special Concern – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered. |
| PE | Potentially Extirpated – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence. |

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

| Rank | Definition |
|-----------|---|
| A | Excellent – Excellent estimated viability/ecological integrity. |
| B | Good – Good estimated viability/ecological integrity. |
| C | Fair – Fair estimated viability/ecological integrity. |
| D | Poor – Poor estimated viability/ecological integrity. |
| E | Extant – Verified extant, but viability/ecological integrity not assessed. |
| H | Historical – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation. |
| X | Extirpated – Documented loss of population/destruction of habitat. |
| U | Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification). |
| NR | Not Ranked – An occurrence rank has not been assigned. |

Visit the Maine Natural Areas Program website for more information
<http://www.maine.gov/dacf/mnap>



Exhibit 12

Stormwater Management Report

Exhibit 12 Stormwater Management Report

Please see this Exhibit for the stormwater report narrative. The full report has been provided under separate cover.

**STORMWATER MANAGEMENT REPORT
ONE DIAMOND STREET
BIDDEFORD, MAINE**

1. Introduction

This Stormwater Management Plan and Report has been prepared to present analyses performed to address the potential impacts associated with the One Diamond Street project's proposed modifications to stormwater runoff characteristics and land cover changes.

The stormwater management controls that are outlined in this report have been designed to suit the proposed development and to comply with applicable regulatory requirements for the project.

2. Existing Conditions

The approximately 18.2-acre project site consists of partially developed land located at the site of the former Diamond Match factory and abutting land. The site is primarily accessed from the west side of Elm Street in Biddeford, Maine. In the late 1800s, when the site was originally developed for the Diamond Match Company, the site was fully developed with a sawmill, numerous buildings, and a log yard. Two fires in 1963 destroyed the industrial site and the nearby Hooper Street neighborhood. After the fire, manufacturing buildings were rebuilt and the land was gifted to the City of Biddeford in 1976. Operations continued until 1984 when another fire destroyed all the buildings. Existing today are remnants of the former manufacturing buildings and developed areas as well as newer buildings that support several commercial uses. In recent years, portions of the site have been utilized by the City of Biddeford as paved and gravel laydown areas for materials.

The site is bounded by the Saco River to the north, Elm Street to the east, Main Street to the west, and a railroad and residential homes to the south. Slopes on the site range between flat and moderate in areas to be redeveloped. Along the river's edge and the southern property line, slopes can reach up to 50 percent. A variety of trees are found on the site, with the most common species being ash, poplar, birch, and maple. Small trees and shrubs are predominant in areas of the site where vegetation regrowth has occurred since previous development.

The majority of the site drains north directly to the Saco River, while the eastern portion near Elm Street drains into a catch basin in Diamond Street that combines with the an existing 12" sewer main that runs through the site to the City's pump station at the end of Horrigan Court. The Saco River watershed encompasses approximately 1,700 square miles of southwestern Maine and western New Hampshire. The Saco River flows directly to the Atlantic Ocean and is not listed in Chapter 502 of the Maine Department of Environmental Protection (MDEP) regulations as Urban Impaired. Two dams exist immediately downstream of the project site where the water turns from freshwater to tidal.

A portion of the site along Saco River is located within Zone A8 & Zone A11 100-year floodplain, per the FEMA Flood Insurance Rate Map as depicted on the Biddeford, ME, Community Panel

230145 0003B, revision date May 15, 1984. A copy of the FIRM can be found in Appendix 4. The City's Waterfront Renaissance Shoreland District encompasses all land areas that are within 250 feet of the river.

An existing closed drainage system conveys stormwater runoff through the site from a 66-acre offsite watershed south of the site. A concrete pipe runs adjacent to train tracks near the southern property line, before turning into a granite box culvert at a manhole recently reconstructed by the City. At this point, the drain runs north through the project site, reduces to a 42-inch diameter pipe, and discharges into the river below the normal high-water line and associated floodplain. Ultimately, the existing closed drainage system operates under tailwater conditions that limit capacity during larger rainfall events.

3. Soils

Soil information for the site was obtained via the USDS United States Department of Agriculture and Natural Resource Conservation Services (NRCS) Web Soil Survey. The Hydrologic Groups (HSG) of the soils on site as classified by the Soil Conservation Service are delineated on the stormwater management plans and are as follows:

| Soil Map Symbol | Soil Name | Slope (%) | HSG |
|-----------------|------------|-----------|-----|
| Ur | Urban Land | 0-8 | D |

Urban Land (Ur) does not have a hydrologic soil group rating. In consideration of the primary soil rating surrounding the site as HSG D and the site was formerly developed resulting in compacted soils, a soil group rating of D was applied to the site for purposes of creating a stormwater model. Hydrologic Soil Group boundaries are delineated on the Stormwater Management Plans. A copy of the Class D (Medium Intensity) NRCS Web Soil Survey is included in Appendix 4.

4. Proposed Site Improvements

The proposed project consists of one (1) residential building with associated parking and private roadways. The proposed roadway extends approximately 1,000 feet into the site and terminates. A paved riverwalk path will be constructed for public use along the Saco River along the northern edge of the property. Recreational open space will also be developed along the riverwalk.

In total, the proposed project will disturb 8.8 acres and result in 7.9 acres of developed area, 4.1 acres of which will be new impervious area. Approximately 3.4 acres of tree-clearing is proposed of the 8.8 acres of site disturbance noted previously. The majority of trees on the site have been established since the fires that destroyed the prior development in 1963 and 1984. Disturbed areas between the riverwalk and the Saco River are proposed to be seeded with a conservation mix and designated not to be mowed more than twice per year to return graded areas to an undeveloped, vegetated state. The project proposes to remove existing impervious surfaces, consisting of vehicular pavement and an existing building along the Saco River, that is currently in poor condition and unused. These areas will be revegetated or replaced by the proposed riverwalk.

Site areas within the 25-foot setback from the Saco River is proposed to be preserved and the vegetation is to be protected. Historically, areas of the site within 25 feet of the river were and remain developed on the Elm Street portion of the site with buildings and pavement abutting an existing wall adjacent to the river. One (1) new stormwater outfall is proposed as part of the project and is proposed to be installed within the 25-foot setback. Site disturbance in this area is minimized to the greatest extent practicable, with 2H:1V slopes at the pipe and a riprap outlet apron. The pipe will be installed in accordance with NRPA Permit-by-Rule Standards.

A maximum of 40 percent of trees above 4 inches in diameter are allowed to be removed within the 75-foot setback in the Waterfront Renaissance District. A tree survey of the project site recorded 750 trees with diameters above 4 inches within the 75-foot setback. Phase one development will result in the removal of a total of 67 of those trees. Therefore, 9 percent of the trees with diameters larger than 4 inches are being removed within the 75-foot setback, meeting the Waterfront Renaissance District standard.

Runoff from the new development is proposed to be treated by a subsurface corrugated metal pipe (CMP) detention and proprietary stormwater filter system that will convey treated flow from the project to the Saco River. The system will drain to a 36" diameter pipe outfall, providing for future capacity.

5. Existing Conditions Model

The pre-development watershed plan consists of five subcatchments labeled 1S, thru 5S. Four locations were identified as Points of Analysis (POA) for comparing peak runoff rates, with all four of the POAs being outfalls to the Saco River. The overall drainage area included in the model is equal to 93.1 acres including approximately 74.9 offsite acres tributary to the site flowing either overland or in the existing closed drainage systems.

POA-1: Subcatchment 1S is tributary to POA 1, where the northwesterly quarter of the site drains to the Saco River. The total tributary area that 1S contributes is approximately 7.5 acres.

POA-2: Subcatchment 2S and 5S are tributary to POA-2, representing an area of approximately 76 acres. Watershed 2S represents the middle of the site. The total tributary area that subcatchment 2S contributes approximately 9.9 acres. Stormwater runoff from 2S drains to the north directly into the Saco River. 5S represents a majority of the off-site flow from south of the site that drains through a box culvert across the site, represented by node 5P in the model. The box culvert eventually reduces to a 42" diameter concrete outfall pipe, represented by node 52P, and discharges to the Saco River. The total tributary area of subcatchment 5S is approximately 66 acres.

POA-3: 3S represents the northeastern quarter of the site and the subcatchment tributary to POA-3. Stormwater runoff from subcatchment 3S drains directly to the Saco River. The tributary area represented by subcatchment 3S is approximately 7.8 acres.

POA-4: Subactchment 4S is tributary to POA-4 and represents the residential area along Hooper Street. The total tributary area of subcatchment 4S is approximately 1.8 acres.

6. Proposed Conditions Model

The post-development watershed plan consists of eighteen (18) subcatchments. These subcatchment areas represent the areas from the existing condition model that will be altered as a result of the proposed development. The overall drainage area of the model remains equal to the pre-development model at 93.1 acres.

POA-1: Subcatchment 1.1S is tributary to POA-1 in the post-development condition. 1.1S represents the pre-development subcatchment 1S, which has been altered as a result of the proposed development, as well as any off-site areas included in 1S that are unchanged in the post-development condition. The area tributary to POA-1 is equal to 6.9 acres.

POA-2: Subcatchments 2.1S thru 2.14S and 5.1S are tributary to POA-2. POA-2 is the discharge point for the subsurface detention and treatment system (SF-1), represented by nodes 2.31AP and 2.31BP. The total area tributary to POA-2 is equal to 76.6 acres.

- Subcatchment 2.1S thru 2.13S represent the majority of the development associated with this project, consisting of approximately 4.6 acres of newly developed area. These subcatchments, except 2.4S and 2.6S, are tributary to SF-1, which eventually drains to the Saco River through a 36" pipe.
- Subcatchments 2.4S and 2.6S represent the northeast portion of the private roadway and parking for the development. Both subcatchments drain to a drain manhole (2.91P) downstream of SF-1. In total, 2.4S and 2.6S contribute 0.51 acres of tributary area to POA-2.
- Subcatchment 5.1S represents off-site drainage areas south of the project site that eventually drains through the municipal storm drain within the site, represented by nodes 5P, 5.1P, 5.1P and 5.2P. 5.1P and 5.2P represent the drain manholes proposed to realign the 42" storm drain as a result of the proposed development. The subcatchment area is reduced from pre-development to post-development as a portion of the off-site drainage area will be captured by the proposed onsite drainage system.

The subsurface stormwater filter system SF-1 is modeled with two nodes (2.31AP and 2.31BP) to analyze the treatment flows during smaller storm events and peak flows during larger events separately. The Stormfilter cartridges modeled in node 2.31AP are designed for low, base flow conditions during smaller more frequent storm events. The filter's maximum flow of approximately 0.453 cfs contributes minimally to the system's discharge during larger storm events (storms greater than the 1" water quality (WQ) storm). Due to the limited capacity of the filter, a more conservative analysis of the peak flow capacity is provided by node 2.31BP which ignores the low flow filter flow rate, routing the storms more conservatively for the peak rate evaluation of the 2, 10, 25, 50, and 100-YR storms. Node 2.31BP evaluates these storms as if the filter system is plugged to conservatively model the capacity of the outlet control structure and conveyance system to the river.

POA-3: Subcatchment 3.1S is tributary to POA-3. 3.1S represents existing conditions subcatchment 3S accounting for land cover changes and alterations of existing drainage patterns. The area tributary to POA-3 is equal to 7.8 acres.

POA-4: Subcatchment 4S is unaltered from the existing conditions stormwater model. The area tributary to POA-4 is unchanged from the existing conditions model at 1.8 acres.

7. Stormwater Management

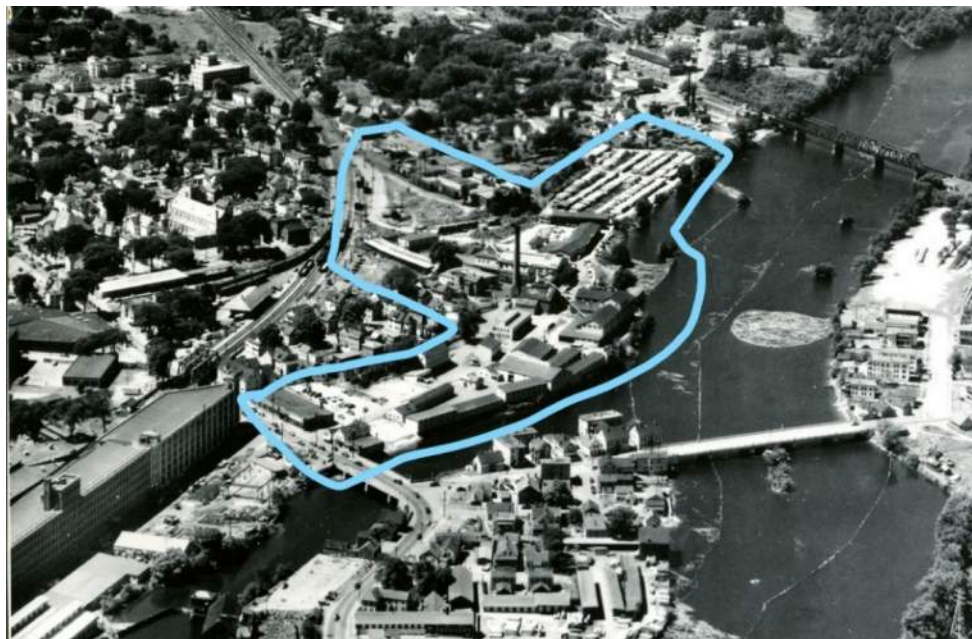
Basic Standard - Chapter 500, Section 4(B)

Since the project will disturb more than one (1) acre of land, MDEP Basic Standards for erosion and sedimentation control apply.. We have avoided adverse impacts by providing an Erosion & Sedimentation Control Plan, and an Inspection, Maintenance, and Housekeeping Plan (Appendix 3) to be implemented during construction and post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines.

General Standard - Chapter 500, Section 4(C)

Since the project will create more than one (1) acre of impervious surface within a watershed of a river, MDEP General Standards apply. The general standard requires a project's stormwater management system to include treatment measures that will mitigate the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts.

Based on the historic development of the site that pre-dates the MDEP Chapter 500 and Site Location of Development Statute, the project's stormwater management system is designed to meet the redevelopment treatment level standards defined in MDEP's Chapter 500, Section 4(C) – 2(d). Below are historic aerials of the project site from 1950, 1962, and 1970.



Historic Aerial of project site(1950)



Historic Aerial of project site (1962)



Historic Aerial of project site (1970)

The MDEP Redevelopment Standards modify the Chapter 500 General Standard treatment requirements for projects where activity, not including maintenance, is undertaken to redevelop or otherwise improve the property in which the newly developed area is located within the general footprint as the existing developed area.

The requirement for treatment is scaled based on the pollutant discharge that, if the stormwater was untreated, would result from the redevelopment project. A weighted average of the impact of each type of redevelopment land use is calculated and then added together to determine weighted average impact rating for both the existing condition and the proposed condition. If the comparative impact rating of the redeveloped site is 0.0 or less (for a Site Law project), 50

percent of the developed area must be treated. The pollutant ranking for the site is summarized below, calculations are presented in Appendix 1.

Phase One Development

The project will be constructed largely within the footprint of the development that existed in 1970. See the below historic aerial for reference.



Historic Aerial of Project Site From 1970 – Pollutant Rankings



Proposed Project – Pollutant Rankings

| | |
|--|--------------|
| Existing Impact Rating = | 21.85 |
| Proposed Impact Rating = | 21.68 |
| Existing Impact Rating per Acre of Development = | 2.42 |
| Proposed Impact Rating per Acre of Development = | 2.40 |
| Redevelopment Rating Difference = | -0.02 |

Phase One – Pollutant Ranking Areas

Construction in the proposed project results in an overall redevelopment rating difference of -0.02. (minus 0.02) indicating a reduced impact. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

The image below portrays treated developed areas (gray) versus the untreated developed areas (orange) in the proposed project. The areas treated are summarized in the table below.



Proposed Project – Treated Areas

| Treatment Percentage | |
|------------------------|---------|
| Treated Developed Area | 178,230 |
| Total Developed Area | 345,865 |
| Percent Treated | 53% |

Treatment of runoff from 53% of developed surfaces in the proposed project will be treated by a subsurface detention and Stormfilter cartridge BMP, manufactured by Contech Engineering Solutions. Sizing calculations are presented in Appendix 1.

Flooding Standard - Chapter 500, Section 4(F)

The project is located within the direct watershed of a major river segment, the Saco River, qualifies for a waiver from the Flooding Standard as defined in MDEP's Chapter 500, section 4(F)-3(a).

Stormwater runoff is being managed, stored, and treated in a subsurface detention and filter system. The subsurface system is designated to provide treatment for the project and to include an additional 10% increase in impervious area from what is shown on the plans as an allowance for minor project scope changes.

A runoff evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations.

Runoff curve numbers were determined for each of the watersheds by measuring the area of each hydrologic soil group within each type of land cover. The type of land cover was determined based on survey data, field reconnaissance, and aerial photography. Times of concentration were determined from site topographic maps per SCS procedures.

The 24-hour rainfall values utilized in the hydrologic model were obtained from Appendix H of MDEP's Chapter 500: Stormwater Management (effective date August 2015). Rainfall values for York County are listed in the table below.

| Storm Frequency Precipitation (in./24 hr)
York County | |
|--|-----|
| 2-year | 3.3 |
| 10-year | 4.9 |
| 25-year | 6.2 |
| 50-year | 7.3 |
| 100-year | 8.7 |

The following table presents the results of the peak runoff calculations at the analysis points for existing conditions and the masterplan development.

| Peak Runoff Rate Summary Table | | | |
|--------------------------------|-------------|---------------------------|---------------------------|
| Analysis Point | Storm Event | Existing Conditions (cfs) | Proposed Conditions (cfs) |
| POA-1 | 2-year | 11.7 | 10.5 |
| | 10-year | 19.7 | 17.8 |
| | 25-year | 26.2 | 23.9 |
| | 50-year | 31.8 | 29.1 |
| | 100-year | 38.9 | 35.7 |
| POA-2 | 2-year | 89.7 | 85.4 |
| | 10-year | 144.5 | 137.7 |
| | 25-year | 188.8 | 180.0 |
| | 50-year | 226.1 | 215.5 |
| | 100-year | 273.3 | 260.6 |
| POA-3 | 2-year | 9.9 | 9.6 |
| | 10-year | 16.4 | 16.0 |
| | 25-year | 21.7 | 21.3 |
| | 50-year | 26.1 | 25.7 |
| | 100-year | 31.8 | 31.4 |
| POA-4 | 2-year | 4.8 | 4.8 |
| | 10-year | 7.6 | 7.6 |
| | 25-year | 9.9 | 9.9 |
| | 50-year | 11.8 | 11.8 |
| | 100-year | 14.2 | 14.2 |

The HydroCAD Data output from this analysis are attached to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 5). The model predicts that the peak runoff rates in the post-development condition at Points of Analyses 1, 2, 3, and 4 are at or below the peak runoff rates in the pre-development condition.

Since the entire project site is directly tributary to the Saco River, a major river segment, and is located just above the head of the tide, the project qualifies for a waiver from the Flooding Standard pursuant to MDEP's Chapter 500, section 4(F)-3(a). All stormwater runoff from the project site will be conveyed exclusively in sheet flow, through a manmade open channel, or drain via pipe directly into the Saco River and will not flow across intervening offsite properties.

8. Hydraulic Grade Line Analysis

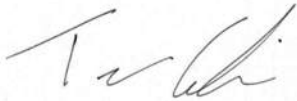
At the City of Saco's request, a hydraulic grade line analysis was performed to evaluate the closed drainage system capacity during a 50-year storm event, assuming a 50-year flood tailwater elevation of 55.50 the river outfall. Results of the analysis, presented in Appendix 2C confirms that the hydraulic grade line in the system does not exceed the rim elevations during this storm event and tailwater condition.

9. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP meeting the MDEPs chapter 500 standards for a redevelopment project. Stormwater BMPs in Phase 1 are proposed to provide treatment to a minimum of 50% of the developed area of Phase 1 development. Runoff discharging from the site will be at or below pre-development conditions for the 2-, 10-, 25-, 50-, and 100-year storm events at POA-1, POA-2, POA-3, and POA-4. Additionally, erosion and sedimentation controls along with associated maintenance and housekeeping procedures have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:

SEBAGO TECHNICS, INC.

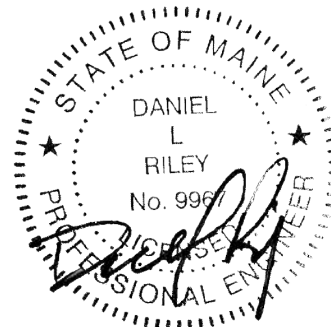


Tanner F. Goodine, EI
Civil Engineer

TFG/DLR



Daniel Riley, PE, CFM
Vice President, Engineering
Project Manager



06/11/2024



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
One Diamond Development
Biddeford, ME

By:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control measures as well as stormwater management facilities for the project. This plan also outlines several housekeeping requirements that shall be followed during and after construction. These procedures shall be followed in order to ensure the intended function of the designed measures and to prevent unreasonably adverse impacts to the surrounding environment.

The procedures outlined in this Inspection, Maintenance and Housekeeping Plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event (0.5" of rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.
2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).
3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed

to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event (0.5" of rainfall). They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Erosion Control Blankets:

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains

into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

- A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
- B. Groundwater protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
- C. Fugitive sediment and dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.
- D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.
- E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area

that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

Post-Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.
2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

A. Vegetated Areas:

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5") to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

B. Ditches, Swales and Other Open Channels:

- Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
- Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
- Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains (>0.5") to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Removal of Winter Sand:

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.

E. Stormfilter:

- Refer to the Contech – Stormfilter Operation Manual for guidance on required maintenance and inspection.

3. Documentation:

- A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the local municipality, provide a completed and signed certification on a form provided by the local municipality, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.
- B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

- 4. Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the MDEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with MDEP standards. Upon such assumption of responsibility, and approval by the MDEP, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

One Diamond Development Biddeford, ME

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for the parking expansion at the One Diamond Development in Biddeford, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the City of Biddefordetport and the Maine DEP. Qualified personnel familiar with the drainage systems and soils shall perform all inspections. A copy of the construction and post-construction maintenance logs are provided.

General Site

| INSPECTION MAINTENANCE AND HOUSEKEEPING FORM | | | |
|--|---|--------------------------------|-------------------------------------|
| General Information | | | |
| Project Name: | | Inspection Date: | |
| Project Location: | | Current Weather: | |
| | | Date / Amount Last Precip: | |
| | | | |
| BMP Owner: | | Company conducting inspection: | |
| Owner Mailing Address: | | Company Mailing Address | |
| | | | |
| Owner Phone #: | | Company Phone #: | |
| Owner Email: | | Inspector Name: | |
| | | Inspector Email: | |
| | | | |
| Site Element | Suggested Maintenance (recm'd frequency) | Observations | Inspection Notes/Recommended Action |
| | | | |
| Vegetated Areas | Inspect Slopes/Embankments for erosion (annually) | | |
| | Replant bare areas or areas of sparse growth (annually) | | |
| Ditches/Swales | Remove obstructions/debris/sediment (monthly) | | |
| | Inspect for erosion/repair as needed (annually) | | |
| | Remove woody vegetation (annually) | | |
| | Mow vegetated ditches (annually) | | |
| Catch Basins | Remove sediment/debris from sump (annually) | | |
| | Remove accumulated debris from inlet grate | | |
| Culverts | Remove sediment/debris from inlet/outlet aprons (annually) | | |
| | Inspect inlet/outlet aprons for erosion, repair as needed (annually) | | |
| | Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually) | | |
| Pipe Outlets | Remove sediment/debris from outlet aprons (annually) | | |
| | Inspect outlet aprons for erosion, repair as needed (annually) | | |
| | Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually) | | |
| Stormfilter | Inspect Anually | | |
| Additional Notes/Observations: | | | |

Exhibit 13

Erosion and Sediment Control Narrative

Exhibit 13 Erosion and Sediment Control

Maine Best Practices will be followed during construction of the project. Please see the plan set for more indepth information on the proposed methods of erosion control.

Exhibit 14

Environmental Review

Exhibit 14 Environmental Review

The proposed project area was previously developed: as a match factory with sawmill and as a glove factory. Much of the earlier development on the site was destroyed by several fires. There are some, more modern, existing structures that remain on site. In April 2008 a portion of the subject site was entered into the state VRAP program. Given the sites history, a Phase 1 Environmental Site Assessment was completed on the project area in 2021. It was recommended that a Phase 2 be completed before the site was developed. St. Germaine completed a Phase 2 Assessment in 2023, completed the VRAP submission process for the project area, and is in the process of addressing Maine DEP comments. The proposed development will adhere to the site requirements outlined by the State in the final VRAP documents.

Exhibit 15

Maintenance Agreement

Exhibit 15 Maintenance Agreement

Agreements will be drafted and submitted under separate cover for road and stormwater treatment infrastructure maintenance.

Exhibit 16

Waivers

Exhibit 16 Waivers

Parking Waiver

Please refer to the attached memorandum summarizing parking demand and the project's waiver request.

Based on the factors and analysis presented above, the applicant requests a waiver of the Parking standards as follows:

The applicant requests a waiver of up to 5% of the parking demand, as defined by ordinance, based on the cumulative total of building programs/uses proposed.

Memorandum

18462

To: File 18462 One Diamond Development

From: Daniel Riley, P.E., Sebago Technics

Date: June 12, 2024

Subject: Parking Demand and Parking Waiver, One Diamond Development - Biddeford

Introduction

The One Diamond project is the redevelopment of approximately 18 acres along the Saco River in the City of Biddeford's urban downtown area as a mixed-use residential and commercial development. The project will be developed in Phases. The First phase of the project proposes a waiver of the parking demand defined by the City of Biddeford Land Use Ordinance.

This memorandum summarizes the required and proposed parking for the Phase 1 project, based on the City of Biddeford's Land Use Ordinance, and provides a Parking Demand Analysis (PDA) in support of a parking waiver request for this first phase of the development

Parking Standards

Table 1 below summarizes the parking requirements applicable to the project, based on the Land Use Ordinance Article VI Performance Standards Section 49 Off-Street Parking (Table 6-49B).

**Table 1 Parking Summary
City Ordinance Standards**

| Use | Required Parking |
|--|--------------------------|
| Studio | 1 per unit |
| 1 Bedroom | 1 per unit |
| 2 or more Bedroom | 2 per unit |
| Visitors | 5% of residential Demand |
| Commercial
(Retail Business/personal Services Businesses) | 1 space per 300 sf |
| Public* | 6 |

** Per Joint Development Agreement (JDA) 6 spaces are to be dedicated to the public for access to the Open Space*

Table 2 below summarizes the project's parking demand and proposed supply based on the Ordinance standard and current plans submitted for Planning Board review.

**Table 2 Parking Summary
By Phase**

| PARKING COUNT | | | | | | |
|--|------------|------------------------|--------------------|--------------------|------------------------------|---------------------|
| USE | UNITS/RATE | PARKING
REQUIREMENT | SPACES
REQUIRED | SPACES
PROPOSED | Net | WAIVER
REQUEST |
| PHASE ONE | | | | | | |
| STUDIO | 102 | 1 | 102 | | | Waiver
Requested |
| 1-BR | 83 | 1 | 83 | | | |
| 2-BR | 24 | 2 | 48 | | | |
| SUBTOTAL RESIDENTIAL | | | 233 | 221 | (-12 spaces)
95 % | |
| PUBLIC* | | | 6 | 6 | | |
| VISITOR* | | 5% OF RESIDENTIAL | 12 | 12 | | 10% |
| TOTAL (PHASE 1) | | | 251 | 239 | | |
| PERCENT REDUCTION OF REQUIRED VS. PROPOSED PARKING
WAIVER REQUEST | | | | | | |

As demonstrated in Table 2, the Phase 1 project meets the ordinance-defined parking demand for visitor spaces and public spaces and 95% of the residential demand. The project requires a waiver for up to 5% of the the residential parking demand.

To provide flexibility in the building program, the applicant requests a waiver of up to 10% of the parking demand, as defined by ordinance.

Parking Waiver Discussion and Residential Parking Demand Analysis

The Land Use Ordinance, Article VI Performance Standards Section 49(3)(k)(4) allows the Planning Board to waive Parking requirements for applications that involve dwelling units with less than 1,000 sf, single-bedroom dwelling units, and studio units. These requirements may also be waived provided that parking can be accommodated through mixed-use development, shared parking, or other situations deemed acceptable.

Factors considered in this waiver request include

- The location of the site in an urban district close to existing and proposed transit stops
- Proximity to an existing public parking garage
- Post-pandemic changes in parking and working environments
- Recent analysis published by the Institute of Traffic Engineers for parking demand related to multi family residential developments in urban and urbanizing areas

The request is made as the development seeks to align with current trends in urban development which provide needed housing, public open space, and encourage the use of public transportation. The post-pandemic environment has had an impact on the relationship between housing, density, and parking. The increase in remote work has redefined resident's use of personal spaces and two bedrooms units are becoming more commonly 1-bedroom units with an ensuite office.

The site's proximity to transit and existing parking infrastructure also supports providing less parking density. A transit stop is planned across the street at the corner of Elm and Upper Falls Road. The Planned pedestrian bridge that will connect Upper Falls Road with the Saco Transportation Center enhances this site's ability for its users to utilize public transportation. The site is located within walking distance to the public Pearl Street Parking Garage.

The Institute of Traffic Engineers (ITE) publication Parking Generation 5th Edition presents updated analyses of parking demand including 60% new data compared to prior versions, additional analysis capabilities including analysis of urban settings, mixed-use developments, and new land use and development categories. Included in the latest edition is the ability to predict parking demand for multifamily residential development based on the total number of bedrooms, rather than dwelling units. This allows a more refined evaluation of the parking demand, reflecting the mix of units proposed.

For this evaluation, ITE Land Use Code LUC 221 – Multifamily Housing (Mid-Rise) was utilized as the description for the residential uses ITE defines Multifamily Housing (Mid-Rise) as a land use which “includes apartments and condominiums located in a building that has between four and 10 floors of living space.”

This Land Use Code is consistent with the project's traffic generation and Traffic Movement Permit assumptions. To account for the proposed mix of studio, 1-bedroom, and 2-bedroom units, total bedrooms was used as the independent variable in the analysis

The ITE manual also provides the capability for analysis based on the setting of the projects including “General Urban/Suburban (no nearby rail transit)” and “Dense Multi-use Urban (no nearby rail transit)”.

The ITE parking generation rates on a per-bedroom basis for these categories is summarized in Table 4 below.

Table 4
ITE Parking Demand Rates

| ITE PARKING DEMAND RATES | | | |
|--------------------------------------|---|--------------|-------------|
| ITE Land Use Code (LUC) | Setting | Average Rate | Unit |
| 221 – Multifamily Housing (Mid Rise) | General Urban/Suburban (no nearby rail transit) | 0.75 | Per Bedroom |
| 221 – Multifamily Housing (Mid Rise) | Dense Multiuse Urban (no nearby rail transit) | 0.48 | Per Bedroom |

For the purpose of this waiver request the more conservative General Urban/Suburban setting values were used to establish the residential parking demand for the project.

Tables 5 and 6 below provides a comparison of the total project parking demand using the ITE rates for the residential component of the project, based on bedrooms, compared to the rates established in the Ordinance, based on unit types. The parking demand for all other uses remains per the Ordinance requirements.

**Table 5 Parking Demand
Ordinance vs ITE Residential Rates
By Phase**

| PARKING COUNT | | | | | | | |
|------------------------|----------------|---------------------------------------|-----------------------------------|-------------------|-------------------------------|----------------------------|---------------------|
| USE | UNITS/
RATE | PARKING
REQUIREMENT
(ORDINANCE) | SPACES
REQUIRED
(ORDINANCE) | TOTAL
BEDROOMS | ITE
RATE
PER
BEDROOM | TOTAL
REQUIRED
(ITE) | PROPOSED
PARKING |
| PHASE ONE | | | | | | | |
| STUDIO | 102 | 1 | 102 | 102 | 0.75 | 77 | |
| 1-BR | 83 | 1 | 83 | 83 | 0.75 | 63 | |
| 2-BR | 24 | 2 | 48 | 48 | 0.75 | 36 | |
| TOTAL RESIDENTIAL | | | 233 | 233 | | 176 | 221 |
| PUBLIC* | 6 | 1 | 6 | | | 6 | 6 |
| VISITOR* | | 0.05 | 12 | | | 9 | 12 |
| TOTAL (PHASE 1) | | | 251 | | | 191 | 239 |

The ITE parking demand calculation confirms that the project's proposed parking is sufficient to meet the demand for multi-family developments in an urban setting. The Parking demand based on the ITE rates results in a 23% reduction in required parking compared to the Ordinance-defined parking rates.

Based on the factors and analysis presented above, the applicant requires a waiver of the Parking standards as follows:

The applicant requests a waiver of up to 10% of the parking demand, as defined by ordinance, based on the cumulative total of building programs/uses proposed.



STORMWATER MANAGEMENT REPORT

For

ONE DIAMOND BIDDEFORD, MAINE

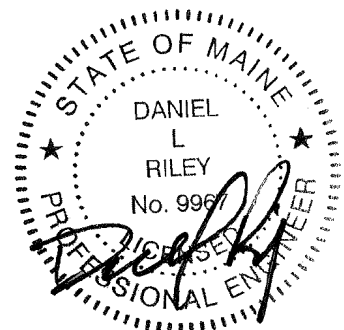
Prepared for:

One Diamond Development, LLC.
2 Livewell Drive, Suite 201
Kennebunk, ME 04043

Prepared by:

Sebago Technics, Inc.
75 John Roberts Rd, Suite 4A
South Portland, ME 04106

June 12, 2024



06/12/2024

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| Appendix 4: | Subsurface Investigations & FEMA Flood Map |
| Appendix 5: | Stormwater Management Plans |

**STORMWATER MANAGEMENT REPORT
ONE DIAMOND STREET
BIDDEFORD, MAINE**

1. Introduction

This Stormwater Management Plan and Report has been prepared to present analyses performed to address the potential impacts associated with the One Diamond Street project's proposed modifications to stormwater runoff characteristics and land cover changes.

The stormwater management controls that are outlined in this report have been designed to suit the proposed development and to comply with applicable regulatory requirements for the project.

2. Existing Conditions

The approximately 18.2-acre project site consists of partially developed land located at the site of the former Diamond Match factory and abutting land. The site is primarily accessed from the west side of Elm Street in Biddeford, Maine. In the late 1800s, when the site was originally developed for the Diamond Match Company, the site was fully developed with a sawmill, numerous buildings, and a log yard. Two fires in 1963 destroyed the industrial site and the nearby Hooper Street neighborhood. After the fire, manufacturing buildings were rebuilt and the land was gifted to the City of Biddeford in 1976. Operations continued until 1984 when another fire destroyed all the buildings. Existing today are remnants of the former manufacturing buildings and developed areas as well as newer buildings that support several commercial uses. In recent years, portions of the site have been utilized by the City of Biddeford as paved and gravel laydown areas for materials.

The site is bounded by the Saco River to the north, Elm Street to the east, Main Street to the west, and a railroad and residential homes to the south. Slopes on the site range between flat and moderate in areas to be redeveloped. Along the river's edge and the southern property line, slopes can reach up to 50 percent. A variety of trees are found on the site, with the most common species being ash, poplar, birch, and maple. Small trees and shrubs are predominant in areas of the site where vegetation regrowth has occurred since previous development.

The majority of the site drains north directly to the Saco River, while the eastern portion near Elm Street drains into a catch basin in Diamond Street that combines with the an existing 12" sewer main that runs through the site to the City's pump station at the end of Horrigan Court. The Saco River watershed encompasses approximately 1,700 square miles of southwestern Maine and western New Hampshire. The Saco River flows directly to the Atlantic Ocean and is not listed in Chapter 502 of the Maine Department of Environmental Protection (MDEP) regulations as Urban Impaired. Two dams exist immediately downstream of the project site where the water turns from freshwater to tidal.

A portion of the site along Saco River is located within Zone A8 & Zone A11 100-year floodplain, per the FEMA Flood Insurance Rate Map as depicted on the Biddeford, ME, Community Panel

230145 0003B, revision date May 15, 1984. A copy of the FIRM can be found in Appendix 4. The City's Waterfront Renaissance Shoreland District encompasses all land areas that are within 250 feet of the river.

An existing closed drainage system conveys stormwater runoff through the site from a 66-acre offsite watershed south of the site. A concrete pipe runs adjacent to train tracks near the southern property line, before turning into a granite box culvert at a manhole recently reconstructed by the City. At this point, the drain runs north through the project site, reduces to a 42-inch diameter pipe, and discharges into the river below the normal high-water line and associated floodplain. Ultimately, the existing closed drainage system operates under tailwater conditions that limit capacity during larger rainfall events.

3. Soils

Soil information for the site was obtained via the USDS United States Department of Agriculture and Natural Resource Conservation Services (NRCS) Web Soil Survey. The Hydrologic Groups (HSG) of the soils on site as classified by the Soil Conservation Service are delineated on the stormwater management plans and are as follows:

| Soil Map Symbol | Soil Name | Slope (%) | HSG |
|-----------------|------------|-----------|-----|
| Ur | Urban Land | 0-8 | D |

Urban Land (Ur) does not have a hydrologic soil group rating. In consideration of the primary soil rating surrounding the site as HSG D and the site was formerly developed resulting in compacted soils, a soil group rating of D was applied to the site for purposes of creating a stormwater model. Hydrologic Soil Group boundaries are delineated on the Stormwater Management Plans. A copy of the Class D (Medium Intensity) NRCS Web Soil Survey is included in Appendix 4.

4. Proposed Site Improvements

The proposed project consists of one (1) residential building with associated parking and private roadways. The proposed roadway extends approximately 1,000 feet into the site and terminates. A paved riverwalk path will be constructed for public use along the Saco River along the northern edge of the property. Recreational open space will also be developed along the riverwalk.

In total, the proposed project will disturb 8.8 acres and result in 7.9 acres of developed area, 4.1 acres of which will be new impervious area. Approximately 3.4 acres of tree-clearing is proposed of the 8.8 acres of site disturbance noted previously. The majority of trees on the site have been established since the fires that destroyed the prior development in 1963 and 1984. Disturbed areas between the riverwalk and the Saco River are proposed to be seeded with a conservation mix and designated not to be mowed more than twice per year to return graded areas to an undeveloped, vegetated state. The project proposes to remove existing impervious surfaces, consisting of vehicular pavement and an existing building along the Saco River, that is currently in poor condition and unused. These areas will be revegetated or replaced by the proposed riverwalk.

Site areas within the 25-foot setback from the Saco River is proposed to be preserved and the vegetation is to be protected. Historically, areas of the site within 25 feet of the river were and remain developed on the Elm Street portion of the site with buildings and pavement abutting an existing wall adjacent to the river. One (1) new stormwater outfall is proposed as part of the project and is proposed to be installed within the 25-foot setback. Site disturbance in this area is minimized to the greatest extent practicable, with 2H:1V slopes at the pipe and a riprap outlet apron. The pipe will be installed in accordance with NRPA Permit-by-Rule Standards.

A maximum of 40 percent of trees above 4 inches in diameter are allowed to be removed within the 75-foot setback in the Waterfront Renaissance District. A tree survey of the project site recorded 750 trees with diameters above 4 inches within the 75-foot setback. Phase one development will result in the removal of a total of 67 of those trees. Therefore, 9 percent of the trees with diameters larger than 4 inches are being removed within the 75-foot setback, meeting the Waterfront Renaissance District standard.

Runoff from the new development is proposed to be treated by a subsurface corrugated metal pipe (CMP) detention and proprietary stormwater filter system that will convey treated flow from the project to the Saco River. The system will drain to a 36" diameter pipe outfall, providing for future capacity.

5. Existing Conditions Model

The pre-development watershed plan consists of five subcatchments labeled 1S, thru 5S. Four locations were identified as Points of Analysis (POA) for comparing peak runoff rates, with all four of the POAs being outfalls to the Saco River. The overall drainage area included in the model is equal to 93.1 acres including approximately 74.9 offsite acres tributary to the site flowing either overland or in the existing closed drainage systems.

POA-1: Subcatchment 1S is tributary to POA 1, where the northwesterly quarter of the site drains to the Saco River. The total tributary area that 1S contributes is approximately 7.5 acres.

POA-2: Subcatchment 2S and 5S are tributary to POA-2, representing an area of approximately 76 acres. Watershed 2S represents the middle of the site. The total tributary area that subcatchment 2S contributes approximately 9.9 acres. Stormwater runoff from 2S drains to the north directly into the Saco River. 5S represents a majority of the off-site flow from south of the site that drains through a box culvert across the site, represented by node 5P in the model. The box culvert eventually reduces to a 42" diameter concrete outfall pipe, represented by node 52P, and discharges to the Saco River. The total tributary area of subcatchment 5S is approximately 66 acres.

POA-3: 3S represents the northeastern quarter of the site and the subcatchment tributary to POA-3. Stormwater runoff from subcatchment 3S drains directly to the Saco River. The tributary area represented by subcatchment 3S is approximately 7.8 acres.

POA-4: Subactchment 4S is tributary to POA-4 and represents the residential area along Hooper Street. The total tributary area of subcatchment 4S is approximately 1.8 acres.

6. Proposed Conditions Model

The post-development watershed plan consists of eighteen (18) subcatchments. These subcatchment areas represent the areas from the existing condition model that will be altered as a result of the proposed development. The overall drainage area of the model remains equal to the pre-development model at 93.1 acres.

POA-1: Subcatchment 1.1S is tributary to POA-1 in the post-development condition. 1.1S represents the pre-development subcatchment 1S, which has been altered as a result of the proposed development, as well as any off-site areas included in 1S that are unchanged in the post-development condition. The area tributary to POA-1 is equal to 6.9 acres.

POA-2: Subcatchments 2.1S thru 2.14S and 5.1S are tributary to POA-2. POA-2 is the discharge point for the subsurface detention and treatment system (SF-1), represented by nodes 2.31AP and 2.31BP. The total area tributary to POA-2 is equal to 76.6 acres.

- Subcatchment 2.1S thru 2.13S represent the majority of the development associated with this project, consisting of approximately 4.6 acres of newly developed area. These subcatchments, except 2.4S and 2.6S, are tributary to SF-1, which eventually drains to the Saco River through a 36" pipe.
- Subcatchments 2.4S and 2.6S represent the northeast portion of the private roadway and parking for the development. Both subcatchments drain to a drain manhole (2.91P) downstream of SF-1. In total, 2.4S and 2.6S contribute 0.51 acres of tributary area to POA-2.
- Subcatchment 5.1S represents off-site drainage areas south of the project site that eventually drains through the municipal storm drain within the site, represented by nodes 5P, 5.1P, 5.1P and 5.2P. 5.1P and 5.2P represent the drain manholes proposed to realign the 42" storm drain as a result of the proposed development. The subcatchment area is reduced from pre-development to post-development as a portion of the off-site drainage area will be captured by the proposed onsite drainage system.

The subsurface stormwater filter system SF-1 is modeled with two nodes (2.31AP and 2.31BP) to analyze the treatment flows during smaller storm events and peak flows during larger events separately. The Stormfilter cartridges modeled in node 2.31AP are designed for low, base flow conditions during smaller more frequent storm events. The filter's maximum flow of approximately 0.453 cfs contributes minimally to the system's discharge during larger storm events (storms greater than the 1" water quality (WQ) storm). Due to the limited capacity of the filter, a more conservative analysis of the peak flow capacity is provided by node 2.31BP which ignores the low flow filter flow rate, routing the storms more conservatively for the peak rate evaluation of the 2, 10, 25, 50, and 100-YR storms. Node 2.31BP evaluates these storms as if the filter system is plugged to conservatively model the capacity of the outlet control structure and conveyance system to the river.

POA-3: Subcatchment 3.1S is tributary to POA-3. 3.1S represents existing conditions subcatchment 3S accounting for land cover changes and alterations of existing drainage patterns. The area tributary to POA-3 is equal to 7.8 acres.

POA-4: Subcatchment 4S is unaltered from the existing conditions stormwater model. The area tributary to POA-4 is unchanged from the existing conditions model at 1.8 acres.

7. Stormwater Management

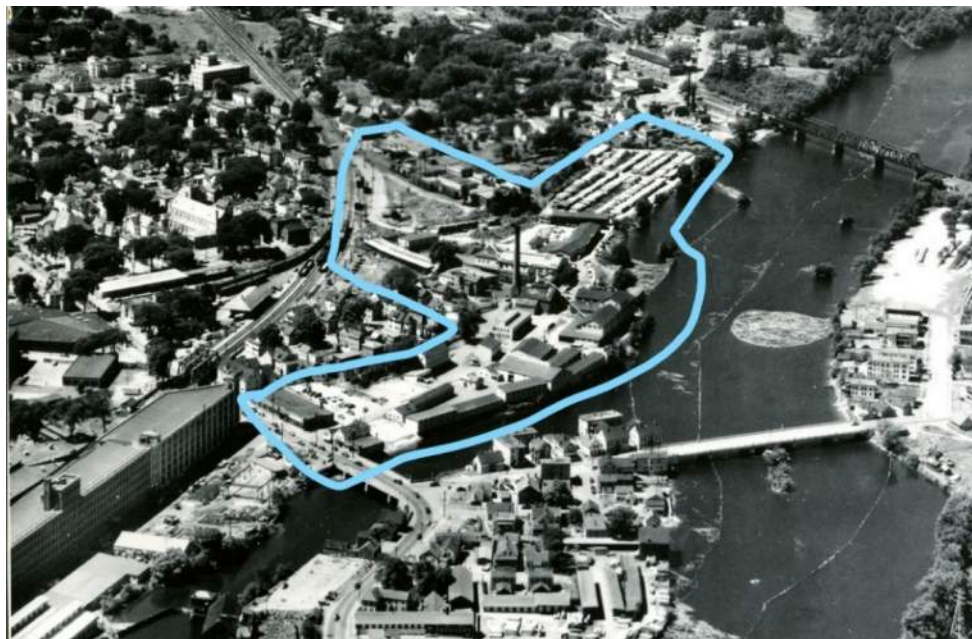
Basic Standard - Chapter 500, Section 4(B)

Since the project will disturb more than one (1) acre of land, MDEP Basic Standards for erosion and sedimentation control apply.. We have avoided adverse impacts by providing an Erosion & Sedimentation Control Plan, and an Inspection, Maintenance, and Housekeeping Plan (Appendix 3) to be implemented during construction and post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines.

General Standard - Chapter 500, Section 4(C)

Since the project will create more than one (1) acre of impervious surface within a watershed of a river, MDEP General Standards apply. The general standard requires a project's stormwater management system to include treatment measures that will mitigate the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts.

Based on the historic development of the site that pre-dates the MDEP Chapter 500 and Site Location of Development Statute, the project's stormwater management system is designed to meet the redevelopment treatment level standards defined in MDEP's Chapter 500, Section 4(C) – 2(d). Below are historic aerials of the project site from 1950, 1962, and 1970.



Historic Aerial of project site(1950)



Historic Aerial of project site (1962)



Historic Aerial of project site (1970)

The MDEP Redevelopment Standards modify the Chapter 500 General Standard treatment requirements for projects where activity, not including maintenance, is undertaken to redevelop or otherwise improve the property in which the newly developed area is located within the general footprint as the existing developed area.

The requirement for treatment is scaled based on the pollutant discharge that, if the stormwater was untreated, would result from the redevelopment project. A weighted average of the impact of each type of redevelopment land use is calculated and then added together to determine weighted average impact rating for both the existing condition and the proposed condition. If the comparative impact rating of the redeveloped site is 0.0 or less (for a Site Law project), 50

percent of the developed area must be treated. The pollutant ranking for the site is summarized below, calculations are presented in Appendix 1.

Phase One Development

The project will be constructed largely within the footprint of the development that existed in 1970. See the below historic aerial for reference.



Historic Aerial of Project Site From 1970 – Pollutant Rankings



Proposed Project – Pollutant Rankings

| | |
|--|--------------|
| Existing Impact Rating = | 21.85 |
| Proposed Impact Rating = | 21.68 |
| Existing Impact Rating per Acre of Development = | 2.42 |
| Proposed Impact Rating per Acre of Development = | 2.40 |
| Redevelopment Rating Difference = | -0.02 |

Phase One – Pollutant Ranking Areas

Construction in the proposed project results in an overall redevelopment rating difference of -0.02. (minus 0.02) indicating a reduced impact. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

The image below portrays treated developed areas (gray) versus the untreated developed areas (orange) in the proposed project. The areas treated are summarized in the table below.



Proposed Project – Treated Areas

| Treatment Percentage | |
|------------------------|---------|
| Treated Developed Area | 178,230 |
| Total Developed Area | 345,865 |
| Percent Treated | 53% |

Treatment of runoff from 53% of developed surfaces in the proposed project will be treated by a subsurface detention and Stormfilter cartridge BMP, manufactured by Contech Engineering Solutions. Sizing calculations are presented in Appendix 1.

Flooding Standard - Chapter 500, Section 4(F)

The project is located within the direct watershed of a major river segment, the Saco River, qualifies for a waiver from the Flooding Standard as defined in MDEP's Chapter 500, section 4(F)-3(a).

Stormwater runoff is being managed, stored, and treated in a subsurface detention and filter system. The subsurface system is designated to provide treatment for the project and to include an additional 10% increase in impervious area from what is shown on the plans as an allowance for minor project scope changes.

A runoff evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations.

Runoff curve numbers were determined for each of the watersheds by measuring the area of each hydrologic soil group within each type of land cover. The type of land cover was determined based on survey data, field reconnaissance, and aerial photography. Times of concentration were determined from site topographic maps per SCS procedures.

The 24-hour rainfall values utilized in the hydrologic model were obtained from Appendix H of MDEP's Chapter 500: Stormwater Management (effective date August 2015). Rainfall values for York County are listed in the table below.

| Storm Frequency Precipitation (in./24 hr)
York County | |
|--|-----|
| 2-year | 3.3 |
| 10-year | 4.9 |
| 25-year | 6.2 |
| 50-year | 7.3 |
| 100-year | 8.7 |

The following table presents the results of the peak runoff calculations at the analysis points for existing conditions and the masterplan development.

| Peak Runoff Rate Summary Table | | | |
|--------------------------------|-------------|---------------------------|---------------------------|
| Analysis Point | Storm Event | Existing Conditions (cfs) | Proposed Conditions (cfs) |
| POA-1 | 2-year | 11.7 | 10.5 |
| | 10-year | 19.7 | 17.8 |
| | 25-year | 26.2 | 23.9 |
| | 50-year | 31.8 | 29.1 |
| | 100-year | 38.9 | 35.7 |
| POA-2 | 2-year | 89.7 | 85.4 |
| | 10-year | 144.5 | 137.7 |
| | 25-year | 188.8 | 180.0 |
| | 50-year | 226.1 | 215.5 |
| | 100-year | 273.3 | 260.6 |
| POA-3 | 2-year | 9.9 | 9.6 |
| | 10-year | 16.4 | 16.0 |
| | 25-year | 21.7 | 21.3 |
| | 50-year | 26.1 | 25.7 |
| | 100-year | 31.8 | 31.4 |
| POA-4 | 2-year | 4.8 | 4.8 |
| | 10-year | 7.6 | 7.6 |
| | 25-year | 9.9 | 9.9 |
| | 50-year | 11.8 | 11.8 |
| | 100-year | 14.2 | 14.2 |

The HydroCAD Data output from this analysis are attached to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 5). The model predicts that the peak runoff rates in the post-development condition at Points of Analyses 1, 2, 3, and 4 are at or below the peak runoff rates in the pre-development condition.

Since the entire project site is directly tributary to the Saco River, a major river segment, and is located just above the head of the tide, the project qualifies for a waiver from the Flooding Standard pursuant to MDEP's Chapter 500, section 4(F)-3(a). All stormwater runoff from the project site will be conveyed exclusively in sheet flow, through a manmade open channel, or drain via pipe directly into the Saco River and will not flow across intervening offsite properties.

8. Hydraulic Grade Line Analysis

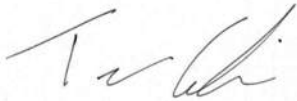
At the City of Saco's request, a hydraulic grade line analysis was performed to evaluate the closed drainage system capacity during a 50-year storm event, assuming a 50-year flood tailwater elevation of 55.50 the river outfall. Results of the analysis, presented in Appendix 2C confirms that the hydraulic grade line in the system does not exceed the rim elevations during this storm event and tailwater condition.

9. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP meeting the MDEPs chapter 500 standards for a redevelopment project. Stormwater BMPs in Phase 1 are proposed to provide treatment to a minimum of 50% of the developed area of Phase 1 development. Runoff discharging from the site will be at or below pre-development conditions for the 2-, 10-, 25-, 50-, and 100-year storm events at POA-1, POA-2, POA-3, and POA-4. Additionally, erosion and sedimentation controls along with associated maintenance and housekeeping procedures have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:

SEBAGO TECHNICS, INC.

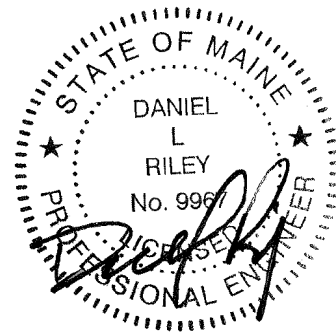


Tanner F. Goodine, EI
Civil Engineer

TFG/DLR



Daniel Riley, PE, CFM
Vice President, Engineering
Project Manager



06/12/2024

Appendix 1

Stormwater Quality Calculations

Table 1: MDEP GENERAL STANDARD CALCULATIONS

One Diamond - Biddeford, Maine

Job #18462

| AREA ID | WATERSHED SIZE (S.F.) | EXISTING ONSITE IMPERVIOUS AREA TO REMAIN (S.F.) | NEW ONSITE IMPERVIOUS AREA (S.F.) | EXISTING ONSITE LANDSCAPED AREA TO REMAIN (S.F.) | NEW ONSITE LANDSCAPED AREA (S.F.) | NET NEW DEVELOPED AREA (S.F.) | NET EXISTING DEVELOPED AREAS (S.F.) | TREATMENT PROVIDED? | IMPERVIOUS AREA TREATED (S.F.) | LANDSCAPED AREA TREATED (S.F.) | DEVELOPED AREA TREATED (S.F.) | TREATMENT BMP |
|--------------|-----------------------|--|-----------------------------------|--|-----------------------------------|-------------------------------|-------------------------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|---------------|
| 1.1S | 300,080 | 0 | 6,450 | 32,665 | 43,190 | 49,640 | 32,665 | NO | 0 | 0 | 0 | |
| 2.1S | 7,310 | 0 | 1,060 | 0 | 2,330 | 3,390 | 0 | YES | 1,060 | 2,330 | 3,390 | SF-1 |
| 2.2S | 49,060 | 0 | 21,840 | 0 | 10,940 | 32,780 | 0 | YES | 21,840 | 10,940 | 32,780 | SF-1 |
| 2.3S | 30,790 | 0 | 26,810 | 0 | 3,980 | 30,790 | 0 | YES | 26,810 | 3,980 | 30,790 | SF-1 |
| 2.4S | 3,580 | 0 | 3,580 | 0 | 0 | 3,580 | 0 | NO | 0 | 0 | 0 | |
| 2.5S | 17,570 | 0 | 14,220 | 0 | 3,350 | 17,570 | 0 | YES | 14,220 | 3,350 | 17,570 | SF-1 |
| 2.6S | 18,540 | 0 | 14,350 | 0 | 4,190 | 18,540 | 0 | NO | 0 | 0 | 0 | |
| 2.7S | 40,900 | 0 | 33,970 | 0 | 6,930 | 40,900 | 0 | YES | 33,970 | 6,930 | 40,900 | SF-1 |
| 2.8S | 7,170 | 0 | 1,630 | 0 | 2,510 | 4,140 | 0 | YES | 1,630 | 2,510 | 4,140 | SF-1 |
| 2.9S | 20,450 | 0 | 17,470 | 0 | 2,980 | 20,450 | 0 | YES | 17,470 | 2,980 | 20,450 | SF-1 |
| 2.10S | 7,550 | 0 | 5,920 | 0 | 1,630 | 7,550 | 0 | YES | 5,920 | 1,630 | 7,550 | SF-1 |
| 2.11S | 14,120 | 0 | 6,560 | 0 | 1,100 | 7,660 | 0 | YES | 6,560 | 1,100 | 7,660 | SF-1 |
| 2.12S | 9,090 | 0 | 1,090 | 0 | 5,020 | 6,110 | 0 | YES | 1,090 | 5,020 | 6,110 | SF-1 |
| 2.13S | 11,500 | 0 | 6,700 | 0 | 3,510 | 10,210 | 0 | YES | 6,700 | 3,510 | 10,210 | SF-1 |
| 2.14S | 238,790 | 0 | 6,840 | 24,375 | 58,620 | 65,460 | 24,375 | NO | 0 | 0 | 0 | |
| 3.1S | 339,930 | 100,225 | 9,740 | 50,270 | 17,355 | 27,095 | 150,495 | NO | 0 | 0 | 0 | |
| 4S | 77,940 | 0 | 0 | 0 | 0 | 0 | 0 | NO | 0 | 0 | 0 | |
| 5.1S | 2,860,020 | 0 | 0 | 0 | 0 | 0 | 0 | NO | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| TOTAL (S.F.) | 4,054,390 | 100,225 | 178,230 | 107,310 | 167,635 | 345,865 | 207,535 | | 137,270 | 44,280 | 181,550 | |

| | | | |
|--|---------|---------------------------------------|---------|
| TOTAL NEW IMPERVIOUS AREA (S.F.) | 178,230 | TOTAL DEVELOPED AREA (S.F.) | 345,865 |
| TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.) | 137,270 | TOTAL AREA RECEIVING TREATMENT (S.F.) | 181,550 |
| % OF IMPERVIOUS AREA RECEIVING TREATMENT | 77.0% | % OF AREA RECEIVING TREATMENT | 52.5% |

Table 2: MDEP REDEVELOPMENT STANDARD CALCULATIONS: One Diamond

| Existing Areas by Pollutant Ranking (S.F.) | | | | | | | Proposed Areas by Pollutant Ranking (S.F.) | | | | | | |
|--|---|---------|---------|-------|---|---------|--|-------|---------|--------|---------|---|---------|
| 0 | 1 | 2 | 3 | 4 | 5 | SUM | 0 | 1 | 2 | 3 | 4 | 5 | SUM |
| 0 | 0 | 233,100 | 157,340 | 3,340 | 0 | 393,780 | 36,650 | 9,030 | 211,320 | 34,510 | 102,270 | 0 | 393,780 |

| Existing Areas by Pollutant Ranking (acres) | | | | | | | Proposed Areas by Pollutant Ranking (acres) | | | | | | |
|---|------|------|------|------|------|------|---|------|------|------|------|------|------|
| 0 | 1 | 2 | 3 | 4 | 5 | SUM | 0 | 1 | 2 | 3 | 4 | 5 | SUM |
| 0.00 | 0.00 | 5.35 | 3.61 | 0.08 | 0.00 | 9.04 | 0.84 | 0.21 | 4.85 | 0.79 | 2.35 | 0.00 | 9.04 |

| Existing Weighted Average (Item A) | | | | | | | Proposed Weighted Average (Item B) | | | | | | |
|------------------------------------|--|--|--|--|--|--|------------------------------------|--|--|--|--|--|--|
| 21.85 | | | | | | | 21.68 | | | | | | |

| Existing Ranked Impact (Item C) | | | | | | | Proposed Ranked Impact (Item D) | | | | | | |
|---------------------------------|--|--|--|--|--|--|---------------------------------|--|--|--|--|--|--|
| 2.42 | | | | | | | 2.40 | | | | | | |

| Ranked Impact Change Due to Redevelopment (Item E) | | | | | | |
|--|--|--|--|--|--|--|
| -0.02 | | | | | | |

| Treatment Levels for Redevelopment Projects | |
|--|---|
| Ranked Impact Change Due to Redevelopment (Item E) | Percentage of Developed Area that Must be Treated |
| 0.0 or less | 0% (Stormwater projects)
50% (Site projects) |
| ≤ 0.0 to ≥ 1.0 | 60% |
| > 1.0 to ≥ 2.0 | 70% |
| > 2.0 to ≥ 3.0 | 80% |
| > 3.0 | Same treatment level as for new development |

| Land Use | Pollutant Ranking |
|---|-------------------|
| Roads where idling may occur periodically due to traffic volume and intersections;
High use parking lots | 5 |
| Other roads;
Medium use parking lots | 4 |
| Other parking lots and driveways;
Flat asphalt rooftops;
Roofs on an industrial facility | 3 |
| Other rooftops;
Bikeways; Grassed areas mowed more than twice per year;
Walkways/foot traffic-only pavement | 2 |
| Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers) | 1 |
| Forest;
Meadow mowed no more than twice per year; | 0 |

June 11, 2024

Tanner Goodine, EI
Sebago Technics
75 John Roberts Rd, Suite 4A
South Portland, ME 04106

RE: One Diamond, Biddeford, ME (Contech Reference No. 747393)
Review of StormFilter Design

To whom it may concern,

The purpose of this letter is to document Contech Engineered Solutions review of the plans and the proposed application of the StormFilter Media Filtration System water quality unit for your project.

Contech Engineered Solutions (Contech) has reviewed the StormFilter (SF) design for this project. We believe the SF configuration to be an appropriate water quality solution for this site.

The SF system with Phosphosorb (Psorb) media cartridges is approved for use by MEDEP meeting the General Standard of the Stormwater rules (Chapter 500) if designed, installed, and maintained in accordance with the provisions noted in the February 24, 2023 approval letter from the MEDEP.

The StormFilter system is designed in accordance with the maximum drain down rate of 1.67 gallons per minute per square foot of filter surface area (18.78 gpm per 27" cartridge). Additionally, the StormFilter is designed with an upstream water quality volume (WQv) detention system to retain, route and treat the entire WQ event flow from the contributing drainage area to the treatment unit. The resultant volume from the WQ event storm is detained in the upstream detention to an elevation below any bypass flow paths resulting in a routed storm event volume through the SF cartridges. Due to the extended detention time upstream of the SF in the WQv detention system, Contech assumes sedimentation of the larger solids at an estimated 50 percent reduction of the total suspended solids prior to the treatment by the StormFilter vault.

The engineer of record provided a drainage area of 4.9 acres, of which 69.79% is impervious. In order to adequately treat the runoff from this area, Contech recommends an offline StormFilter 8'x12' Vault (model SF0812) with quantity 18 x 27" Psorb cartridges.

The SF system requires a hydraulic headwater condition to fully immerse the media and activate the cartridge float valve. For 27" SF cartridges, this headwater condition is 2.75 ft above SF outlet invert. This is achieved by the either physical inlet to outlet pipe elevation drop or an upstream WQ detention filling during the WQ storm flow to the required SF float valve activation elevation.

The WQv is routed through the SF vault and the detention system WQ outlet control shall be designed to drain down in a project specific drain down timing after the beginning of the storm resulting in a cumulative treated WQv.

Our systems require periodic maintenance to continue operating properly. Given typical runoff pollutant loading rates, Contech recommends maintenance inspections on an annual basis.

This system is expected to operate in accordance with Contech's design intent. Please feel free to contact me if you have any questions or concerns.

Sincerely,



David Adams, PE
Contech Engineered Solutions, LLC.
(207) 885-6191
dadams@conteches.com

Contech Engineered Solutions, LLC Engineer:
Date

DRA
6/10/2024

Site Information

| | |
|--------------------------------------|--------------------|
| Project Name | One Diamond |
| Project State | Biddeford |
| Project Location | ME |
| Site Designation | StormFilter |
| Total Drainage Area, Ad | 4.90 ac |
| Post Development Impervious Area, Ai | 3.42 ac |
| Pervious Area, Ap | 1.48 |
| % Impervious | 70 % |
| Runoff Coefficient, Rc | 0.68 |
| Upstream pretreatment credit | 50% |

Mass loading calculations

| | |
|--|--------------------------------|
| Mean Annual Rainfall, P | 49 in |
| Agency required % removal | 80% |
| Percent Runoff Capture | 90% |
| Mean Annual Runoff, V_t | 642,225 ft ³ |
| Event Mean Concentration of Pollutant, EMC | 60 mg/l |
| Annual Mass Load, M_{total} | 2,404 lbs |

Filter System

| | |
|--------------------|---------------------------------|
| Filtration brand | StormFilter |
| Cartridge height | 27 in |
| Specific Flow Rate | 1.00 gpm/ft ² |

Number of cartridges - mass loading

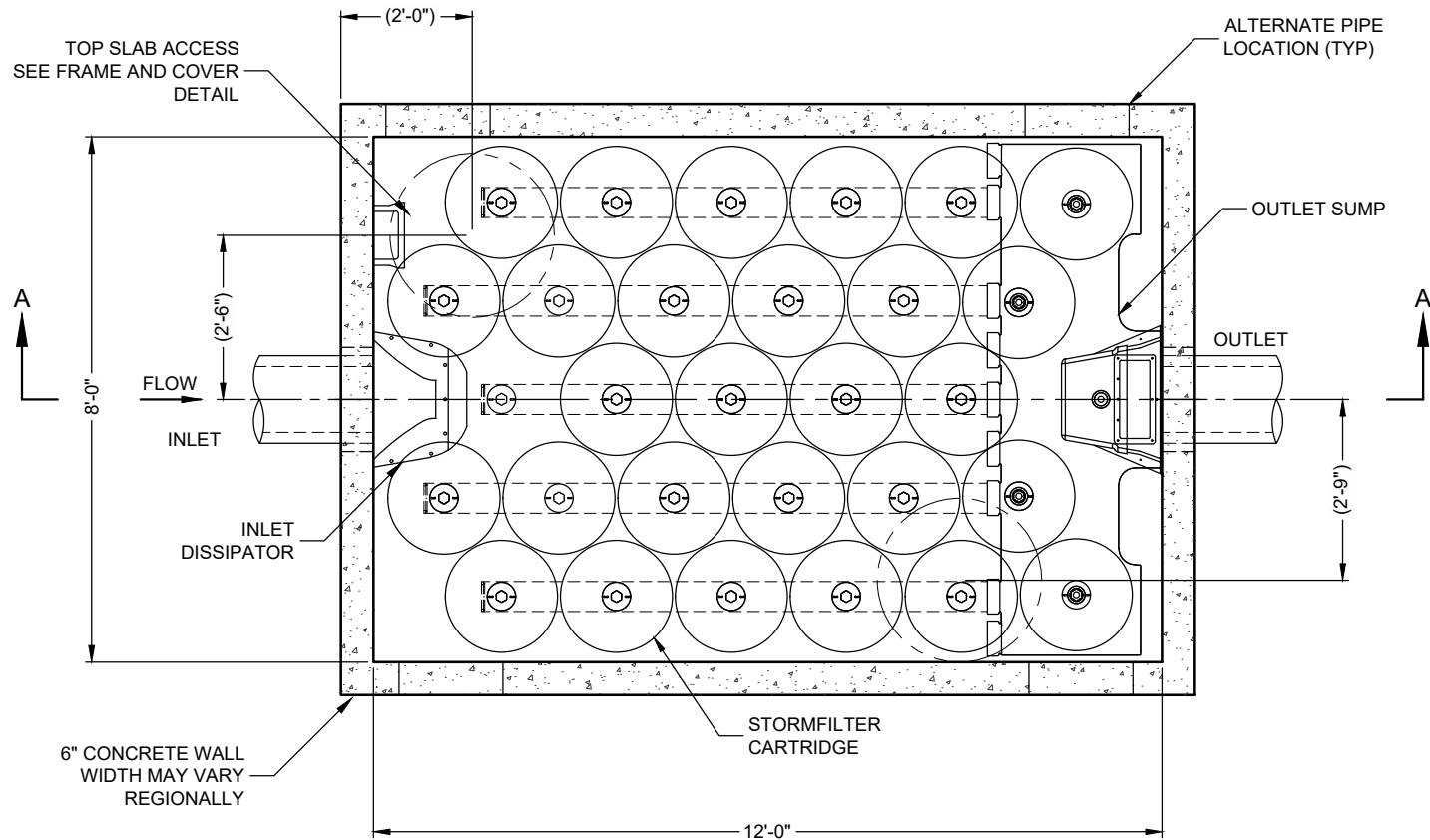
| | |
|--|------------------|
| Mass removed by pretreatment system, M_{pre} | 1,202 lbs |
| Mass load to filters after pretreatment, M_{pass1} | 1,202 lbs |
| Mass to be captured by filters, M_{filter} | 962 lbs |
| Allowable Cartridge Flow rate, Q_{cart} | 11.25 gpm |
| Mass load per cartridge, M_{cart} (lbs) | 54 lbs |
| Number of Cartridges required, N_{mass} | 18 ea |
| Treatment Capacity | 0.451 cfs |

Determine Critical Sizing Value

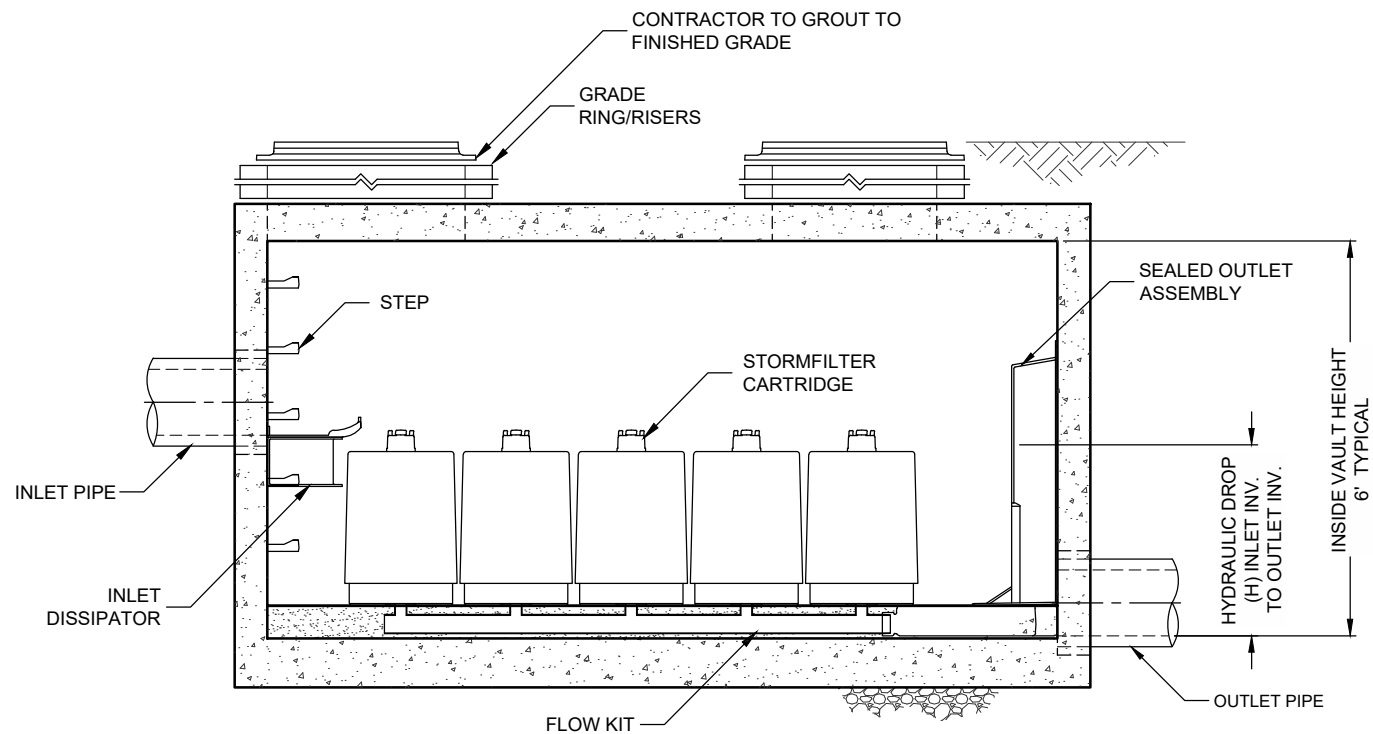
| | |
|--|---------------------|
| Number of Cartridges using $Q_{release\ treat}$, N_{mass} | 18 ea |
| Method to Use: | MASS-LOADING |

| Summary | | |
|-------------|-----------------------------|-----------|
| | Treatment Flow Rate | 0.451 cfs |
| Mass | Treatment Mass Provided | 972 lbs |
| | Required Cartridge Quantity | 18 |

\\QUIKRETE\NET\CONTECH\STORMWATER\COM\OPS\10 STORMFILTER\40 STANDARD DRAWINGS\VAULT\DWGS\F0812-DTL SEALED OUTLET RISER.DWG 8/15/2023 2:42 PM



PLAN VIEW
VAULT STYLE: OUTLET SUMP (NIB)



SECTION A-A



THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING
U.S. PATENTS: 6,302,626; 6,524,496; 6,707,627; 6,996,167; 6,827,639; 6,849,048;
RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

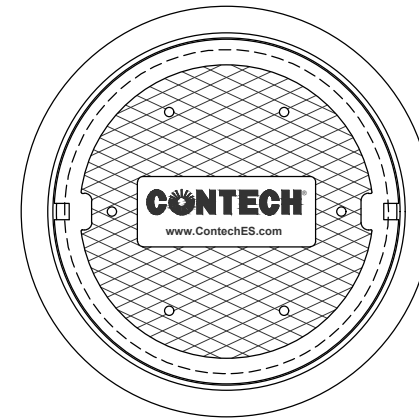
STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD VAULT STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (28). VAULT STYLE OPTIONS INCLUDE INLET BAY (19), INLET BAY/OUTLET BAY (14), OUTLET BAY (24), FULL HEIGHT BAFFLE WALL (20). STORMFILTER 8' x 12' PEAK HYDRAULIC CAPACITY IS 1.8 CFS. IF THE SITE CONDITIONS EXCEED 1.8 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

| CARTRIDGE HEIGHT | 27" | | | 18" | | | LOW DROP | | |
|--------------------------------|----------|--------------|----------|----------|--------------|----------|----------|--------------|----------|
| RECOMMENDED HYDRAULIC DROP (H) | 3.05' | | | 2.3' | | | 1.8' | | |
| SPECIFIC FLOW RATE (gpm/sf) | 2 gpm/sf | 1.67* gpm/sf | 1 gpm/sf | 2 gpm/sf | 1.67* gpm/sf | 1 gpm/sf | 2 gpm/sf | 1.67* gpm/sf | 1 gpm/sf |
| CARTRIDGE FLOW RATE (gpm) | 22.5 | 18.79 | 11.25 | 15 | 12.53 | 7.5 | 10 | 8.35 | 5 |

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

| | |
|---|---|
| STRUCTURE ID | * |
| WATER QUALITY FLOW RATE (cfs) | * |
| PEAK FLOW RATE (cfs) | * |
| RETURN PERIOD OF PEAK FLOW (yrs) | * |
| CARTRIDGE HEIGHT (27", 18", LOW DROP(LD)) | * |
| NUMBER OF CARTRIDGES REQUIRED | * |
| CARTRIDGE FLOW RATE | * |
| MEDIA TYPE (PERLITE, ZPG, PSORB) | * |

| PIPE DATA: | I.E. | MATERIAL | DIAMETER |
|---------------|------|----------|----------|
| INLET PIPE #1 | * | * | * |
| INLET PIPE #2 | * | * | * |
| OUTLET PIPE | * | * | * |

| | |
|--------------------------|---|
| UPSTREAM RIM ELEVATION | * |
| DOWNSTREAM RIM ELEVATION | * |

| ANTI-FLOTATION BALLAST | WIDTH | HEIGHT |
|------------------------|-------|--------|
| | * | * |

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- STORMFILTER STRUCTURE SHALL BE PRECAST CONFORMING TO ASTM C-857 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER VAULT (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT SECTIONS AND ASSEMBLE VAULT.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

CONTECH
ENGINEERED SOLUTIONS LLC

www.contechES.com

9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069

800-338-1122 513-645-7000 513-645-7993 FAX

SF0812
STORMFILTER
STANDARD DETAIL

18462 POST with Stormfilter

Prepared by Sebago Technics

HydroCAD® 10.20-5a s/n 00643 © 2023 HydroCAD Software Solutions LLC

Type III 24-HR 1" WQ Rainfall=1.00"

Printed 6/11/2024

Page 1

Summary for Pond 2.31AP: CMP DETENTION WITH STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 0.60" for 1" WQ event
 Inflow = 3.2 cfs @ 12.09 hrs, Volume= 0.247 af
 Outflow = 0.5 cfs @ 12.64 hrs, Volume= 0.247 af, Atten= 86%, Lag= 33.1 min
 Primary = 0.5 cfs @ 12.64 hrs, Volume= 0.247 af
 Routed to Pond 2.32P : DMH-12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.60' @ 12.64 hrs Surf.Area= 2,862 sf Storage= 5,137 cf

Plug-Flow detention time= 142.2 min calculated for 0.247 af (100% of inflow)

Center-of-Mass det. time= 142.3 min (941.0 - 798.7)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| | | 7,609 cf | Total Available Storage |

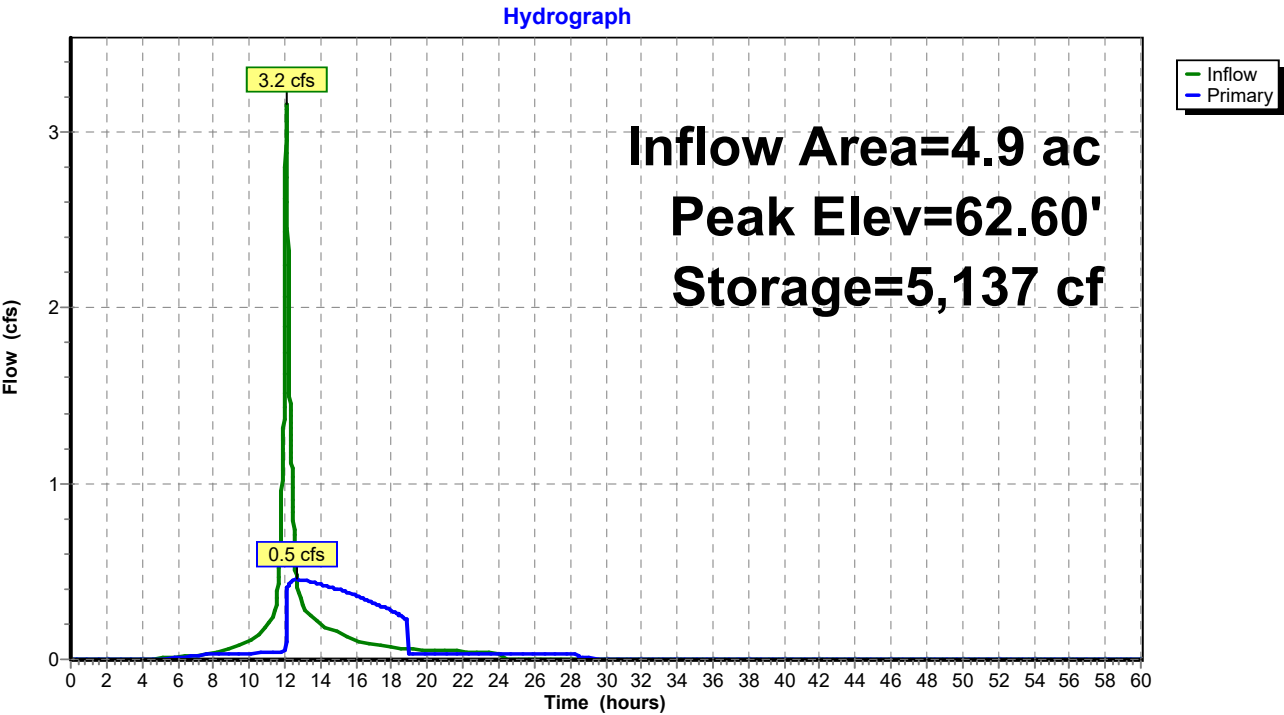
Storage Group A created with Chamber Wizard

| Device | Routing | Invert | Outlet Devices (Turned on 2 times) |
|--------|----------|--------|---|
| #1 | Device 2 | 59.40' | 12.0" Round Culvert
L= 4.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 59.40' / 59.38' S= 0.0050 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 4 | 58.90' | Tube/Siphon/Float Valve X 18.00
0.706" Diameter, C= 0.600, 0.263" Trickle Diameter
Starts@61.65' Breaks@59.77' |
| #3 | Device 4 | 62.62' | 6.0' long x 5.65' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |
| #4 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |

Primary OutFlow Max=0.5 cfs @ 12.64 hrs HW=62.60' TW=57.75' (Dynamic Tailwater)

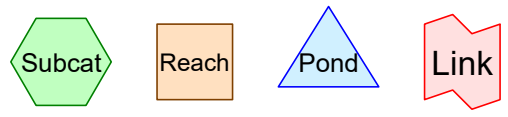
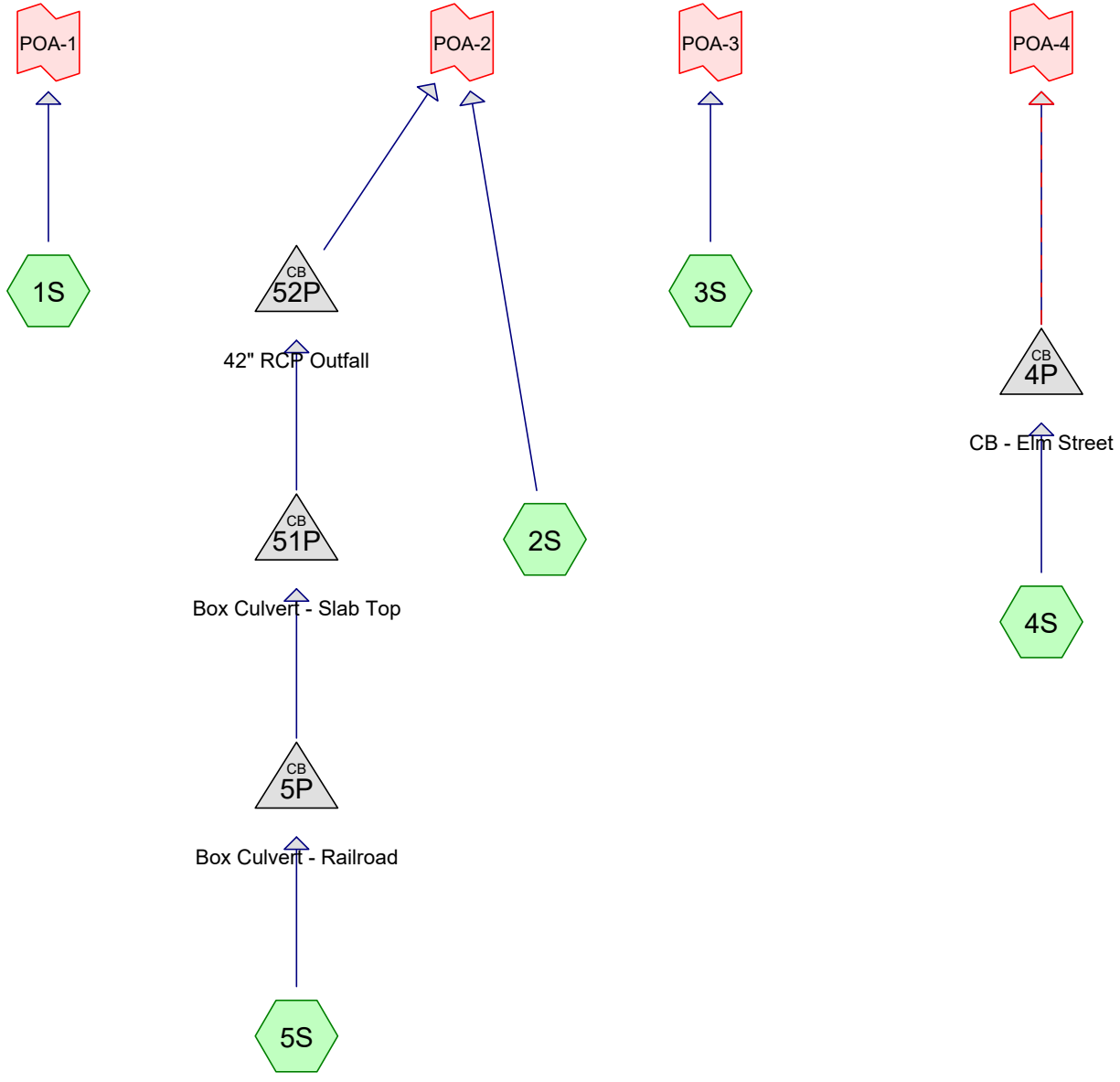
4=Culvert (Passes 0.5 cfs of 34.6 cfs potential flow)
 2=Tube/Siphon/Float Valve (Orifice Controls 0.5 cfs @ 9.26 fps)
 1=Culvert (Passes 0.5 cfs of 6.2 cfs potential flow)
 3=Sharp-Crested Rectangular Weir(Controls 0.0 cfs)

Pond 2.31AP: CMP DETENTION WITH STORMFILTER



Appendix 2A

Existing Conditions HydroCAD Summary



Routing Diagram for 18462 PRE
Prepared by Sebago Technics, Printed 6/11/2024
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18462 PRE

Prepared by Sebago Technics

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Printed 6/11/2024

Page 2

Area Listing (all nodes)

| Area
(acres) | CN | Description
(subcatchment-numbers) |
|-----------------|-----------|--|
| 64.0 | 92 | 1/8 acre lots, 65% imp, HSG D (5S) |
| 5.2 | 89 | <50% Grass cover, Poor, HSG D (1S, 2S, 3S, 4S) |
| 2.4 | 96 | Gravel surface, HSG D (1S, 2S, 3S, 4S) |
| 1.4 | 98 | Paved parking, HSG D (2S) |
| 2.6 | 98 | Paved roads w/curbs & sewers, HSG D (1S, 3S, 4S) |
| 2.4 | 98 | Roofs, HSG D (1S, 2S, 3S, 4S) |
| 15.1 | 83 | Woods, Poor, HSG D (1S, 2S, 3S, 5S) |
| 93.1 | 91 | TOTAL AREA |

Soil Listing (all nodes)

| Area
(acres) | Soil
Group | Subcatchment
Numbers |
|-----------------|---------------|-------------------------|
| 0.0 | HSG A | |
| 0.0 | HSG B | |
| 0.0 | HSG C | |
| 93.1 | HSG D | 1S, 2S, 3S, 4S, 5S |
| 0.0 | Other | |
| 93.1 | | TOTAL AREA |

18462 PRE

Prepared by Sebago Technics

Printed 6/11/2024

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Page 4

Ground Covers (all nodes)

| HSG-A
(acres) | HSG-B
(acres) | HSG-C
(acres) | HSG-D
(acres) | Other
(acres) | Total
(acres) | Ground
Cover | Subcatchment
Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------------------|-------------------------|
| 0.0 | 0.0 | 0.0 | 64.0 | 0.0 | 64.0 | 1/8 acre lots, 65% imp | 5S |
| 0.0 | 0.0 | 0.0 | 5.2 | 0.0 | 5.2 | <50% Grass cover, Poor | 1S, 2S, 3S, 4S |
| 0.0 | 0.0 | 0.0 | 2.4 | 0.0 | 2.4 | Gravel surface | 1S, 2S, 3S, 4S |
| 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 1.4 | Paved parking | 2S |
| 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 2.6 | Paved roads w/curbs & sewers | 1S, 3S, 4S |
| 0.0 | 0.0 | 0.0 | 2.4 | 0.0 | 2.4 | Roofs | 1S, 2S, 3S, 4S |
| 0.0 | 0.0 | 0.0 | 15.1 | 0.0 | 15.1 | Woods, Poor | 1S, 2S, 3S, 5S |
| 0.0 | 0.0 | 0.0 | 93.1 | 0.0 | 93.1 | TOTAL AREA | |

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Pipe Listing (all nodes)

| Line# | Node
Number | In-Invert
(feet) | Out-Invert
(feet) | Length
(feet) | Slope
(ft/ft) | n | Width
(inches) | Diam/Height
(inches) | Inside-Fill
(inches) | Node
Name |
|-------|----------------|---------------------|----------------------|------------------|------------------|-------|-------------------|-------------------------|-------------------------|--------------|
| 1 | 5S | 0.00 | 0.00 | 3,500.0 | 0.0100 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 2 | 4P | 53.27 | 51.13 | 250.0 | 0.0086 | 0.025 | 0.0 | 15.0 | 0.0 | |
| 3 | 5P | 59.27 | 50.65 | 388.0 | 0.0222 | 0.011 | 60.0 | 60.0 | 0.0 | |
| 4 | 51P | 50.65 | 46.50 | 380.0 | 0.0109 | 0.011 | 60.0 | 60.0 | 0.0 | |
| 5 | 52P | 46.40 | 44.30 | 178.0 | 0.0118 | 0.011 | 0.0 | 42.0 | 0.0 | |

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Type III 24-hr 2-YR Rainfall=3.30"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=2.12"
Flow Length=462' Tc=21.9 min CN=WQ Runoff=11.7 cfs 1.328 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=2.18"
Flow Length=900' Tc=44.7 min CN=WQ Runoff=11.3 cfs 1.802 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=2.25"
Flow Length=245' Tc=38.4 min CN=WQ Runoff=9.9 cfs 1.467 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=2.56"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=4.8 cfs 0.382 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=2.42"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=78.6 cfs 13.334 af

Pond 4P: CB - Elm Street Peak Elev=58.01' Inflow=4.8 cfs 0.382 af
Primary=4.8 cfs 0.382 af Secondary=0.0 cfs 0.000 af Outflow=4.8 cfs 0.382 af

Pond 5P: Box Culvert - Railroad Peak Elev=62.15' Inflow=78.6 cfs 13.334 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=78.6 cfs 13.334 af

Pond 51P: Box Culvert - Slab Top Peak Elev=53.53' Inflow=78.6 cfs 13.334 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=78.6 cfs 13.334 af

Pond 52P: 42" RCP Outfall Peak Elev=51.03' Inflow=78.6 cfs 13.334 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=78.6 cfs 13.334 af

Link POA-1: Inflow=11.7 cfs 1.328 af
Primary=11.7 cfs 1.328 af

Link POA-2: Inflow=89.7 cfs 15.136 af
Primary=89.7 cfs 15.136 af

Link POA-3: Inflow=9.9 cfs 1.467 af
Primary=9.9 cfs 1.467 af

Link POA-4: Inflow=4.8 cfs 0.382 af
Primary=4.8 cfs 0.382 af

Total Runoff Area = 93.1 ac Runoff Volume = 18.313 af Average Runoff Depth = 2.36"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 1S:

Runoff = 11.7 cfs @ 12.29 hrs, Volume= 1.328 af, Depth= 2.12"
 Routed to Link POA-1 :

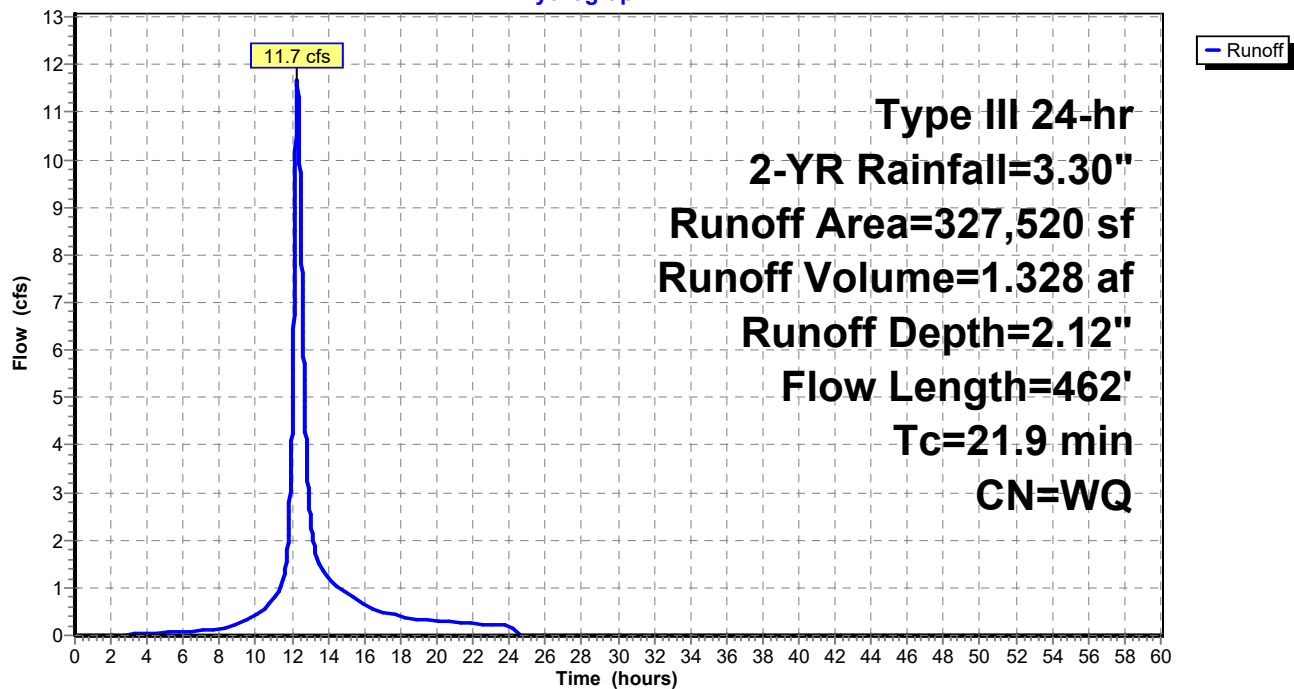
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 43,380 | 98 | Paved roads w/curbs & sewers, HSG D |
| 10,860 | 96 | Gravel surface, HSG D |
| 48,110 | 89 | <50% Grass cover, Poor, HSG D |
| 192,580 | 83 | Woods, Poor, HSG D |
| 327,520 | | Weighted Average |
| 251,550 | | 76.80% Pervious Area |
| 75,970 | | 23.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 2.5 | 253 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 12 | 0.0200 | 2.28 | | Shallow Concentrated Flow, C-D |
| | | | | | Unpaved Kv= 16.1 fps |
| 1.3 | 97 | 0.0600 | 1.22 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 21.9 | 462 | Total | | | |

Subcatchment 1S:

Hydrograph



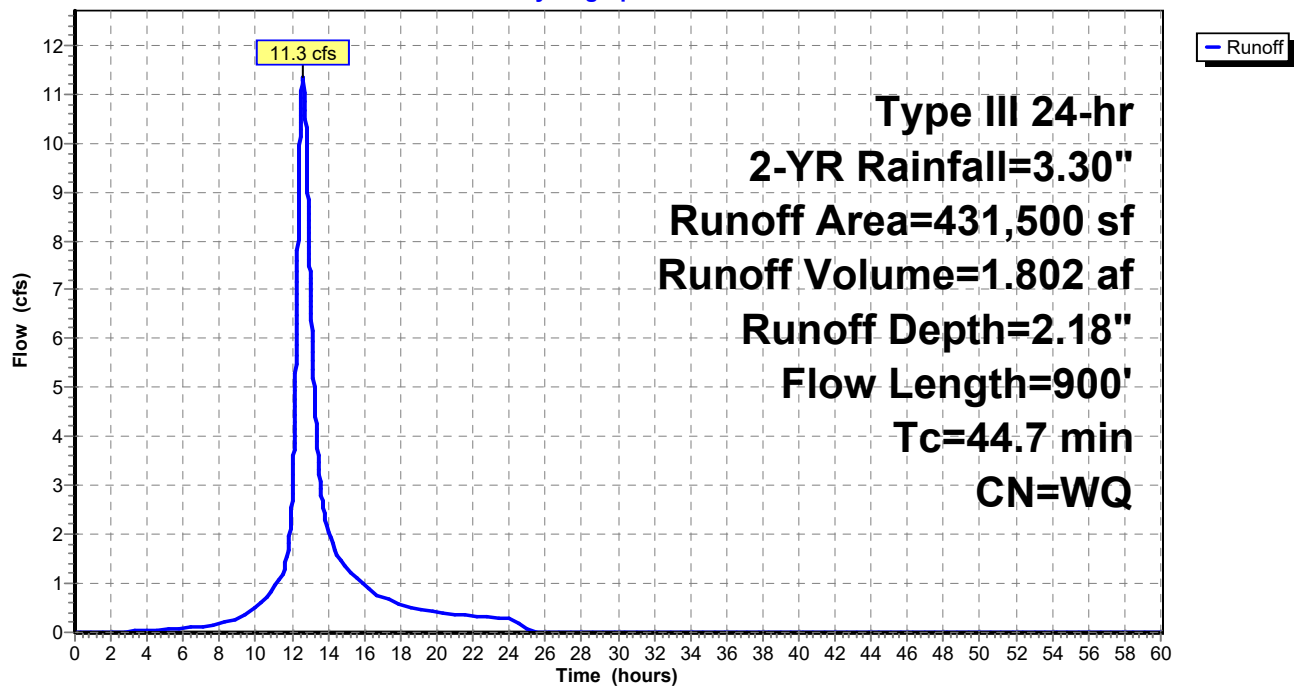
Summary for Subcatchment 2S:

Runoff = 11.3 cfs @ 12.61 hrs, Volume= 1.802 af, Depth= 2.18"
 Routed to Link POA-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,020 | 98 | Roofs, HSG D |
| 60,820 | 98 | Paved parking, HSG D |
| 62,700 | 96 | Gravel surface, HSG D |
| 81,780 | 89 | <50% Grass cover, Poor, HSG D |
| 214,180 | 83 | Woods, Poor, HSG D |
| 431,500 | | Weighted Average |
| 358,660 | | 83.12% Pervious Area |
| 72,840 | | 16.88% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 15 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 1.8 | 225 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 20 | 0.0200 | 2.87 | | Shallow Concentrated Flow, E-F |
| | | | | | Paved Kv= 20.3 fps |
| 3.3 | 140 | 0.0200 | 0.71 | | Shallow Concentrated Flow, F-G |
| | | | | | Woodland Kv= 5.0 fps |
| 1.4 | 300 | 0.0300 | 3.52 | | Shallow Concentrated Flow, G-H |
| | | | | | Paved Kv= 20.3 fps |
| 0.3 | 30 | 0.1000 | 1.58 | | Shallow Concentrated Flow, H-I |
| | | | | | Woodland Kv= 5.0 fps |
| 44.7 | 900 | Total | | | |

Subcatchment 2S:**Hydrograph**

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 3S:

Runoff = 9.9 cfs @ 12.51 hrs, Volume= 1.467 af, Depth= 2.25"
 Routed to Link POA-3 :

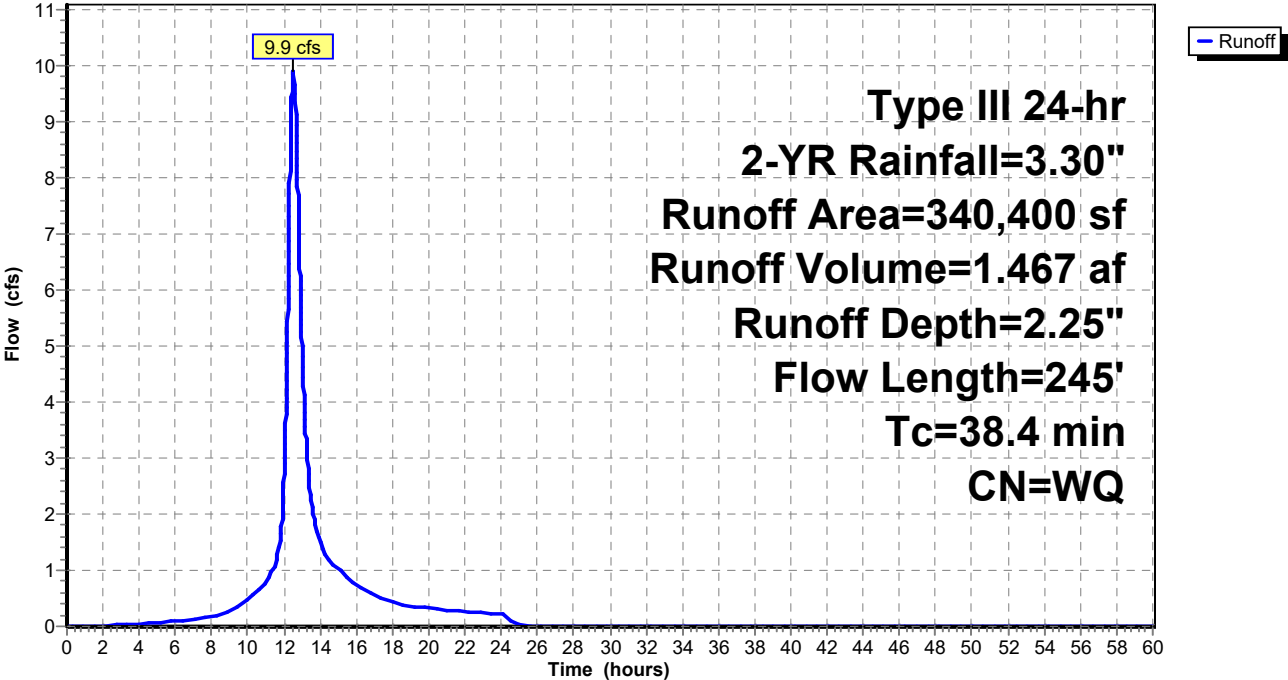
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 47,760 | 98 | Roofs, HSG D |
| 49,720 | 98 | Paved roads w/curbs & sewers, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 53,370 | 89 | <50% Grass cover, Poor, HSG D |
| 162,440 | 83 | Woods, Poor, HSG D |
| 340,400 | | Weighted Average |
| 242,920 | | 71.36% Pervious Area |
| 97,480 | | 28.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3300 | 2.87 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 10 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 0.6 | 65 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 38.4 | 245 | Total | | | |

Subcatchment 3S:

Hydrograph



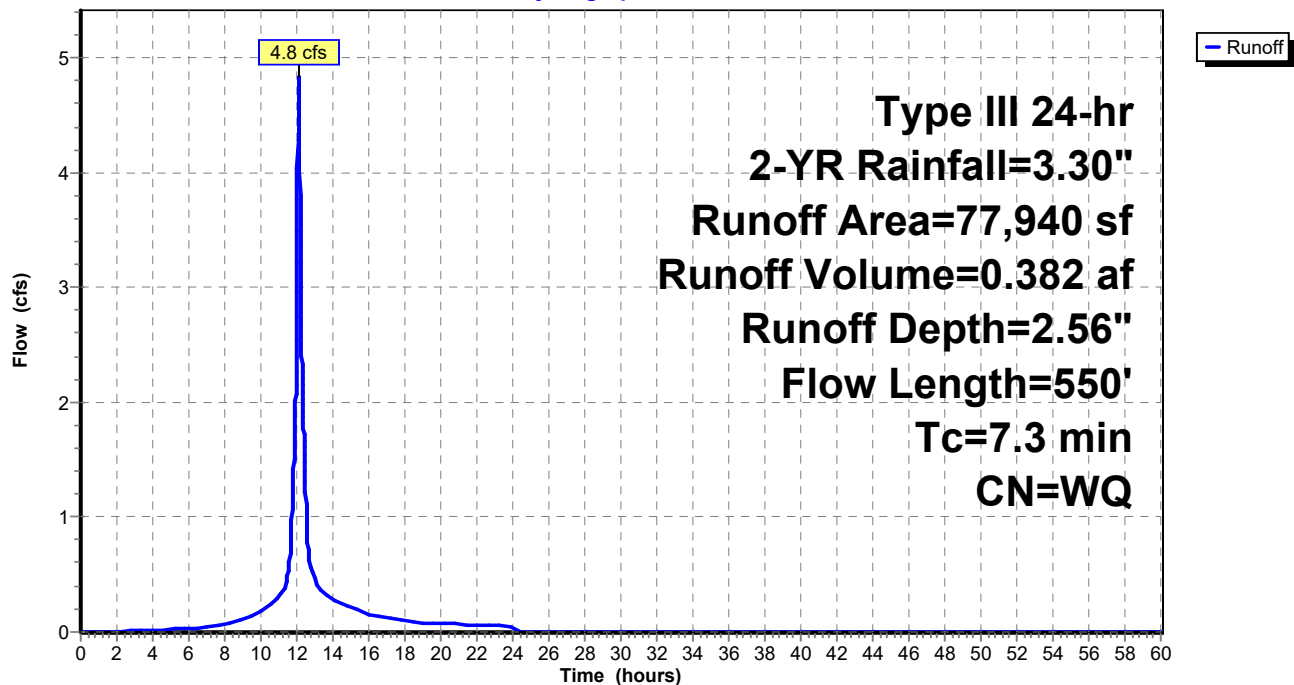
Summary for Subcatchment 4S:

Runoff = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Depth= 2.56"
 Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

Summary for Subcatchment 5S:

Runoff = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af, Depth= 2.42"
 Routed to Pond 5P : Box Culvert - Railroad

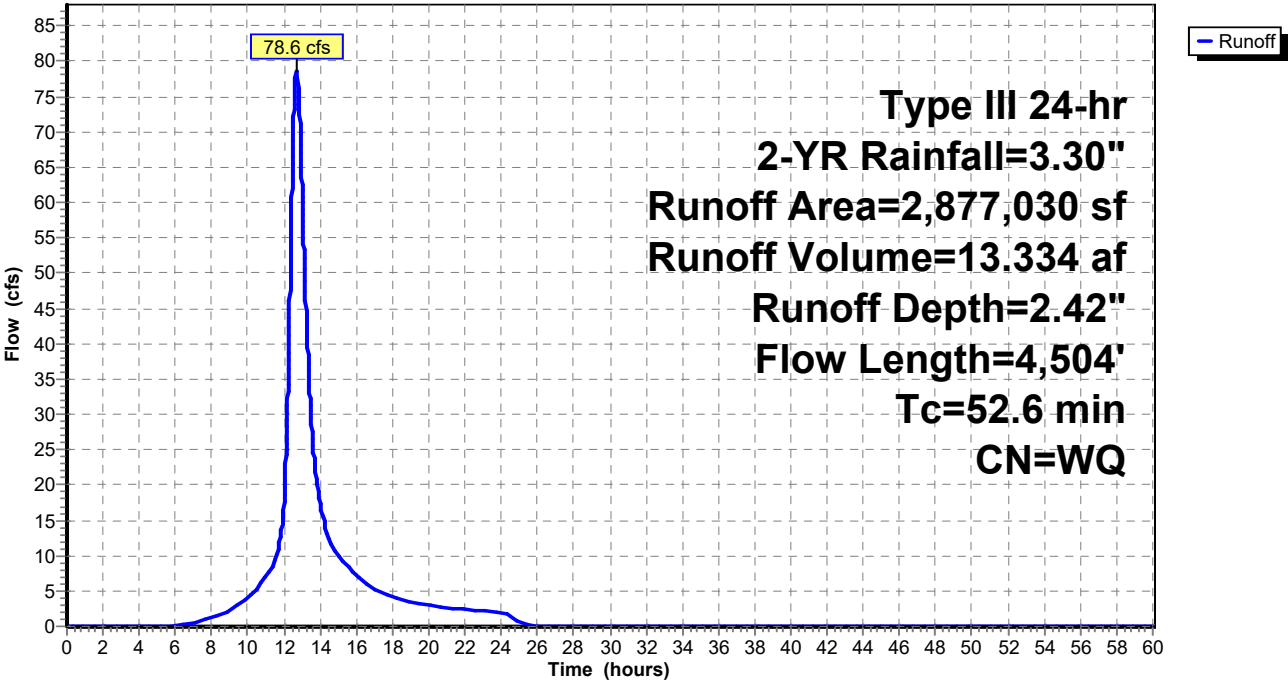
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,788,450 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,580 | 83 | Woods, Poor, HSG D |
| 2,877,030 | | Weighted Average |
| 1,064,538 | | 37.00% Pervious Area |
| 1,812,493 | | 63.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D
Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E
Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5S:

Hydrograph



Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 2.56" for 2-YR event
 Inflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
 Outflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
 Routed to Link POA-4 :
 Secondary = 0.0 cfs @ 12.10 hrs, Volume= 0.000 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.01' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=4.8 cfs @ 12.10 hrs HW=58.00' (Free Discharge)

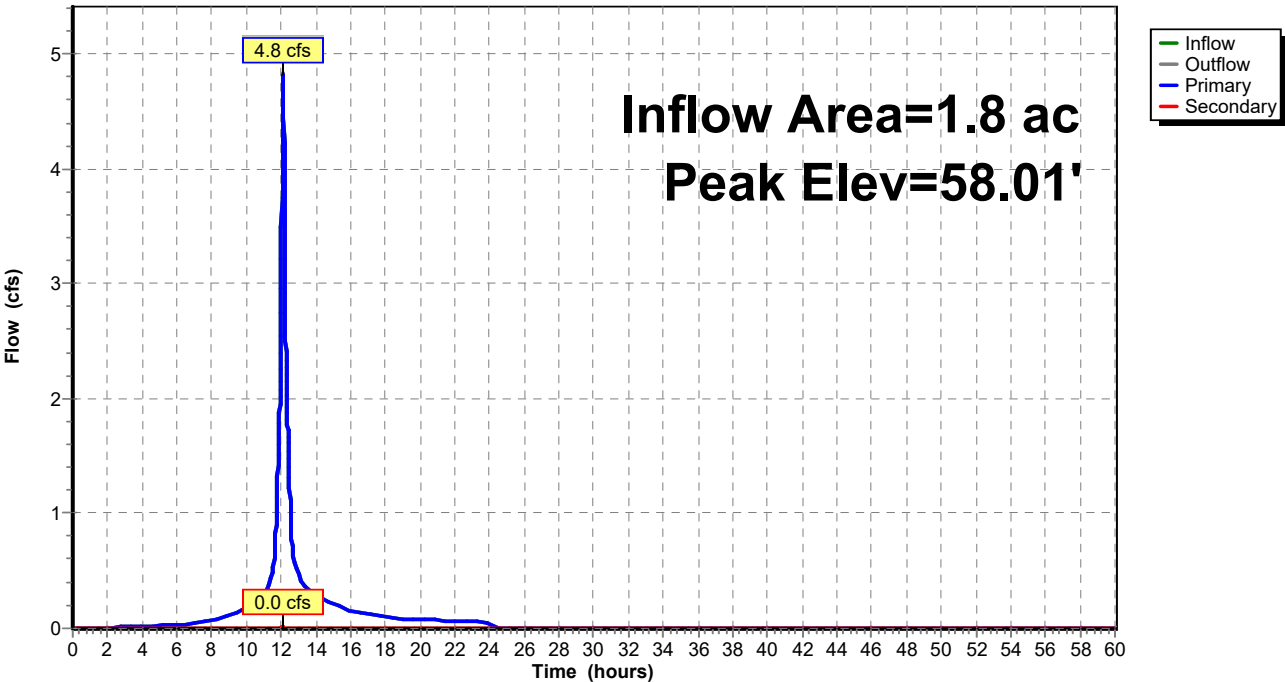
↑1=Culvert (Barrel Controls 4.8 cfs @ 3.93 fps)

Secondary OutFlow Max=0.0 cfs @ 12.10 hrs HW=58.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.0 cfs @ 0.15 fps)

Pond 4P: CB - Elm Street

Hydrograph



Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 2.42" for 2-YR event
 Inflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Outflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af, Atten= 0%, Lag= 0.0 min
 Primary = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.15' @ 12.68 hrs

Flood Elev= 75.77'

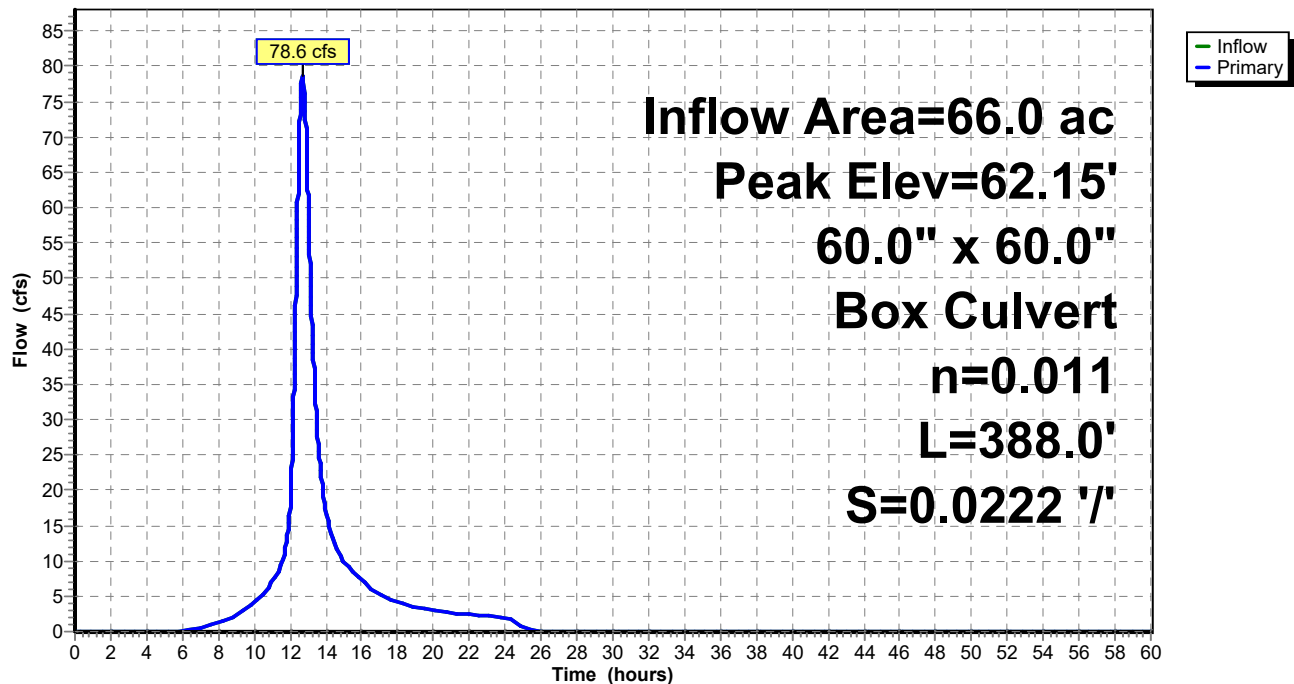
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=78.6 cfs @ 12.68 hrs HW=62.15' (Free Discharge)

↑1=Culvert (Inlet Controls 78.6 cfs @ 5.45 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 2.42" for 2-YR event
 Inflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Outflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af, Atten= 0%, Lag= 0.0 min
 Primary = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Routed to Pond 52P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 53.53' @ 12.68 hrs

Flood Elev= 55.65'

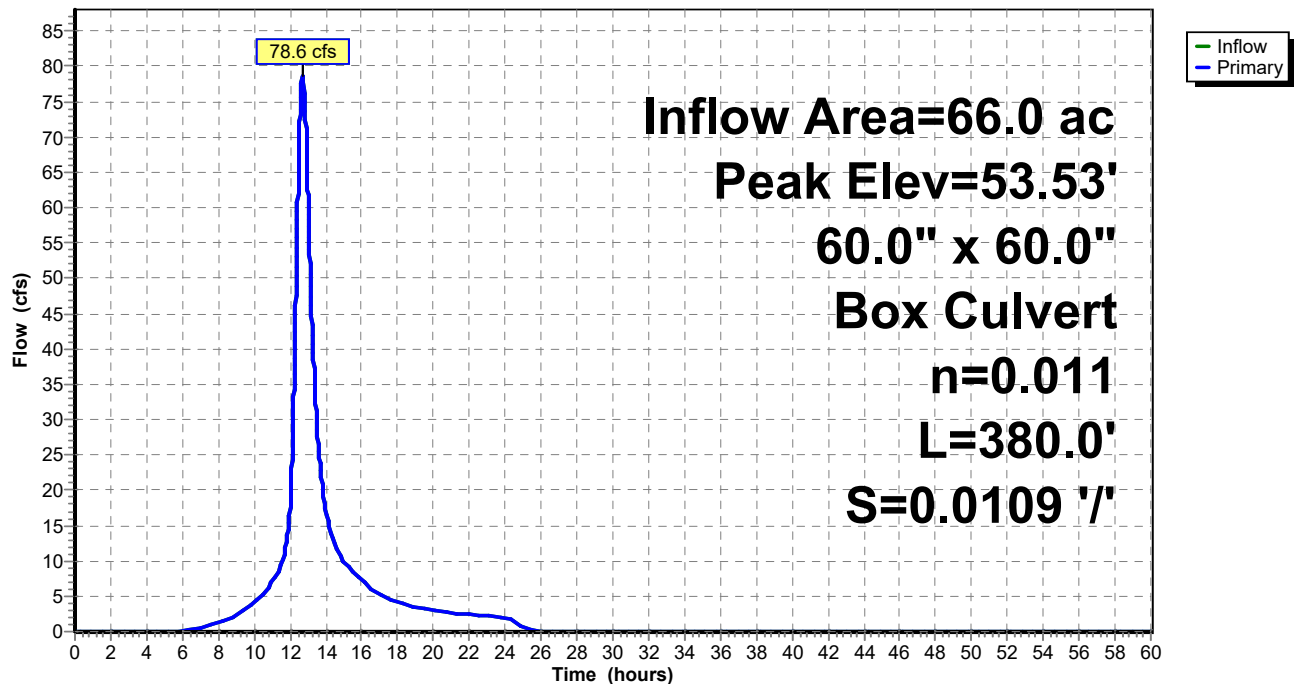
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=78.6 cfs @ 12.68 hrs HW=53.53' (Free Discharge)

↑1=Culvert (Inlet Controls 78.6 cfs @ 5.45 fps)

Pond 51P: Box Culvert - Slab Top

Hydrograph



Summary for Pond 52P: 42" RCP Outfall

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 2.42" for 2-YR event
 Inflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Outflow = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af, Atten= 0%, Lag= 0.0 min
 Primary = 78.6 cfs @ 12.68 hrs, Volume= 13.334 af
 Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 51.03' @ 12.68 hrs

Flood Elev= 57.74'

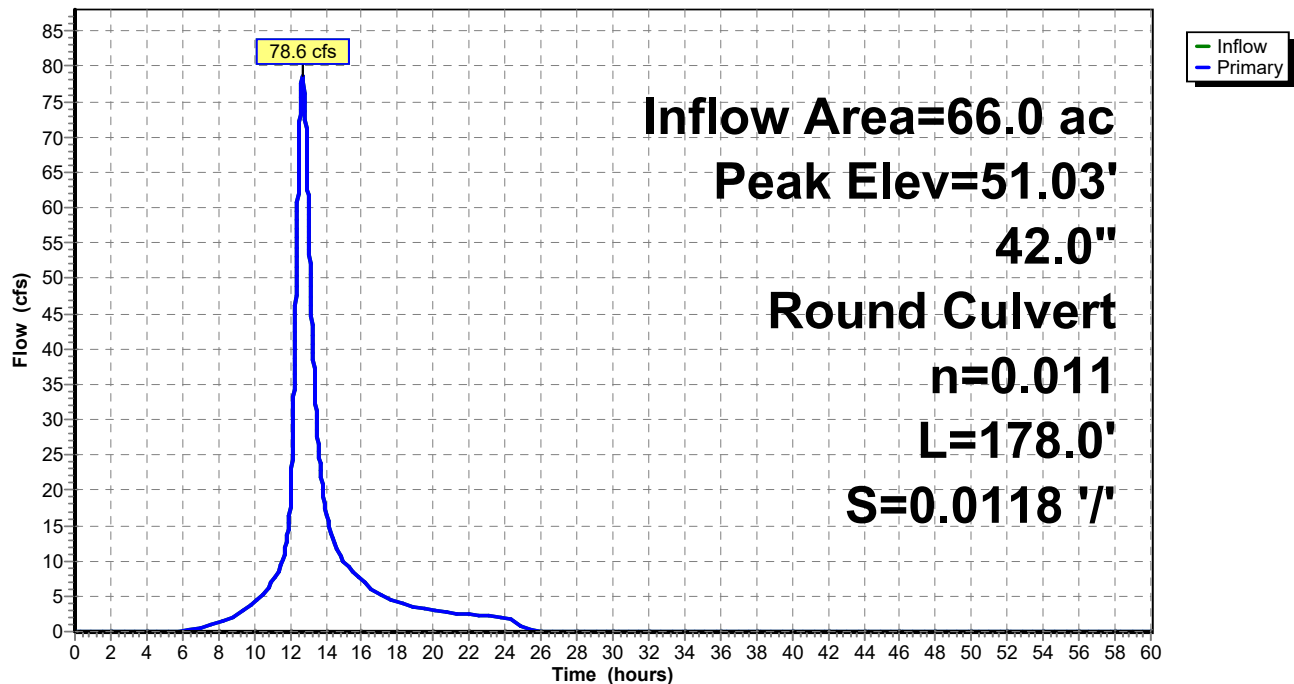
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 46.40' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.40' / 44.30' S= 0.0118 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=78.6 cfs @ 12.68 hrs HW=51.03' (Free Discharge)

1=Culvert (Inlet Controls 78.6 cfs @ 8.17 fps)

Pond 52P: 42" RCP Outfall

Hydrograph



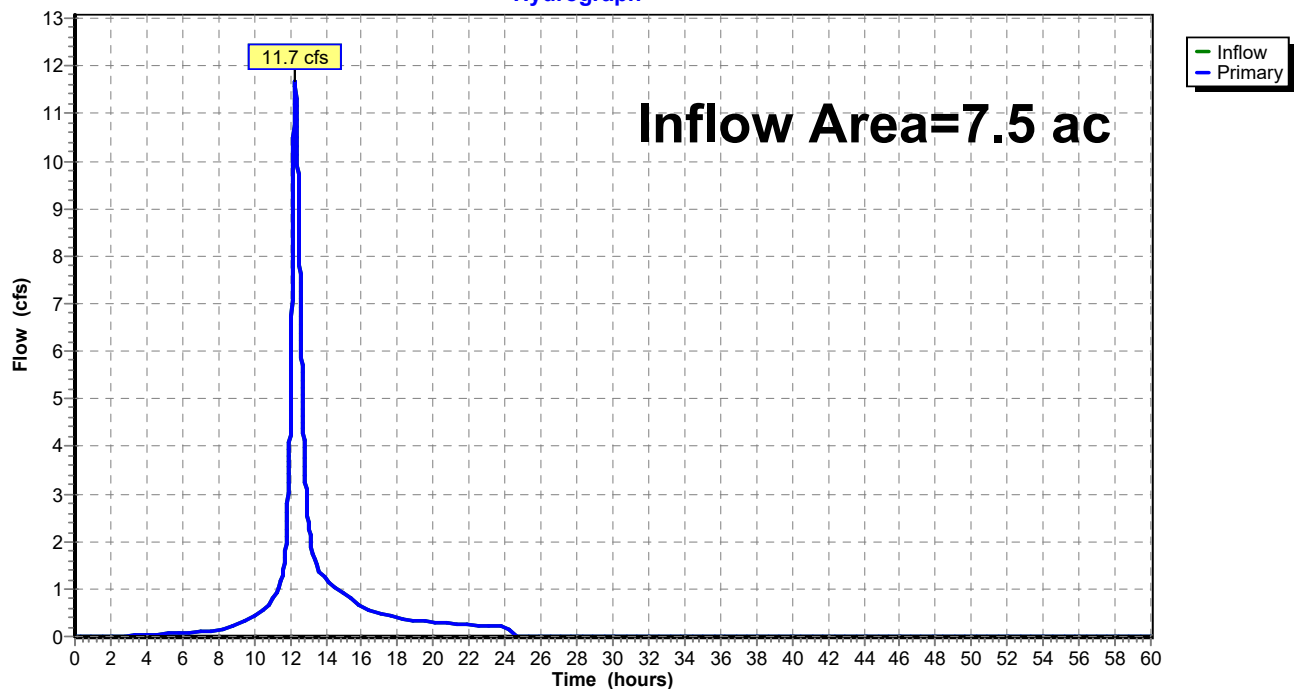
Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 2.12" for 2-YR event
Inflow = 11.7 cfs @ 12.29 hrs, Volume= 1.328 af
Primary = 11.7 cfs @ 12.29 hrs, Volume= 1.328 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

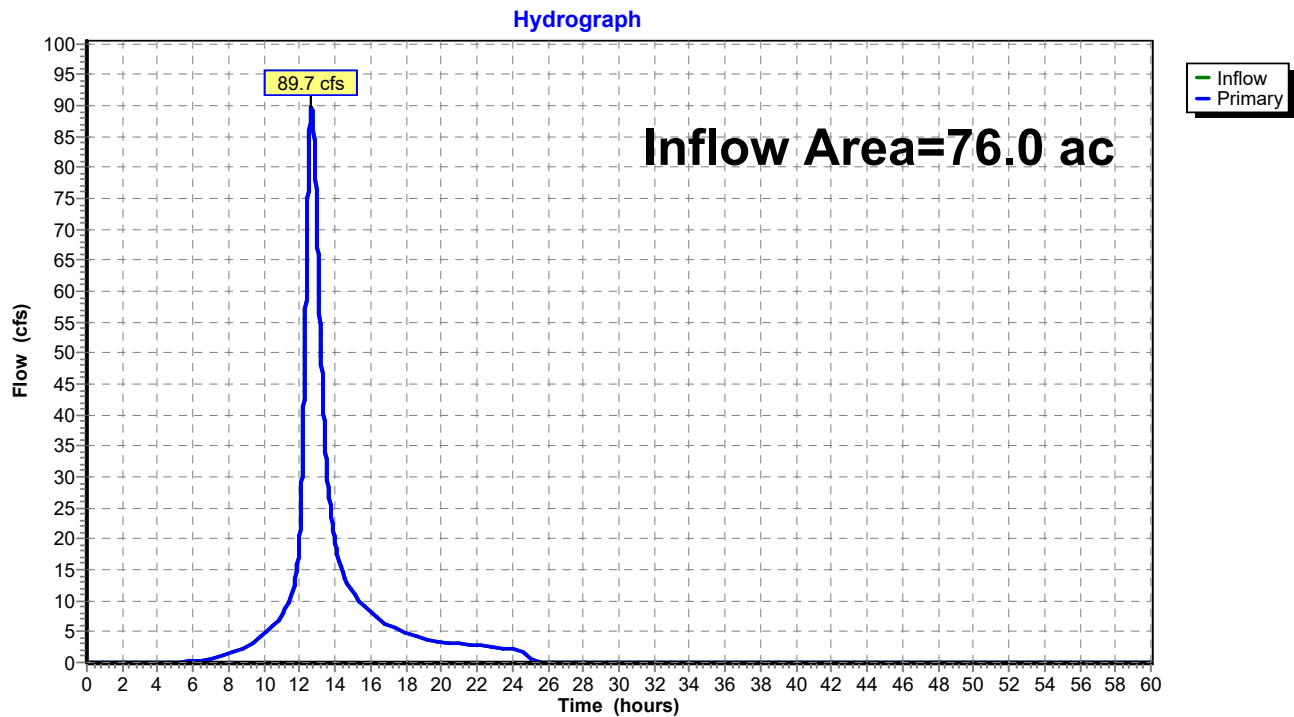
Hydrograph



Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 2.39" for 2-YR event
Inflow = 89.7 cfs @ 12.68 hrs, Volume= 15.136 af
Primary = 89.7 cfs @ 12.68 hrs, Volume= 15.136 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

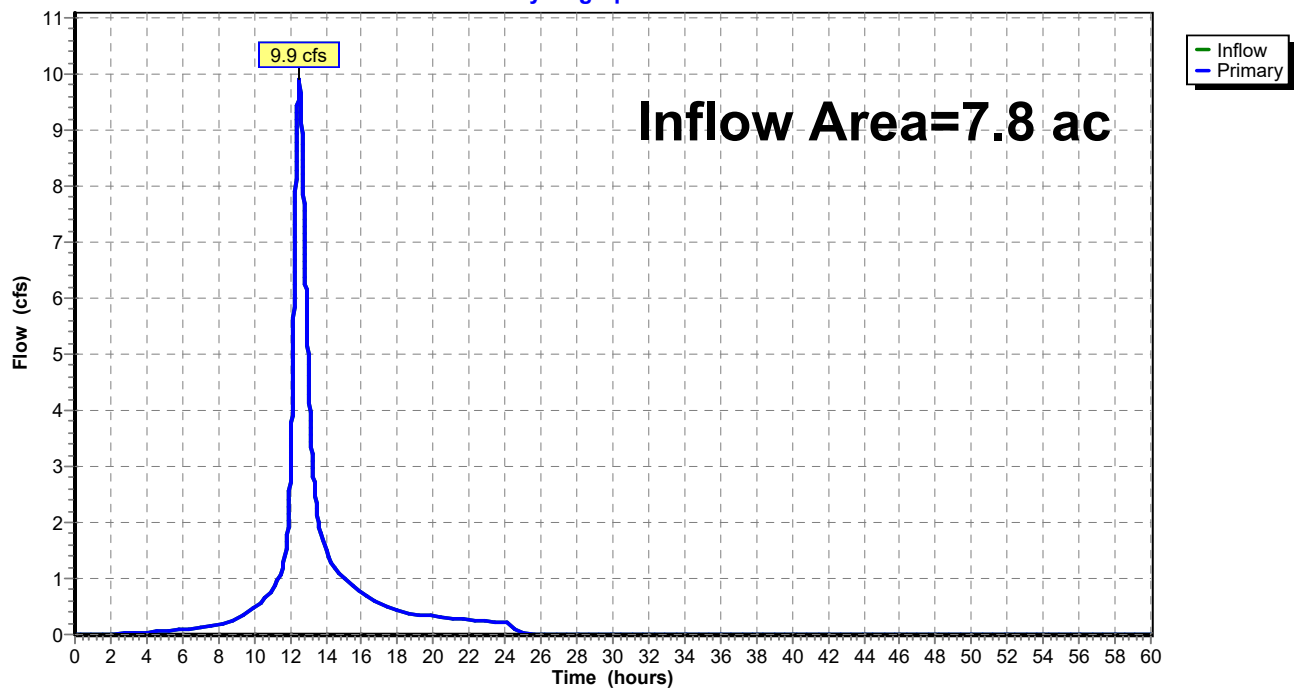
Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 2.25" for 2-YR event
Inflow = 9.9 cfs @ 12.51 hrs, Volume= 1.467 af
Primary = 9.9 cfs @ 12.51 hrs, Volume= 1.467 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

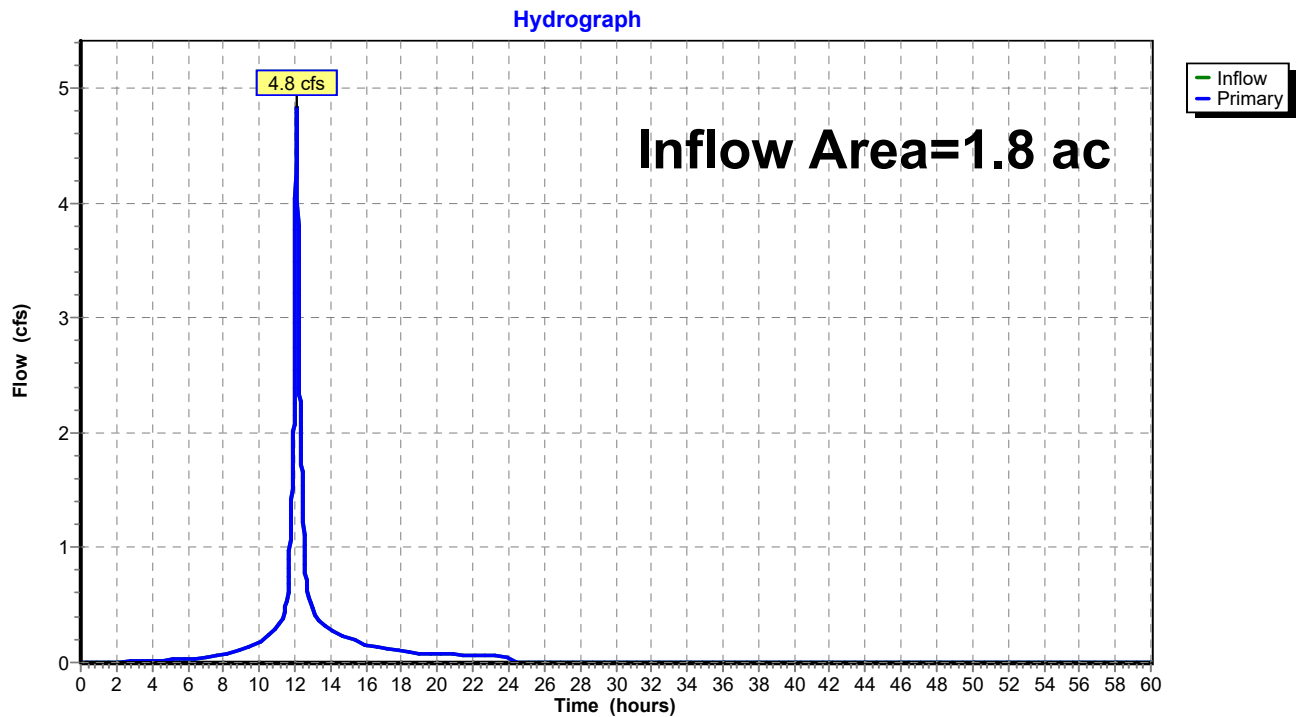
Hydrograph



Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 2.56" for 2-YR event
Inflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
Primary = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

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Type III 24-hr 10-YR Rainfall=4.90"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=3.58"
Flow Length=462' Tc=21.9 min CN=WQ Runoff=19.7 cfs 2.244 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=3.66"
Flow Length=900' Tc=44.7 min CN=WQ Runoff=18.9 cfs 3.020 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=3.74"
Flow Length=245' Tc=38.4 min CN=WQ Runoff=16.4 cfs 2.433 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=4.11"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=7.6 cfs 0.612 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=3.96"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=126.1 cfs 21.816 af

Pond 4P: CB - Elm Street Peak Elev=58.21' Inflow=7.6 cfs 0.612 af
Primary=4.9 cfs 0.587 af Secondary=2.7 cfs 0.026 af Outflow=7.6 cfs 0.612 af

Pond 5P: Box Culvert - Railroad Peak Elev=63.22' Inflow=126.1 cfs 21.816 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=126.1 cfs 21.816 af

Pond 51P: Box Culvert - Slab Top Peak Elev=54.60' Inflow=126.1 cfs 21.816 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=126.1 cfs 21.816 af

Pond 52P: 42" RCP Outfall Peak Elev=55.56' Inflow=126.1 cfs 21.816 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=126.1 cfs 21.816 af

Link POA-1: Inflow=19.7 cfs 2.244 af
Primary=19.7 cfs 2.244 af

Link POA-2: Inflow=144.5 cfs 24.836 af
Primary=144.5 cfs 24.836 af

Link POA-3: Inflow=16.4 cfs 2.433 af
Primary=16.4 cfs 2.433 af

Link POA-4: Inflow=7.6 cfs 0.612 af
Primary=7.6 cfs 0.612 af

Total Runoff Area = 93.1 ac Runoff Volume = 30.126 af Average Runoff Depth = 3.88"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

Summary for Subcatchment 1S:

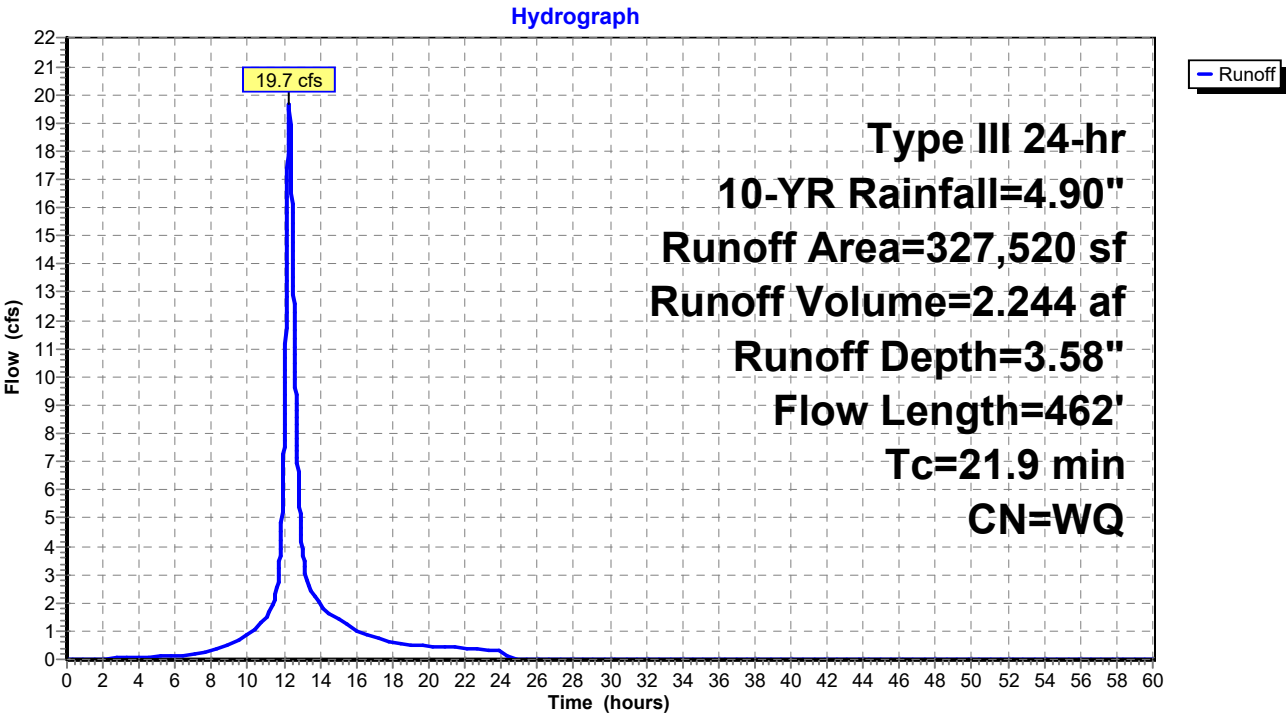
Runoff = 19.7 cfs @ 12.29 hrs, Volume= 2.244 af, Depth= 3.58"
 Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 43,380 | 98 | Paved roads w/curbs & sewers, HSG D |
| 10,860 | 96 | Gravel surface, HSG D |
| 48,110 | 89 | <50% Grass cover, Poor, HSG D |
| 192,580 | 83 | Woods, Poor, HSG D |
| 327,520 | | Weighted Average |
| 251,550 | | 76.80% Pervious Area |
| 75,970 | | 23.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 2.5 | 253 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 12 | 0.0200 | 2.28 | | Shallow Concentrated Flow, C-D
Unpaved Kv= 16.1 fps |
| 1.3 | 97 | 0.0600 | 1.22 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 21.9 | 462 | Total | | | |

Subcatchment 1S:



18462 PRE

Prepared by Sebago Technics

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Type III 24-hr 10-YR Rainfall=4.90"

Printed 6/11/2024

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Summary for Subcatchment 2S:

Runoff = 18.9 cfs @ 12.57 hrs, Volume= 3.020 af, Depth= 3.66"
 Routed to Link POA-2 :

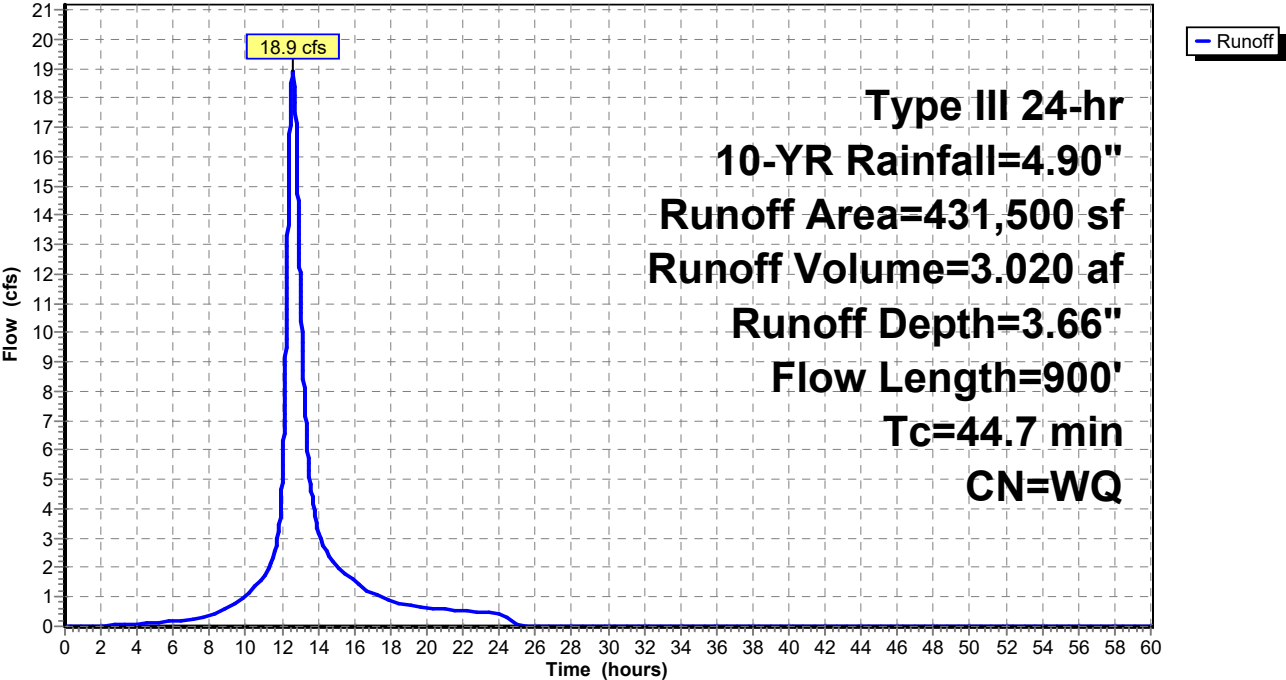
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,020 | 98 | Roofs, HSG D |
| 60,820 | 98 | Paved parking, HSG D |
| 62,700 | 96 | Gravel surface, HSG D |
| 81,780 | 89 | <50% Grass cover, Poor, HSG D |
| 214,180 | 83 | Woods, Poor, HSG D |
| 431,500 | | Weighted Average |
| 358,660 | | 83.12% Pervious Area |
| 72,840 | | 16.88% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 15 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 1.8 | 225 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 20 | 0.0200 | 2.87 | | Shallow Concentrated Flow, E-F |
| | | | | | Paved Kv= 20.3 fps |
| 3.3 | 140 | 0.0200 | 0.71 | | Shallow Concentrated Flow, F-G |
| | | | | | Woodland Kv= 5.0 fps |
| 1.4 | 300 | 0.0300 | 3.52 | | Shallow Concentrated Flow, G-H |
| | | | | | Paved Kv= 20.3 fps |
| 0.3 | 30 | 0.1000 | 1.58 | | Shallow Concentrated Flow, H-I |
| | | | | | Woodland Kv= 5.0 fps |
| 44.7 | 900 | Total | | | |

Subcatchment 2S:

Hydrograph



Summary for Subcatchment 3S:

Runoff = 16.4 cfs @ 12.50 hrs, Volume= 2.433 af, Depth= 3.74"
 Routed to Link POA-3 :

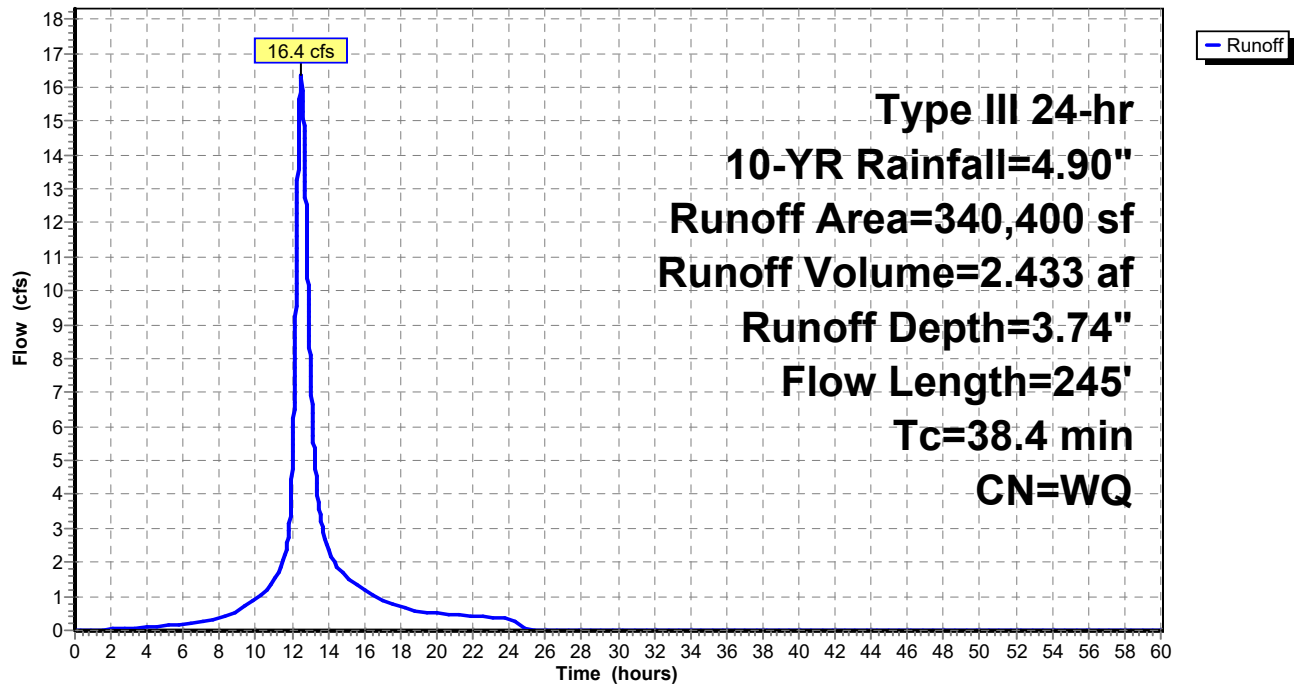
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 47,760 | 98 | Roofs, HSG D |
| 49,720 | 98 | Paved roads w/curbs & sewers, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 53,370 | 89 | <50% Grass cover, Poor, HSG D |
| 162,440 | 83 | Woods, Poor, HSG D |
| 340,400 | | Weighted Average |
| 242,920 | | 71.36% Pervious Area |
| 97,480 | | 28.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3300 | 2.87 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 10 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 0.6 | 65 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 38.4 | 245 | Total | | | |

Subcatchment 3S:

Hydrograph



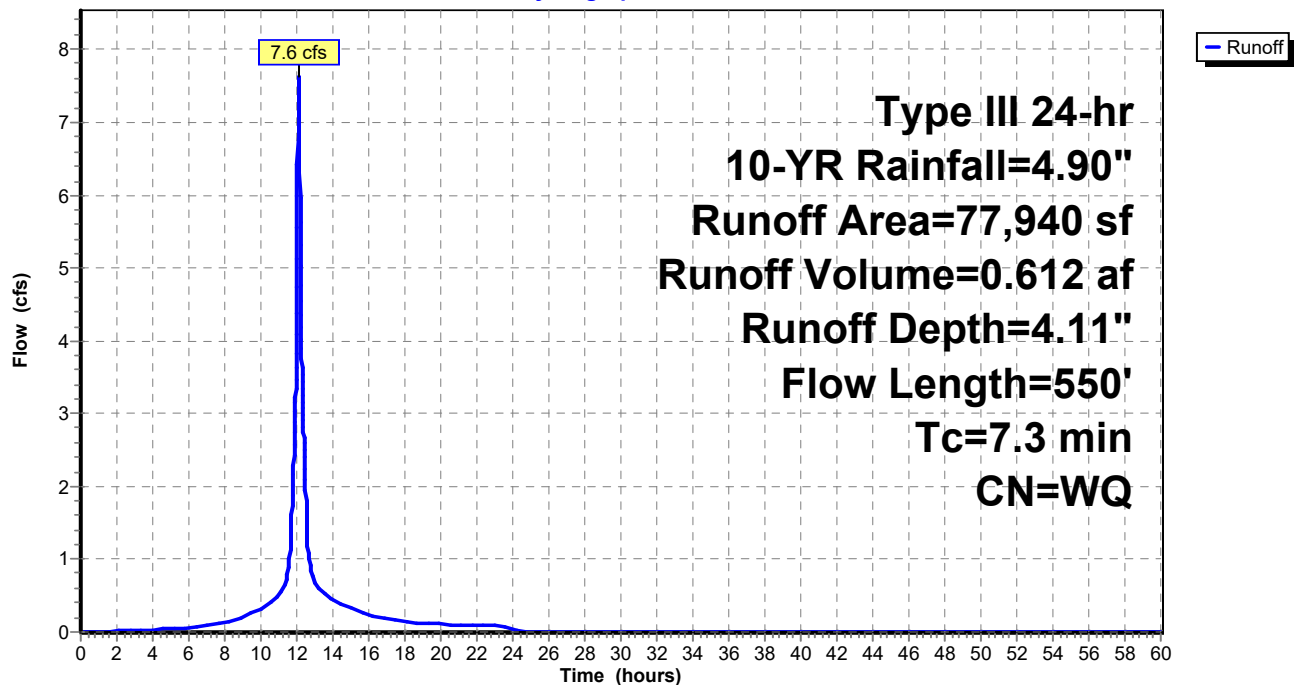
Summary for Subcatchment 4S:

Runoff = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Depth= 4.11"
 Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

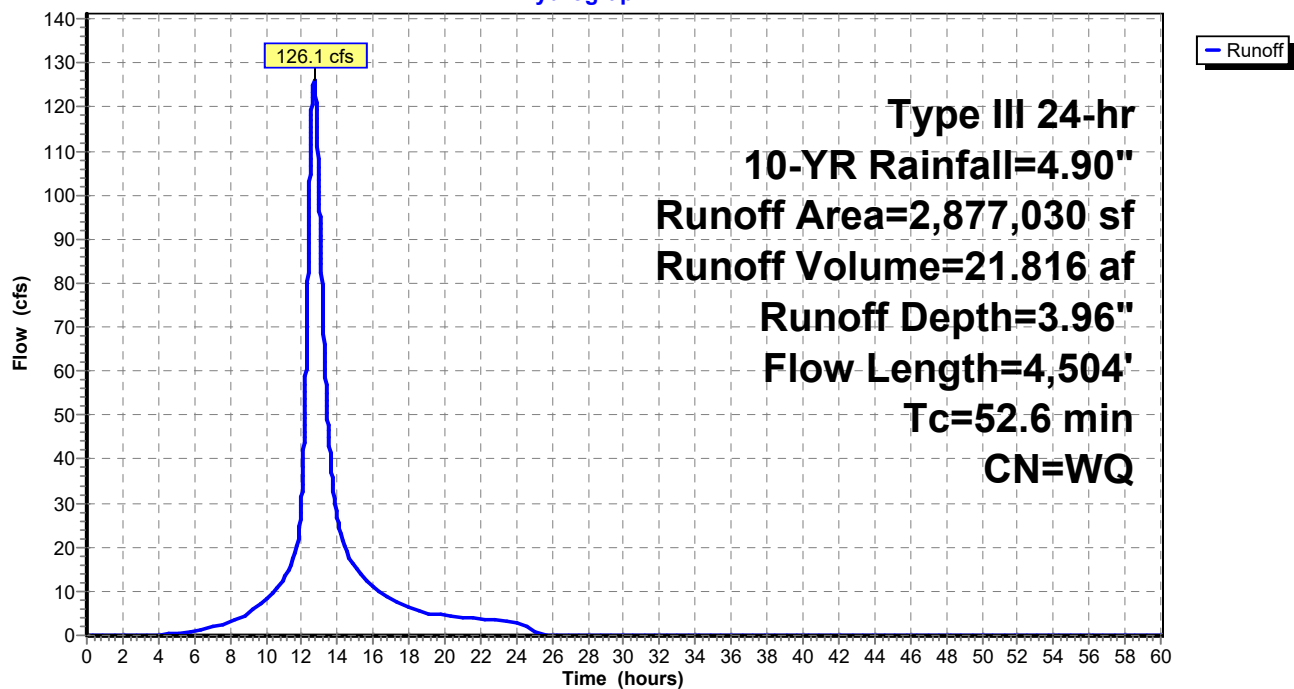
Summary for Subcatchment 5S:

Runoff = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af, Depth= 3.96"
 Routed to Pond 5P : Box Culvert - Railroad

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,788,450 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,580 | 83 | Woods, Poor, HSG D |
| 2,877,030 | | Weighted Average |
| 1,064,538 | | 37.00% Pervious Area |
| 1,812,493 | | 63.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5S:**Hydrograph**

Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.11" for 10-YR event
 Inflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af
 Outflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.9 cfs @ 12.10 hrs, Volume= 0.587 af
 Routed to Link POA-4 :
 Secondary = 2.7 cfs @ 12.10 hrs, Volume= 0.026 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.21' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=4.9 cfs @ 12.10 hrs HW=58.21' (Free Discharge)

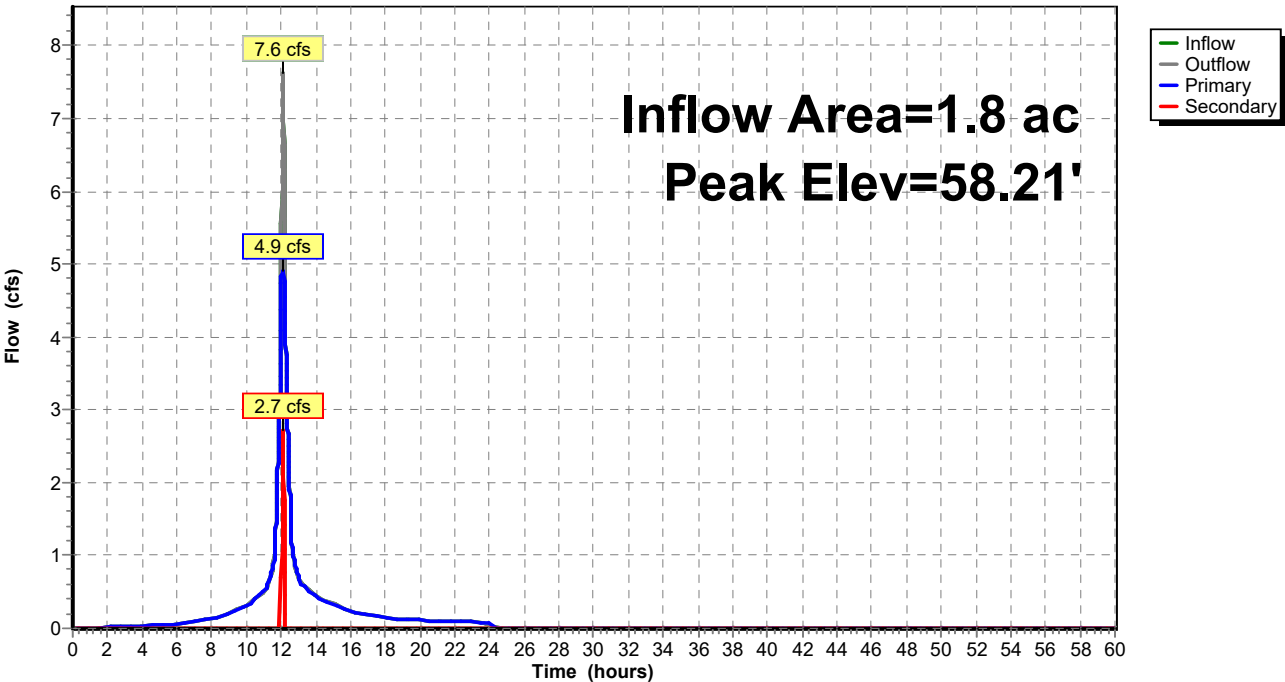
↑**1=Culvert** (Barrel Controls 4.9 cfs @ 4.00 fps)

Secondary OutFlow Max=2.7 cfs @ 12.10 hrs HW=58.21' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 2.7 cfs @ 1.29 fps)

Pond 4P: CB - Elm Street

Hydrograph



Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 3.96" for 10-YR event
 Inflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Outflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af, Atten= 0%, Lag= 0.0 min
 Primary = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.22' @ 12.68 hrs

Flood Elev= 75.77'

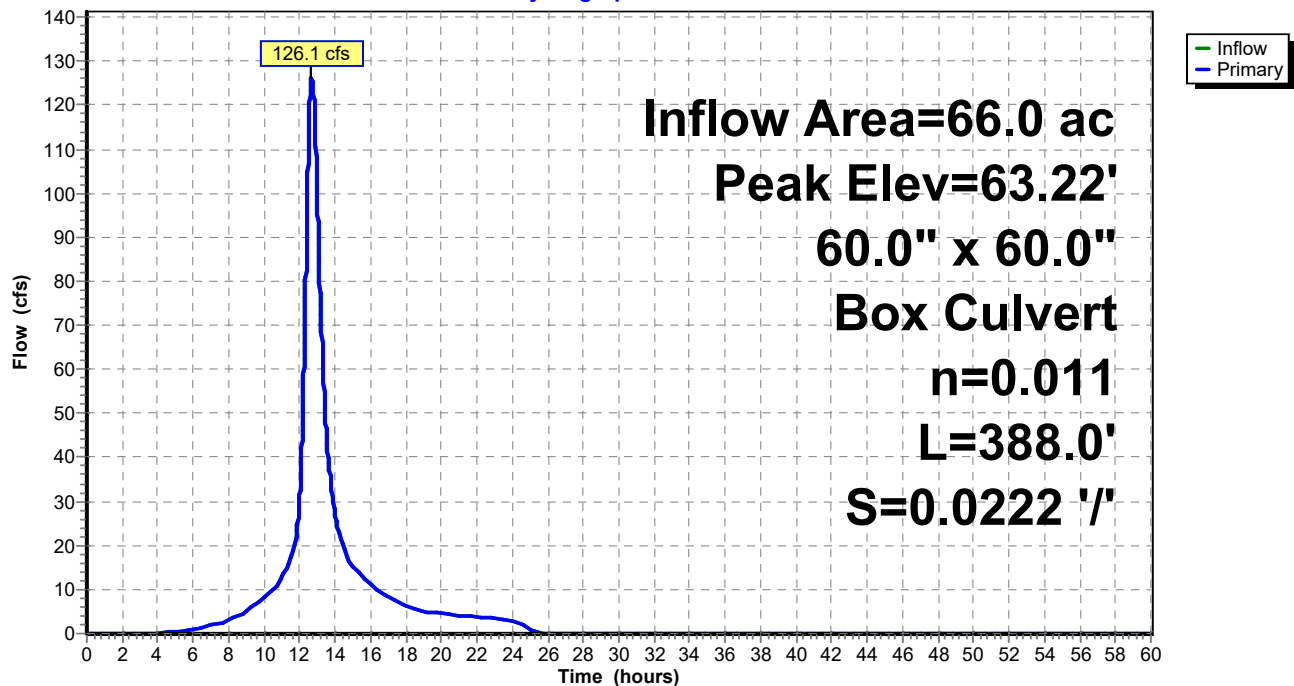
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=126.1 cfs @ 12.68 hrs HW=63.22' (Free Discharge)

↑1=Culvert (Inlet Controls 126.1 cfs @ 6.38 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 3.96" for 10-YR event
 Inflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Outflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af, Atten= 0%, Lag= 0.0 min
 Primary = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Routed to Pond 52P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 54.60' @ 12.68 hrs

Flood Elev= 55.65'

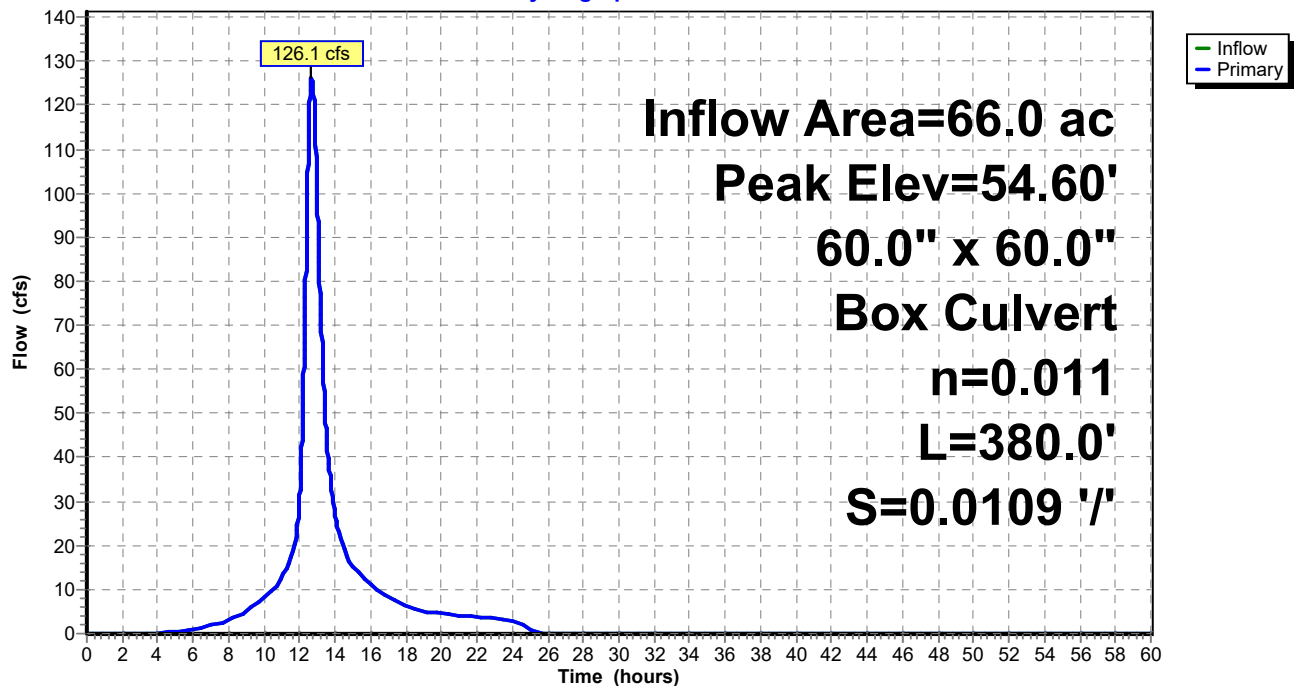
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=126.1 cfs @ 12.68 hrs HW=54.60' (Free Discharge)

↑1=Culvert (Inlet Controls 126.1 cfs @ 6.38 hrs)

Pond 51P: Box Culvert - Slab Top

Hydrograph



Summary for Pond 52P: 42" RCP Outfall

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 3.96" for 10-YR event
 Inflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Outflow = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af, Atten= 0%, Lag= 0.0 min
 Primary = 126.1 cfs @ 12.68 hrs, Volume= 21.816 af
 Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

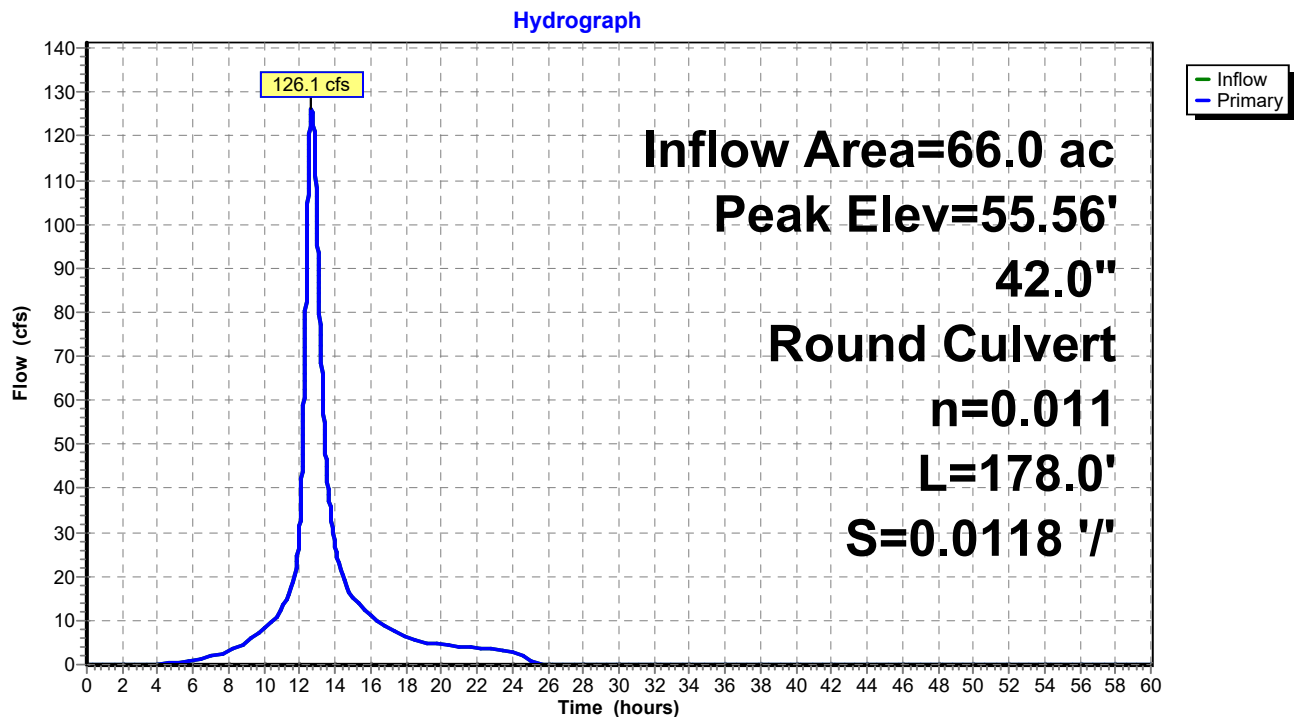
Peak Elev= 55.56' @ 12.68 hrs

Flood Elev= 57.74'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 46.40' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.40' / 44.30' S= 0.0118 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=126.1 cfs @ 12.68 hrs HW=55.56' (Free Discharge)

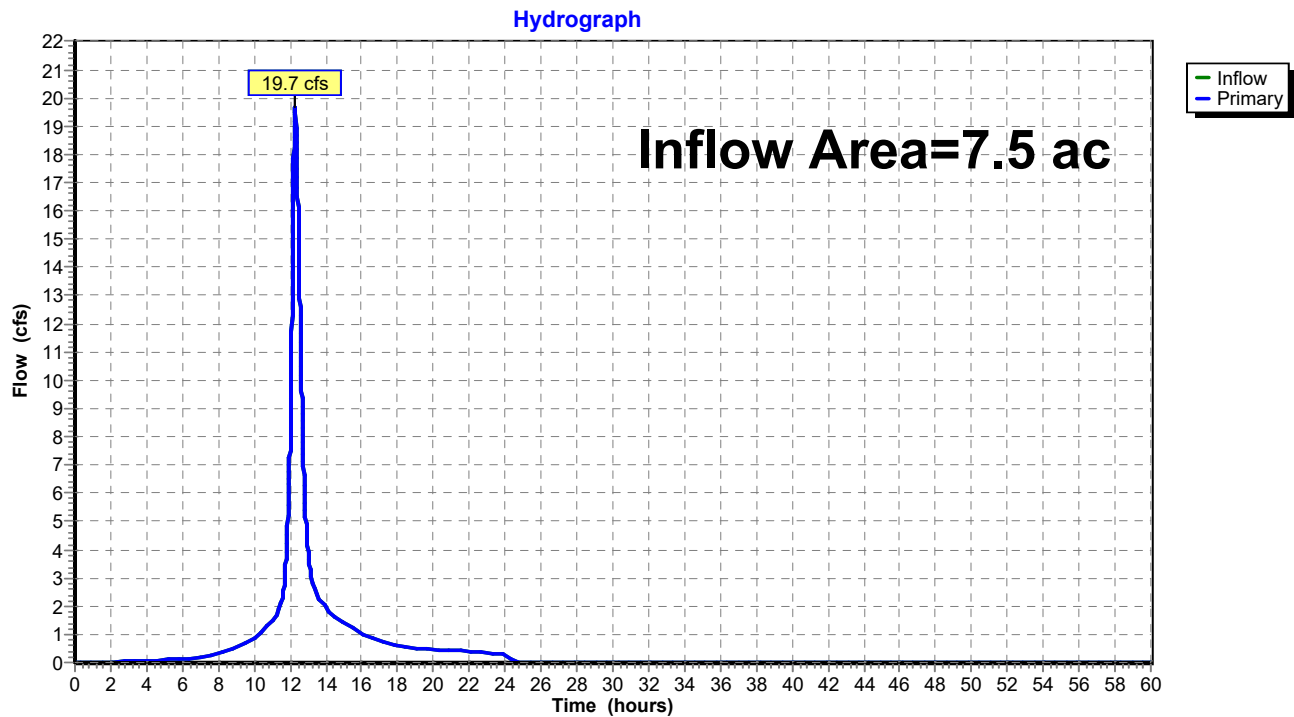
↑1=Culvert (Inlet Controls 126.1 cfs @ 13.10 fps)

Pond 52P: 42" RCP Outfall

Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 3.58" for 10-YR event
Inflow = 19.7 cfs @ 12.29 hrs, Volume= 2.244 af
Primary = 19.7 cfs @ 12.29 hrs, Volume= 2.244 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

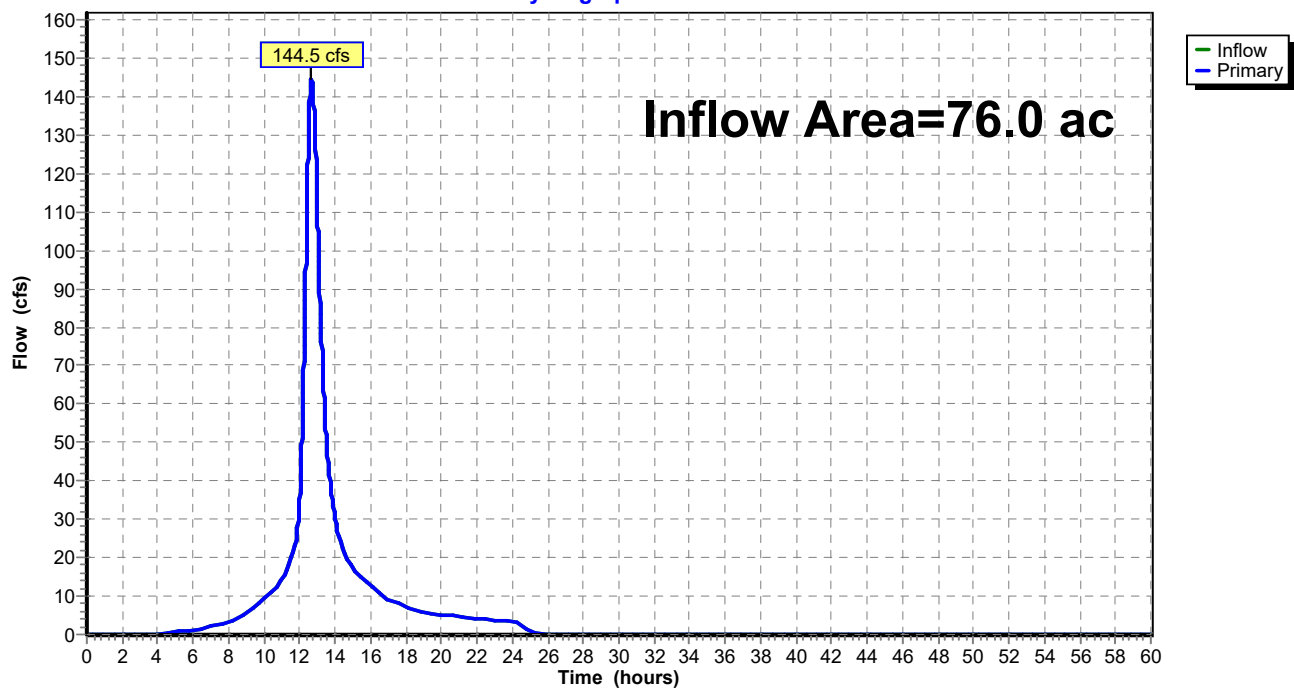
Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 3.92" for 10-YR event
Inflow = 144.5 cfs @ 12.68 hrs, Volume= 24.836 af
Primary = 144.5 cfs @ 12.68 hrs, Volume= 24.836 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

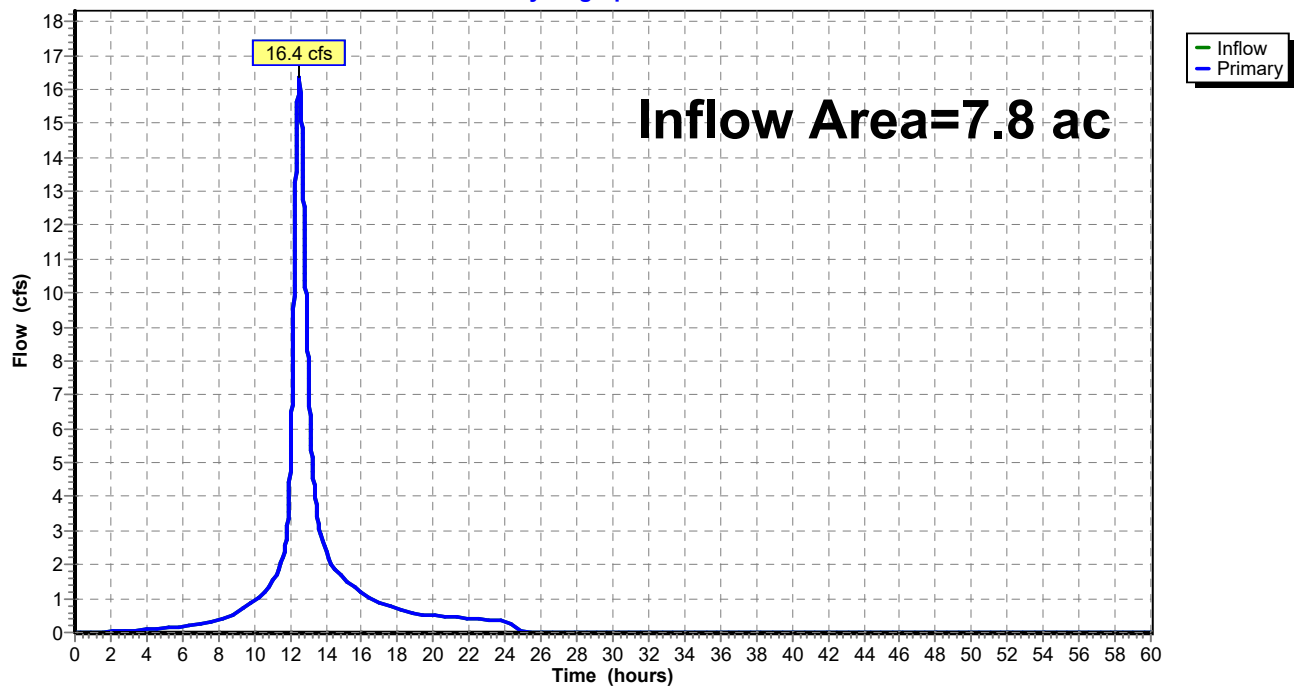
Hydrograph



Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 3.74" for 10-YR event
Inflow = 16.4 cfs @ 12.50 hrs, Volume= 2.433 af
Primary = 16.4 cfs @ 12.50 hrs, Volume= 2.433 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

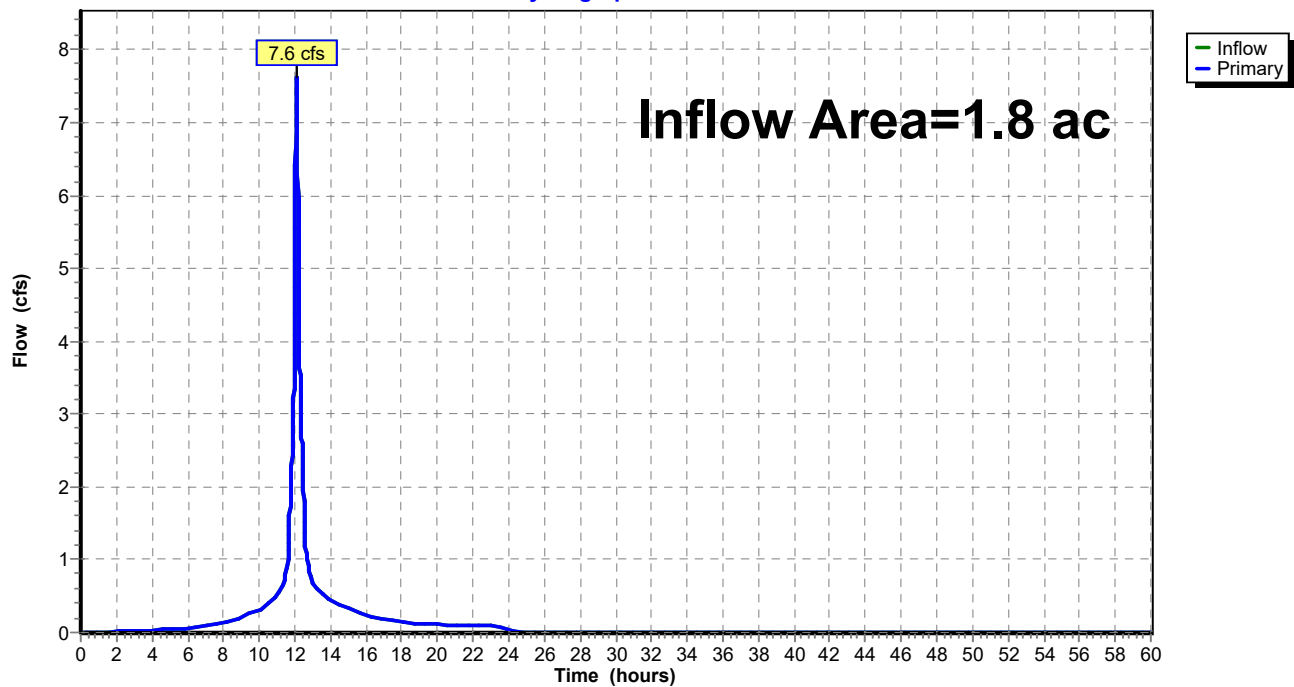
Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:**Hydrograph**

Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.11" for 10-YR event
Inflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af
Primary = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:**Hydrograph**

18462 PRE

Prepared by Sebago Technics

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Type III 24-hr 25-YR Rainfall=6.20"

Printed 6/11/2024

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=4.81"
Flow Length=462' Tc=21.9 min CN=WQ Runoff=26.2 cfs 3.015 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=4.90"
Flow Length=900' Tc=44.7 min CN=WQ Runoff=25.2 cfs 4.041 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=4.98"
Flow Length=245' Tc=38.4 min CN=WQ Runoff=21.7 cfs 3.241 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=5.38"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=9.9 cfs 0.802 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=5.24"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=164.4 cfs 28.817 af

Pond 4P: CB - Elm Street Peak Elev=58.31' Inflow=9.9 cfs 0.802 af
Primary=5.0 cfs 0.741 af Secondary=4.9 cfs 0.061 af Outflow=9.9 cfs 0.802 af

Pond 5P: Box Culvert - Railroad Peak Elev=63.99' Inflow=164.4 cfs 28.817 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=164.4 cfs 28.817 af

Pond 51P: Box Culvert - Slab Top Peak Elev=55.37' Inflow=164.4 cfs 28.817 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=164.4 cfs 28.817 af

Pond 52P: 42" RCP Outfall Peak Elev=60.75' Inflow=164.4 cfs 28.817 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=164.4 cfs 28.817 af

Link POA-1: Inflow=26.2 cfs 3.015 af
Primary=26.2 cfs 3.015 af

Link POA-2: Inflow=188.8 cfs 32.859 af
Primary=188.8 cfs 32.859 af

Link POA-3: Inflow=21.7 cfs 3.241 af
Primary=21.7 cfs 3.241 af

Link POA-4: Inflow=9.9 cfs 0.802 af
Primary=9.9 cfs 0.802 af

Total Runoff Area = 93.1 ac Runoff Volume = 39.917 af Average Runoff Depth = 5.15"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

Summary for Subcatchment 1S:

Runoff = 26.2 cfs @ 12.29 hrs, Volume= 3.015 af, Depth= 4.81"
 Routed to Link POA-1 :

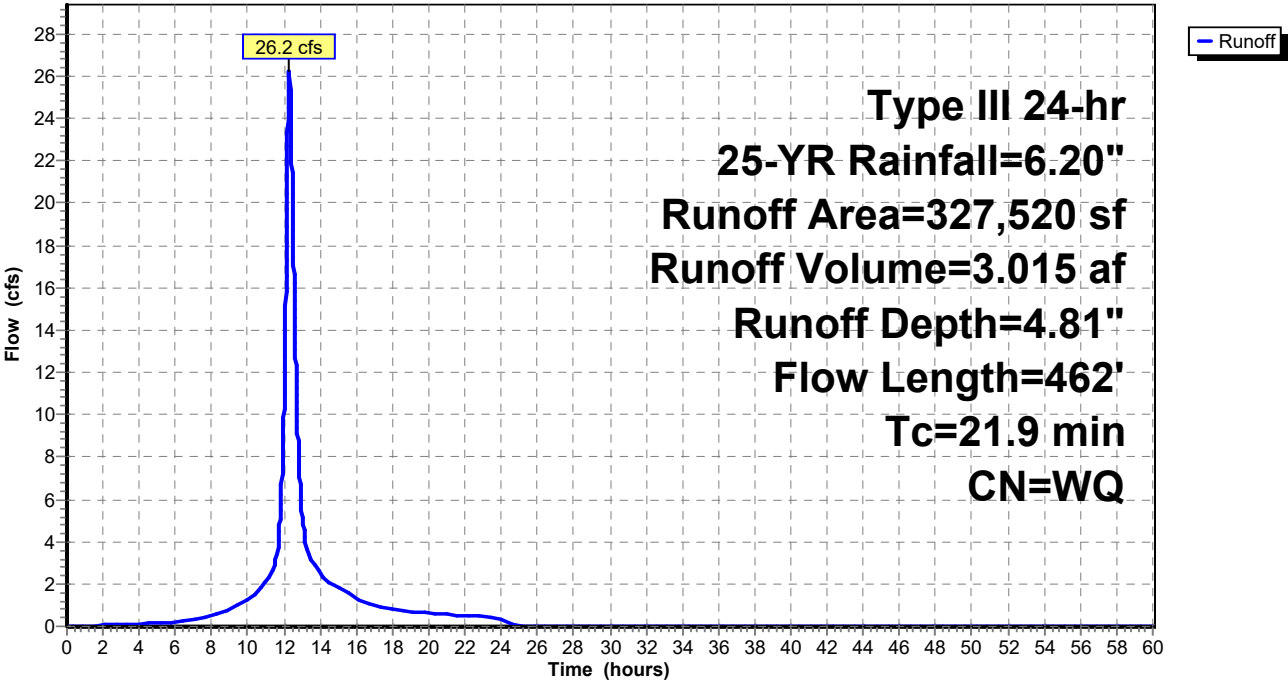
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 43,380 | 98 | Paved roads w/curbs & sewers, HSG D |
| 10,860 | 96 | Gravel surface, HSG D |
| 48,110 | 89 | <50% Grass cover, Poor, HSG D |
| 192,580 | 83 | Woods, Poor, HSG D |
| 327,520 | | Weighted Average |
| 251,550 | | 76.80% Pervious Area |
| 75,970 | | 23.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 2.5 | 253 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 12 | 0.0200 | 2.28 | | Shallow Concentrated Flow, C-D |
| | | | | | Unpaved Kv= 16.1 fps |
| 1.3 | 97 | 0.0600 | 1.22 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 21.9 | 462 | Total | | | |

Subcatchment 1S:

Hydrograph



Summary for Subcatchment 2S:

Runoff = 25.2 cfs @ 12.57 hrs, Volume= 4.041 af, Depth= 4.90"
 Routed to Link POA-2 :

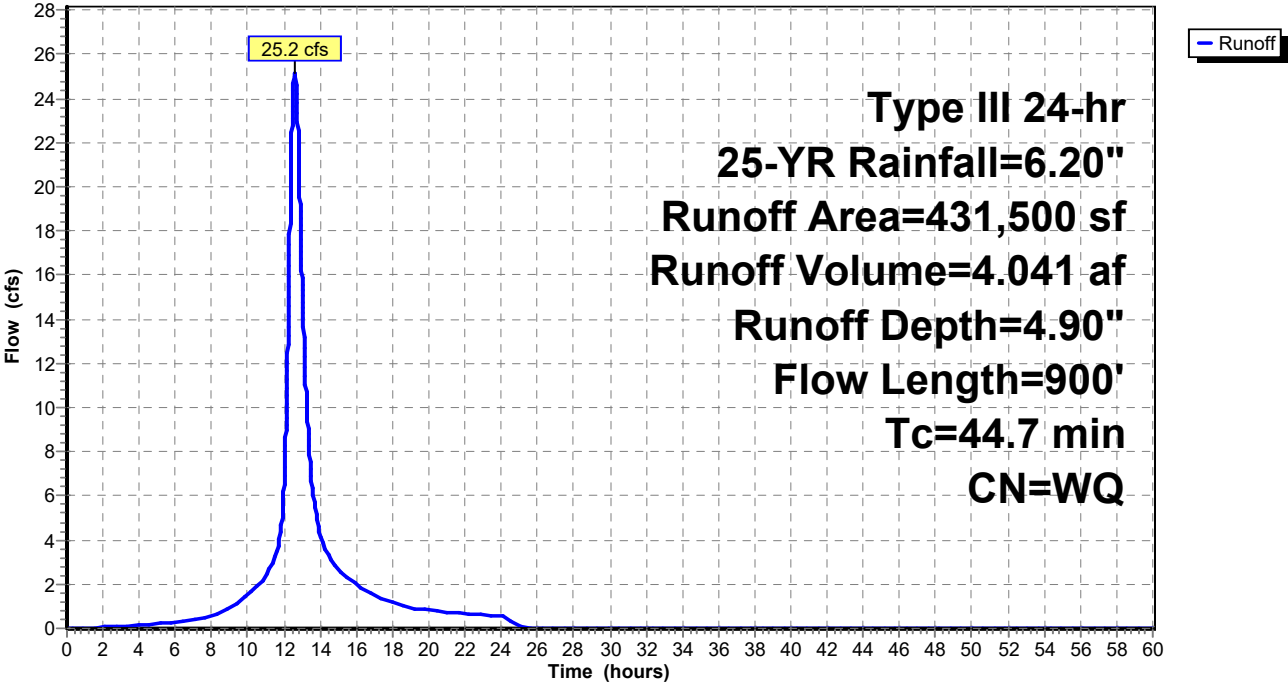
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,020 | 98 | Roofs, HSG D |
| 60,820 | 98 | Paved parking, HSG D |
| 62,700 | 96 | Gravel surface, HSG D |
| 81,780 | 89 | <50% Grass cover, Poor, HSG D |
| 214,180 | 83 | Woods, Poor, HSG D |
| 431,500 | | Weighted Average |
| 358,660 | | 83.12% Pervious Area |
| 72,840 | | 16.88% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 15 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 1.8 | 225 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 20 | 0.0200 | 2.87 | | Shallow Concentrated Flow, E-F |
| | | | | | Paved Kv= 20.3 fps |
| 3.3 | 140 | 0.0200 | 0.71 | | Shallow Concentrated Flow, F-G |
| | | | | | Woodland Kv= 5.0 fps |
| 1.4 | 300 | 0.0300 | 3.52 | | Shallow Concentrated Flow, G-H |
| | | | | | Paved Kv= 20.3 fps |
| 0.3 | 30 | 0.1000 | 1.58 | | Shallow Concentrated Flow, H-I |
| | | | | | Woodland Kv= 5.0 fps |
| 44.7 | 900 | Total | | | |

Subcatchment 2S:

Hydrograph



Summary for Subcatchment 3S:

Runoff = 21.7 cfs @ 12.50 hrs, Volume= 3.241 af, Depth= 4.98"
 Routed to Link POA-3 :

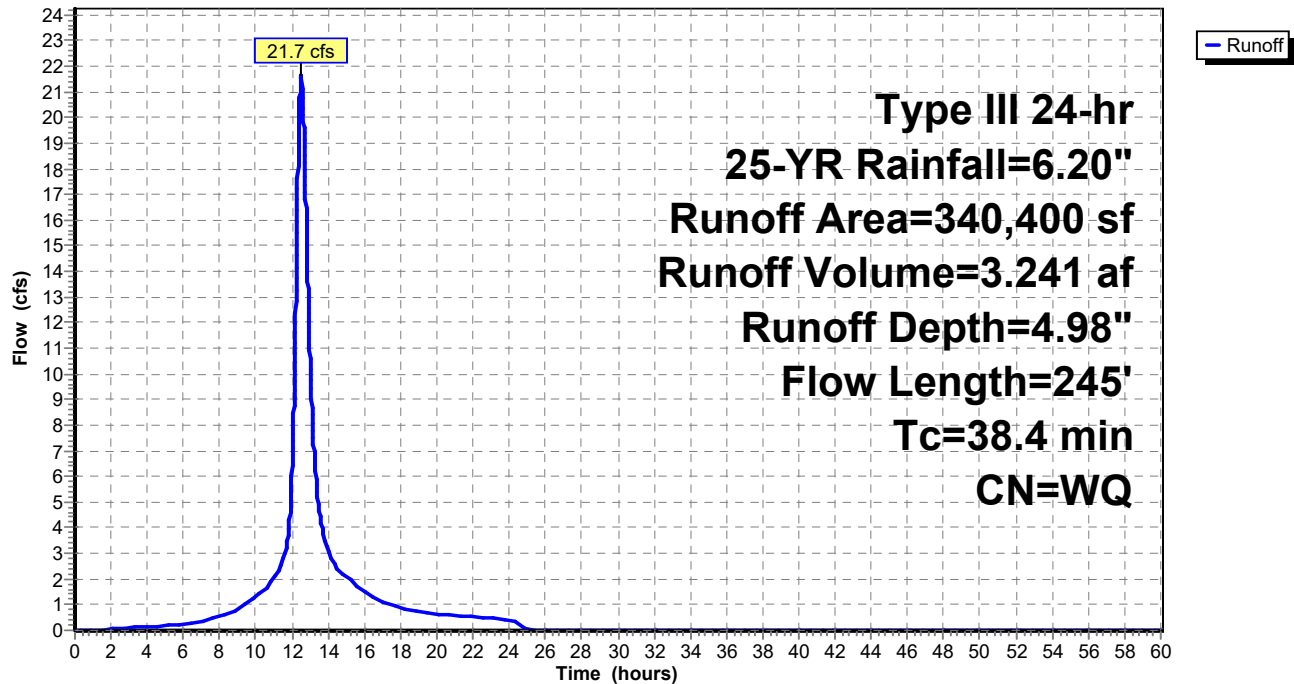
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 47,760 | 98 | Roofs, HSG D |
| 49,720 | 98 | Paved roads w/curbs & sewers, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 53,370 | 89 | <50% Grass cover, Poor, HSG D |
| 162,440 | 83 | Woods, Poor, HSG D |
| 340,400 | | Weighted Average |
| 242,920 | | 71.36% Pervious Area |
| 97,480 | | 28.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3300 | 2.87 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 10 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 0.6 | 65 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 38.4 | 245 | Total | | | |

Subcatchment 3S:

Hydrograph



18462 PRE

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Type III 24-hr 25-YR Rainfall=6.20"

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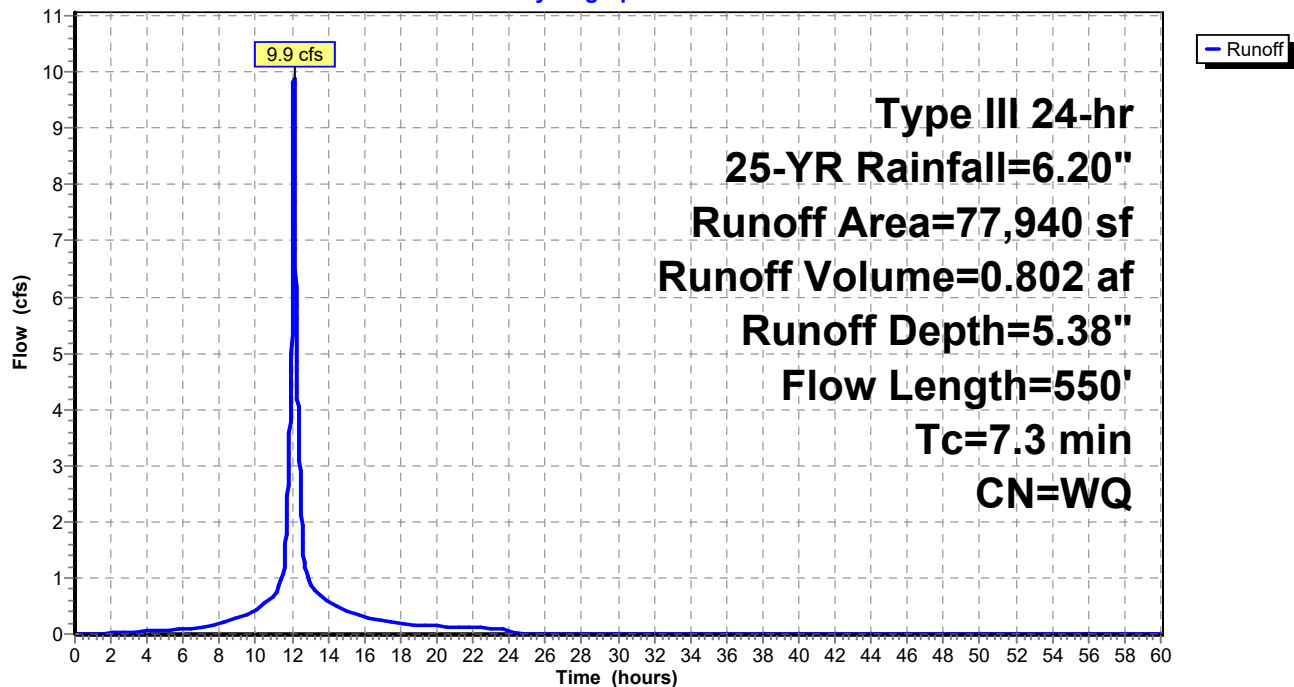
Summary for Subcatchment 4S:

Runoff = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"
 Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

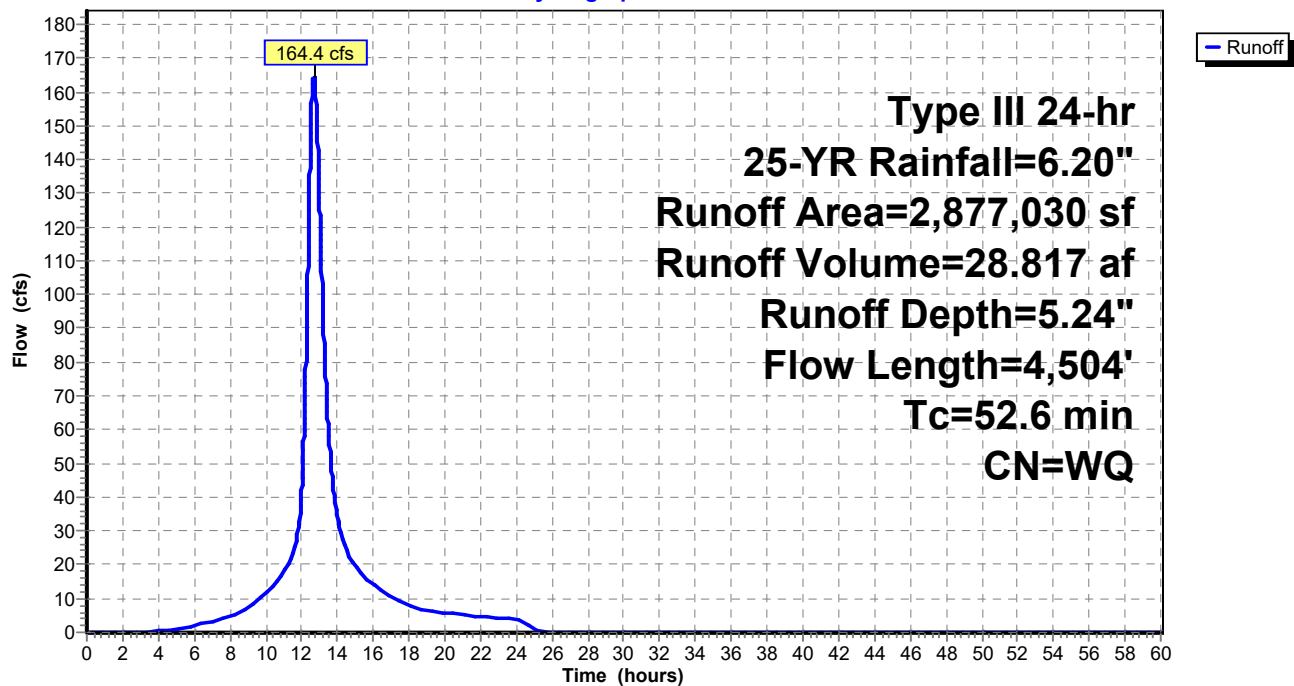
Summary for Subcatchment 5S:

Runoff = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af, Depth= 5.24"
 Routed to Pond 5P : Box Culvert - Railroad

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,788,450 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,580 | 83 | Woods, Poor, HSG D |
| 2,877,030 | | Weighted Average |
| 1,064,538 | | 37.00% Pervious Area |
| 1,812,493 | | 63.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5S:**Hydrograph**

Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.741 af
 Routed to Link POA-4 :
 Secondary = 4.9 cfs @ 12.10 hrs, Volume= 0.061 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.31' @ 12.10 hrs

Flood Elev= 58.25'

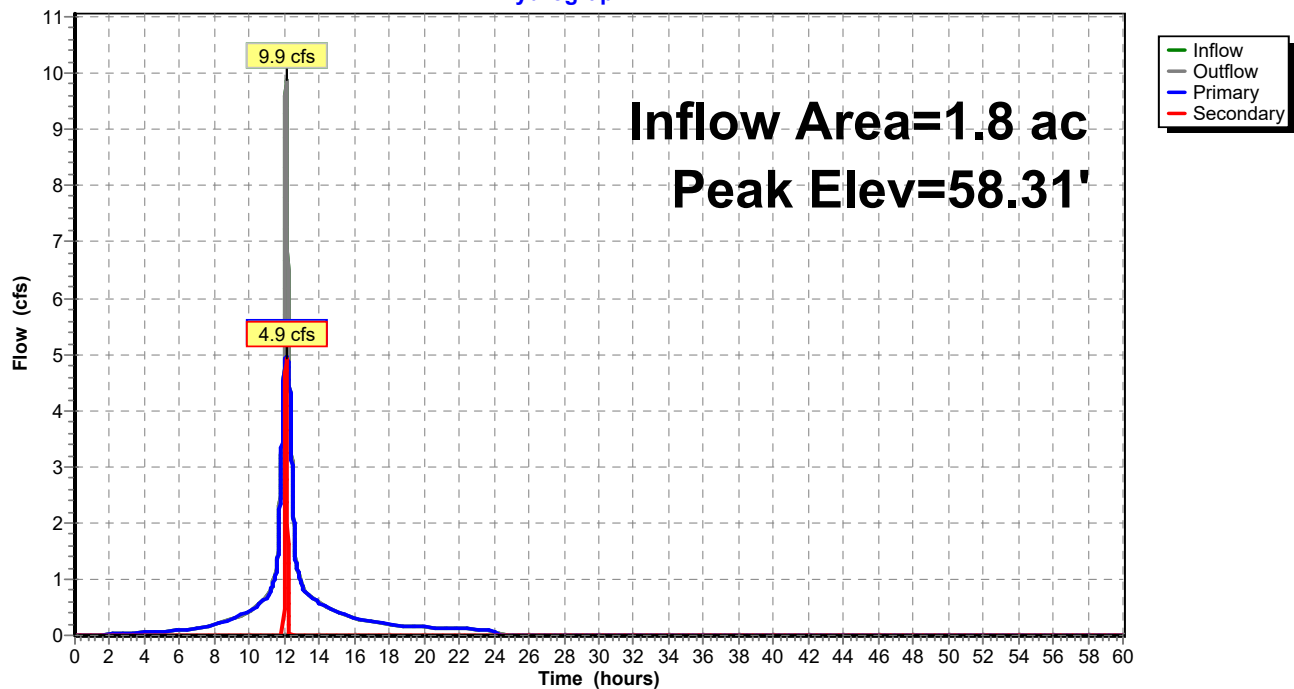
| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.31' (Free Discharge)

↑**1=Culvert** (Barrel Controls 5.0 cfs @ 4.03 fps)

Secondary OutFlow Max=4.9 cfs @ 12.10 hrs HW=58.31' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.9 cfs @ 1.59 fps)

Pond 4P: CB - Elm Street**Hydrograph**

Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Outflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af, Atten= 0%, Lag= 0.0 min
 Primary = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.99' @ 12.68 hrs

Flood Elev= 75.77'

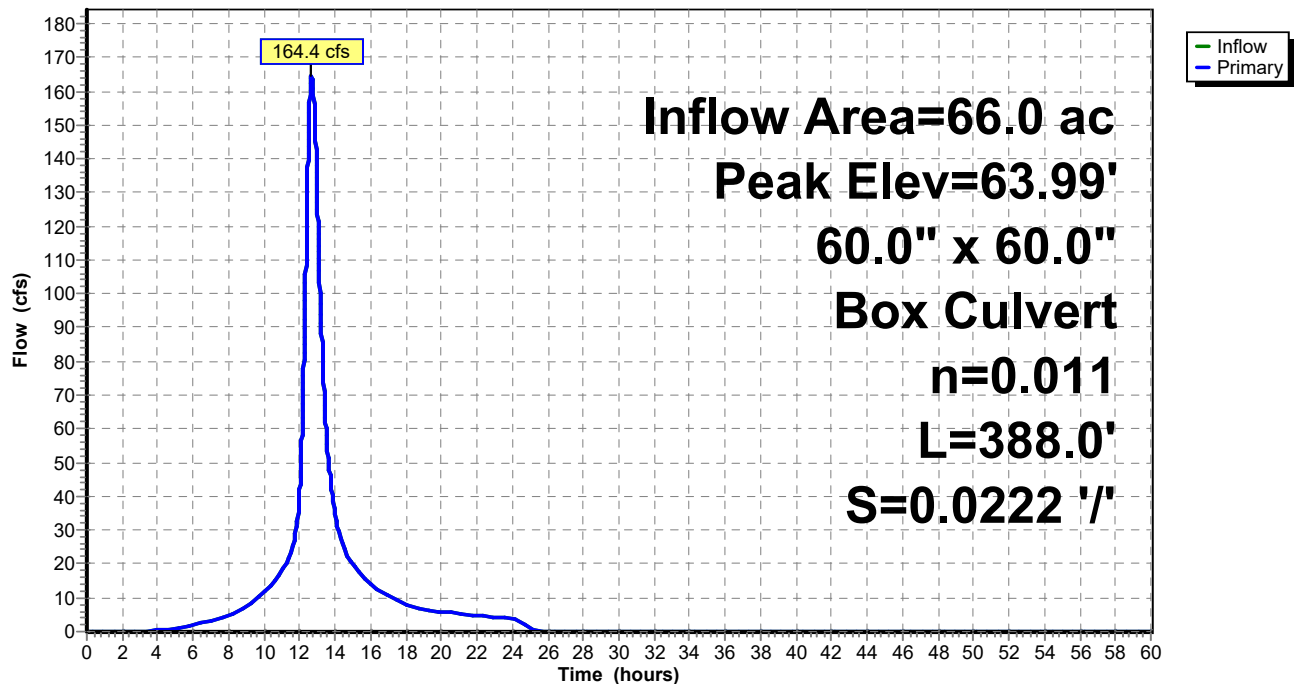
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=164.3 cfs @ 12.68 hrs HW=63.99' (Free Discharge)

↑1=Culvert (Inlet Controls 164.3 cfs @ 6.97 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Outflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af, Atten= 0%, Lag= 0.0 min
 Primary = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Routed to Pond 52P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 55.37' @ 12.68 hrs

Flood Elev= 55.65'

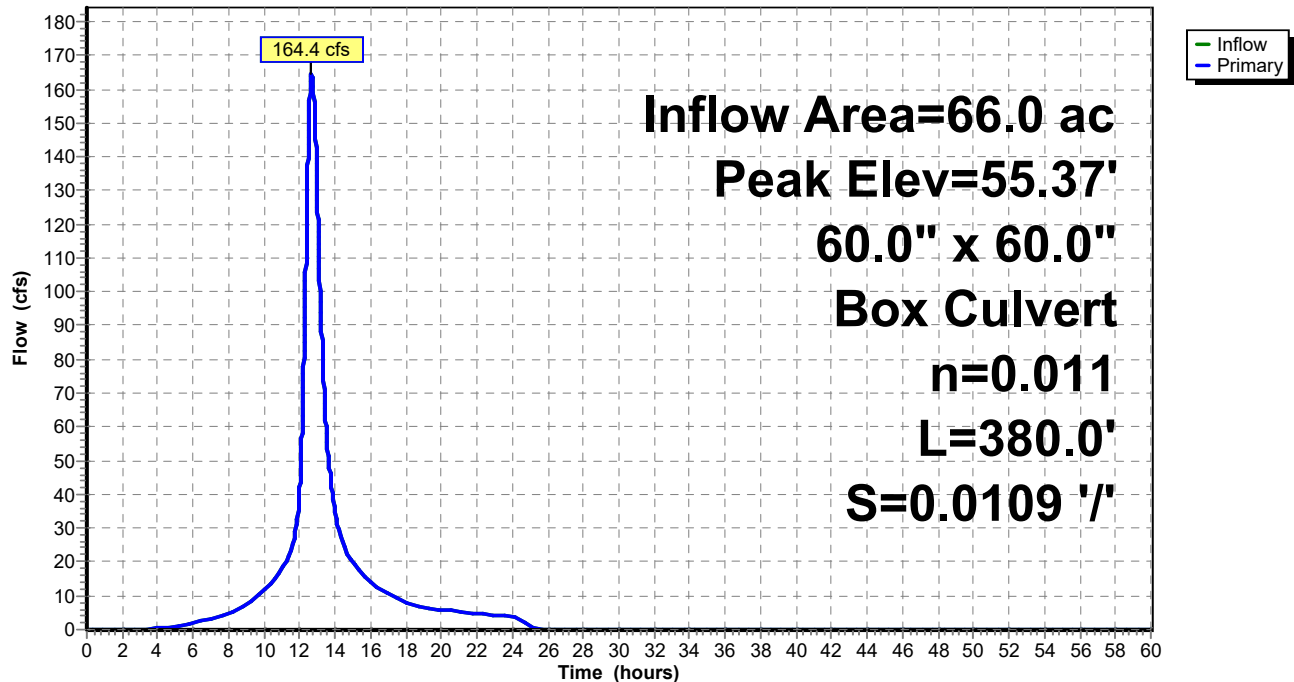
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=164.4 cfs @ 12.68 hrs HW=55.37' (Free Discharge)

↑1=Culvert (Inlet Controls 164.4 cfs @ 6.97 fps)

Pond 51P: Box Culvert - Slab Top

Hydrograph



Summary for Pond 52P: 42" RCP Outfall

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Outflow = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af, Atten= 0%, Lag= 0.0 min
 Primary = 164.4 cfs @ 12.68 hrs, Volume= 28.817 af
 Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

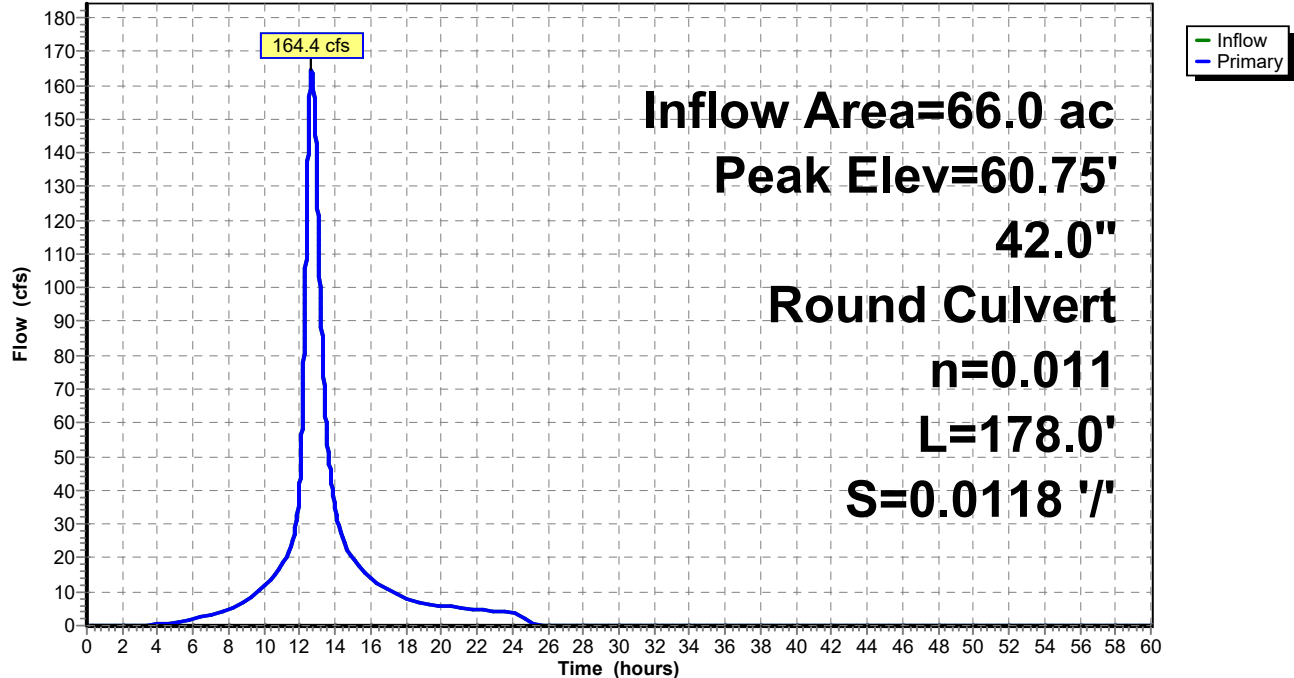
Peak Elev= 60.75' @ 12.68 hrs

Flood Elev= 57.74'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 46.40' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.40' / 44.30' S= 0.0118 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=164.4 cfs @ 12.68 hrs HW=60.74' (Free Discharge)

↑1=Culvert (Inlet Controls 164.4 cfs @ 17.08 fps)

Pond 52P: 42" RCP Outfall**Hydrograph**

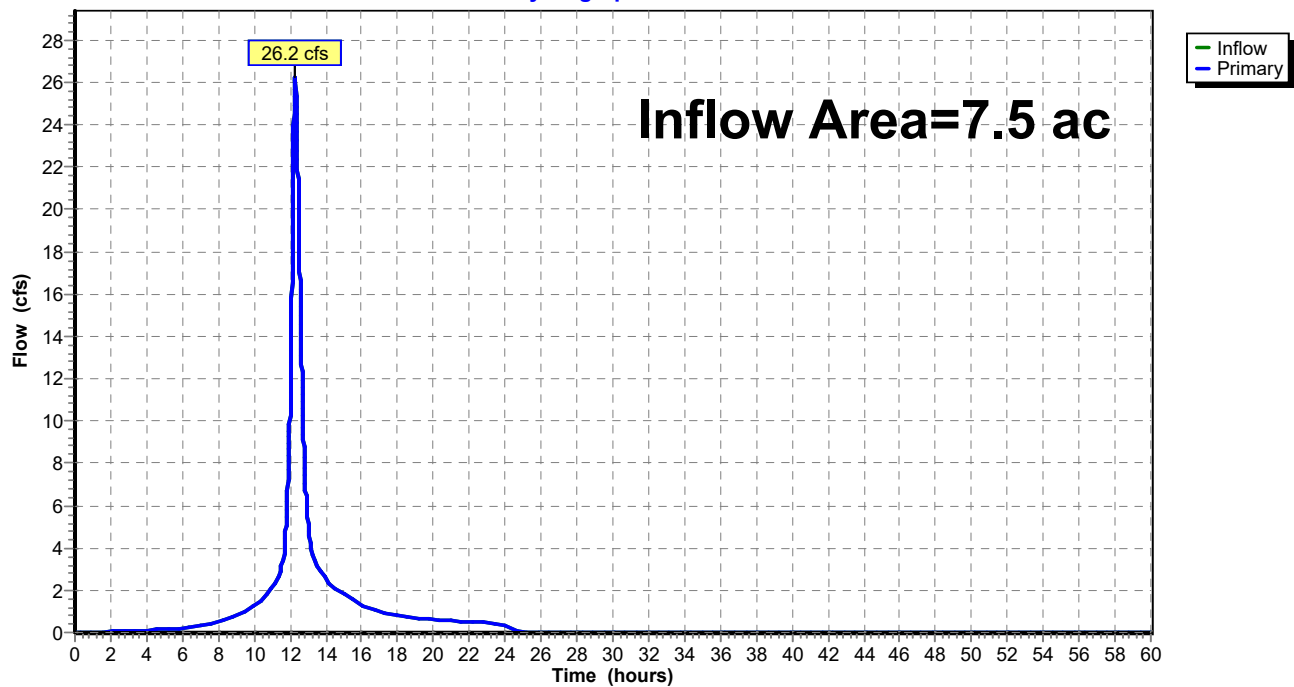
Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 4.81" for 25-YR event
Inflow = 26.2 cfs @ 12.29 hrs, Volume= 3.015 af
Primary = 26.2 cfs @ 12.29 hrs, Volume= 3.015 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



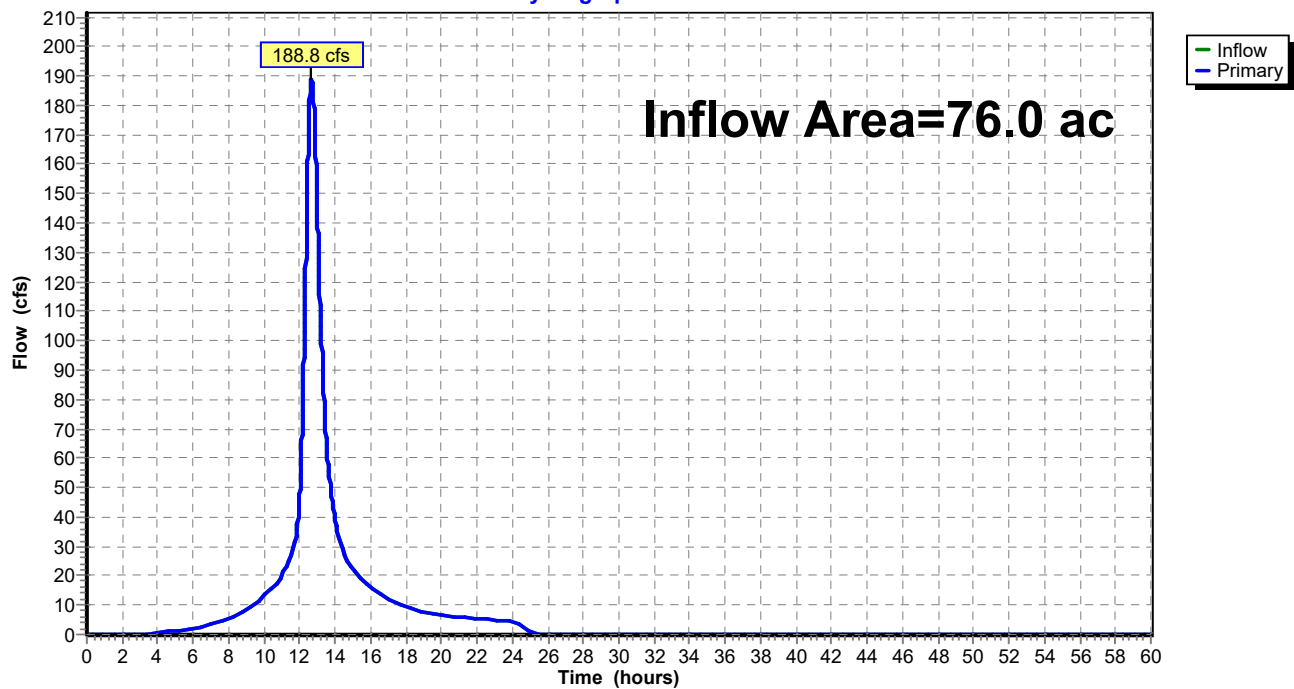
Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 5.19" for 25-YR event
Inflow = 188.8 cfs @ 12.68 hrs, Volume= 32.859 af
Primary = 188.8 cfs @ 12.68 hrs, Volume= 32.859 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



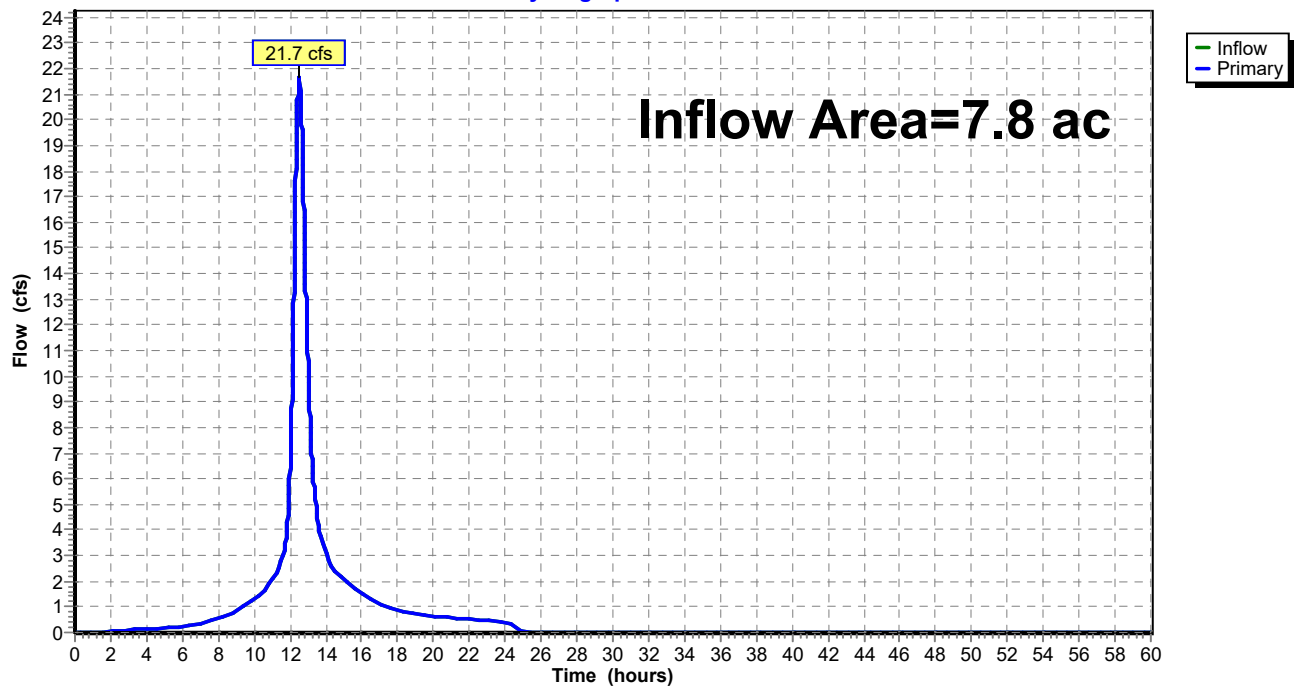
Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 4.98" for 25-YR event
Inflow = 21.7 cfs @ 12.50 hrs, Volume= 3.241 af
Primary = 21.7 cfs @ 12.50 hrs, Volume= 3.241 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

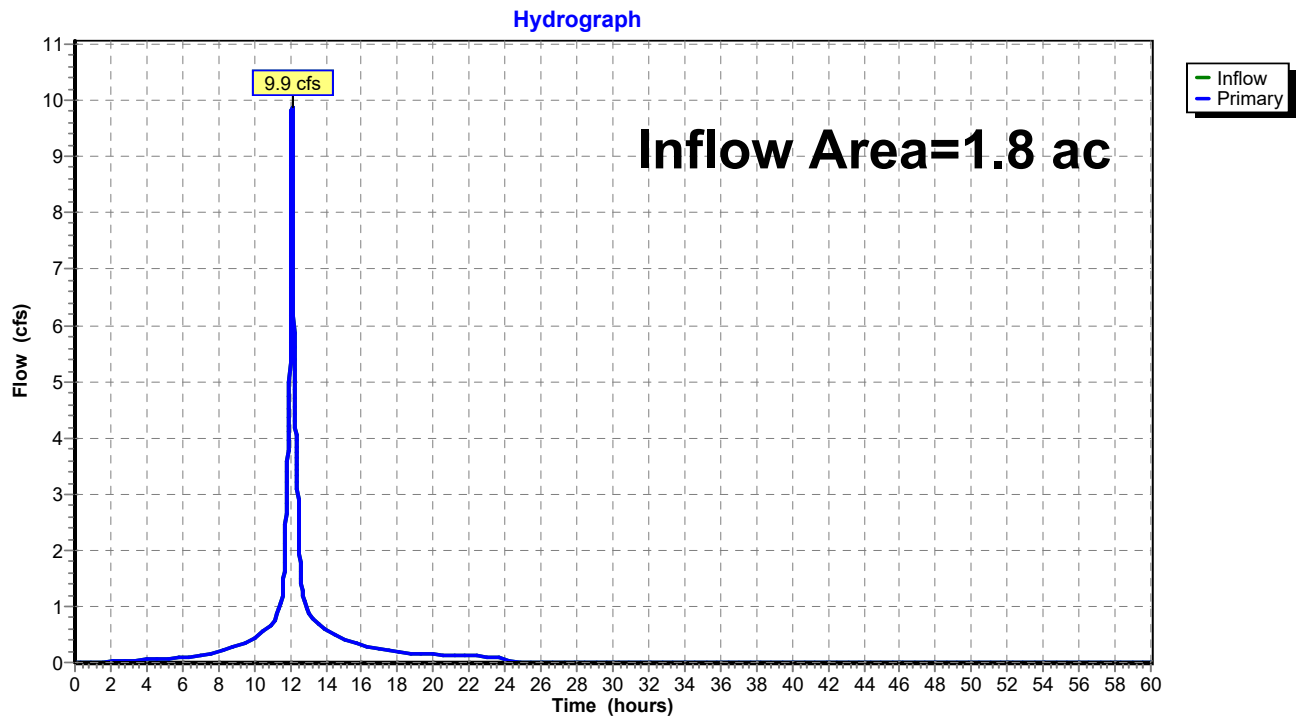
Hydrograph



Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
Inflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af
Primary = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

18462 PRE

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Type III 24-hr 50-YR Rainfall=7.30"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=5.87"
Flow Length=462' Tc=21.9 min CN=WQ Runoff=31.8 cfs 3.677 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=5.96"
Flow Length=900' Tc=44.7 min CN=WQ Runoff=30.4 cfs 4.918 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=6.04"
Flow Length=245' Tc=38.4 min CN=WQ Runoff=26.1 cfs 3.934 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=6.46"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=11.8 cfs 0.964 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=6.32"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=196.6 cfs 34.780 af

Pond 4P: CB - Elm Street Peak Elev=58.38' Inflow=11.8 cfs 0.964 af
Primary=5.0 cfs 0.865 af Secondary=6.8 cfs 0.099 af Outflow=11.8 cfs 0.964 af

Pond 5P: Box Culvert - Railroad Peak Elev=64.65' Inflow=196.6 cfs 34.780 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=196.6 cfs 34.780 af

Pond 51P: Box Culvert - Slab Top Peak Elev=56.03' Inflow=196.6 cfs 34.780 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=196.6 cfs 34.780 af

Pond 52P: 42" RCP Outfall Peak Elev=66.16' Inflow=196.6 cfs 34.780 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=196.6 cfs 34.780 af

Link POA-1: Inflow=31.8 cfs 3.677 af
Primary=31.8 cfs 3.677 af

Link POA-2: Inflow=226.1 cfs 39.697 af
Primary=226.1 cfs 39.697 af

Link POA-3: Inflow=26.1 cfs 3.934 af
Primary=26.1 cfs 3.934 af

Link POA-4: Inflow=11.8 cfs 0.964 af
Primary=11.8 cfs 0.964 af

Total Runoff Area = 93.1 ac Runoff Volume = 48.272 af Average Runoff Depth = 6.22"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

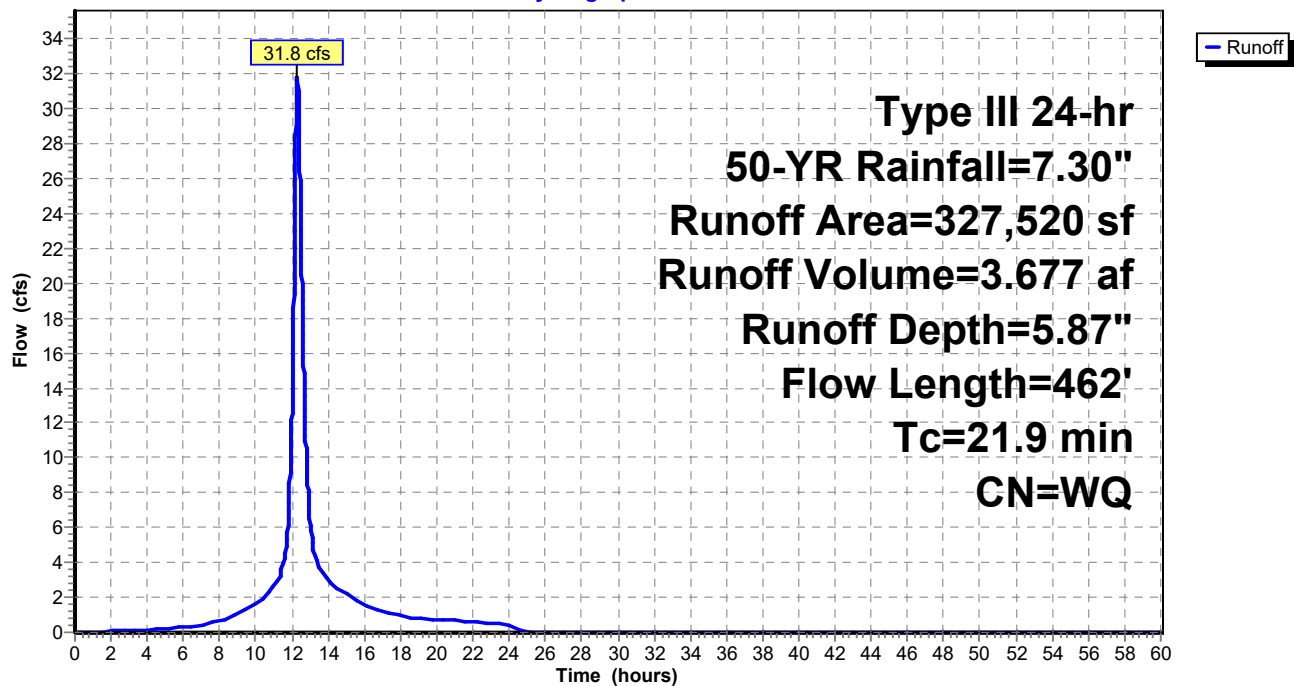
Summary for Subcatchment 1S:

Runoff = 31.8 cfs @ 12.29 hrs, Volume= 3.677 af, Depth= 5.87"
 Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 43,380 | 98 | Paved roads w/curbs & sewers, HSG D |
| 10,860 | 96 | Gravel surface, HSG D |
| 48,110 | 89 | <50% Grass cover, Poor, HSG D |
| 192,580 | 83 | Woods, Poor, HSG D |
| 327,520 | | Weighted Average |
| 251,550 | | 76.80% Pervious Area |
| 75,970 | | 23.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 2.5 | 253 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 12 | 0.0200 | 2.28 | | Shallow Concentrated Flow, C-D
Unpaved Kv= 16.1 fps |
| 1.3 | 97 | 0.0600 | 1.22 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 21.9 | 462 | Total | | | |

Subcatchment 1S:**Hydrograph**

Summary for Subcatchment 2S:

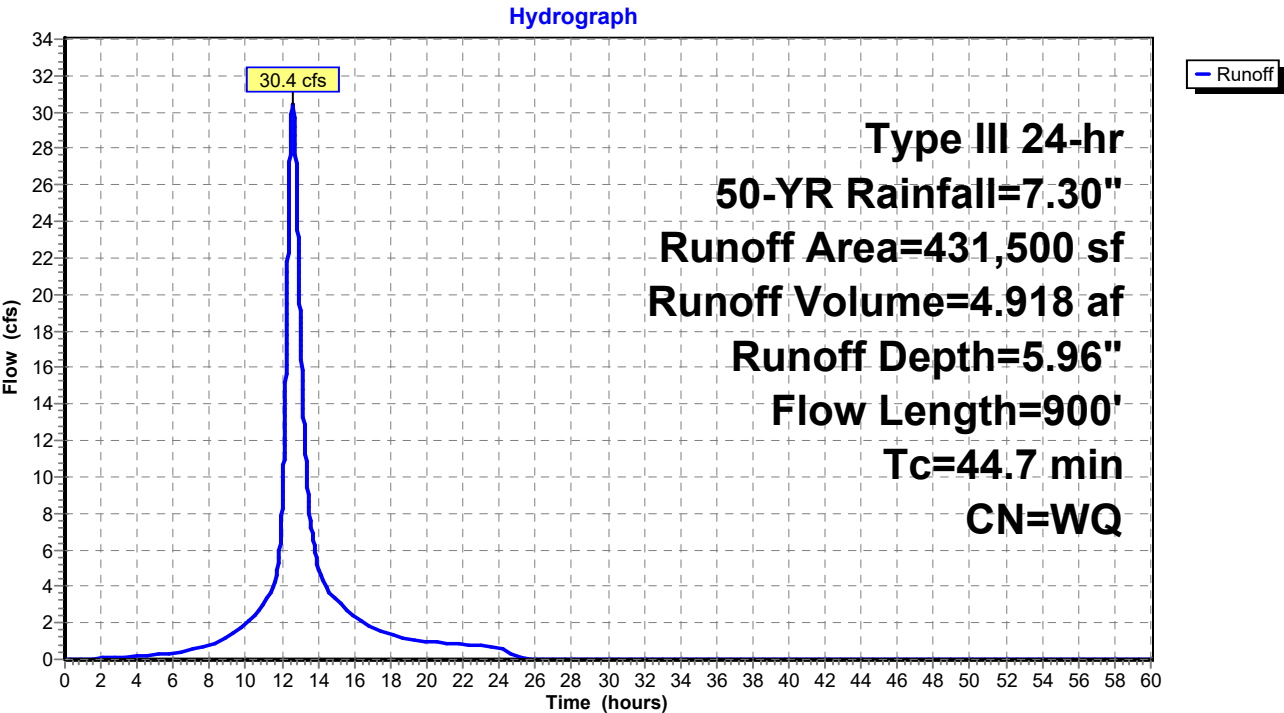
Runoff = 30.4 cfs @ 12.57 hrs, Volume= 4.918 af, Depth= 5.96"
 Routed to Link POA-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,020 | 98 | Roofs, HSG D |
| 60,820 | 98 | Paved parking, HSG D |
| 62,700 | 96 | Gravel surface, HSG D |
| 81,780 | 89 | <50% Grass cover, Poor, HSG D |
| 214,180 | 83 | Woods, Poor, HSG D |
| 431,500 | | Weighted Average |
| 358,660 | | 83.12% Pervious Area |
| 72,840 | | 16.88% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 15 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 1.8 | 225 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 20 | 0.0200 | 2.87 | | Shallow Concentrated Flow, E-F |
| | | | | | Paved Kv= 20.3 fps |
| 3.3 | 140 | 0.0200 | 0.71 | | Shallow Concentrated Flow, F-G |
| | | | | | Woodland Kv= 5.0 fps |
| 1.4 | 300 | 0.0300 | 3.52 | | Shallow Concentrated Flow, G-H |
| | | | | | Paved Kv= 20.3 fps |
| 0.3 | 30 | 0.1000 | 1.58 | | Shallow Concentrated Flow, H-I |
| | | | | | Woodland Kv= 5.0 fps |
| 44.7 | 900 | Total | | | |

Subcatchment 2S:



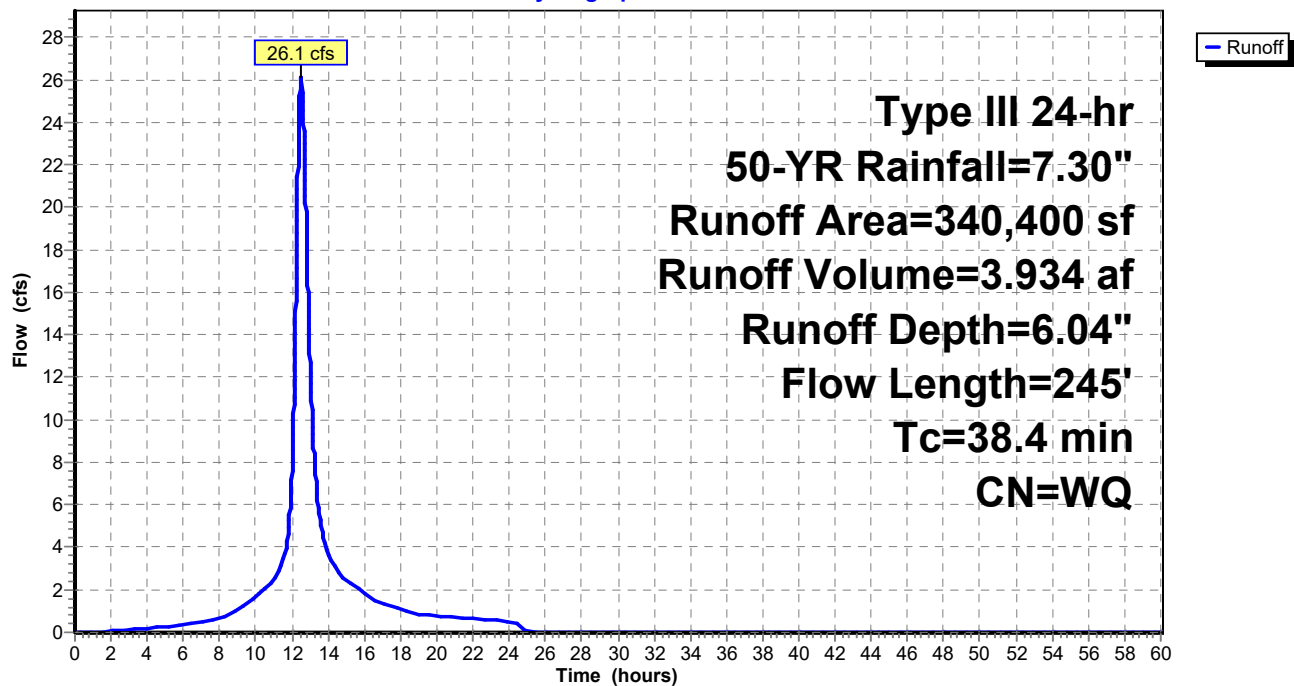
Summary for Subcatchment 3S:

Runoff = 26.1 cfs @ 12.50 hrs, Volume= 3.934 af, Depth= 6.04"
 Routed to Link POA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 47,760 | 98 | Roofs, HSG D |
| 49,720 | 98 | Paved roads w/curbs & sewers, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 53,370 | 89 | <50% Grass cover, Poor, HSG D |
| 162,440 | 83 | Woods, Poor, HSG D |
| 340,400 | | Weighted Average |
| 242,920 | | 71.36% Pervious Area |
| 97,480 | | 28.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3300 | 2.87 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 10 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 0.6 | 65 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 38.4 | 245 | Total | | | |

Subcatchment 3S:**Hydrograph**

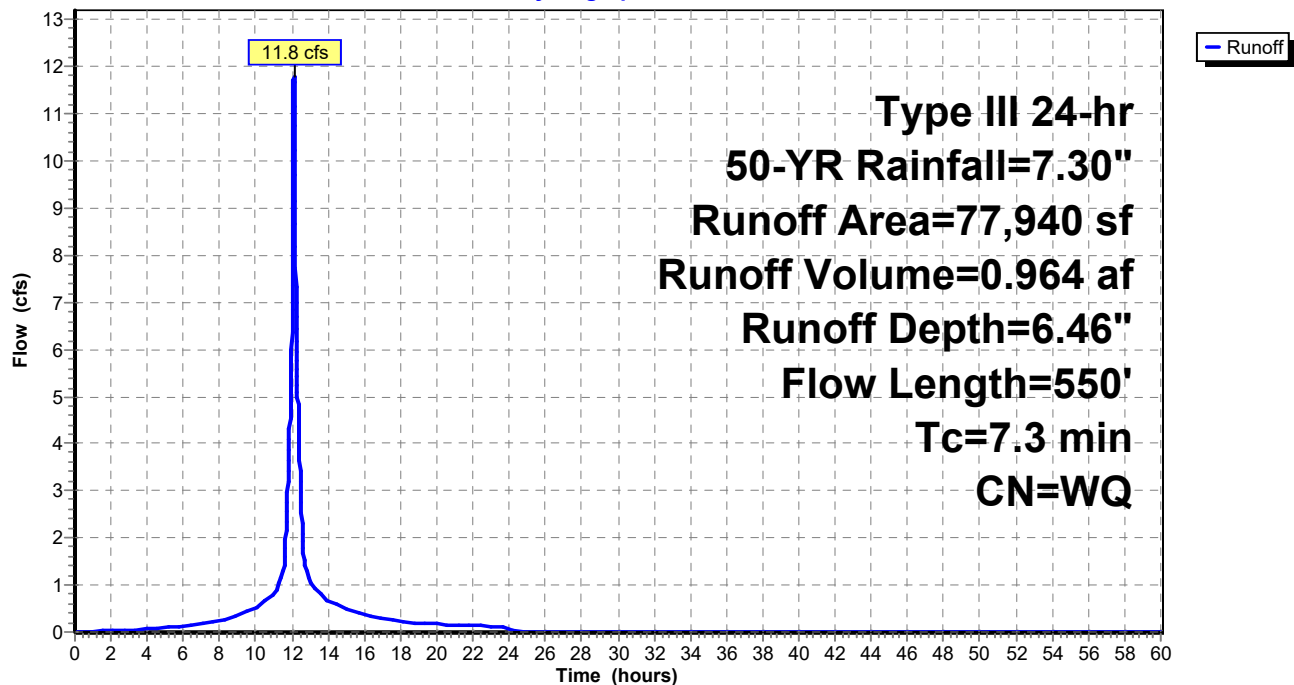
Summary for Subcatchment 4S:

Runoff = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Depth= 6.46"
 Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

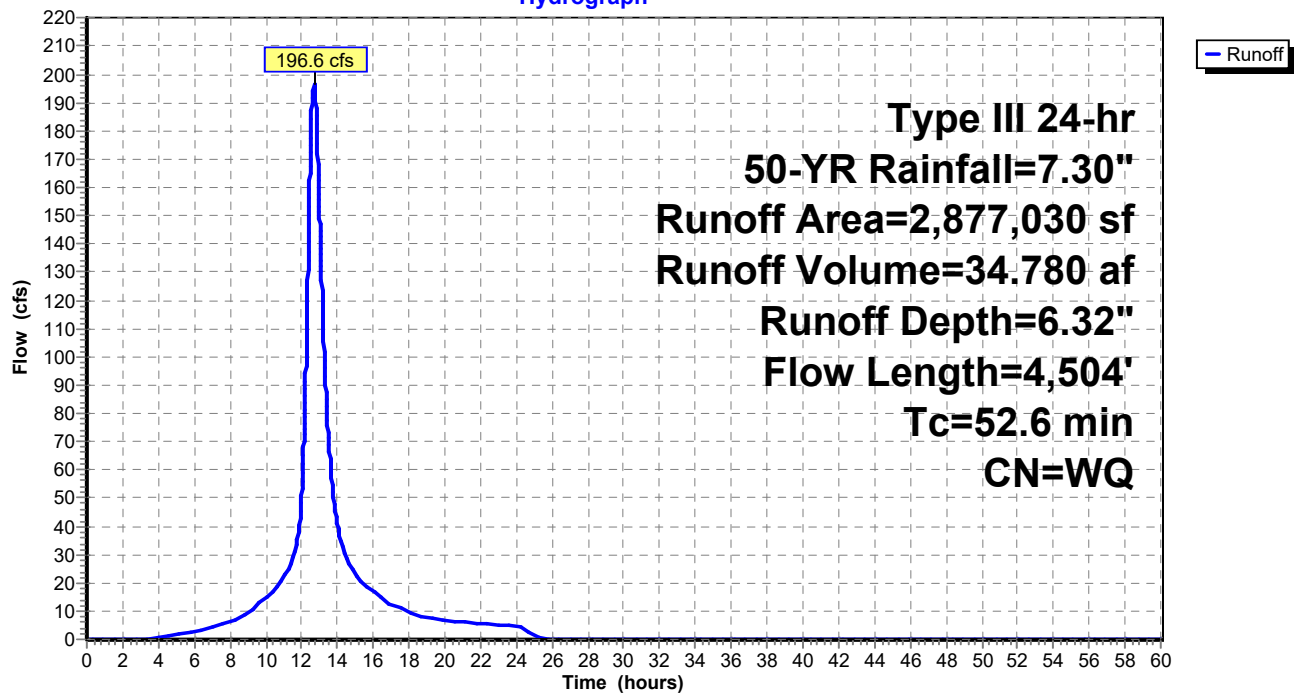
Summary for Subcatchment 5S:

Runoff = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af, Depth= 6.32"
 Routed to Pond 5P : Box Culvert - Railroad

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,788,450 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,580 | 83 | Woods, Poor, HSG D |
| 2,877,030 | | Weighted Average |
| 1,064,538 | | 37.00% Pervious Area |
| 1,812,493 | | 63.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D
Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E
Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5S:**Hydrograph**

Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 6.46" for 50-YR event
 Inflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af
 Outflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.865 af
 Routed to Link POA-4 :
 Secondary = 6.8 cfs @ 12.10 hrs, Volume= 0.099 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.38' @ 12.10 hrs

Flood Elev= 58.25'

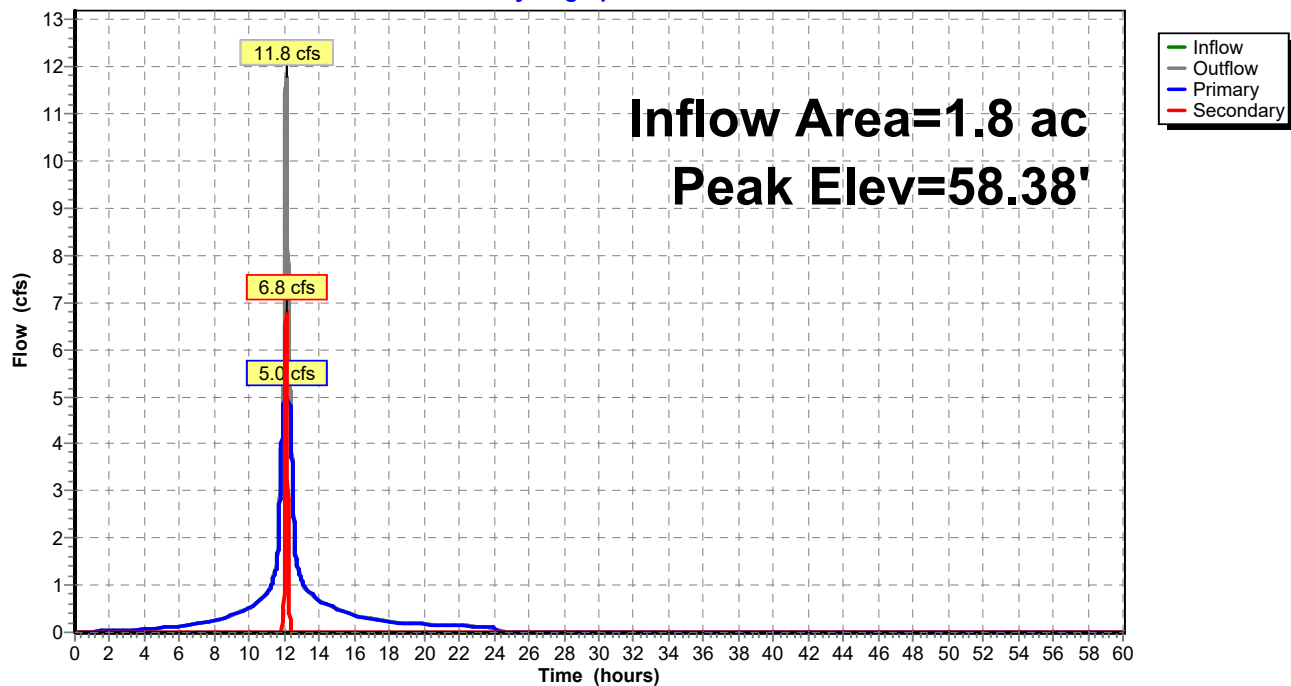
| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.38' (Free Discharge)

↑**1=Culvert** (Barrel Controls 5.0 cfs @ 4.06 fps)

Secondary OutFlow Max=6.8 cfs @ 12.10 hrs HW=58.38' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 6.8 cfs @ 1.79 fps)

Pond 4P: CB - Elm Street**Hydrograph**

Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 6.32" for 50-YR event
 Inflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Outflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af, Atten= 0%, Lag= 0.0 min
 Primary = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

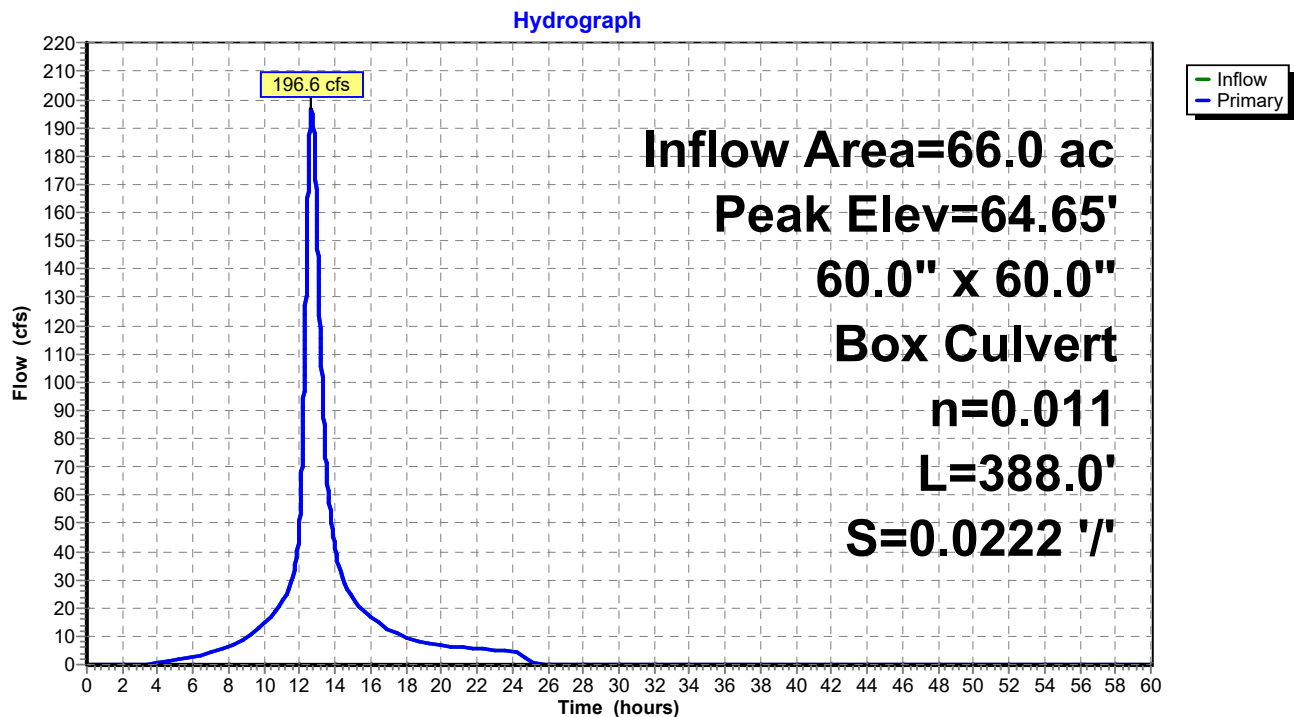
Peak Elev= 64.65' @ 12.68 hrs

Flood Elev= 75.77'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=196.6 cfs @ 12.68 hrs HW=64.65' (Free Discharge)

↑1=Culvert (Inlet Controls 196.6 cfs @ 7.86 fps)

Pond 5P: Box Culvert - Railroad

Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 6.32" for 50-YR event
 Inflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Outflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af, Atten= 0%, Lag= 0.0 min
 Primary = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Routed to Pond 52P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 56.03' @ 12.68 hrs

Flood Elev= 55.65'

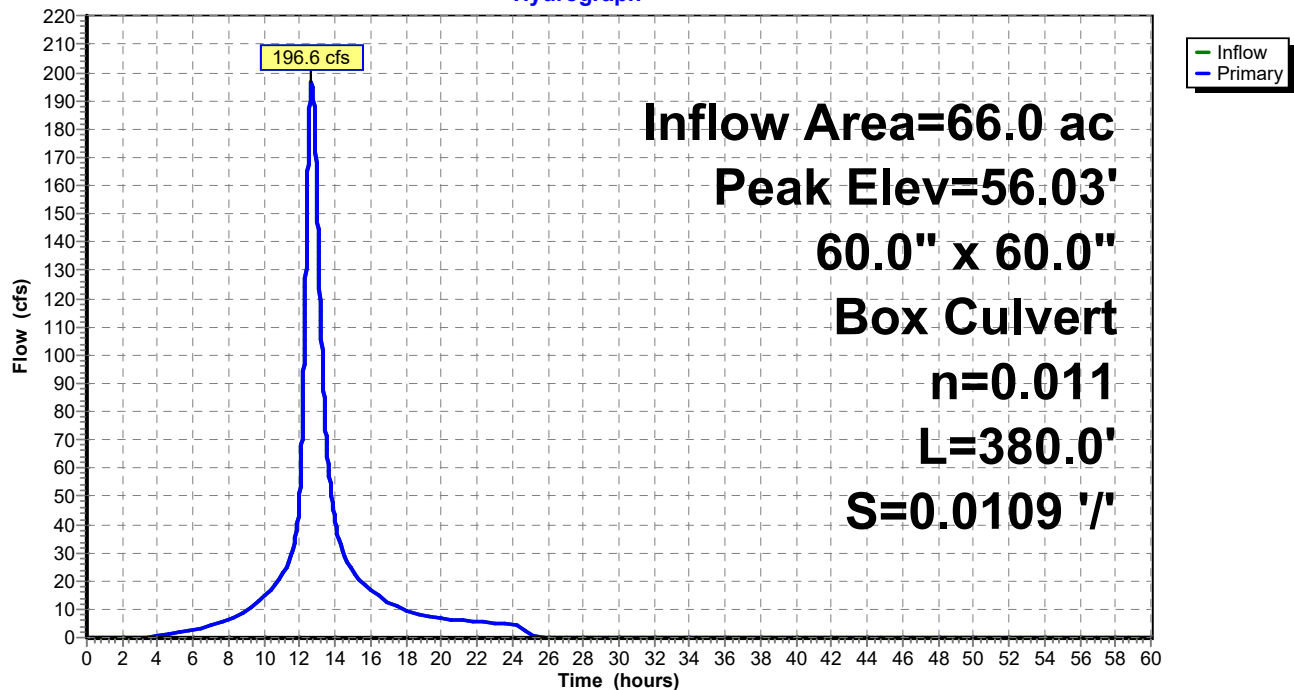
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=196.5 cfs @ 12.68 hrs HW=56.03' (Free Discharge)

↑1=Culvert (Inlet Controls 196.5 cfs @ 7.86 fps)

Pond 51P: Box Culvert - Slab Top

Hydrograph



Summary for Pond 52P: 42" RCP Outfall

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 6.32" for 50-YR event
 Inflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Outflow = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af, Atten= 0%, Lag= 0.0 min
 Primary = 196.6 cfs @ 12.68 hrs, Volume= 34.780 af
 Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

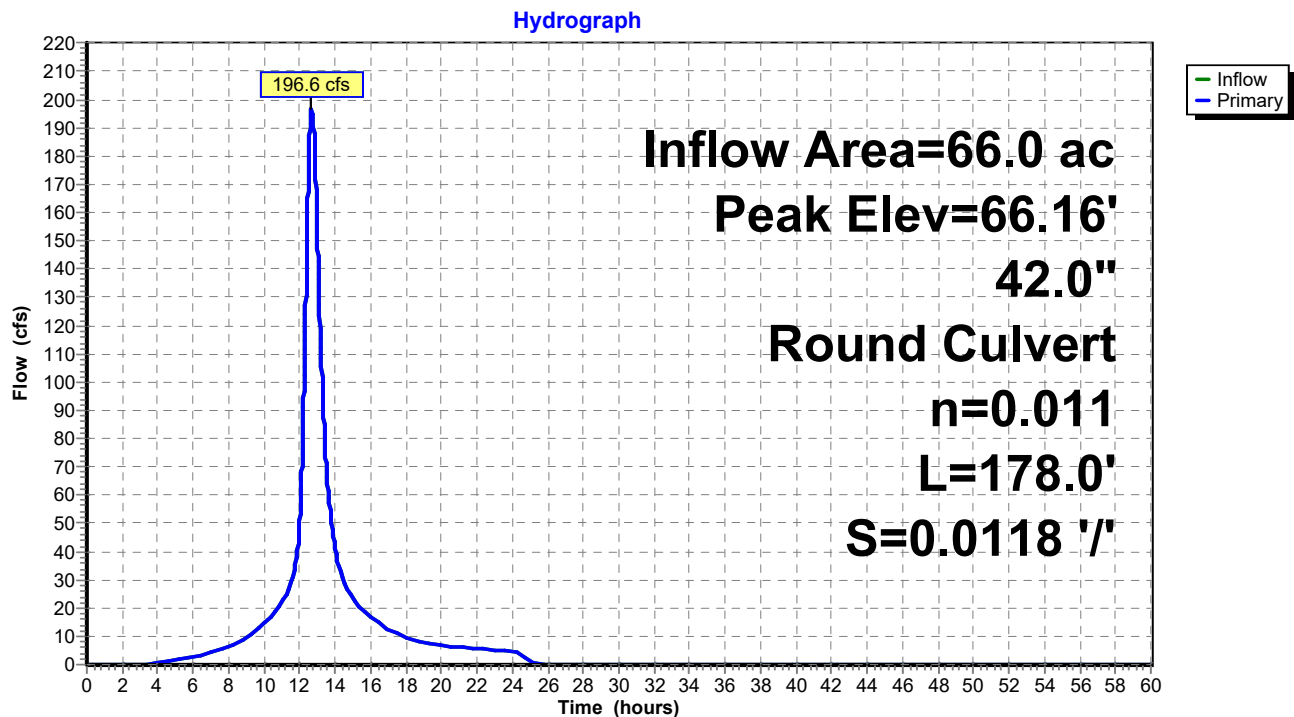
Peak Elev= 66.16' @ 12.68 hrs

Flood Elev= 57.74'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.40' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.40' / 44.30' S= 0.0118 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=196.5 cfs @ 12.68 hrs HW=66.15' (Free Discharge)

↑1=Culvert (Inlet Controls 196.5 cfs @ 20.43 fps)

Pond 52P: 42" RCP Outfall

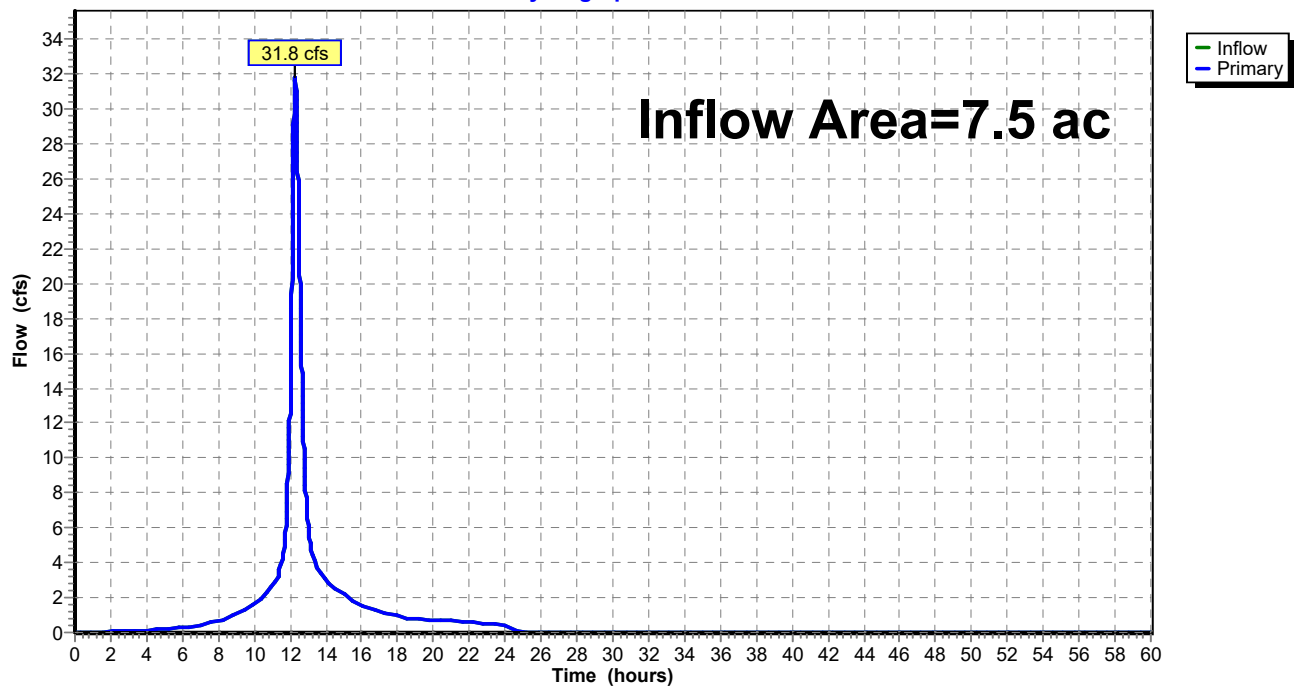
Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 5.87" for 50-YR event
Inflow = 31.8 cfs @ 12.29 hrs, Volume= 3.677 af
Primary = 31.8 cfs @ 12.29 hrs, Volume= 3.677 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

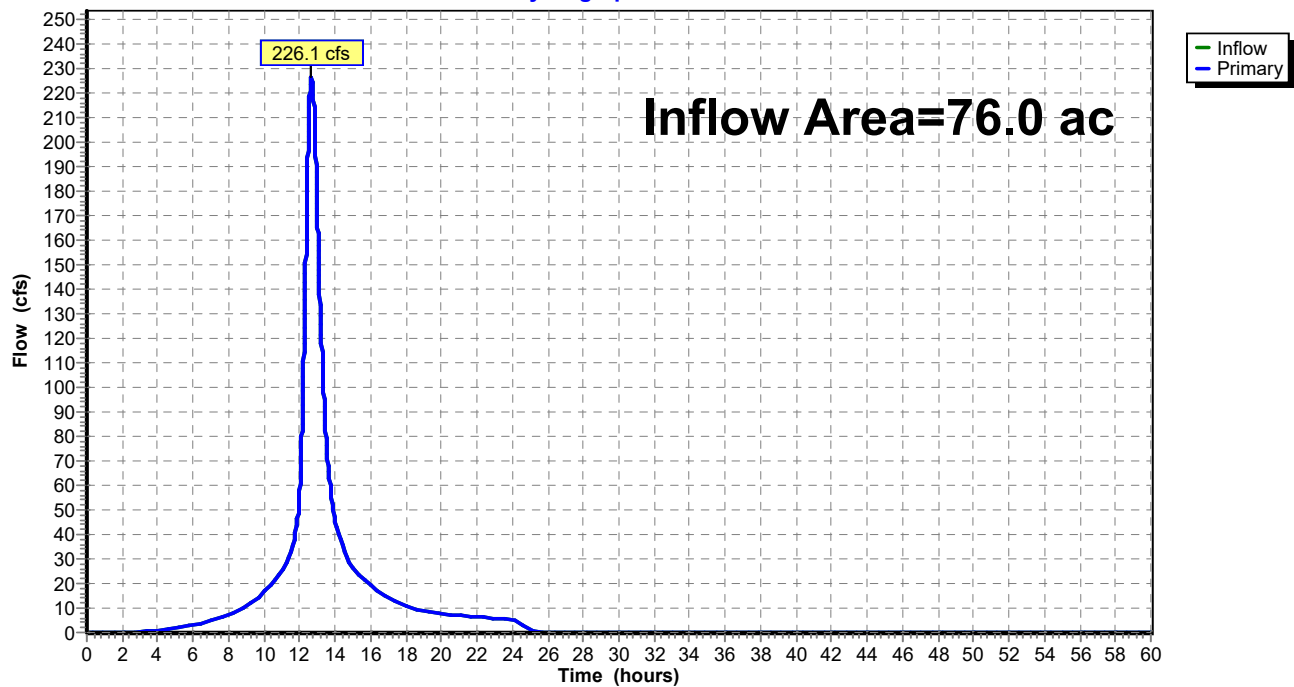
Hydrograph



Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 6.27" for 50-YR event
Inflow = 226.1 cfs @ 12.68 hrs, Volume= 39.697 af
Primary = 226.1 cfs @ 12.68 hrs, Volume= 39.697 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:**Hydrograph**

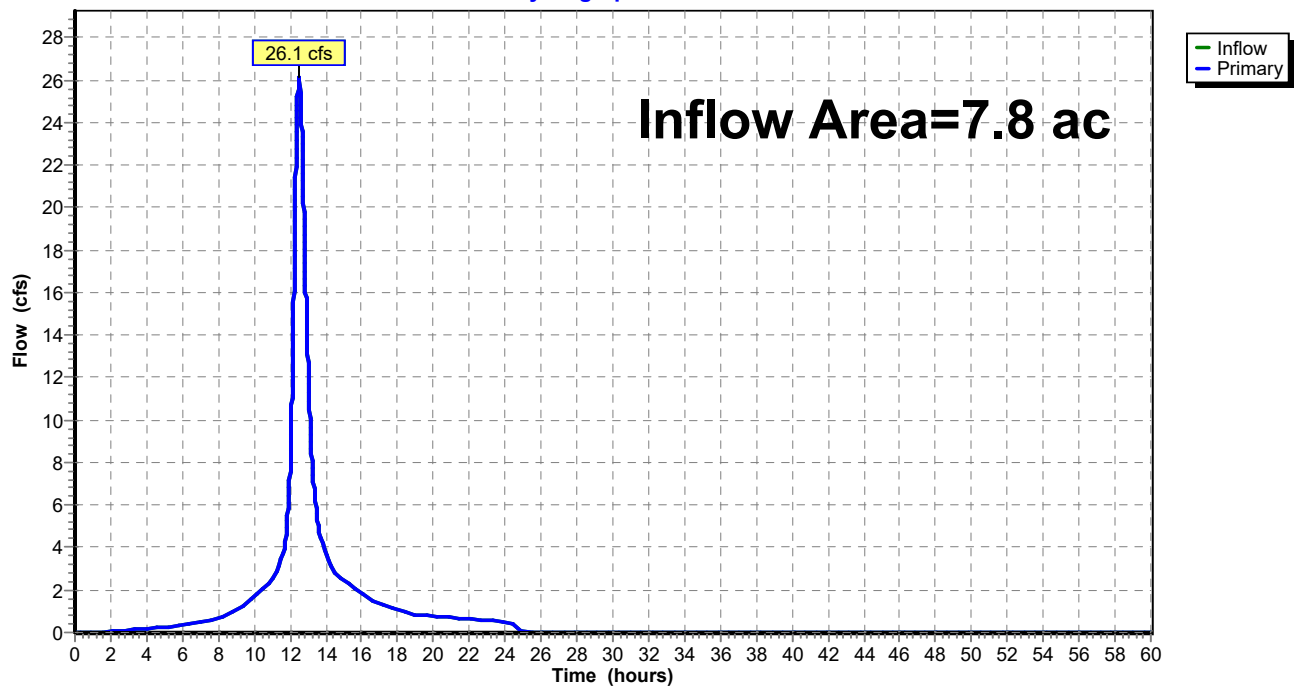
Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 6.04" for 50-YR event
Inflow = 26.1 cfs @ 12.50 hrs, Volume= 3.934 af
Primary = 26.1 cfs @ 12.50 hrs, Volume= 3.934 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

Hydrograph



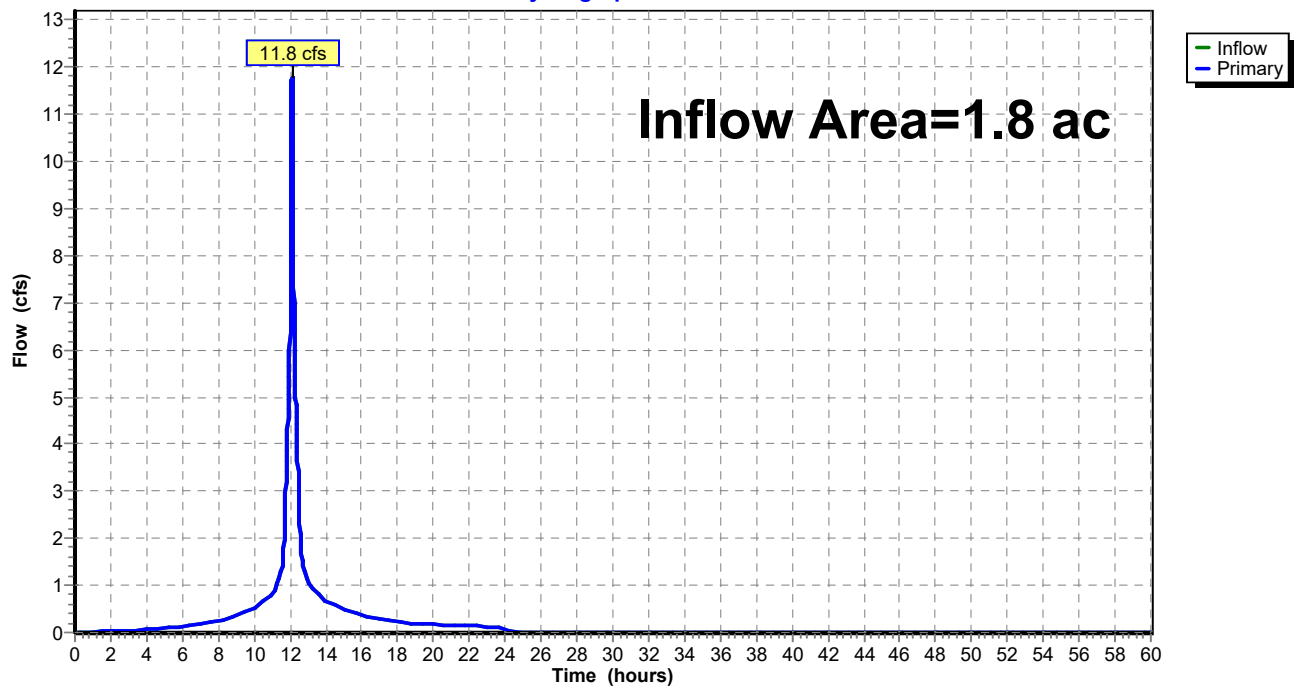
Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 6.46" for 50-YR event
Inflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af
Primary = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

Hydrograph



18462 PRE

Prepared by Sebago Technics

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Type III 24-hr 100-YR Rainfall=8.70"

Printed 6/11/2024

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=7.23"
Flow Length=462' Tc=21.9 min CN=WQ Runoff=38.9 cfs 4.528 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=7.32"
Flow Length=900' Tc=44.7 min CN=WQ Runoff=37.1 cfs 6.042 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=7.41"
Flow Length=245' Tc=38.4 min CN=WQ Runoff=31.8 cfs 4.823 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=7.85"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=14.2 cfs 1.170 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=7.70"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=237.3 cfs 42.400 af

Pond 4P: CB - Elm Street Peak Elev=58.46' Inflow=14.2 cfs 1.170 af
Primary=5.0 cfs 1.013 af Secondary=9.2 cfs 0.157 af Outflow=14.2 cfs 1.170 af

Pond 5P: Box Culvert - Railroad Peak Elev=65.80' Inflow=237.3 cfs 42.400 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=237.3 cfs 42.400 af

Pond 51P: Box Culvert - Slab Top Peak Elev=57.18' Inflow=237.3 cfs 42.400 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=237.3 cfs 42.400 af

Pond 52P: 42" RCP Outfall Peak Elev=74.40' Inflow=237.3 cfs 42.400 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=237.3 cfs 42.400 af

Link POA-1: Inflow=38.9 cfs 4.528 af
Primary=38.9 cfs 4.528 af

Link POA-2: Inflow=273.3 cfs 48.442 af
Primary=273.3 cfs 48.442 af

Link POA-3: Inflow=31.8 cfs 4.823 af
Primary=31.8 cfs 4.823 af

Link POA-4: Inflow=14.2 cfs 1.170 af
Primary=14.2 cfs 1.170 af

Total Runoff Area = 93.1 ac Runoff Volume = 58.963 af Average Runoff Depth = 7.60"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

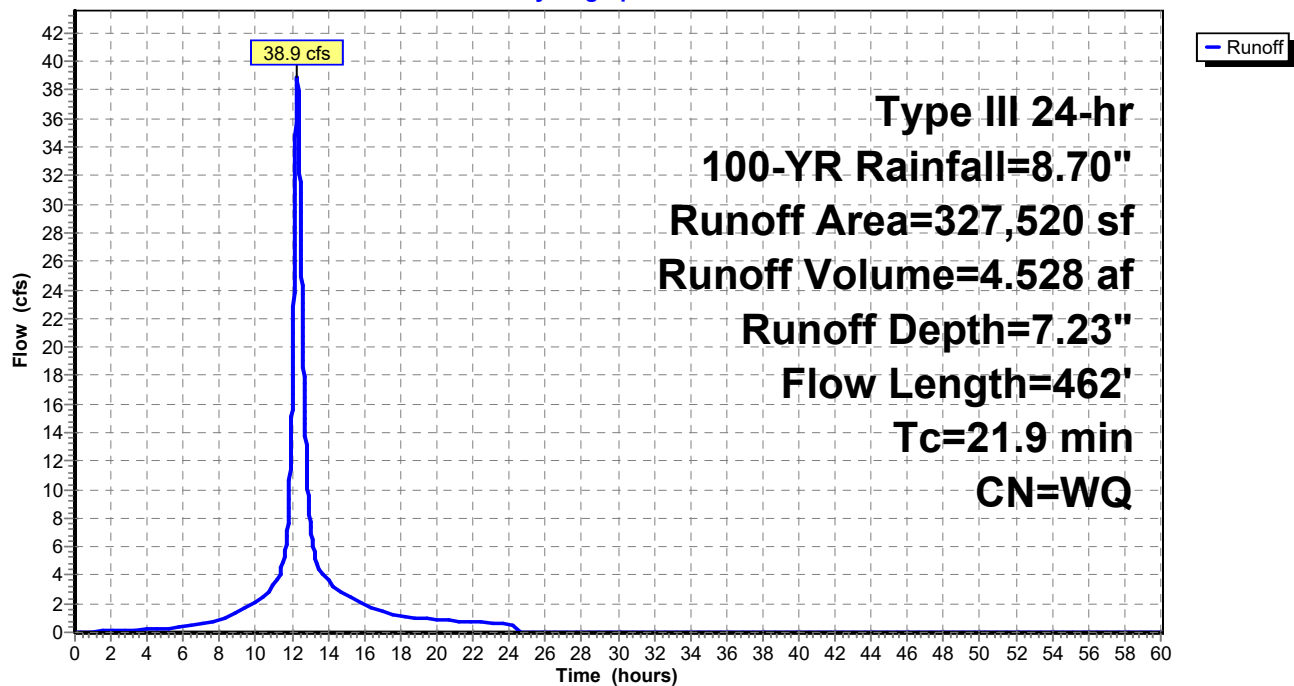
Summary for Subcatchment 1S:

Runoff = 38.9 cfs @ 12.29 hrs, Volume= 4.528 af, Depth= 7.23"
 Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 43,380 | 98 | Paved roads w/curbs & sewers, HSG D |
| 10,860 | 96 | Gravel surface, HSG D |
| 48,110 | 89 | <50% Grass cover, Poor, HSG D |
| 192,580 | 83 | Woods, Poor, HSG D |
| 327,520 | | Weighted Average |
| 251,550 | | 76.80% Pervious Area |
| 75,970 | | 23.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 2.5 | 253 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 12 | 0.0200 | 2.28 | | Shallow Concentrated Flow, C-D
Unpaved Kv= 16.1 fps |
| 1.3 | 97 | 0.0600 | 1.22 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 21.9 | 462 | Total | | | |

Subcatchment 1S:**Hydrograph**

Summary for Subcatchment 2S:

Runoff = 37.1 cfs @ 12.57 hrs, Volume= 6.042 af, Depth= 7.32"
 Routed to Link POA-2 :

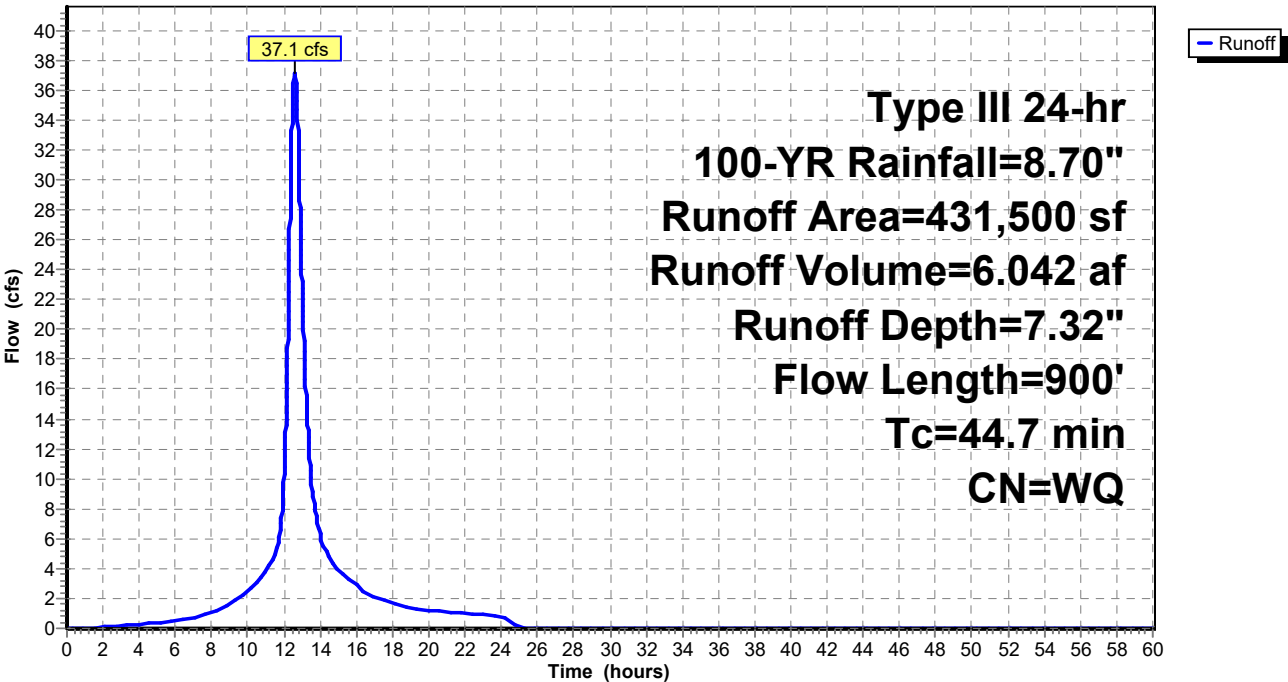
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,020 | 98 | Roofs, HSG D |
| 60,820 | 98 | Paved parking, HSG D |
| 62,700 | 96 | Gravel surface, HSG D |
| 81,780 | 89 | <50% Grass cover, Poor, HSG D |
| 214,180 | 83 | Woods, Poor, HSG D |
| 431,500 | | Weighted Average |
| 358,660 | | 83.12% Pervious Area |
| 72,840 | | 16.88% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 15 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 1.8 | 225 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.1 | 20 | 0.0200 | 2.87 | | Shallow Concentrated Flow, E-F |
| | | | | | Paved Kv= 20.3 fps |
| 3.3 | 140 | 0.0200 | 0.71 | | Shallow Concentrated Flow, F-G |
| | | | | | Woodland Kv= 5.0 fps |
| 1.4 | 300 | 0.0300 | 3.52 | | Shallow Concentrated Flow, G-H |
| | | | | | Paved Kv= 20.3 fps |
| 0.3 | 30 | 0.1000 | 1.58 | | Shallow Concentrated Flow, H-I |
| | | | | | Woodland Kv= 5.0 fps |
| 44.7 | 900 | Total | | | |

Subcatchment 2S:

Hydrograph



Summary for Subcatchment 3S:

Runoff = 31.8 cfs @ 12.50 hrs, Volume= 4.823 af, Depth= 7.41"
 Routed to Link POA-3 :

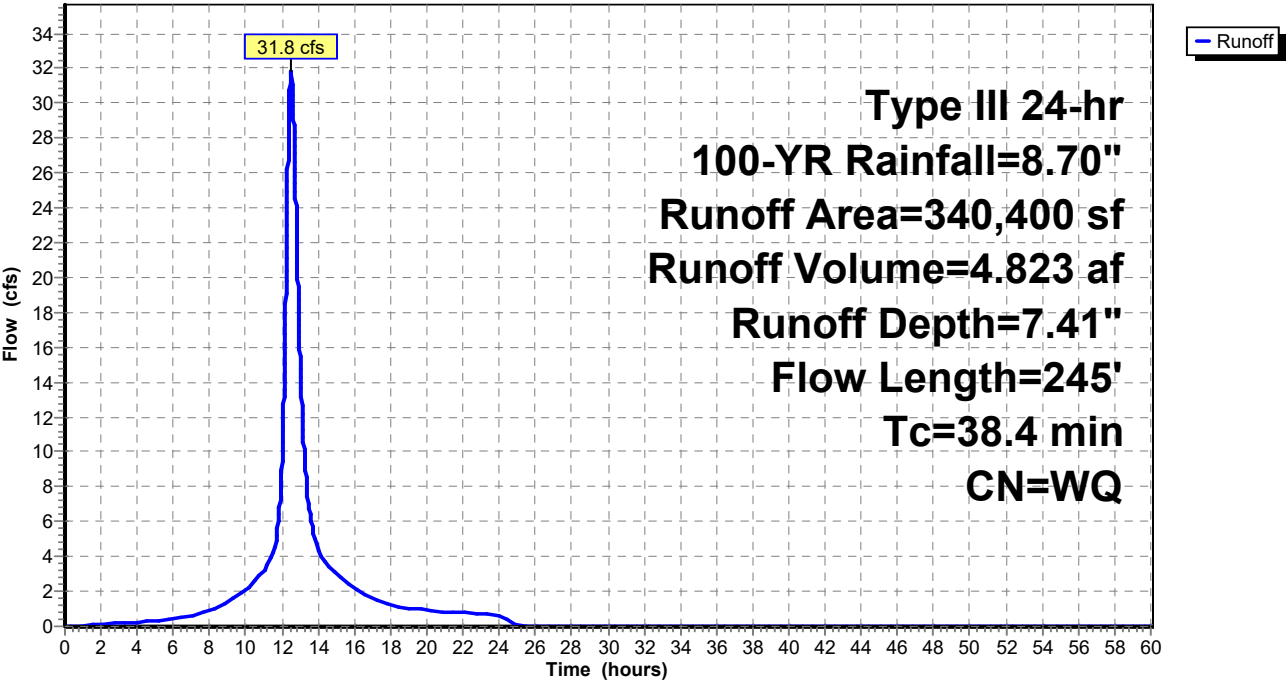
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 47,760 | 98 | Roofs, HSG D |
| 49,720 | 98 | Paved roads w/curbs & sewers, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 53,370 | 89 | <50% Grass cover, Poor, HSG D |
| 162,440 | 83 | Woods, Poor, HSG D |
| 340,400 | | Weighted Average |
| 242,920 | | 71.36% Pervious Area |
| 97,480 | | 28.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3300 | 2.87 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.1 | 10 | 0.0200 | 2.87 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 0.6 | 65 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E
Woodland Kv= 5.0 fps |
| 38.4 | 245 | Total | | | |

Subcatchment 3S:

Hydrograph



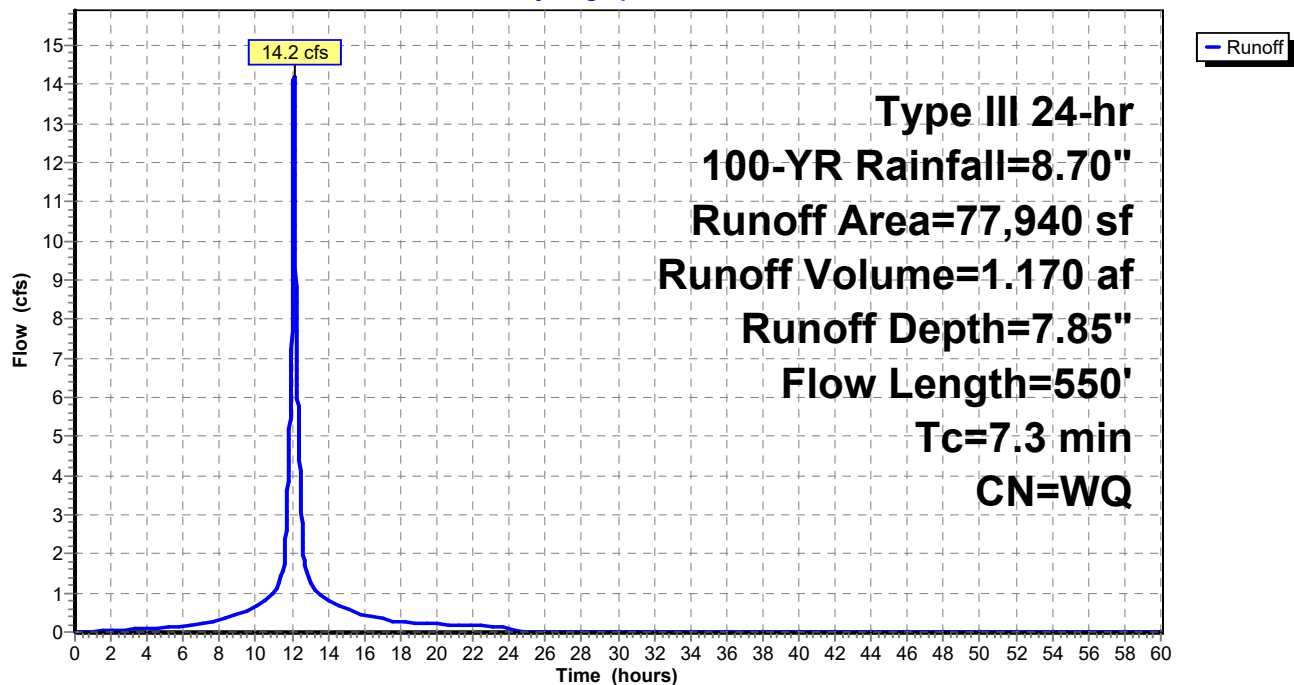
Summary for Subcatchment 4S:

Runoff = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Depth= 7.85"
 Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

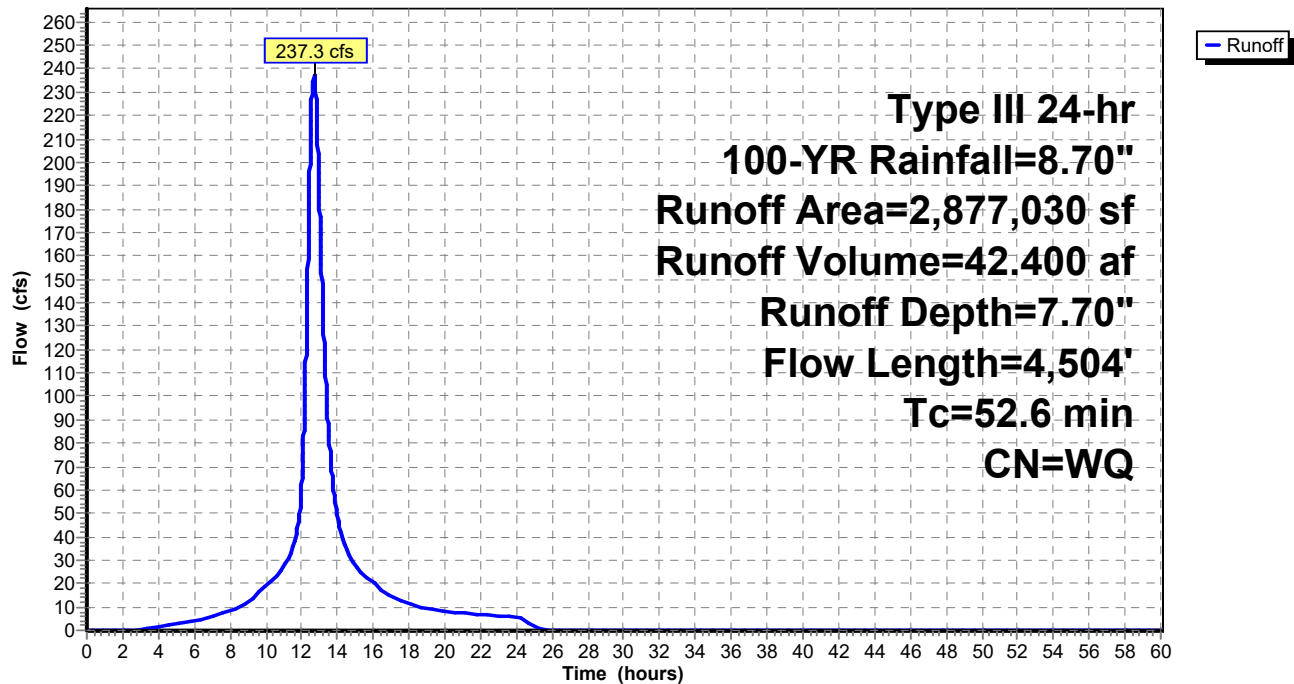
Summary for Subcatchment 5S:

Runoff = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af, Depth= 7.70"
 Routed to Pond 5P : Box Culvert - Railroad

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,788,450 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,580 | 83 | Woods, Poor, HSG D |
| 2,877,030 | | Weighted Average |
| 1,064,538 | | 37.00% Pervious Area |
| 1,812,493 | | 63.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5S:**Hydrograph**

Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 7.85" for 100-YR event
 Inflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af
 Outflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 1.013 af
 Routed to Link POA-4 :
 Secondary = 9.2 cfs @ 12.10 hrs, Volume= 0.157 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.46' @ 12.10 hrs

Flood Elev= 58.25'

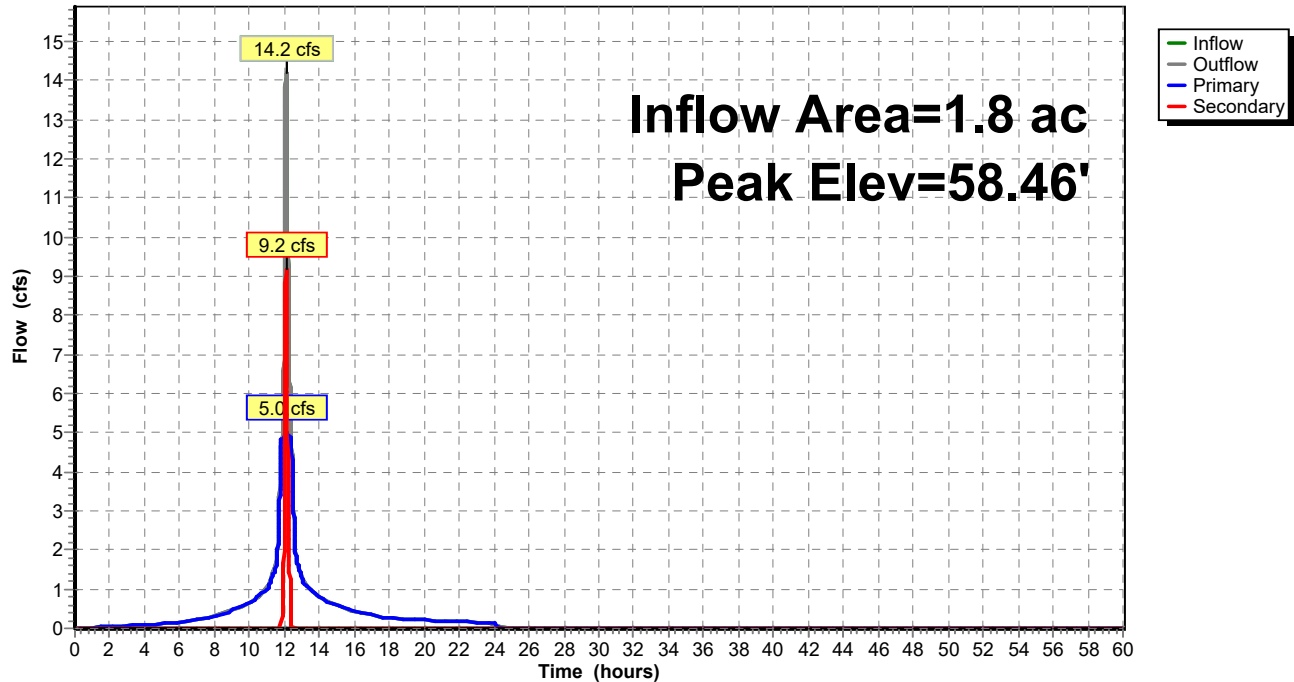
| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.46' (Free Discharge)

↑1=Culvert (Barrel Controls 5.0 cfs @ 4.08 fps)

Secondary OutFlow Max=9.2 cfs @ 12.10 hrs HW=58.46' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 9.2 cfs @ 2.01 fps)

Pond 4P: CB - Elm Street**Hydrograph**

Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 7.70" for 100-YR event
 Inflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Outflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af, Atten= 0%, Lag= 0.0 min
 Primary = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.80' @ 12.68 hrs

Flood Elev= 75.77'

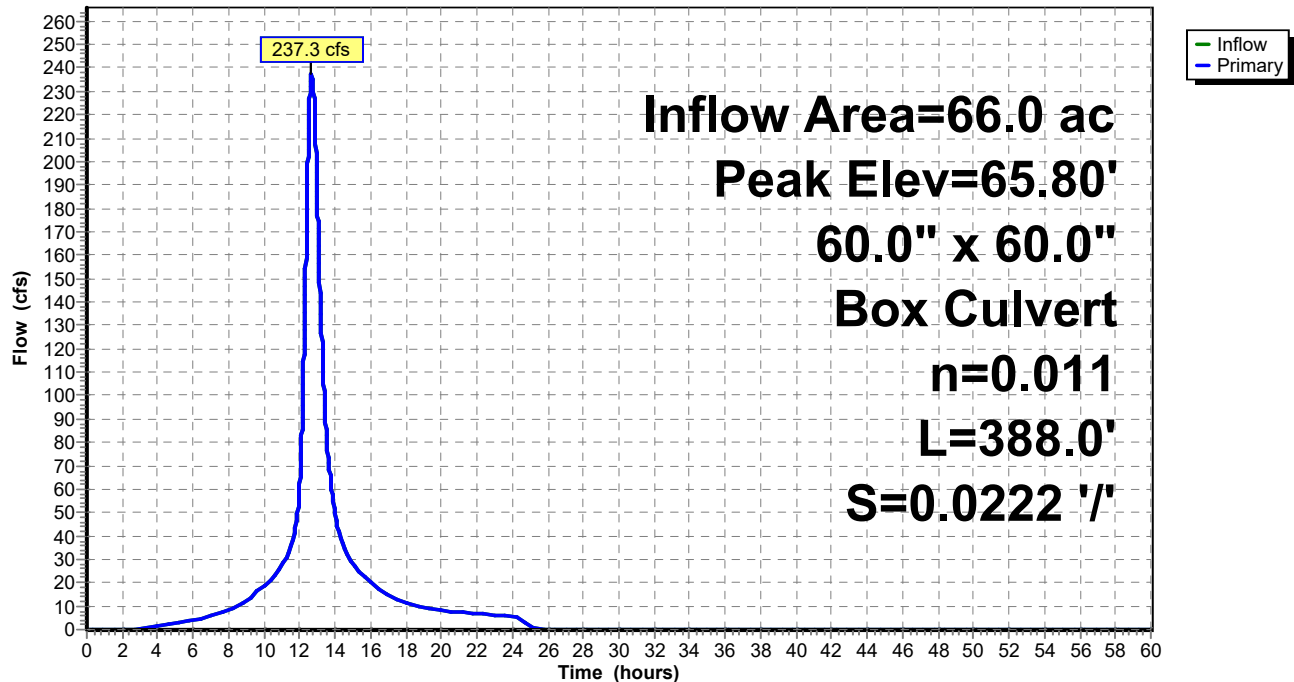
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=237.3 cfs @ 12.68 hrs HW=65.80' (Free Discharge)

↑1=Culvert (Inlet Controls 237.3 cfs @ 9.49 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 7.70" for 100-YR event
 Inflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Outflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af, Atten= 0%, Lag= 0.0 min
 Primary = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Routed to Pond 52P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.18' @ 12.68 hrs

Flood Elev= 55.65'

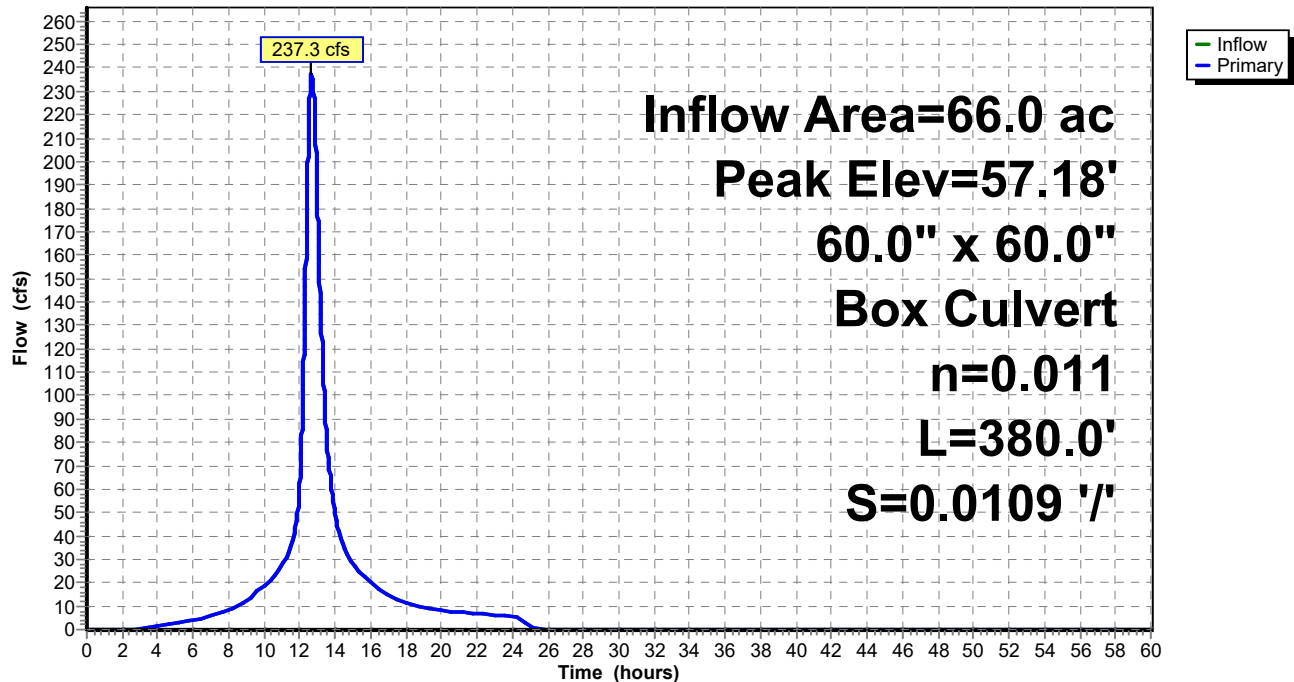
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=237.3 cfs @ 12.68 hrs HW=57.17' (Free Discharge)

↑1=Culvert (Inlet Controls 237.3 cfs @ 9.49 fps)

Pond 51P: Box Culvert - Slab Top

Hydrograph



Summary for Pond 52P: 42" RCP Outfall

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 7.70" for 100-YR event
 Inflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Outflow = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af, Atten= 0%, Lag= 0.0 min
 Primary = 237.3 cfs @ 12.68 hrs, Volume= 42.400 af
 Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

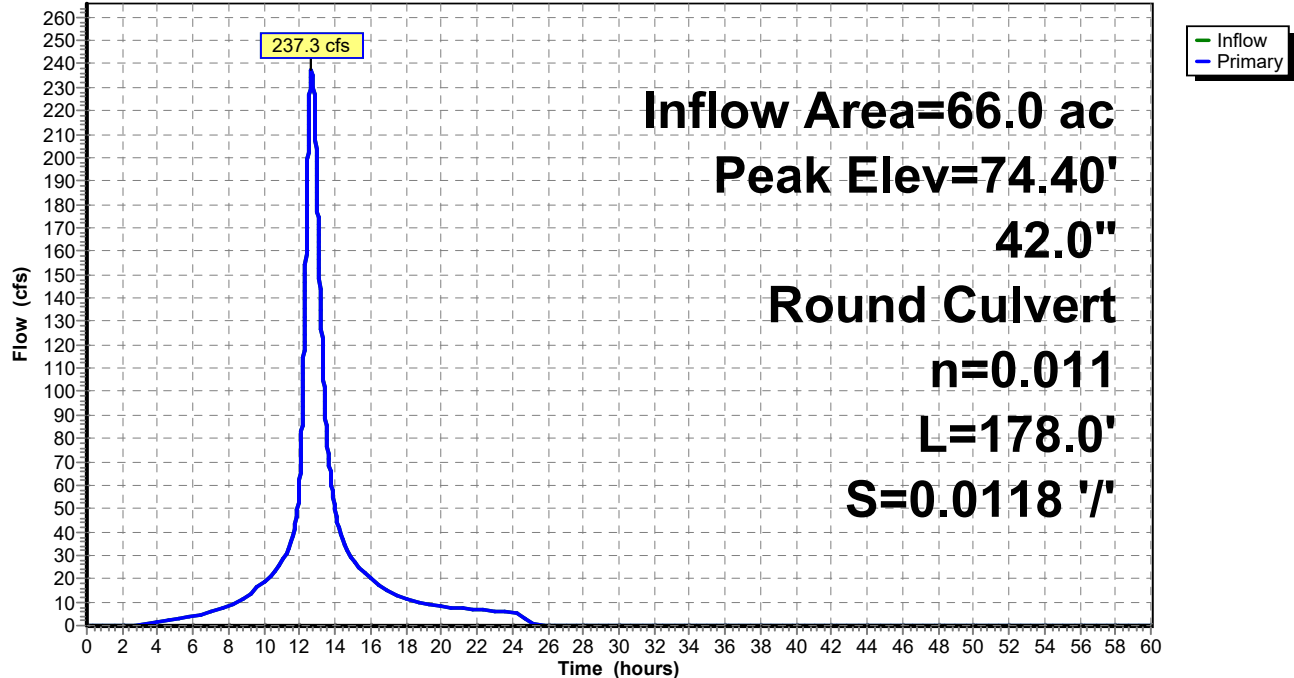
Peak Elev= 74.40' @ 12.68 hrs

Flood Elev= 57.74'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.40' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.40' / 44.30' S= 0.0118 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=237.3 cfs @ 12.68 hrs HW=74.39' (Free Discharge)

↑1=Culvert (Inlet Controls 237.3 cfs @ 24.66 fps)

Pond 52P: 42" RCP Outfall**Hydrograph**

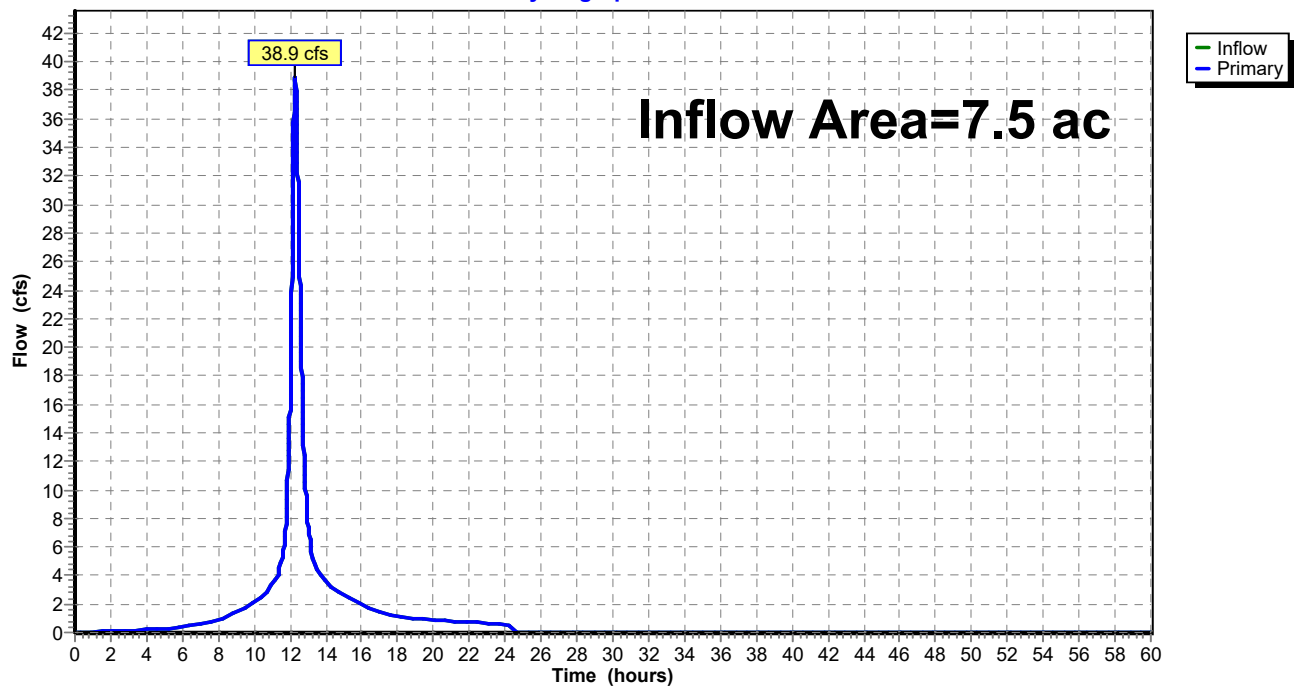
Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 7.23" for 100-YR event
Inflow = 38.9 cfs @ 12.29 hrs, Volume= 4.528 af
Primary = 38.9 cfs @ 12.29 hrs, Volume= 4.528 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



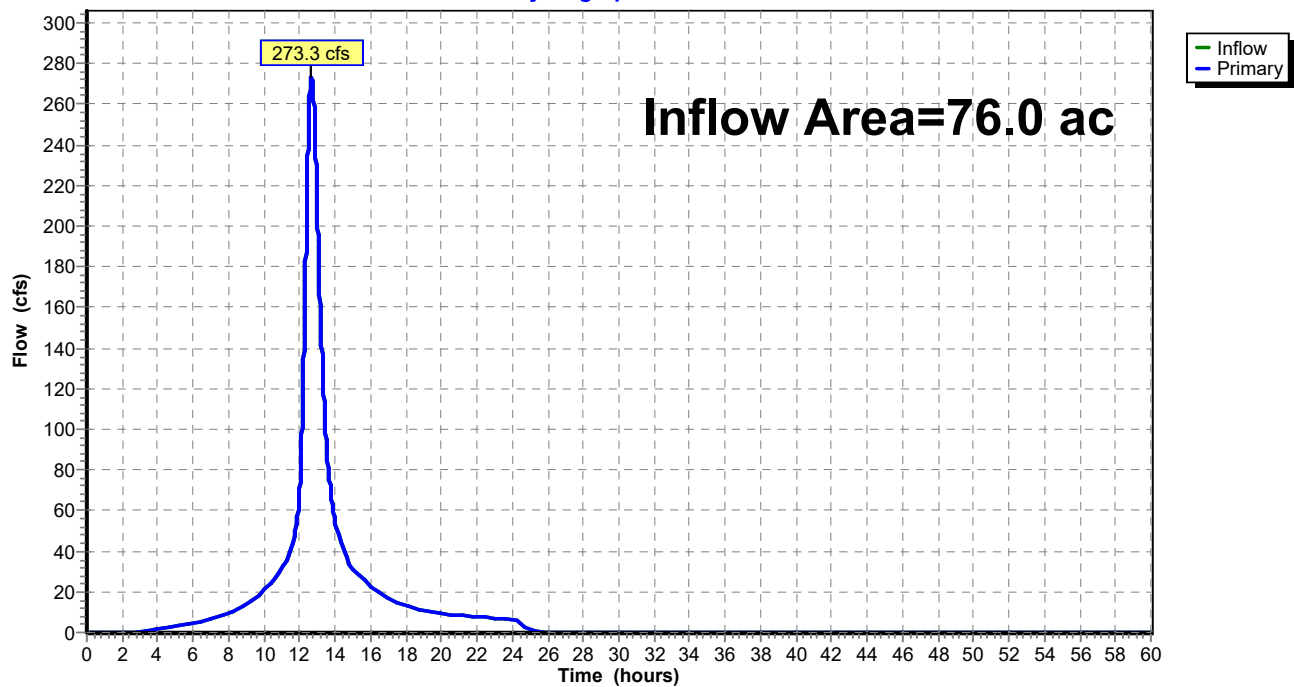
Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 7.65" for 100-YR event
Inflow = 273.3 cfs @ 12.68 hrs, Volume= 48.442 af
Primary = 273.3 cfs @ 12.68 hrs, Volume= 48.442 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



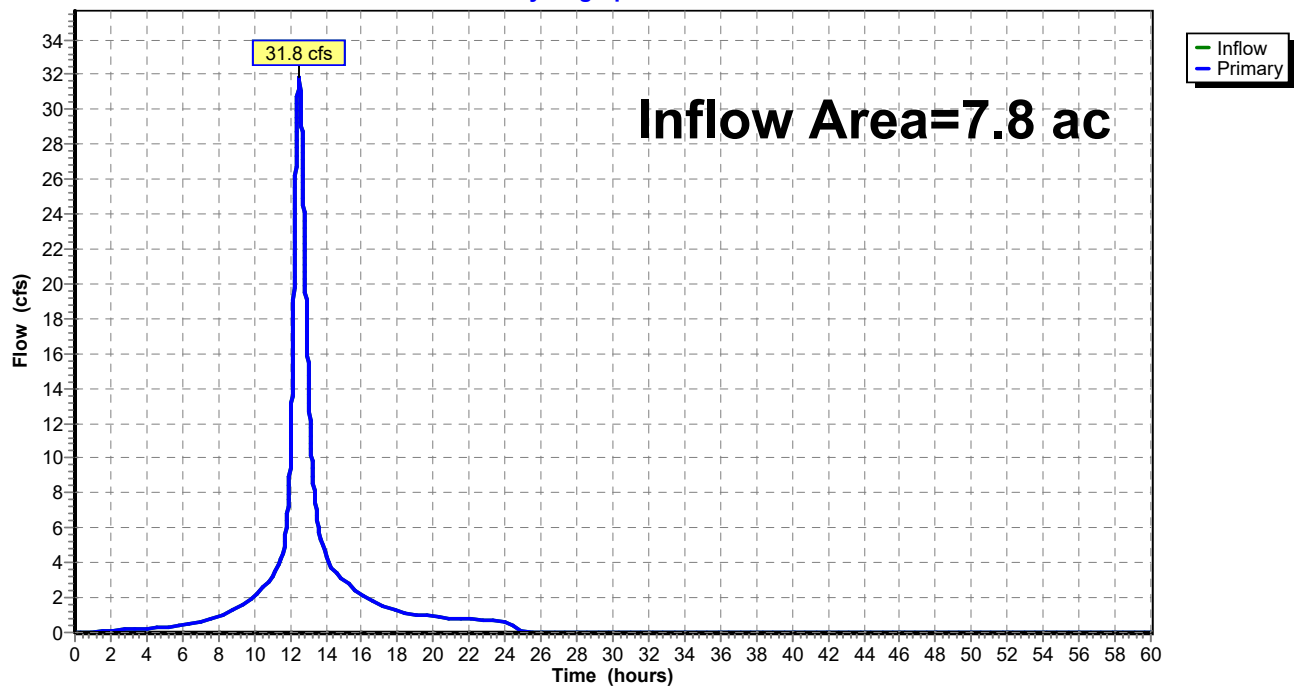
Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 7.41" for 100-YR event
Inflow = 31.8 cfs @ 12.50 hrs, Volume= 4.823 af
Primary = 31.8 cfs @ 12.50 hrs, Volume= 4.823 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

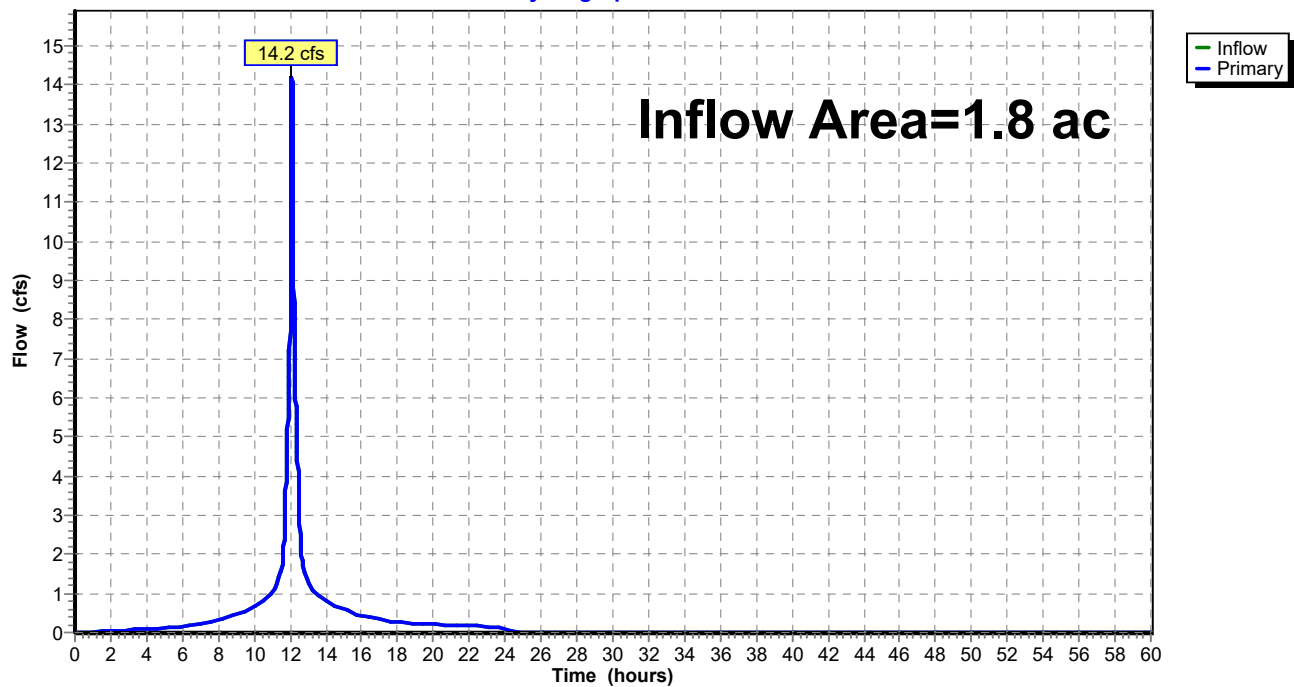
Hydrograph



Summary for Link POA-4:

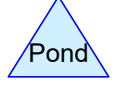
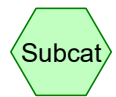
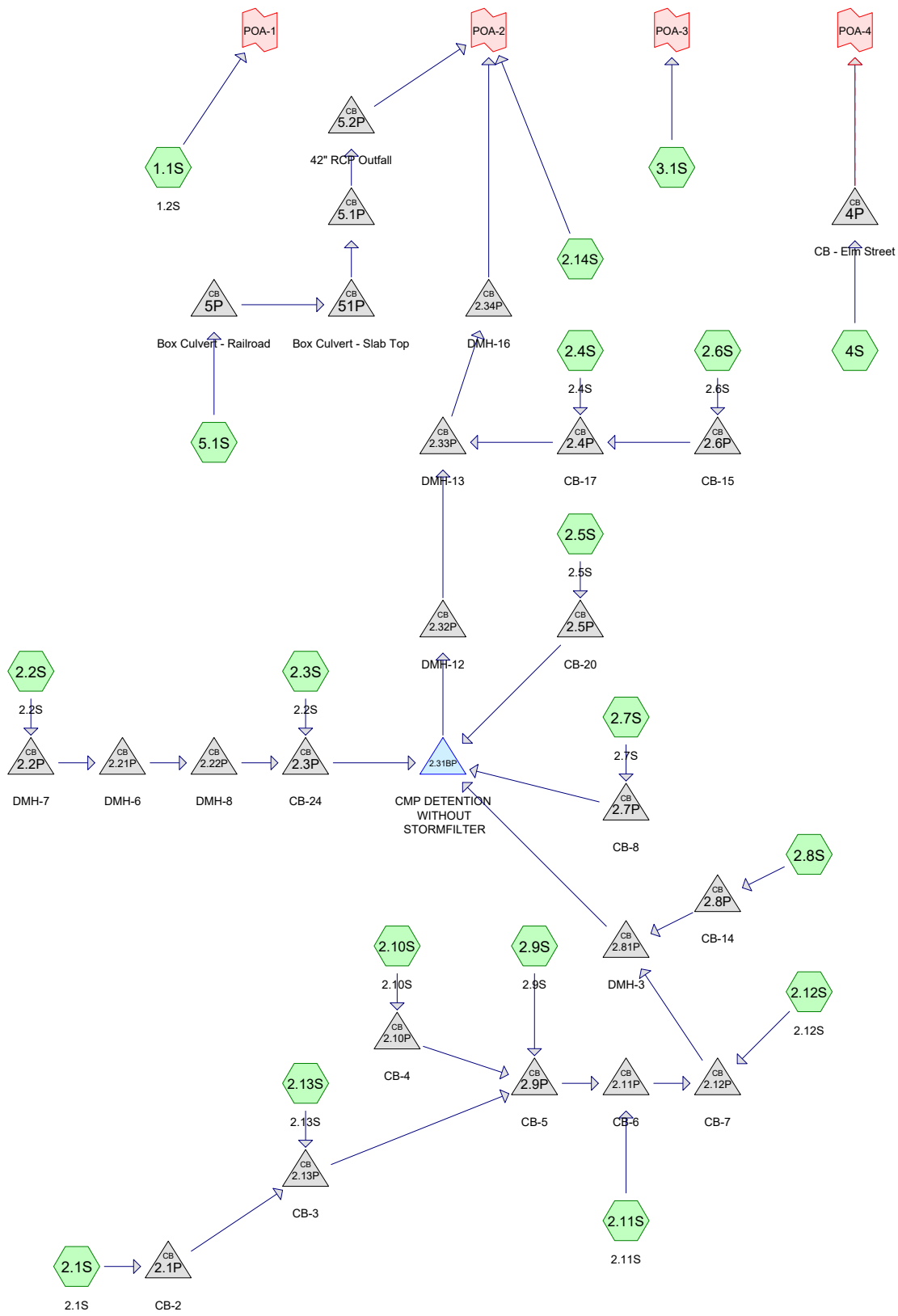
Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 7.85" for 100-YR event
Inflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af
Primary = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:**Hydrograph**

Appendix 2B

Proposed Conditions HydroCAD Summary



Routing Diagram for 18462 POST with Stormfilter
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18462 POST with Stormfilter

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Area Listing (selected nodes)

| Area
(acres) | CN | Description
(subcatchment-numbers) |
|-----------------|-----------|---|
| 63.9 | 92 | 1/8 acre lots, 65% imp, HSG D (2.1S, 2.2S, 5.1S) |
| 3.5 | 89 | <50% Grass cover, Poor, HSG D (1.1S, 2.14S, 3.1S, 4S) |
| 4.0 | 80 | >75% Grass cover, Good, HSG D (1.1S, 2.10S, 2.11S, 2.12S, 2.13S, 2.14S, 2.1S, 2.2S, 2.3S, 2.5S, 2.6S, 2.7S, 2.8S, 2.9S, 3.1S, 5.1S) |
| 1.5 | 96 | Gravel surface, HSG D (2.11S, 2.12S, 2.13S, 2.14S, 2.8S, 3.1S, 4S, 5.1S) |
| 0.5 | 78 | Meadow, non-grazed, HSG D (1.1S, 2.14S, 3.1S) |
| 3.7 | 98 | Paved parking, HSG D (1.1S, 2.10S, 2.11S, 2.13S, 2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S, 2.7S, 2.9S, 3.1S) |
| 0.5 | 98 | Paved roads w/curbs & sewers, HSG D (4S) |
| 2.9 | 98 | Roofs, HSG D (1.1S, 2.14S, 2.2S, 2.3S, 2.7S, 3.1S, 4S) |
| 1.0 | 98 | Sidewalks, HSG D (1.1S, 2.10S, 2.11S, 2.12S, 2.13S, 2.14S, 2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S, 2.8S, 2.9S, 3.1S) |
| 0.1 | 98 | Unconnected pavement, HSG D (2.13S, 2.7S) |
| 11.7 | 83 | Woods, Poor, HSG D (1.1S, 2.14S, 3.1S, 5.1S) |
| 93.1 | 91 | TOTAL AREA |

18462 POST with Stormfilter

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Soil Listing (selected nodes)

| Area
(acres) | Soil
Group | Subcatchment
Numbers |
|-----------------|---------------|--|
| 0.0 | HSG A | |
| 0.0 | HSG B | |
| 0.0 | HSG C | |
| 93.1 | HSG D | 1.1S, 2.10S, 2.11S, 2.12S, 2.13S, 2.14S, 2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S, 2.7S,
2.8S, 2.9S, 3.1S, 4S, 5.1S |
| 0.0 | Other | |
| 93.1 | | TOTAL AREA |

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Ground Covers (selected nodes)

| HSG-A
(acres) | HSG-B
(acres) | HSG-C
(acres) | HSG-D
(acres) | Other
(acres) | Total
(acres) | Ground
Cover | Subcatchment
Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------------------|---|
| 0.0 | 0.0 | 0.0 | 63.9 | 0.0 | 63.9 | 1/8 acre lots, 65% imp | 2.1S, 2.2S, 5.1S |
| 0.0 | 0.0 | 0.0 | 3.5 | 0.0 | 3.5 | <50% Grass cover, Poor | 1.1S, 2.14S,
3.1S, 4S |
| 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4.0 | >75% Grass cover, Good | 1.1S, 2.10S,
2.11S, 2.12S,
2.13S, 2.14S,
2.1S, 2.2S, 2.3S,
2.5S, 2.6S, 2.7S,
2.8S, 2.9S, 3.1S,
5.1S |
| 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 1.5 | Gravel surface | 2.11S, 2.12S,
2.13S, 2.14S,
2.8S, 3.1S, 4S,
5.1S |
| 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.5 | Meadow, non-grazed | 1.1S, 2.14S, 3.1S |
| 0.0 | 0.0 | 0.0 | 3.7 | 0.0 | 3.7 | Paved parking | 1.1S, 2.10S,
2.11S, 2.13S,
2.1S, 2.2S, 2.3S,
2.4S, 2.5S, 2.6S,
2.7S, 2.9S, 3.1S |
| 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.5 | Paved roads w/curbs & sewers | 4S |
| 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 2.9 | Roofs | 1.1S, 2.14S,
2.2S, 2.3S, 2.7S,
3.1S, 4S |
| 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | Sidewalks | 1.1S, 2.10S,
2.11S, 2.12S,
2.13S, 2.14S,
2.1S, 2.2S, 2.3S,
2.4S, 2.5S, 2.6S,
2.8S, 2.9S, 3.1S |
| 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | Unconnected pavement | 2.13S, 2.7S |
| 0.0 | 0.0 | 0.0 | 11.7 | 0.0 | 11.7 | Woods, Poor | 1.1S, 2.14S,
3.1S, 5.1S |
| 0.0 | 0.0 | 0.0 | 93.1 | 0.0 | 93.1 | TOTAL AREA | |

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Pipe Listing (selected nodes)

| Line# | Node
Number | In-Invert
(feet) | Out-Invert
(feet) | Length
(feet) | Slope
(ft/ft) | n | Width
(inches) | Diam/Height
(inches) | Inside-Fill
(inches) | Node
Name |
|-------|----------------|---------------------|----------------------|------------------|------------------|-------|-------------------|-------------------------|-------------------------|--------------|
| 1 | 1.1S | 0.00 | 0.00 | 25.0 | 0.0100 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 2 | 2.14S | 0.00 | 0.00 | 56.0 | 0.0150 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 3 | 5.1S | 0.00 | 0.00 | 3,500.0 | 0.0100 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 4 | 2.10P | 69.70 | 68.55 | 115.0 | 0.0100 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 5 | 2.11P | 64.07 | 63.57 | 45.0 | 0.0111 | 0.013 | 0.0 | 18.0 | 0.0 | |
| 6 | 2.12P | 63.47 | 61.70 | 170.0 | 0.0104 | 0.013 | 0.0 | 18.0 | 0.0 | |
| 7 | 2.13P | 67.95 | 65.40 | 235.0 | 0.0109 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 8 | 2.1P | 70.10 | 68.20 | 180.0 | 0.0106 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 9 | 2.21P | 66.45 | 65.15 | 115.0 | 0.0113 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 10 | 2.22P | 64.90 | 64.20 | 65.0 | 0.0108 | 0.013 | 0.0 | 18.0 | 0.0 | |
| 11 | 2.2P | 68.56 | 66.70 | 165.0 | 0.0113 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 12 | 2.31BP | 57.91 | 57.54 | 35.0 | 0.0106 | 0.013 | 0.0 | 30.0 | 0.0 | |
| 13 | 2.32P | 57.44 | 56.58 | 92.0 | 0.0093 | 0.013 | 0.0 | 24.0 | 0.0 | |
| 14 | 2.33P | 55.48 | 54.35 | 122.0 | 0.0093 | 0.013 | 0.0 | 36.0 | 0.0 | |
| 15 | 2.34P | 54.25 | 54.00 | 25.0 | 0.0100 | 0.013 | 0.0 | 36.0 | 0.0 | |
| 16 | 2.3P | 63.70 | 61.50 | 100.0 | 0.0220 | 0.013 | 0.0 | 24.0 | 0.0 | |
| 17 | 2.4P | 56.71 | 56.35 | 35.0 | 0.0103 | 0.013 | 0.0 | 18.0 | 0.0 | |
| 18 | 2.5P | 61.26 | 61.00 | 28.0 | 0.0093 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 19 | 2.6P | 59.66 | 56.96 | 245.0 | 0.0110 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 20 | 2.7P | 62.00 | 61.75 | 7.0 | 0.0357 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 21 | 2.81P | 61.20 | 60.75 | 40.0 | 0.0113 | 0.013 | 0.0 | 24.0 | 0.0 | |
| 22 | 2.8P | 62.93 | 62.20 | 110.0 | 0.0066 | 0.013 | 0.0 | 12.0 | 0.0 | |
| 23 | 2.9P | 65.15 | 64.32 | 80.0 | 0.0104 | 0.013 | 0.0 | 15.0 | 0.0 | |
| 24 | 4P | 53.27 | 51.13 | 250.0 | 0.0086 | 0.025 | 0.0 | 15.0 | 0.0 | |
| 25 | 5.1P | 48.65 | 46.55 | 175.0 | 0.0120 | 0.012 | 0.0 | 42.0 | 0.0 | |
| 26 | 5.2P | 46.45 | 44.30 | 178.0 | 0.0121 | 0.011 | 0.0 | 42.0 | 0.0 | |
| 27 | 5P | 59.27 | 50.65 | 388.0 | 0.0222 | 0.011 | 60.0 | 60.0 | 0.0 | |
| 28 | 51P | 50.65 | 46.50 | 380.0 | 0.0109 | 0.011 | 60.0 | 60.0 | 0.0 | |

18462 POST with Stormfilter

Type III 24-hr 2-YR Rainfall=3.30"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

| | |
|---------------------------------|--|
| Subcatchment1.1S: 1.2S | Runoff Area=300,080 sf 24.71% Impervious Runoff Depth=2.04"
Flow Length=325' Tc=21.0 min CN=WQ Runoff=10.5 cfs 1.173 af |
| Subcatchment2.10S: 2.10S | Runoff Area=7,550 sf 78.41% Impervious Runoff Depth=2.72"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.5 cfs 0.039 af |
| Subcatchment2.11S: 2.11S | Runoff Area=14,120 sf 46.46% Impervious Runoff Depth=2.84"
Flow Length=220' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.0 cfs 0.077 af |
| Subcatchment2.12S: 2.12S | Runoff Area=9,090 sf 11.99% Impervious Runoff Depth=2.12"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.5 cfs 0.037 af |
| Subcatchment2.13S: 2.13S | Runoff Area=11,500 sf 58.26% Impervious Runoff Depth=2.56"
Flow Length=95' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.056 af |
| Subcatchment2.14S: | Runoff Area=238,790 sf 4.27% Impervious Runoff Depth=1.83"
Flow Length=1,011' Tc=45.4 min CN=WQ Runoff=5.3 cfs 0.838 af |
| Subcatchment2.1S: 2.1S | Runoff Area=7,310 sf 49.36% Impervious Runoff Depth=2.23"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.4 cfs 0.031 af |
| Subcatchment2.2S: 2.2S | Runoff Area=49,060 sf 66.09% Impervious Runoff Depth=2.51"
Flow Length=86' Slope=0.0150 '/' Tc=9.1 min CN=WQ Runoff=2.8 cfs 0.235 af |
| Subcatchment2.3S: 2.2S | Runoff Area=30,790 sf 87.07% Impervious Runoff Depth=2.86"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.1 cfs 0.169 af |
| Subcatchment2.4S: 2.4S | Runoff Area=3,580 sf 100.00% Impervious Runoff Depth=3.07"
Flow Length=195' Slope=0.1500 '/' Tc=6.0 min CN=WQ Runoff=0.3 cfs 0.021 af |
| Subcatchment2.5S: 2.5S | Runoff Area=17,570 sf 80.93% Impervious Runoff Depth=2.76"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.2 cfs 0.093 af |
| Subcatchment2.6S: 2.6S | Runoff Area=18,540 sf 77.40% Impervious Runoff Depth=2.71"
Flow Length=65' Slope=0.0230 '/' Tc=6.5 min CN=WQ Runoff=1.2 cfs 0.096 af |
| Subcatchment2.7S: 2.7S | Runoff Area=40,900 sf 83.06% Impervious Runoff Depth=2.80"
Flow Length=155' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.8 cfs 0.219 af |
| Subcatchment2.8S: | Runoff Area=7,170 sf 22.73% Impervious Runoff Depth=2.42"
Flow Length=70' Tc=6.0 min CN=WQ Runoff=0.4 cfs 0.033 af |
| Subcatchment2.9S: 2.9S | Runoff Area=20,450 sf 85.43% Impervious Runoff Depth=2.84"
Flow Length=180' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.4 cfs 0.111 af |
| Subcatchment3.1S: | Runoff Area=339,930 sf 24.37% Impervious Runoff Depth=2.17"
Flow Length=250' Tc=38.3 min CN=WQ Runoff=9.6 cfs 1.412 af |

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| | |
|--|---|
| Subcatchment4S: | Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=2.56"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=4.8 cfs 0.382 af |
| Subcatchment5.1S: | Runoff Area=2,860,020 sf 62.85% Impervious Runoff Depth=2.42"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=78.1 cfs 13.247 af |
| Pond 2.10P: CB-4 | Peak Elev=70.10' Inflow=0.5 cfs 0.039 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0100 '/ Outflow=0.5 cfs 0.039 af |
| Pond 2.11P: CB-6 | Peak Elev=65.19' Inflow=4.0 cfs 0.315 af
18.0" Round Culvert n=0.013 L=45.0' S=0.0111 '/ Outflow=4.0 cfs 0.315 af |
| Pond 2.12P: CB-7 | Peak Elev=64.68' Inflow=4.5 cfs 0.351 af
18.0" Round Culvert n=0.013 L=170.0' S=0.0104 '/ Outflow=4.5 cfs 0.351 af |
| Pond 2.13P: CB-3 | Peak Elev=68.53' Inflow=1.1 cfs 0.087 af
15.0" Round Culvert n=0.013 L=235.0' S=0.0109 '/ Outflow=1.1 cfs 0.087 af |
| Pond 2.1P: CB-2 | Peak Elev=70.46' Inflow=0.4 cfs 0.031 af
12.0" Round Culvert n=0.013 L=180.0' S=0.0106 '/ Outflow=0.4 cfs 0.031 af |
| Pond 2.21P: DMH-6 | Peak Elev=67.44' Inflow=2.8 cfs 0.235 af
15.0" Round Culvert n=0.013 L=115.0' S=0.0113 '/ Outflow=2.8 cfs 0.235 af |
| Pond 2.22P: DMH-8 | Peak Elev=65.79' Inflow=2.8 cfs 0.235 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0108 '/ Outflow=2.8 cfs 0.235 af |
| Pond 2.2P: DMH-7 | Peak Elev=69.93' Inflow=2.8 cfs 0.235 af
12.0" Round Culvert n=0.013 L=165.0' S=0.0113 '/ Outflow=2.8 cfs 0.235 af |
| Pond 2.31BP: CMP DETENTIONWITHOUT | Peak Elev=63.41' Storage=6,535 cf Inflow=13.6 cfs 1.100 af
Outflow=13.3 cfs 0.981 af |
| Pond 2.32P: DMH-12 | Peak Elev=59.69' Inflow=13.3 cfs 0.981 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0093 '/ Outflow=13.3 cfs 0.981 af |
| Pond 2.33P: DMH-13 | Peak Elev=57.20' Inflow=14.8 cfs 1.098 af
36.0" Round Culvert n=0.013 L=122.0' S=0.0093 '/ Outflow=14.8 cfs 1.098 af |
| Pond 2.34P: DMH-16 | Peak Elev=56.16' Inflow=14.8 cfs 1.098 af
36.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/ Outflow=14.8 cfs 1.098 af |
| Pond 2.3P: CB-24 | Peak Elev=64.77' Inflow=4.8 cfs 0.404 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0220 '/ Outflow=4.8 cfs 0.404 af |
| Pond 2.4P: CB-17 | Peak Elev=57.33' Inflow=1.5 cfs 0.117 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0103 '/ Outflow=1.5 cfs 0.117 af |
| Pond 2.5P: CB-20 | Peak Elev=61.85' Inflow=1.2 cfs 0.093 af
15.0" Round Culvert n=0.013 L=28.0' S=0.0093 '/ Outflow=1.2 cfs 0.093 af |

18462 POST with Stormfilter*Type III 24-hr 2-YR Rainfall=3.30"*

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Pond 2.6P: CB-15Peak Elev=60.26' Inflow=1.2 cfs 0.096 af
15.0" Round Culvert n=0.013 L=245.0' S=0.0110 '/' Outflow=1.2 cfs 0.096 af**Pond 2.7P: CB-8**Peak Elev=62.99' Inflow=2.8 cfs 0.219 af
15.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/' Outflow=2.8 cfs 0.219 af**Pond 2.81P: DMH-3**Peak Elev=62.30' Inflow=5.0 cfs 0.385 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0113 '/' Outflow=5.0 cfs 0.385 af**Pond 2.8P: CB-14**Peak Elev=63.30' Inflow=0.4 cfs 0.033 af
12.0" Round Culvert n=0.013 L=110.0' S=0.0066 '/' Outflow=0.4 cfs 0.033 af**Pond 2.9P: CB-5**Peak Elev=66.20' Inflow=3.0 cfs 0.238 af
15.0" Round Culvert n=0.013 L=80.0' S=0.0104 '/' Outflow=3.0 cfs 0.238 af**Pond 4P: CB - Elm Street**Peak Elev=58.01' Inflow=4.8 cfs 0.382 af
Primary=4.8 cfs 0.382 af Secondary=0.0 cfs 0.000 af Outflow=4.8 cfs 0.382 af**Pond 5.1P:**Peak Elev=53.24' Inflow=78.1 cfs 13.247 af
42.0" Round Culvert n=0.012 L=175.0' S=0.0120 '/' Outflow=78.1 cfs 13.247 af**Pond 5.2P: 42" RCP Outfall**Peak Elev=51.04' Inflow=78.1 cfs 13.247 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0121 '/' Outflow=78.1 cfs 13.247 af**Pond 5P: Box Culvert - Railroad**Peak Elev=62.14' Inflow=78.1 cfs 13.247 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=78.1 cfs 13.247 af**Pond 51P: Box Culvert - Slab Top**Peak Elev=53.52' Inflow=78.1 cfs 13.247 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=78.1 cfs 13.247 af**Link POA-1:**Inflow=10.5 cfs 1.173 af
Primary=10.5 cfs 1.173 af**Link POA-2:**Inflow=85.4 cfs 15.184 af
Primary=85.4 cfs 15.184 af**Link POA-3:**Inflow=9.6 cfs 1.412 af
Primary=9.6 cfs 1.412 af**Link POA-4:**Inflow=4.8 cfs 0.382 af
Primary=4.8 cfs 0.382 af**Total Runoff Area = 93.1 ac Runoff Volume = 18.270 af Average Runoff Depth = 2.36"**
46.64% Pervious = 43.4 ac 53.36% Impervious = 49.7 ac

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 1.1S: 1.2S

Runoff = 10.5 cfs @ 12.29 hrs, Volume= 1.173 af, Depth= 2.04"
 Routed to Link POA-1 :

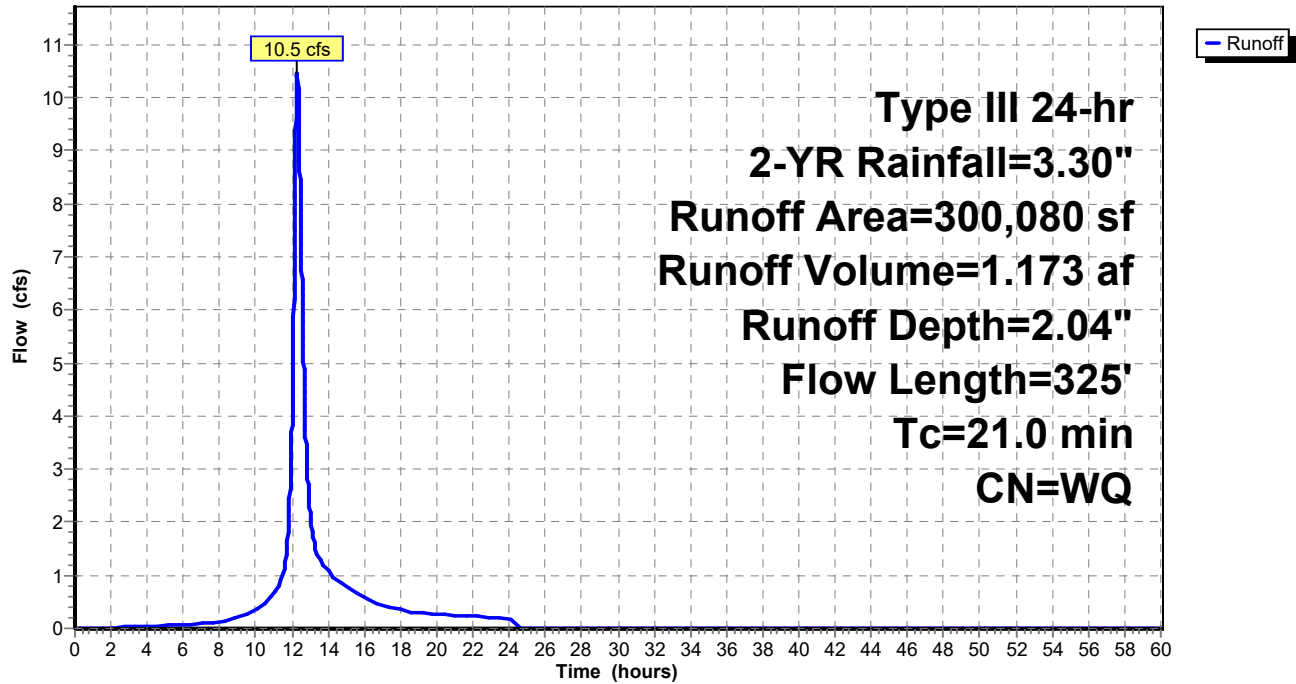
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 35,120 | 98 | Paved parking, HSG D |
| * 6,450 | 98 | Sidewalks, HSG D |
| 32,665 | 89 | <50% Grass cover, Poor, HSG D |
| 141,705 | 83 | Woods, Poor, HSG D |
| 43,190 | 80 | >75% Grass cover, Good, HSG D |
| 8,360 | 78 | Meadow, non-grazed, HSG D |
| 300,080 | | Weighted Average |
| 225,920 | | 75.29% Pervious Area |
| 74,160 | | 24.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.5 | 50 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 75 | 0.0200 | 2.12 | | Shallow Concentrated Flow, C-D |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 25 | 0.0100 | 4.54 | 3.56 | Pipe Channel, D-E |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 1.8 | 75 | 0.0200 | 0.71 | | Shallow Concentrated Flow, E-F |
| | | | | | Woodland Kv= 5.0 fps |
| 21.0 | 325 | Total | | | |

Subcatchment 1.1S: 1.2S

Hydrograph



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Summary for Subcatchment 2.10S: 2.10S

Runoff = 0.5 cfs @ 12.08 hrs, Volume= 0.039 af, Depth= 2.72"
Routed to Pond 2.10P : CB-4

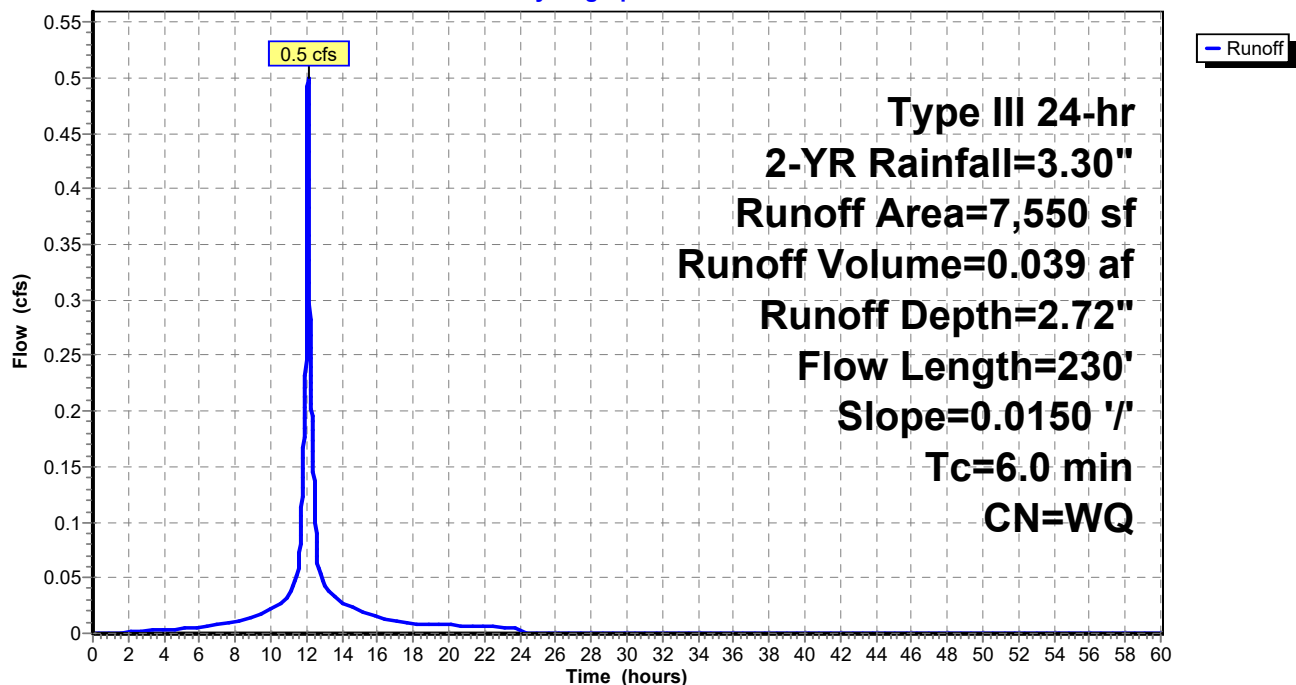
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 780 | 98 | Sidewalks, HSG D |
| | 5,140 | 98 | Paved parking, HSG D |
| | 1,630 | 80 | >75% Grass cover, Good, HSG D |
| | 7,550 | | Weighted Average |
| | 1,630 | | 21.59% Pervious Area |
| | 5,920 | | 78.41% Impervious Area |

| Tc
(min) | Length
(feet) | Slope
(ft/ft) | Velocity
(ft/sec) | Capacity
(cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|------------------------------------|
| 2.6 | 230 | 0.0150 | 1.47 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.4 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 230 | Total | | | |

Subcatchment 2.10S: 2.10S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.11S: 2.11S

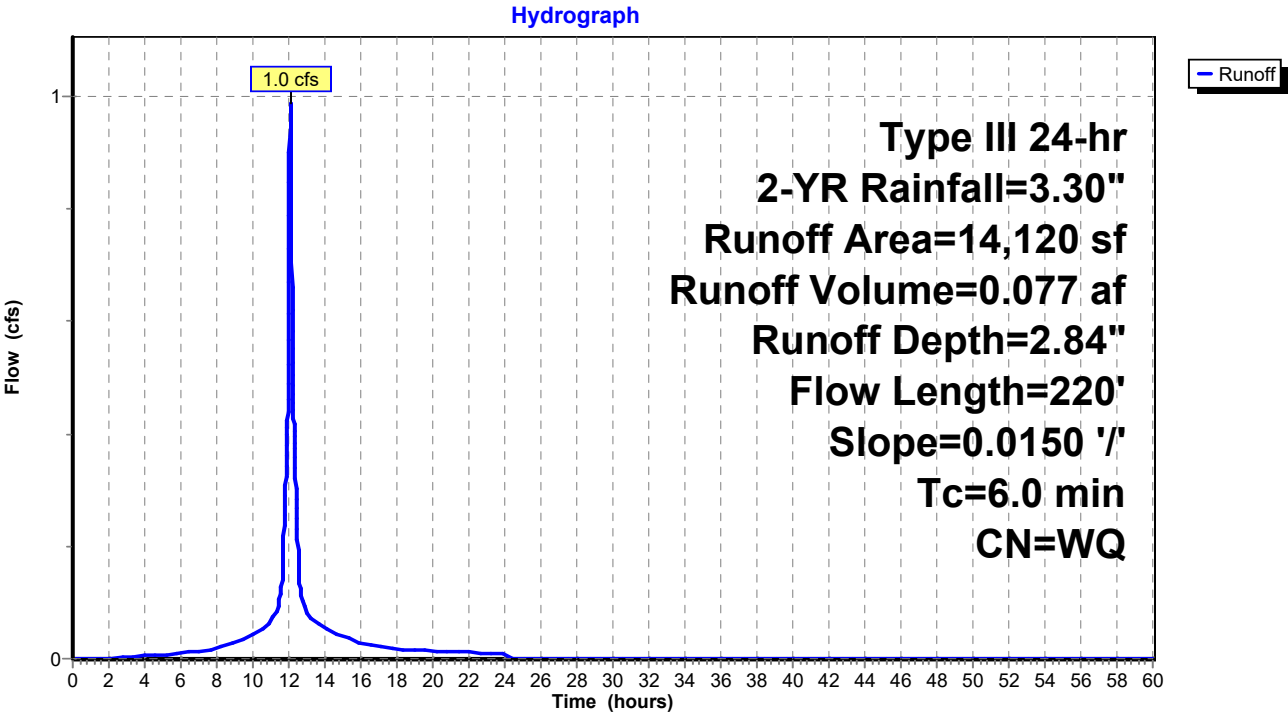
Runoff = 1.0 cfs @ 12.08 hrs, Volume= 0.077 af, Depth= 2.84"
Routed to Pond 2.11P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 340 | 98 | Sidewalks, HSG D |
| 1,100 | 80 | >75% Grass cover, Good, HSG D |
| 6,220 | 98 | Paved parking, HSG D |
| 6,460 | 96 | Gravel surface, HSG D |
| 14,120 | | Weighted Average |
| 7,560 | | 53.54% Pervious Area |
| 6,560 | | 46.46% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.5 | 220 | 0.0150 | 1.46 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 220 | Total | | | |

Subcatchment 2.11S: 2.11S



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.12S: 2.12S

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 0.037 af, Depth= 2.12"
Routed to Pond 2.12P : CB-7

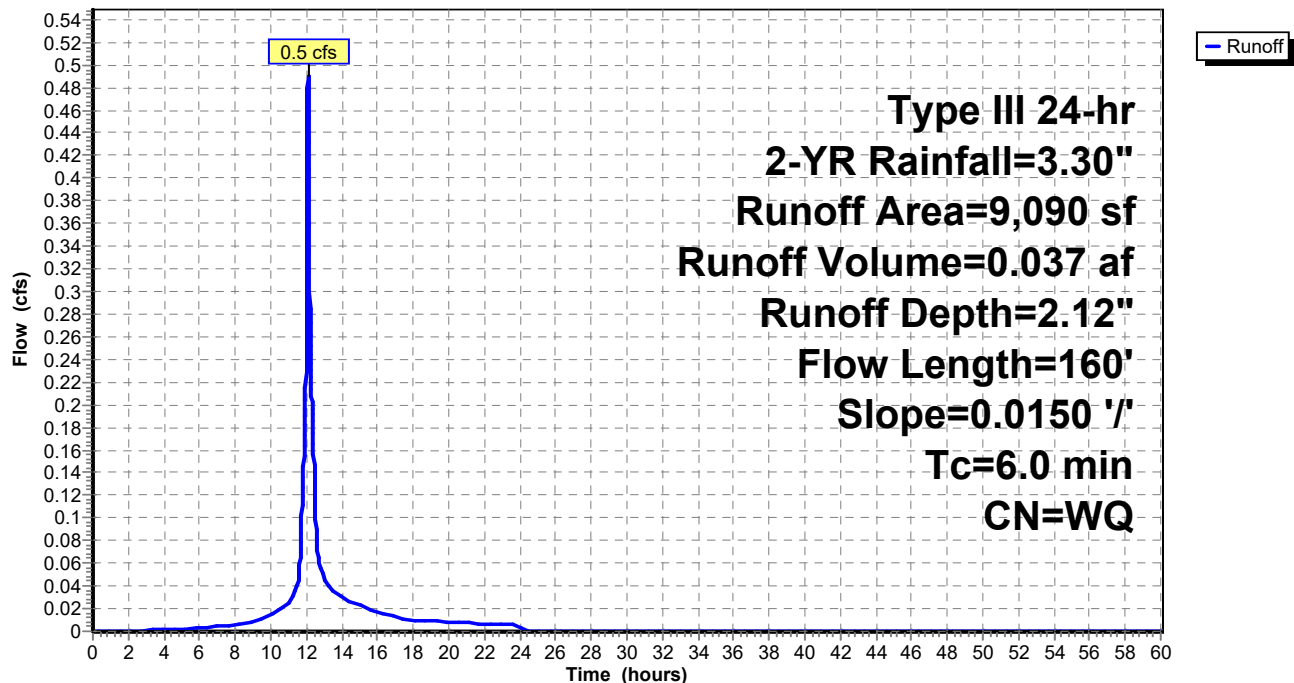
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 1,090 | 98 | Sidewalks, HSG D |
| | 5,020 | 80 | >75% Grass cover, Good, HSG D |
| | 2,980 | 96 | Gravel surface, HSG D |
| | 9,090 | | Weighted Average |
| | 8,000 | | 88.01% Pervious Area |
| | 1,090 | | 11.99% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.12S: 2.12S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.13S: 2.13S

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 0.056 af, Depth= 2.56"
Routed to Pond 2.13P : CB-3

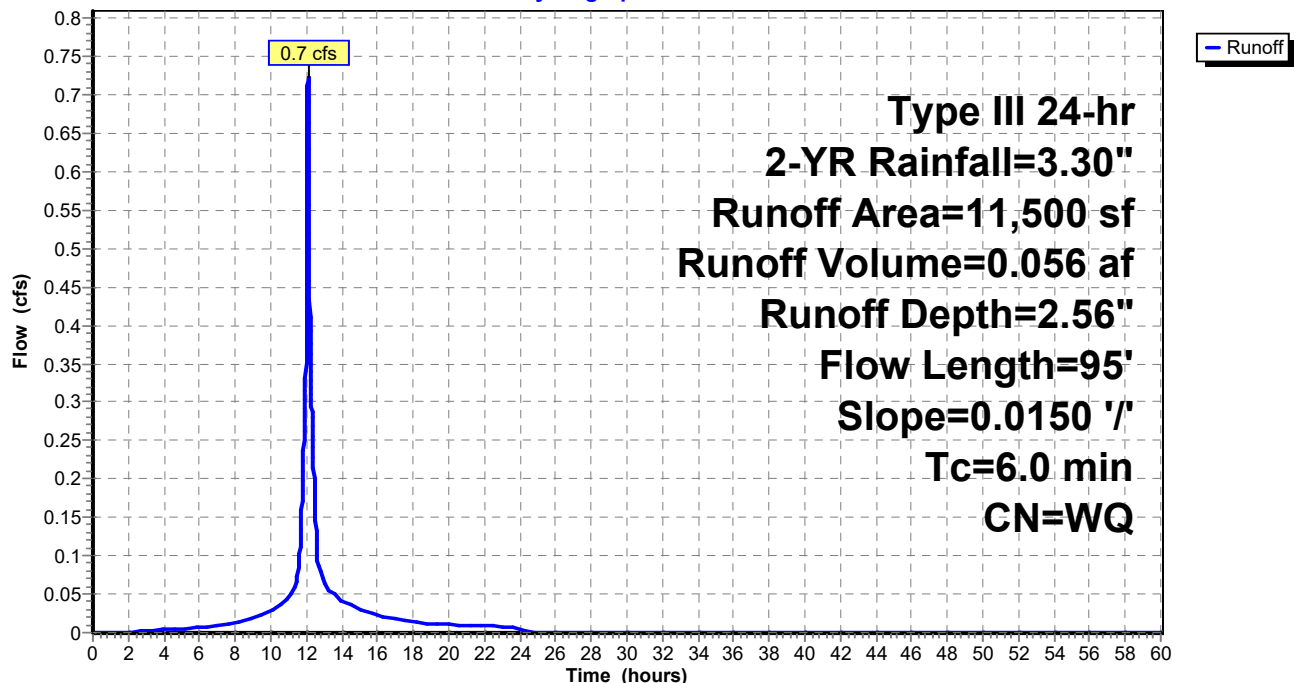
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 5,860 | 98 | Paved parking, HSG D |
| 3,510 | 80 | >75% Grass cover, Good, HSG D |
| * 540 | 98 | Sidewalks, HSG D |
| 300 | 98 | Unconnected pavement, HSG D |
| 1,290 | 96 | Gravel surface, HSG D |
| 11,500 | | Weighted Average |
| 4,800 | | 41.74% Pervious Area |
| 6,700 | | 58.26% Impervious Area |
| 300 | | 4.48% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.3 | 95 | 0.0150 | 1.23 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.7 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 95 | Total | | | |

Subcatchment 2.13S: 2.13S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.14S:

Runoff = 5.3 cfs @ 12.62 hrs, Volume= 0.838 af, Depth= 1.83"
 Routed to Link POA-2 :

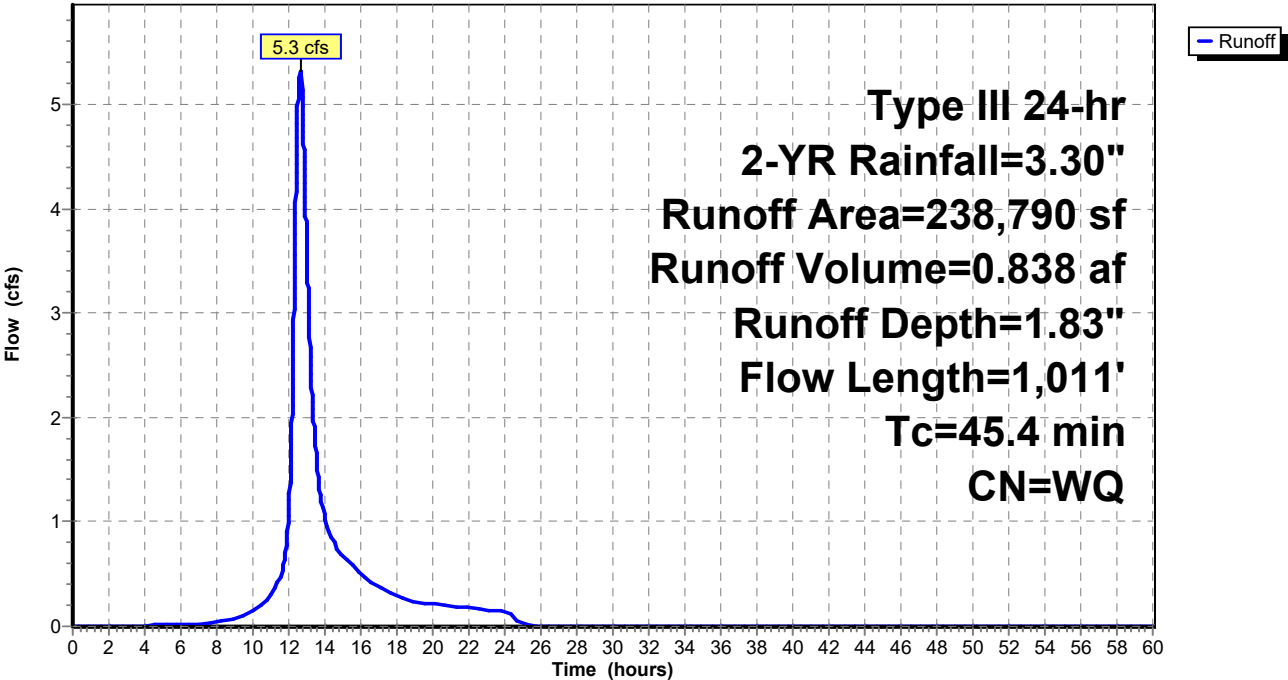
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 24,375 | 89 | <50% Grass cover, Poor, HSG D |
| 122,695 | 83 | Woods, Poor, HSG D |
| * 3,360 | 98 | Roofs, HSG D |
| * 19,110 | 96 | Gravel surface, HSG D |
| * 6,840 | 98 | Sidewalks, HSG D |
| 58,620 | 80 | >75% Grass cover, Good, HSG D |
| 3,790 | 78 | Meadow, non-grazed, HSG D |
| 238,790 | | Weighted Average |
| 228,590 | | 95.73% Pervious Area |
| 10,200 | | 4.27% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 2.6 | 110 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 1.6 | 200 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.4 | 50 | 0.0200 | 2.12 | | Shallow Concentrated Flow, E-F |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.1 | 135 | 0.0200 | 2.12 | | Shallow Concentrated Flow, F-G |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.6 | 250 | 0.0300 | 2.60 | | Shallow Concentrated Flow, G-H |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 56 | 0.0150 | 5.56 | 4.36 | Pipe Channel, H-I |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 10 | 0.3300 | 8.62 | | Shallow Concentrated Flow, I-J |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 30 | 0.3300 | 2.87 | | Shallow Concentrated Flow, J-K |
| | | | | | Woodland Kv= 5.0 fps |
| 45.4 | 1,011 | Total | | | |

Subcatchment 2.14S:

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.1S: 2.1S

Runoff = 0.4 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 2.23"
Routed to Pond 2.1P : CB-2

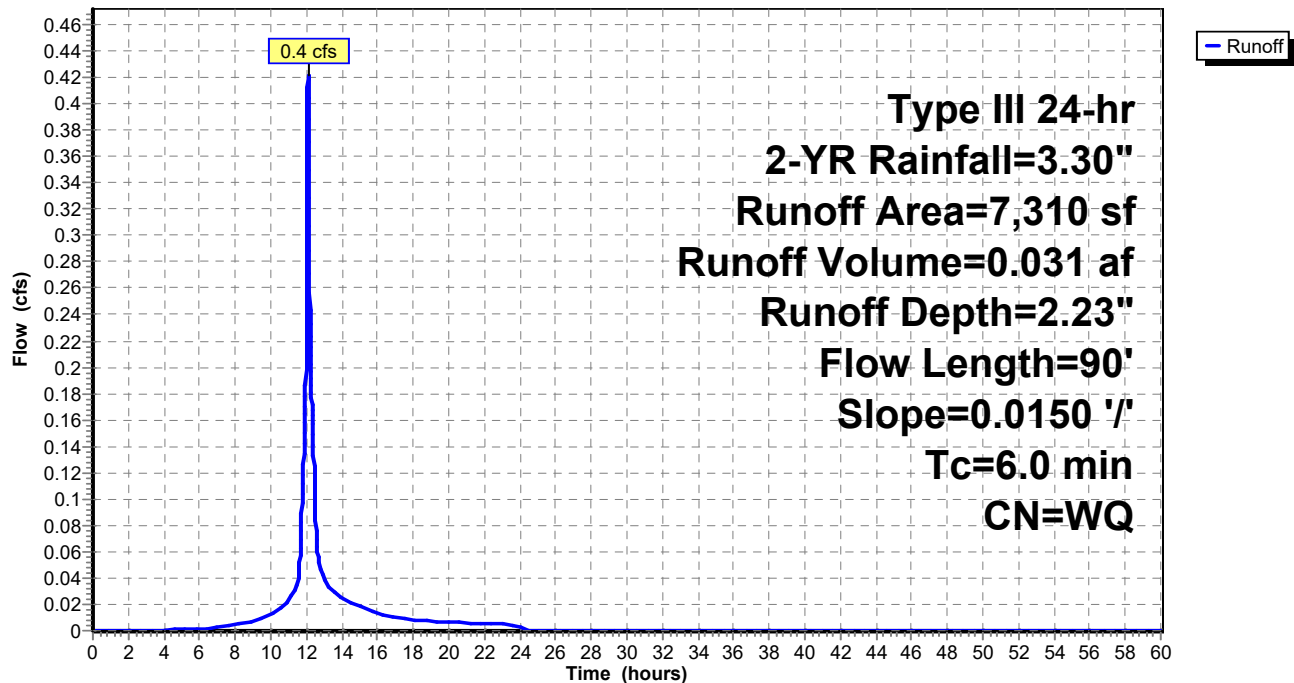
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 870 | 98 | Paved parking, HSG D |
| * 190 | 98 | Sidewalks, HSG D |
| 2,330 | 80 | >75% Grass cover, Good, HSG D |
| 3,920 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 7,310 | | Weighted Average |
| 3,702 | | 50.64% Pervious Area |
| 3,608 | | 49.36% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.1S: 2.1S

Hydrograph



18462 POST with Stormfilter

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.2S: 2.2S

Runoff = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af, Depth= 2.51"
Routed to Pond 2.2P : DMH-7

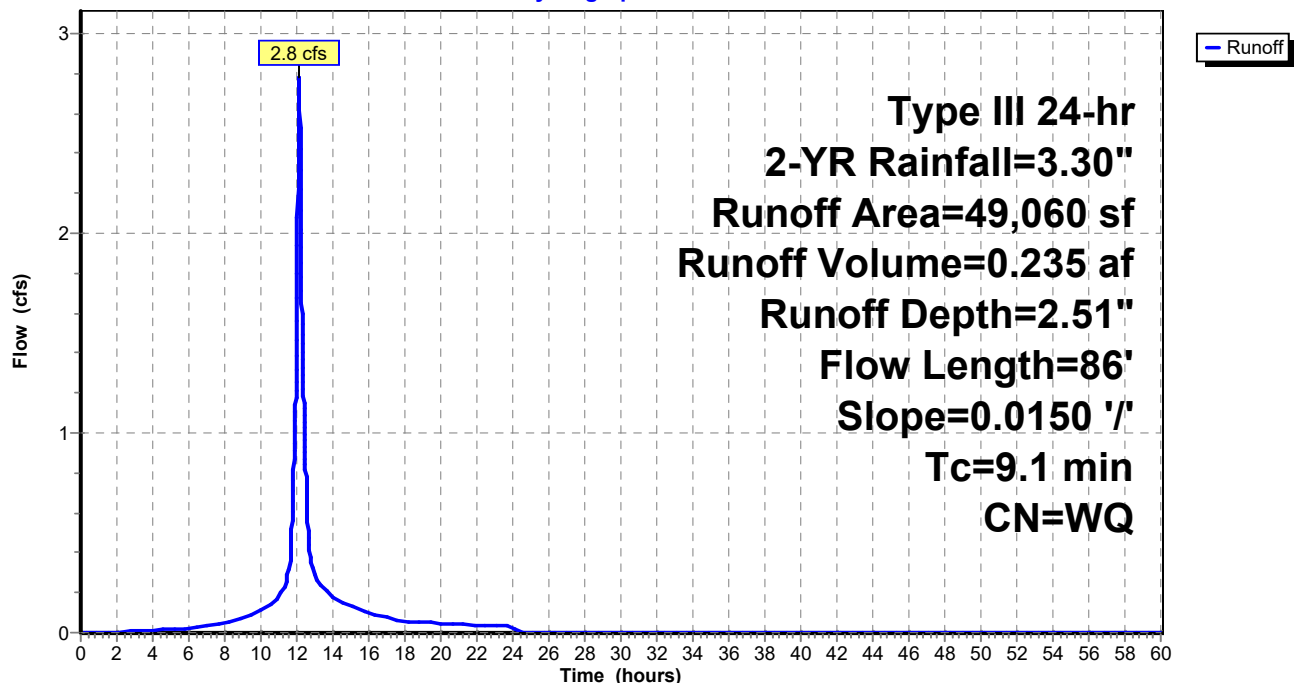
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 11,330 | 98 | Paved parking, HSG D |
| * 1,450 | 98 | Sidewalks, HSG D |
| 9,060 | 98 | Roofs, HSG D |
| 10,940 | 80 | >75% Grass cover, Good, HSG D |
| 16,280 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 49,060 | | Weighted Average |
| 16,638 | | 33.91% Pervious Area |
| 32,422 | | 66.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 9.1 | 80 | 0.0150 | 0.15 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 6 | 0.0150 | 2.49 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 9.1 | 86 | Total | | | |

Subcatchment 2.2S: 2.2S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.3S: 2.2S

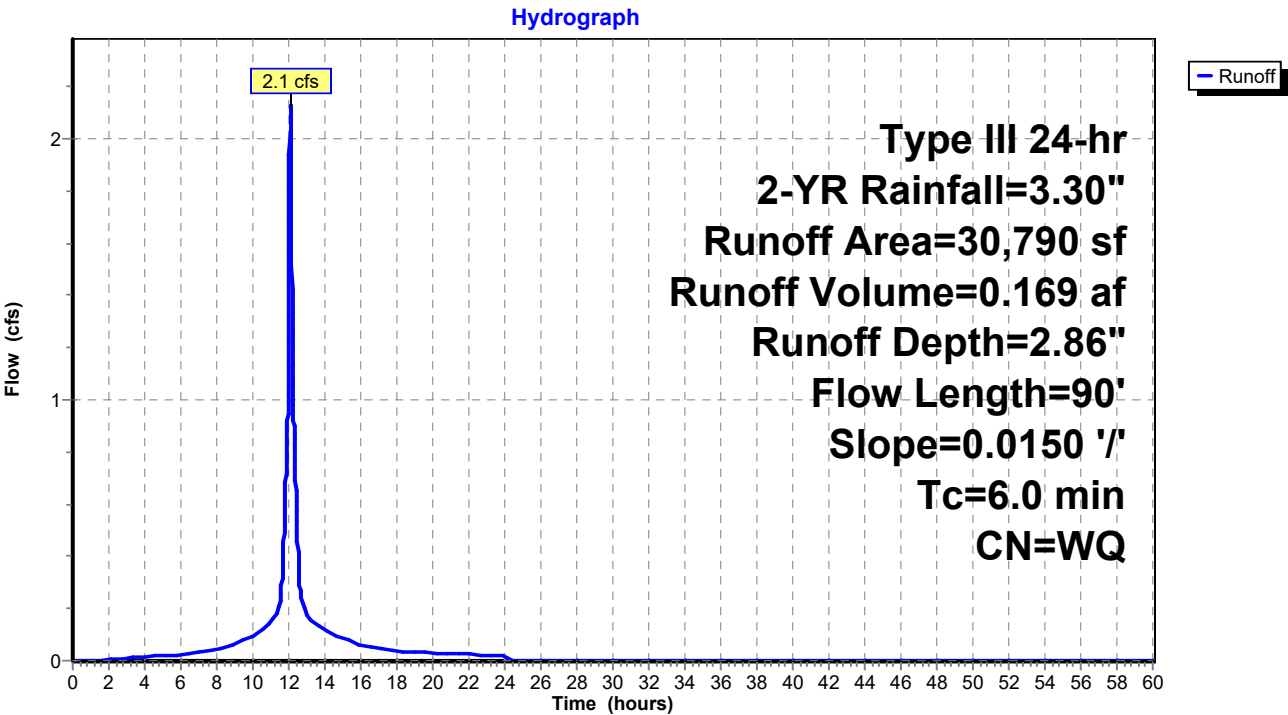
Runoff = 2.1 cfs @ 12.08 hrs, Volume= 0.169 af, Depth= 2.86"
Routed to Pond 2.3P : CB-24

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,330 | 98 | Paved parking, HSG D |
| * 5,830 | 98 | Sidewalks, HSG D |
| 8,650 | 98 | Roofs, HSG D |
| 3,980 | 80 | >75% Grass cover, Good, HSG D |
| 30,790 | | Weighted Average |
| 3,980 | | 12.93% Pervious Area |
| 26,810 | | 87.07% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.3S: 2.2S



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.4S: 2.4S

Runoff = 0.3 cfs @ 12.08 hrs, Volume= 0.021 af, Depth= 3.07"
Routed to Pond 2.4P : CB-17

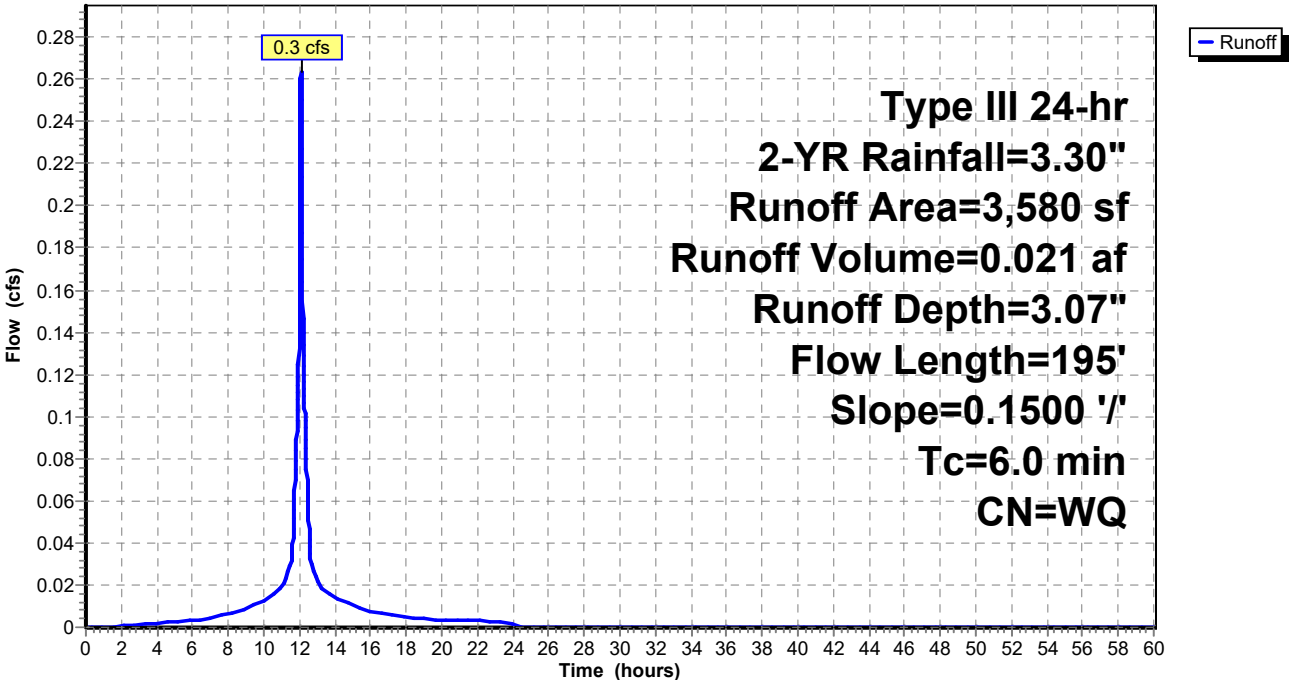
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| * 500 | 98 | Sidewalks, HSG D |
| 3,080 | 98 | Paved parking, HSG D |
| 3,580 | | Weighted Average |
| 3,580 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.9 | 195 | 0.1500 | 3.57 | | Sheet Flow, A |
| 5.1 | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 6.0 | 195 | Total | | | Direct Entry, DIRECT ENTRY |

Subcatchment 2.4S: 2.4S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.5S: 2.5S

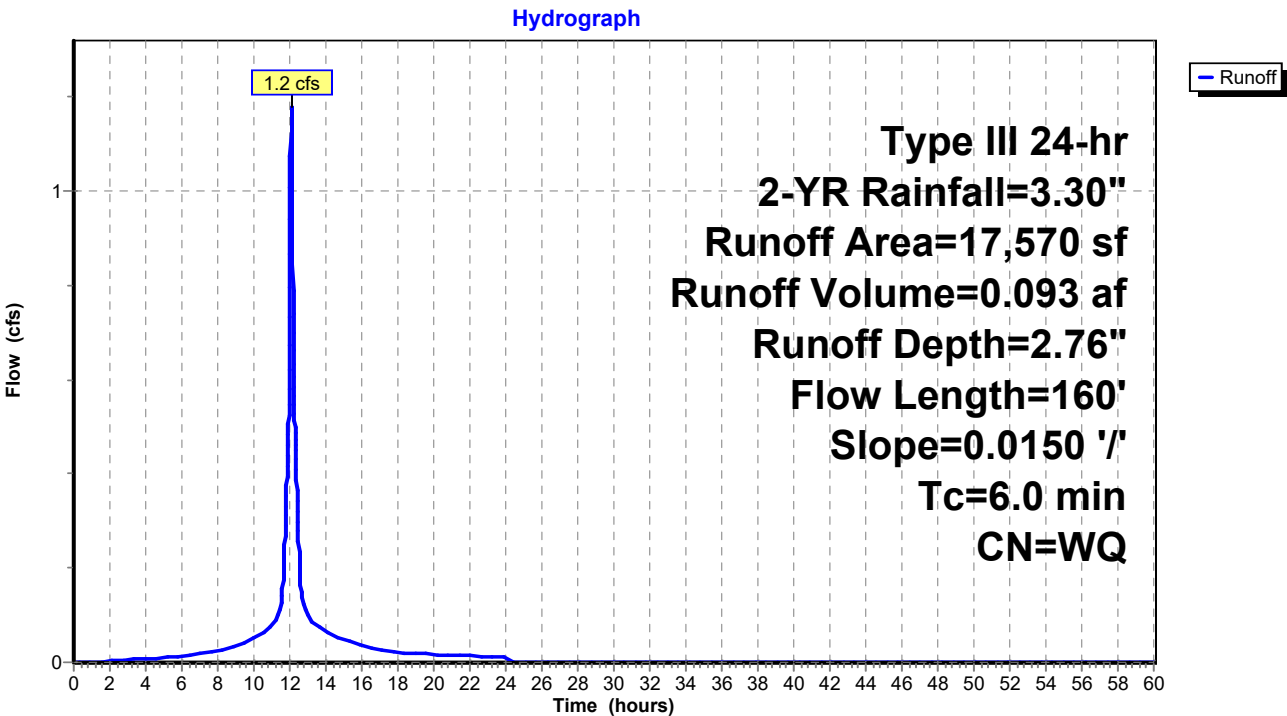
Runoff = 1.2 cfs @ 12.08 hrs, Volume= 0.093 af, Depth= 2.76"
Routed to Pond 2.5P : CB-20

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,530 | 98 | Paved parking, HSG D |
| * 4,690 | 98 | Sidewalks, HSG D |
| 3,350 | 80 | >75% Grass cover, Good, HSG D |
| 17,570 | | Weighted Average |
| 3,350 | | 19.07% Pervious Area |
| 14,220 | | 80.93% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.5S: 2.5S



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.6S: 2.6S

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 0.096 af, Depth= 2.71"
Routed to Pond 2.6P : CB-15

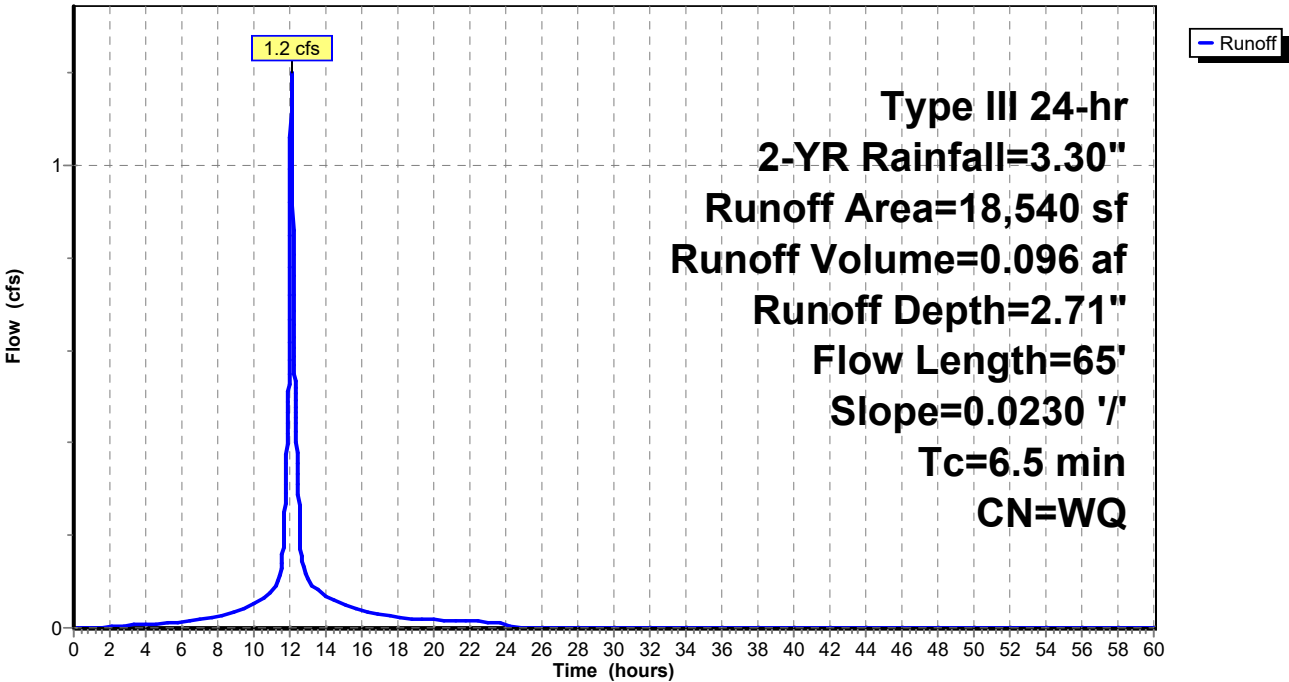
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 2,010 | 98 | Sidewalks, HSG D |
| | 4,190 | 80 | >75% Grass cover, Good, HSG D |
| | 12,340 | 98 | Paved parking, HSG D |
| | 18,540 | | Weighted Average |
| | 4,190 | | 22.60% Pervious Area |
| | 14,350 | | 77.40% Impervious Area |

| Tc
(min) | Length
(feet) | Slope
(ft/ft) | Velocity
(ft/sec) | Capacity
(cfs) | Description |
|---------------------------------|------------------|------------------|----------------------|-------------------|---------------|
| 6.5 | 65 | 0.0230 | 0.17 | | Sheet Flow, A |
| Grass: Short n= 0.150 P2= 3.30" | | | | | |

Subcatchment 2.6S: 2.6S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.7S: 2.7S

Runoff = 2.8 cfs @ 12.08 hrs, Volume= 0.219 af, Depth= 2.80"
Routed to Pond 2.7P : CB-8

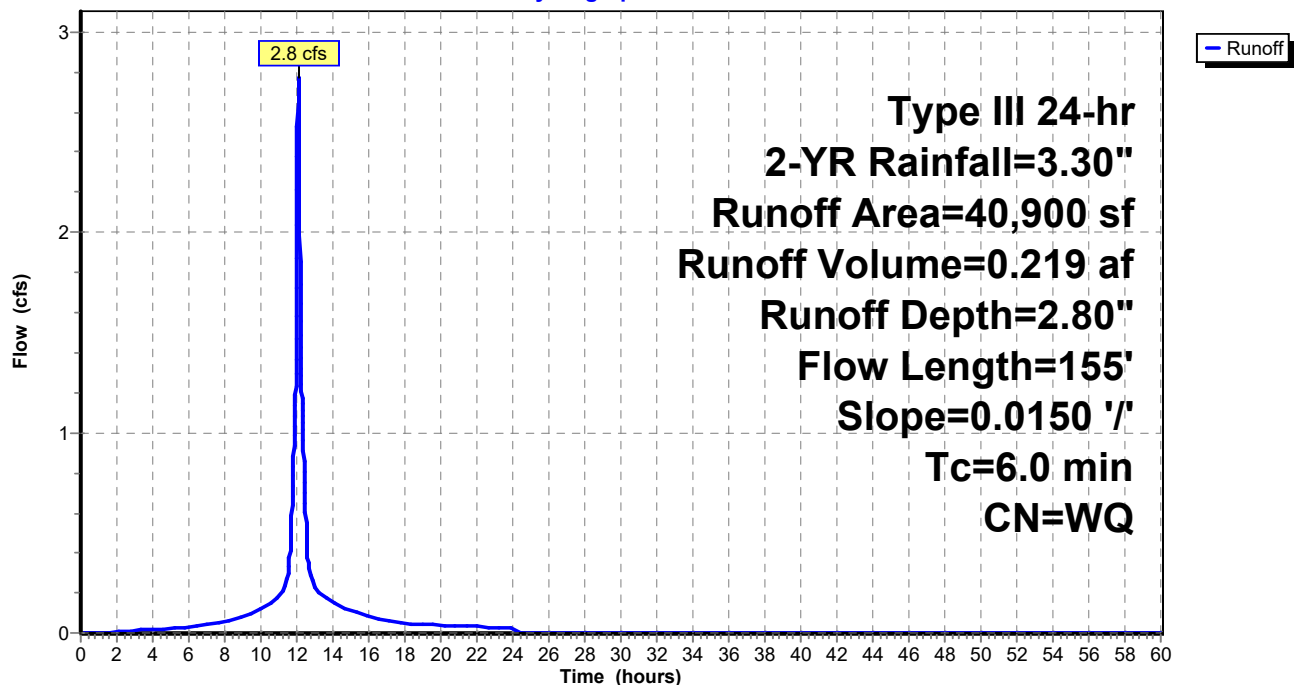
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,000 | 98 | Unconnected pavement, HSG D |
| 14,870 | 98 | Paved parking, HSG D |
| 17,100 | 98 | Roofs, HSG D |
| 6,930 | 80 | >75% Grass cover, Good, HSG D |
| 40,900 | | Weighted Average |
| 6,930 | | 16.94% Pervious Area |
| 33,970 | | 83.06% Impervious Area |
| 2,000 | | 5.89% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 155 | 0.0150 | 1.36 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 155 | Total | | | |

Subcatchment 2.7S: 2.7S

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.8S:

Runoff = 0.4 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 2.42"
Routed to Pond 2.8P : CB-14

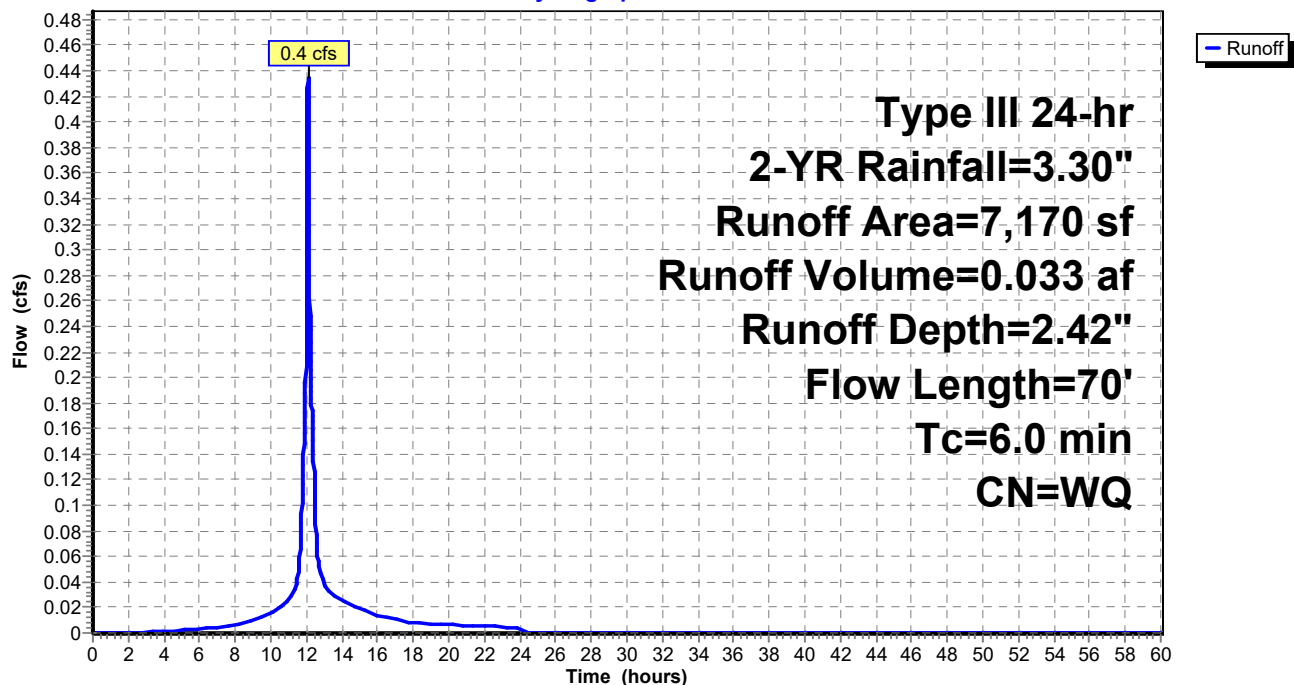
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,510 | 80 | >75% Grass cover, Good, HSG D |
| * 1,630 | 98 | Sidewalks, HSG D |
| 3,030 | 96 | Gravel surface, HSG D |
| 7,170 | | Weighted Average |
| 5,540 | | 77.27% Pervious Area |
| 1,630 | | 22.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 5.5 | 60 | 0.0300 | 0.18 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 10 | 0.0600 | 4.97 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 70 | Total | | | |

Subcatchment 2.8S:

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 2.9S: 2.9S

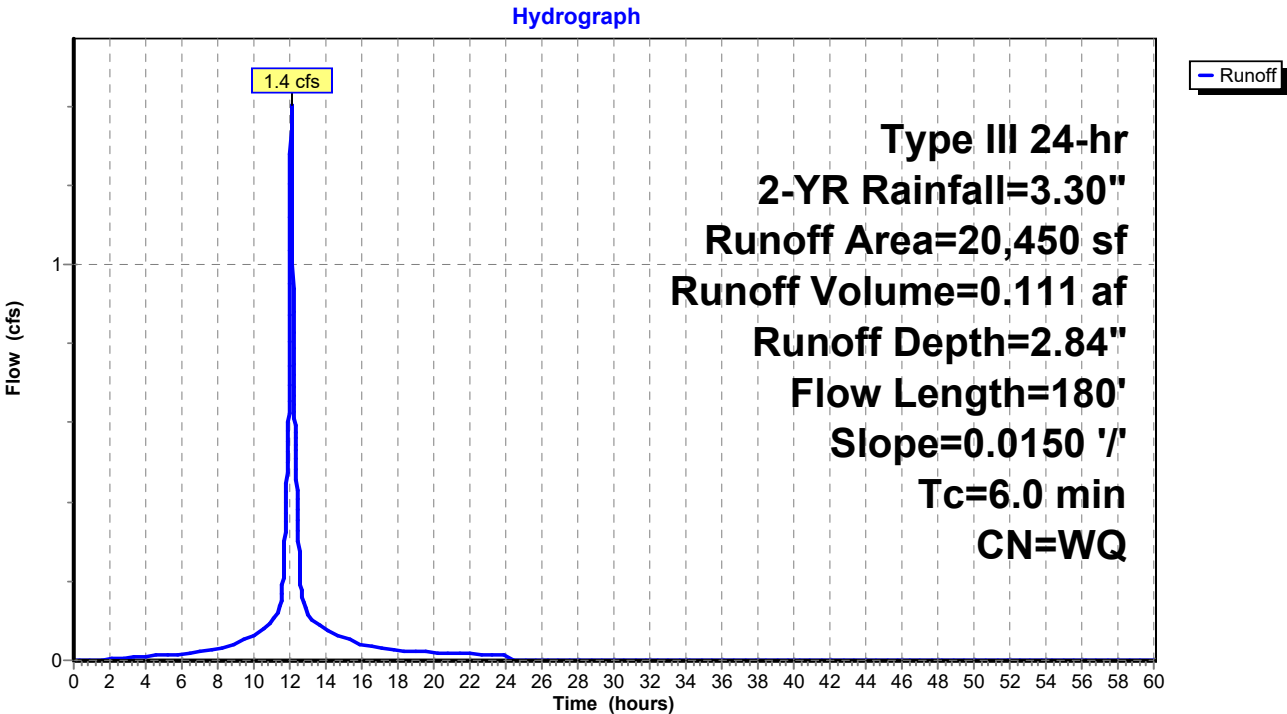
Runoff = 1.4 cfs @ 12.08 hrs, Volume= 0.111 af, Depth= 2.84"
Routed to Pond 2.9P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,980 | 80 | >75% Grass cover, Good, HSG D |
| * 2,170 | 98 | Sidewalks, HSG D |
| 15,300 | 98 | Paved parking, HSG D |
| 20,450 | | Weighted Average |
| 2,980 | | 14.57% Pervious Area |
| 17,470 | | 85.43% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.1 | 180 | 0.0150 | 1.40 | | Sheet Flow, A |
| 3.9 | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 6.0 | 180 | Total | | | Direct Entry, DIRECT ENTRY |

Subcatchment 2.9S: 2.9S



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 3.1S:

Runoff = 9.6 cfs @ 12.52 hrs, Volume= 1.412 af, Depth= 2.17"

Routed to Link POA-3 :

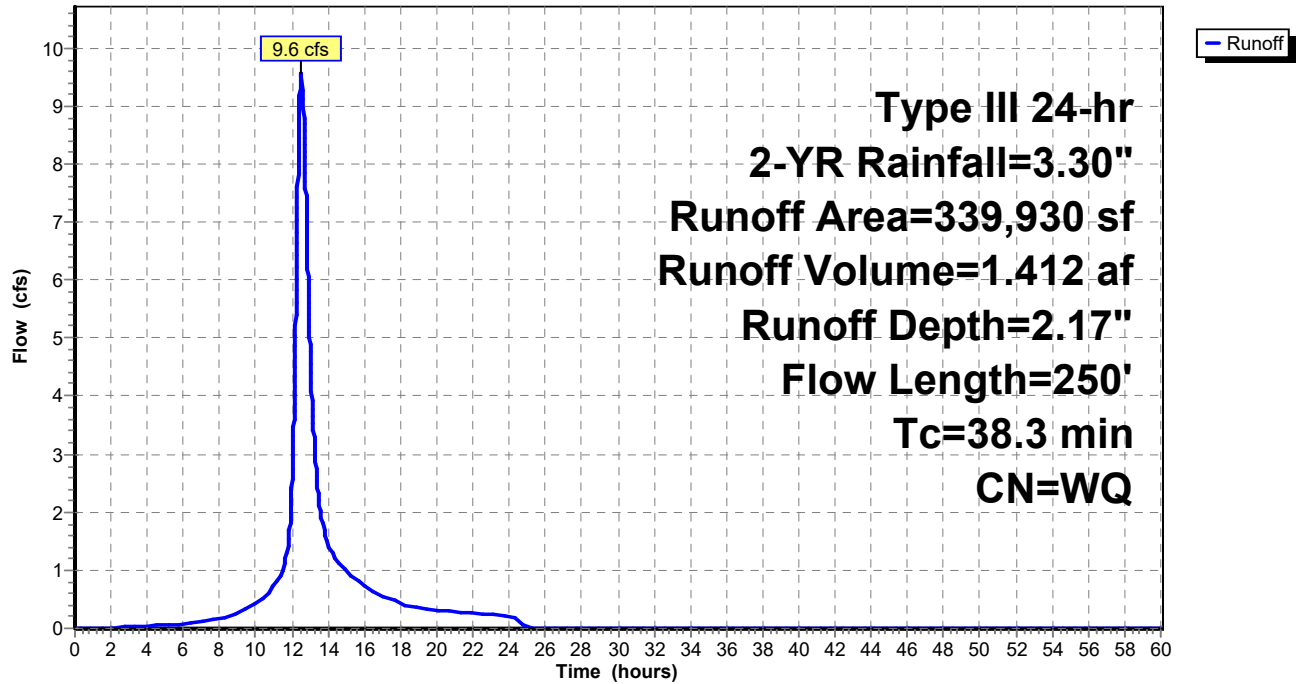
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 44,220 | 98 | Roofs, HSG D |
| 28,895 | 98 | Paved parking, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 50,270 | 89 | <50% Grass cover, Poor, HSG D |
| 154,640 | 83 | Woods, Poor, HSG D |
| 7,700 | 78 | Meadow, non-grazed, HSG D |
| 17,355 | 80 | >75% Grass cover, Good, HSG D |
| * 9,740 | 98 | Sidewalks, HSG D |
| 339,930 | | Weighted Average |
| 257,075 | | 75.63% Pervious Area |
| 82,855 | | 24.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 40 | 0.3300 | 8.62 | | Shallow Concentrated Flow, B-C |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 10 | 0.0150 | 2.49 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | 55 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 38.3 | 250 | Total | | | |

Subcatchment 3.1S:

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 4S:

Runoff = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Depth= 2.56"
Routed to Pond 4P : CB - Elm Street

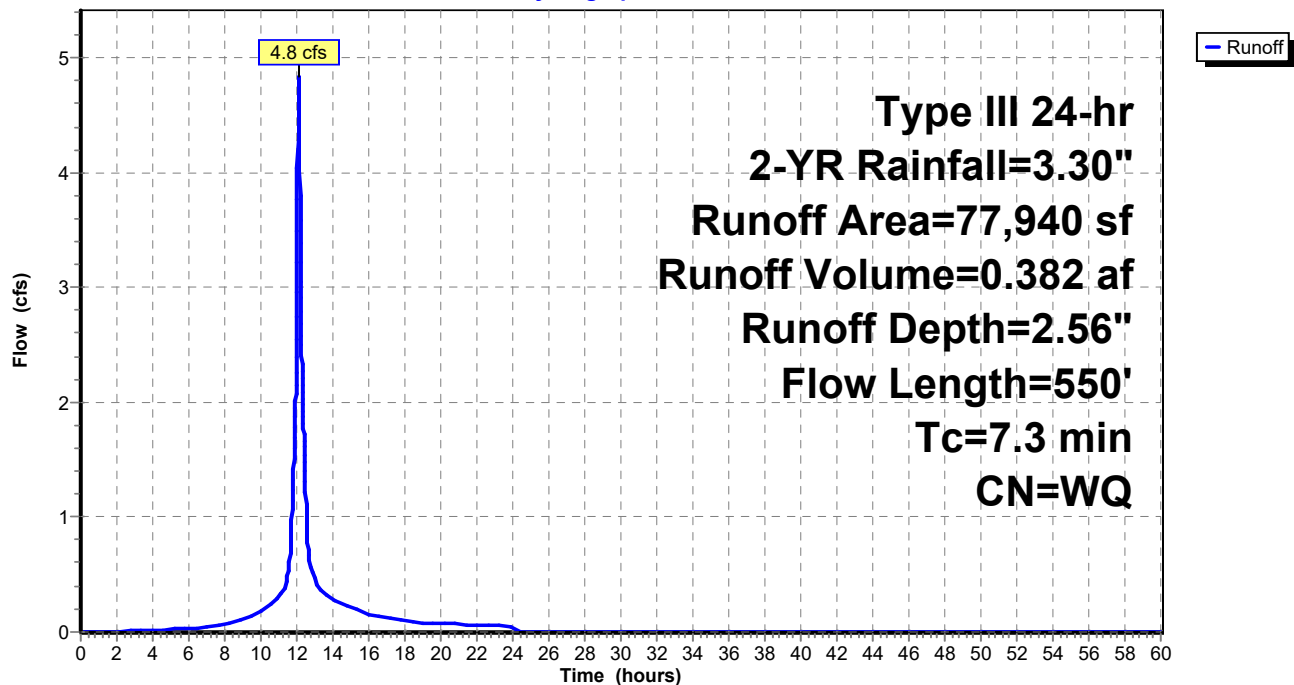
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B
Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C
Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 5.1S:

Runoff = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af, Depth= 2.42"
 Routed to Pond 5P : Box Culvert - Railroad

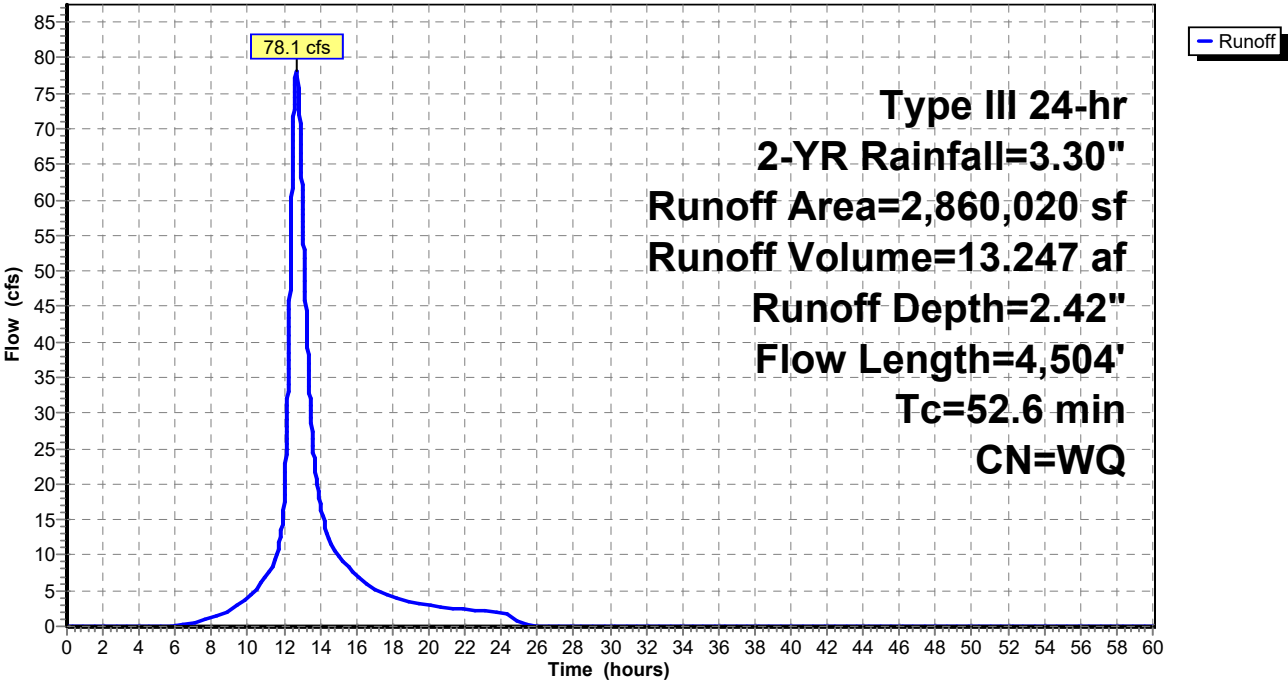
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,765,240 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,600 | 83 | Woods, Poor, HSG D |
| 4,430 | 80 | >75% Grass cover, Good, HSG D |
| 1,750 | 96 | Gravel surface, HSG D |
| 2,860,020 | | Weighted Average |
| 1,062,614 | | 37.15% Pervious Area |
| 1,797,406 | | 62.85% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5.1S:

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.10P: CB-4

Inflow Area = 0.2 ac, 78.41% Impervious, Inflow Depth = 2.72" for 2-YR event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 0.039 af
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 0.039 af
Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

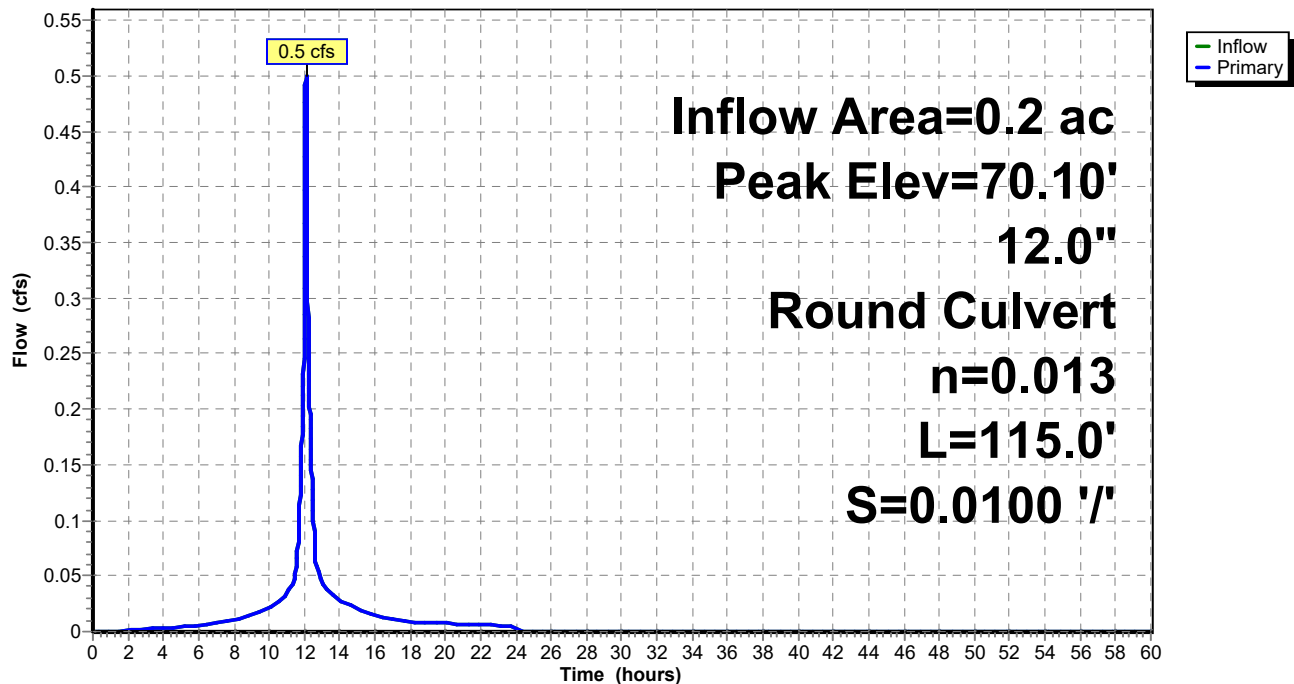
Peak Elev= 70.10' @ 12.08 hrs

Flood Elev= 73.30'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 69.70' | 12.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 69.70' / 68.55' S= 0.0100 '/ Cc= 0.900
n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=70.10' (Free Discharge)

↑1=Culvert (Inlet Controls 0.5 cfs @ 1.70 fps)

Pond 2.10P: CB-4**Hydrograph**

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.11P: CB-6

Inflow Area = 1.4 ac, 66.07% Impervious, Inflow Depth = 2.70" for 2-YR event
Inflow = 4.0 cfs @ 12.08 hrs, Volume= 0.315 af
Outflow = 4.0 cfs @ 12.08 hrs, Volume= 0.315 af, Atten= 0%, Lag= 0.0 min
Primary = 4.0 cfs @ 12.08 hrs, Volume= 0.315 af
Routed to Pond 2.12P : CB-7

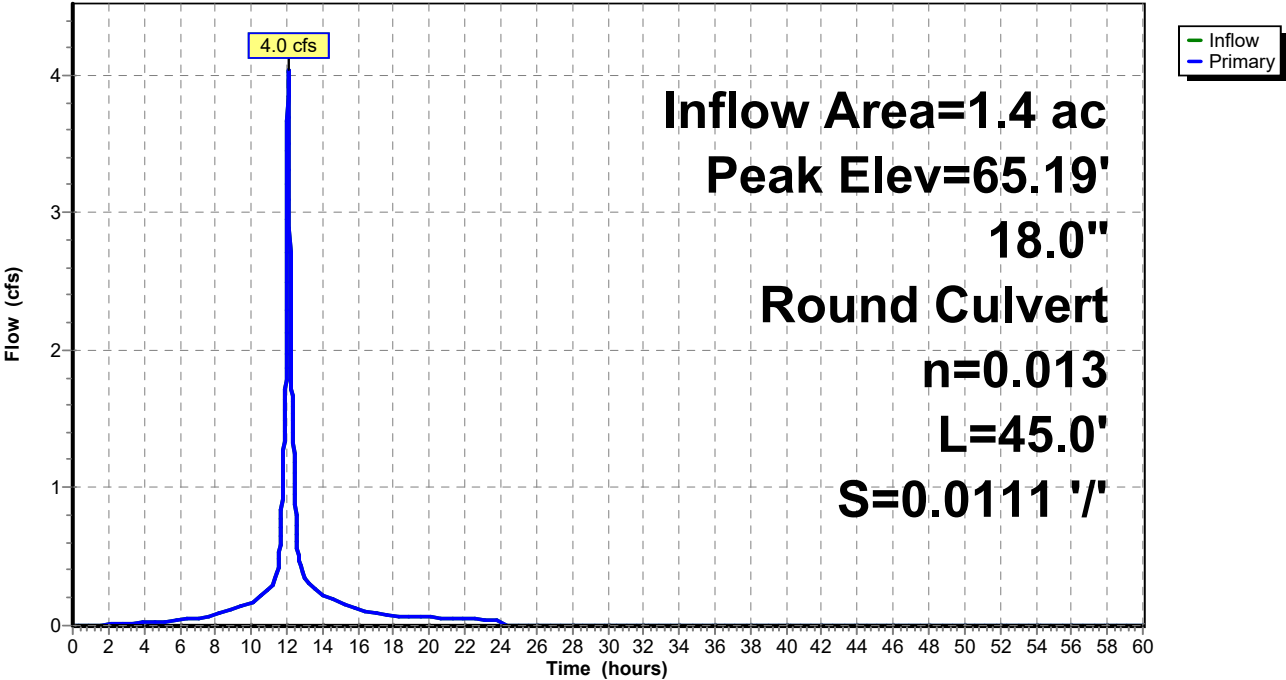
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 65.19' @ 12.08 hrs
Flood Elev= 73.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.07' | 18.0" Round Culvert
L= 45.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.07' / 63.57' S= 0.0111 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=4.0 cfs @ 12.08 hrs HW=65.19' (Free Discharge)
1=Culvert (Inlet Controls 4.0 cfs @ 2.84 fps)

Pond 2.11P: CB-6

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.12P: CB-7

Inflow Area = 1.6 ac, 59.05% Impervious, Inflow Depth = 2.62" for 2-YR event
Inflow = 4.5 cfs @ 12.08 hrs, Volume= 0.351 af
Outflow = 4.5 cfs @ 12.08 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min
Primary = 4.5 cfs @ 12.08 hrs, Volume= 0.351 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.68' @ 12.08 hrs

Flood Elev= 73.50'

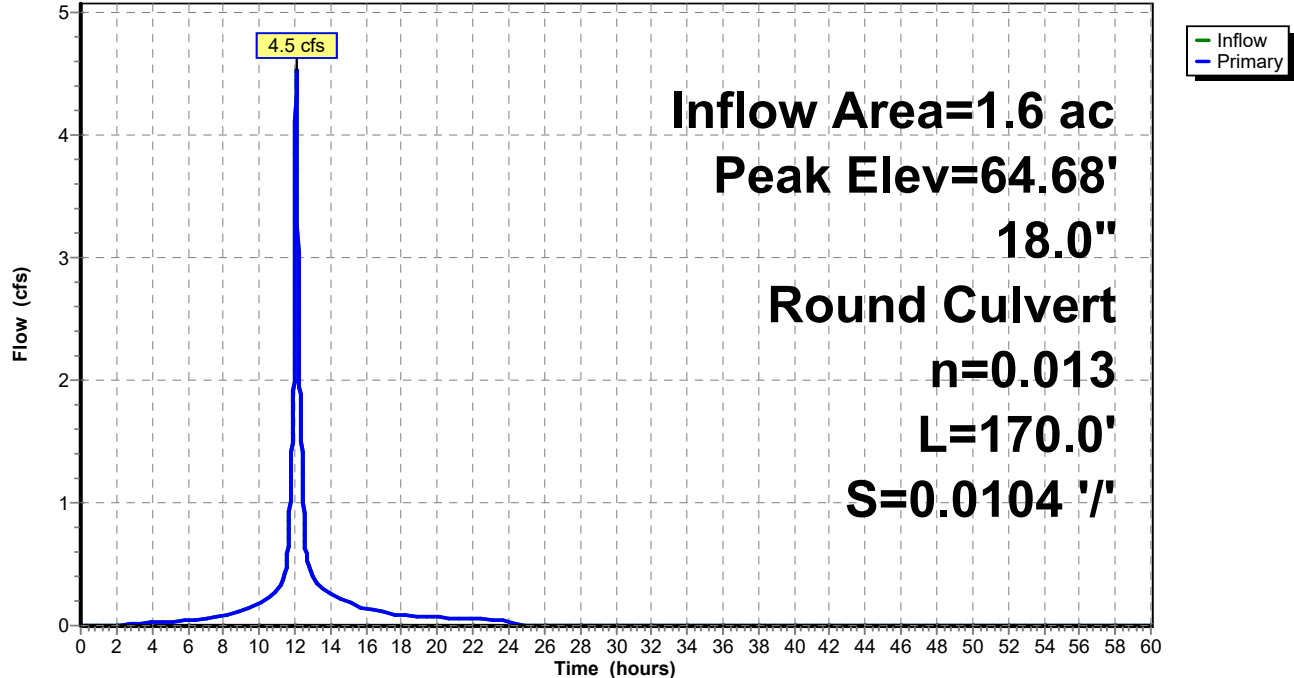
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.47' | 18.0" Round Culvert
L= 170.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.47' / 61.70' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=4.5 cfs @ 12.08 hrs HW=64.68' (Free Discharge)

↑1=Culvert (Inlet Controls 4.5 cfs @ 2.96 fps)

Pond 2.12P: CB-7

Hydrograph



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Summary for Pond 2.13P: CB-3

Inflow Area = 0.4 ac, 54.80% Impervious, Inflow Depth = 2.43" for 2-YR event
Inflow = 1.1 cfs @ 12.09 hrs, Volume= 0.087 af
Outflow = 1.1 cfs @ 12.09 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.09 hrs, Volume= 0.087 af
Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.53' @ 12.09 hrs

Flood Elev= 73.00'

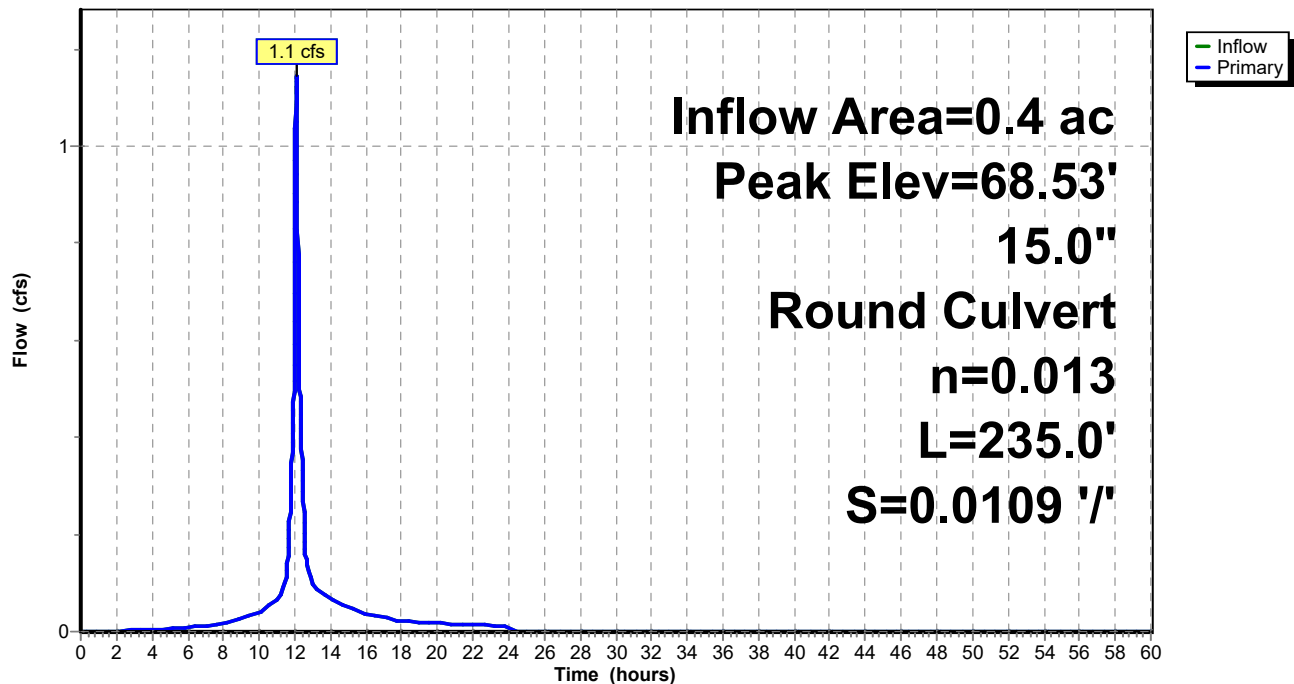
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 67.95' | 15.0" Round Culvert
L= 235.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 67.95' / 65.40' S= 0.0109 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=1.1 cfs @ 12.09 hrs HW=68.53' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.05 fps)

Pond 2.13P: CB-3

Hydrograph



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Summary for Pond 2.1P: CB-2

Inflow Area = 0.2 ac, 49.36% Impervious, Inflow Depth = 2.23" for 2-YR event
Inflow = 0.4 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.4 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.09 hrs, Volume= 0.031 af
Routed to Pond 2.13P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.46' @ 12.09 hrs

Flood Elev= 74.20'

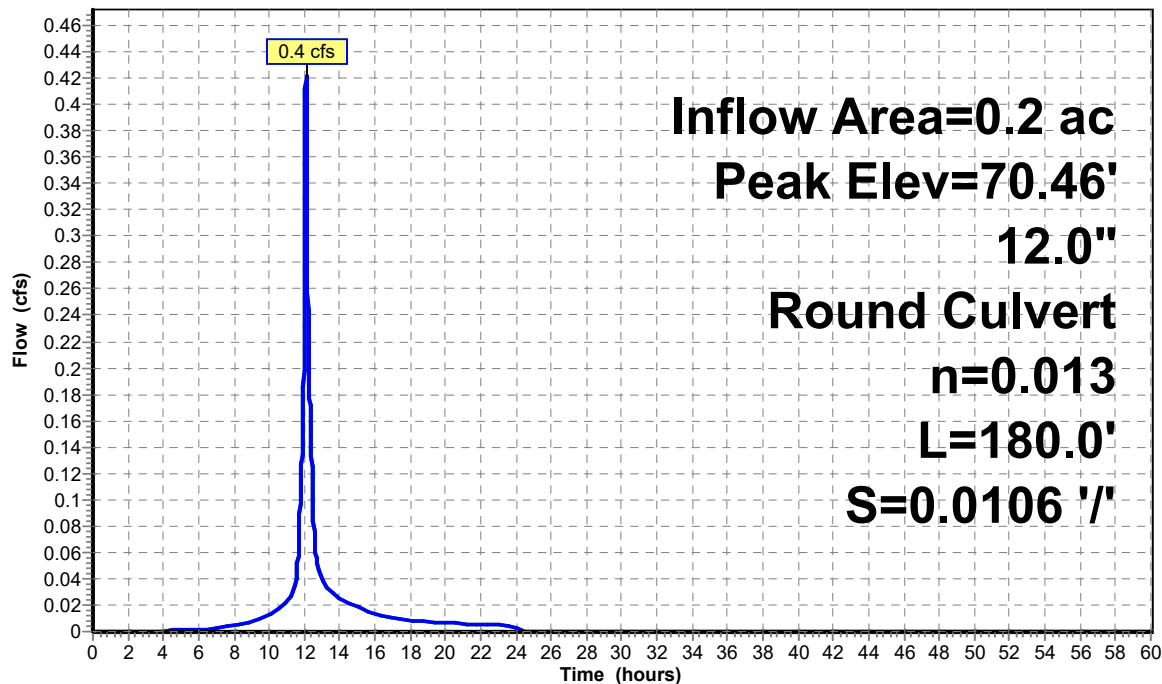
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 70.10' | 12.0" Round Culvert
L= 180.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 70.10' / 68.20' S= 0.0106 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.4 cfs @ 12.09 hrs HW=70.46' (Free Discharge)

↑1=Culvert (Inlet Controls 0.4 cfs @ 1.62 fps)

Pond 2.1P: CB-2

Hydrograph



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Summary for Pond 2.21P: DMH-6

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 2.51" for 2-YR event
Inflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Outflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
Primary = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Routed to Pond 2.22P : DMH-8

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.44' @ 12.12 hrs

Flood Elev= 73.75'

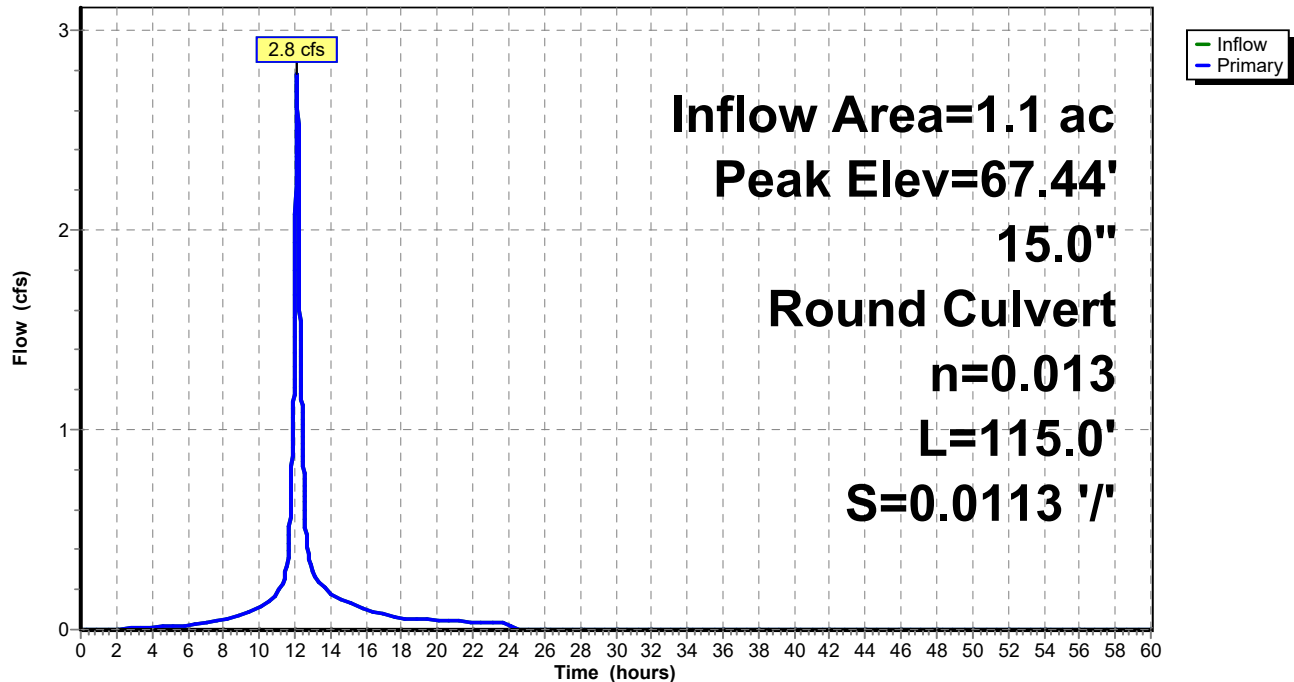
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 66.45' | 15.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 66.45' / 65.15' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=2.8 cfs @ 12.12 hrs HW=67.44' (Free Discharge)

↑1=Culvert (Inlet Controls 2.8 cfs @ 2.67 fps)

Pond 2.21P: DMH-6

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.22P: DMH-8

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 2.51" for 2-YR event
Inflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Outflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
Primary = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Routed to Pond 2.3P : CB-24

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.79' @ 12.12 hrs

Flood Elev= 71.40'

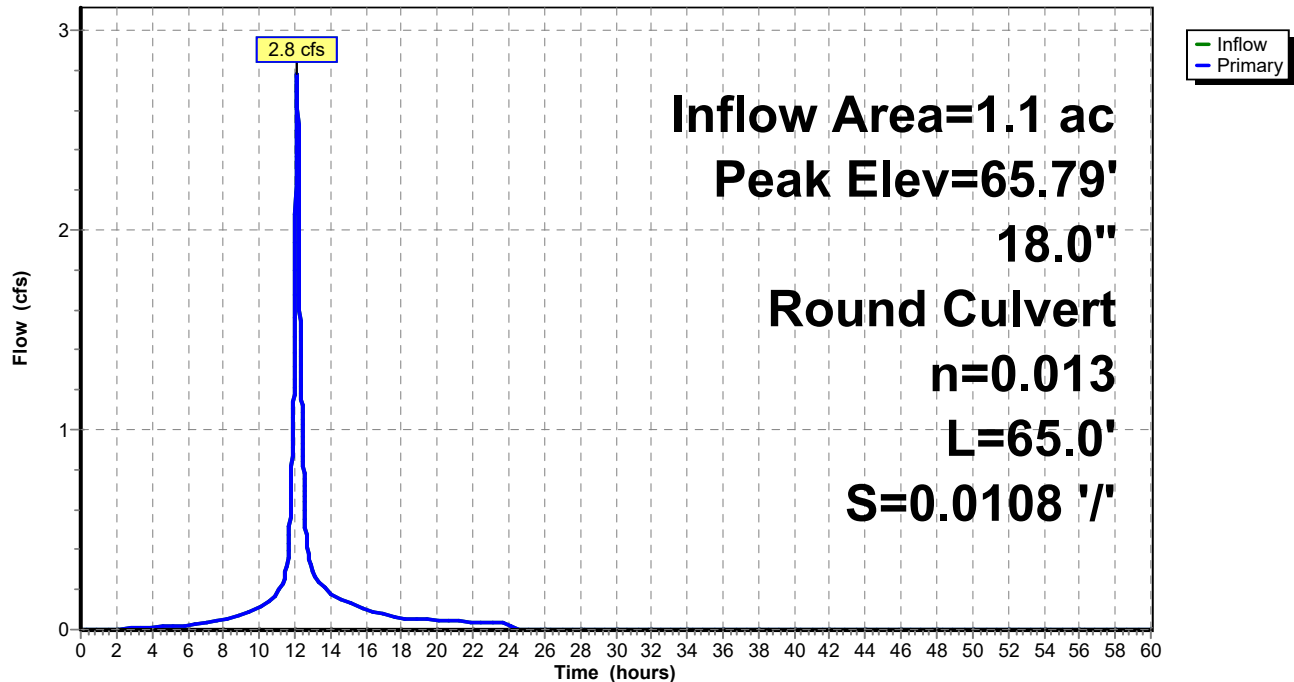
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 64.90' | 18.0" Round Culvert
L= 65.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.90' / 64.20' S= 0.0108 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=2.8 cfs @ 12.12 hrs HW=65.79' (Free Discharge)

↑1=Culvert (Inlet Controls 2.8 cfs @ 2.54 fps)

Pond 2.22P: DMH-8

Hydrograph



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Summary for Pond 2.2P: DMH-7

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 2.51" for 2-YR event
Inflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Outflow = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
Primary = 2.8 cfs @ 12.12 hrs, Volume= 0.235 af
Routed to Pond 2.21P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 69.93' @ 12.12 hrs

Flood Elev= 74.70'

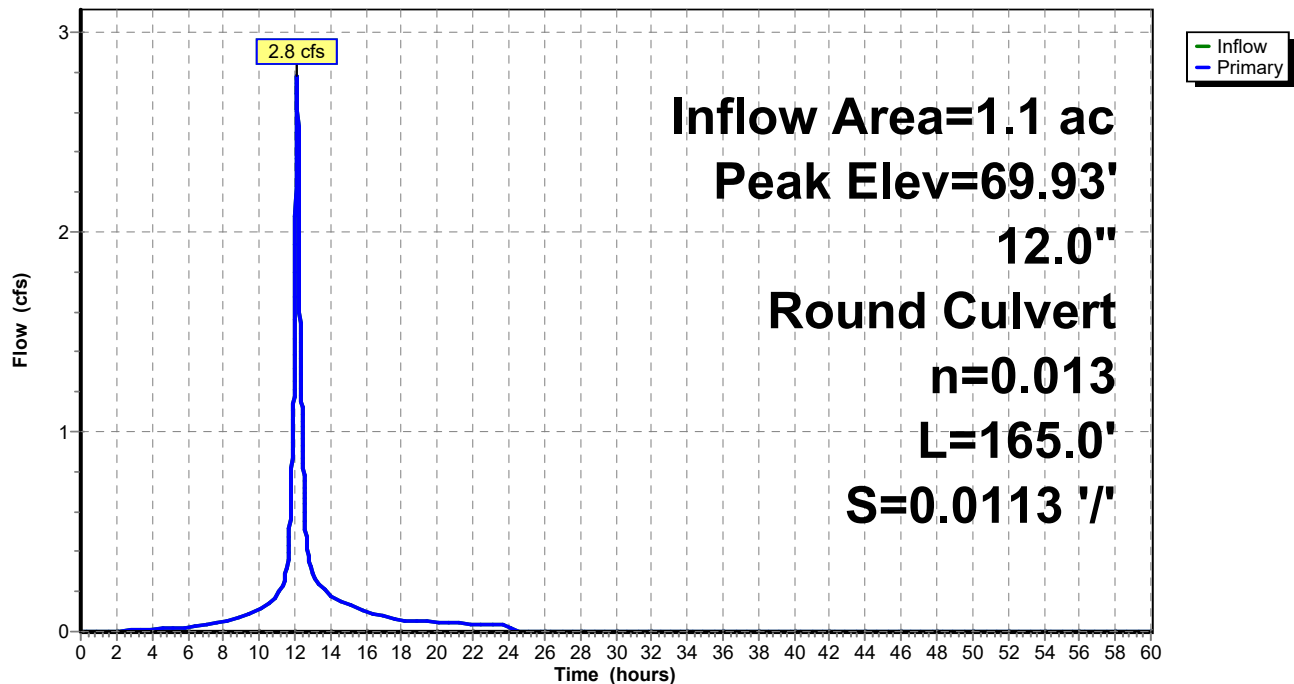
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 68.56' | 12.0" Round Culvert
L= 165.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 68.56' / 66.70' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=2.8 cfs @ 12.12 hrs HW=69.92' (Free Discharge)

↑1=Culvert (Inlet Controls 2.8 cfs @ 3.53 fps)

Pond 2.2P: DMH-7

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 2.67" for 2-YR event
 Inflow = 13.6 cfs @ 12.09 hrs, Volume= 1.100 af
 Outflow = 13.3 cfs @ 12.11 hrs, Volume= 0.981 af, Atten= 2%, Lag= 1.1 min
 Primary = 13.3 cfs @ 12.11 hrs, Volume= 0.981 af
 Routed to Pond 2.32P : DMH-12

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 63.41' @ 12.11 hrs Surf.Area= 2,862 sf Storage= 6,535 cf

Plug-Flow detention time= 94.7 min calculated for 0.981 af (89% of inflow)
 Center-of-Mass det. time= 42.1 min (813.0 - 770.8)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| #3 | 64.80' | 40,157 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| | | 47,766 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Elevation
(feet) | Surf.Area
(sq-ft) | Voids
(%) | Inc.Store
(cubic-feet) | Cum.Store
(cubic-feet) |
|---------------------|----------------------|--------------|---------------------------|---------------------------|
| 64.80 | 7,000 | 0.0 | 0 | 0 |
| 67.99 | 7,000 | 0.1 | 22 | 22 |
| 68.00 | 20,000 | 100.0 | 135 | 157 |
| 69.00 | 60,000 | 100.0 | 40,000 | 40,157 |

| Device | Routing | Invert | Outlet Devices |
|--------|----------|--------|---|
| #1 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 ' / ' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |
| #2 | Device 1 | 62.62' | 6.0' long x 5.45' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |

Primary OutFlow Max=13.3 cfs @ 12.11 hrs HW=63.41' (Free Discharge)

1=Culvert (Passes 13.3 cfs of 38.4 cfs potential flow)

2=Sharp-Crested Rectangular Weir(Weir Controls 13.3 cfs @ 2.90 fps)

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Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)

Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf

Overall Size= 60.0"W x 60.0"H x 20.00'L

Row Length Adjustment= +10.00' x 19.63 sf x 4 rows

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

4 Chambers/Row x 20.00' Long +10.00' Row Adjustment +5.00' Header x 1 = 95.00' Row Length +12.0"

End Stone x 2 = 97.00' Base Length

4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width

6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

16 Chambers x 392.7 cf +10.00' Row Adjustment x 19.63 sf x 4 Rows + 27.50' Header x 19.63 sf =
7,608.5 cf Chamber Storage

17,169.0 cf Field - 7,608.5 cf Chambers = 9,560.5 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 7,608.5 cf = 0.175 af

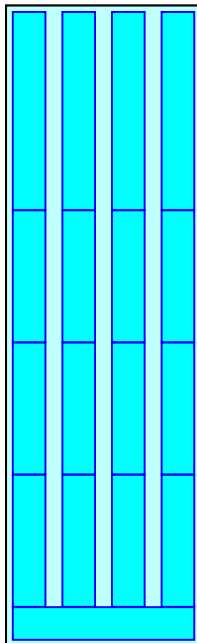
Overall Storage Efficiency = 44.3%

Overall System Size = 97.00' x 29.50' x 6.00'

16 Chambers

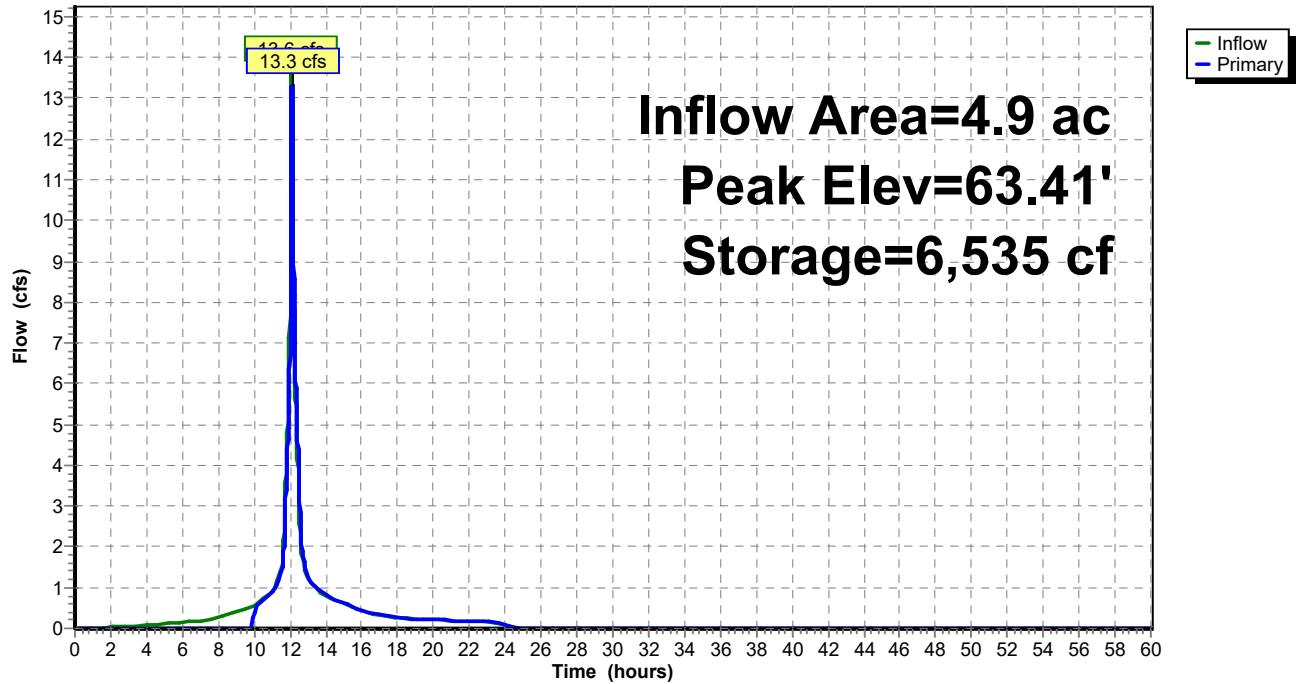
635.9 cy Field

354.1 cy Stone



Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Hydrograph



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Summary for Pond 2.32P: DMH-12

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 2.38" for 2-YR event
Inflow = 13.3 cfs @ 12.11 hrs, Volume= 0.981 af
Outflow = 13.3 cfs @ 12.11 hrs, Volume= 0.981 af, Atten= 0%, Lag= 0.0 min
Primary = 13.3 cfs @ 12.11 hrs, Volume= 0.981 af
Routed to Pond 2.33P : DMH-13

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.69' @ 12.11 hrs

Flood Elev= 69.40'

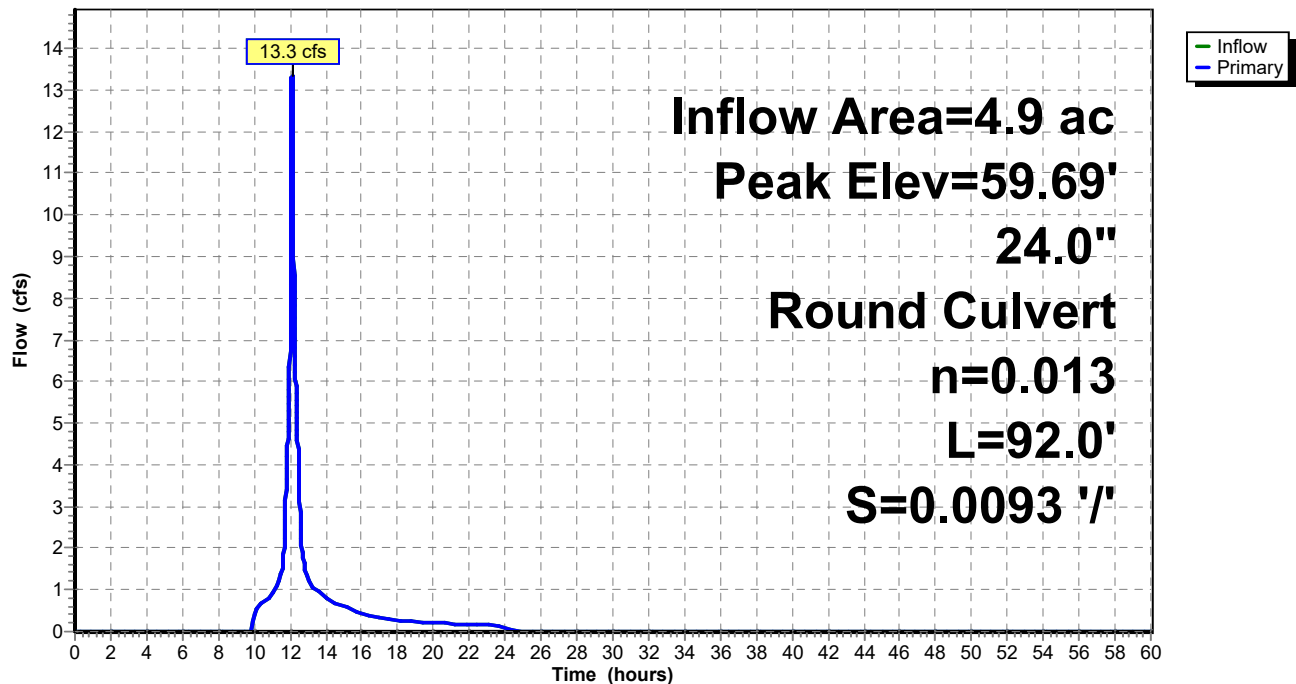
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 57.44' | 24.0" Round Culvert
L= 92.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.44' / 56.58' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=13.3 cfs @ 12.11 hrs HW=59.68' (Free Discharge)

↑1=Culvert (Inlet Controls 13.3 cfs @ 4.24 fps)

Pond 2.32P: DMH-12

Hydrograph



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Summary for Pond 2.33P: DMH-13

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af
Outflow = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af, Atten= 0%, Lag= 0.0 min
Primary = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af
Routed to Pond 2.34P : DMH-16

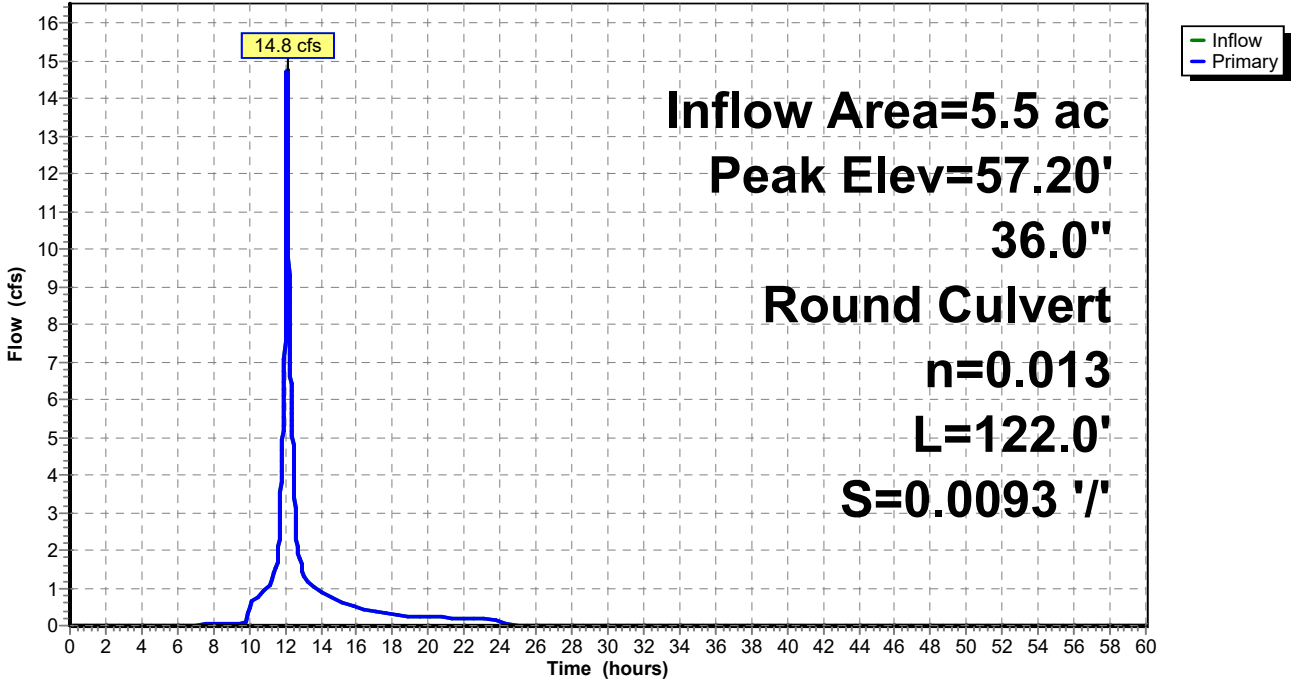
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 57.20' @ 12.11 hrs
Flood Elev= 69.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 55.48' | 36.0" Round Culvert
L= 122.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 55.48' / 54.35' S= 0.0093 '/' Cc= 0.900
n= 0.013, Flow Area= 7.07 sf |

Primary OutFlow Max=14.7 cfs @ 12.11 hrs HW=57.20' (Free Discharge)
1=Culvert (Inlet Controls 14.7 cfs @ 3.52 fps)

Pond 2.33P: DMH-13

Hydrograph



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Summary for Pond 2.34P: DMH-16

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af
Outflow = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af, Atten= 0%, Lag= 0.0 min
Primary = 14.8 cfs @ 12.11 hrs, Volume= 1.098 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 56.16' @ 12.11 hrs

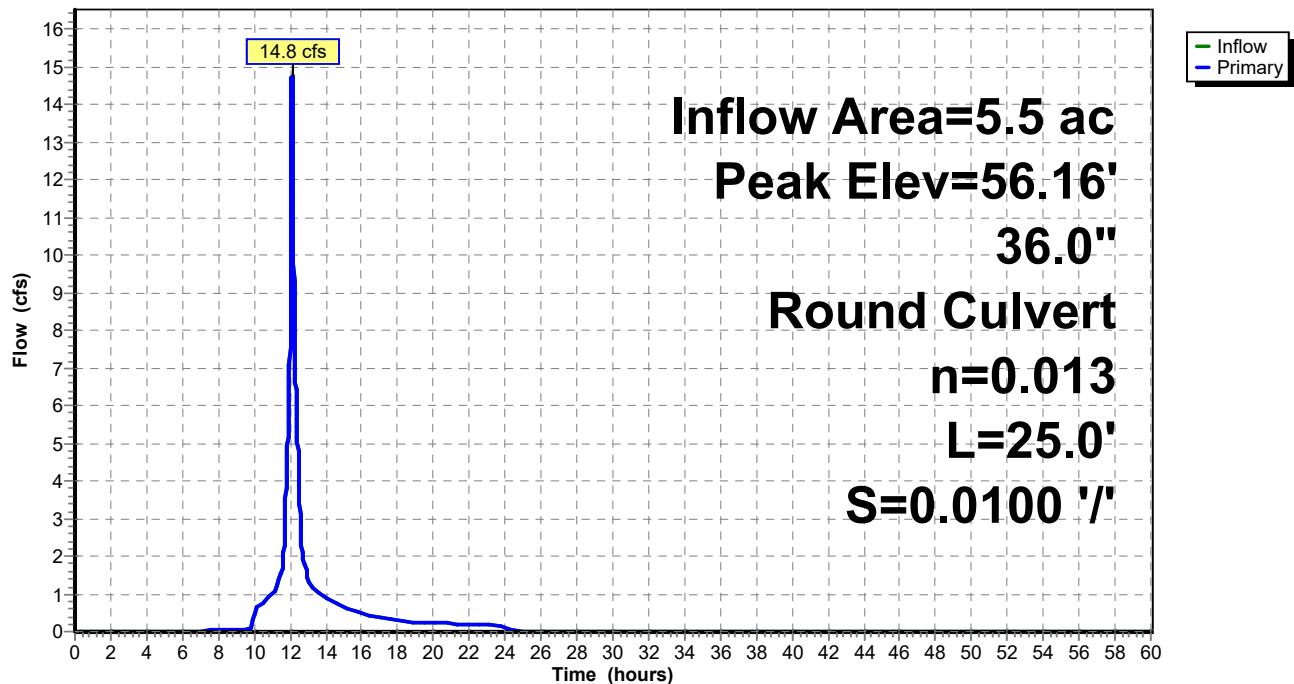
Flood Elev= 60.55'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 54.25' | 36.0" Round Culvert
L= 25.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 54.25' / 54.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf |

Primary OutFlow Max=14.7 cfs @ 12.11 hrs HW=56.16' TW=55.50' (Fixed TW Elev= 55.50')
↑1=Culvert (Inlet Controls 14.7 cfs @ 3.10 fps)

Pond 2.34P: DMH-16

Hydrograph



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Summary for Pond 2.3P: CB-24

Inflow Area = 1.8 ac, 74.18% Impervious, Inflow Depth = 2.64" for 2-YR event
Inflow = 4.8 cfs @ 12.10 hrs, Volume= 0.404 af
Outflow = 4.8 cfs @ 12.10 hrs, Volume= 0.404 af, Atten= 0%, Lag= 0.0 min
Primary = 4.8 cfs @ 12.10 hrs, Volume= 0.404 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.77' @ 12.10 hrs

Flood Elev= 69.90'

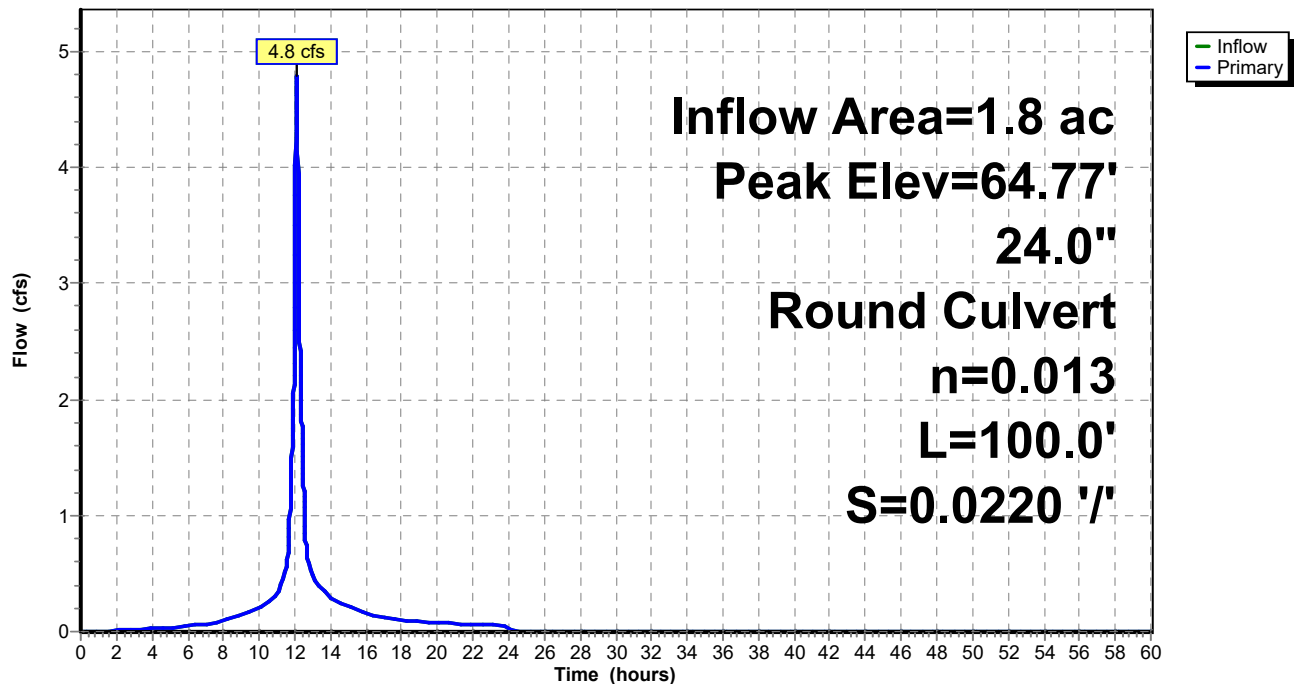
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.70' | 24.0" Round Culvert
L= 100.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.70' / 61.50' S= 0.0220 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=4.8 cfs @ 12.10 hrs HW=64.77' (Free Discharge)

↑1=Culvert (Inlet Controls 4.8 cfs @ 2.78 fps)

Pond 2.3P: CB-24

Hydrograph



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Summary for Pond 2.4P: CB-17

Inflow Area = 0.5 ac, 81.06% Impervious, Inflow Depth = 2.77" for 2-YR event
Inflow = 1.5 cfs @ 12.09 hrs, Volume= 0.117 af
Outflow = 1.5 cfs @ 12.09 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.09 hrs, Volume= 0.117 af
Routed to Pond 2.33P : DMH-13

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.33' @ 12.09 hrs

Flood Elev= 68.00'

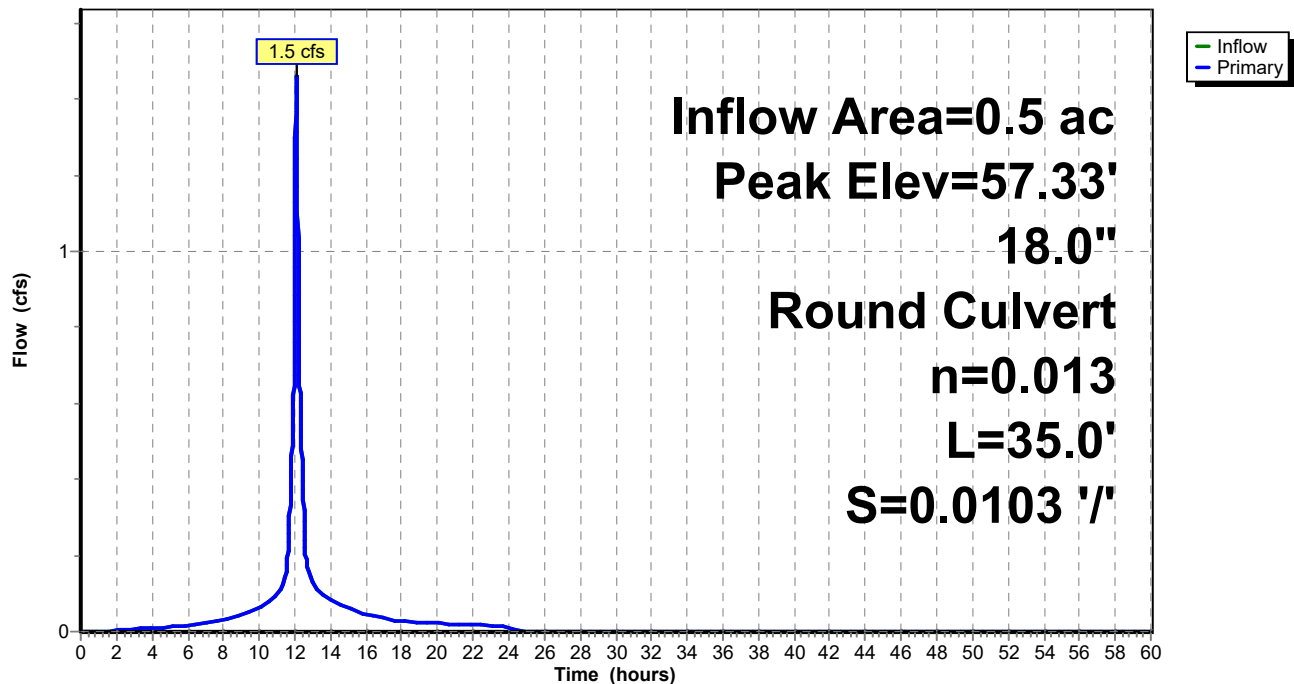
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 56.71' | 18.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 56.71' / 56.35' S= 0.0103 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=1.5 cfs @ 12.09 hrs HW=57.33' (Free Discharge)

↑1=Culvert (Inlet Controls 1.5 cfs @ 2.11 fps)

Pond 2.4P: CB-17

Hydrograph



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Summary for Pond 2.5P: CB-20

Inflow Area = 0.4 ac, 80.93% Impervious, Inflow Depth = 2.76" for 2-YR event
Inflow = 1.2 cfs @ 12.08 hrs, Volume= 0.093 af
Outflow = 1.2 cfs @ 12.08 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.08 hrs, Volume= 0.093 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

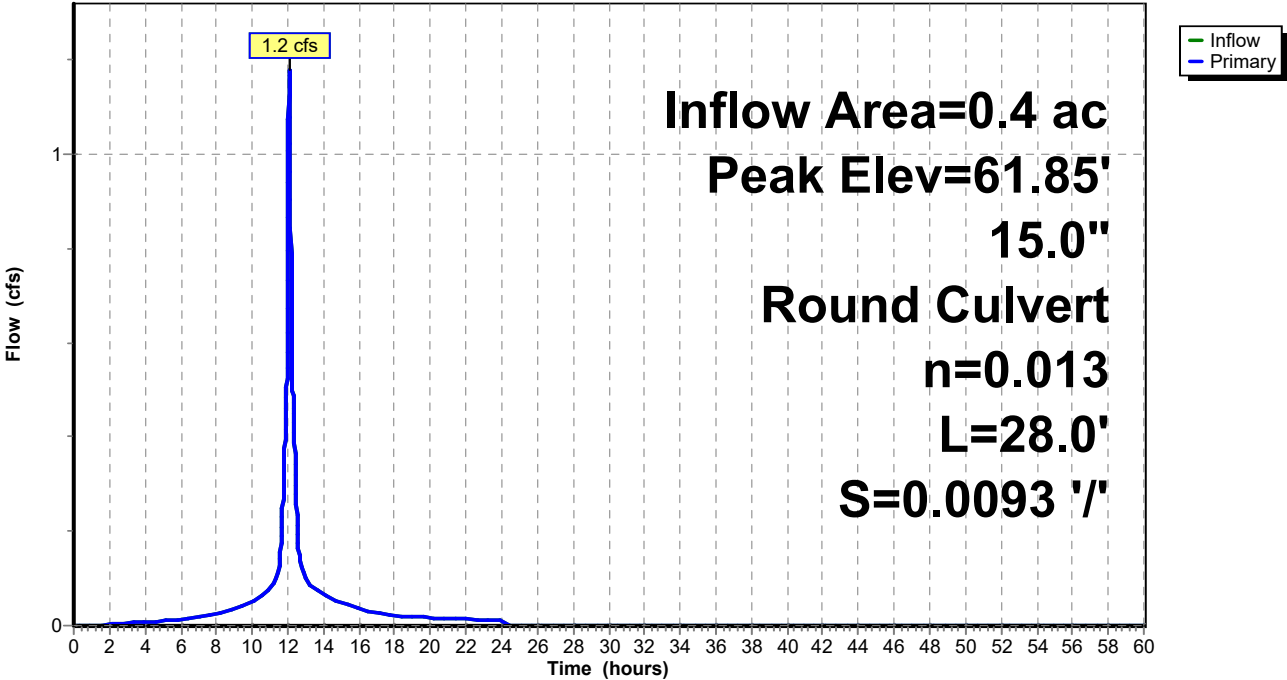
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 61.85' @ 12.08 hrs
Flood Elev= 65.75'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.26' | 15.0" Round Culvert
L= 28.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.26' / 61.00' S= 0.0093 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=1.2 cfs @ 12.08 hrs HW=61.85' (Free Discharge)
1=Culvert (Inlet Controls 1.2 cfs @ 2.06 fps)

Pond 2.5P: CB-20

Hydrograph



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Summary for Pond 2.6P: CB-15

Inflow Area = 0.4 ac, 77.40% Impervious, Inflow Depth = 2.71" for 2-YR event
Inflow = 1.2 cfs @ 12.09 hrs, Volume= 0.096 af
Outflow = 1.2 cfs @ 12.09 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.09 hrs, Volume= 0.096 af
Routed to Pond 2.4P : CB-17

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.26' @ 12.09 hrs

Flood Elev= 64.00'

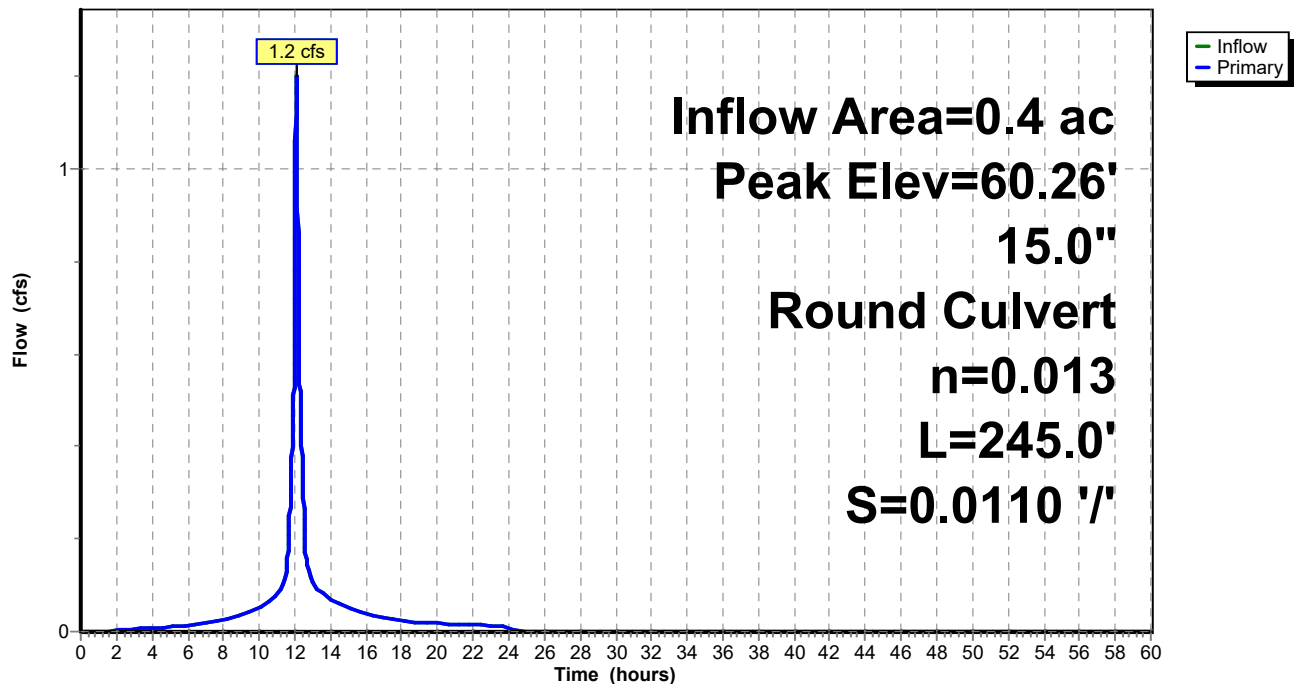
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.66' | 15.0" Round Culvert
L= 245.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 59.66' / 56.96' S= 0.0110 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=1.2 cfs @ 12.09 hrs HW=60.26' (Free Discharge)

↑1=Culvert (Inlet Controls 1.2 cfs @ 2.08 fps)

Pond 2.6P: CB-15

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.7P: CB-8

Inflow Area = 0.9 ac, 83.06% Impervious, Inflow Depth = 2.80" for 2-YR event
Inflow = 2.8 cfs @ 12.08 hrs, Volume= 0.219 af
Outflow = 2.8 cfs @ 12.08 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min
Primary = 2.8 cfs @ 12.08 hrs, Volume= 0.219 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.99' @ 12.08 hrs

Flood Elev= 68.00'

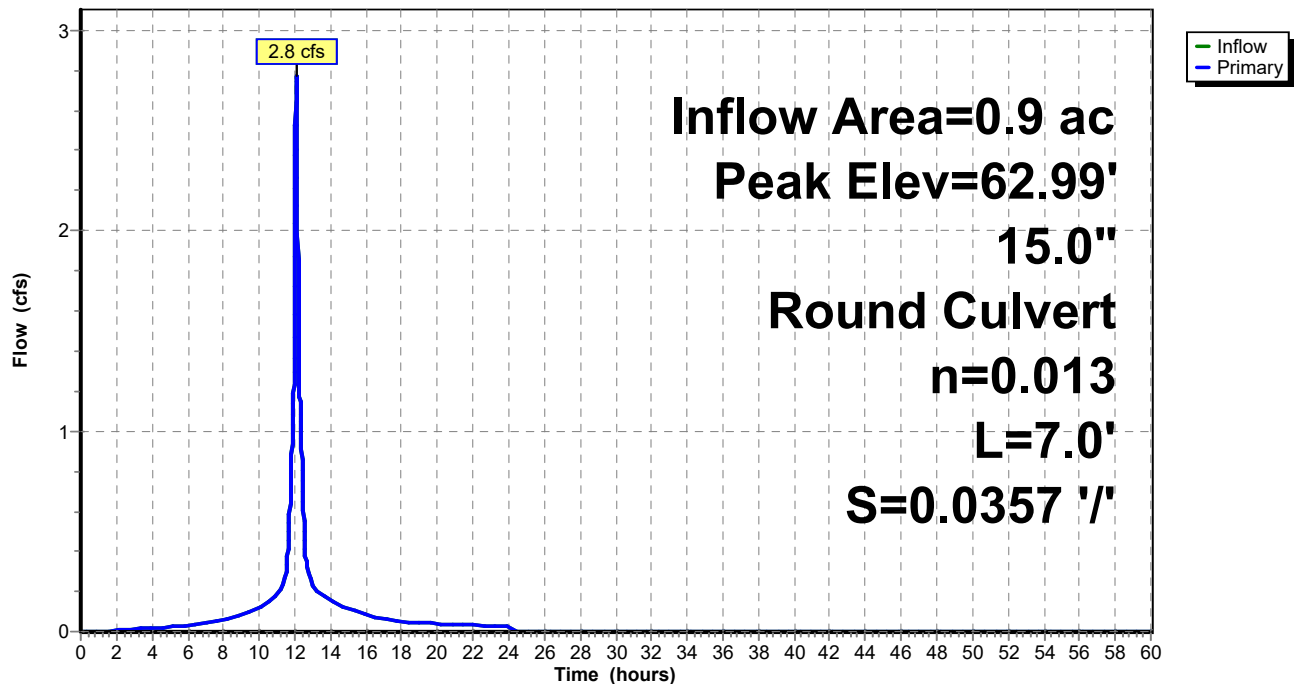
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.00' | 15.0" Round Culvert
L= 7.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.00' / 61.75' S= 0.0357 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=2.8 cfs @ 12.08 hrs HW=62.99' (Free Discharge)

↑1=Culvert (Inlet Controls 2.8 cfs @ 2.67 fps)

Pond 2.7P: CB-8

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.81P: DMH-3

Inflow Area = 1.8 ac, 55.68% Impervious, Inflow Depth = 2.60" for 2-YR event
Inflow = 5.0 cfs @ 12.08 hrs, Volume= 0.385 af
Outflow = 5.0 cfs @ 12.08 hrs, Volume= 0.385 af, Atten= 0%, Lag= 0.0 min
Primary = 5.0 cfs @ 12.08 hrs, Volume= 0.385 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

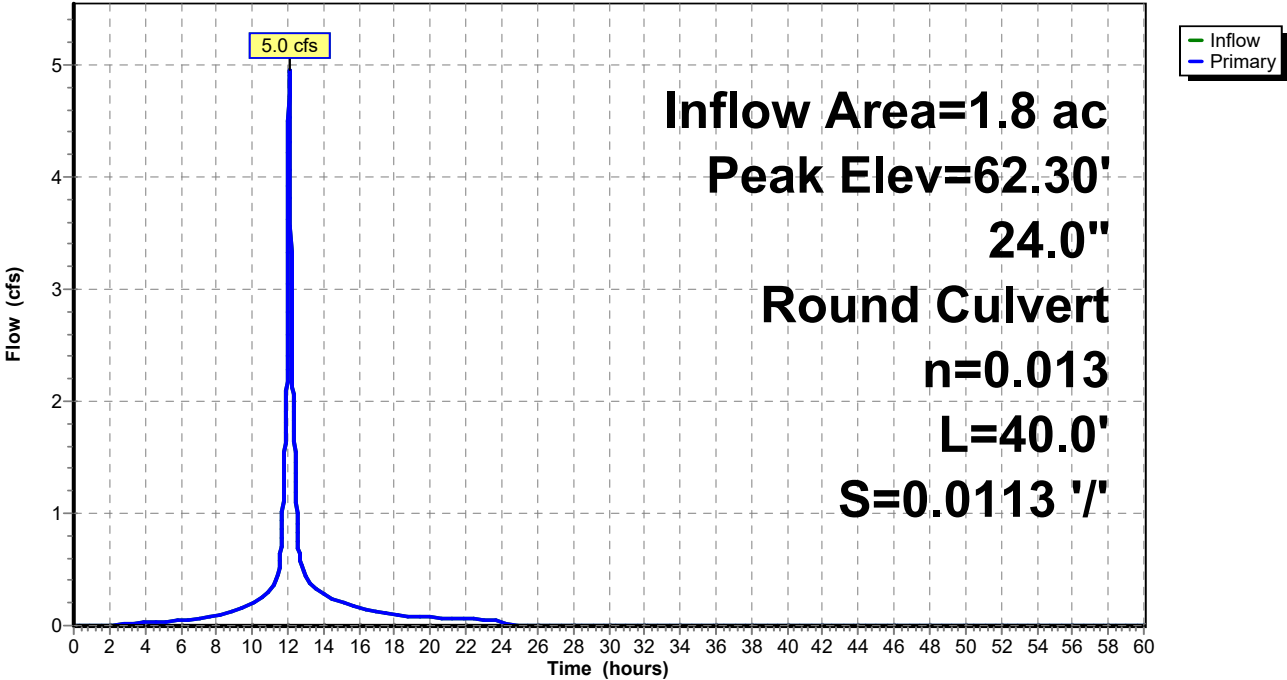
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 62.30' @ 12.08 hrs
Flood Elev= 70.85'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 61.20' | 24.0" Round Culvert
L= 40.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.20' / 60.75' S= 0.0113 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=4.9 cfs @ 12.08 hrs HW=62.29' (Free Discharge)
1=Culvert (Inlet Controls 4.9 cfs @ 2.81 fps)

Pond 2.81P: DMH-3

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.8P: CB-14

Inflow Area = 0.2 ac, 22.73% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 0.4 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.4 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.30' @ 12.09 hrs

Flood Elev= 67.00'

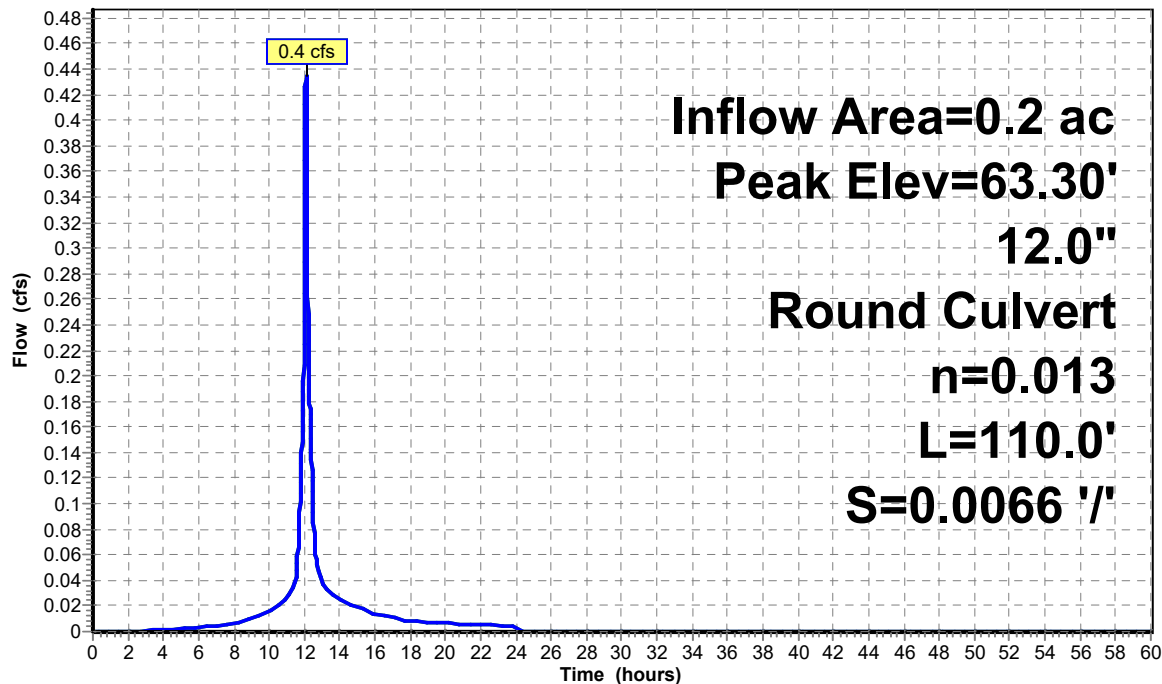
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.93' | 12.0" Round Culvert
L= 110.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.93' / 62.20' S= 0.0066 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.4 cfs @ 12.09 hrs HW=63.30' (Free Discharge)

↑1=Culvert (Inlet Controls 0.4 cfs @ 1.64 fps)

Pond 2.8P: CB-14

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 2.9P: CB-5

Inflow Area = 1.1 ac, 71.99% Impervious, Inflow Depth = 2.65" for 2-YR event
Inflow = 3.0 cfs @ 12.08 hrs, Volume= 0.238 af
Outflow = 3.0 cfs @ 12.08 hrs, Volume= 0.238 af, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.08 hrs, Volume= 0.238 af
Routed to Pond 2.11P : CB-6

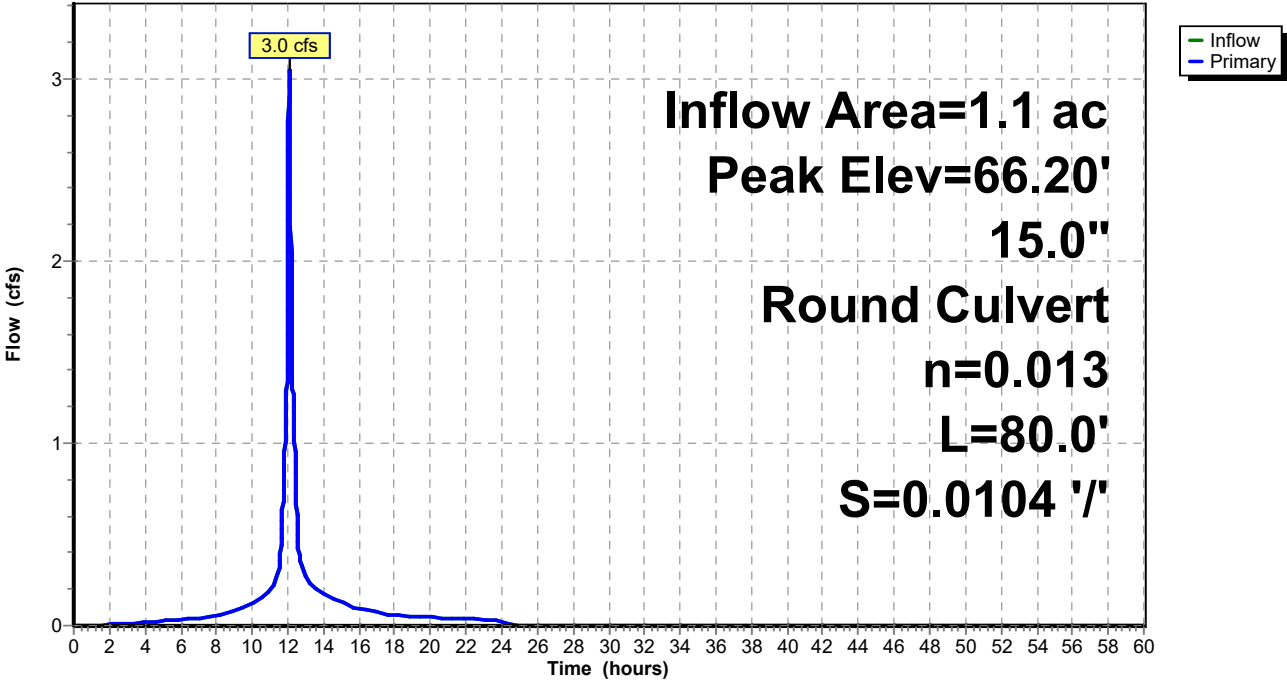
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.20' @ 12.08 hrs
Flood Elev= 72.50'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 65.15' | 15.0" Round Culvert
L= 80.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 65.15' / 64.32' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=3.0 cfs @ 12.08 hrs HW=66.20' (Free Discharge)
1=Culvert (Inlet Controls 3.0 cfs @ 2.76 fps)

Pond 2.9P: CB-5

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 2.56" for 2-YR event
Inflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
Outflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
Primary = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
Routed to Link POA-4 :
Secondary = 0.0 cfs @ 12.10 hrs, Volume= 0.000 af
Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.01' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=4.8 cfs @ 12.10 hrs HW=58.00' (Free Discharge)

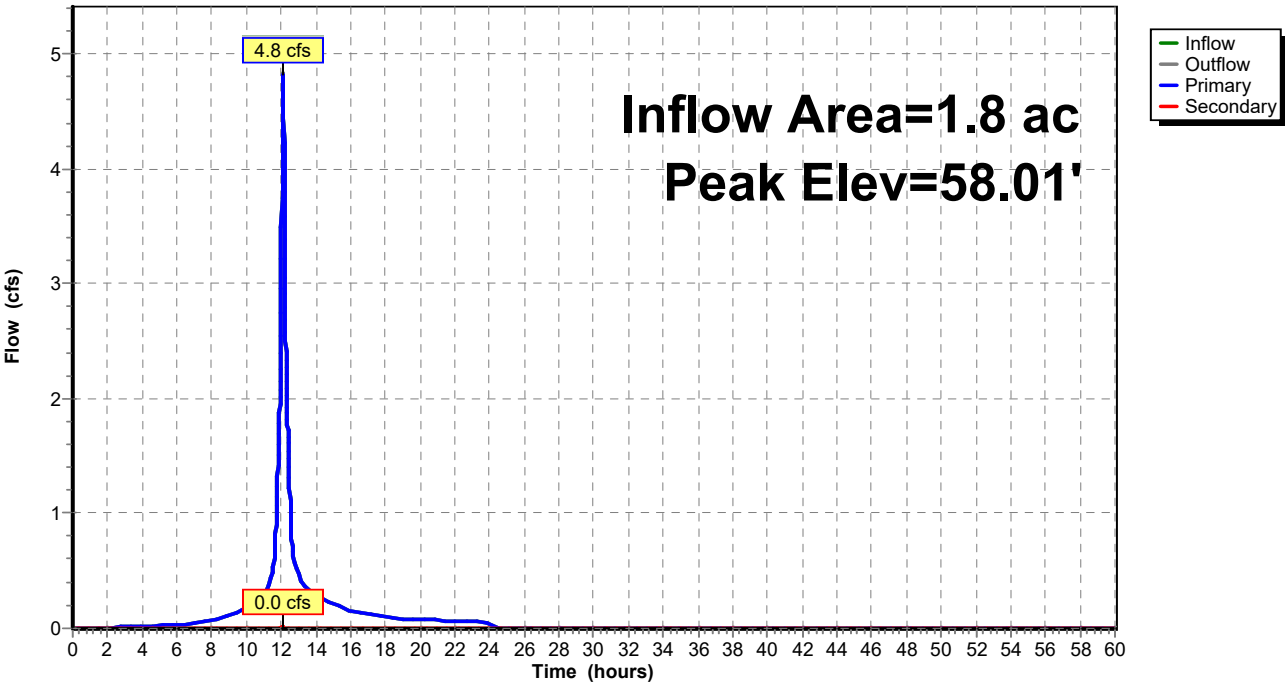
↑1=Culvert (Barrel Controls 4.8 cfs @ 3.93 fps)

Secondary OutFlow Max=0.0 cfs @ 12.10 hrs HW=58.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.0 cfs @ 0.15 fps)

Pond 4P: CB - Elm Street

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 5.1P:

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Outflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af, Atten= 0%, Lag= 0.0 min
Primary = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Routed to Pond 5.2P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 53.24' @ 12.68 hrs

Flood Elev= 60.20'

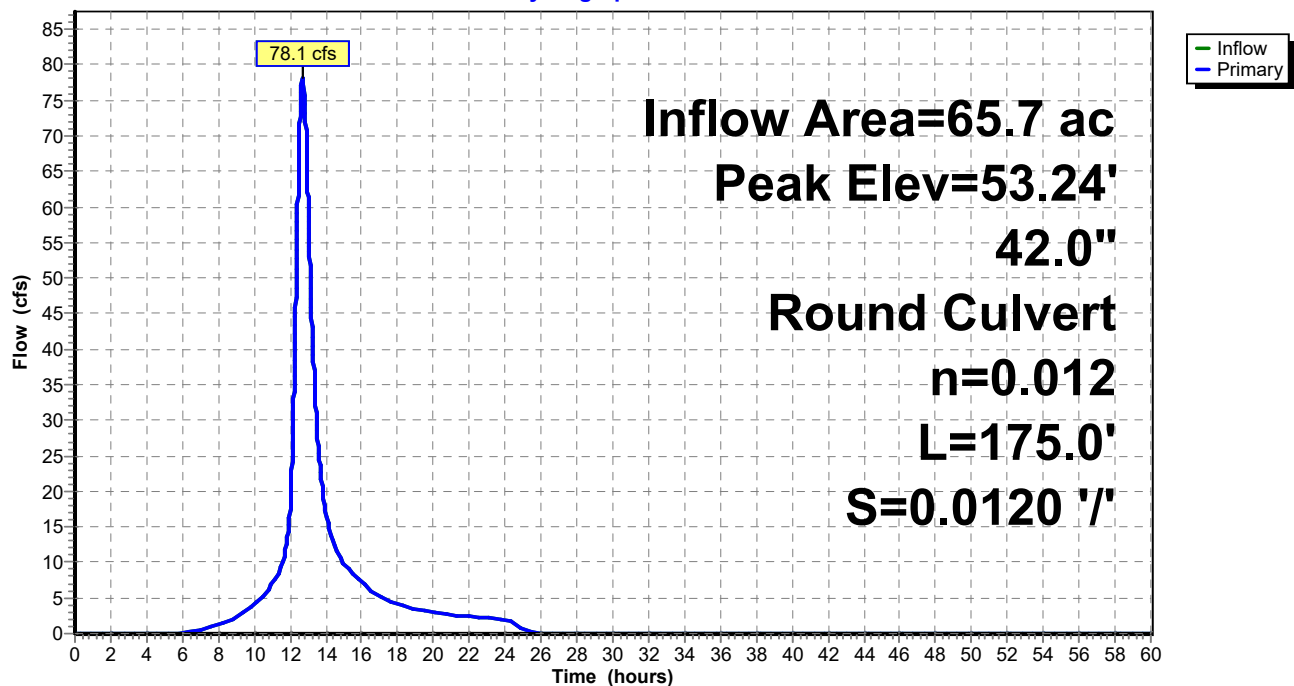
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 48.65' | 42.0" Round Culvert
L= 175.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 48.65' / 46.55' S= 0.0120 '/ Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf |

Primary OutFlow Max=78.1 cfs @ 12.68 hrs HW=53.24' (Free Discharge)

↑1=Culvert (Inlet Controls 78.1 cfs @ 8.11 fps)

Pond 5.1P:

Hydrograph



Summary for Pond 5.2P: 42" RCP Outfall

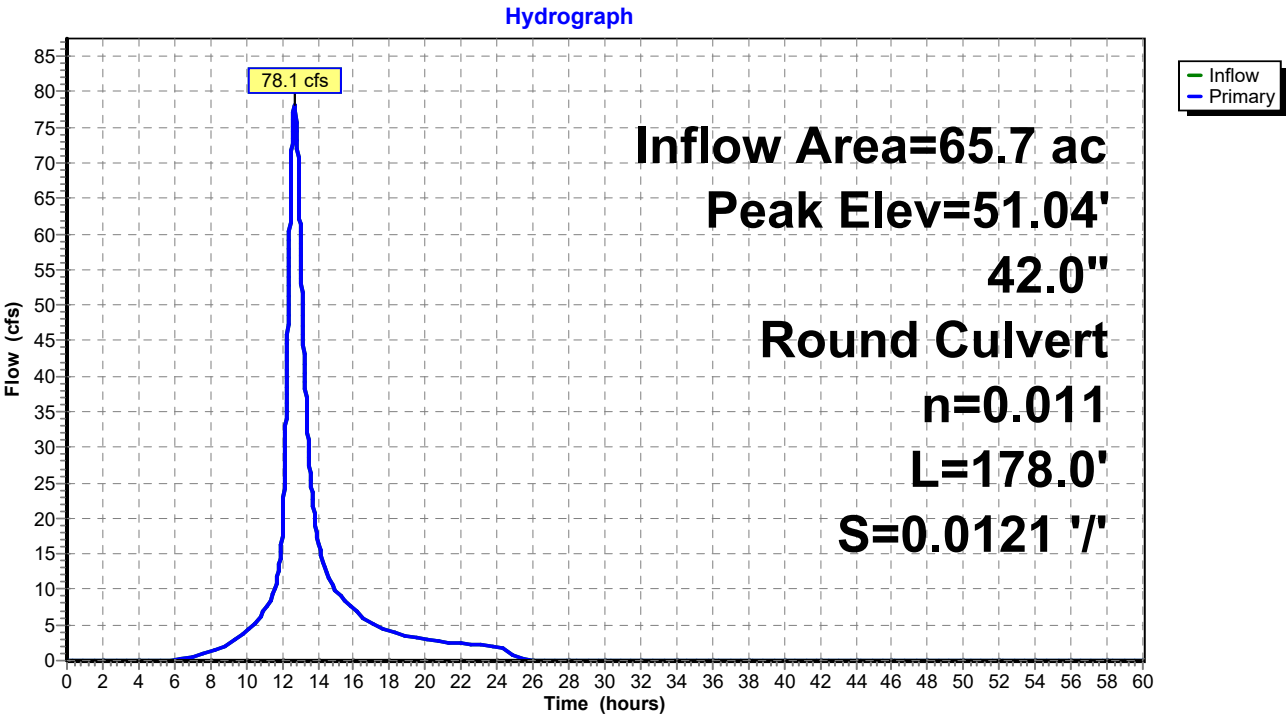
Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Outflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af, Atten= 0%, Lag= 0.0 min
Primary = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 51.04' @ 12.68 hrs
Flood Elev= 57.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.45' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.45' / 44.30' S= 0.0121 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=78.1 cfs @ 12.68 hrs HW=51.04' (Free Discharge)
1=Culvert (Inlet Controls 78.1 cfs @ 8.11 fps)

Pond 5.2P: 42" RCP Outfall



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 5P: Box Culvert - Railroad

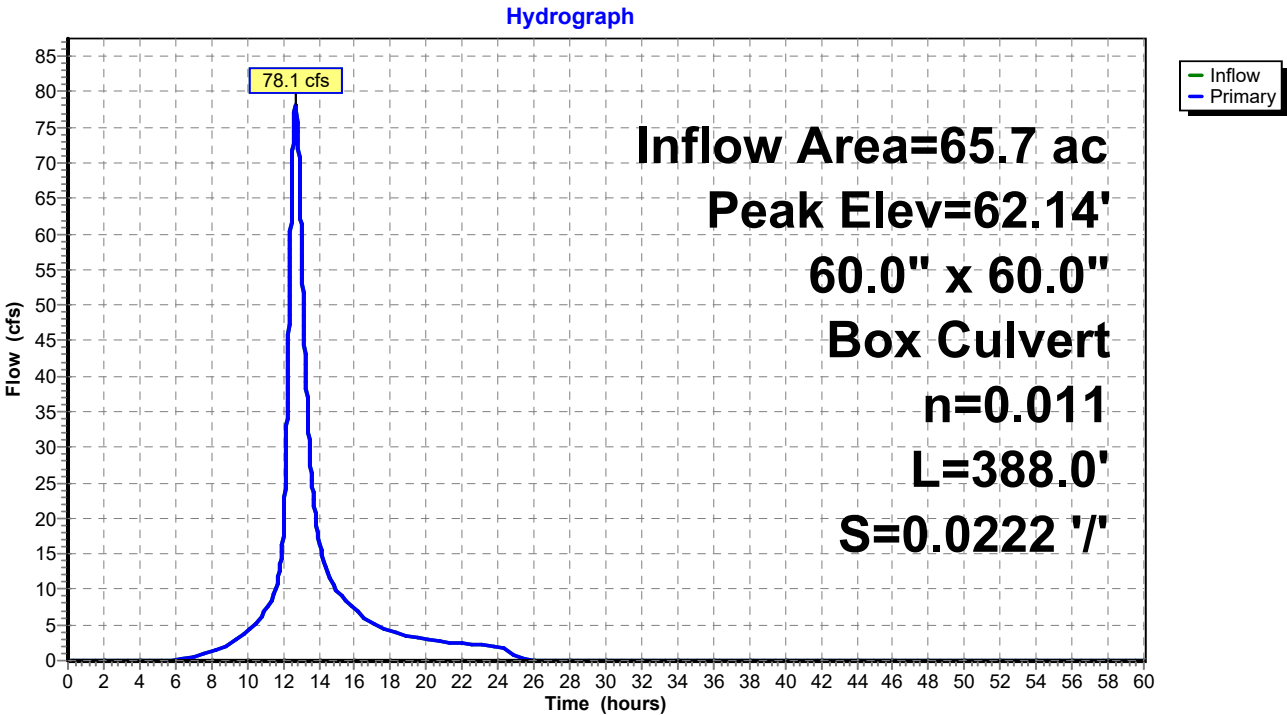
Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Outflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af, Atten= 0%, Lag= 0.0 min
Primary = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 62.14' @ 12.68 hrs
Flood Elev= 75.77'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=78.0 cfs @ 12.68 hrs HW=62.14' (Free Discharge)
↑1=Culvert (Inlet Controls 78.0 cfs @ 5.44 fps)

Pond 5P: Box Culvert - Railroad



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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 2.42" for 2-YR event
Inflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Outflow = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af, Atten= 0%, Lag= 0.0 min
Primary = 78.1 cfs @ 12.68 hrs, Volume= 13.247 af
Routed to Pond 5.1P :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 53.52' @ 12.68 hrs

Flood Elev= 55.65'

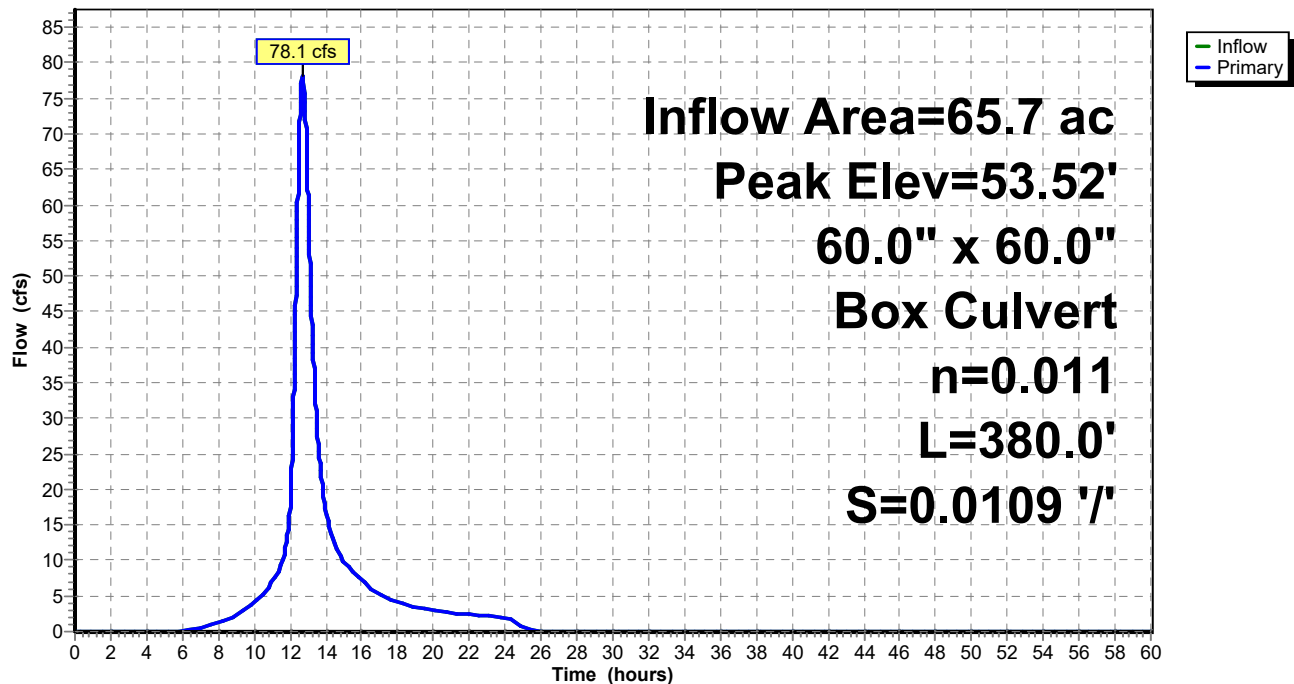
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=78.1 cfs @ 12.68 hrs HW=53.52' (Free Discharge)

↑1=Culvert (Inlet Controls 78.1 cfs @ 5.44 fps)

Pond 51P: Box Culvert - Slab Top

Hydrograph



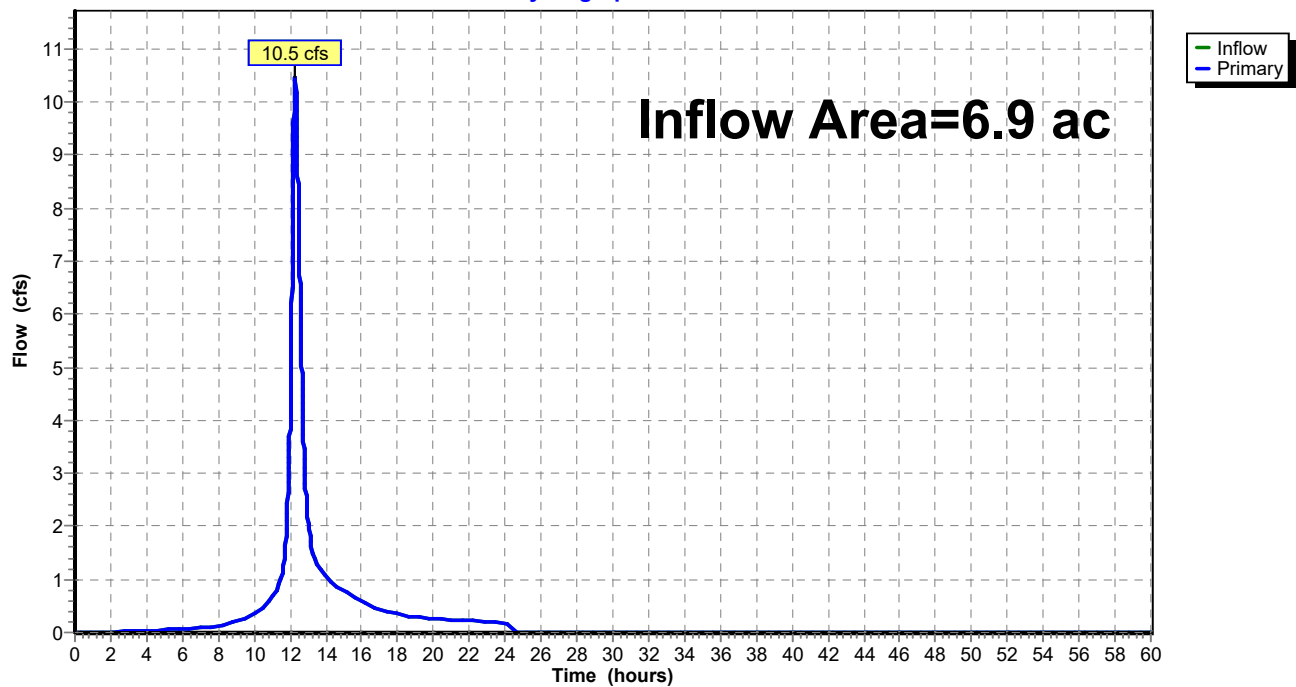
Summary for Link POA-1:

Inflow Area = 6.9 ac, 24.71% Impervious, Inflow Depth = 2.04" for 2-YR event
 Inflow = 10.5 cfs @ 12.29 hrs, Volume= 1.173 af
 Primary = 10.5 cfs @ 12.29 hrs, Volume= 1.173 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



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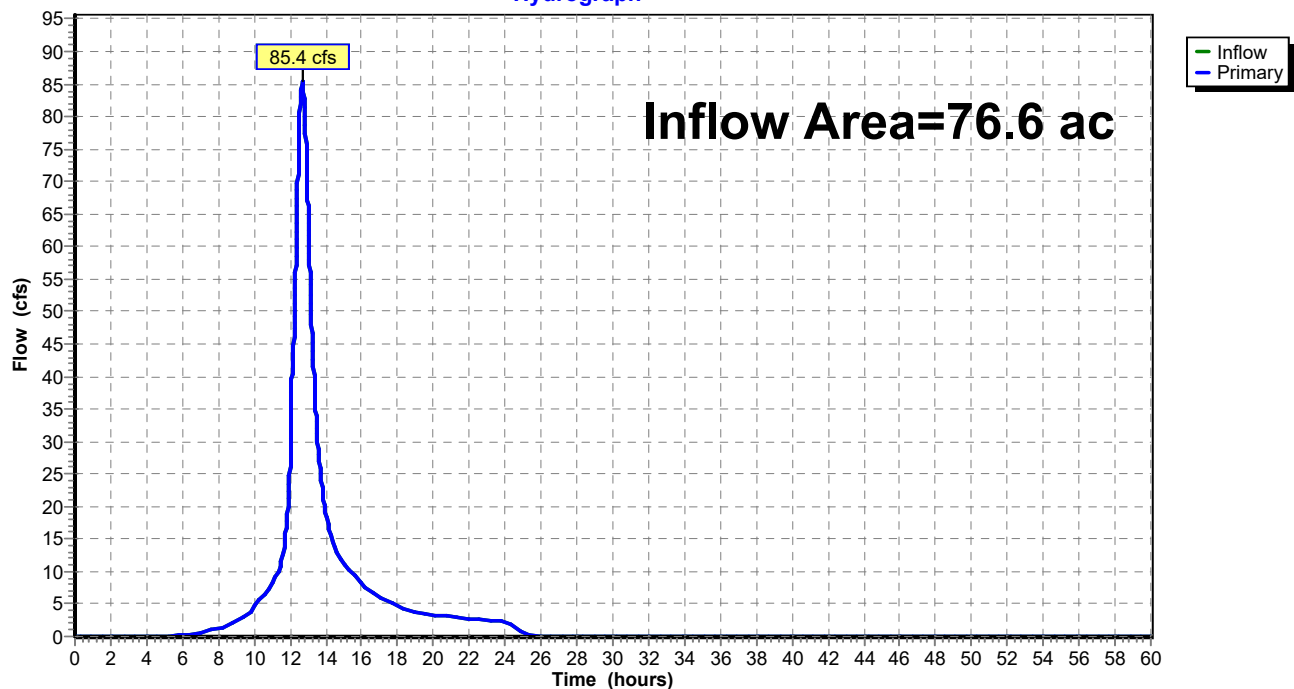
Summary for Link POA-2:

Inflow Area = 76.6 ac, 59.22% Impervious, Inflow Depth = 2.38" for 2-YR event
Inflow = 85.4 cfs @ 12.68 hrs, Volume= 15.184 af
Primary = 85.4 cfs @ 12.68 hrs, Volume= 15.184 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



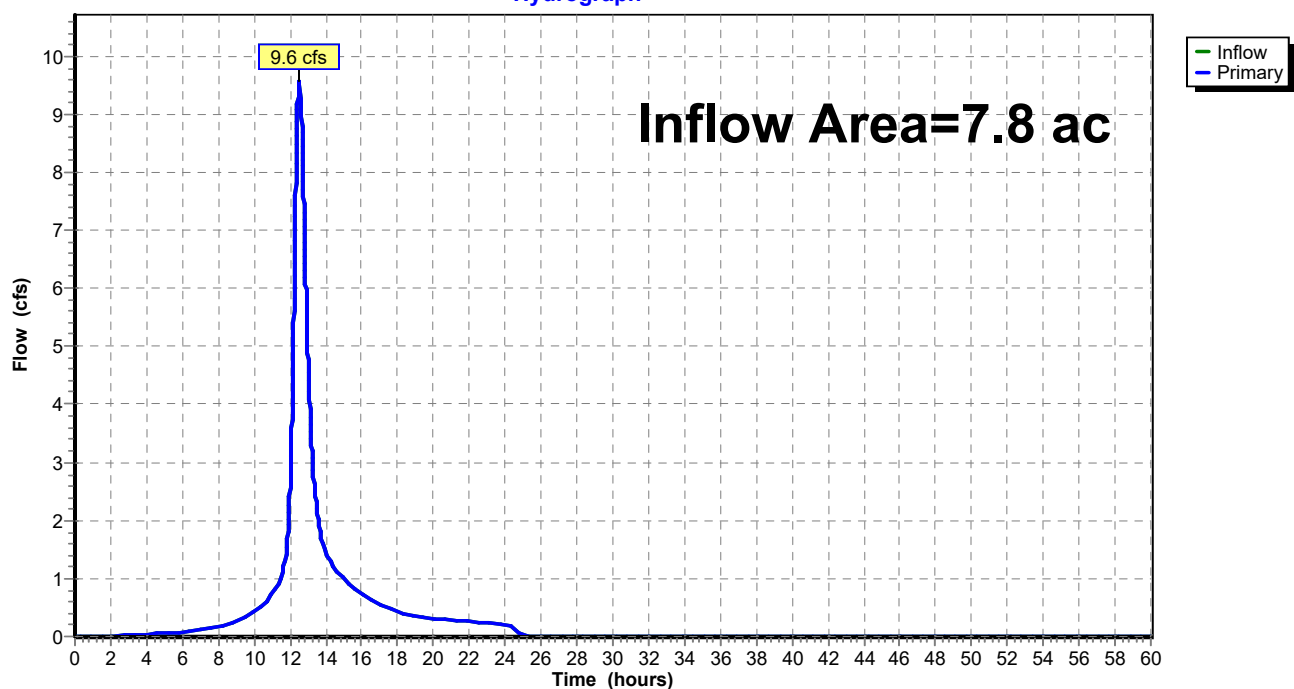
Summary for Link POA-3:

Inflow Area = 7.8 ac, 24.37% Impervious, Inflow Depth = 2.17" for 2-YR event
Inflow = 9.6 cfs @ 12.52 hrs, Volume= 1.412 af
Primary = 9.6 cfs @ 12.52 hrs, Volume= 1.412 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

Hydrograph

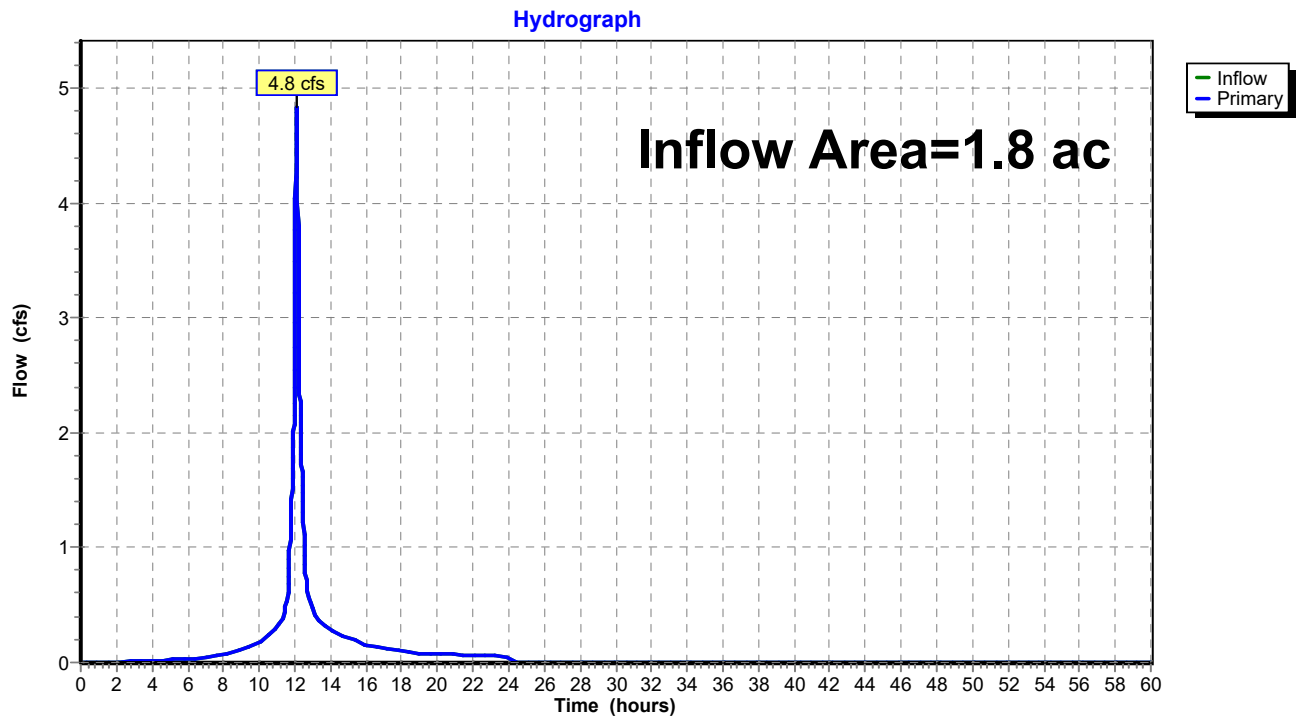


Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 2.56" for 2-YR event
 Inflow = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af
 Primary = 4.8 cfs @ 12.10 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:



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Type III 24-hr 10-YR Rainfall=4.90"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

| | |
|---------------------------------|--|
| Subcatchment1.1S: 1.2S | Runoff Area=300,080 sf 24.71% Impervious Runoff Depth=3.49"
Flow Length=325' Tc=21.0 min CN=WQ Runoff=17.8 cfs 2.001 af |
| Subcatchment2.10S: 2.10S | Runoff Area=7,550 sf 78.41% Impervious Runoff Depth=4.26"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.8 cfs 0.062 af |
| Subcatchment2.11S: 2.11S | Runoff Area=14,120 sf 46.46% Impervious Runoff Depth=4.41"
Flow Length=220' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.5 cfs 0.119 af |
| Subcatchment2.12S: 2.12S | Runoff Area=9,090 sf 11.99% Impervious Runoff Depth=3.56"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.8 cfs 0.062 af |
| Subcatchment2.13S: 2.13S | Runoff Area=11,500 sf 58.26% Impervious Runoff Depth=4.07"
Flow Length=95' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.090 af |
| Subcatchment2.14S: | Runoff Area=238,790 sf 4.27% Impervious Runoff Depth=3.24"
Flow Length=1,011' Tc=45.4 min CN=WQ Runoff=9.4 cfs 1.482 af |
| Subcatchment2.1S: 2.1S | Runoff Area=7,310 sf 49.36% Impervious Runoff Depth=3.71"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.052 af |
| Subcatchment2.2S: 2.2S | Runoff Area=49,060 sf 66.09% Impervious Runoff Depth=4.03"
Flow Length=86' Slope=0.0150 '/' Tc=9.1 min CN=WQ Runoff=4.4 cfs 0.378 af |
| Subcatchment2.3S: 2.2S | Runoff Area=30,790 sf 87.07% Impervious Runoff Depth=4.42"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=3.2 cfs 0.261 af |
| Subcatchment2.4S: 2.4S | Runoff Area=3,580 sf 100.00% Impervious Runoff Depth=4.66"
Flow Length=195' Slope=0.1500 '/' Tc=6.0 min CN=WQ Runoff=0.4 cfs 0.032 af |
| Subcatchment2.5S: 2.5S | Runoff Area=17,570 sf 80.93% Impervious Runoff Depth=4.31"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.8 cfs 0.145 af |
| Subcatchment2.6S: 2.6S | Runoff Area=18,540 sf 77.40% Impervious Runoff Depth=4.24"
Flow Length=65' Slope=0.0230 '/' Tc=6.5 min CN=WQ Runoff=1.9 cfs 0.151 af |
| Subcatchment2.7S: 2.7S | Runoff Area=40,900 sf 83.06% Impervious Runoff Depth=4.35"
Flow Length=155' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=4.3 cfs 0.340 af |
| Subcatchment2.8S: | Runoff Area=7,170 sf 22.73% Impervious Runoff Depth=3.92"
Flow Length=70' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.054 af |
| Subcatchment2.9S: 2.9S | Runoff Area=20,450 sf 85.43% Impervious Runoff Depth=4.39"
Flow Length=180' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.1 cfs 0.172 af |
| Subcatchment3.1S: | Runoff Area=339,930 sf 24.37% Impervious Runoff Depth=3.64"
Flow Length=250' Tc=38.3 min CN=WQ Runoff=16.0 cfs 2.367 af |

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Type III 24-hr 10-YR Rainfall=4.90"

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| | |
|--|--|
| Subcatchment4S: | Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=4.11"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=7.6 cfs 0.612 af |
| Subcatchment5.1S: | Runoff Area=2,860,020 sf 62.85% Impervious Runoff Depth=3.96"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=125.3 cfs 21.678 af |
| Pond 2.10P: CB-4 | Peak Elev=70.21' Inflow=0.8 cfs 0.062 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0100 '/' Outflow=0.8 cfs 0.062 af |
| Pond 2.11P: CB-6 | Peak Elev=65.69' Inflow=6.3 cfs 0.494 af
18.0" Round Culvert n=0.013 L=45.0' S=0.0111 '/' Outflow=6.3 cfs 0.494 af |
| Pond 2.12P: CB-7 | Peak Elev=65.33' Inflow=7.1 cfs 0.556 af
18.0" Round Culvert n=0.013 L=170.0' S=0.0104 '/' Outflow=7.1 cfs 0.556 af |
| Pond 2.13P: CB-3 | Peak Elev=68.71' Inflow=1.8 cfs 0.141 af
15.0" Round Culvert n=0.013 L=235.0' S=0.0109 '/' Outflow=1.8 cfs 0.141 af |
| Pond 2.1P: CB-2 | Peak Elev=70.58' Inflow=0.7 cfs 0.052 af
12.0" Round Culvert n=0.013 L=180.0' S=0.0106 '/' Outflow=0.7 cfs 0.052 af |
| Pond 2.21P: DMH-6 | Peak Elev=67.97' Inflow=4.4 cfs 0.378 af
15.0" Round Culvert n=0.013 L=115.0' S=0.0113 '/' Outflow=4.4 cfs 0.378 af |
| Pond 2.22P: DMH-8 | Peak Elev=66.09' Inflow=4.4 cfs 0.378 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0108 '/' Outflow=4.4 cfs 0.378 af |
| Pond 2.2P: DMH-7 | Peak Elev=71.24' Inflow=4.4 cfs 0.378 af
12.0" Round Culvert n=0.013 L=165.0' S=0.0113 '/' Outflow=4.4 cfs 0.378 af |
| Pond 2.31BP: CMP DETENTIONWITHOUT | Peak Elev=63.69' Storage=6,947 cf Inflow=21.2 cfs 1.733 af
Outflow=20.9 cfs 1.614 af |
| Pond 2.32P: DMH-12 | Peak Elev=61.51' Inflow=20.9 cfs 1.614 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0093 '/' Outflow=20.9 cfs 1.614 af |
| Pond 2.33P: DMH-13 | Peak Elev=57.74' Inflow=23.2 cfs 1.797 af
36.0" Round Culvert n=0.013 L=122.0' S=0.0093 '/' Outflow=23.2 cfs 1.797 af |
| Pond 2.34P: DMH-16 | Peak Elev=56.67' Inflow=23.2 cfs 1.797 af
36.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=23.2 cfs 1.797 af |
| Pond 2.3P: CB-24 | Peak Elev=65.10' Inflow=7.5 cfs 0.638 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0220 '/' Outflow=7.5 cfs 0.638 af |
| Pond 2.4P: CB-17 | Peak Elev=57.50' Inflow=2.3 cfs 0.182 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0103 '/' Outflow=2.3 cfs 0.182 af |
| Pond 2.5P: CB-20 | Peak Elev=62.02' Inflow=1.8 cfs 0.145 af
15.0" Round Culvert n=0.013 L=28.0' S=0.0093 '/' Outflow=1.8 cfs 0.145 af |

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Pond 2.6P: CB-15Peak Elev=60.43' Inflow=1.9 cfs 0.151 af
15.0" Round Culvert n=0.013 L=245.0' S=0.0110 '/' Outflow=1.9 cfs 0.151 af**Pond 2.7P: CB-8**Peak Elev=63.46' Inflow=4.3 cfs 0.340 af
15.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/' Outflow=4.3 cfs 0.340 af**Pond 2.81P: DMH-3**Peak Elev=62.64' Inflow=7.8 cfs 0.610 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0113 '/' Outflow=7.8 cfs 0.610 af**Pond 2.8P: CB-14**Peak Elev=63.41' Inflow=0.7 cfs 0.054 af
12.0" Round Culvert n=0.013 L=110.0' S=0.0066 '/' Outflow=0.7 cfs 0.054 af**Pond 2.9P: CB-5**Peak Elev=66.81' Inflow=4.8 cfs 0.375 af
15.0" Round Culvert n=0.013 L=80.0' S=0.0104 '/' Outflow=4.8 cfs 0.375 af**Pond 4P: CB - Elm Street**Peak Elev=58.21' Inflow=7.6 cfs 0.612 af
Primary=4.9 cfs 0.587 af Secondary=2.7 cfs 0.026 af Outflow=7.6 cfs 0.612 af**Pond 5.1P:**Peak Elev=57.72' Inflow=125.3 cfs 21.678 af
42.0" Round Culvert n=0.012 L=175.0' S=0.0120 '/' Outflow=125.3 cfs 21.678 af**Pond 5.2P: 42" RCP Outfall**Peak Elev=55.52' Inflow=125.3 cfs 21.678 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0121 '/' Outflow=125.3 cfs 21.678 af**Pond 5P: Box Culvert - Railroad**Peak Elev=63.21' Inflow=125.3 cfs 21.678 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=125.3 cfs 21.678 af**Pond 51P: Box Culvert - Slab Top**Peak Elev=54.59' Inflow=125.3 cfs 21.678 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=125.3 cfs 21.678 af**Link POA-1:**Inflow=17.8 cfs 2.001 af
Primary=17.8 cfs 2.001 af**Link POA-2:**Inflow=137.7 cfs 24.956 af
Primary=137.7 cfs 24.956 af**Link POA-3:**Inflow=16.0 cfs 2.367 af
Primary=16.0 cfs 2.367 af**Link POA-4:**Inflow=7.6 cfs 0.612 af
Primary=7.6 cfs 0.612 af**Total Runoff Area = 93.1 ac Runoff Volume = 30.055 af Average Runoff Depth = 3.87"**
46.64% Pervious = 43.4 ac 53.36% Impervious = 49.7 ac

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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 1.1S: 1.2S

Runoff = 17.8 cfs @ 12.29 hrs, Volume= 2.001 af, Depth= 3.49"
 Routed to Link POA-1 :

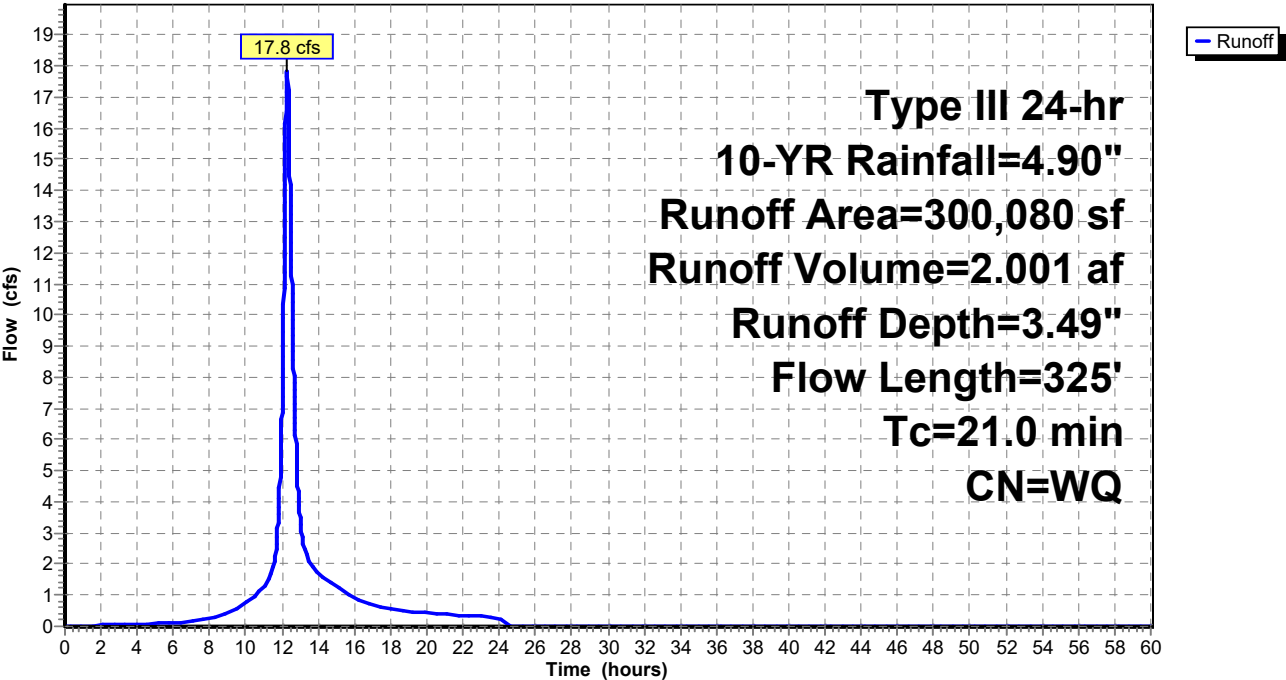
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 35,120 | 98 | Paved parking, HSG D |
| * 6,450 | 98 | Sidewalks, HSG D |
| 32,665 | 89 | <50% Grass cover, Poor, HSG D |
| 141,705 | 83 | Woods, Poor, HSG D |
| 43,190 | 80 | >75% Grass cover, Good, HSG D |
| 8,360 | 78 | Meadow, non-grazed, HSG D |
| 300,080 | | Weighted Average |
| 225,920 | | 75.29% Pervious Area |
| 74,160 | | 24.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.5 | 50 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.6 | 75 | 0.0200 | 2.12 | | Shallow Concentrated Flow, C-D
Grassed Waterway Kv= 15.0 fps |
| 0.1 | 25 | 0.0100 | 4.54 | 3.56 | Pipe Channel, D-E
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 1.8 | 75 | 0.0200 | 0.71 | | Shallow Concentrated Flow, E-F
Woodland Kv= 5.0 fps |
| 21.0 | 325 | Total | | | |

Subcatchment 1.1S: 1.2S

Hydrograph



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Summary for Subcatchment 2.10S: 2.10S

Runoff = 0.8 cfs @ 12.08 hrs, Volume= 0.062 af, Depth= 4.26"
Routed to Pond 2.10P : CB-4

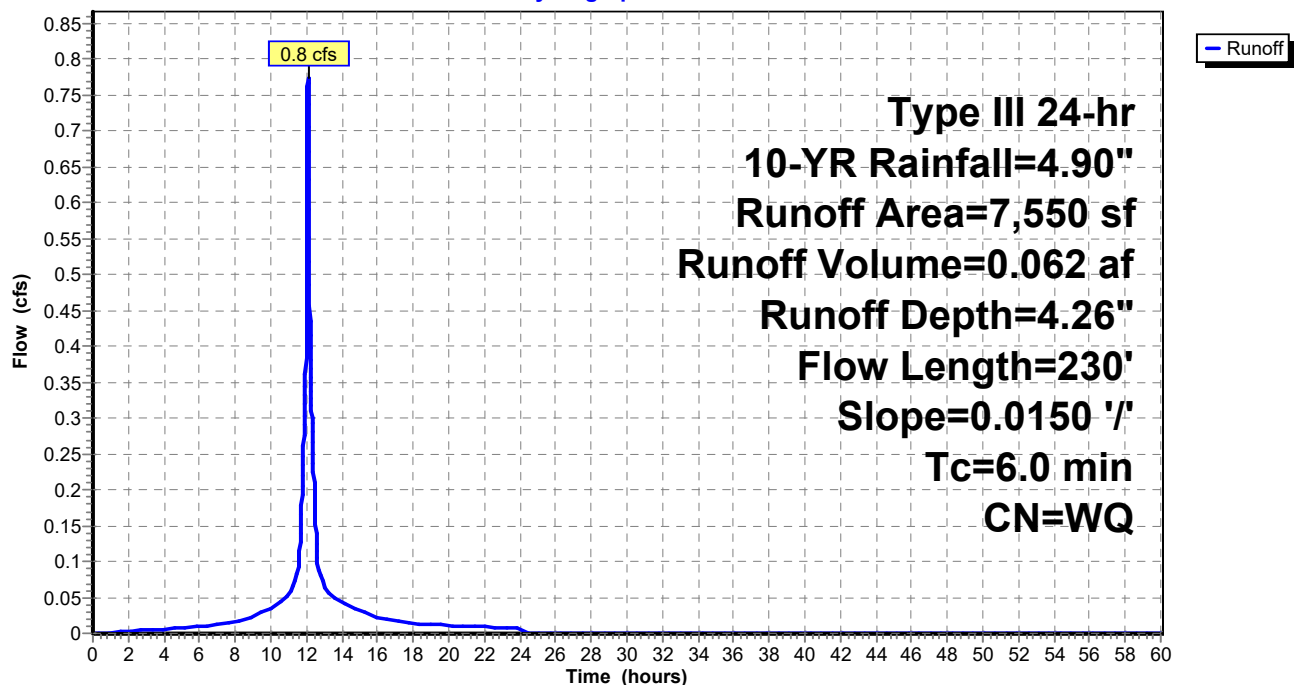
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 780 | 98 | Sidewalks, HSG D |
| 5,140 | 98 | Paved parking, HSG D |
| 1,630 | 80 | >75% Grass cover, Good, HSG D |
| 7,550 | | Weighted Average |
| 1,630 | | 21.59% Pervious Area |
| 5,920 | | 78.41% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.6 | 230 | 0.0150 | 1.47 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.4 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 230 | Total | | | |

Subcatchment 2.10S: 2.10S

Hydrograph



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Summary for Subcatchment 2.11S: 2.11S

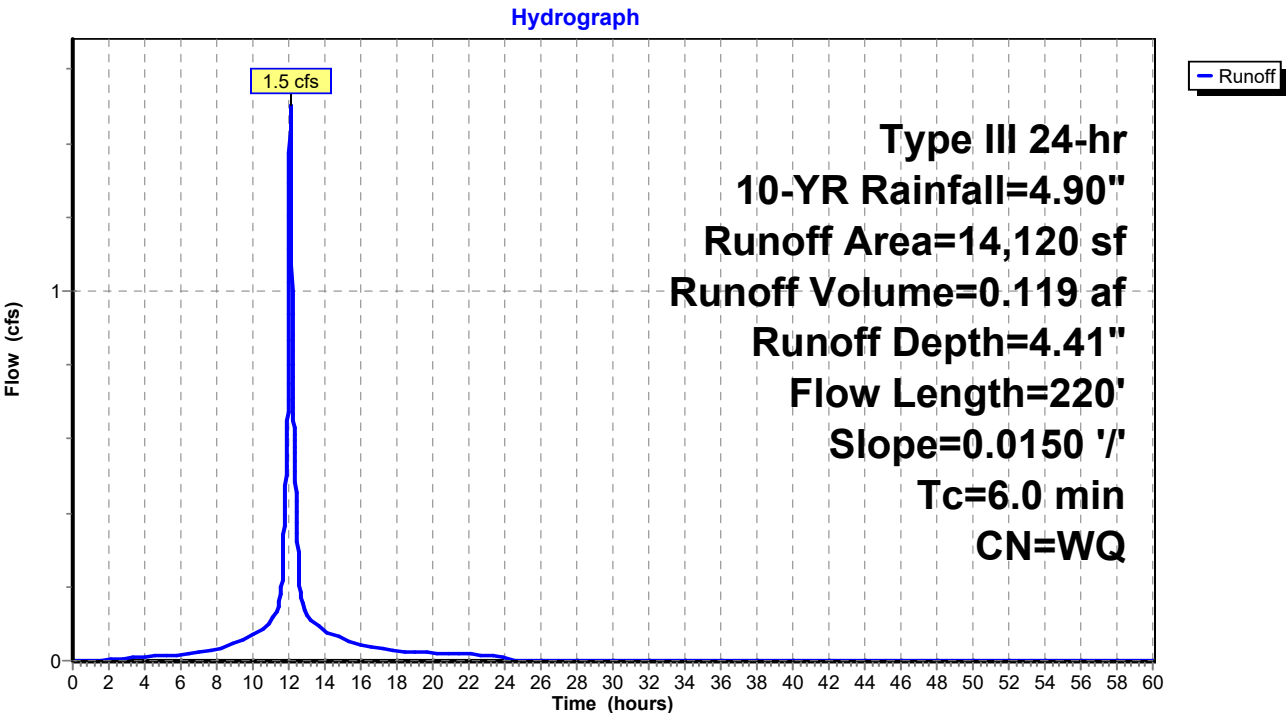
Runoff = 1.5 cfs @ 12.08 hrs, Volume= 0.119 af, Depth= 4.41"
Routed to Pond 2.11P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 340 | 98 | Sidewalks, HSG D |
| 1,100 | 80 | >75% Grass cover, Good, HSG D |
| 6,220 | 98 | Paved parking, HSG D |
| 6,460 | 96 | Gravel surface, HSG D |
| 14,120 | | Weighted Average |
| 7,560 | | 53.54% Pervious Area |
| 6,560 | | 46.46% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.5 | 220 | 0.0150 | 1.46 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 220 | Total | | | |

Subcatchment 2.11S: 2.11S



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Summary for Subcatchment 2.12S: 2.12S

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 3.56"
Routed to Pond 2.12P : CB-7

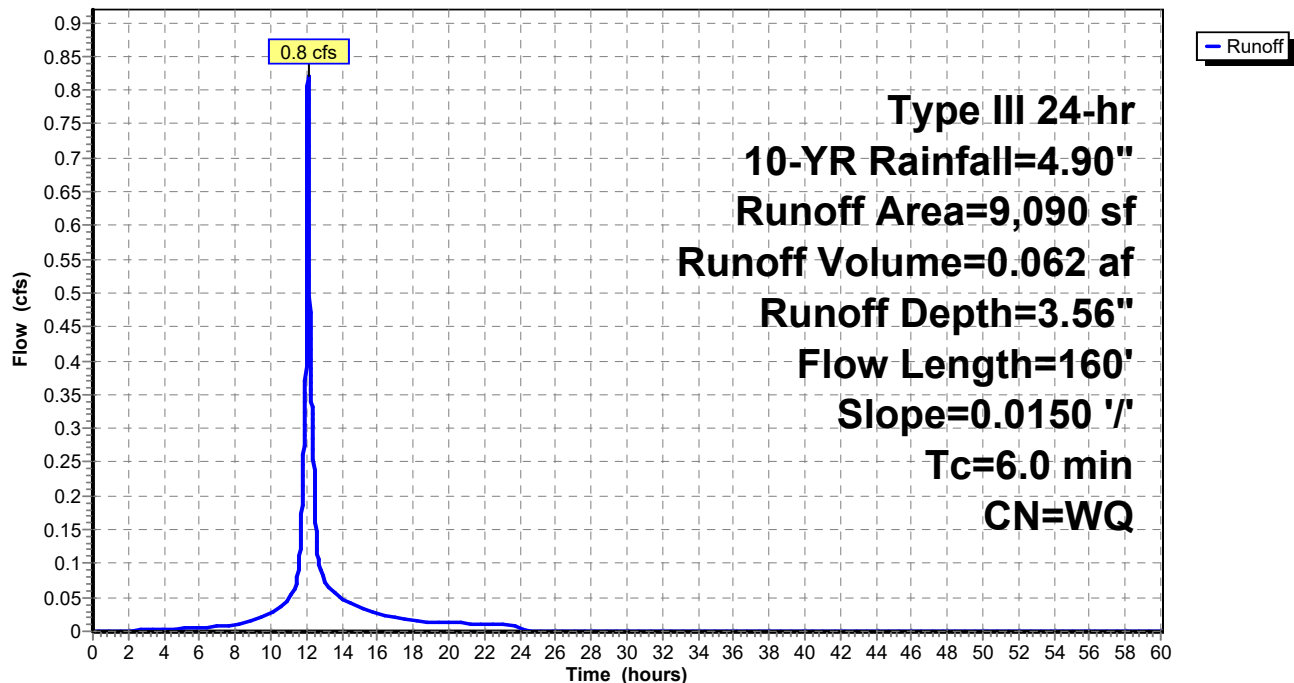
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 1,090 | 98 | Sidewalks, HSG D |
| | 5,020 | 80 | >75% Grass cover, Good, HSG D |
| | 2,980 | 96 | Gravel surface, HSG D |
| | 9,090 | | Weighted Average |
| | 8,000 | | 88.01% Pervious Area |
| | 1,090 | | 11.99% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.12S: 2.12S

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.13S: 2.13S

Runoff = 1.1 cfs @ 12.08 hrs, Volume= 0.090 af, Depth= 4.07"
Routed to Pond 2.13P : CB-3

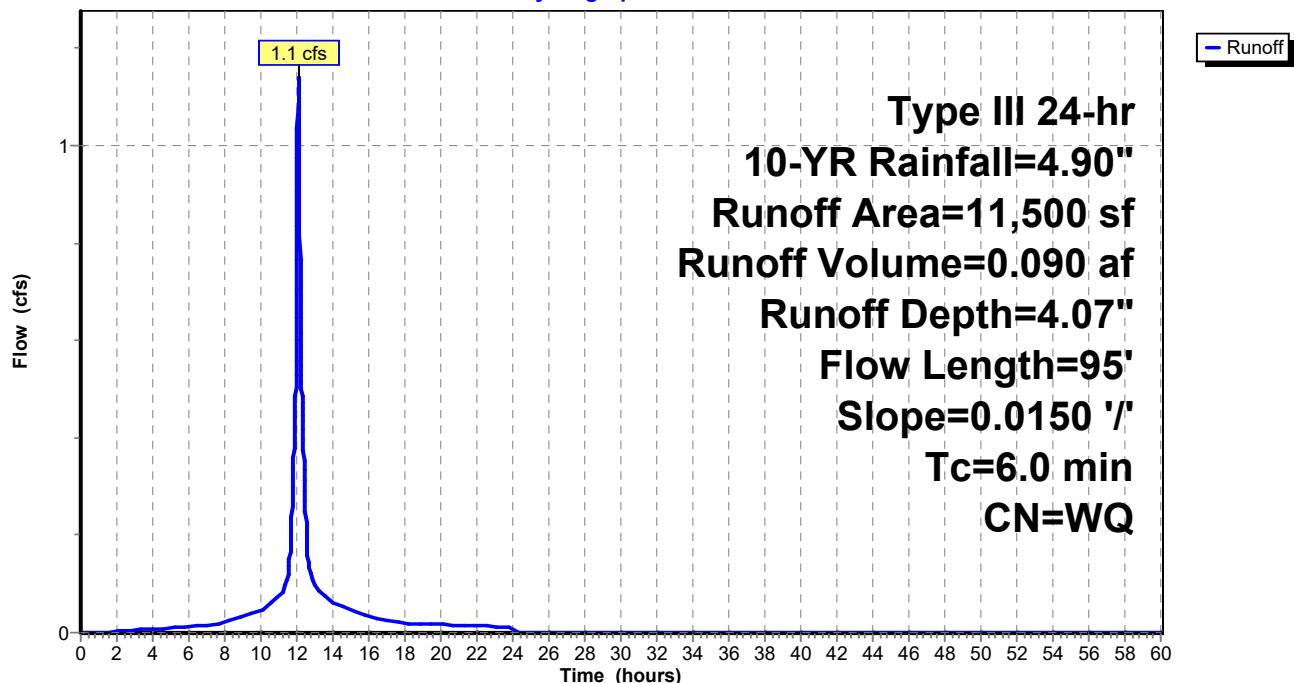
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 5,860 | 98 | Paved parking, HSG D |
| 3,510 | 80 | >75% Grass cover, Good, HSG D |
| * 540 | 98 | Sidewalks, HSG D |
| 300 | 98 | Unconnected pavement, HSG D |
| 1,290 | 96 | Gravel surface, HSG D |
| 11,500 | | Weighted Average |
| 4,800 | | 41.74% Pervious Area |
| 6,700 | | 58.26% Impervious Area |
| 300 | | 4.48% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.3 | 95 | 0.0150 | 1.23 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.7 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 95 | Total | | | |

Subcatchment 2.13S: 2.13S

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.14S:

Runoff = 9.4 cfs @ 12.61 hrs, Volume= 1.482 af, Depth= 3.24"
 Routed to Link POA-2 :

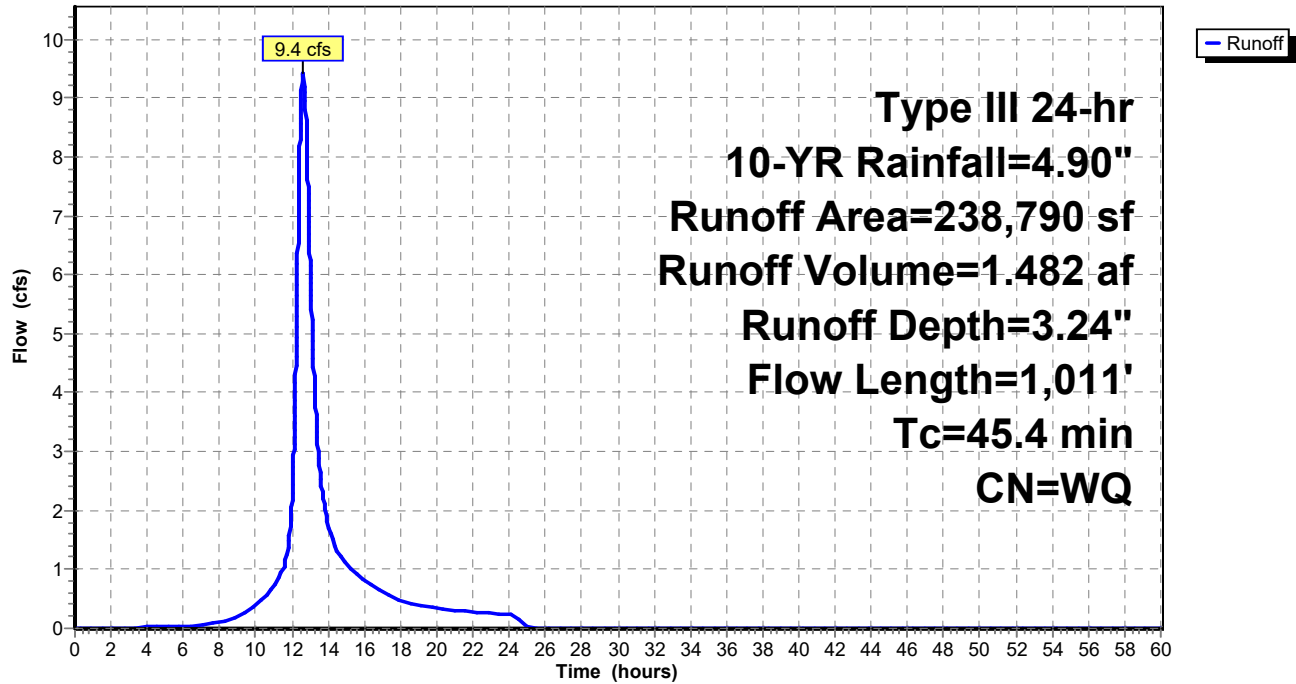
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 24,375 | 89 | <50% Grass cover, Poor, HSG D |
| 122,695 | 83 | Woods, Poor, HSG D |
| * 3,360 | 98 | Roofs, HSG D |
| * 19,110 | 96 | Gravel surface, HSG D |
| * 6,840 | 98 | Sidewalks, HSG D |
| 58,620 | 80 | >75% Grass cover, Good, HSG D |
| 3,790 | 78 | Meadow, non-grazed, HSG D |
| 238,790 | | Weighted Average |
| 228,590 | | 95.73% Pervious Area |
| 10,200 | | 4.27% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 2.6 | 110 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 1.6 | 200 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.4 | 50 | 0.0200 | 2.12 | | Shallow Concentrated Flow, E-F |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.1 | 135 | 0.0200 | 2.12 | | Shallow Concentrated Flow, F-G |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.6 | 250 | 0.0300 | 2.60 | | Shallow Concentrated Flow, G-H |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 56 | 0.0150 | 5.56 | 4.36 | Pipe Channel, H-I |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 10 | 0.3300 | 8.62 | | Shallow Concentrated Flow, I-J |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 30 | 0.3300 | 2.87 | | Shallow Concentrated Flow, J-K |
| | | | | | Woodland Kv= 5.0 fps |
| 45.4 | 1,011 | Total | | | |

Subcatchment 2.14S:

Hydrograph



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Summary for Subcatchment 2.1S: 2.1S

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 3.71"
Routed to Pond 2.1P : CB-2

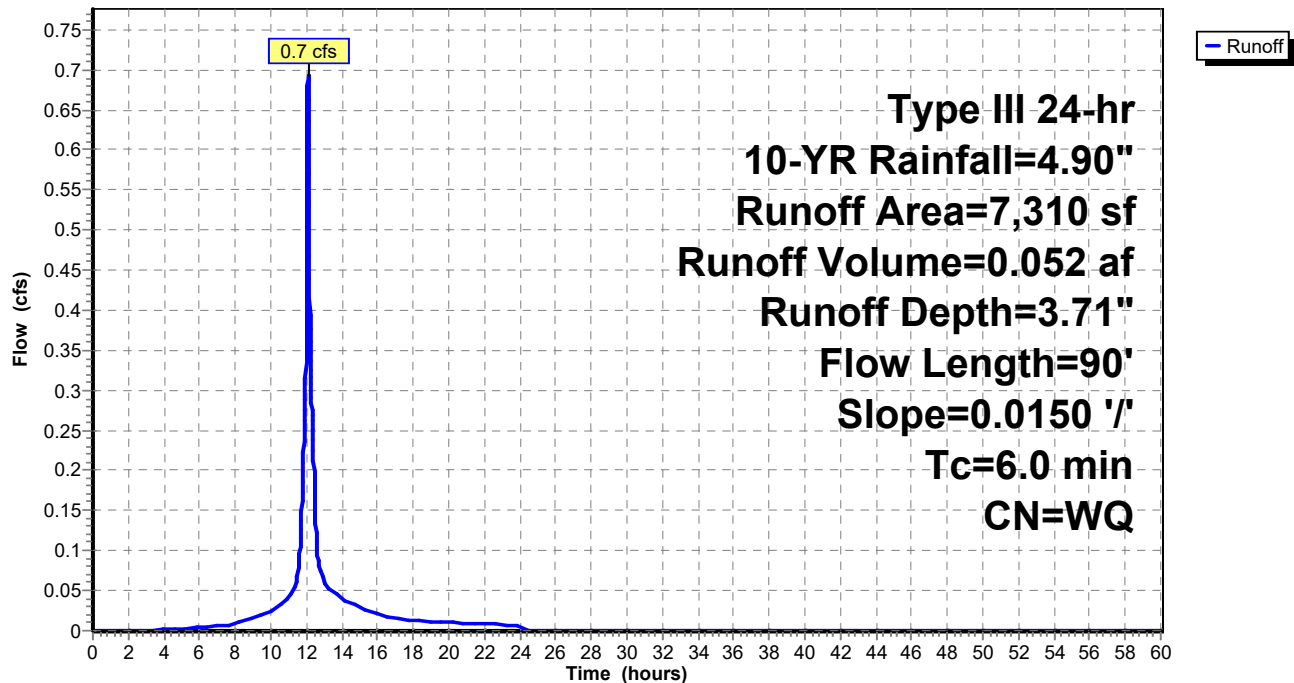
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 870 | 98 | Paved parking, HSG D |
| * 190 | 98 | Sidewalks, HSG D |
| 2,330 | 80 | >75% Grass cover, Good, HSG D |
| 3,920 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 7,310 | | Weighted Average |
| 3,702 | | 50.64% Pervious Area |
| 3,608 | | 49.36% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.1S: 2.1S

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.2S: 2.2S

Runoff = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af, Depth= 4.03"
Routed to Pond 2.2P : DMH-7

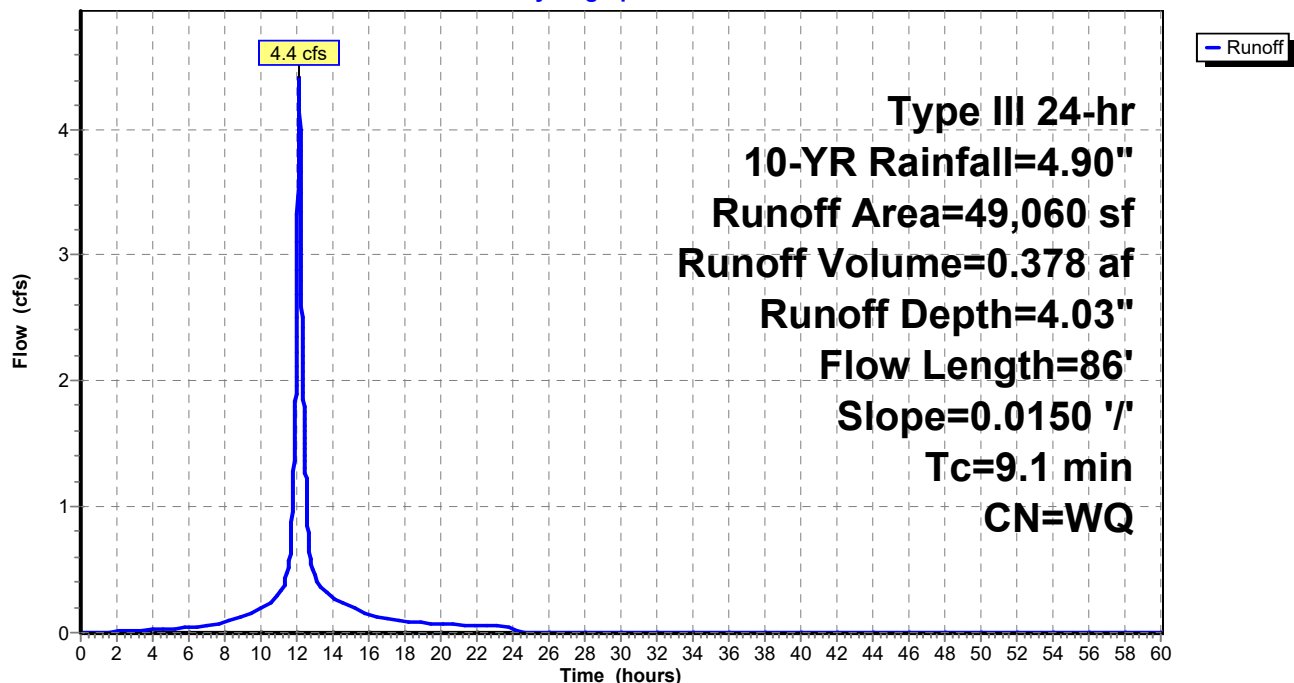
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 11,330 | 98 | Paved parking, HSG D |
| * 1,450 | 98 | Sidewalks, HSG D |
| 9,060 | 98 | Roofs, HSG D |
| 10,940 | 80 | >75% Grass cover, Good, HSG D |
| 16,280 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 49,060 | | Weighted Average |
| 16,638 | | 33.91% Pervious Area |
| 32,422 | | 66.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 9.1 | 80 | 0.0150 | 0.15 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 6 | 0.0150 | 2.49 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 9.1 | 86 | Total | | | |

Subcatchment 2.2S: 2.2S

Hydrograph



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Summary for Subcatchment 2.3S: 2.2S

Runoff = 3.2 cfs @ 12.08 hrs, Volume= 0.261 af, Depth= 4.42"
Routed to Pond 2.3P : CB-24

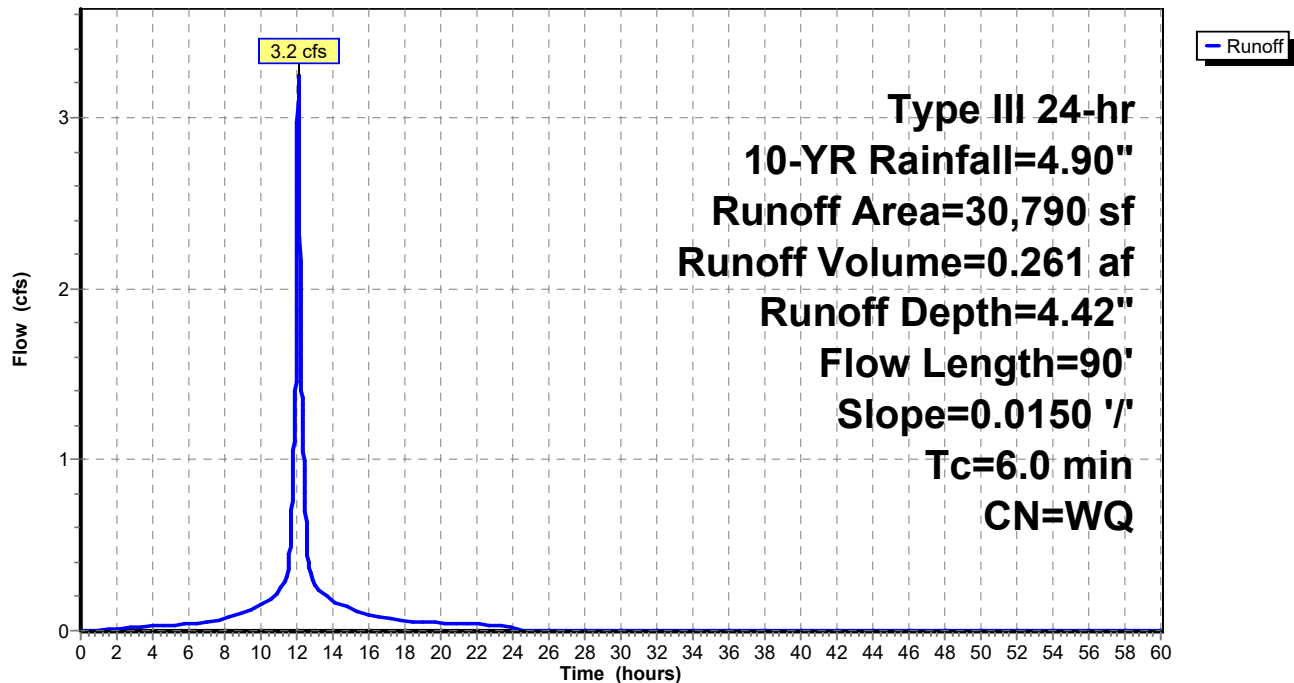
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,330 | 98 | Paved parking, HSG D |
| * 5,830 | 98 | Sidewalks, HSG D |
| 8,650 | 98 | Roofs, HSG D |
| 3,980 | 80 | >75% Grass cover, Good, HSG D |
| 30,790 | | Weighted Average |
| 3,980 | | 12.93% Pervious Area |
| 26,810 | | 87.07% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.3S: 2.2S

Hydrograph



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Summary for Subcatchment 2.4S: 2.4S

Runoff = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 4.66"
Routed to Pond 2.4P : CB-17

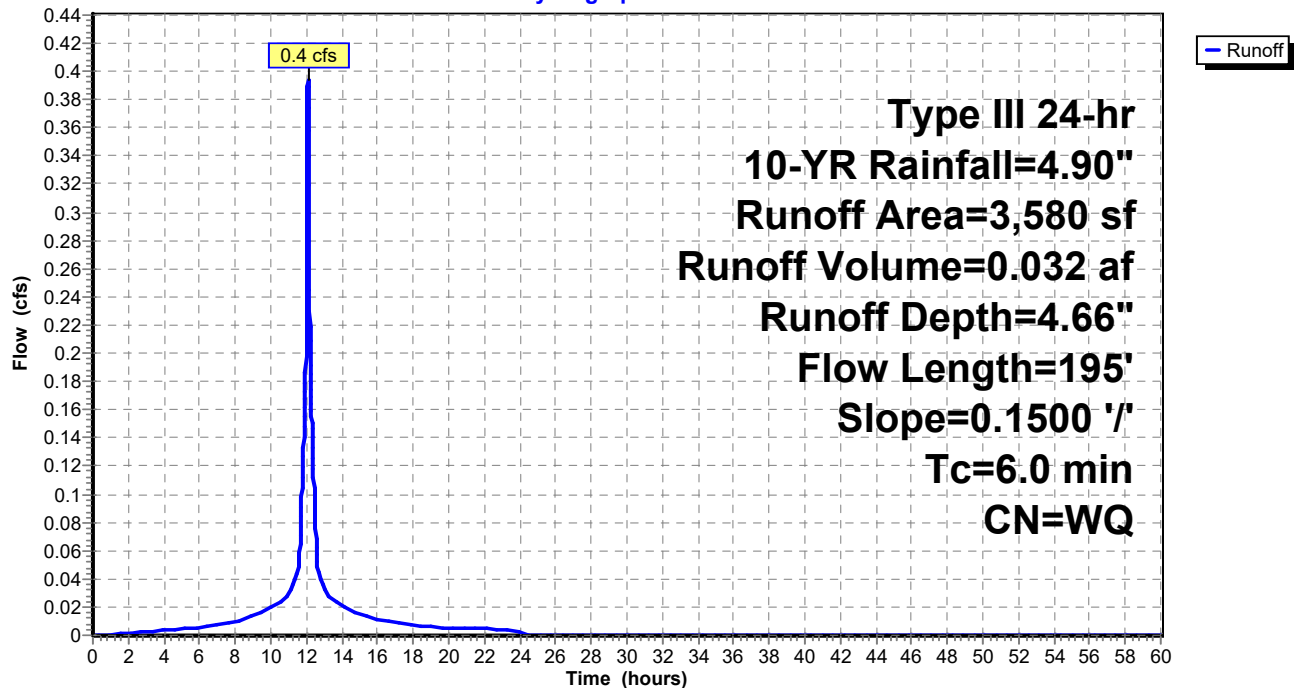
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| * 500 | 98 | Sidewalks, HSG D |
| 3,080 | 98 | Paved parking, HSG D |
| 3,580 | | Weighted Average |
| 3,580 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.9 | 195 | 0.1500 | 3.57 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 5.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 195 | Total | | | |

Subcatchment 2.4S: 2.4S

Hydrograph



18462 POST with Stormfilter

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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.5S: 2.5S

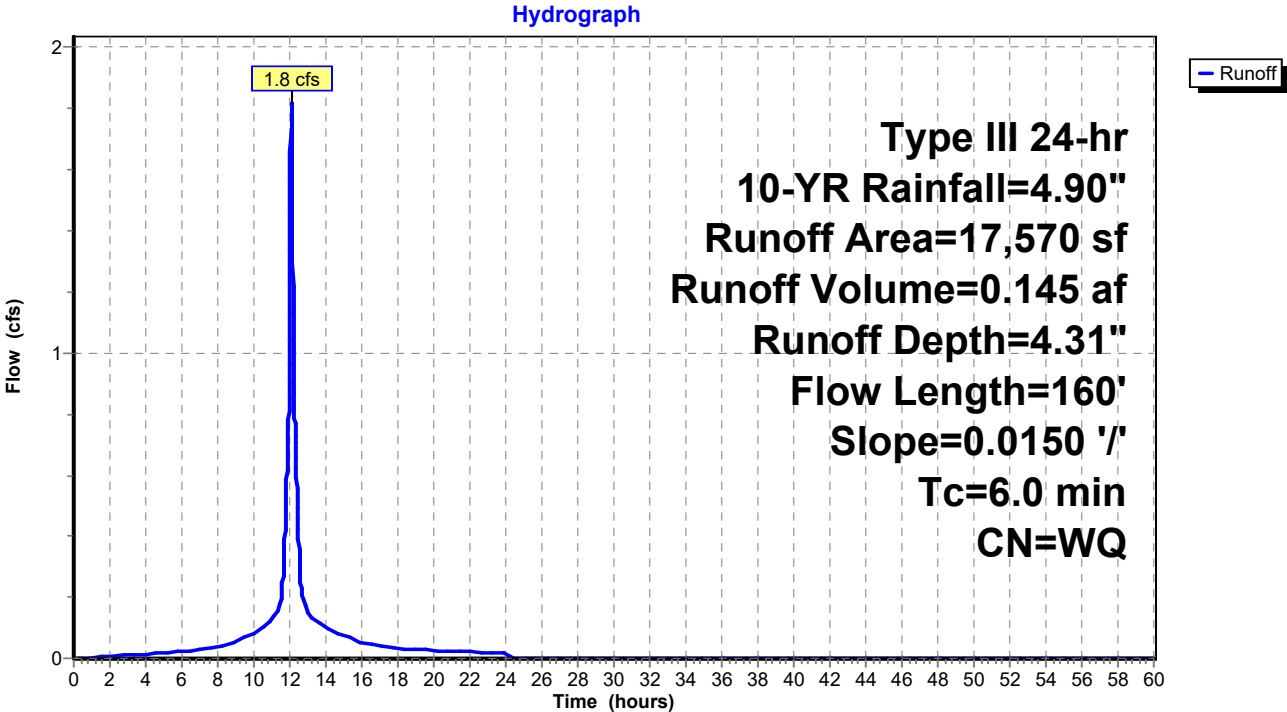
Runoff = 1.8 cfs @ 12.08 hrs, Volume= 0.145 af, Depth= 4.31"
Routed to Pond 2.5P : CB-20

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,530 | 98 | Paved parking, HSG D |
| * 4,690 | 98 | Sidewalks, HSG D |
| 3,350 | 80 | >75% Grass cover, Good, HSG D |
| 17,570 | | Weighted Average |
| 3,350 | | 19.07% Pervious Area |
| 14,220 | | 80.93% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.5S: 2.5S



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.6S: 2.6S

Runoff = 1.9 cfs @ 12.09 hrs, Volume= 0.151 af, Depth= 4.24"
Routed to Pond 2.6P : CB-15

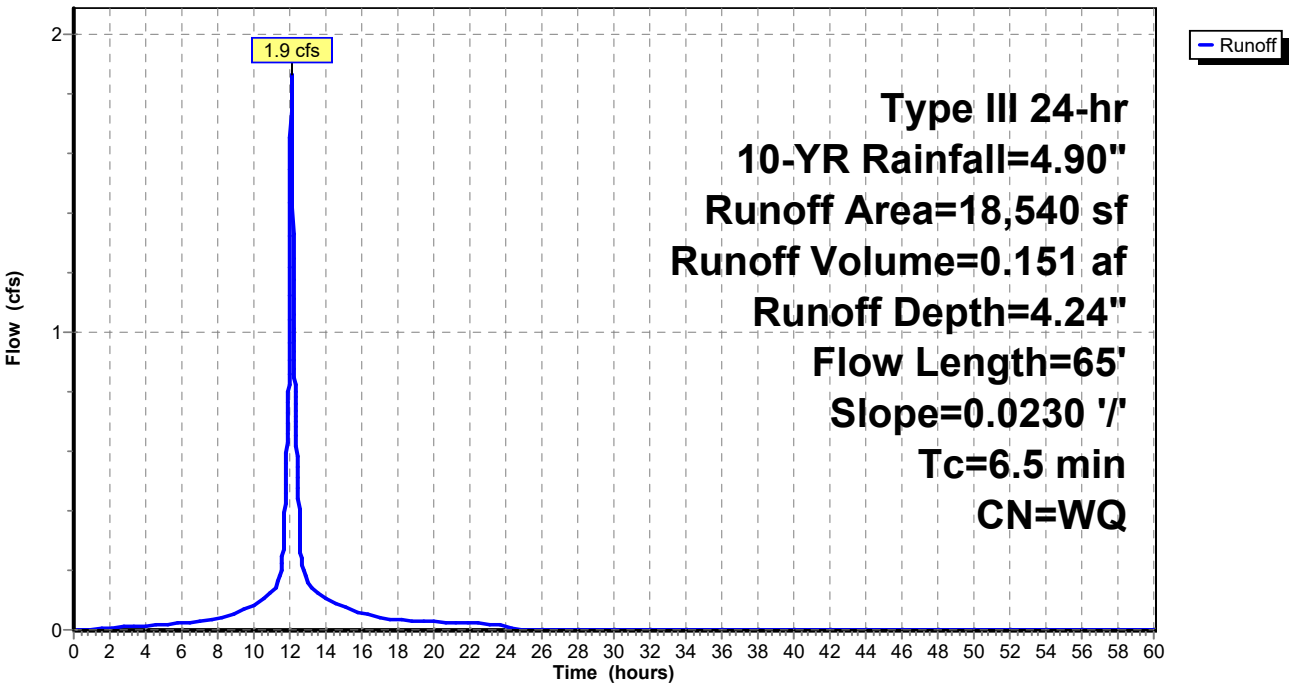
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 2,010 | 98 | Sidewalks, HSG D |
| | 4,190 | 80 | >75% Grass cover, Good, HSG D |
| | 12,340 | 98 | Paved parking, HSG D |
| | 18,540 | | Weighted Average |
| | 4,190 | | 22.60% Pervious Area |
| | 14,350 | | 77.40% Impervious Area |

| Tc
(min) | Length
(feet) | Slope
(ft/ft) | Velocity
(ft/sec) | Capacity
(cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------------|
| 6.5 | 65 | 0.0230 | 0.17 | | Sheet Flow, A |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |

Subcatchment 2.6S: 2.6S

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.7S: 2.7S

Runoff = 4.3 cfs @ 12.08 hrs, Volume= 0.340 af, Depth= 4.35"
Routed to Pond 2.7P : CB-8

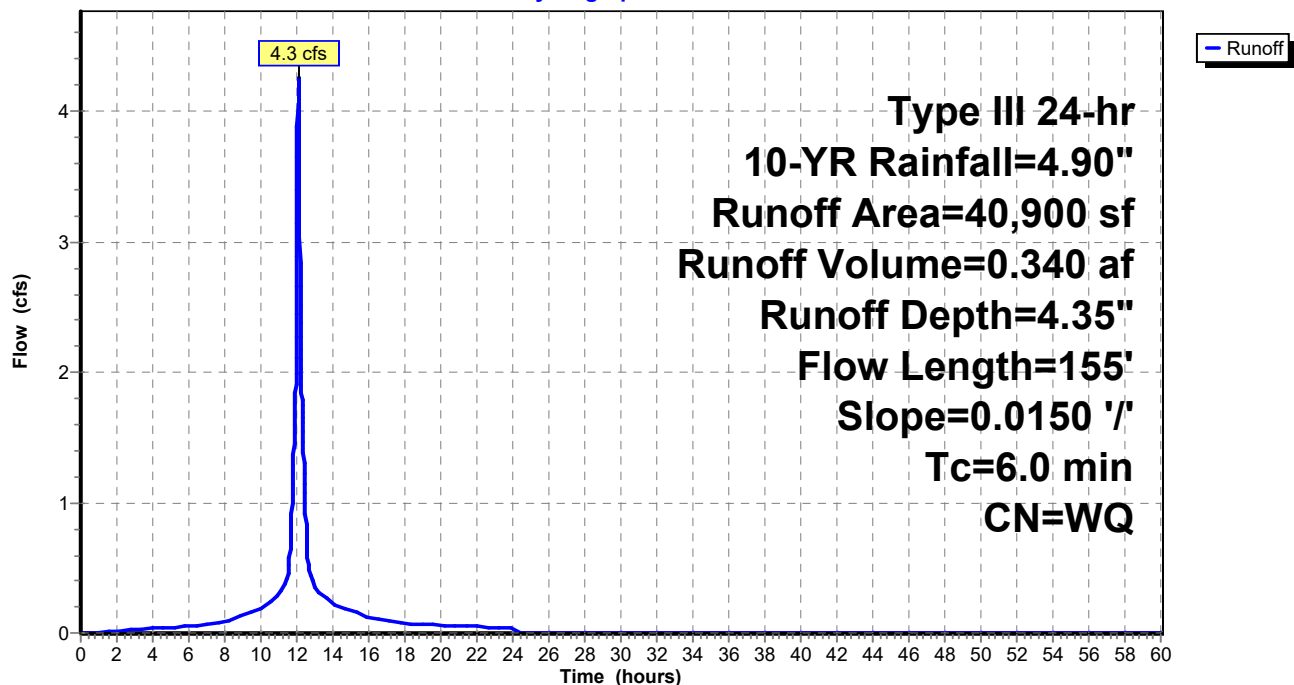
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,000 | 98 | Unconnected pavement, HSG D |
| 14,870 | 98 | Paved parking, HSG D |
| 17,100 | 98 | Roofs, HSG D |
| 6,930 | 80 | >75% Grass cover, Good, HSG D |
| 40,900 | | Weighted Average |
| 6,930 | | 16.94% Pervious Area |
| 33,970 | | 83.06% Impervious Area |
| 2,000 | | 5.89% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 155 | 0.0150 | 1.36 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 155 | Total | | | |

Subcatchment 2.7S: 2.7S

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.8S:

Runoff = 0.7 cfs @ 12.08 hrs, Volume= 0.054 af, Depth= 3.92"
Routed to Pond 2.8P : CB-14

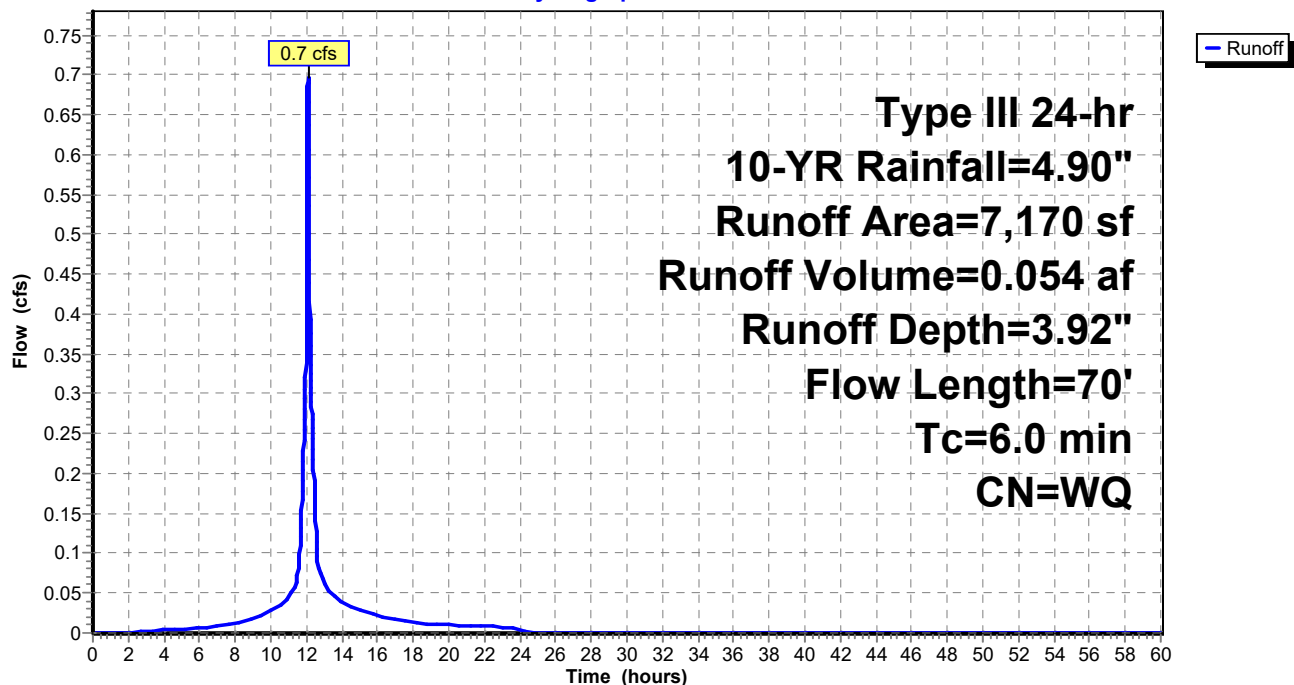
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,510 | 80 | >75% Grass cover, Good, HSG D |
| * 1,630 | 98 | Sidewalks, HSG D |
| 3,030 | 96 | Gravel surface, HSG D |
| 7,170 | | Weighted Average |
| 5,540 | | 77.27% Pervious Area |
| 1,630 | | 22.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 5.5 | 60 | 0.0300 | 0.18 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 10 | 0.0600 | 4.97 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 70 | Total | | | |

Subcatchment 2.8S:

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 2.9S: 2.9S

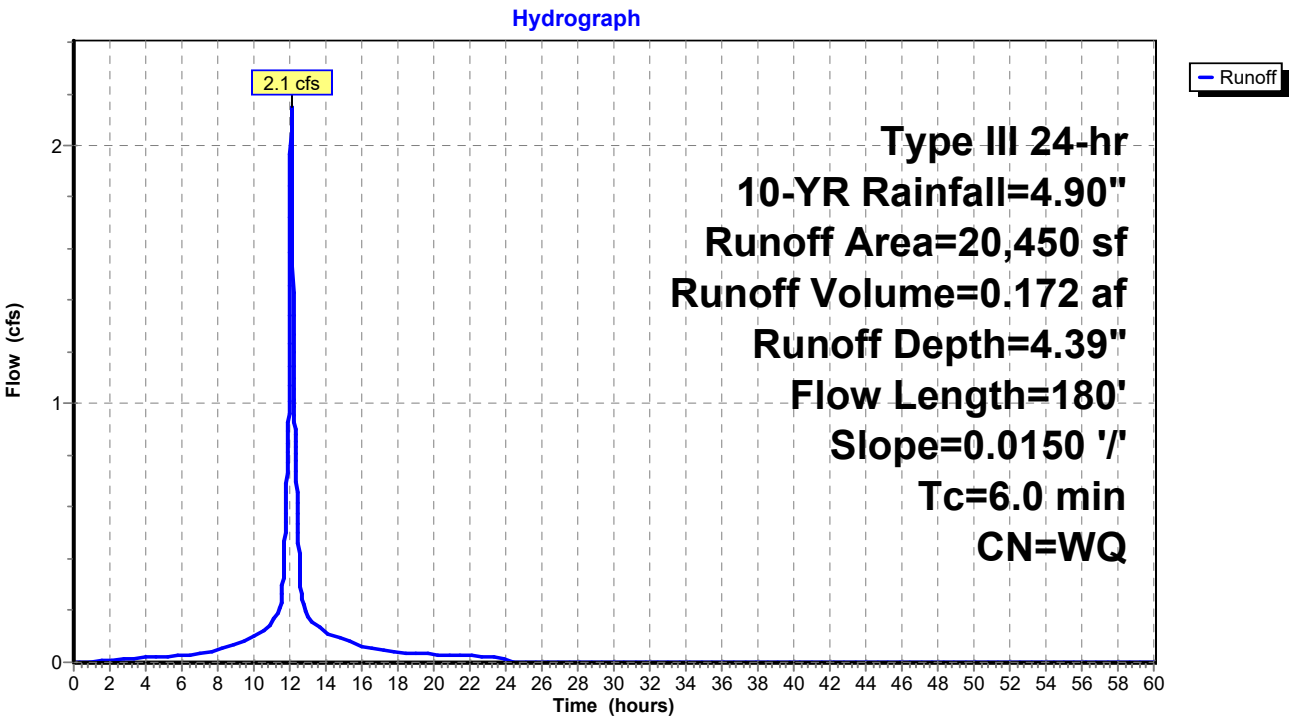
Runoff = 2.1 cfs @ 12.08 hrs, Volume= 0.172 af, Depth= 4.39"
Routed to Pond 2.9P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,980 | 80 | >75% Grass cover, Good, HSG D |
| * 2,170 | 98 | Sidewalks, HSG D |
| 15,300 | 98 | Paved parking, HSG D |
| 20,450 | | Weighted Average |
| 2,980 | | 14.57% Pervious Area |
| 17,470 | | 85.43% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.1 | 180 | 0.0150 | 1.40 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.9 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 180 | Total | | | |

Subcatchment 2.9S: 2.9S



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 3.1S:

Runoff = 16.0 cfs @ 12.51 hrs, Volume= 2.367 af, Depth= 3.64"
 Routed to Link POA-3 :

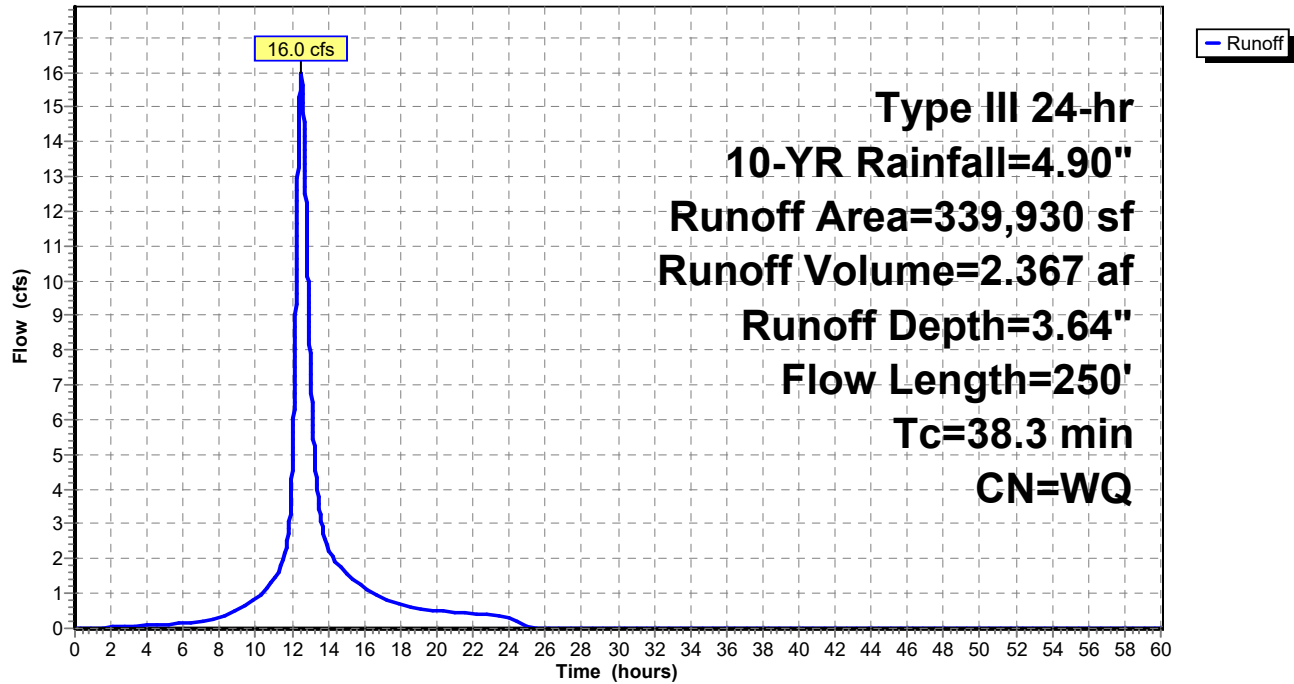
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 44,220 | 98 | Roofs, HSG D |
| 28,895 | 98 | Paved parking, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 50,270 | 89 | <50% Grass cover, Poor, HSG D |
| 154,640 | 83 | Woods, Poor, HSG D |
| 7,700 | 78 | Meadow, non-grazed, HSG D |
| 17,355 | 80 | >75% Grass cover, Good, HSG D |
| * 9,740 | 98 | Sidewalks, HSG D |
| 339,930 | | Weighted Average |
| 257,075 | | 75.63% Pervious Area |
| 82,855 | | 24.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 40 | 0.3300 | 8.62 | | Shallow Concentrated Flow, B-C |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 10 | 0.0150 | 2.49 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | 55 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 38.3 | 250 | Total | | | |

Subcatchment 3.1S:

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 4S:

Runoff = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Depth= 4.11"
Routed to Pond 4P : CB - Elm Street

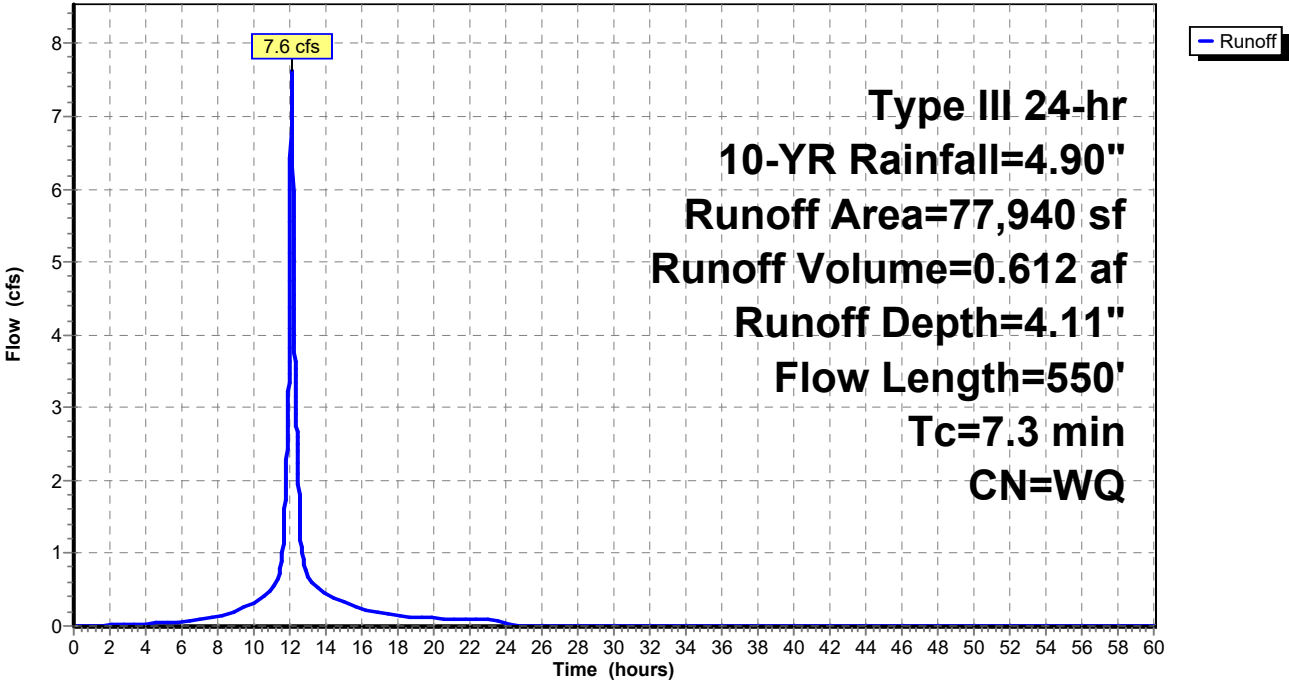
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Subcatchment 5.1S:

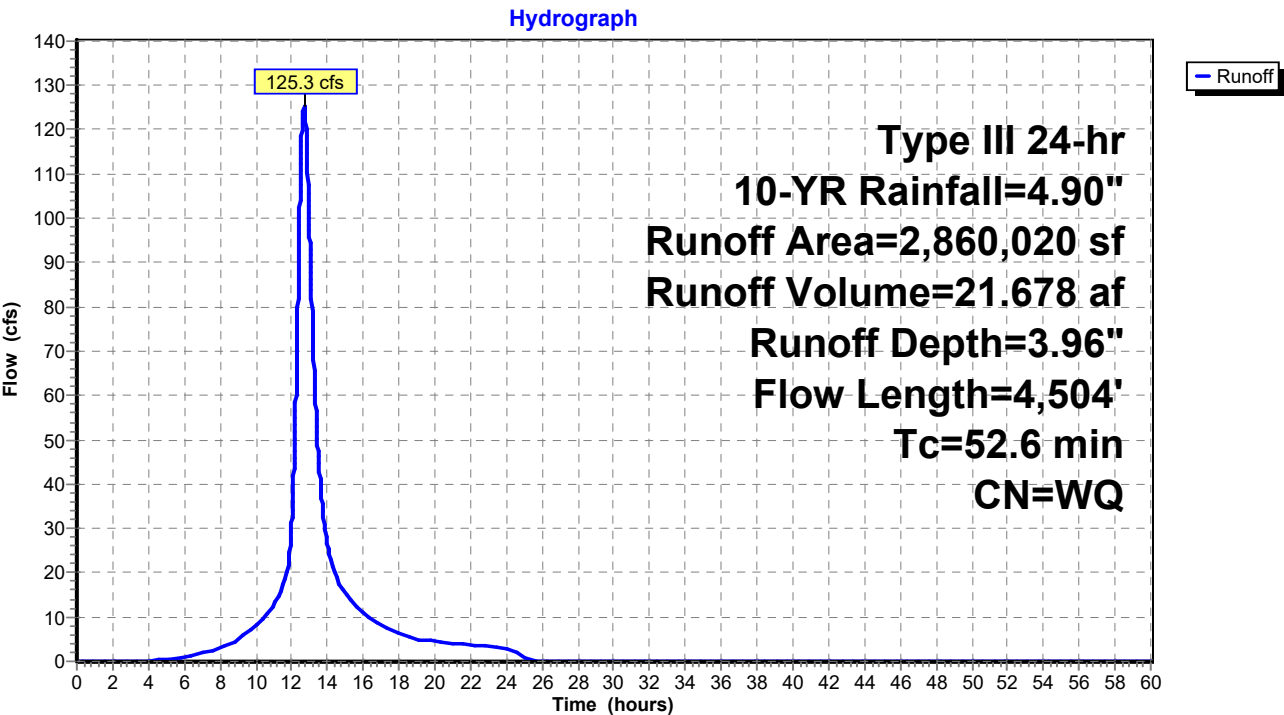
Runoff = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af, Depth= 3.96"
 Routed to Pond 5P : Box Culvert - Railroad

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-YR Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,765,240 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,600 | 83 | Woods, Poor, HSG D |
| 4,430 | 80 | >75% Grass cover, Good, HSG D |
| 1,750 | 96 | Gravel surface, HSG D |
| 2,860,020 | | Weighted Average |
| 1,062,614 | | 37.15% Pervious Area |
| 1,797,406 | | 62.85% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5.1S:



Summary for Pond 2.10P: CB-4

Inflow Area = 0.2 ac, 78.41% Impervious, Inflow Depth = 4.26" for 10-YR event
 Inflow = 0.8 cfs @ 12.08 hrs, Volume= 0.062 af
 Outflow = 0.8 cfs @ 12.08 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.8 cfs @ 12.08 hrs, Volume= 0.062 af
 Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

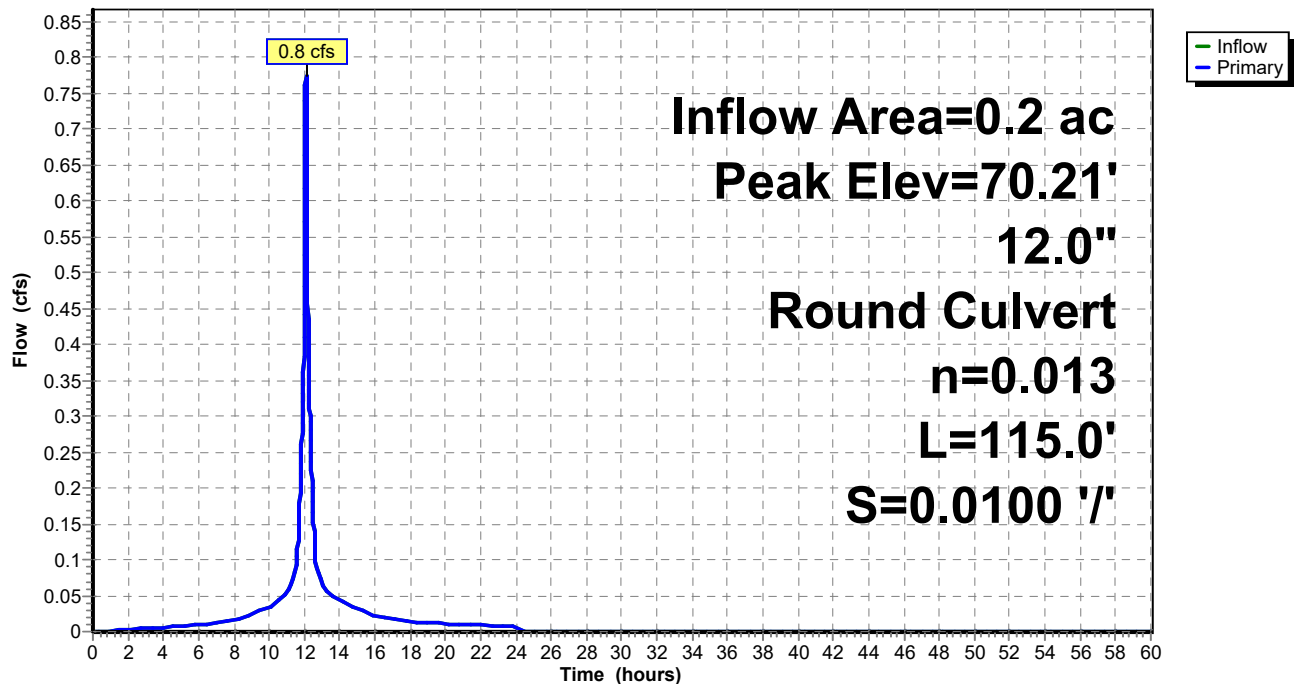
Peak Elev= 70.21' @ 12.08 hrs

Flood Elev= 73.30'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 69.70' | 12.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 69.70' / 68.55' S= 0.0100 '/ Cc= 0.900
n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=0.8 cfs @ 12.08 hrs HW=70.21' (Free Discharge)

↑1=Culvert (Inlet Controls 0.8 cfs @ 1.92 fps)

Pond 2.10P: CB-4**Hydrograph**

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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 2.11P: CB-6

Inflow Area = 1.4 ac, 66.07% Impervious, Inflow Depth = 4.24" for 10-YR event
Inflow = 6.3 cfs @ 12.08 hrs, Volume= 0.494 af
Outflow = 6.3 cfs @ 12.08 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min
Primary = 6.3 cfs @ 12.08 hrs, Volume= 0.494 af
Routed to Pond 2.12P : CB-7

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.69' @ 12.08 hrs

Flood Elev= 73.20'

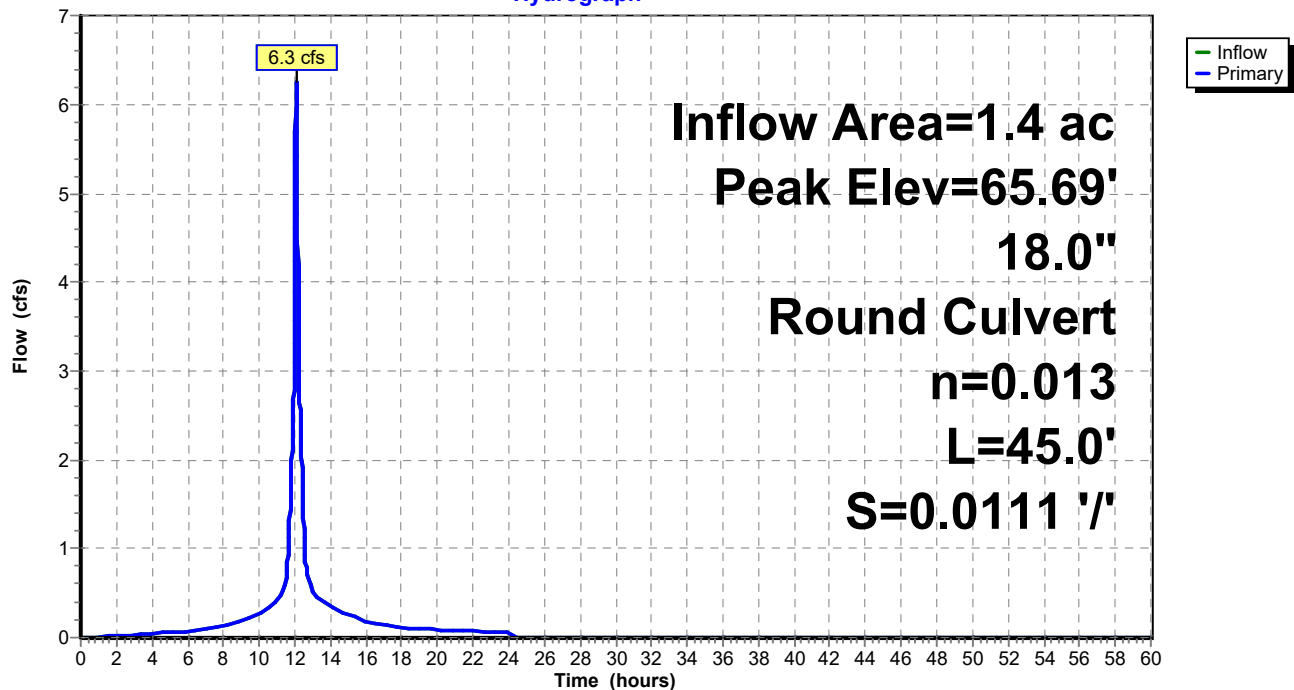
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.07' | 18.0" Round Culvert
L= 45.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.07' / 63.57' S= 0.0111 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=6.2 cfs @ 12.08 hrs HW=65.69' (Free Discharge)

↑1=Culvert (Inlet Controls 6.2 cfs @ 3.54 fps)

Pond 2.11P: CB-6

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 2.12P: CB-7

Inflow Area = 1.6 ac, 59.05% Impervious, Inflow Depth = 4.15" for 10-YR event
Inflow = 7.1 cfs @ 12.08 hrs, Volume= 0.556 af
Outflow = 7.1 cfs @ 12.08 hrs, Volume= 0.556 af, Atten= 0%, Lag= 0.0 min
Primary = 7.1 cfs @ 12.08 hrs, Volume= 0.556 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.33' @ 12.08 hrs

Flood Elev= 73.50'

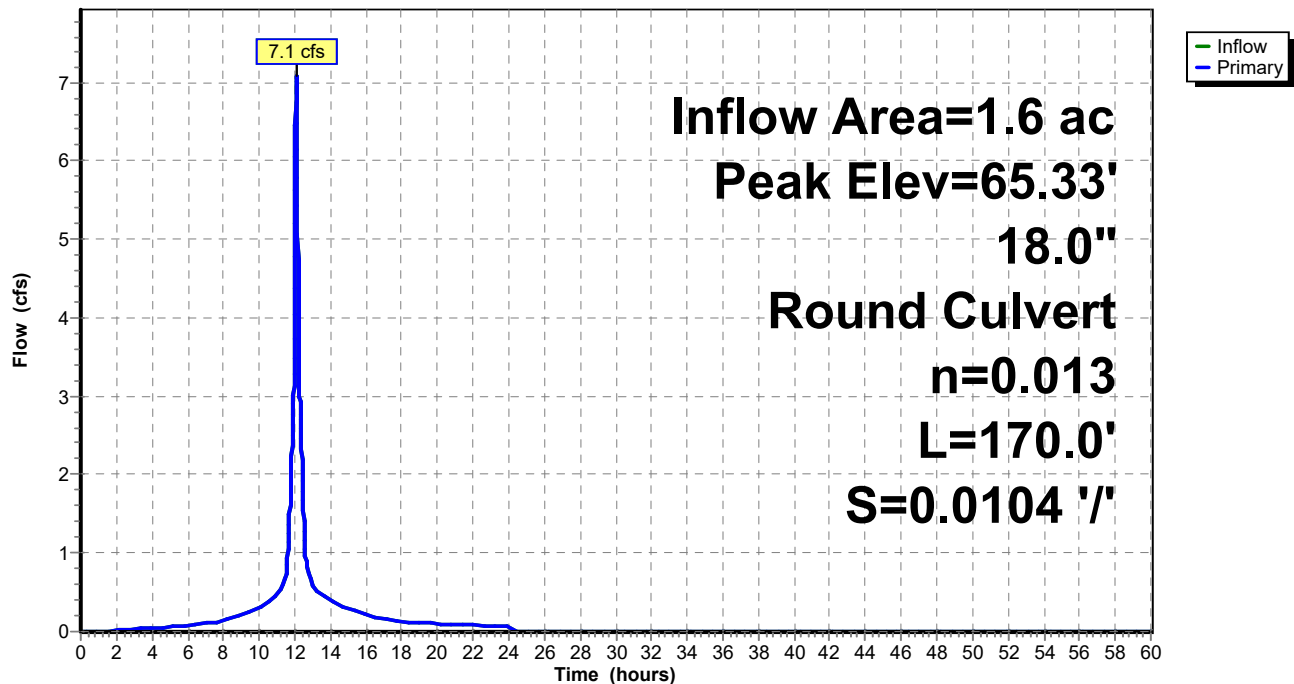
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.47' | 18.0" Round Culvert
L= 170.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.47' / 61.70' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=7.1 cfs @ 12.08 hrs HW=65.33' (Free Discharge)

↑1=Culvert (Inlet Controls 7.1 cfs @ 4.00 fps)

Pond 2.12P: CB-7

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 2.13P: CB-3

Inflow Area = 0.4 ac, 54.80% Impervious, Inflow Depth = 3.93" for 10-YR event
Inflow = 1.8 cfs @ 12.08 hrs, Volume= 0.141 af
Outflow = 1.8 cfs @ 12.08 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.08 hrs, Volume= 0.141 af
Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.71' @ 12.08 hrs

Flood Elev= 73.00'

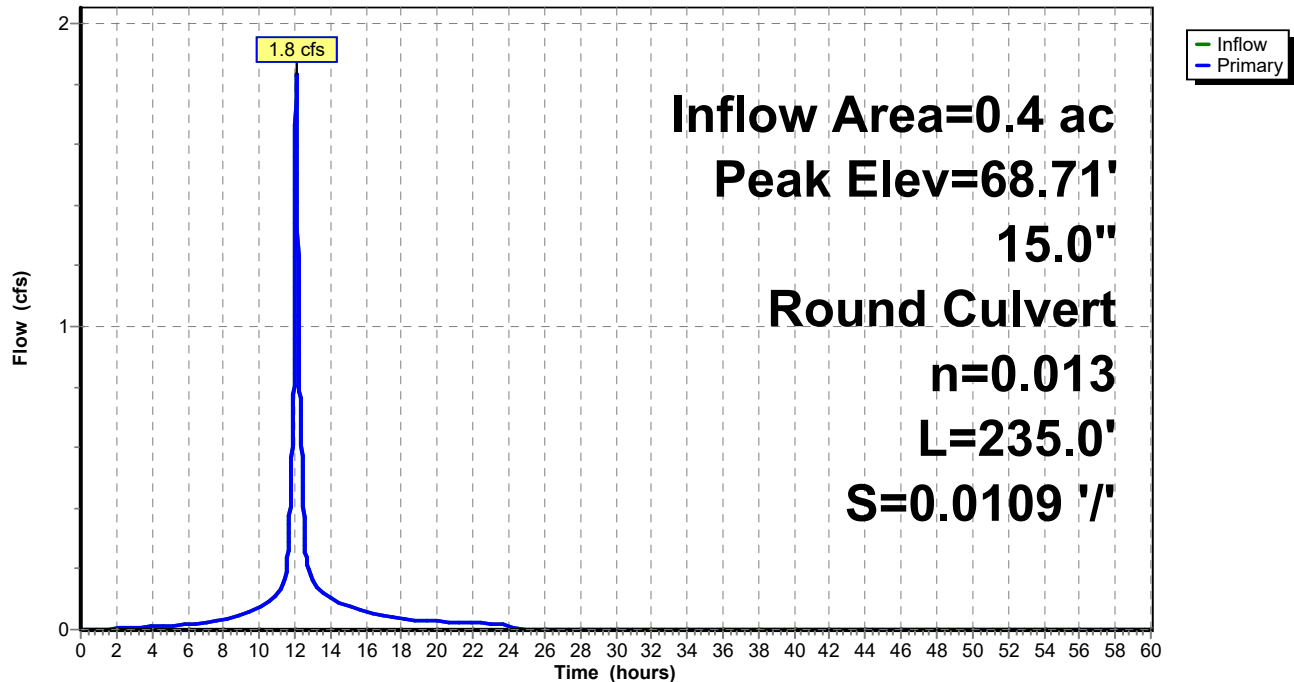
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 67.95' | 15.0" Round Culvert
L= 235.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 67.95' / 65.40' S= 0.0109 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=1.8 cfs @ 12.08 hrs HW=68.71' (Free Discharge)

↑1=Culvert (Inlet Controls 1.8 cfs @ 2.34 fps)

Pond 2.13P: CB-3

Hydrograph



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Summary for Pond 2.1P: CB-2

Inflow Area = 0.2 ac, 49.36% Impervious, Inflow Depth = 3.71" for 10-YR event
Inflow = 0.7 cfs @ 12.09 hrs, Volume= 0.052 af
Outflow = 0.7 cfs @ 12.09 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.09 hrs, Volume= 0.052 af
Routed to Pond 2.13P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.58' @ 12.09 hrs

Flood Elev= 74.20'

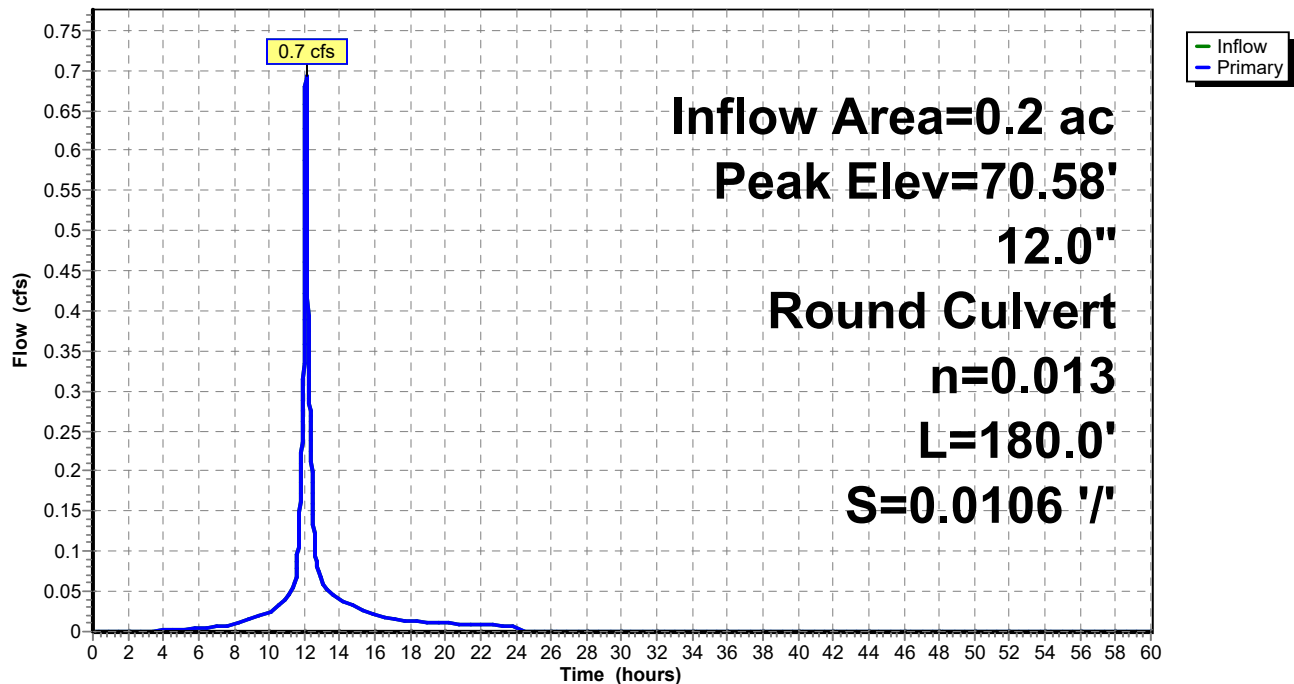
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 70.10' | 12.0" Round Culvert
L= 180.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 70.10' / 68.20' S= 0.0106 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.7 cfs @ 12.09 hrs HW=70.58' (Free Discharge)

↑1=Culvert (Inlet Controls 0.7 cfs @ 1.86 fps)

Pond 2.1P: CB-2

Hydrograph



Summary for Pond 2.21P: DMH-6

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 4.03" for 10-YR event
Inflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Outflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af, Atten= 0%, Lag= 0.0 min
Primary = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Routed to Pond 2.22P : DMH-8

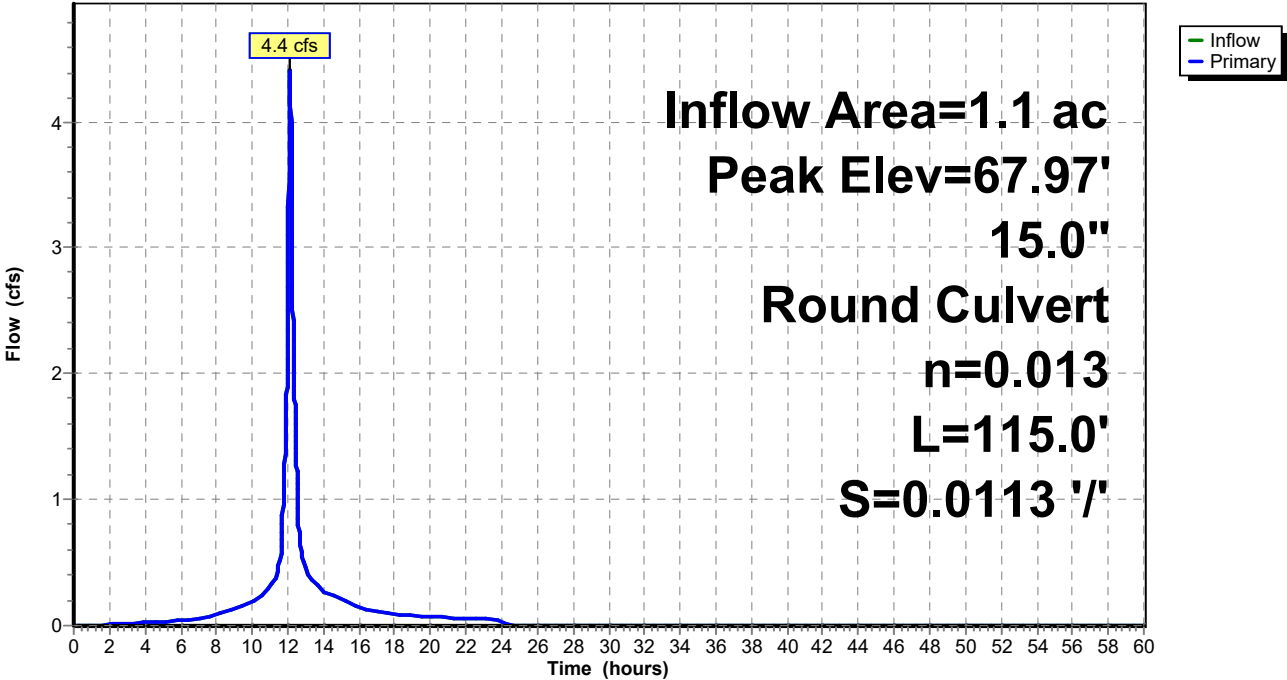
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 67.97' @ 12.12 hrs
Flood Elev= 73.75'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 66.45' | 15.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 66.45' / 65.15' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=4.4 cfs @ 12.12 hrs HW=67.97' (Free Discharge)
1=Culvert (Inlet Controls 4.4 cfs @ 3.59 fps)

Pond 2.21P: DMH-6

Hydrograph



Summary for Pond 2.22P: DMH-8

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 4.03" for 10-YR event
Inflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Outflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af, Atten= 0%, Lag= 0.0 min
Primary = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Routed to Pond 2.3P : CB-24

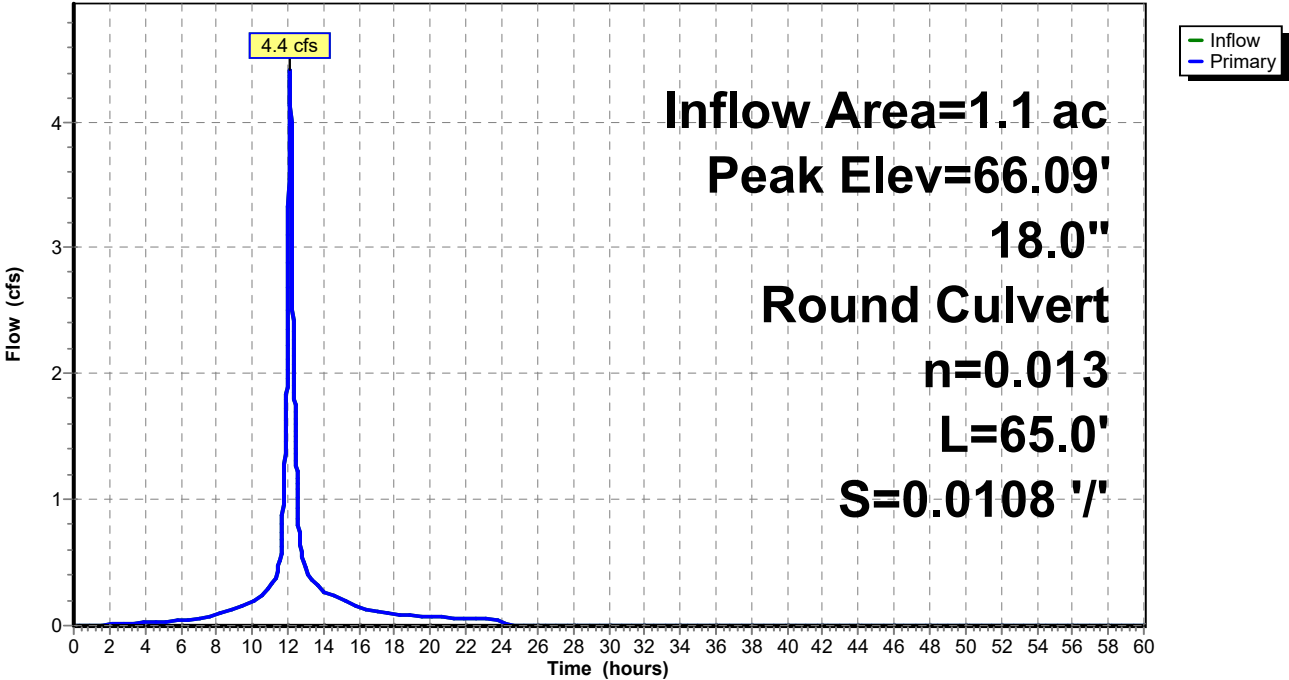
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.09' @ 12.12 hrs
Flood Elev= 71.40'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 64.90' | 18.0" Round Culvert
L= 65.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.90' / 64.20' S= 0.0108 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=4.4 cfs @ 12.12 hrs HW=66.09' (Free Discharge)
1=Culvert (Inlet Controls 4.4 cfs @ 2.93 fps)

Pond 2.22P: DMH-8

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 2.2P: DMH-7

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 4.03" for 10-YR event
Inflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Outflow = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af, Atten= 0%, Lag= 0.0 min
Primary = 4.4 cfs @ 12.12 hrs, Volume= 0.378 af
Routed to Pond 2.21P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 71.24' @ 12.12 hrs

Flood Elev= 74.70'

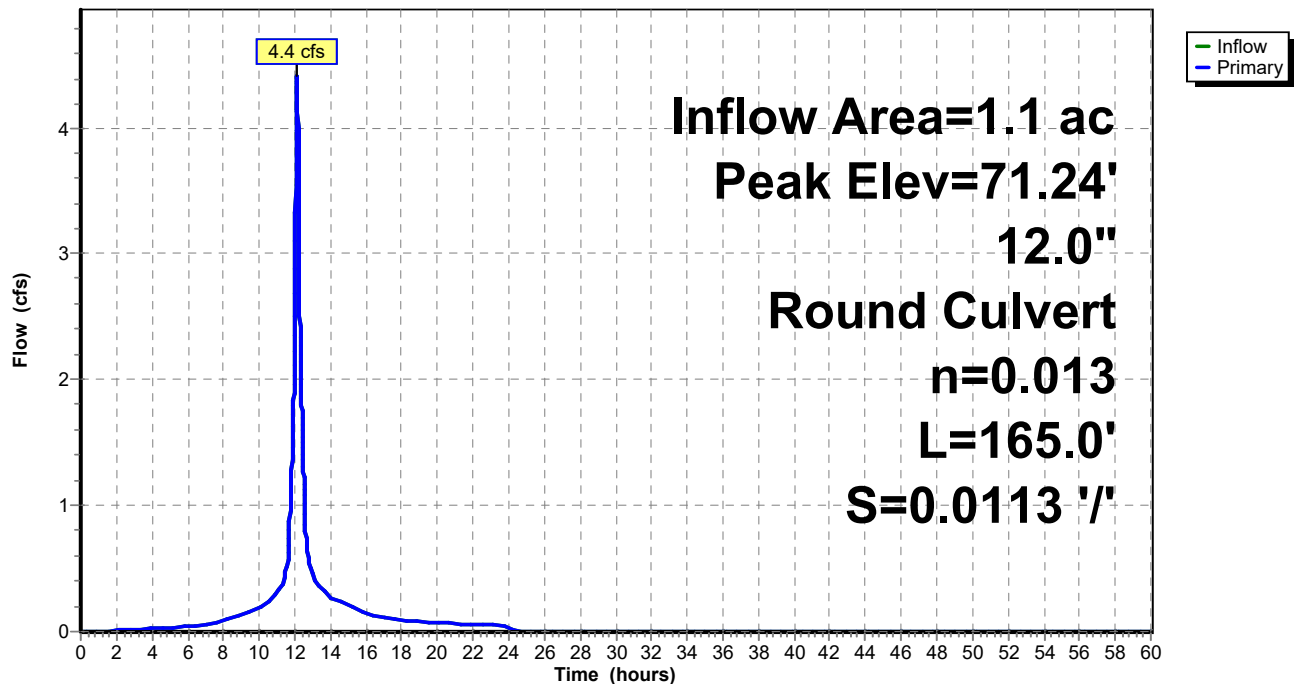
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 68.56' | 12.0" Round Culvert
L= 165.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 68.56' / 66.70' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=4.4 cfs @ 12.12 hrs HW=71.24' (Free Discharge)

↑1=Culvert (Inlet Controls 4.4 cfs @ 5.61 fps)

Pond 2.2P: DMH-7

Hydrograph



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Summary for Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 4.20" for 10-YR event
 Inflow = 21.2 cfs @ 12.09 hrs, Volume= 1.733 af
 Outflow = 20.9 cfs @ 12.10 hrs, Volume= 1.614 af, Atten= 1%, Lag= 0.8 min
 Primary = 20.9 cfs @ 12.10 hrs, Volume= 1.614 af
 Routed to Pond 2.32P : DMH-12

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 63.69' @ 12.10 hrs Surf.Area= 2,862 sf Storage= 6,947 cf

Plug-Flow detention time= 70.5 min calculated for 1.614 af (93% of inflow)
 Center-of-Mass det. time= 33.0 min (796.3 - 763.3)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| #3 | 64.80' | 40,157 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| | | 47,766 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Elevation
(feet) | Surf.Area
(sq-ft) | Voids
(%) | Inc.Store
(cubic-feet) | Cum.Store
(cubic-feet) |
|---------------------|----------------------|--------------|---------------------------|---------------------------|
| 64.80 | 7,000 | 0.0 | 0 | 0 |
| 67.99 | 7,000 | 0.1 | 22 | 22 |
| 68.00 | 20,000 | 100.0 | 135 | 157 |
| 69.00 | 60,000 | 100.0 | 40,000 | 40,157 |

| Device | Routing | Invert | Outlet Devices |
|--------|----------|--------|---|
| #1 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 ' / ' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |
| #2 | Device 1 | 62.62' | 6.0' long x 5.45' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |

Primary OutFlow Max=20.9 cfs @ 12.10 hrs HW=63.69' (Free Discharge)

1=Culvert (Passes 20.9 cfs of 39.7 cfs potential flow)

2=Sharp-Crested Rectangular Weir(Weir Controls 20.9 cfs @ 3.38 fps)

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Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)

Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf

Overall Size= 60.0"W x 60.0"H x 20.00'L

Row Length Adjustment= +10.00' x 19.63 sf x 4 rows

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

4 Chambers/Row x 20.00' Long +10.00' Row Adjustment +5.00' Header x 1 = 95.00' Row Length +12.0"

End Stone x 2 = 97.00' Base Length

4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width

6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

16 Chambers x 392.7 cf +10.00' Row Adjustment x 19.63 sf x 4 Rows + 27.50' Header x 19.63 sf =
7,608.5 cf Chamber Storage

17,169.0 cf Field - 7,608.5 cf Chambers = 9,560.5 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 7,608.5 cf = 0.175 af

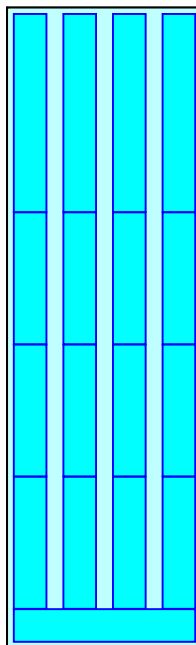
Overall Storage Efficiency = 44.3%

Overall System Size = 97.00' x 29.50' x 6.00'

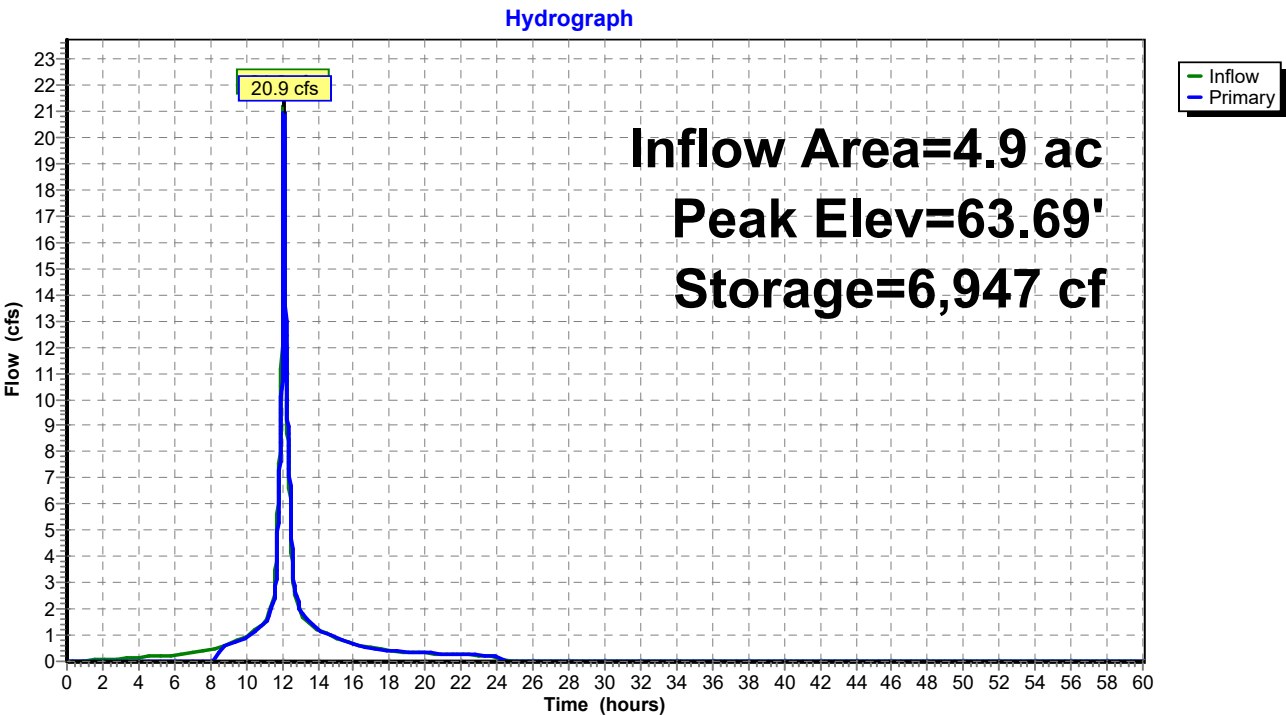
16 Chambers

635.9 cy Field

354.1 cy Stone



Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER



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Summary for Pond 2.32P: DMH-12

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 3.92" for 10-YR event
Inflow = 20.9 cfs @ 12.10 hrs, Volume= 1.614 af
Outflow = 20.9 cfs @ 12.10 hrs, Volume= 1.614 af, Atten= 0%, Lag= 0.0 min
Primary = 20.9 cfs @ 12.10 hrs, Volume= 1.614 af
Routed to Pond 2.33P : DMH-13

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 61.51' @ 12.10 hrs

Flood Elev= 69.40'

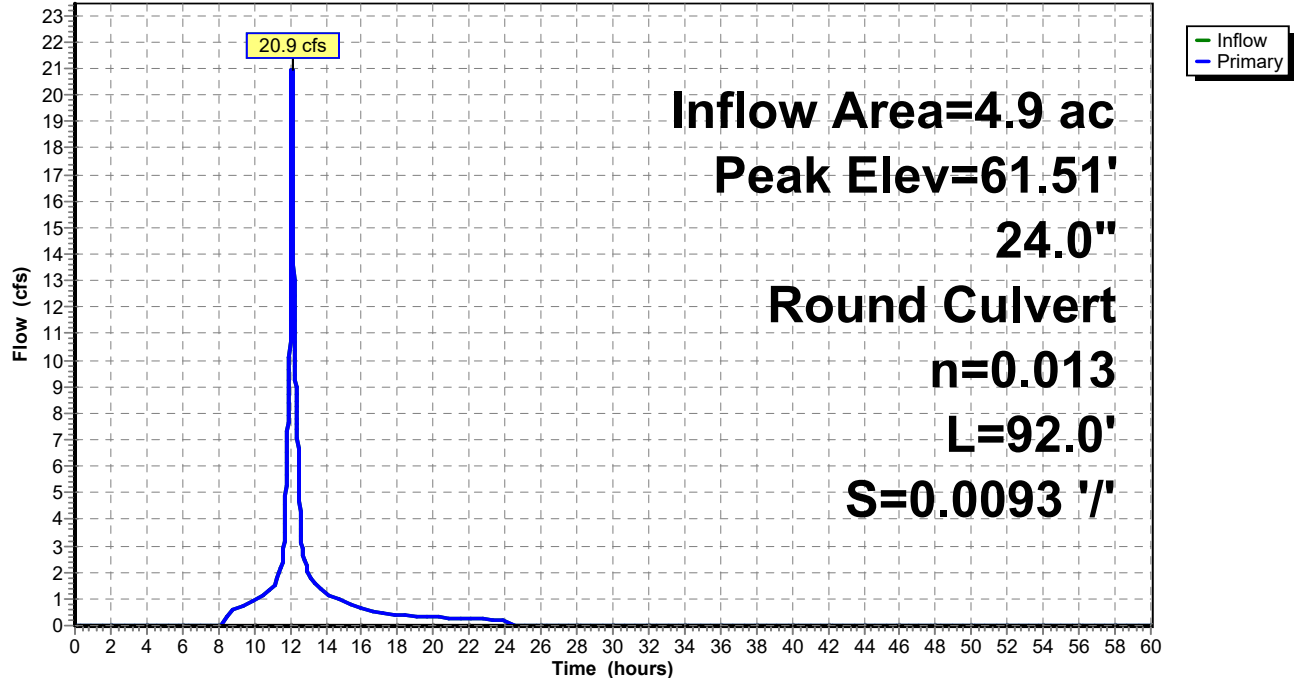
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 57.44' | 24.0" Round Culvert
L= 92.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.44' / 56.58' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=20.9 cfs @ 12.10 hrs HW=61.50' (Free Discharge)

↑1=Culvert (Inlet Controls 20.9 cfs @ 6.65 fps)

Pond 2.32P: DMH-12

Hydrograph



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Summary for Pond 2.33P: DMH-13

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 3.95" for 10-YR event
Inflow = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af
Outflow = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af, Atten= 0%, Lag= 0.0 min
Primary = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af
Routed to Pond 2.34P : DMH-16

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.74' @ 12.10 hrs

Flood Elev= 69.00'

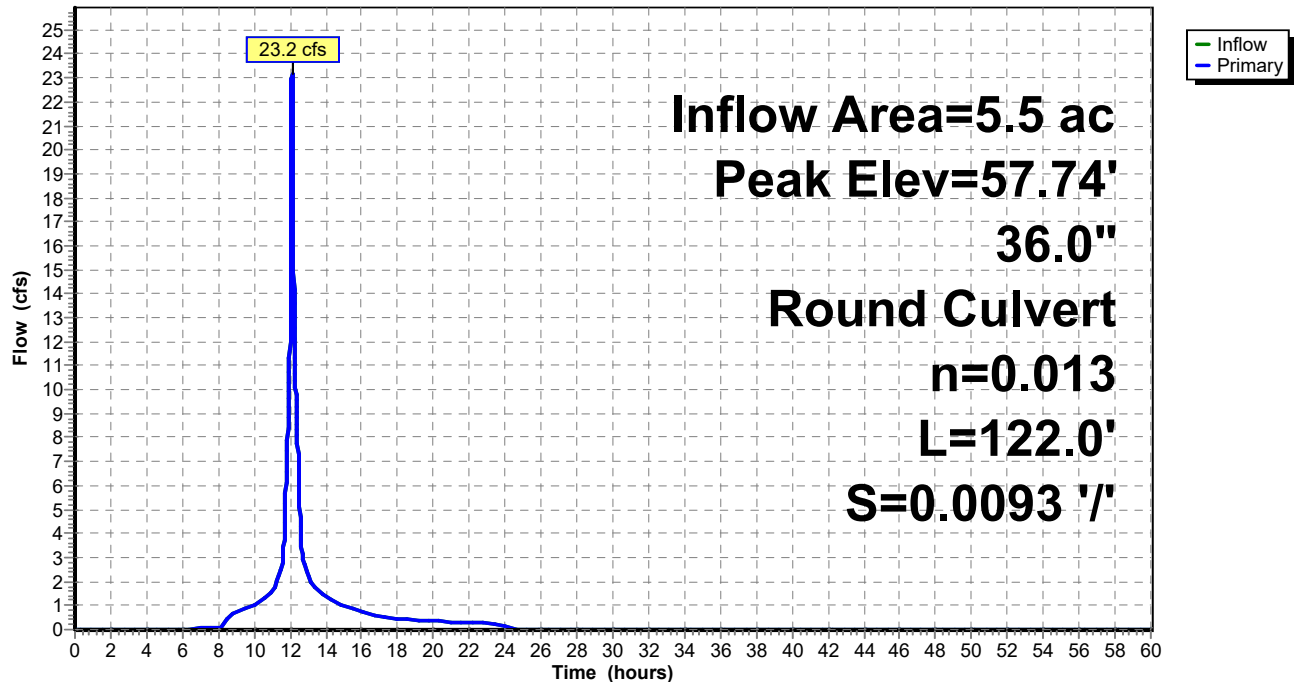
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 55.48' | 36.0" Round Culvert
L= 122.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 55.48' / 54.35' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 7.07 sf |

Primary OutFlow Max=23.1 cfs @ 12.10 hrs HW=57.74' (Free Discharge)

↑1=Culvert (Inlet Controls 23.1 cfs @ 4.04 fps)

Pond 2.33P: DMH-13

Hydrograph



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Summary for Pond 2.34P: DMH-16

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 3.95" for 10-YR event
Inflow = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af
Outflow = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af, Atten= 0%, Lag= 0.0 min
Primary = 23.2 cfs @ 12.10 hrs, Volume= 1.797 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 56.67' @ 12.10 hrs

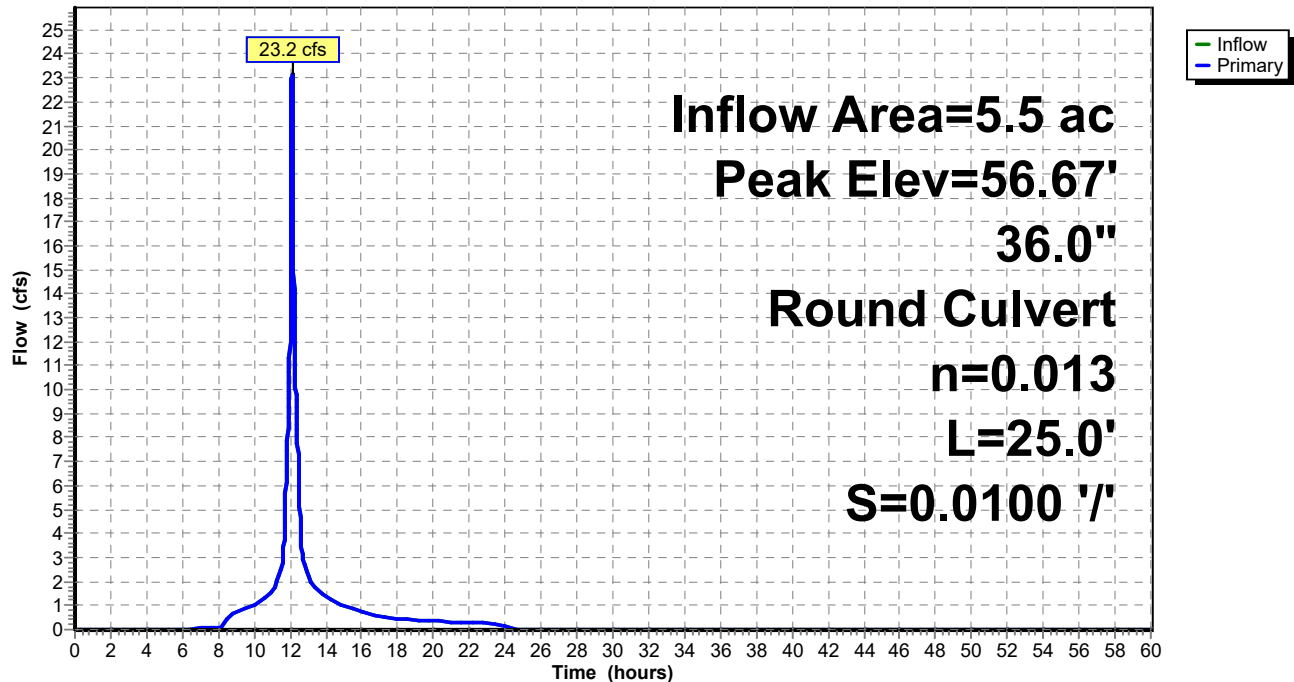
Flood Elev= 60.55'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 54.25' | 36.0" Round Culvert
L= 25.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 54.25' / 54.00' S= 0.0100 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf |

Primary OutFlow Max=23.1 cfs @ 12.10 hrs HW=56.67' TW=55.50' (Fixed TW Elev= 55.50')
↑1=Culvert (Barrel Controls 23.1 cfs @ 5.17 fps)

Pond 2.34P: DMH-16

Hydrograph



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Summary for Pond 2.3P: CB-24

Inflow Area = 1.8 ac, 74.18% Impervious, Inflow Depth = 4.18" for 10-YR event
Inflow = 7.5 cfs @ 12.10 hrs, Volume= 0.638 af
Outflow = 7.5 cfs @ 12.10 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min
Primary = 7.5 cfs @ 12.10 hrs, Volume= 0.638 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.10' @ 12.10 hrs

Flood Elev= 69.90'

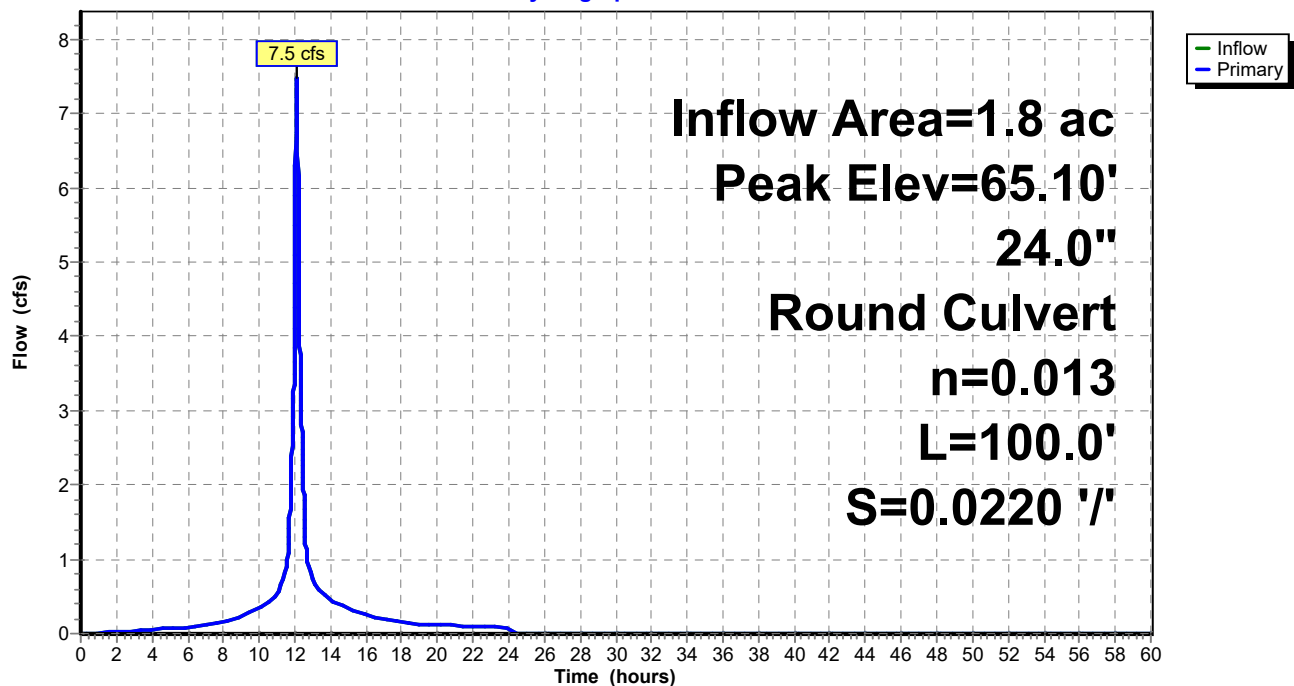
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.70' | 24.0" Round Culvert
L= 100.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.70' / 61.50' S= 0.0220 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=7.5 cfs @ 12.10 hrs HW=65.10' (Free Discharge)

↑1=Culvert (Inlet Controls 7.5 cfs @ 3.18 fps)

Pond 2.3P: CB-24

Hydrograph



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Summary for Pond 2.4P: CB-17

Inflow Area = 0.5 ac, 81.06% Impervious, Inflow Depth = 4.31" for 10-YR event
Inflow = 2.3 cfs @ 12.09 hrs, Volume= 0.182 af
Outflow = 2.3 cfs @ 12.09 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.09 hrs, Volume= 0.182 af
Routed to Pond 2.33P : DMH-13

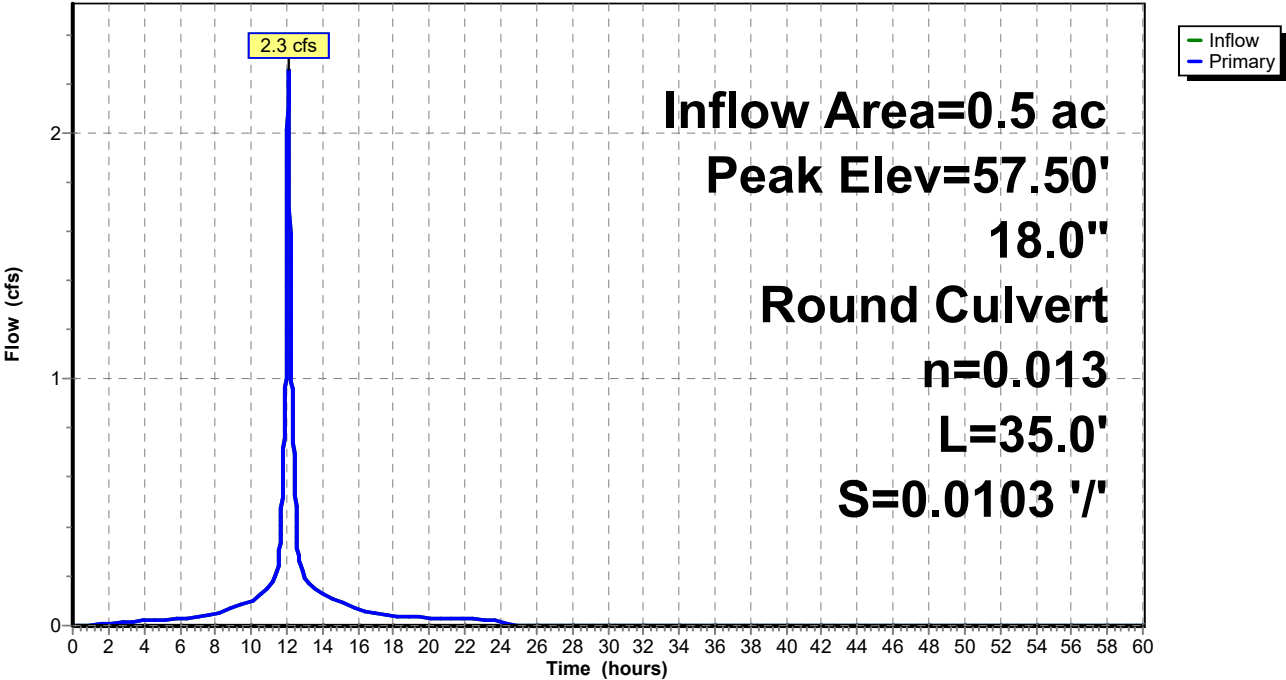
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 57.50' @ 12.09 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 56.71' | 18.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 56.71' / 56.35' S= 0.0103 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=2.3 cfs @ 12.09 hrs HW=57.50' (Free Discharge)
↑1=Culvert (Inlet Controls 2.3 cfs @ 2.39 fps)

Pond 2.4P: CB-17

Hydrograph



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Summary for Pond 2.5P: CB-20

Inflow Area = 0.4 ac, 80.93% Impervious, Inflow Depth = 4.31" for 10-YR event
Inflow = 1.8 cfs @ 12.08 hrs, Volume= 0.145 af
Outflow = 1.8 cfs @ 12.08 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.08 hrs, Volume= 0.145 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.02' @ 12.08 hrs

Flood Elev= 65.75'

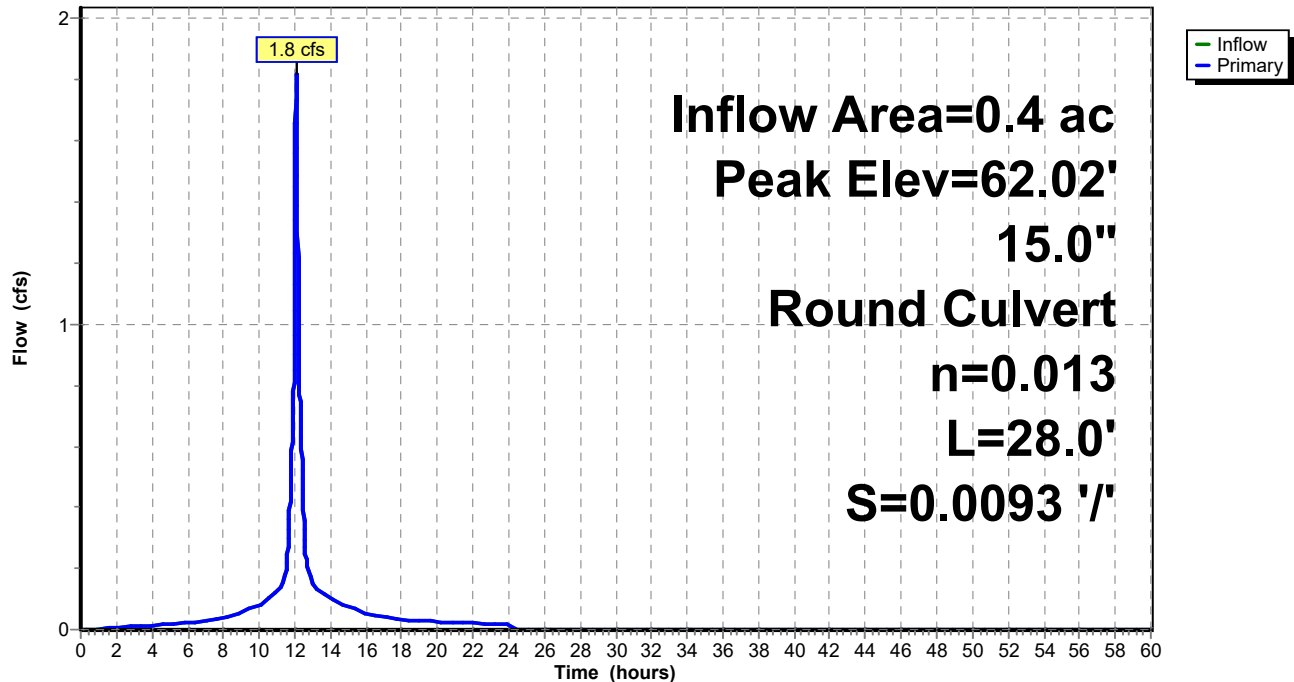
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.26' | 15.0" Round Culvert
L= 28.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.26' / 61.00' S= 0.0093 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=1.8 cfs @ 12.08 hrs HW=62.02' (Free Discharge)

↑1=Culvert (Barrel Controls 1.8 cfs @ 3.33 fps)

Pond 2.5P: CB-20

Hydrograph



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Summary for Pond 2.6P: CB-15

Inflow Area = 0.4 ac, 77.40% Impervious, Inflow Depth = 4.24" for 10-YR event
Inflow = 1.9 cfs @ 12.09 hrs, Volume= 0.151 af
Outflow = 1.9 cfs @ 12.09 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.09 hrs, Volume= 0.151 af
Routed to Pond 2.4P : CB-17

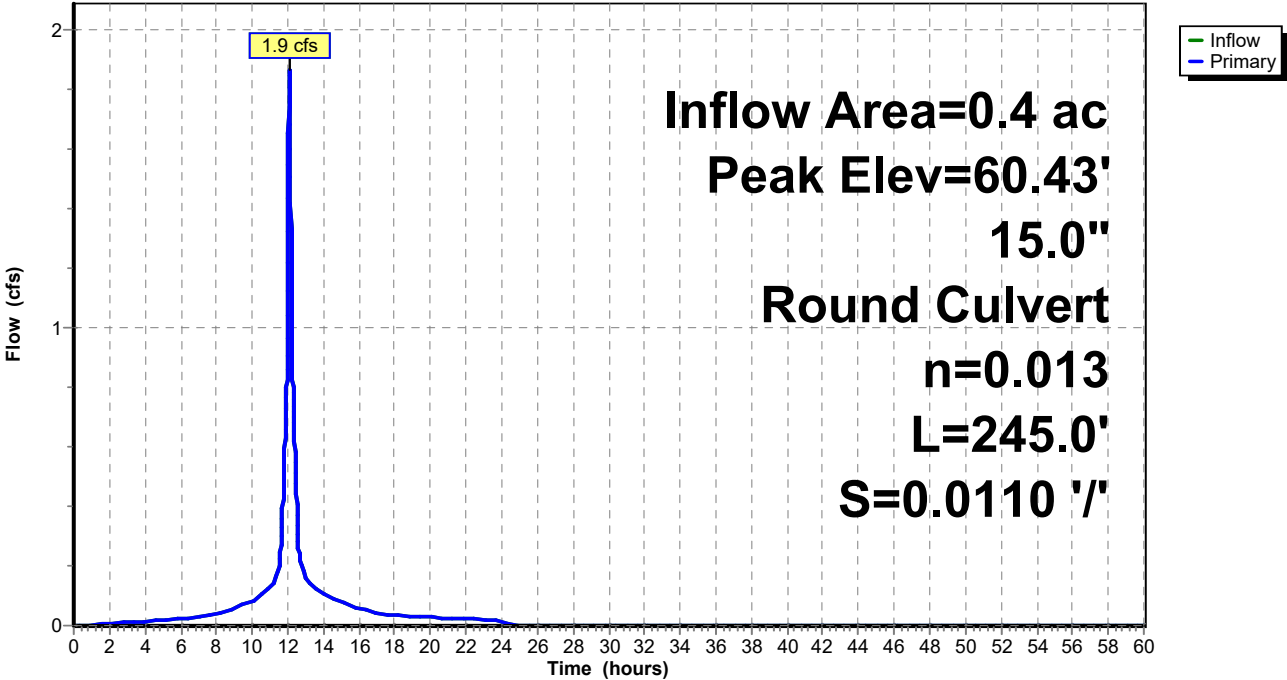
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 60.43' @ 12.09 hrs
Flood Elev= 64.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.66' | 15.0" Round Culvert
L= 245.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 59.66' / 56.96' S= 0.0110 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=1.9 cfs @ 12.09 hrs HW=60.43' (Free Discharge)
↑1=Culvert (Inlet Controls 1.9 cfs @ 2.35 fps)

Pond 2.6P: CB-15

Hydrograph



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Summary for Pond 2.7P: CB-8

Inflow Area = 0.9 ac, 83.06% Impervious, Inflow Depth = 4.35" for 10-YR event
Inflow = 4.3 cfs @ 12.08 hrs, Volume= 0.340 af
Outflow = 4.3 cfs @ 12.08 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min
Primary = 4.3 cfs @ 12.08 hrs, Volume= 0.340 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

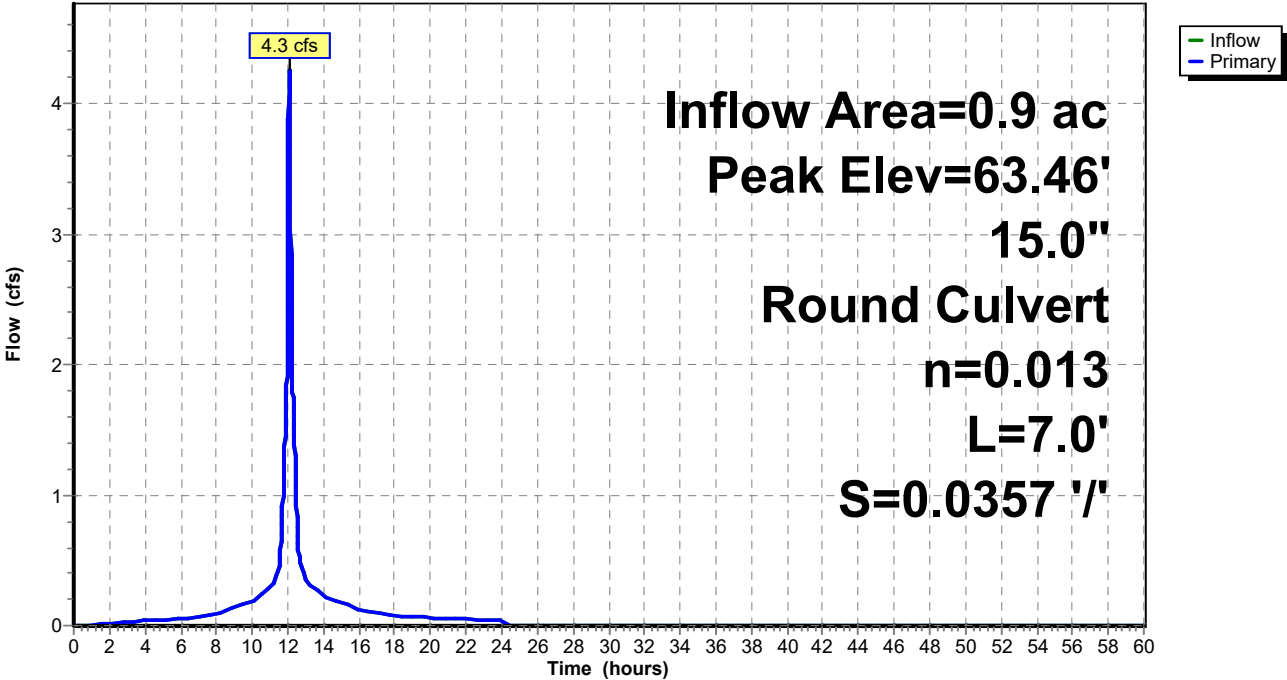
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 63.46' @ 12.08 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 62.00' | 15.0" Round Culvert
L= 7.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.00' / 61.75' S= 0.0357 '/' Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=4.3 cfs @ 12.08 hrs HW=63.46' (Free Discharge)
1=Culvert (Inlet Controls 4.3 cfs @ 3.47 fps)

Pond 2.7P: CB-8

Hydrograph



Summary for Pond 2.81P: DMH-3

Inflow Area = 1.8 ac, 55.68% Impervious, Inflow Depth = 4.13" for 10-YR event
Inflow = 7.8 cfs @ 12.08 hrs, Volume= 0.610 af
Outflow = 7.8 cfs @ 12.08 hrs, Volume= 0.610 af, Atten= 0%, Lag= 0.0 min
Primary = 7.8 cfs @ 12.08 hrs, Volume= 0.610 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

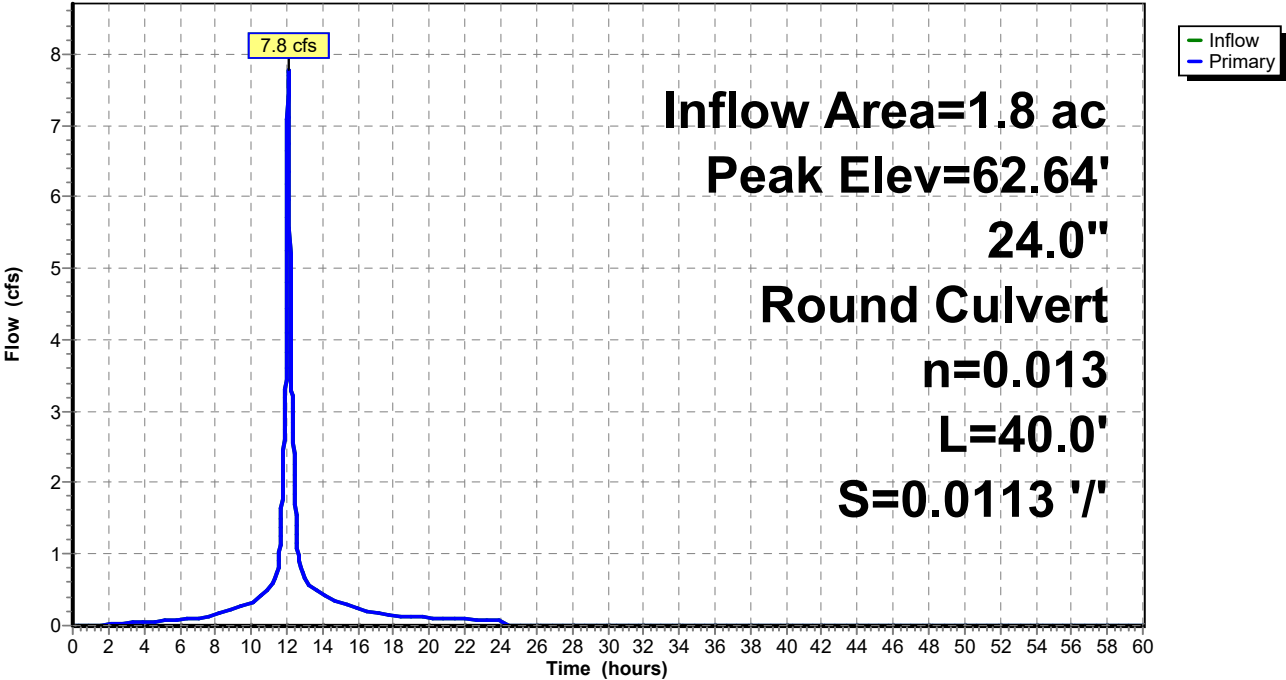
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 62.64' @ 12.08 hrs
Flood Elev= 70.85'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 61.20' | 24.0" Round Culvert
L= 40.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.20' / 60.75' S= 0.0113 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=7.8 cfs @ 12.08 hrs HW=62.63' (Free Discharge)
1=Culvert (Inlet Controls 7.8 cfs @ 3.22 fps)

Pond 2.81P: DMH-3

Hydrograph



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Summary for Pond 2.8P: CB-14

Inflow Area = 0.2 ac, 22.73% Impervious, Inflow Depth = 3.92" for 10-YR event
Inflow = 0.7 cfs @ 12.08 hrs, Volume= 0.054 af
Outflow = 0.7 cfs @ 12.08 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.08 hrs, Volume= 0.054 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.41' @ 12.08 hrs

Flood Elev= 67.00'

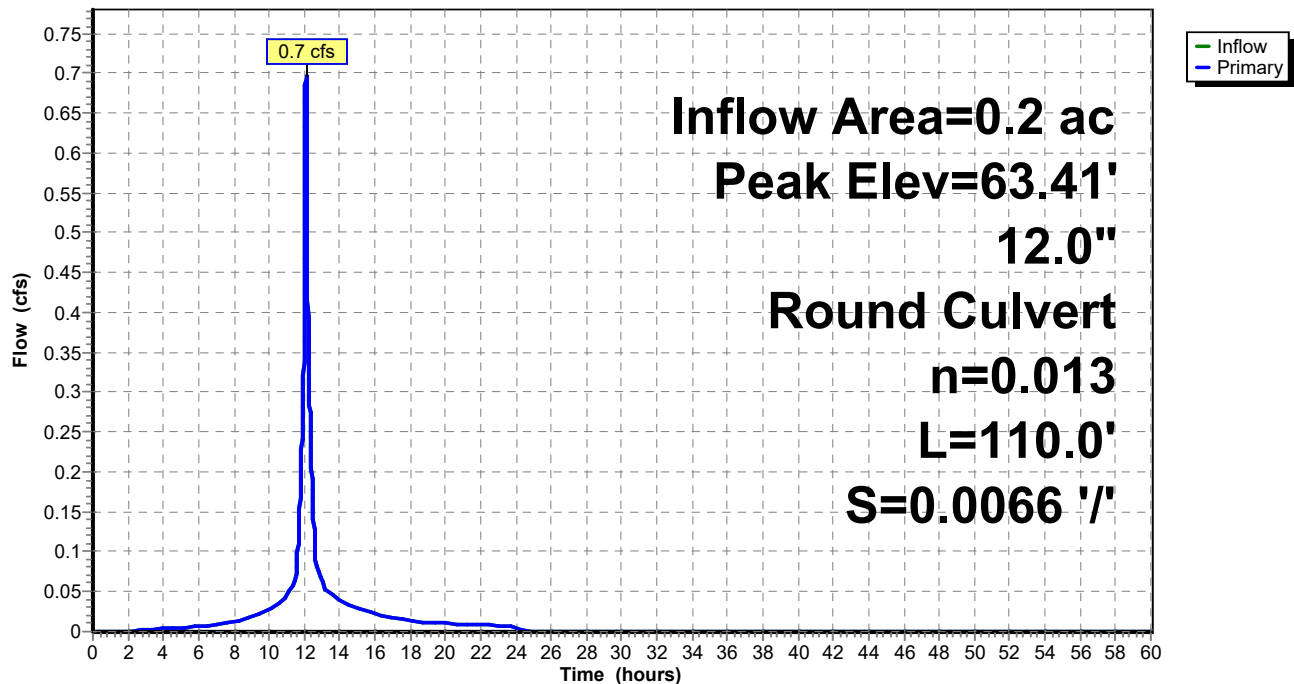
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.93' | 12.0" Round Culvert
L= 110.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.93' / 62.20' S= 0.0066 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.7 cfs @ 12.08 hrs HW=63.41' (Free Discharge)

↑1=Culvert (Inlet Controls 0.7 cfs @ 1.86 fps)

Pond 2.8P: CB-14

Hydrograph



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Summary for Pond 2.9P: CB-5

Inflow Area = 1.1 ac, 71.99% Impervious, Inflow Depth = 4.19" for 10-YR event
Inflow = 4.8 cfs @ 12.08 hrs, Volume= 0.375 af
Outflow = 4.8 cfs @ 12.08 hrs, Volume= 0.375 af, Atten= 0%, Lag= 0.0 min
Primary = 4.8 cfs @ 12.08 hrs, Volume= 0.375 af
Routed to Pond 2.11P : CB-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 66.81' @ 12.08 hrs

Flood Elev= 72.50'

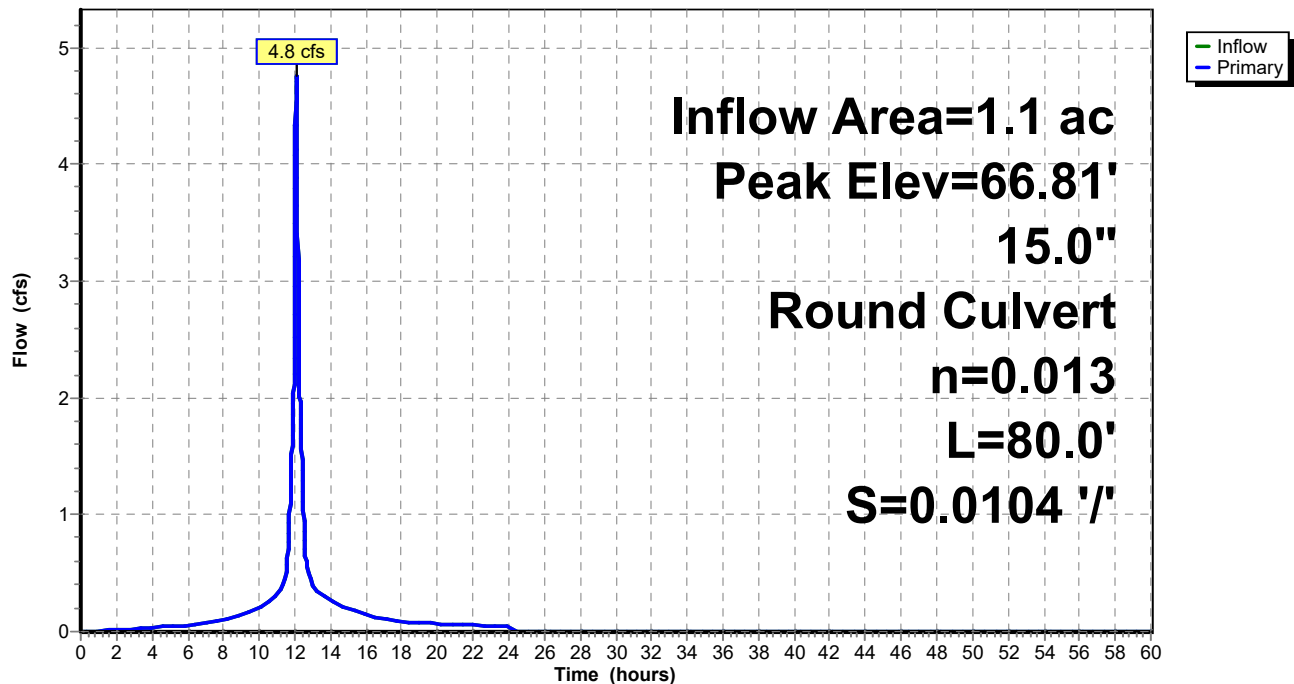
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 65.15' | 15.0" Round Culvert
L= 80.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 65.15' / 64.32' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=4.7 cfs @ 12.08 hrs HW=66.81' (Free Discharge)

↑1=Culvert (Inlet Controls 4.7 cfs @ 3.87 fps)

Pond 2.9P: CB-5

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.11" for 10-YR event
Inflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af
Outflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.0 min
Primary = 4.9 cfs @ 12.10 hrs, Volume= 0.587 af
Routed to Link POA-4 :
Secondary = 2.7 cfs @ 12.10 hrs, Volume= 0.026 af
Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.21' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=4.9 cfs @ 12.10 hrs HW=58.21' (Free Discharge)

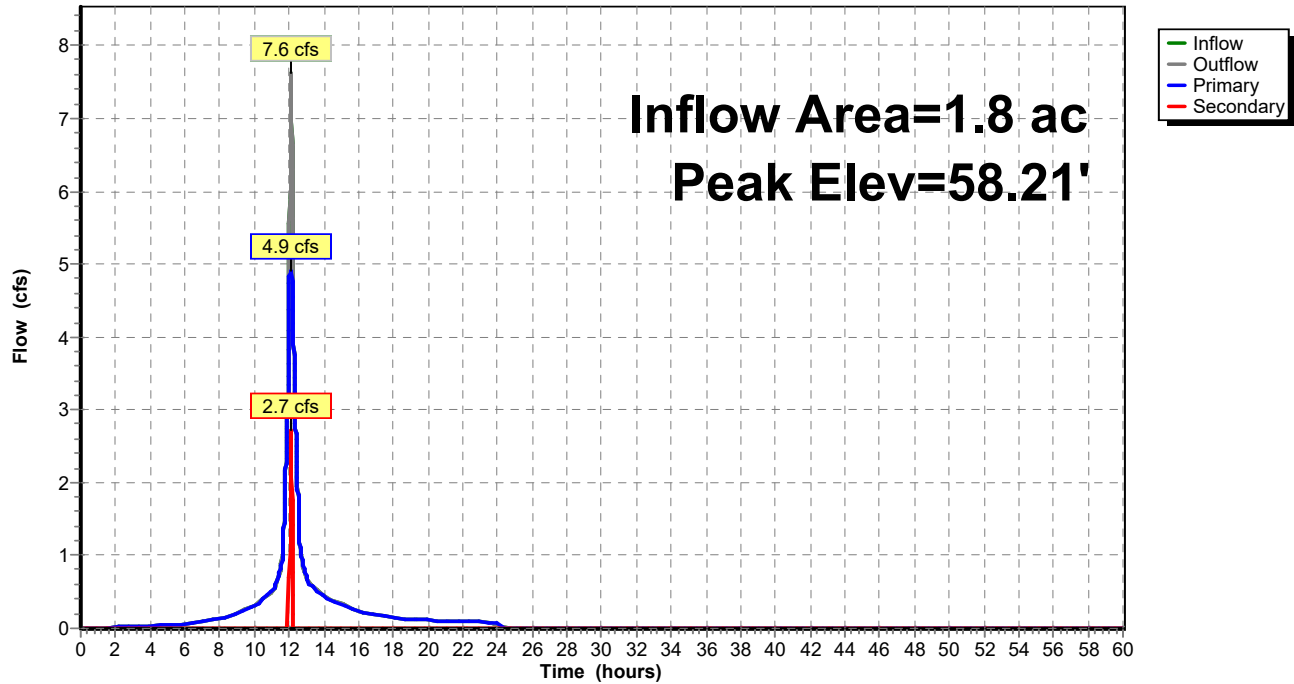
↑1=Culvert (Barrel Controls 4.9 cfs @ 4.00 fps)

Secondary OutFlow Max=2.7 cfs @ 12.10 hrs HW=58.21' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.7 cfs @ 1.29 fps)

Pond 4P: CB - Elm Street

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 5.1P:

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Outflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af, Atten= 0%, Lag= 0.0 min
Primary = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Routed to Pond 5.2P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.72' @ 12.68 hrs

Flood Elev= 60.20'

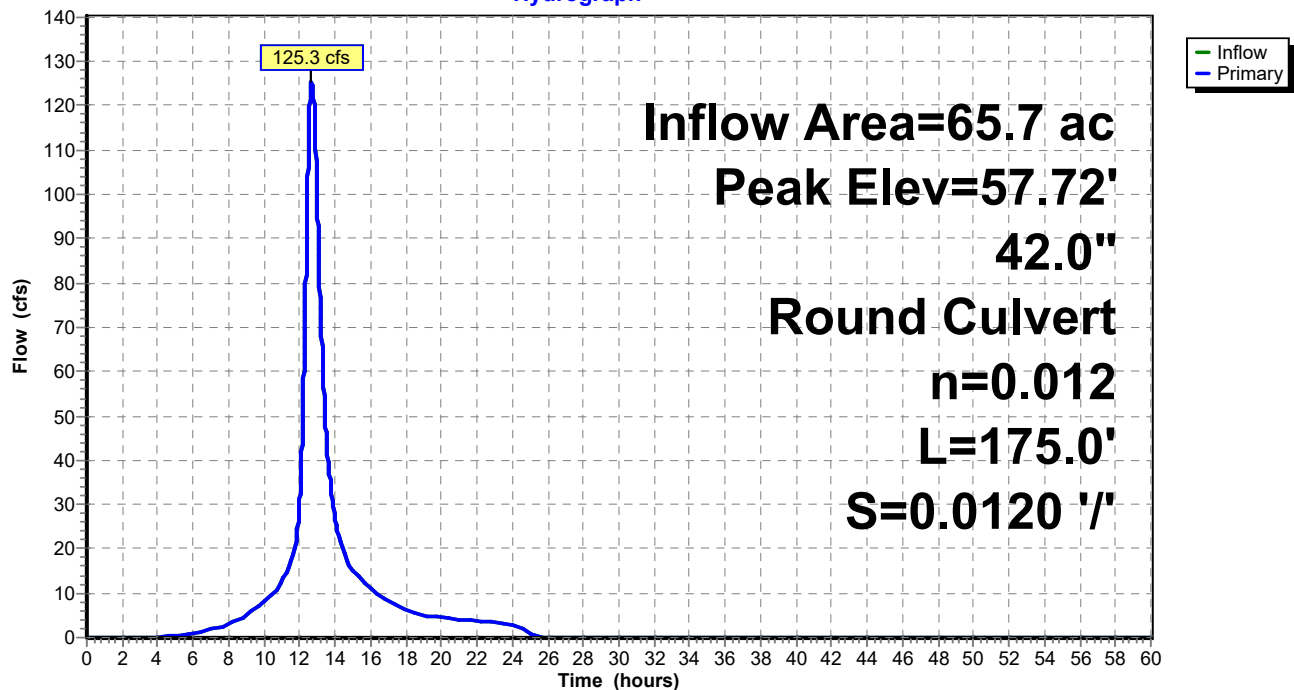
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 48.65' | 42.0" Round Culvert
L= 175.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 48.65' / 46.55' S= 0.0120 '/ Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf |

Primary OutFlow Max=125.3 cfs @ 12.68 hrs HW=57.71' (Free Discharge)

↑1=Culvert (Inlet Controls 125.3 cfs @ 13.02 fps)

Pond 5.1P:

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 5.2P: 42" RCP Outfall

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Outflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af, Atten= 0%, Lag= 0.0 min
Primary = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 55.52' @ 12.68 hrs

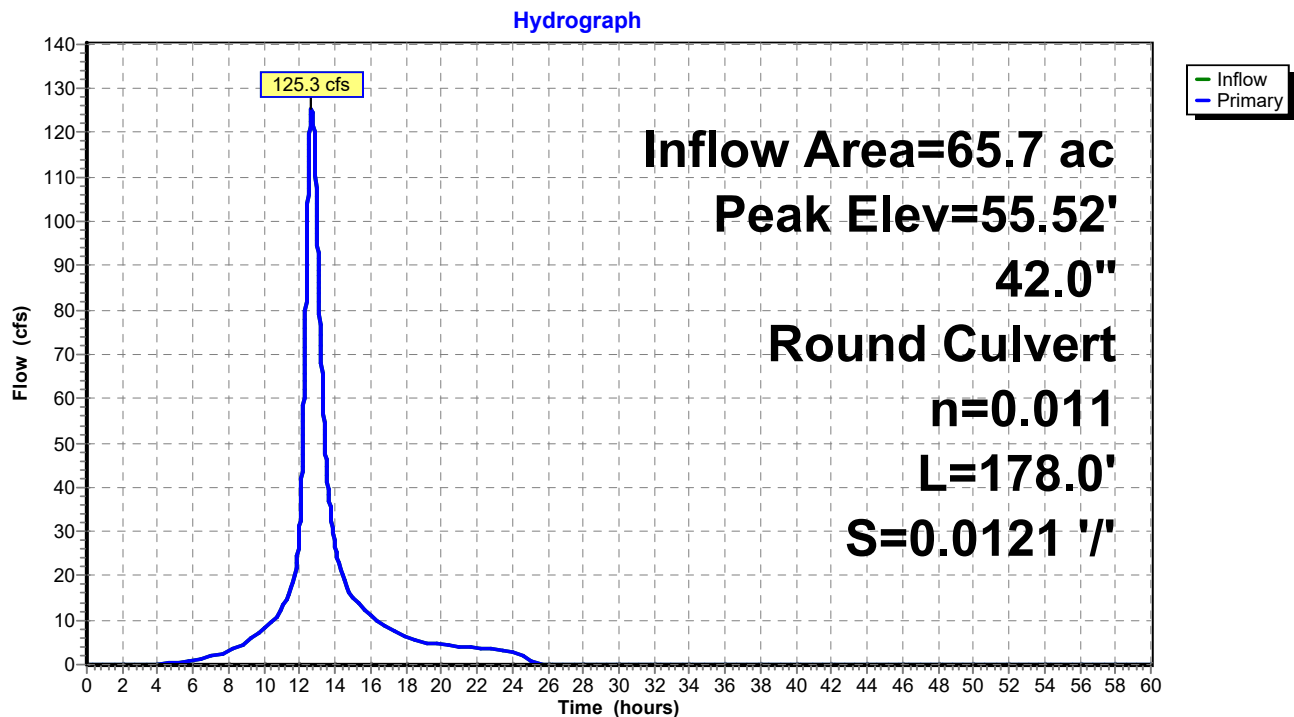
Flood Elev= 57.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.45' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.45' / 44.30' S= 0.0121 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=125.3 cfs @ 12.68 hrs HW=55.51' (Free Discharge)

↑1=Culvert (Inlet Controls 125.3 cfs @ 13.02 fps)

Pond 5.2P: 42" RCP Outfall



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Type III 24-hr 10-YR Rainfall=4.90"

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Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Outflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af, Atten= 0%, Lag= 0.0 min
Primary = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.21' @ 12.68 hrs

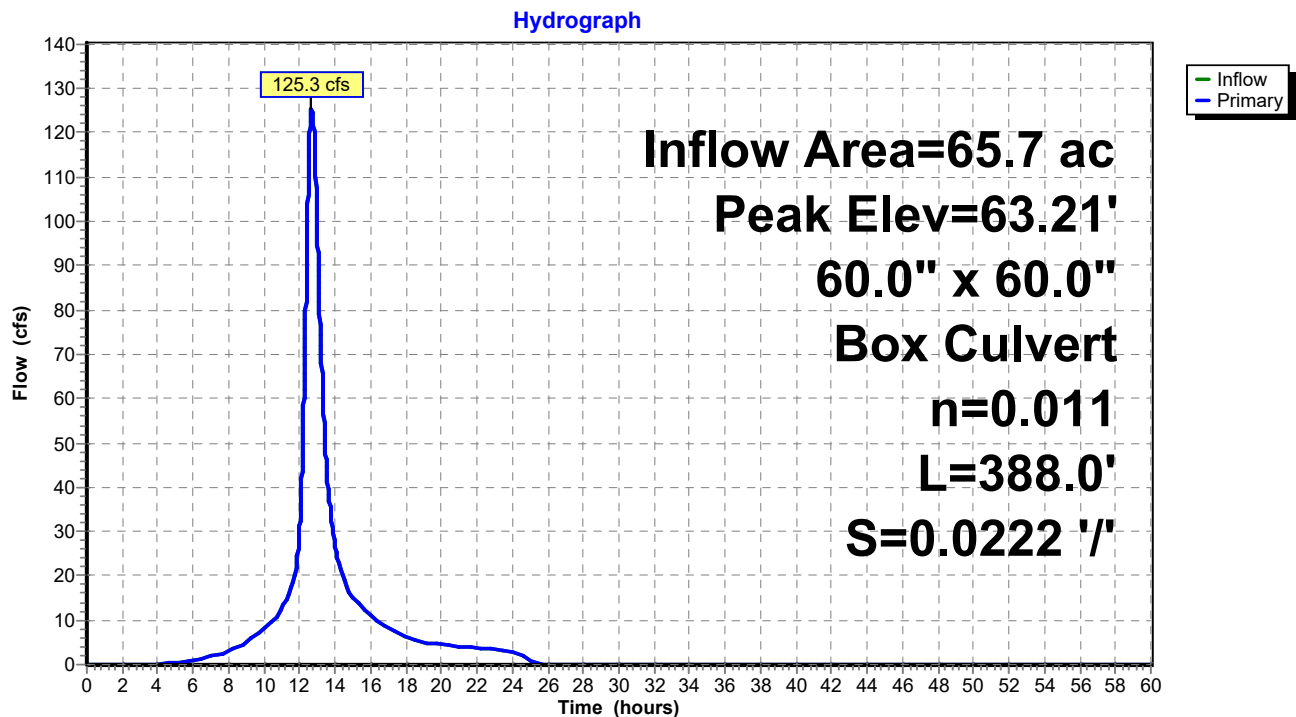
Flood Elev= 75.77'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=125.3 cfs @ 12.68 hrs HW=63.20' (Free Discharge)

↑1=Culvert (Inlet Controls 125.3 cfs @ 6.37 fps)

Pond 5P: Box Culvert - Railroad



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Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Outflow = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af, Atten= 0%, Lag= 0.0 min
Primary = 125.3 cfs @ 12.68 hrs, Volume= 21.678 af
Routed to Pond 5.1P :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 54.59' @ 12.68 hrs

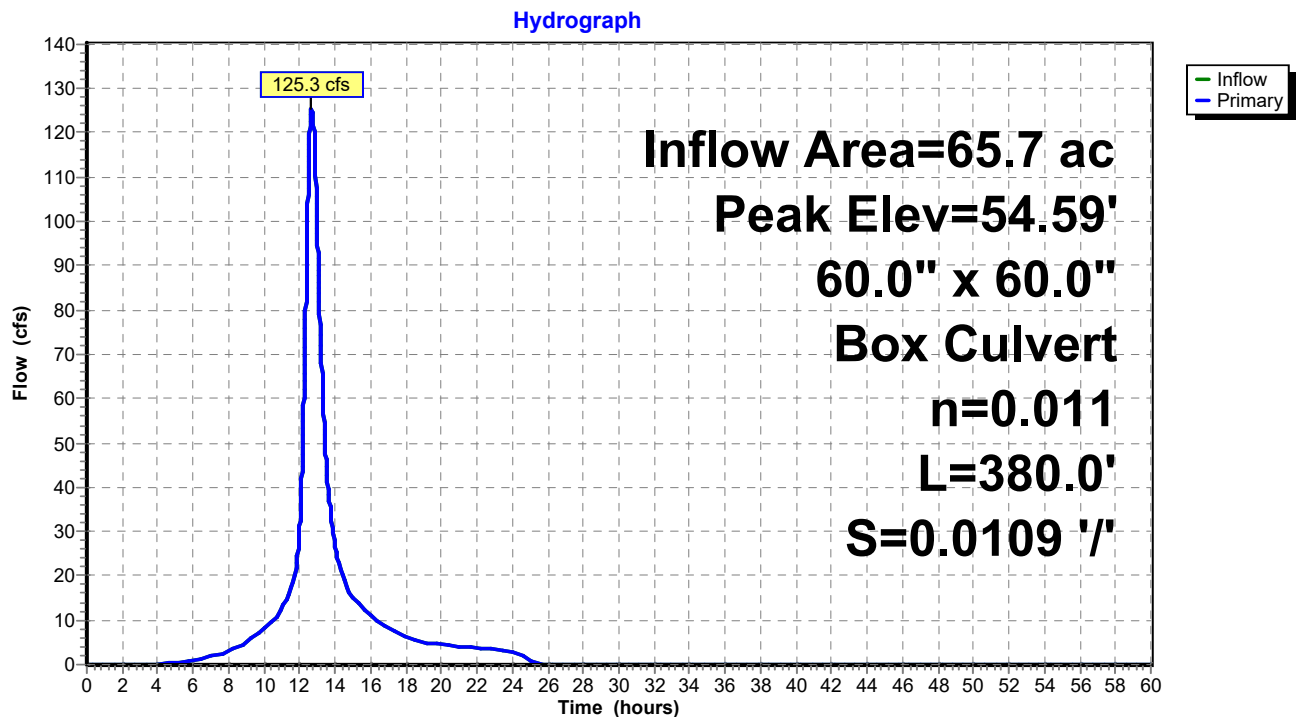
Flood Elev= 55.65'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=125.3 cfs @ 12.68 hrs HW=54.58' (Free Discharge)

↑1=Culvert (Inlet Controls 125.3 cfs @ 6.37 fps)

Pond 51P: Box Culvert - Slab Top



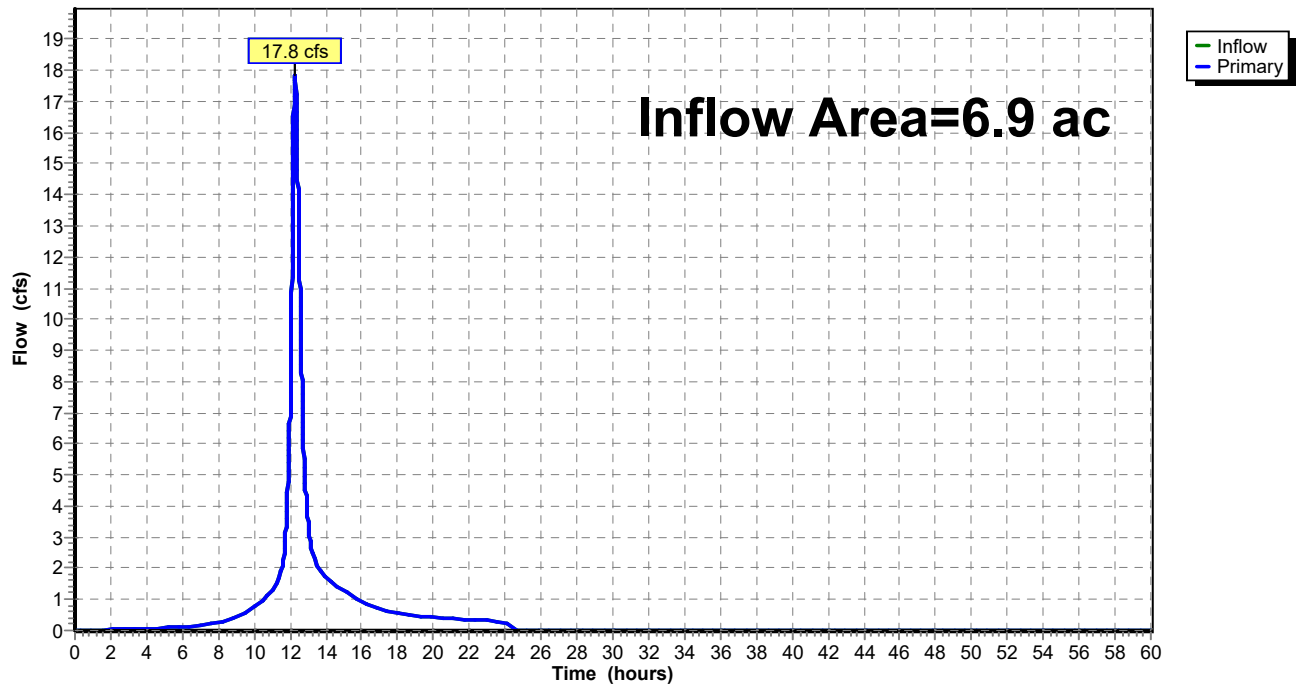
Summary for Link POA-1:

Inflow Area = 6.9 ac, 24.71% Impervious, Inflow Depth = 3.49" for 10-YR event
 Inflow = 17.8 cfs @ 12.29 hrs, Volume= 2.001 af
 Primary = 17.8 cfs @ 12.29 hrs, Volume= 2.001 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



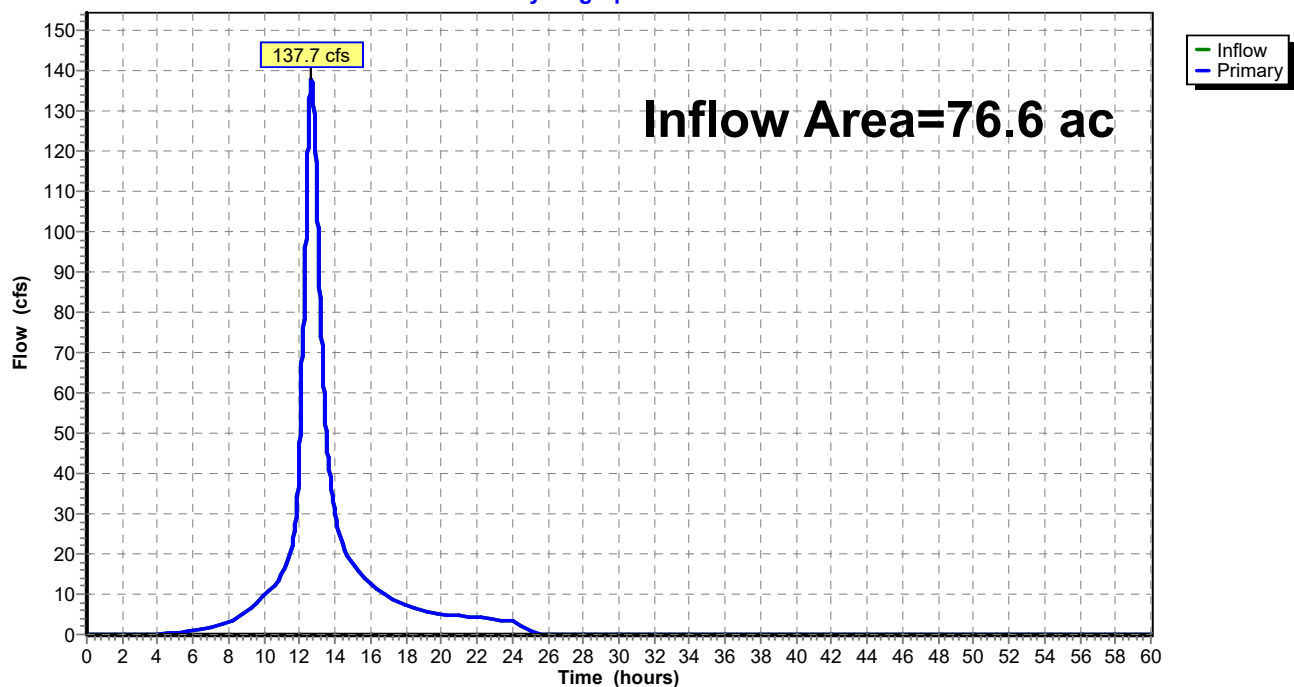
Summary for Link POA-2:

Inflow Area = 76.6 ac, 59.22% Impervious, Inflow Depth = 3.91" for 10-YR event
Inflow = 137.7 cfs @ 12.68 hrs, Volume= 24.956 af
Primary = 137.7 cfs @ 12.68 hrs, Volume= 24.956 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



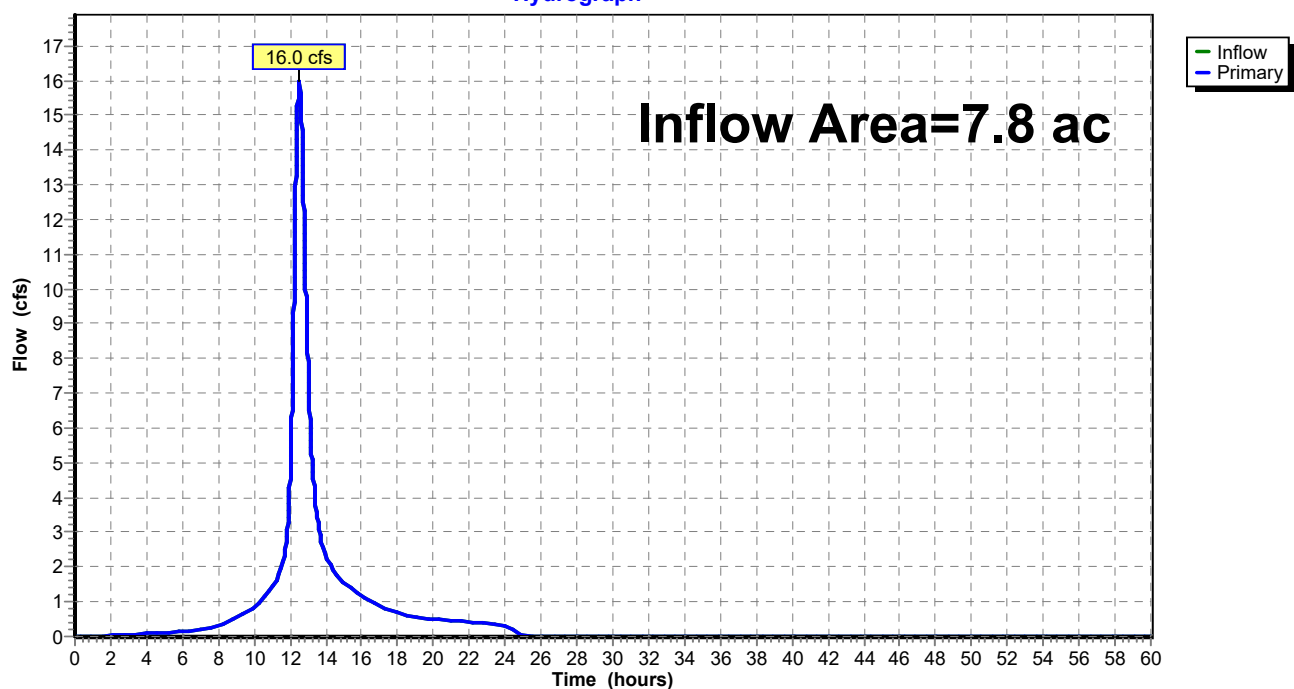
Summary for Link POA-3:

Inflow Area = 7.8 ac, 24.37% Impervious, Inflow Depth = 3.64" for 10-YR event
Inflow = 16.0 cfs @ 12.51 hrs, Volume= 2.367 af
Primary = 16.0 cfs @ 12.51 hrs, Volume= 2.367 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

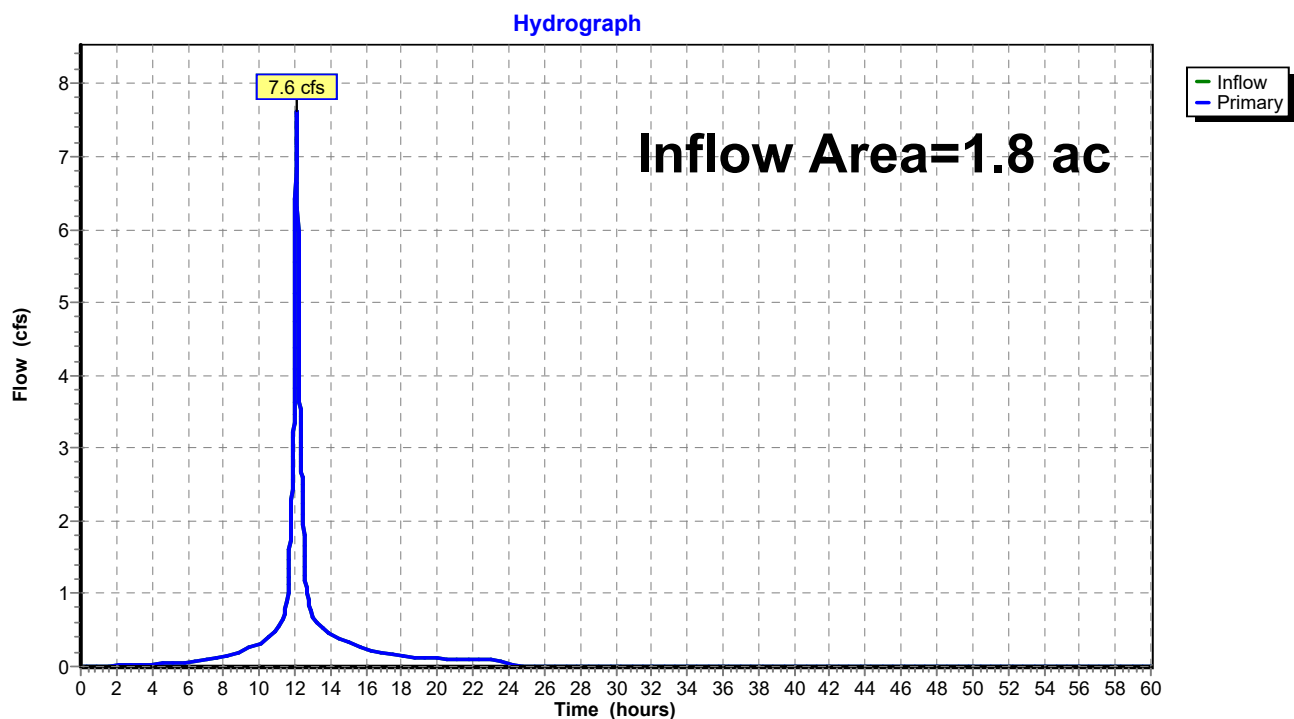
Hydrograph



Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.11" for 10-YR event
Inflow = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af
Primary = 7.6 cfs @ 12.10 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

| | |
|---------------------------------|--|
| Subcatchment1.1S: 1.2S | Runoff Area=300,080 sf 24.71% Impervious Runoff Depth=4.70"
Flow Length=325' Tc=21.0 min CN=WQ Runoff=23.9 cfs 2.701 af |
| Subcatchment2.10S: 2.10S | Runoff Area=7,550 sf 78.41% Impervious Runoff Depth=5.53"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.0 cfs 0.080 af |
| Subcatchment2.11S: 2.11S | Runoff Area=14,120 sf 46.46% Impervious Runoff Depth=5.70"
Flow Length=220' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.9 cfs 0.154 af |
| Subcatchment2.12S: 2.12S | Runoff Area=9,090 sf 11.99% Impervious Runoff Depth=4.78"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.083 af |
| Subcatchment2.13S: 2.13S | Runoff Area=11,500 sf 58.26% Impervious Runoff Depth=5.33"
Flow Length=95' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.5 cfs 0.117 af |
| Subcatchment2.14S: | Runoff Area=238,790 sf 4.27% Impervious Runoff Depth=4.45"
Flow Length=1,011' Tc=45.4 min CN=WQ Runoff=12.8 cfs 2.031 af |
| Subcatchment2.1S: 2.1S | Runoff Area=7,310 sf 49.36% Impervious Runoff Depth=4.95"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=0.9 cfs 0.069 af |
| Subcatchment2.2S: 2.2S | Runoff Area=49,060 sf 66.09% Impervious Runoff Depth=5.29"
Flow Length=86' Slope=0.0150 '/' Tc=9.1 min CN=WQ Runoff=5.7 cfs 0.496 af |
| Subcatchment2.3S: 2.2S | Runoff Area=30,790 sf 87.07% Impervious Runoff Depth=5.70"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=4.2 cfs 0.336 af |
| Subcatchment2.4S: 2.4S | Runoff Area=3,580 sf 100.00% Impervious Runoff Depth=5.96"
Flow Length=195' Slope=0.1500 '/' Tc=6.0 min CN=WQ Runoff=0.5 cfs 0.041 af |
| Subcatchment2.5S: 2.5S | Runoff Area=17,570 sf 80.93% Impervious Runoff Depth=5.58"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.3 cfs 0.188 af |
| Subcatchment2.6S: 2.6S | Runoff Area=18,540 sf 77.40% Impervious Runoff Depth=5.51"
Flow Length=65' Slope=0.0230 '/' Tc=6.5 min CN=WQ Runoff=2.4 cfs 0.195 af |
| Subcatchment2.7S: 2.7S | Runoff Area=40,900 sf 83.06% Impervious Runoff Depth=5.62"
Flow Length=155' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=5.5 cfs 0.440 af |
| Subcatchment2.8S: | Runoff Area=7,170 sf 22.73% Impervious Runoff Depth=5.16"
Flow Length=70' Tc=6.0 min CN=WQ Runoff=0.9 cfs 0.071 af |
| Subcatchment2.9S: 2.9S | Runoff Area=20,450 sf 85.43% Impervious Runoff Depth=5.67"
Flow Length=180' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.8 cfs 0.222 af |
| Subcatchment3.1S: | Runoff Area=339,930 sf 24.37% Impervious Runoff Depth=4.87"
Flow Length=250' Tc=38.3 min CN=WQ Runoff=21.3 cfs 3.168 af |

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Type III 24-hr 25-YR Rainfall=6.20"

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| | |
|--|--|
| Subcatchment4S: | Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=5.38"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=9.9 cfs 0.802 af |
| Subcatchment5.1S: | Runoff Area=2,860,020 sf 62.85% Impervious Runoff Depth=5.23"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=163.4 cfs 28.636 af |
| Pond 2.10P: CB-4 | Peak Elev=70.29' Inflow=1.0 cfs 0.080 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0100 '/ Outflow=1.0 cfs 0.080 af |
| Pond 2.11P: CB-6 | Peak Elev=66.26' Inflow=8.1 cfs 0.642 af
18.0" Round Culvert n=0.013 L=45.0' S=0.0111 '/ Outflow=8.1 cfs 0.642 af |
| Pond 2.12P: CB-7 | Peak Elev=66.08' Inflow=9.2 cfs 0.725 af
18.0" Round Culvert n=0.013 L=170.0' S=0.0104 '/ Outflow=9.2 cfs 0.725 af |
| Pond 2.13P: CB-3 | Peak Elev=68.85' Inflow=2.4 cfs 0.186 af
15.0" Round Culvert n=0.013 L=235.0' S=0.0109 '/ Outflow=2.4 cfs 0.186 af |
| Pond 2.1P: CB-2 | Peak Elev=70.66' Inflow=0.9 cfs 0.069 af
12.0" Round Culvert n=0.013 L=180.0' S=0.0106 '/ Outflow=0.9 cfs 0.069 af |
| Pond 2.21P: DMH-6 | Peak Elev=68.59' Inflow=5.7 cfs 0.496 af
15.0" Round Culvert n=0.013 L=115.0' S=0.0113 '/ Outflow=5.7 cfs 0.496 af |
| Pond 2.22P: DMH-8 | Peak Elev=66.38' Inflow=5.7 cfs 0.496 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0108 '/ Outflow=5.7 cfs 0.496 af |
| Pond 2.2P: DMH-7 | Peak Elev=73.58' Inflow=5.7 cfs 0.496 af
12.0" Round Culvert n=0.013 L=165.0' S=0.0113 '/ Outflow=5.7 cfs 0.496 af |
| Pond 2.31BP: CMP DETENTIONWITHOUT | Peak Elev=63.90' Storage=7,211 cf Inflow=27.4 cfs 2.255 af
Outflow=27.2 cfs 2.137 af |
| Pond 2.32P: DMH-12 | Peak Elev=63.61' Inflow=27.2 cfs 2.137 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0093 '/ Outflow=27.2 cfs 2.137 af |
| Pond 2.33P: DMH-13 | Peak Elev=58.21' Inflow=30.0 cfs 2.373 af
36.0" Round Culvert n=0.013 L=122.0' S=0.0093 '/ Outflow=30.0 cfs 2.373 af |
| Pond 2.34P: DMH-16 | Peak Elev=57.12' Inflow=30.0 cfs 2.373 af
36.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/ Outflow=30.0 cfs 2.373 af |
| Pond 2.3P: CB-24 | Peak Elev=65.36' Inflow=9.7 cfs 0.832 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0220 '/ Outflow=9.7 cfs 0.832 af |
| Pond 2.4P: CB-17 | Peak Elev=57.62' Inflow=2.9 cfs 0.236 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0103 '/ Outflow=2.9 cfs 0.236 af |
| Pond 2.5P: CB-20 | Peak Elev=62.15' Inflow=2.3 cfs 0.188 af
15.0" Round Culvert n=0.013 L=28.0' S=0.0093 '/ Outflow=2.3 cfs 0.188 af |

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Pond 2.6P: CB-15Peak Elev=60.56' Inflow=2.4 cfs 0.195 af
15.0" Round Culvert n=0.013 L=245.0' S=0.0110 '/ Outflow=2.4 cfs 0.195 af**Pond 2.7P: CB-8**Peak Elev=64.00' Inflow=5.5 cfs 0.440 af
15.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/ Outflow=5.5 cfs 0.440 af**Pond 2.81P: DMH-3**Peak Elev=62.91' Inflow=10.1 cfs 0.796 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0113 '/ Outflow=10.1 cfs 0.796 af**Pond 2.8P: CB-14**Peak Elev=63.49' Inflow=0.9 cfs 0.071 af
12.0" Round Culvert n=0.013 L=110.0' S=0.0066 '/ Outflow=0.9 cfs 0.071 af**Pond 2.9P: CB-5**Peak Elev=67.51' Inflow=6.2 cfs 0.488 af
15.0" Round Culvert n=0.013 L=80.0' S=0.0104 '/ Outflow=6.2 cfs 0.488 af**Pond 4P: CB - Elm Street**Peak Elev=58.31' Inflow=9.9 cfs 0.802 af
Primary=5.0 cfs 0.741 af Secondary=4.9 cfs 0.061 af Outflow=9.9 cfs 0.802 af**Pond 5.1P:**Peak Elev=62.84' Inflow=163.4 cfs 28.636 af
42.0" Round Culvert n=0.012 L=175.0' S=0.0120 '/ Outflow=163.4 cfs 28.636 af**Pond 5.2P: 42" RCP Outfall**Peak Elev=60.64' Inflow=163.4 cfs 28.636 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0121 '/ Outflow=163.4 cfs 28.636 af**Pond 5P: Box Culvert - Railroad**Peak Elev=63.97' Inflow=163.4 cfs 28.636 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/ Outflow=163.4 cfs 28.636 af**Pond 51P: Box Culvert - Slab Top**Peak Elev=55.35' Inflow=163.4 cfs 28.636 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/ Outflow=163.4 cfs 28.636 af**Link POA-1:**Inflow=23.9 cfs 2.701 af
Primary=23.9 cfs 2.701 af**Link POA-2:**Inflow=180.0 cfs 33.040 af
Primary=180.0 cfs 33.040 af**Link POA-3:**Inflow=21.3 cfs 3.168 af
Primary=21.3 cfs 3.168 af**Link POA-4:**Inflow=9.9 cfs 0.802 af
Primary=9.9 cfs 0.802 af**Total Runoff Area = 93.1 ac Runoff Volume = 39.830 af Average Runoff Depth = 5.14"**
46.64% Pervious = 43.4 ac 53.36% Impervious = 49.7 ac

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Summary for Subcatchment 1.1S: 1.2S

Runoff = 23.9 cfs @ 12.28 hrs, Volume= 2.701 af, Depth= 4.70"

Routed to Link POA-1 :

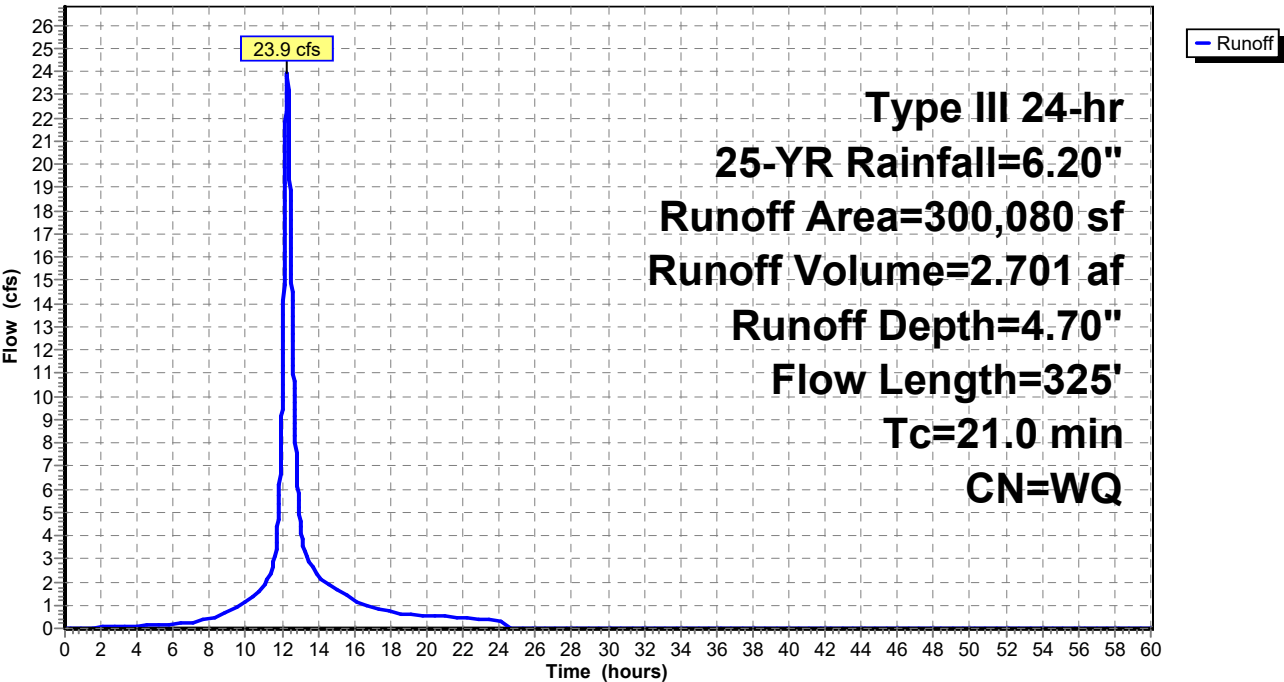
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 35,120 | 98 | Paved parking, HSG D |
| * 6,450 | 98 | Sidewalks, HSG D |
| 32,665 | 89 | <50% Grass cover, Poor, HSG D |
| 141,705 | 83 | Woods, Poor, HSG D |
| 43,190 | 80 | >75% Grass cover, Good, HSG D |
| 8,360 | 78 | Meadow, non-grazed, HSG D |
| 300,080 | | Weighted Average |
| 225,920 | | 75.29% Pervious Area |
| 74,160 | | 24.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.5 | 50 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.6 | 75 | 0.0200 | 2.12 | | Shallow Concentrated Flow, C-D
Grassed Waterway Kv= 15.0 fps |
| 0.1 | 25 | 0.0100 | 4.54 | 3.56 | Pipe Channel, D-E
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 1.8 | 75 | 0.0200 | 0.71 | | Shallow Concentrated Flow, E-F
Woodland Kv= 5.0 fps |
| 21.0 | 325 | Total | | | |

Subcatchment 1.1S: 1.2S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.10S: 2.10S

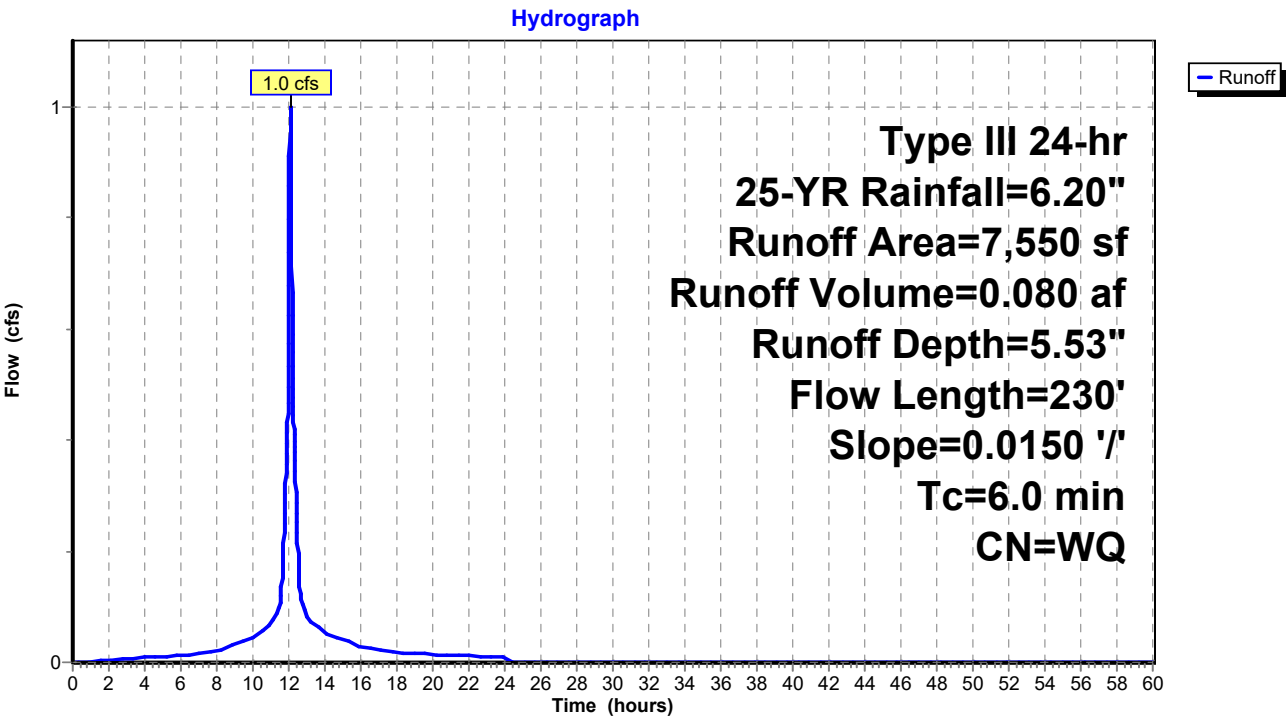
Runoff = 1.0 cfs @ 12.08 hrs, Volume= 0.080 af, Depth= 5.53"
Routed to Pond 2.10P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 780 | 98 | Sidewalks, HSG D |
| 5,140 | 98 | Paved parking, HSG D |
| 1,630 | 80 | >75% Grass cover, Good, HSG D |
| 7,550 | | Weighted Average |
| 1,630 | | 21.59% Pervious Area |
| 5,920 | | 78.41% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.6 | 230 | 0.0150 | 1.47 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.4 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 230 | Total | | | |

Subcatchment 2.10S: 2.10S



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.11S: 2.11S

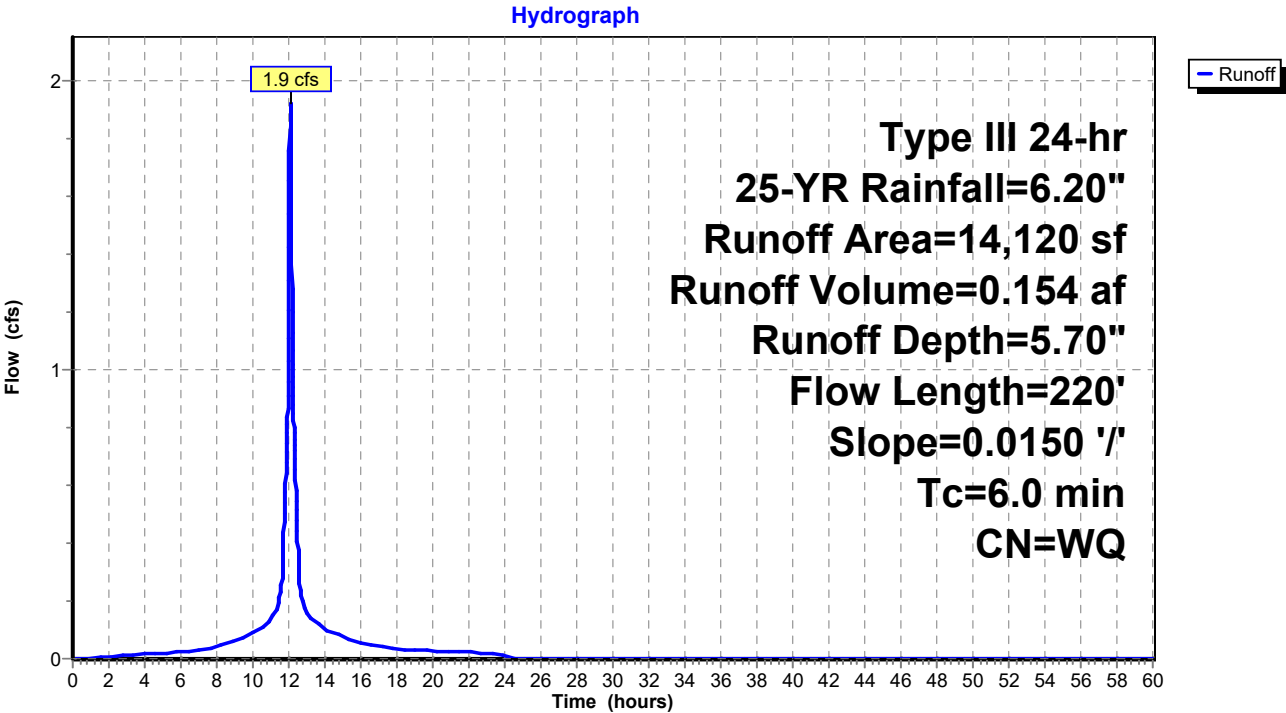
Runoff = 1.9 cfs @ 12.08 hrs, Volume= 0.154 af, Depth= 5.70"
Routed to Pond 2.11P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 340 | 98 | Sidewalks, HSG D |
| 1,100 | 80 | >75% Grass cover, Good, HSG D |
| 6,220 | 98 | Paved parking, HSG D |
| 6,460 | 96 | Gravel surface, HSG D |
| 14,120 | | Weighted Average |
| 7,560 | | 53.54% Pervious Area |
| 6,560 | | 46.46% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.5 | 220 | 0.0150 | 1.46 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 220 | Total | | | |

Subcatchment 2.11S: 2.11S



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.12S: 2.12S

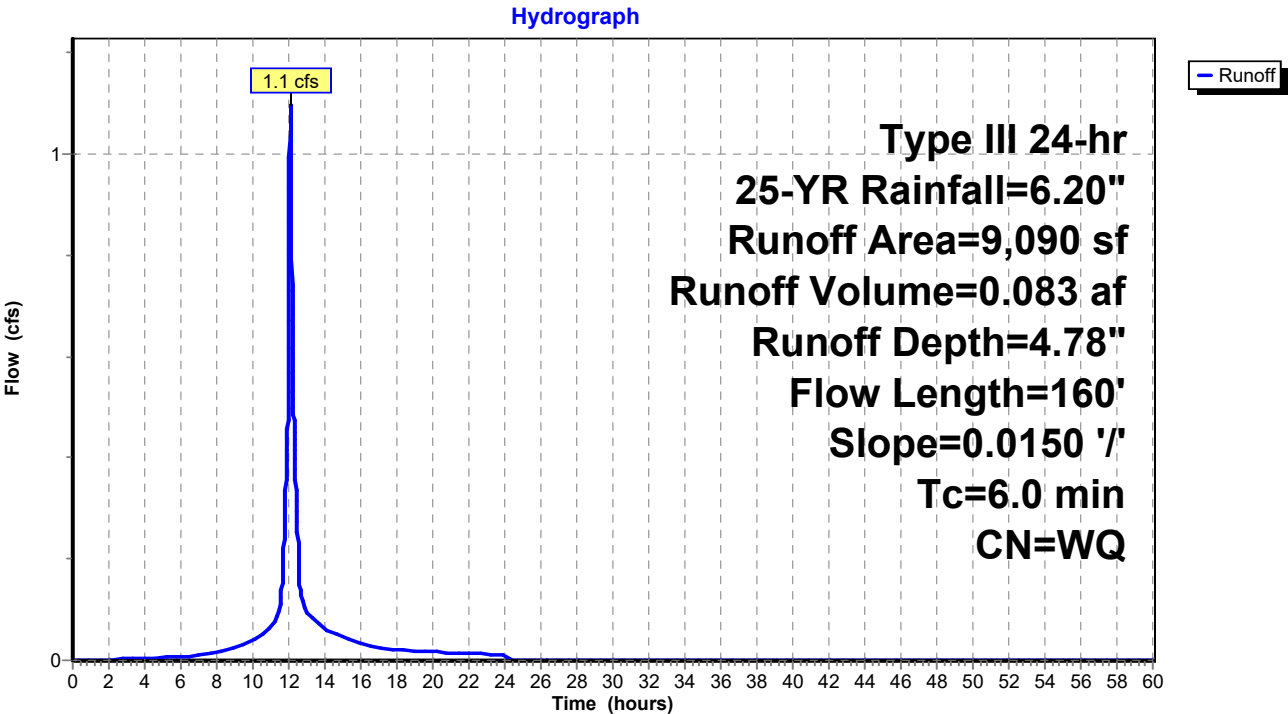
Runoff = 1.1 cfs @ 12.09 hrs, Volume= 0.083 af, Depth= 4.78"
Routed to Pond 2.12P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 1,090 | 98 | Sidewalks, HSG D |
| | 5,020 | 80 | >75% Grass cover, Good, HSG D |
| | 2,980 | 96 | Gravel surface, HSG D |
| | 9,090 | | Weighted Average |
| | 8,000 | | 88.01% Pervious Area |
| | 1,090 | | 11.99% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.12S: 2.12S



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.13S: 2.13S

Runoff = 1.5 cfs @ 12.08 hrs, Volume= 0.117 af, Depth= 5.33"
Routed to Pond 2.13P : CB-3

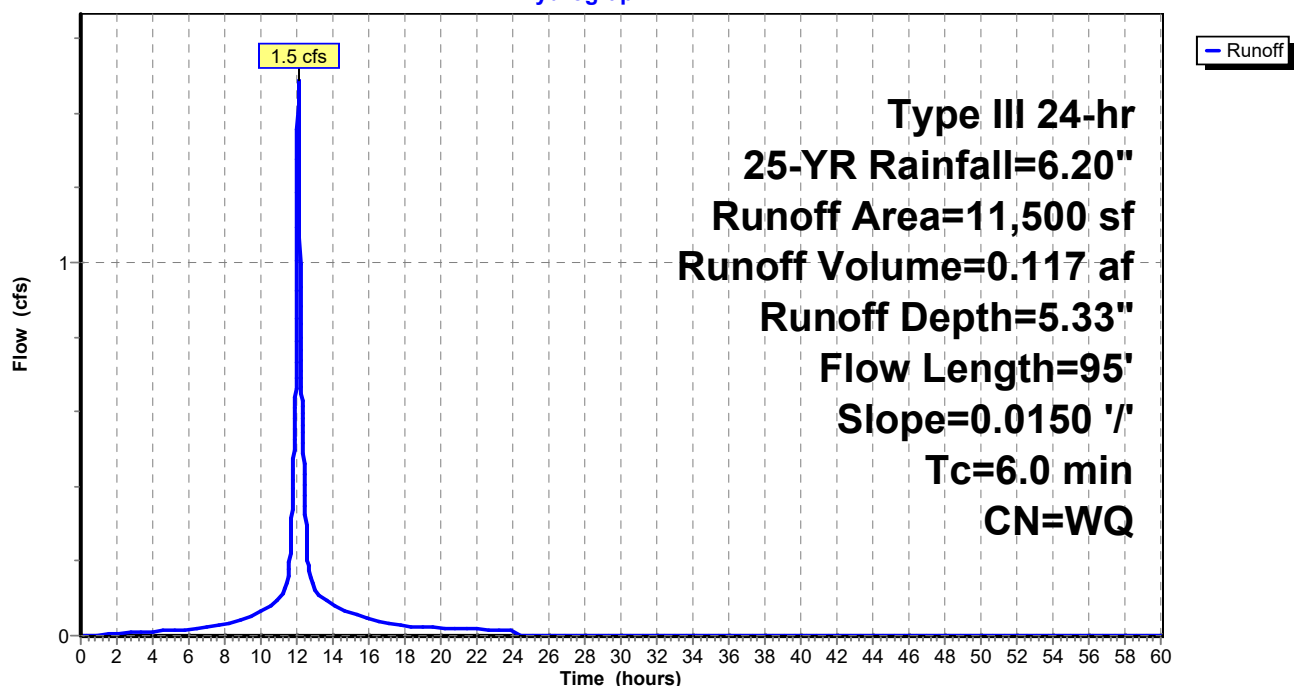
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 5,860 | 98 | Paved parking, HSG D |
| 3,510 | 80 | >75% Grass cover, Good, HSG D |
| * 540 | 98 | Sidewalks, HSG D |
| 300 | 98 | Unconnected pavement, HSG D |
| 1,290 | 96 | Gravel surface, HSG D |
| 11,500 | | Weighted Average |
| 4,800 | | 41.74% Pervious Area |
| 6,700 | | 58.26% Impervious Area |
| 300 | | 4.48% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.3 | 95 | 0.0150 | 1.23 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.7 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 95 | Total | | | |

Subcatchment 2.13S: 2.13S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.14S:

Runoff = 12.8 cfs @ 12.61 hrs, Volume= 2.031 af, Depth= 4.45"
 Routed to Link POA-2 :

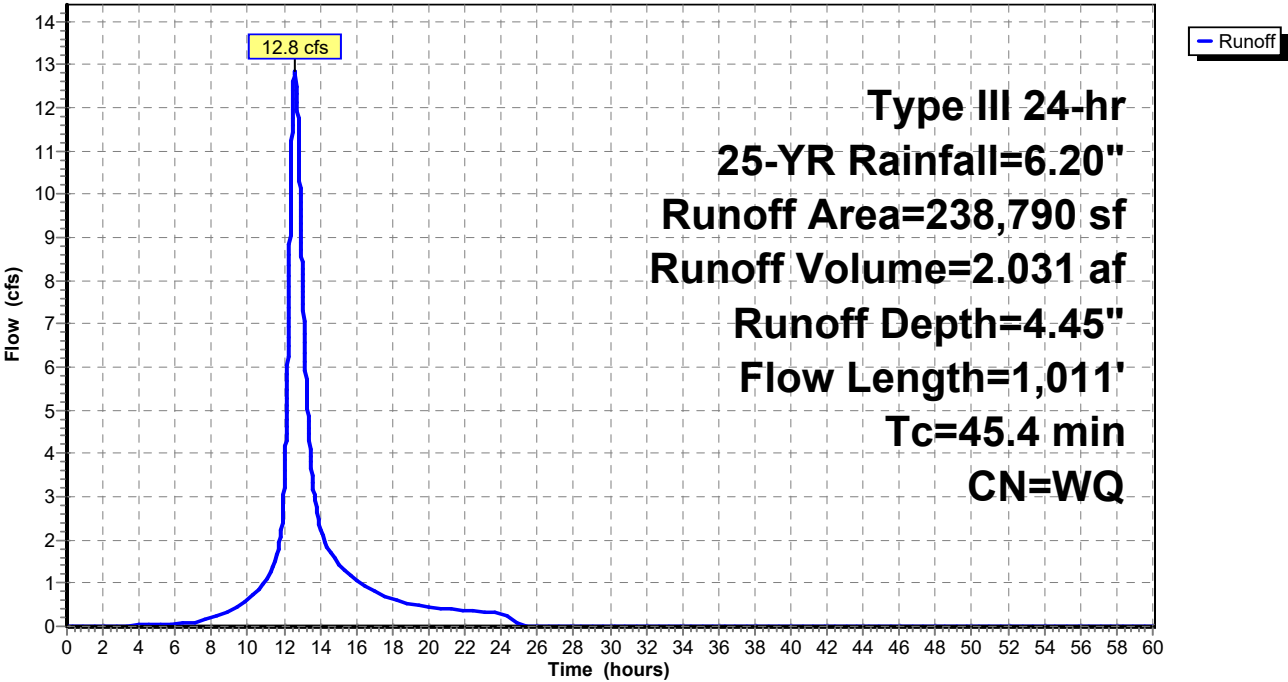
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 24,375 | 89 | <50% Grass cover, Poor, HSG D |
| 122,695 | 83 | Woods, Poor, HSG D |
| * 3,360 | 98 | Roofs, HSG D |
| * 19,110 | 96 | Gravel surface, HSG D |
| * 6,840 | 98 | Sidewalks, HSG D |
| 58,620 | 80 | >75% Grass cover, Good, HSG D |
| 3,790 | 78 | Meadow, non-grazed, HSG D |
| 238,790 | | Weighted Average |
| 228,590 | | 95.73% Pervious Area |
| 10,200 | | 4.27% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 2.6 | 110 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 1.6 | 200 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.4 | 50 | 0.0200 | 2.12 | | Shallow Concentrated Flow, E-F |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.1 | 135 | 0.0200 | 2.12 | | Shallow Concentrated Flow, F-G |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.6 | 250 | 0.0300 | 2.60 | | Shallow Concentrated Flow, G-H |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 56 | 0.0150 | 5.56 | 4.36 | Pipe Channel, H-I |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 10 | 0.3300 | 8.62 | | Shallow Concentrated Flow, I-J |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 30 | 0.3300 | 2.87 | | Shallow Concentrated Flow, J-K |
| | | | | | Woodland Kv= 5.0 fps |
| 45.4 | 1,011 | Total | | | |

Subcatchment 2.14S:

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.1S: 2.1S

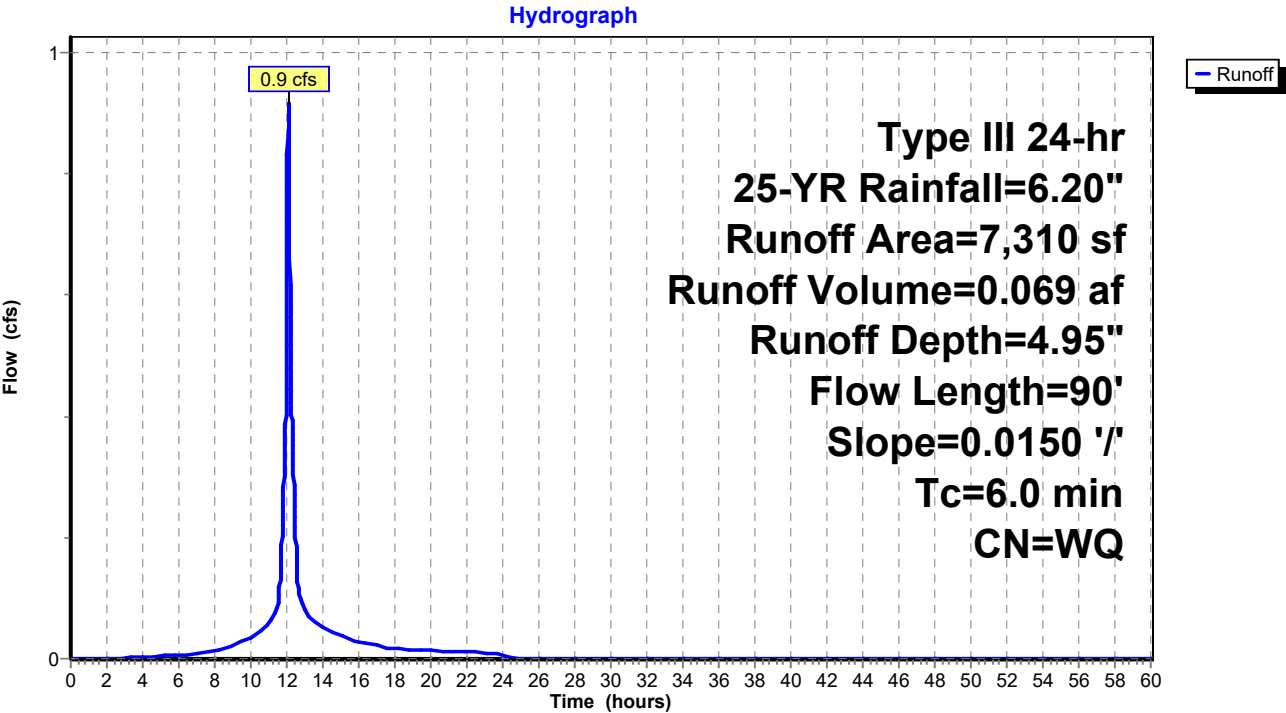
Runoff = 0.9 cfs @ 12.08 hrs, Volume= 0.069 af, Depth= 4.95"
Routed to Pond 2.1P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 870 | 98 | Paved parking, HSG D |
| * 190 | 98 | Sidewalks, HSG D |
| 2,330 | 80 | >75% Grass cover, Good, HSG D |
| 3,920 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 7,310 | | Weighted Average |
| 3,702 | | 50.64% Pervious Area |
| 3,608 | | 49.36% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.1S: 2.1S



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.2S: 2.2S

Runoff = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af, Depth= 5.29"
Routed to Pond 2.2P : DMH-7

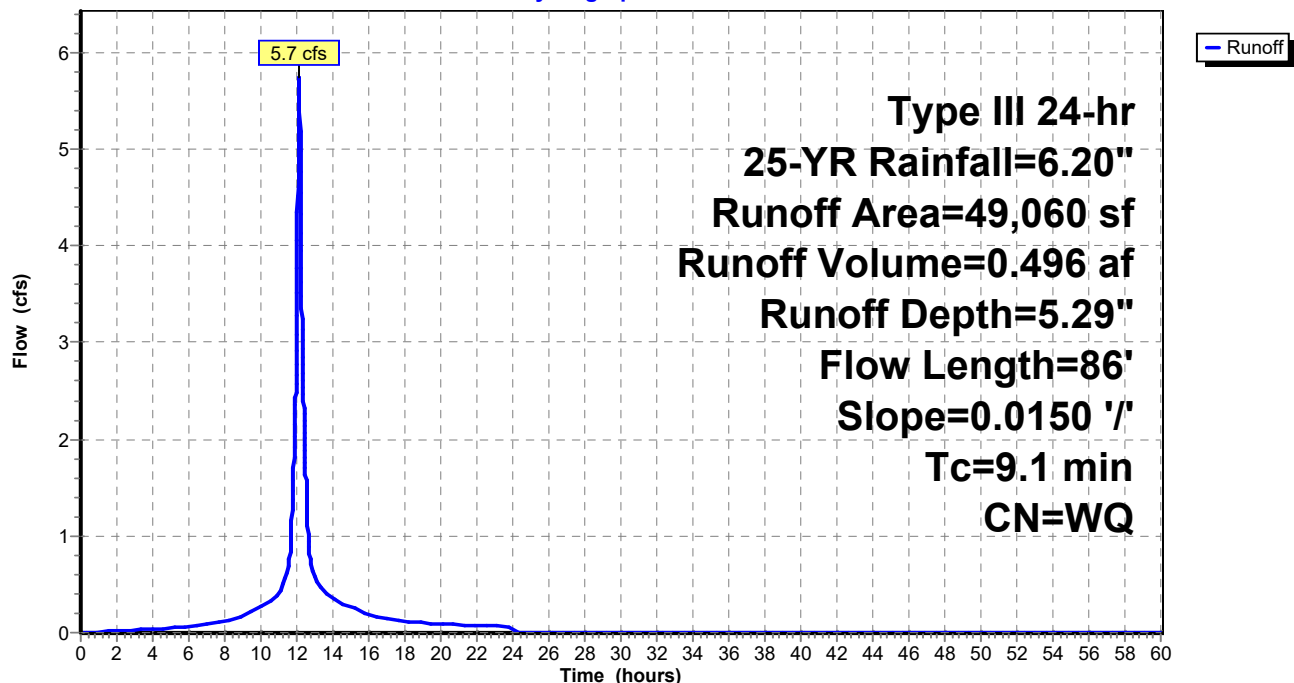
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 11,330 | 98 | Paved parking, HSG D |
| * 1,450 | 98 | Sidewalks, HSG D |
| 9,060 | 98 | Roofs, HSG D |
| 10,940 | 80 | >75% Grass cover, Good, HSG D |
| 16,280 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 49,060 | | Weighted Average |
| 16,638 | | 33.91% Pervious Area |
| 32,422 | | 66.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 9.1 | 80 | 0.0150 | 0.15 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 6 | 0.0150 | 2.49 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 9.1 | 86 | Total | | | |

Subcatchment 2.2S: 2.2S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.3S: 2.2S

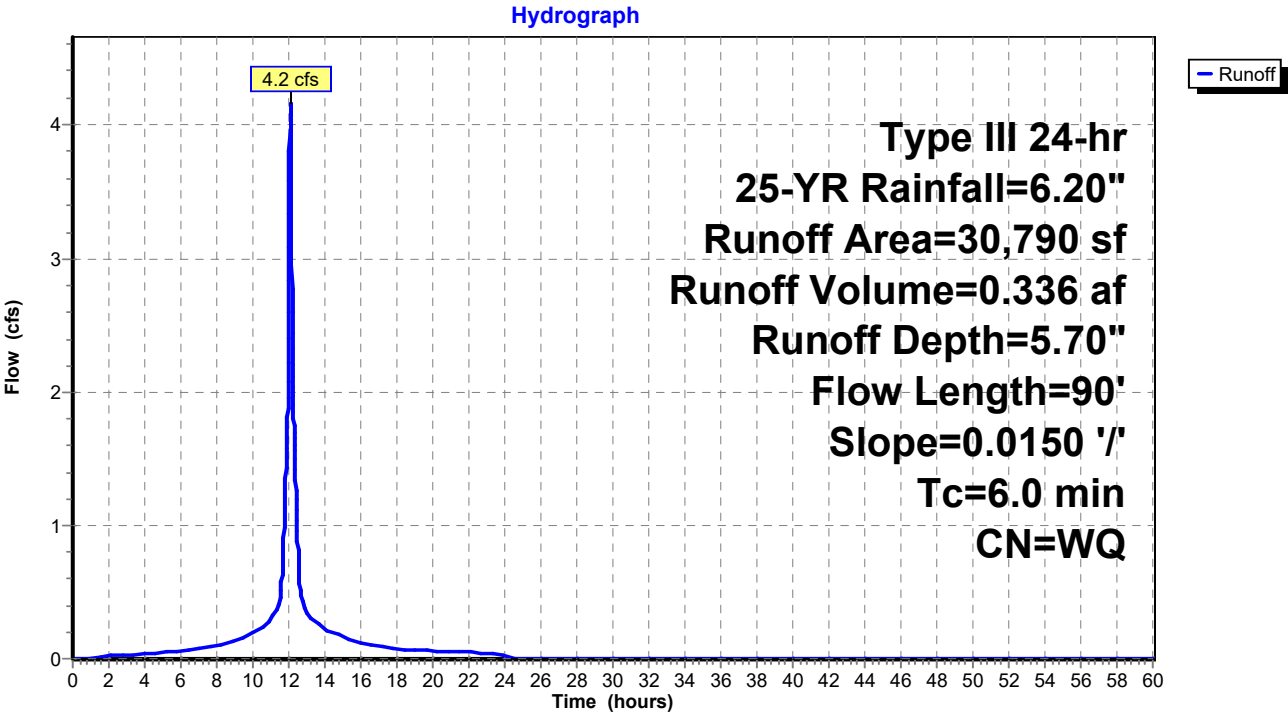
Runoff = 4.2 cfs @ 12.08 hrs, Volume= 0.336 af, Depth= 5.70"
Routed to Pond 2.3P : CB-24

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,330 | 98 | Paved parking, HSG D |
| * 5,830 | 98 | Sidewalks, HSG D |
| 8,650 | 98 | Roofs, HSG D |
| 3,980 | 80 | >75% Grass cover, Good, HSG D |
| 30,790 | | Weighted Average |
| 3,980 | | 12.93% Pervious Area |
| 26,810 | | 87.07% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.3S: 2.2S



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.4S: 2.4S

Runoff = 0.5 cfs @ 12.08 hrs, Volume= 0.041 af, Depth= 5.96"
Routed to Pond 2.4P : CB-17

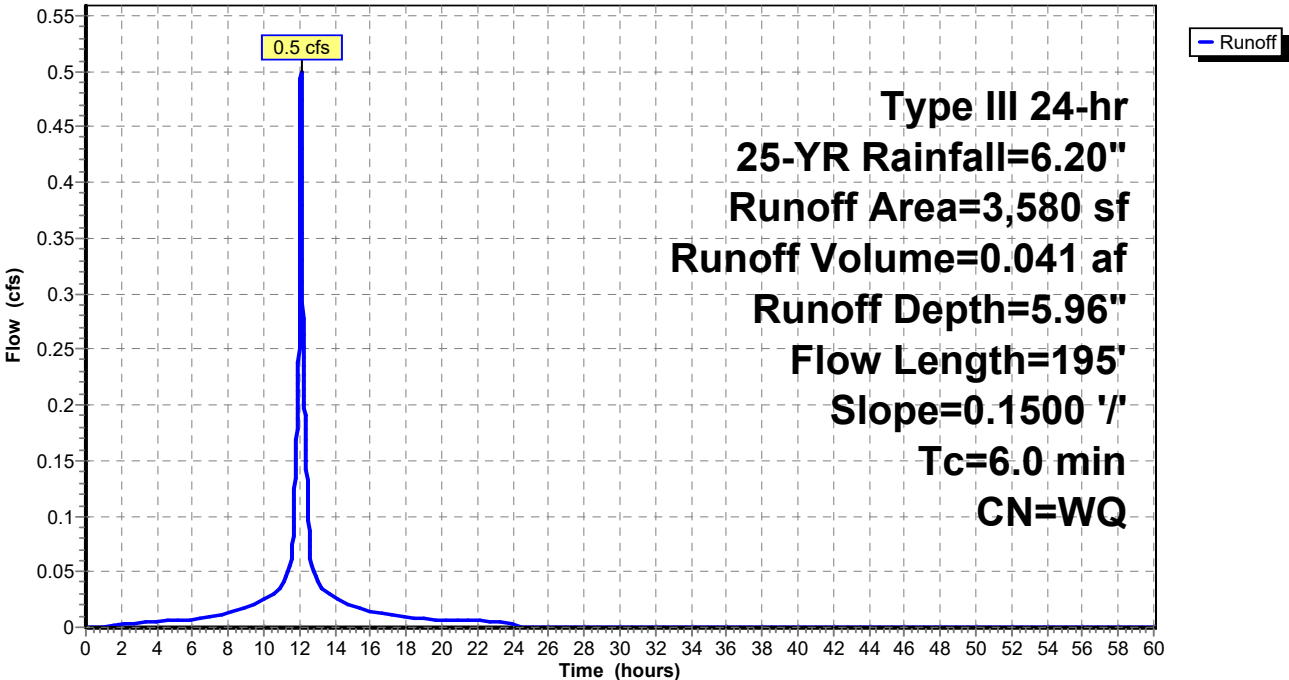
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| * 500 | 98 | Sidewalks, HSG D |
| 3,080 | 98 | Paved parking, HSG D |
| 3,580 | | Weighted Average |
| 3,580 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.9 | 195 | 0.1500 | 3.57 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 5.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 195 | Total | | | |

Subcatchment 2.4S: 2.4S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.5S: 2.5S

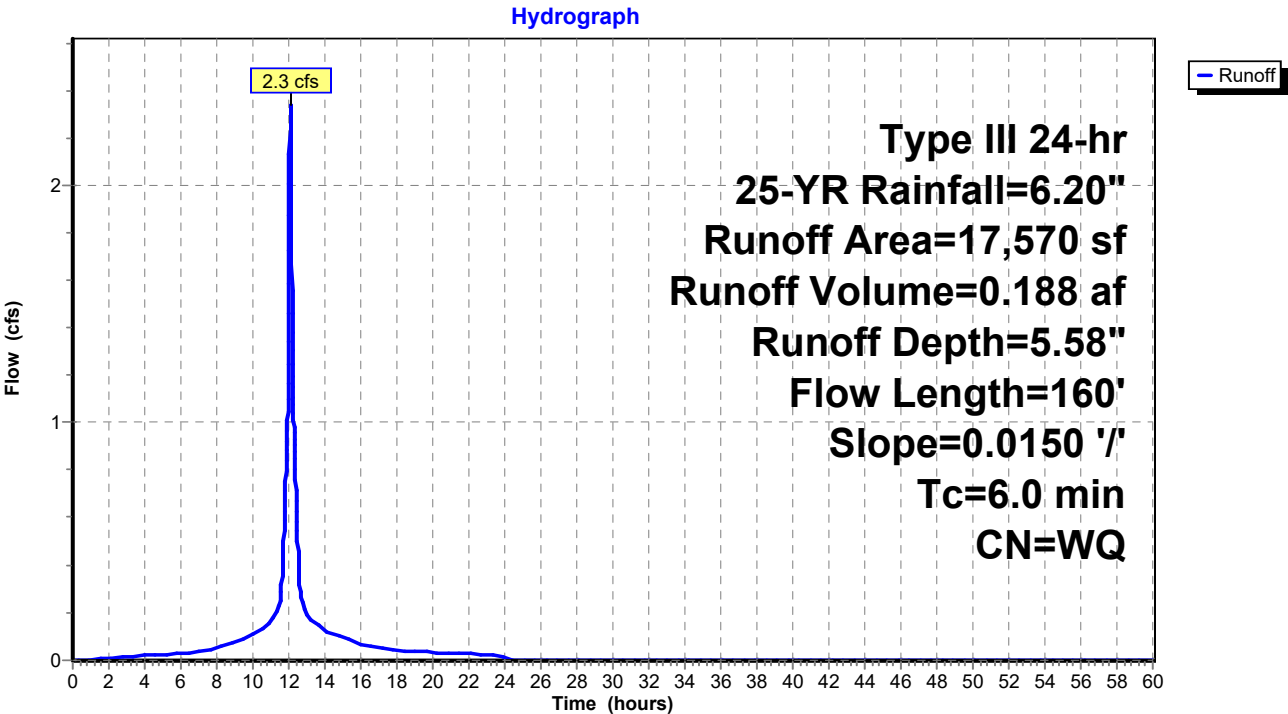
Runoff = 2.3 cfs @ 12.08 hrs, Volume= 0.188 af, Depth= 5.58"
Routed to Pond 2.5P : CB-20

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,530 | 98 | Paved parking, HSG D |
| * 4,690 | 98 | Sidewalks, HSG D |
| 3,350 | 80 | >75% Grass cover, Good, HSG D |
| 17,570 | | Weighted Average |
| 3,350 | | 19.07% Pervious Area |
| 14,220 | | 80.93% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.5S: 2.5S



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Summary for Subcatchment 2.6S: 2.6S

Runoff = 2.4 cfs @ 12.09 hrs, Volume= 0.195 af, Depth= 5.51"
Routed to Pond 2.6P : CB-15

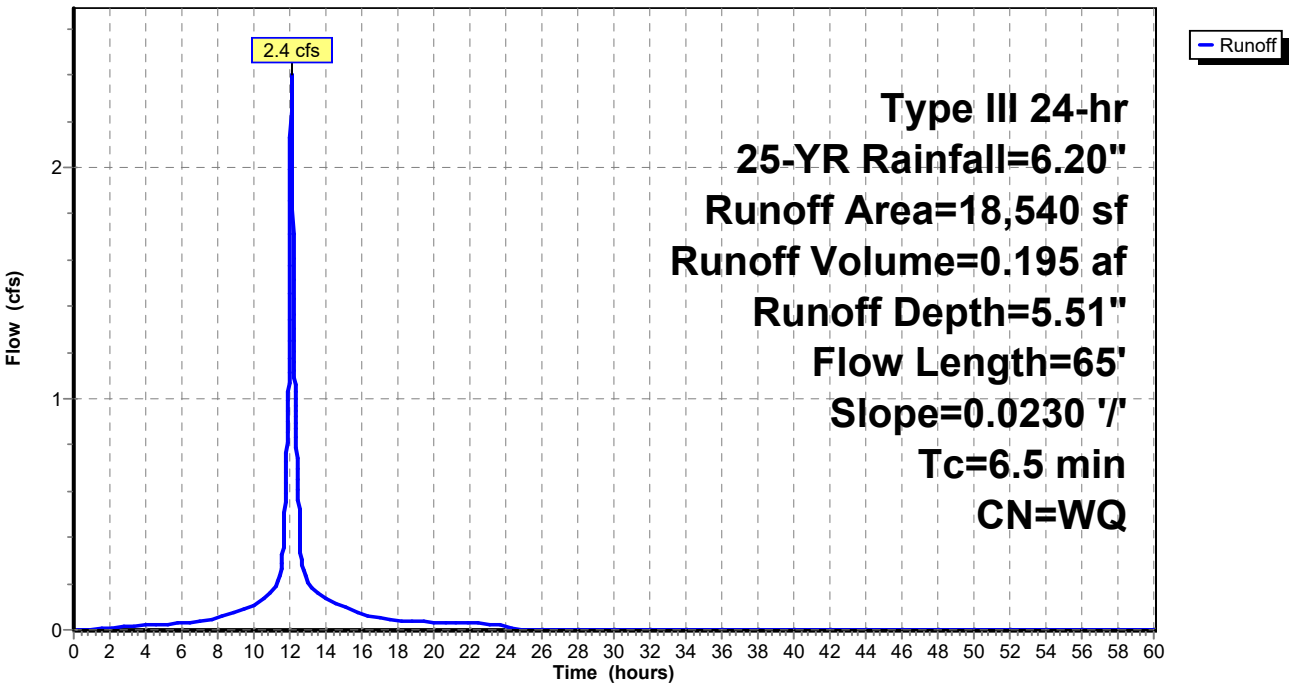
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 2,010 | 98 | Sidewalks, HSG D |
| | 4,190 | 80 | >75% Grass cover, Good, HSG D |
| | 12,340 | 98 | Paved parking, HSG D |
| | 18,540 | | Weighted Average |
| | 4,190 | | 22.60% Pervious Area |
| | 14,350 | | 77.40% Impervious Area |

| Tc
(min) | Length
(feet) | Slope
(ft/ft) | Velocity
(ft/sec) | Capacity
(cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------------|
| 6.5 | 65 | 0.0230 | 0.17 | | Sheet Flow, A |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |

Subcatchment 2.6S: 2.6S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.7S: 2.7S

Runoff = 5.5 cfs @ 12.08 hrs, Volume= 0.440 af, Depth= 5.62"
Routed to Pond 2.7P : CB-8

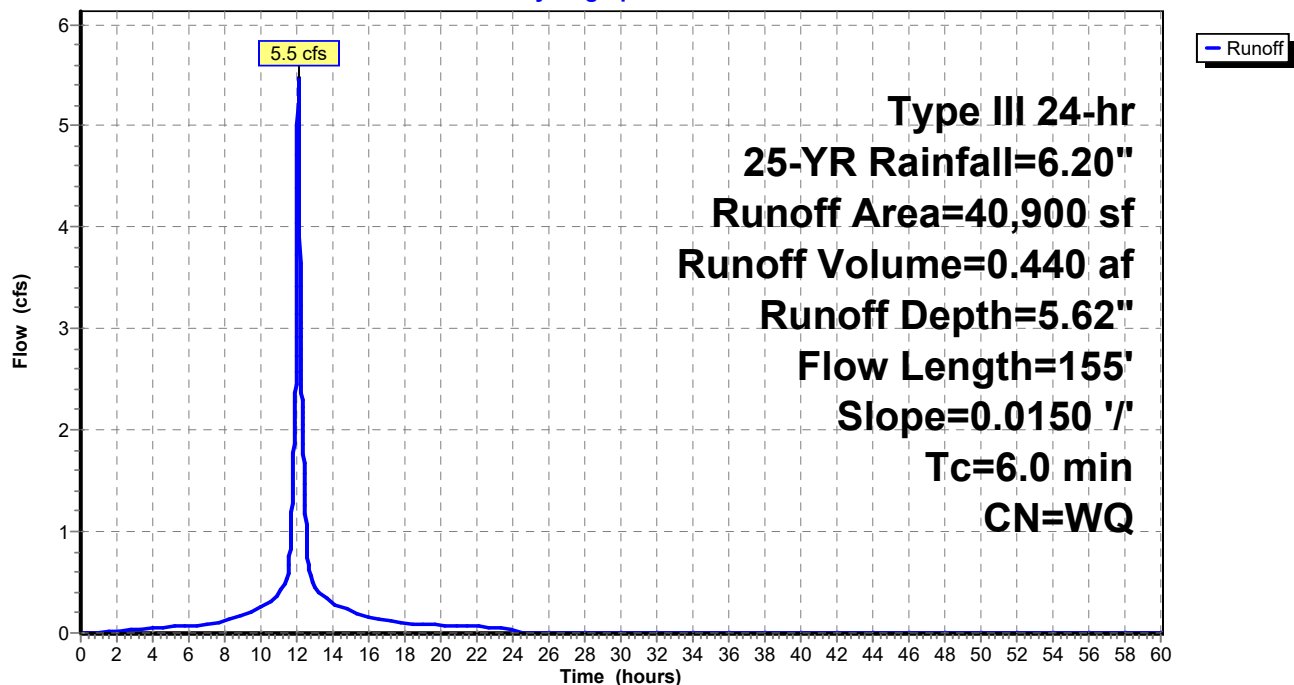
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,000 | 98 | Unconnected pavement, HSG D |
| 14,870 | 98 | Paved parking, HSG D |
| 17,100 | 98 | Roofs, HSG D |
| 6,930 | 80 | >75% Grass cover, Good, HSG D |
| 40,900 | | Weighted Average |
| 6,930 | | 16.94% Pervious Area |
| 33,970 | | 83.06% Impervious Area |
| 2,000 | | 5.89% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 155 | 0.0150 | 1.36 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 155 | Total | | | |

Subcatchment 2.7S: 2.7S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.8S:

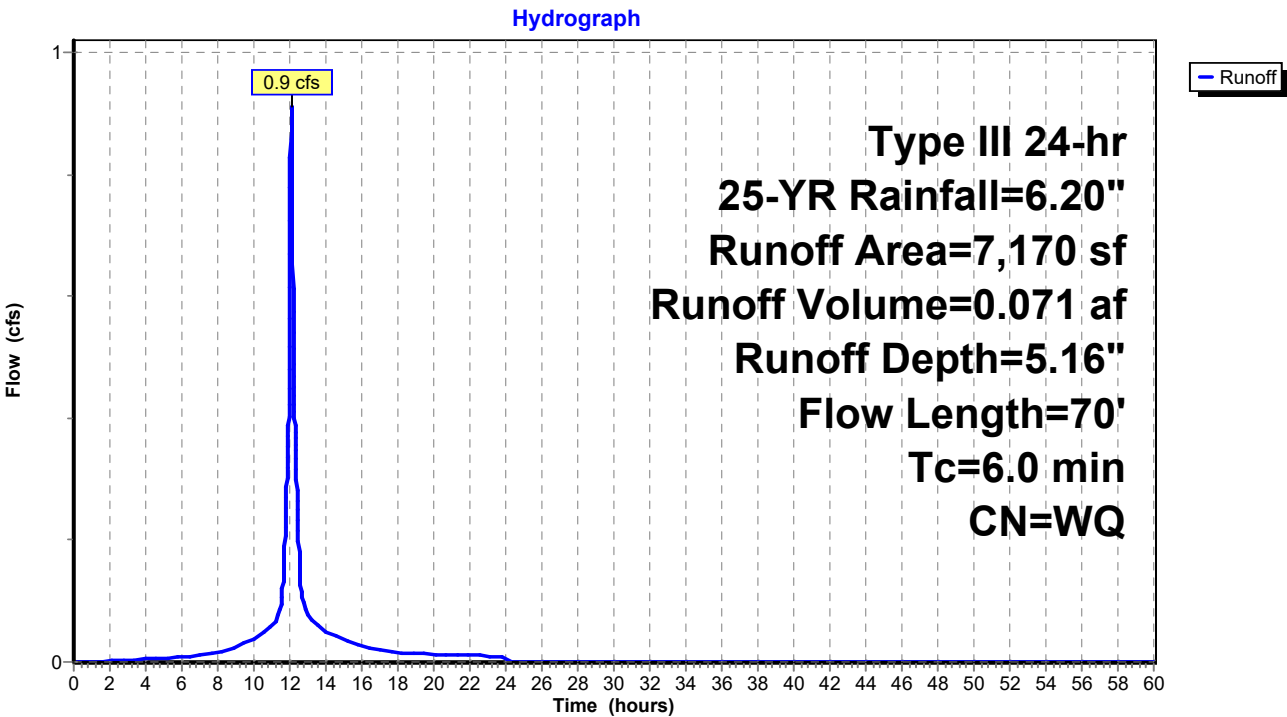
Runoff = 0.9 cfs @ 12.08 hrs, Volume= 0.071 af, Depth= 5.16"
Routed to Pond 2.8P : CB-14

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,510 | 80 | >75% Grass cover, Good, HSG D |
| * 1,630 | 98 | Sidewalks, HSG D |
| 3,030 | 96 | Gravel surface, HSG D |
| 7,170 | | Weighted Average |
| 5,540 | | 77.27% Pervious Area |
| 1,630 | | 22.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------|
| 5.5 | 60 | 0.0300 | 0.18 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 10 | 0.0600 | 4.97 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 70 | Total | | | |

Subcatchment 2.8S:



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.9S: 2.9S

Runoff = 2.8 cfs @ 12.08 hrs, Volume= 0.222 af, Depth= 5.67"
Routed to Pond 2.9P : CB-5

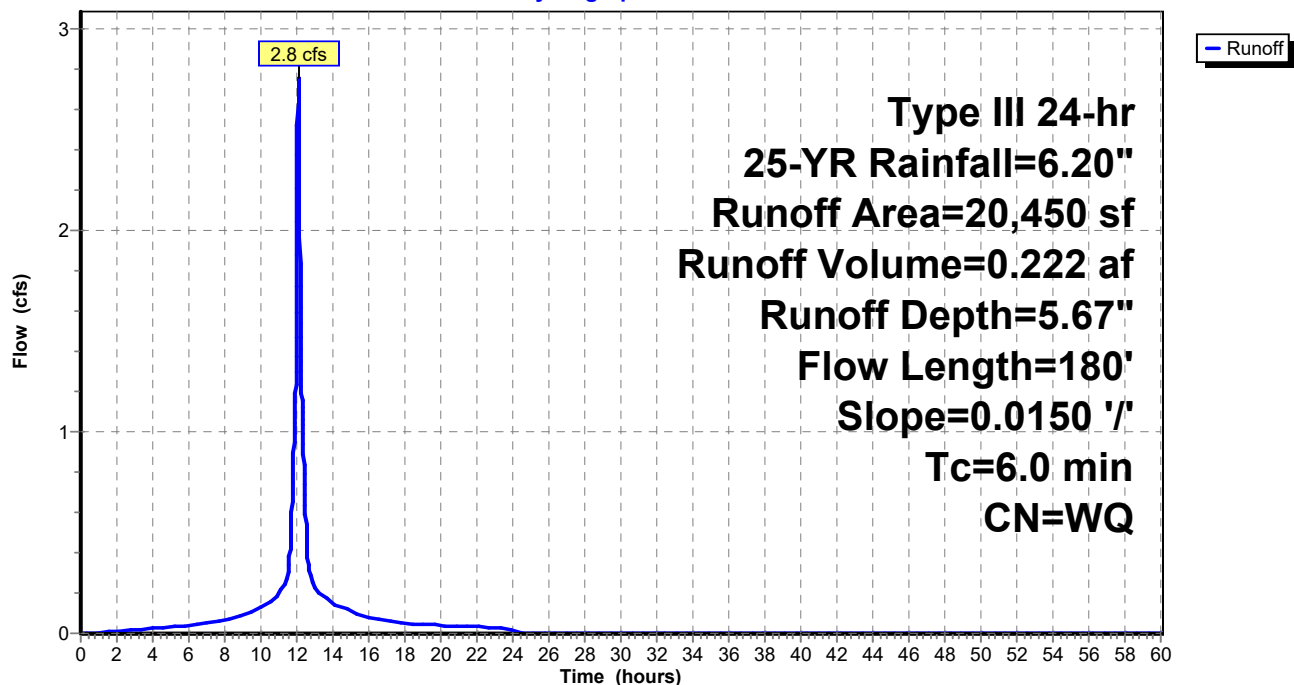
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,980 | 80 | >75% Grass cover, Good, HSG D |
| * 2,170 | 98 | Sidewalks, HSG D |
| 15,300 | 98 | Paved parking, HSG D |
| 20,450 | | Weighted Average |
| 2,980 | | 14.57% Pervious Area |
| 17,470 | | 85.43% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.1 | 180 | 0.0150 | 1.40 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.9 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 180 | Total | | | |

Subcatchment 2.9S: 2.9S

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 3.1S:

Runoff = 21.3 cfs @ 12.51 hrs, Volume= 3.168 af, Depth= 4.87"

Routed to Link POA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

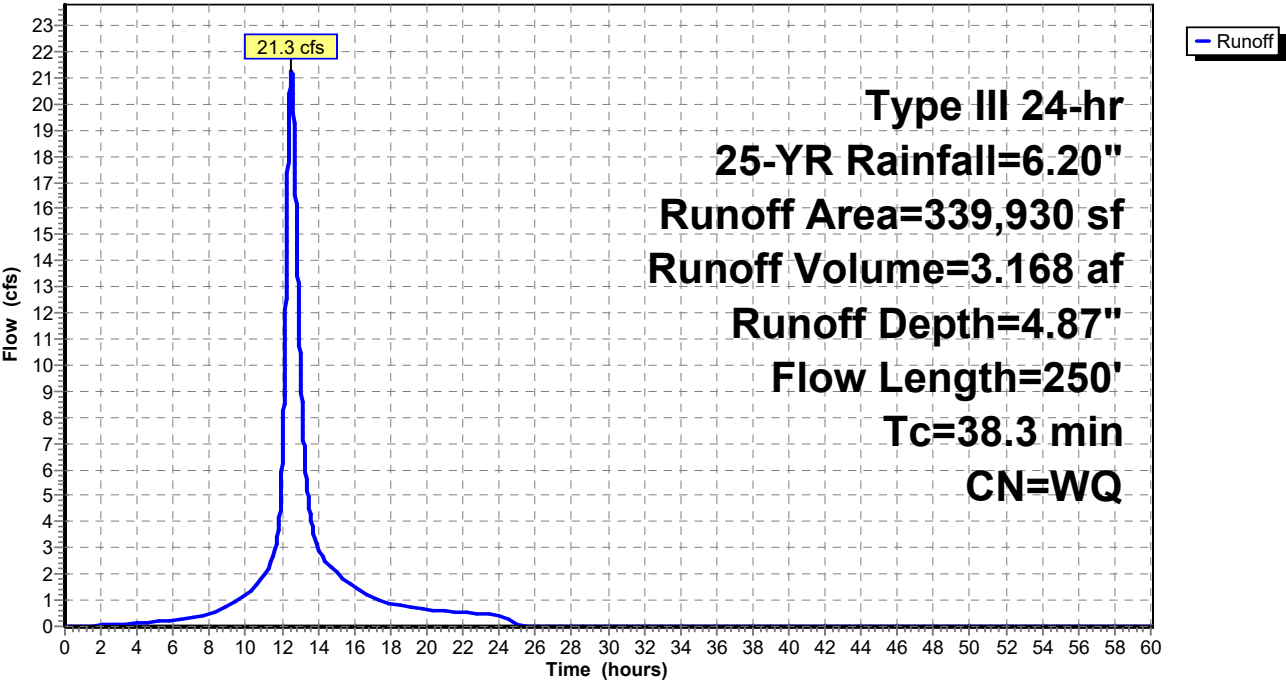
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 44,220 | 98 | Roofs, HSG D |
| 28,895 | 98 | Paved parking, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 50,270 | 89 | <50% Grass cover, Poor, HSG D |
| 154,640 | 83 | Woods, Poor, HSG D |
| 7,700 | 78 | Meadow, non-grazed, HSG D |
| 17,355 | 80 | >75% Grass cover, Good, HSG D |
| * 9,740 | 98 | Sidewalks, HSG D |
| 339,930 | | Weighted Average |
| 257,075 | | 75.63% Pervious Area |
| 82,855 | | 24.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 40 | 0.3300 | 8.62 | | Shallow Concentrated Flow, B-C |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 10 | 0.0150 | 2.49 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | 55 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 38.3 | 250 | Total | | | |

Subcatchment 3.1S:

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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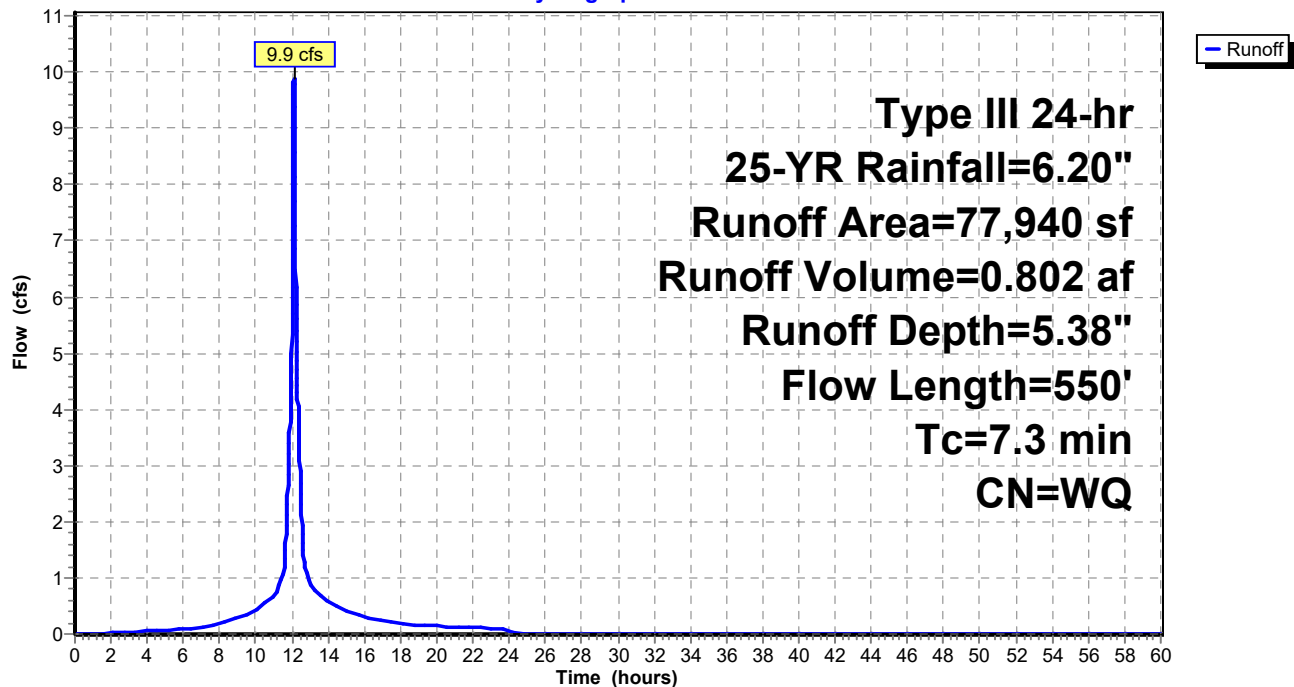
Summary for Subcatchment 4S:

Runoff = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"
Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B
Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C
Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D
Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 5.1S:

Runoff = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af, Depth= 5.23"

Routed to Pond 5P : Box Culvert - Railroad

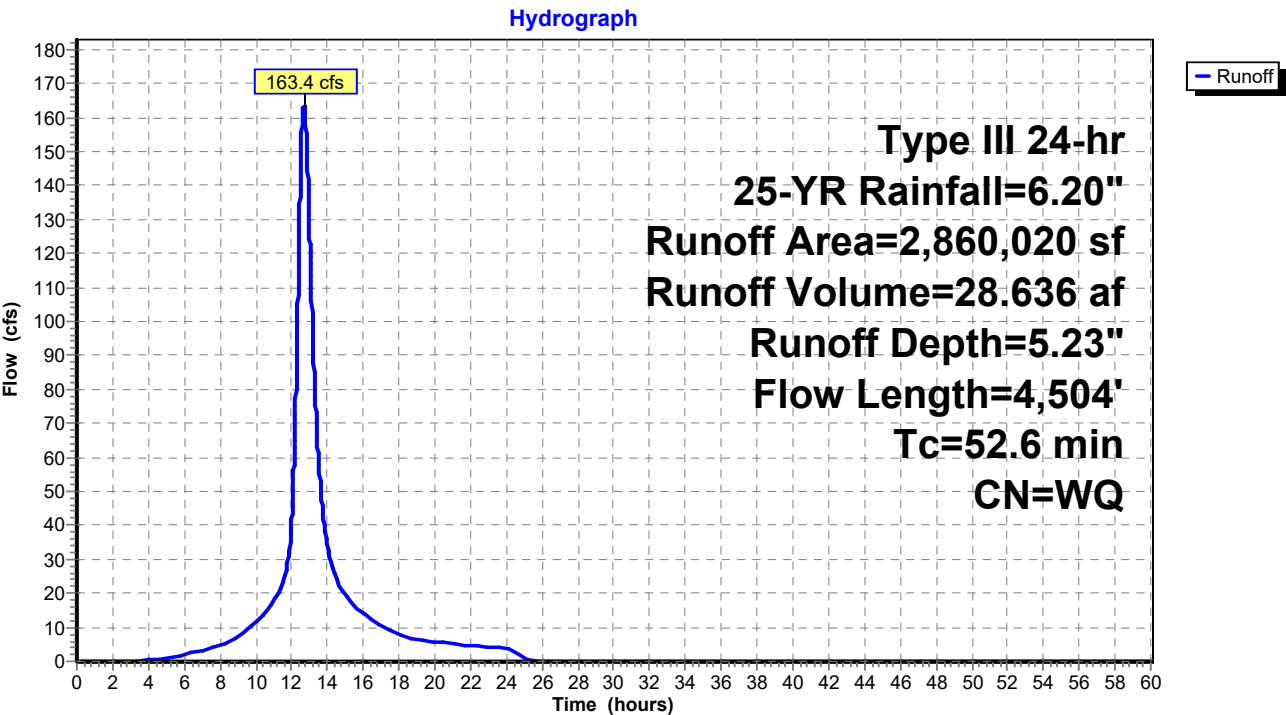
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Type III 24-hr 25-YR Rainfall=6.20"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,765,240 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,600 | 83 | Woods, Poor, HSG D |
| 4,430 | 80 | >75% Grass cover, Good, HSG D |
| 1,750 | 96 | Gravel surface, HSG D |
| 2,860,020 | | Weighted Average |
| 1,062,614 | | 37.15% Pervious Area |
| 1,797,406 | | 62.85% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5.1S:



Summary for Pond 2.10P: CB-4

Inflow Area = 0.2 ac, 78.41% Impervious, Inflow Depth = 5.53" for 25-YR event
Inflow = 1.0 cfs @ 12.08 hrs, Volume= 0.080 af
Outflow = 1.0 cfs @ 12.08 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.08 hrs, Volume= 0.080 af
Routed to Pond 2.9P : CB-5

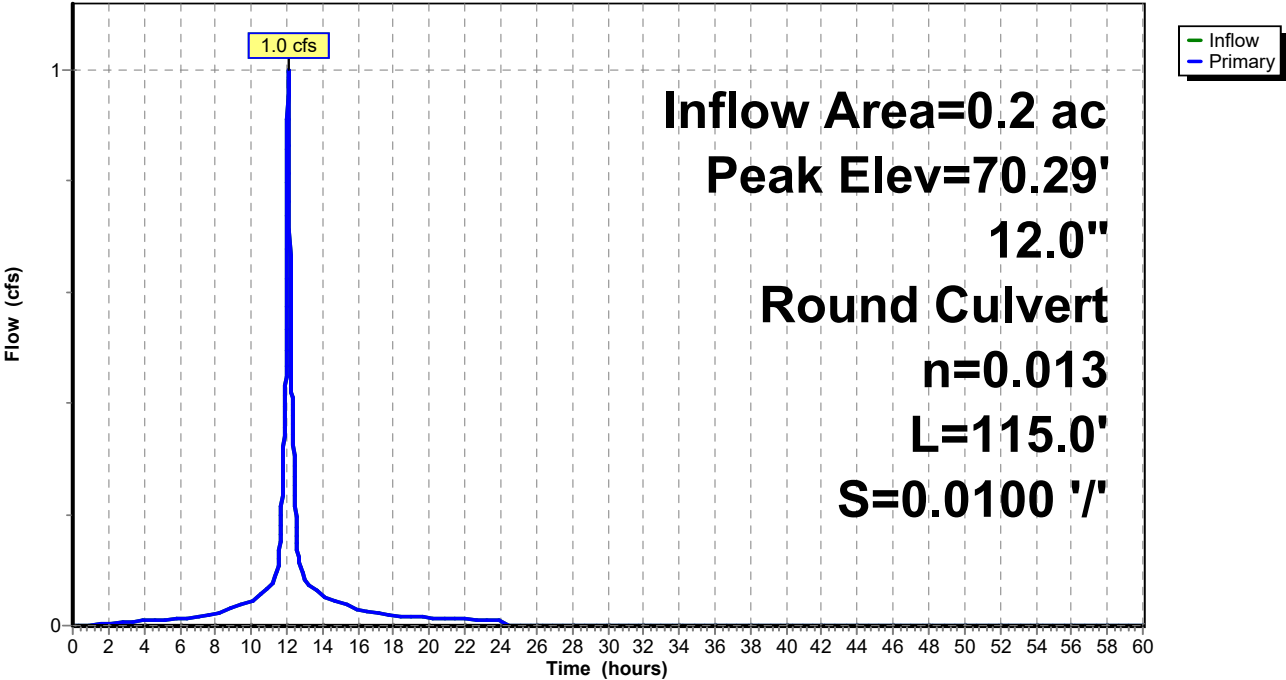
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.29' @ 12.08 hrs
Flood Elev= 73.30'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 69.70' | 12.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 69.70' / 68.55' S= 0.0100 '/ Cc= 0.900
n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=1.0 cfs @ 12.08 hrs HW=70.29' (Free Discharge)
↑1=Culvert (Inlet Controls 1.0 cfs @ 2.07 fps)

Pond 2.10P: CB-4

Hydrograph



Summary for Pond 2.11P: CB-6

Inflow Area = 1.4 ac, 66.07% Impervious, Inflow Depth = 5.51" for 25-YR event
Inflow = 8.1 cfs @ 12.08 hrs, Volume= 0.642 af
Outflow = 8.1 cfs @ 12.08 hrs, Volume= 0.642 af, Atten= 0%, Lag= 0.0 min
Primary = 8.1 cfs @ 12.08 hrs, Volume= 0.642 af
Routed to Pond 2.12P : CB-7

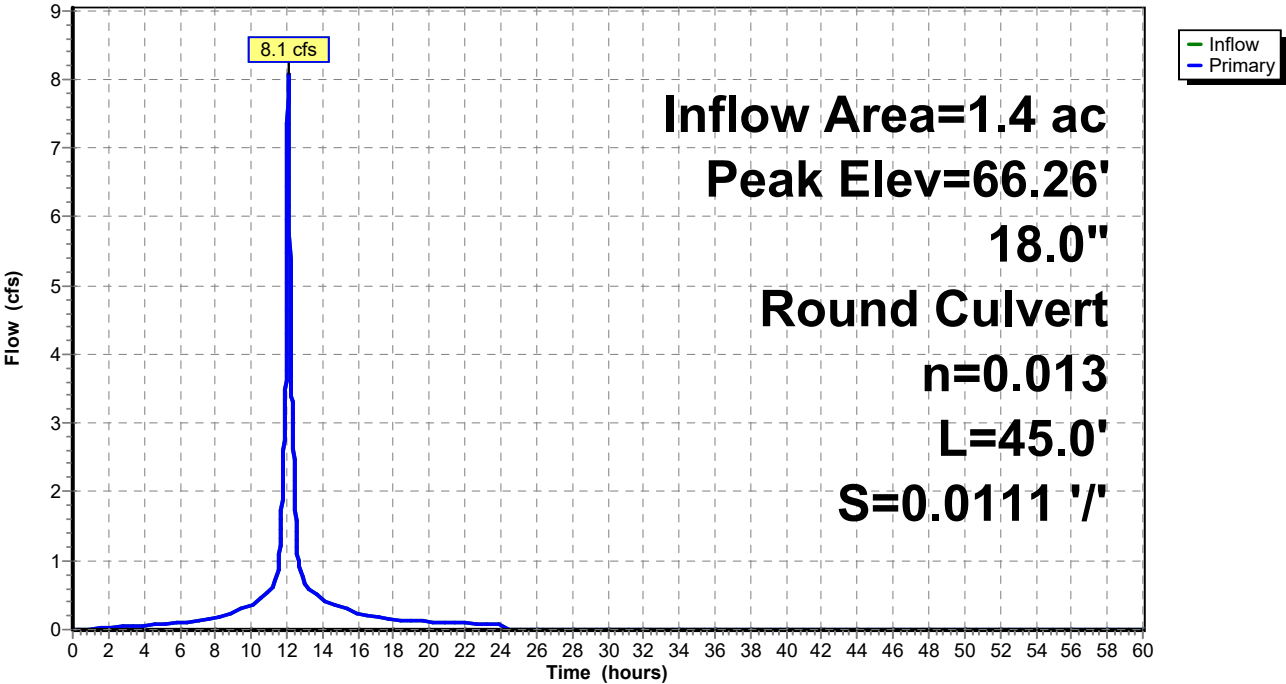
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.26' @ 12.08 hrs
Flood Elev= 73.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.07' | 18.0" Round Culvert
L= 45.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.07' / 63.57' S= 0.0111 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=8.1 cfs @ 12.08 hrs HW=66.26' (Free Discharge)
↑1=Culvert (Inlet Controls 8.1 cfs @ 4.56 fps)

Pond 2.11P: CB-6

Hydrograph



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Summary for Pond 2.12P: CB-7

Inflow Area = 1.6 ac, 59.05% Impervious, Inflow Depth = 5.41" for 25-YR event
Inflow = 9.2 cfs @ 12.08 hrs, Volume= 0.725 af
Outflow = 9.2 cfs @ 12.08 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min
Primary = 9.2 cfs @ 12.08 hrs, Volume= 0.725 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 66.08' @ 12.08 hrs

Flood Elev= 73.50'

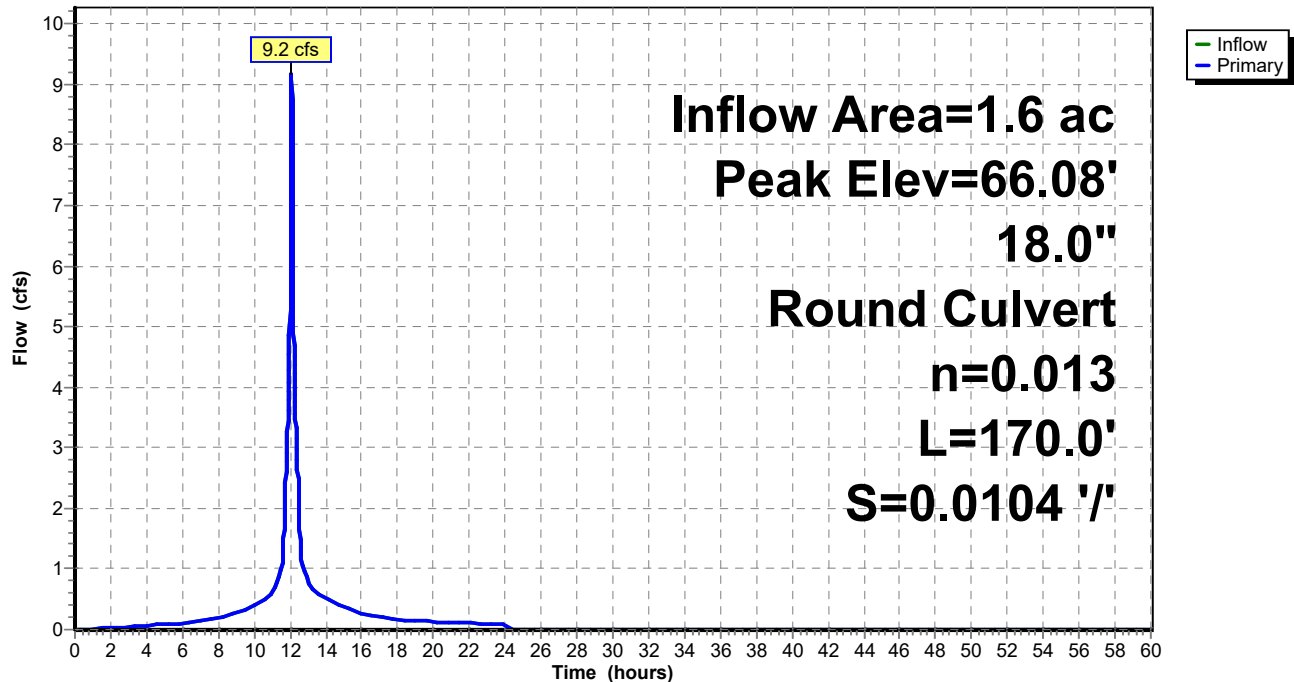
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.47' | 18.0" Round Culvert
L= 170.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.47' / 61.70' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=9.2 cfs @ 12.08 hrs HW=66.08' (Free Discharge)

↑1=Culvert (Inlet Controls 9.2 cfs @ 5.18 fps)

Pond 2.12P: CB-7

Hydrograph



Summary for Pond 2.13P: CB-3

Inflow Area = 0.4 ac, 54.80% Impervious, Inflow Depth = 5.18" for 25-YR event
Inflow = 2.4 cfs @ 12.08 hrs, Volume= 0.186 af
Outflow = 2.4 cfs @ 12.08 hrs, Volume= 0.186 af, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.08 hrs, Volume= 0.186 af
Routed to Pond 2.9P : CB-5

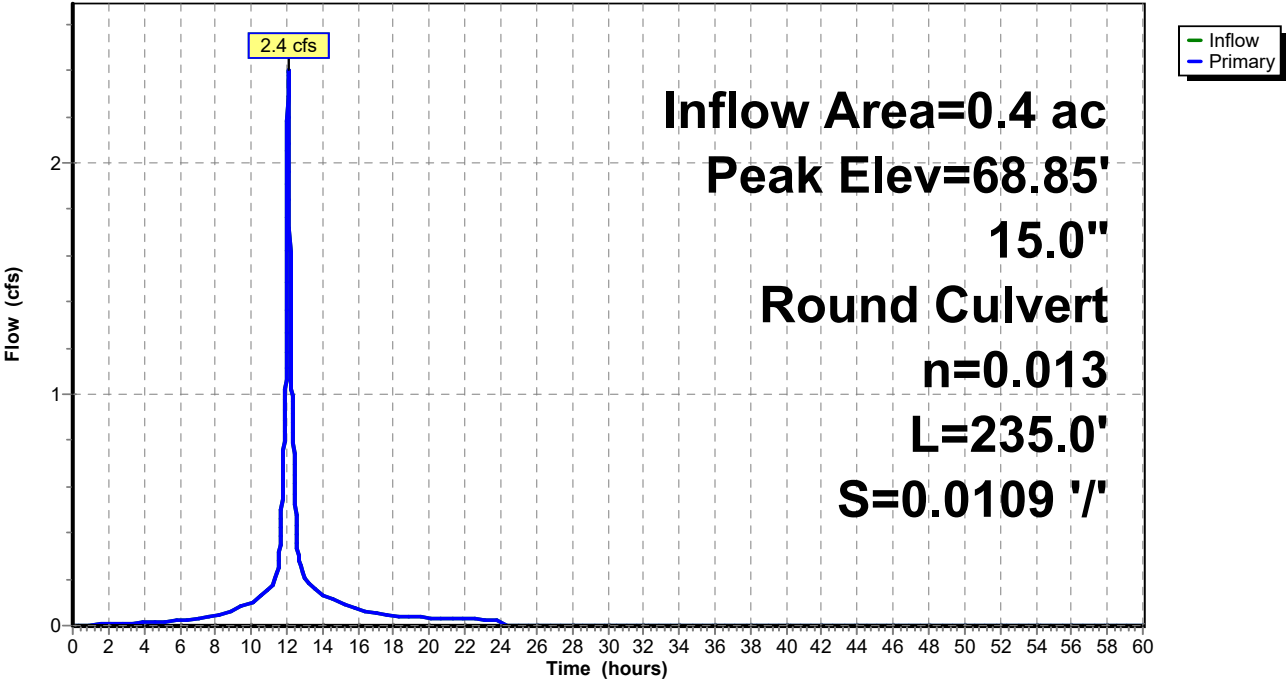
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 68.85' @ 12.08 hrs
Flood Elev= 73.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 67.95' | 15.0" Round Culvert
L= 235.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 67.95' / 65.40' S= 0.0109 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=2.4 cfs @ 12.08 hrs HW=68.85' (Free Discharge)
1=Culvert (Inlet Controls 2.4 cfs @ 2.54 fps)

Pond 2.13P: CB-3

Hydrograph



Summary for Pond 2.1P: CB-2

Inflow Area = 0.2 ac, 49.36% Impervious, Inflow Depth = 4.95" for 25-YR event
Inflow = 0.9 cfs @ 12.08 hrs, Volume= 0.069 af
Outflow = 0.9 cfs @ 12.08 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.9 cfs @ 12.08 hrs, Volume= 0.069 af
Routed to Pond 2.13P : CB-3

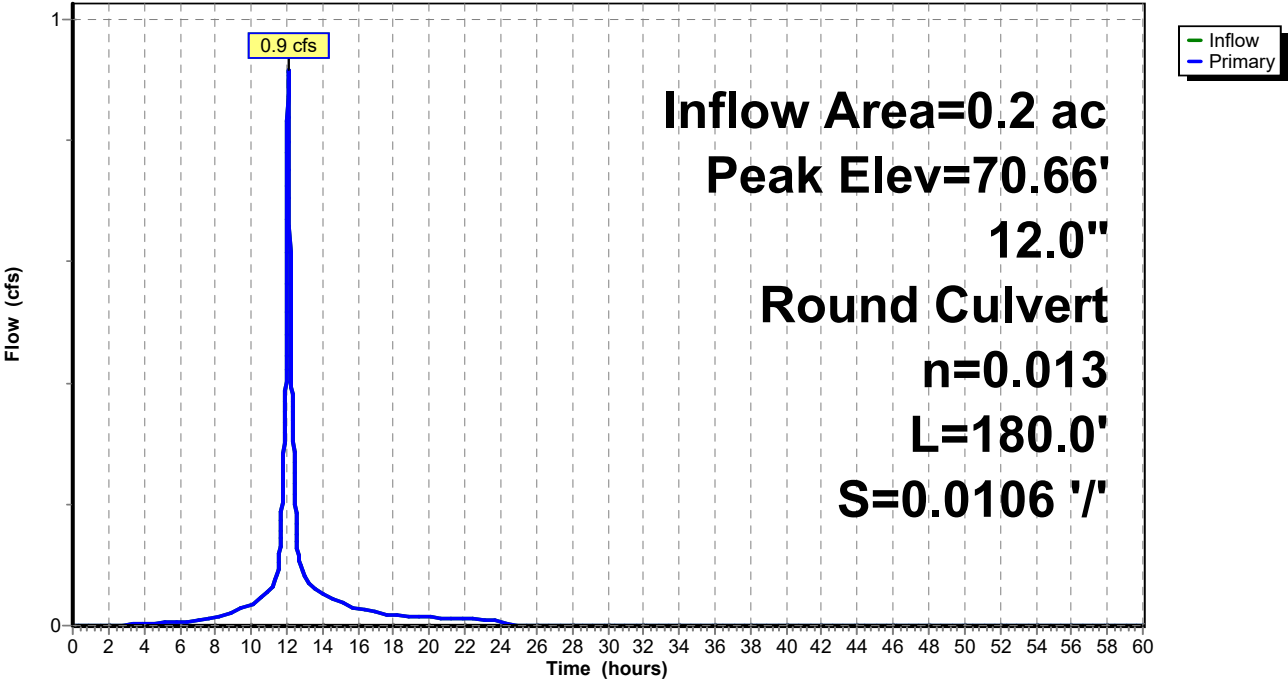
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.66' @ 12.08 hrs
Flood Elev= 74.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 70.10' | 12.0" Round Culvert
L= 180.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 70.10' / 68.20' S= 0.0106 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.9 cfs @ 12.08 hrs HW=70.66' (Free Discharge)
1=Culvert (Inlet Controls 0.9 cfs @ 2.01 fps)

Pond 2.1P: CB-2

Hydrograph



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Summary for Pond 2.21P: DMH-6

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 5.29" for 25-YR event
Inflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Outflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min
Primary = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Routed to Pond 2.22P : DMH-8

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.59' @ 12.12 hrs

Flood Elev= 73.75'

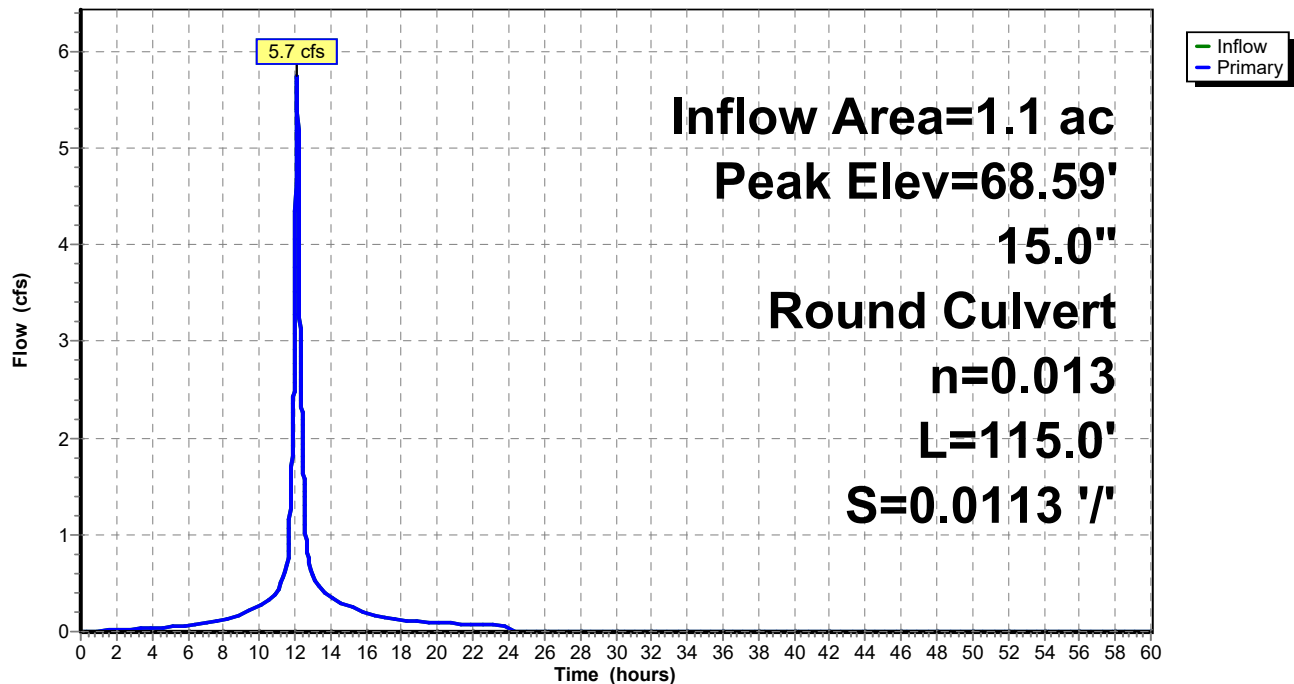
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 66.45' | 15.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 66.45' / 65.15' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=5.7 cfs @ 12.12 hrs HW=68.59' (Free Discharge)

↑1=Culvert (Inlet Controls 5.7 cfs @ 4.68 fps)

Pond 2.21P: DMH-6

Hydrograph



Summary for Pond 2.22P: DMH-8

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 5.29" for 25-YR event
Inflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Outflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min
Primary = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Routed to Pond 2.3P : CB-24

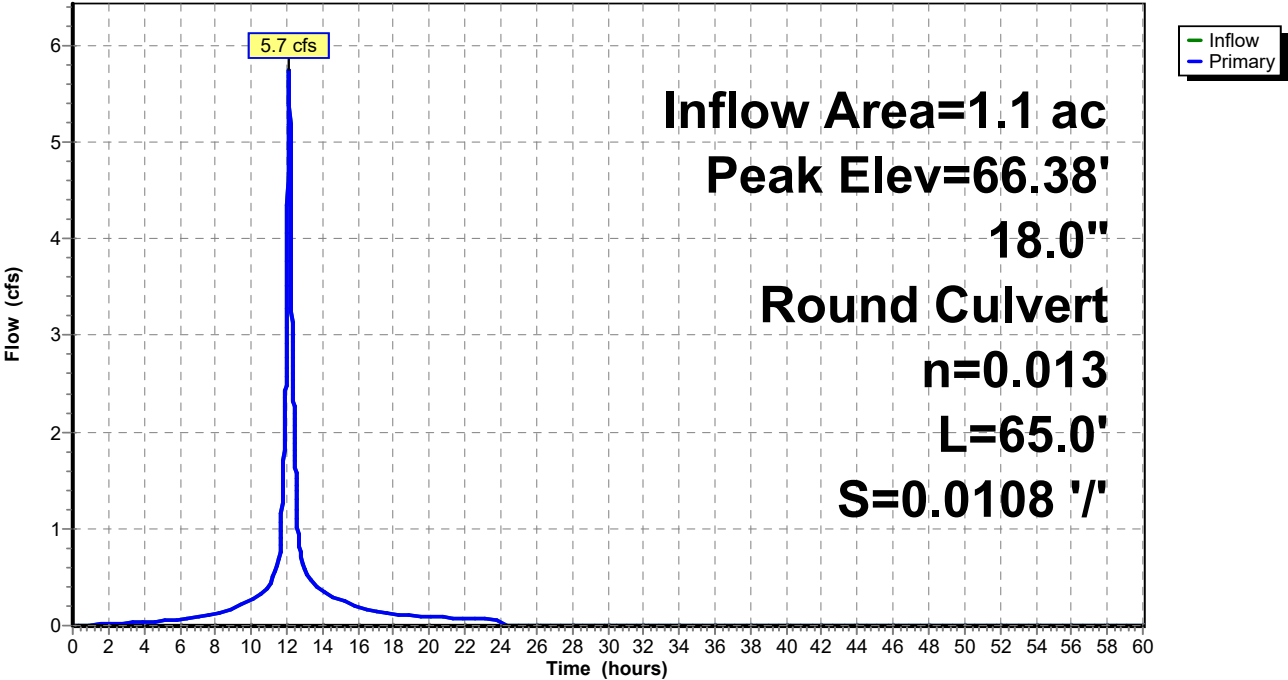
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.38' @ 12.12 hrs
Flood Elev= 71.40'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.90' | 18.0" Round Culvert
L= 65.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.90' / 64.20' S= 0.0108 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=5.7 cfs @ 12.12 hrs HW=66.37' (Free Discharge)
1=Culvert (Inlet Controls 5.7 cfs @ 3.26 fps)

Pond 2.22P: DMH-8

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Pond 2.2P: DMH-7

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 5.29" for 25-YR event
Inflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Outflow = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min
Primary = 5.7 cfs @ 12.12 hrs, Volume= 0.496 af
Routed to Pond 2.21P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 73.58' @ 12.12 hrs

Flood Elev= 74.70'

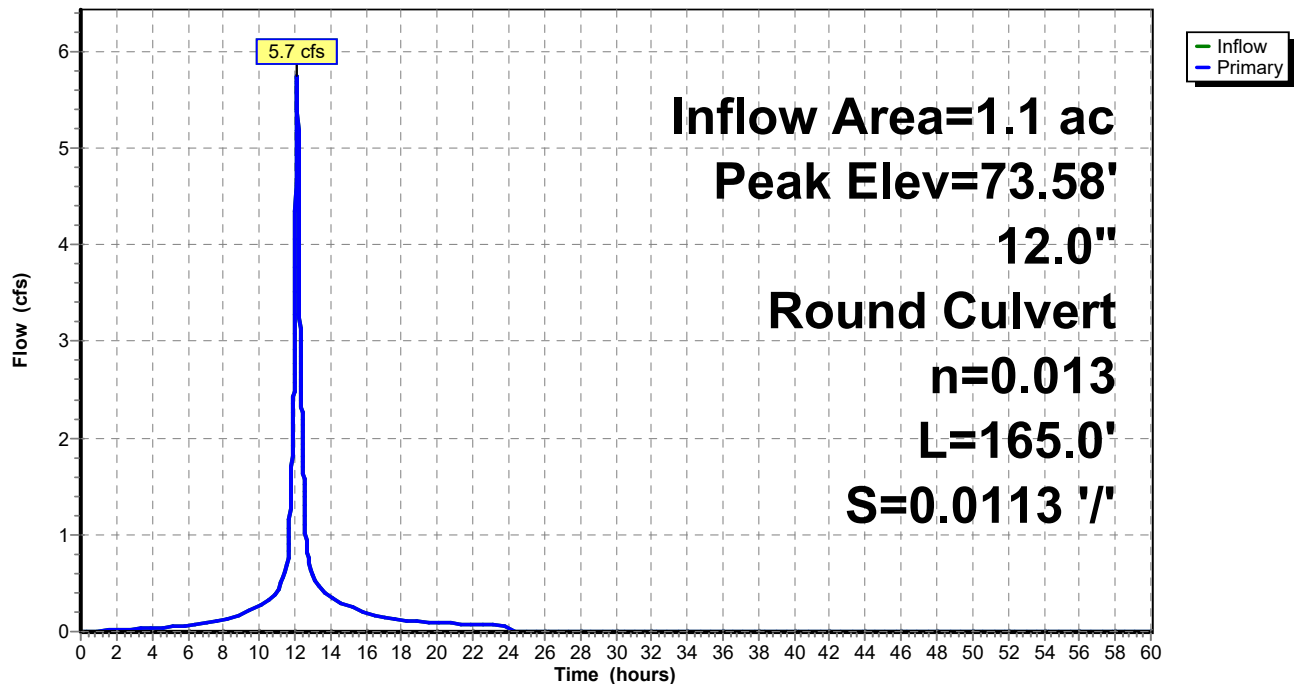
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 68.56' | 12.0" Round Culvert
L= 165.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 68.56' / 66.70' S= 0.0113 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=5.7 cfs @ 12.12 hrs HW=73.57' (Free Discharge)

↑1=Culvert (Barrel Controls 5.7 cfs @ 7.31 fps)

Pond 2.2P: DMH-7

Hydrograph



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Summary for Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 5.47" for 25-YR event
 Inflow = 27.4 cfs @ 12.09 hrs, Volume= 2.255 af
 Outflow = 27.2 cfs @ 12.10 hrs, Volume= 2.137 af, Atten= 1%, Lag= 0.7 min
 Primary = 27.2 cfs @ 12.10 hrs, Volume= 2.137 af
 Routed to Pond 2.32P : DMH-12

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 63.90' @ 12.10 hrs Surf.Area= 2,862 sf Storage= 7,211 cf

Plug-Flow detention time= 58.6 min calculated for 2.136 af (95% of inflow)
 Center-of-Mass det. time= 28.3 min (787.4 - 759.1)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| #3 | 64.80' | 40,157 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| | | 47,766 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Elevation
(feet) | Surf.Area
(sq-ft) | Voids
(%) | Inc.Store
(cubic-feet) | Cum.Store
(cubic-feet) |
|---------------------|----------------------|--------------|---------------------------|---------------------------|
| 64.80 | 7,000 | 0.0 | 0 | 0 |
| 67.99 | 7,000 | 0.1 | 22 | 22 |
| 68.00 | 20,000 | 100.0 | 135 | 157 |
| 69.00 | 60,000 | 100.0 | 40,000 | 40,157 |

| Device | Routing | Invert | Outlet Devices |
|--------|----------|--------|---|
| #1 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 ' / ' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |
| #2 | Device 1 | 62.62' | 6.0' long x 5.45' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |

Primary OutFlow Max=27.1 cfs @ 12.10 hrs HW=63.90' (Free Discharge)

↑ **1=Culvert** (Passes 27.1 cfs of 40.6 cfs potential flow)

↑ **2=Sharp-Crested Rectangular Weir**(Weir Controls 27.1 cfs @ 3.70 fps)

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Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)

Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf

Overall Size= 60.0"W x 60.0"H x 20.00'L

Row Length Adjustment= +10.00' x 19.63 sf x 4 rows

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

4 Chambers/Row x 20.00' Long +10.00' Row Adjustment +5.00' Header x 1 = 95.00' Row Length +12.0"

End Stone x 2 = 97.00' Base Length

4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width

6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

16 Chambers x 392.7 cf +10.00' Row Adjustment x 19.63 sf x 4 Rows + 27.50' Header x 19.63 sf =
7,608.5 cf Chamber Storage

17,169.0 cf Field - 7,608.5 cf Chambers = 9,560.5 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 7,608.5 cf = 0.175 af

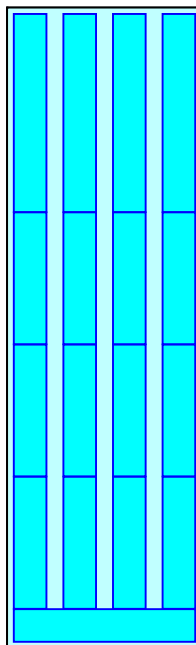
Overall Storage Efficiency = 44.3%

Overall System Size = 97.00' x 29.50' x 6.00'

16 Chambers

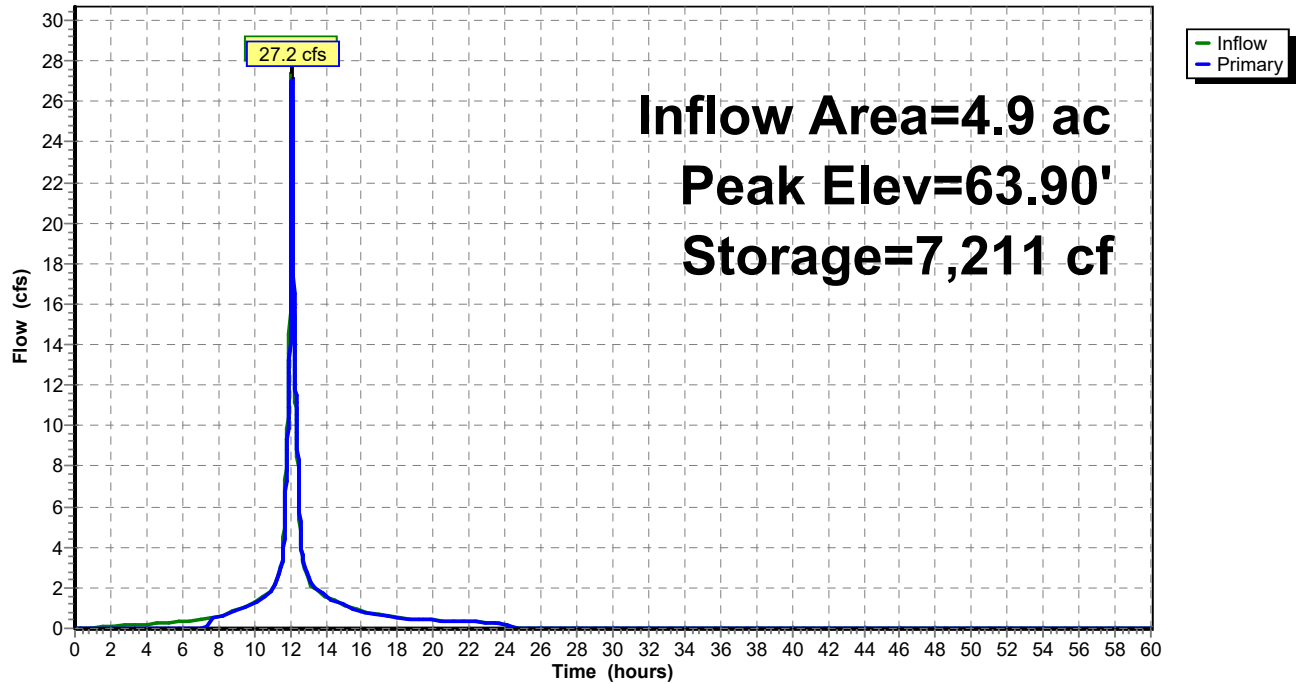
635.9 cy Field

354.1 cy Stone



Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Hydrograph



Summary for Pond 2.32P: DMH-12

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 5.18" for 25-YR event
Inflow = 27.2 cfs @ 12.10 hrs, Volume= 2.137 af
Outflow = 27.2 cfs @ 12.10 hrs, Volume= 2.137 af, Atten= 0%, Lag= 0.0 min
Primary = 27.2 cfs @ 12.10 hrs, Volume= 2.137 af
Routed to Pond 2.33P : DMH-13

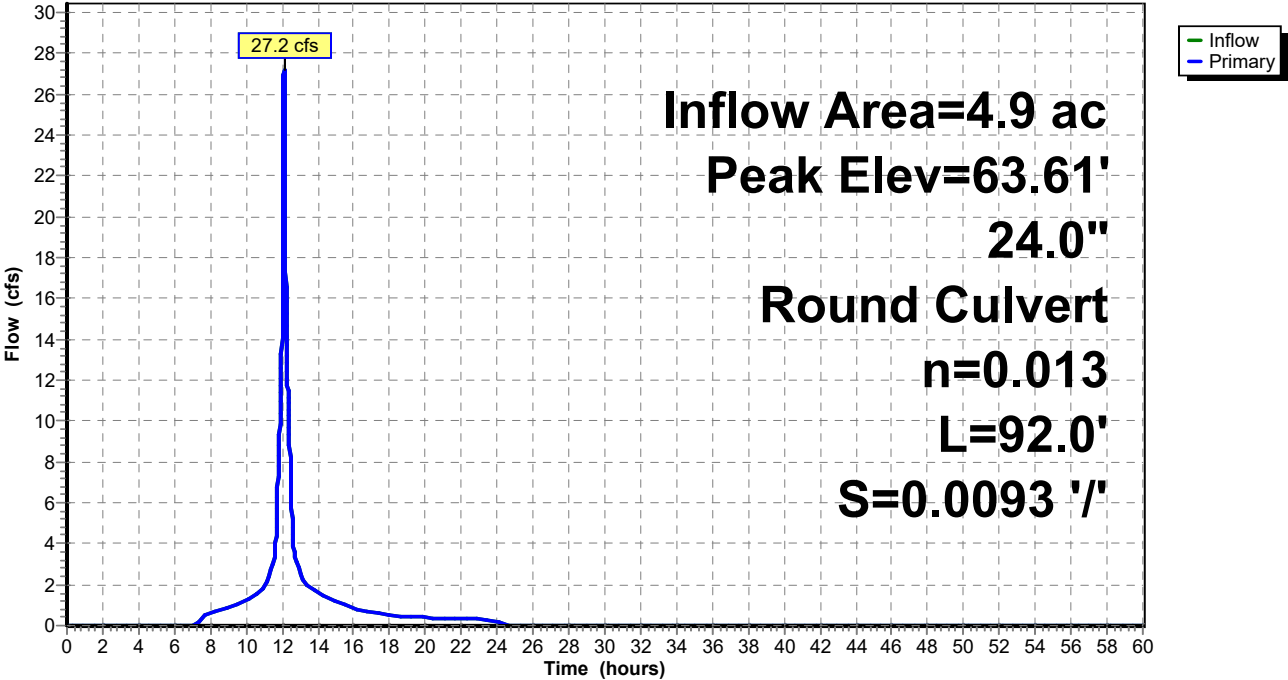
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 63.61' @ 12.10 hrs
Flood Elev= 69.40'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 57.44' | 24.0" Round Culvert
L= 92.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.44' / 56.58' S= 0.0093 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=27.1 cfs @ 12.10 hrs HW=63.61' (Free Discharge)
1=Culvert (Inlet Controls 27.1 cfs @ 8.64 fps)

Pond 2.32P: DMH-12

Hydrograph



Summary for Pond 2.33P: DMH-13

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 5.22" for 25-YR event
Inflow = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af
Outflow = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af, Atten= 0%, Lag= 0.0 min
Primary = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af
Routed to Pond 2.34P : DMH-16

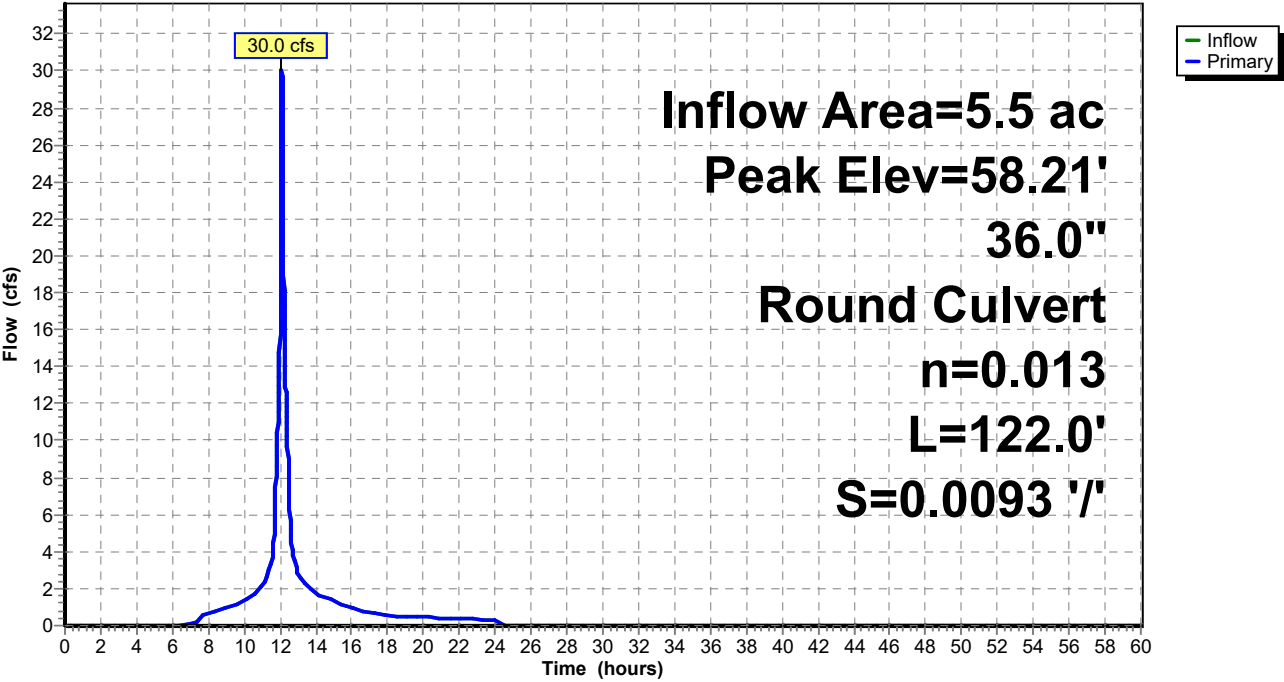
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 58.21' @ 12.10 hrs
Flood Elev= 69.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 55.48' | 36.0" Round Culvert
L= 122.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 55.48' / 54.35' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 7.07 sf |

Primary OutFlow Max=30.1 cfs @ 12.10 hrs HW=58.21' (Free Discharge)
1=Culvert (Inlet Controls 30.1 cfs @ 4.44 fps)

Pond 2.33P: DMH-13

Hydrograph



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Summary for Pond 2.34P: DMH-16

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 5.22" for 25-YR event
Inflow = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af
Outflow = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af, Atten= 0%, Lag= 0.0 min
Primary = 30.0 cfs @ 12.10 hrs, Volume= 2.373 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.12' @ 12.10 hrs

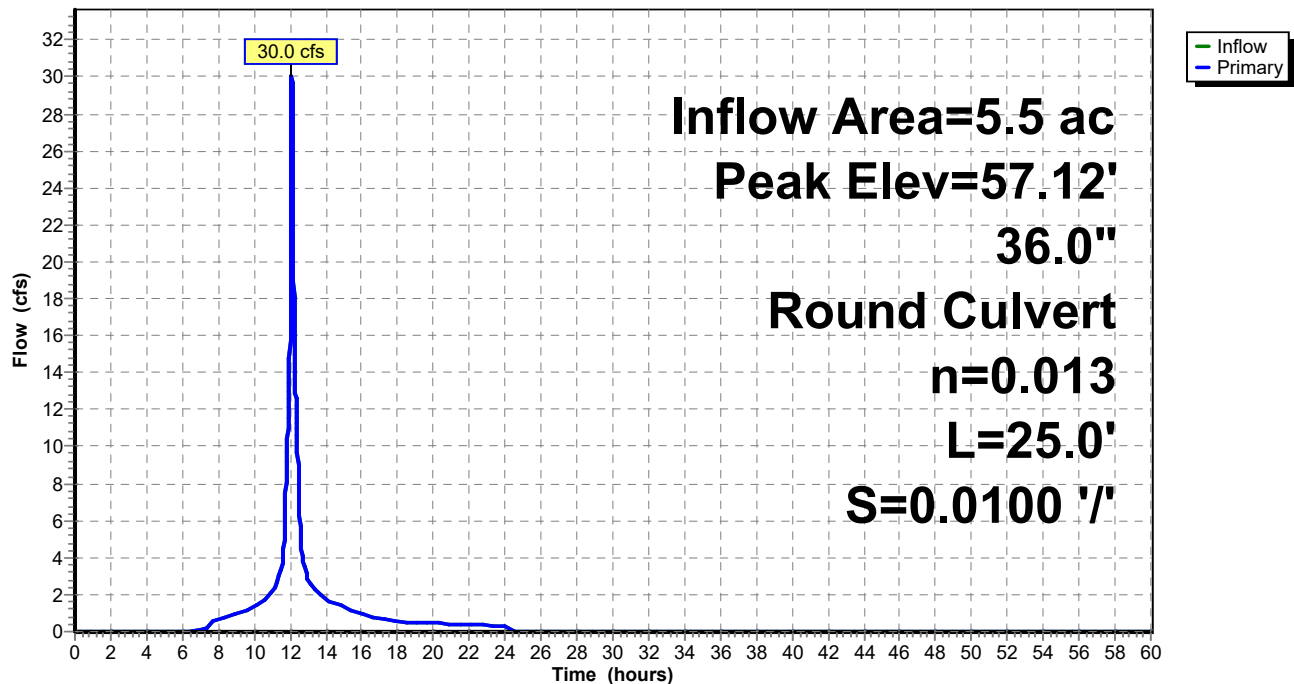
Flood Elev= 60.55'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 54.25' | 36.0" Round Culvert
L= 25.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 54.25' / 54.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf |

Primary OutFlow Max=30.0 cfs @ 12.10 hrs HW=57.12' TW=55.50' (Fixed TW Elev= 55.50')
↑1=Culvert (Barrel Controls 30.0 cfs @ 5.52 fps)

Pond 2.34P: DMH-16

Hydrograph



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Summary for Pond 2.3P: CB-24

Inflow Area = 1.8 ac, 74.18% Impervious, Inflow Depth = 5.45" for 25-YR event
Inflow = 9.7 cfs @ 12.10 hrs, Volume= 0.832 af
Outflow = 9.7 cfs @ 12.10 hrs, Volume= 0.832 af, Atten= 0%, Lag= 0.0 min
Primary = 9.7 cfs @ 12.10 hrs, Volume= 0.832 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

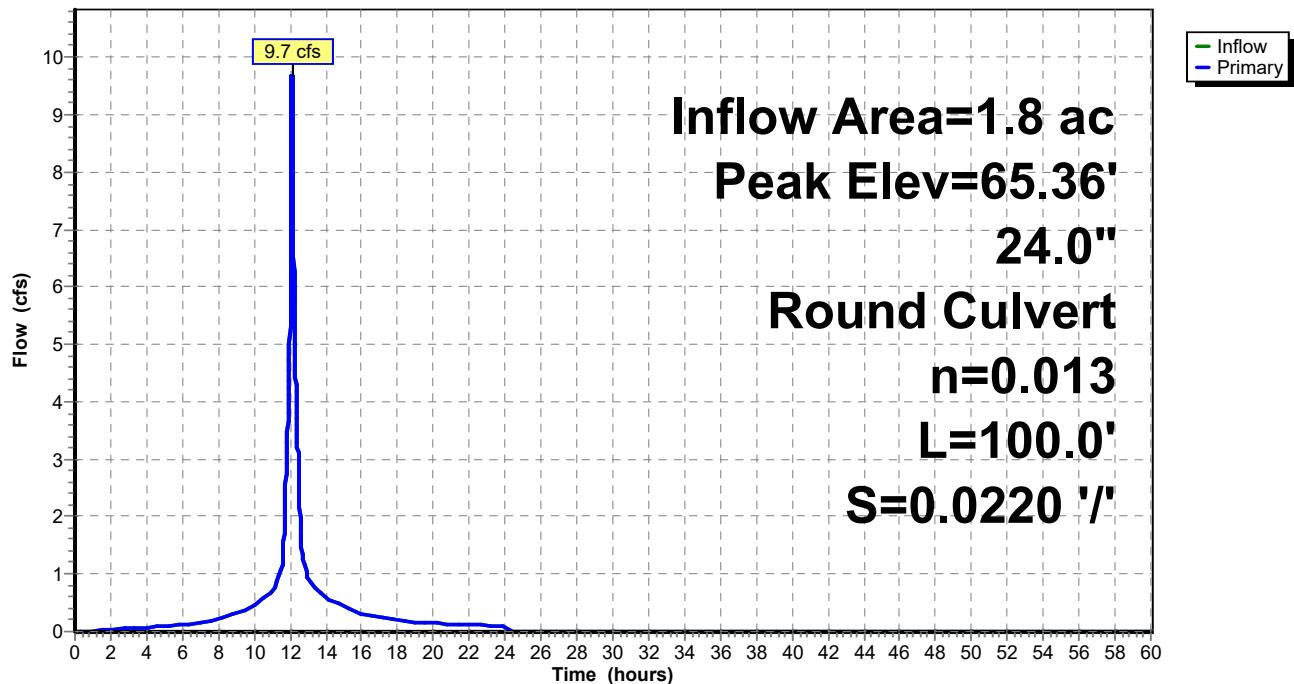
Peak Elev= 65.36' @ 12.10 hrs

Flood Elev= 69.90'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.70' | 24.0" Round Culvert
L= 100.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.70' / 61.50' S= 0.0220 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=9.7 cfs @ 12.10 hrs HW=65.36' (Free Discharge)

↑1=Culvert (Inlet Controls 9.7 cfs @ 3.46 fps)

Pond 2.3P: CB-24**Hydrograph**

Summary for Pond 2.4P: CB-17

Inflow Area = 0.5 ac, 81.06% Impervious, Inflow Depth = 5.58" for 25-YR event
Inflow = 2.9 cfs @ 12.09 hrs, Volume= 0.236 af
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 0.236 af
Routed to Pond 2.33P : DMH-13

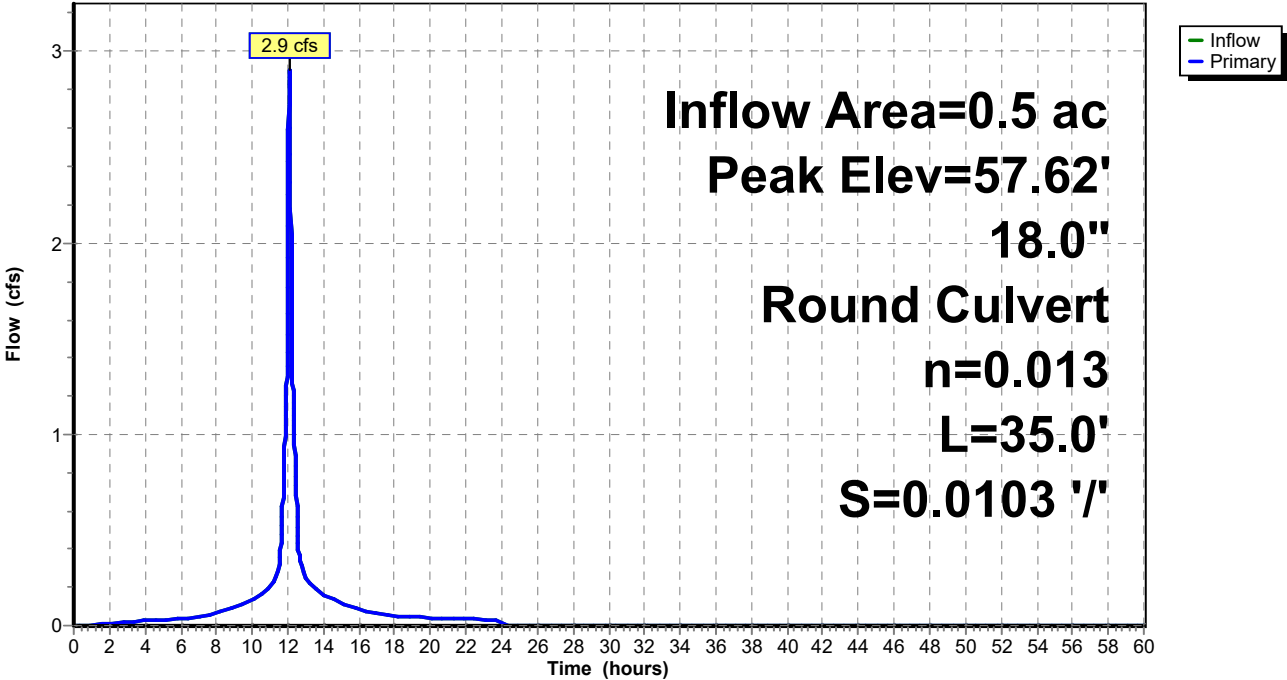
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 57.62' @ 12.09 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 56.71' | 18.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 56.71' / 56.35' S= 0.0103 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=57.62' (Free Discharge)
1=Culvert (Inlet Controls 2.9 cfs @ 2.57 fps)

Pond 2.4P: CB-17

Hydrograph



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Summary for Pond 2.5P: CB-20

Inflow Area = 0.4 ac, 80.93% Impervious, Inflow Depth = 5.58" for 25-YR event
Inflow = 2.3 cfs @ 12.08 hrs, Volume= 0.188 af
Outflow = 2.3 cfs @ 12.08 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.08 hrs, Volume= 0.188 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.15' @ 12.08 hrs

Flood Elev= 65.75'

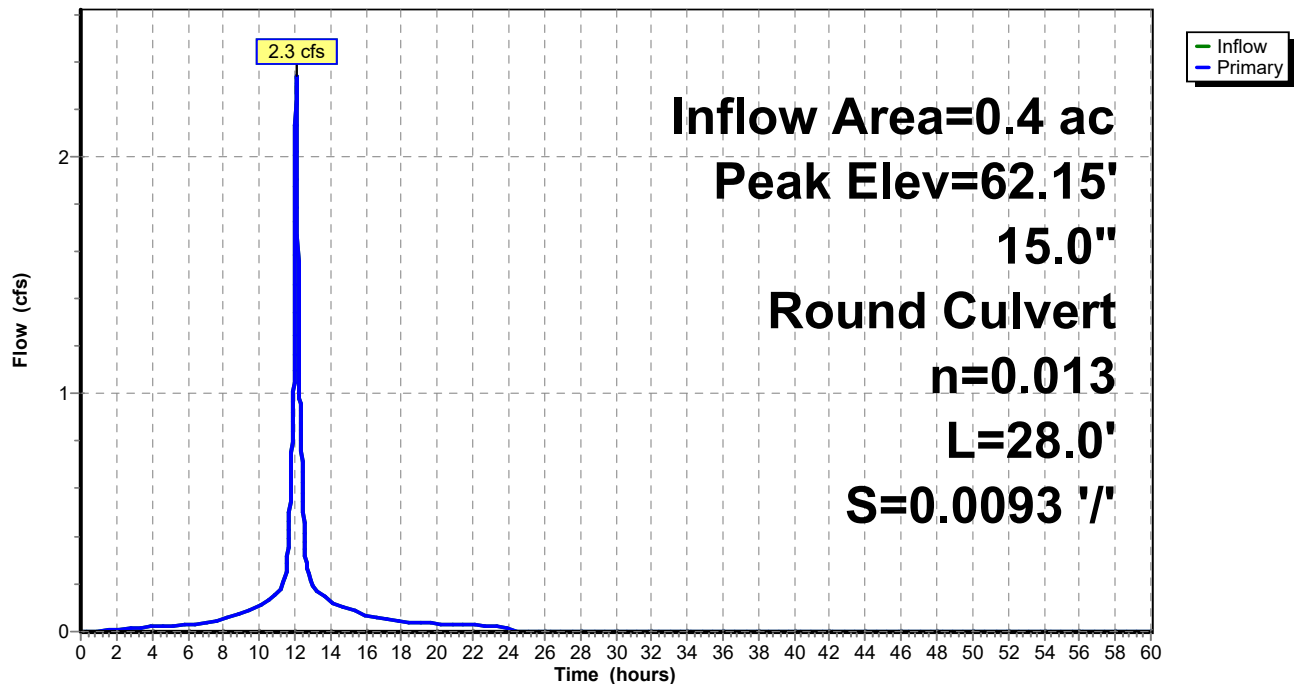
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.26' | 15.0" Round Culvert
L= 28.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.26' / 61.00' S= 0.0093 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=2.3 cfs @ 12.08 hrs HW=62.15' (Free Discharge)

↑1=Culvert (Barrel Controls 2.3 cfs @ 3.51 fps)

Pond 2.5P: CB-20

Hydrograph



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Summary for Pond 2.6P: CB-15

Inflow Area = 0.4 ac, 77.40% Impervious, Inflow Depth = 5.51" for 25-YR event
Inflow = 2.4 cfs @ 12.09 hrs, Volume= 0.195 af
Outflow = 2.4 cfs @ 12.09 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.09 hrs, Volume= 0.195 af
Routed to Pond 2.4P : CB-17

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.56' @ 12.09 hrs

Flood Elev= 64.00'

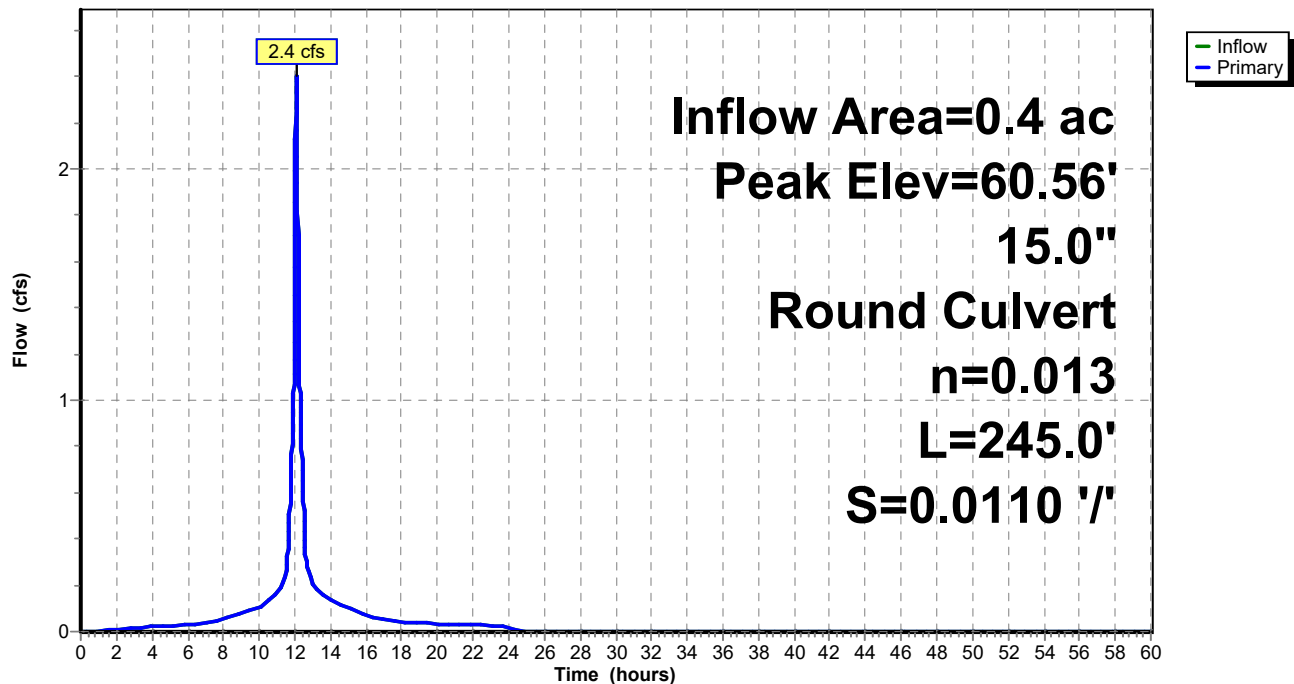
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.66' | 15.0" Round Culvert
L= 245.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 59.66' / 56.96' S= 0.0110 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=2.4 cfs @ 12.09 hrs HW=60.56' (Free Discharge)

↑1=Culvert (Inlet Controls 2.4 cfs @ 2.55 fps)

Pond 2.6P: CB-15

Hydrograph



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Summary for Pond 2.7P: CB-8

Inflow Area = 0.9 ac, 83.06% Impervious, Inflow Depth = 5.62" for 25-YR event
Inflow = 5.5 cfs @ 12.08 hrs, Volume= 0.440 af
Outflow = 5.5 cfs @ 12.08 hrs, Volume= 0.440 af, Atten= 0%, Lag= 0.0 min
Primary = 5.5 cfs @ 12.08 hrs, Volume= 0.440 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.00' @ 12.08 hrs

Flood Elev= 68.00'

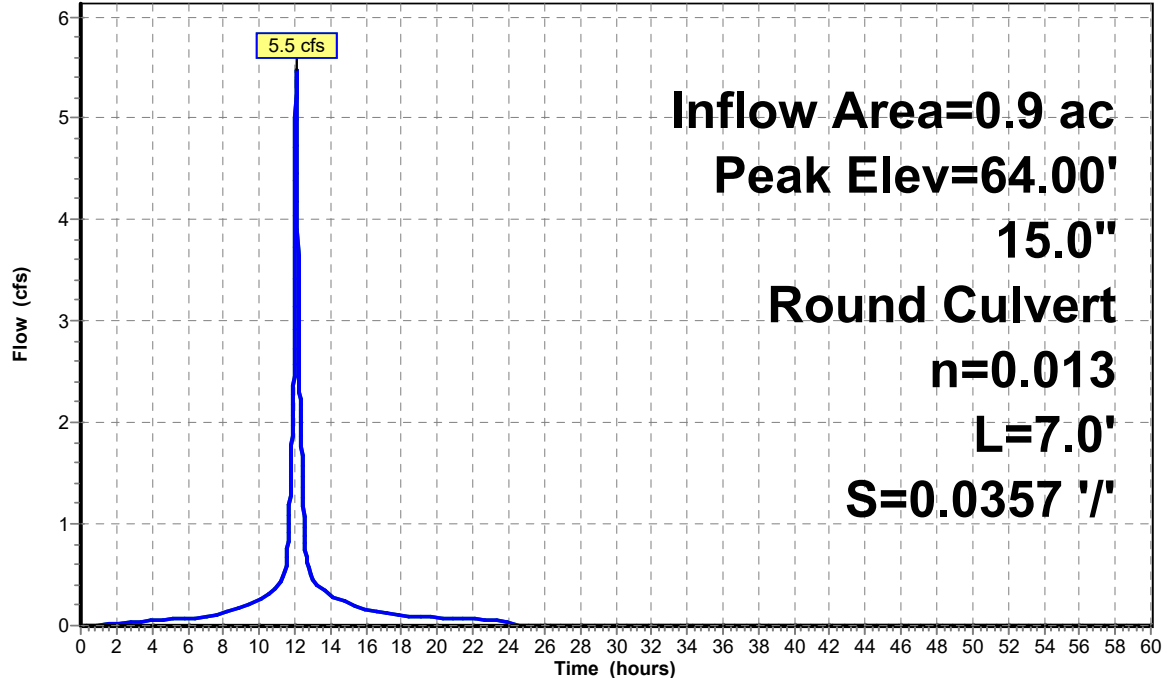
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.00' | 15.0" Round Culvert
L= 7.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.00' / 61.75' S= 0.0357 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=5.5 cfs @ 12.08 hrs HW=64.00' (Free Discharge)

↑1=Culvert (Inlet Controls 5.5 cfs @ 4.45 fps)

Pond 2.7P: CB-8

Hydrograph



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Summary for Pond 2.81P: DMH-3

Inflow Area = 1.8 ac, 55.68% Impervious, Inflow Depth = 5.39" for 25-YR event
Inflow = 10.1 cfs @ 12.08 hrs, Volume= 0.796 af
Outflow = 10.1 cfs @ 12.08 hrs, Volume= 0.796 af, Atten= 0%, Lag= 0.0 min
Primary = 10.1 cfs @ 12.08 hrs, Volume= 0.796 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

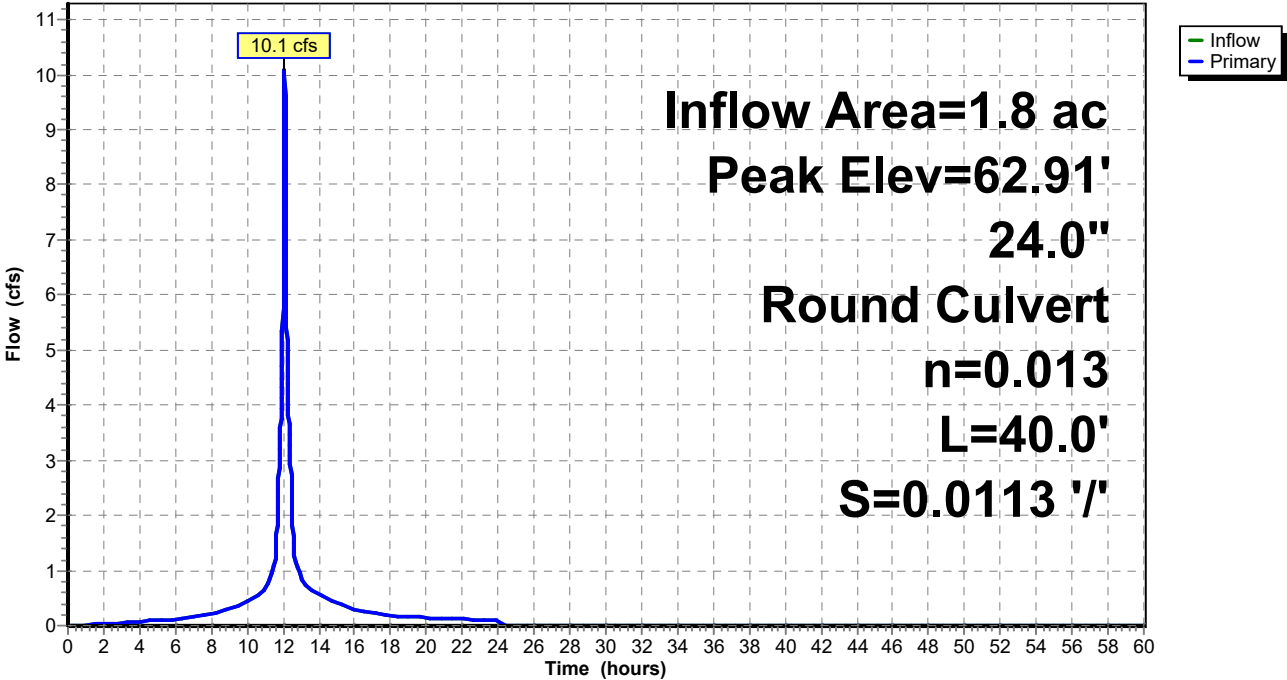
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 62.91' @ 12.08 hrs
Flood Elev= 70.85'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.20' | 24.0" Round Culvert
L= 40.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.20' / 60.75' S= 0.0113 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=10.1 cfs @ 12.08 hrs HW=62.91' (Free Discharge)
1=Culvert (Inlet Controls 10.1 cfs @ 3.52 fps)

Pond 2.81P: DMH-3

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Pond 2.8P: CB-14

Inflow Area = 0.2 ac, 22.73% Impervious, Inflow Depth = 5.16" for 25-YR event
Inflow = 0.9 cfs @ 12.08 hrs, Volume= 0.071 af
Outflow = 0.9 cfs @ 12.08 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min
Primary = 0.9 cfs @ 12.08 hrs, Volume= 0.071 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.49' @ 12.08 hrs

Flood Elev= 67.00'

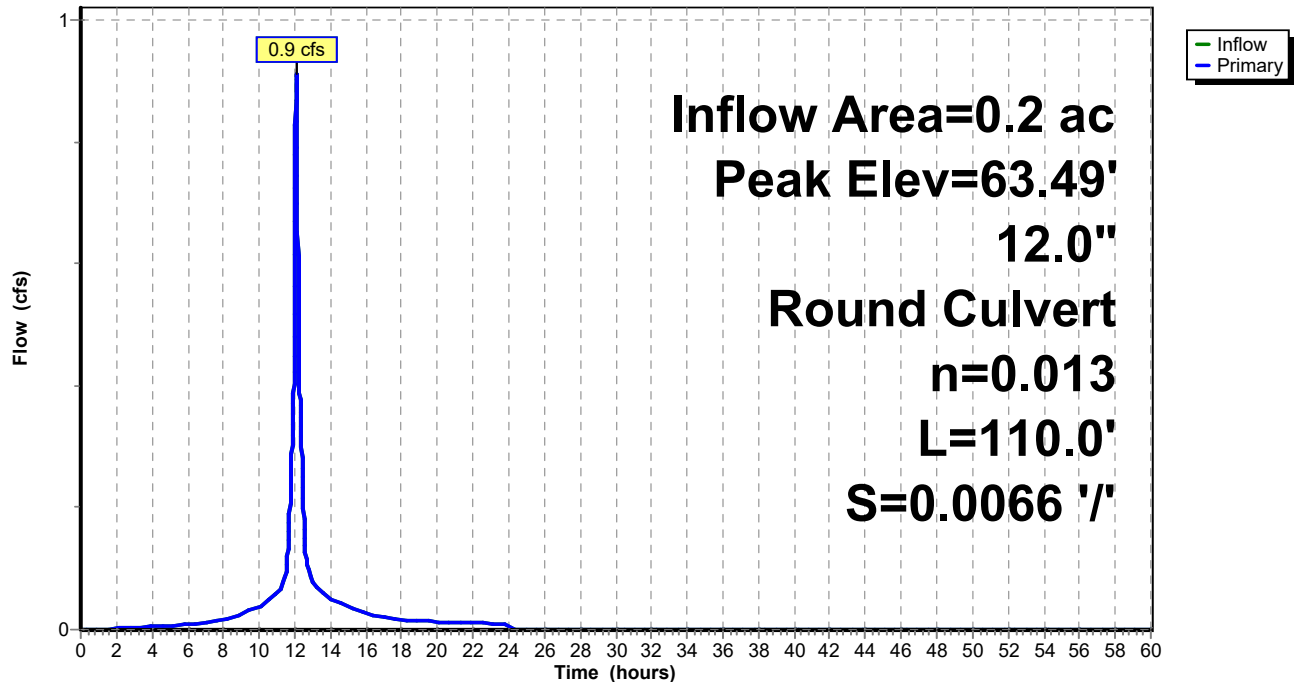
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 62.93' | 12.0" Round Culvert
L= 110.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.93' / 62.20' S= 0.0066 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=0.9 cfs @ 12.08 hrs HW=63.49' (Free Discharge)

↑1=Culvert (Inlet Controls 0.9 cfs @ 2.01 fps)

Pond 2.8P: CB-14

Hydrograph



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Summary for Pond 2.9P: CB-5

Inflow Area = 1.1 ac, 71.99% Impervious, Inflow Depth = 5.45" for 25-YR event
Inflow = 6.2 cfs @ 12.08 hrs, Volume= 0.488 af
Outflow = 6.2 cfs @ 12.08 hrs, Volume= 0.488 af, Atten= 0%, Lag= 0.0 min
Primary = 6.2 cfs @ 12.08 hrs, Volume= 0.488 af
Routed to Pond 2.11P : CB-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.51' @ 12.08 hrs

Flood Elev= 72.50'

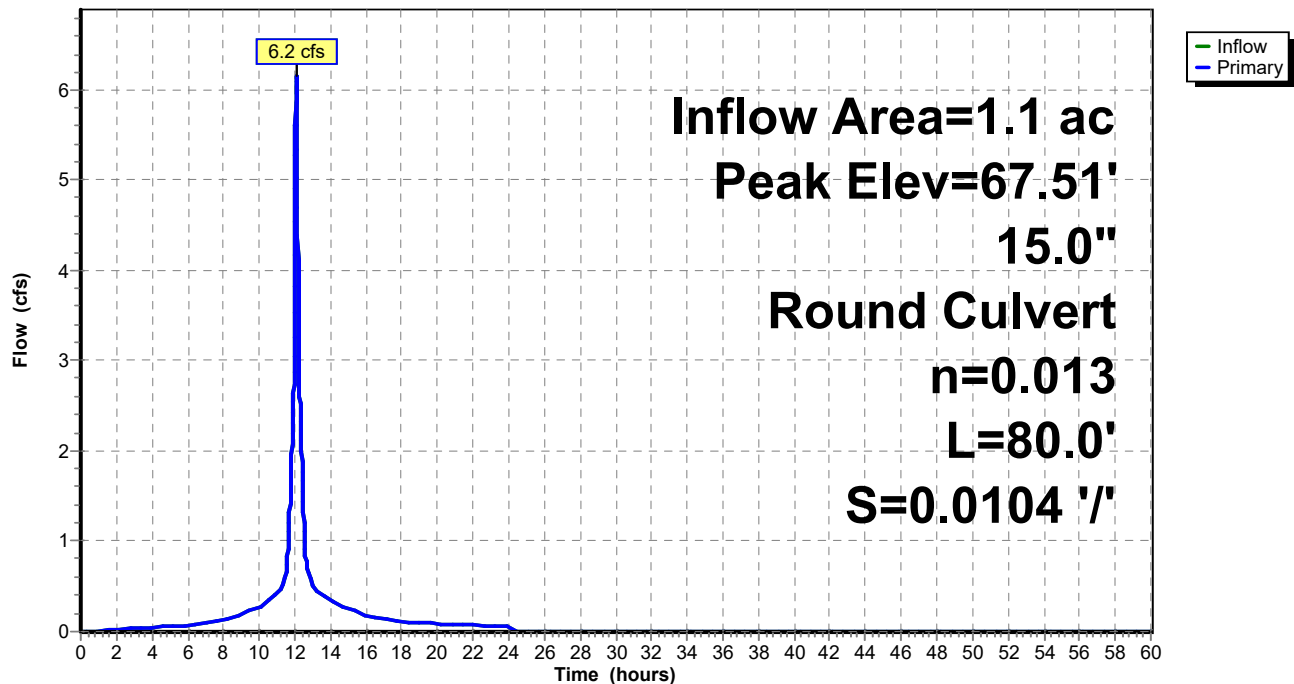
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 65.15' | 15.0" Round Culvert
L= 80.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 65.15' / 64.32' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=6.1 cfs @ 12.08 hrs HW=67.51' (Free Discharge)

↑1=Culvert (Inlet Controls 6.1 cfs @ 5.00 fps)

Pond 2.9P: CB-5

Hydrograph



Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.741 af
 Routed to Link POA-4 :
 Secondary = 4.9 cfs @ 12.10 hrs, Volume= 0.061 af
 Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.31' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.31' (Free Discharge)

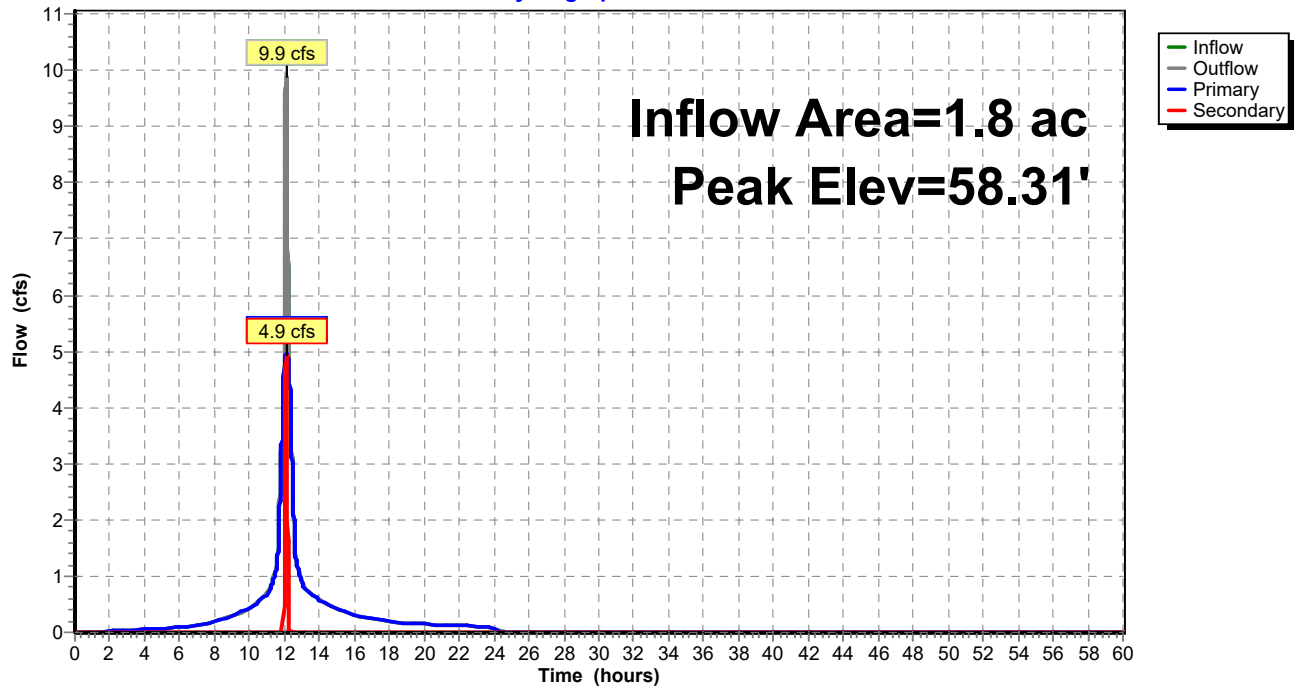
↑**1=Culvert** (Barrel Controls 5.0 cfs @ 4.03 fps)

Secondary OutFlow Max=4.9 cfs @ 12.10 hrs HW=58.31' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.9 cfs @ 1.59 fps)

Pond 4P: CB - Elm Street

Hydrograph



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Summary for Pond 5.1P:

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 5.23" for 25-YR event
Inflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Outflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af, Atten= 0%, Lag= 0.0 min
Primary = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Routed to Pond 5.2P : 42" RCP Outfall

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.84' @ 12.68 hrs

Flood Elev= 60.20'

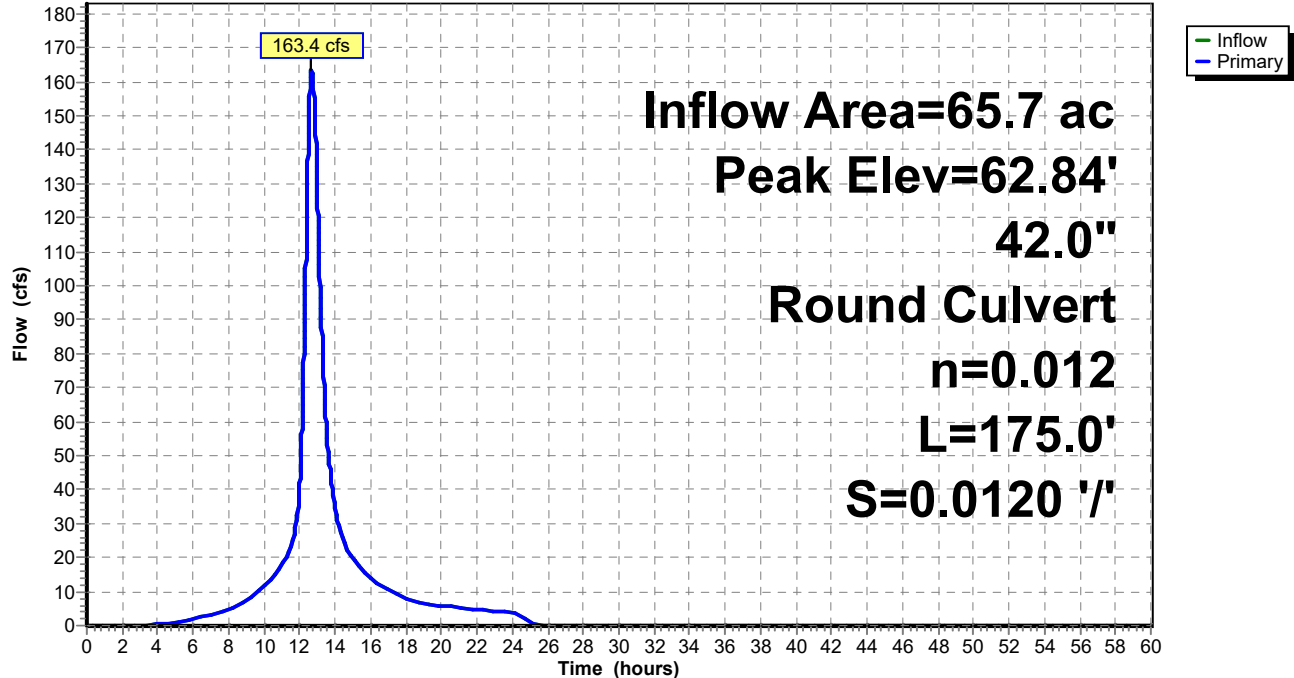
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 48.65' | 42.0" Round Culvert
L= 175.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 48.65' / 46.55' S= 0.0120 '/ Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf |

Primary OutFlow Max=163.3 cfs @ 12.68 hrs HW=62.83' (Free Discharge)

↑1=Culvert (Inlet Controls 163.3 cfs @ 16.98 fps)

Pond 5.1P:

Hydrograph



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Summary for Pond 5.2P: 42" RCP Outfall

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 5.23" for 25-YR event
Inflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Outflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af, Atten= 0%, Lag= 0.0 min
Primary = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.64' @ 12.68 hrs

Flood Elev= 57.00'

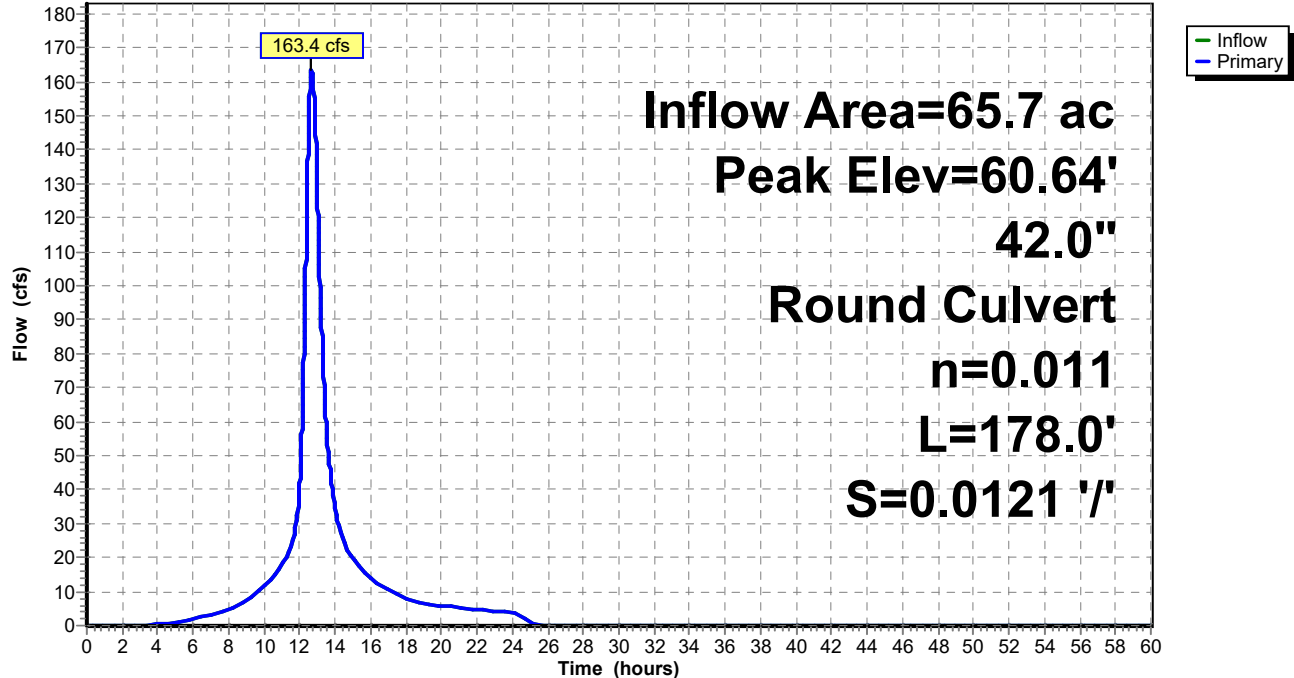
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.45' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.45' / 44.30' S= 0.0121 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=163.3 cfs @ 12.68 hrs HW=60.63' (Free Discharge)

↑1=Culvert (Inlet Controls 163.3 cfs @ 16.98 fps)

Pond 5.2P: 42" RCP Outfall

Hydrograph



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Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 5.23" for 25-YR event
Inflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Outflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af, Atten= 0%, Lag= 0.0 min
Primary = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.97' @ 12.68 hrs

Flood Elev= 75.77'

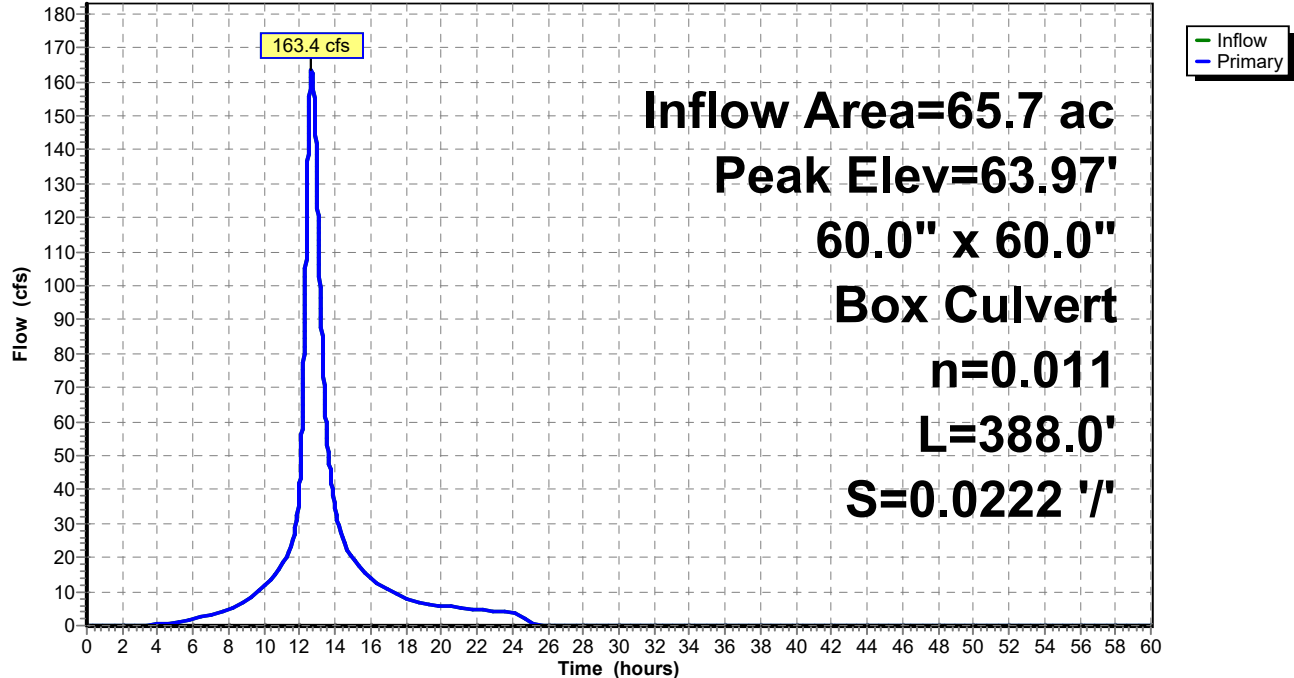
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=163.3 cfs @ 12.68 hrs HW=63.97' (Free Discharge)

↑1=Culvert (Inlet Controls 163.3 cfs @ 6.96 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Pond 51P: Box Culvert - Slab Top

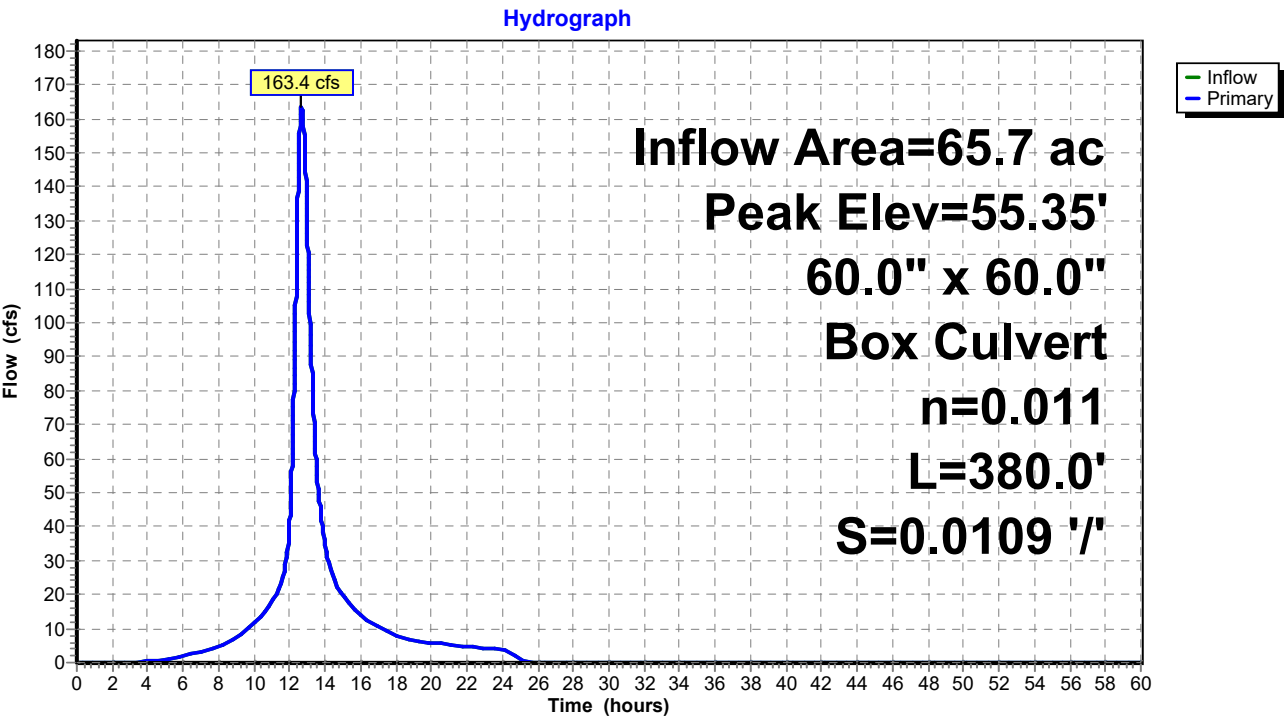
Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 5.23" for 25-YR event
Inflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Outflow = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af, Atten= 0%, Lag= 0.0 min
Primary = 163.4 cfs @ 12.68 hrs, Volume= 28.636 af
Routed to Pond 5.1P :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 55.35' @ 12.68 hrs
Flood Elev= 55.65'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=163.3 cfs @ 12.68 hrs HW=55.35' (Free Discharge)
↑1=Culvert (Inlet Controls 163.3 cfs @ 6.96 fps)

Pond 51P: Box Culvert - Slab Top



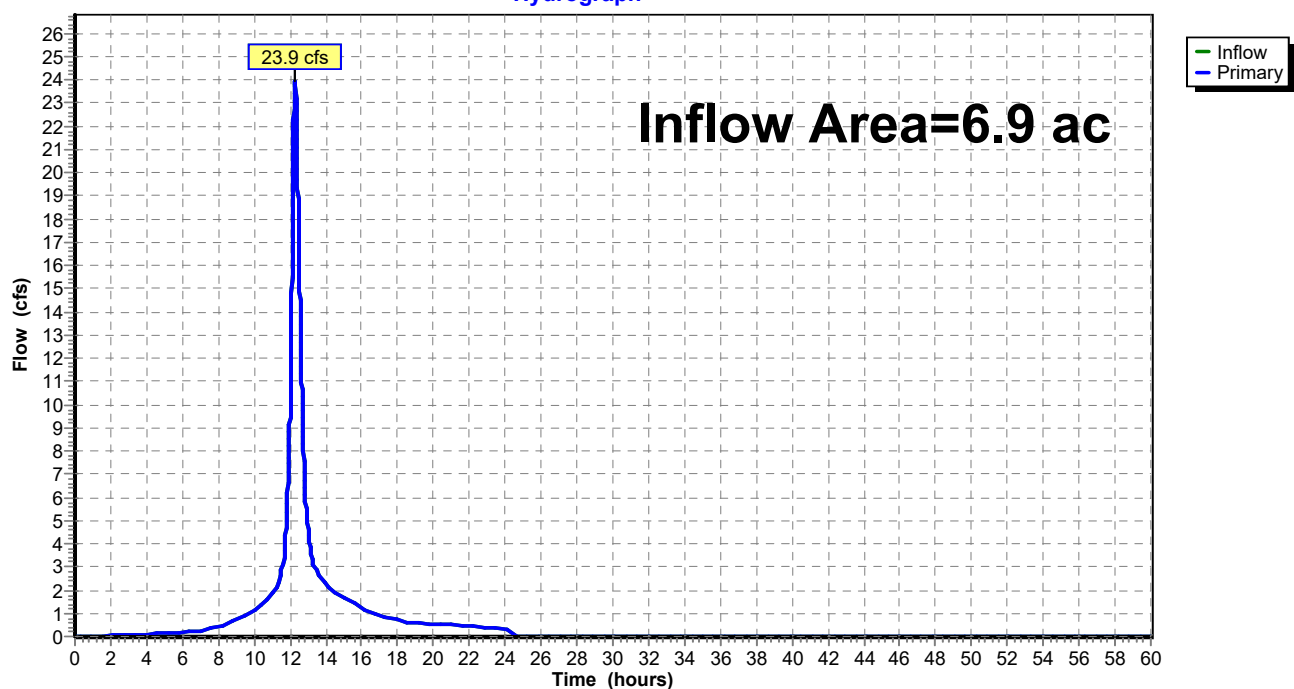
Summary for Link POA-1:

Inflow Area = 6.9 ac, 24.71% Impervious, Inflow Depth = 4.70" for 25-YR event
Inflow = 23.9 cfs @ 12.28 hrs, Volume= 2.701 af
Primary = 23.9 cfs @ 12.28 hrs, Volume= 2.701 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



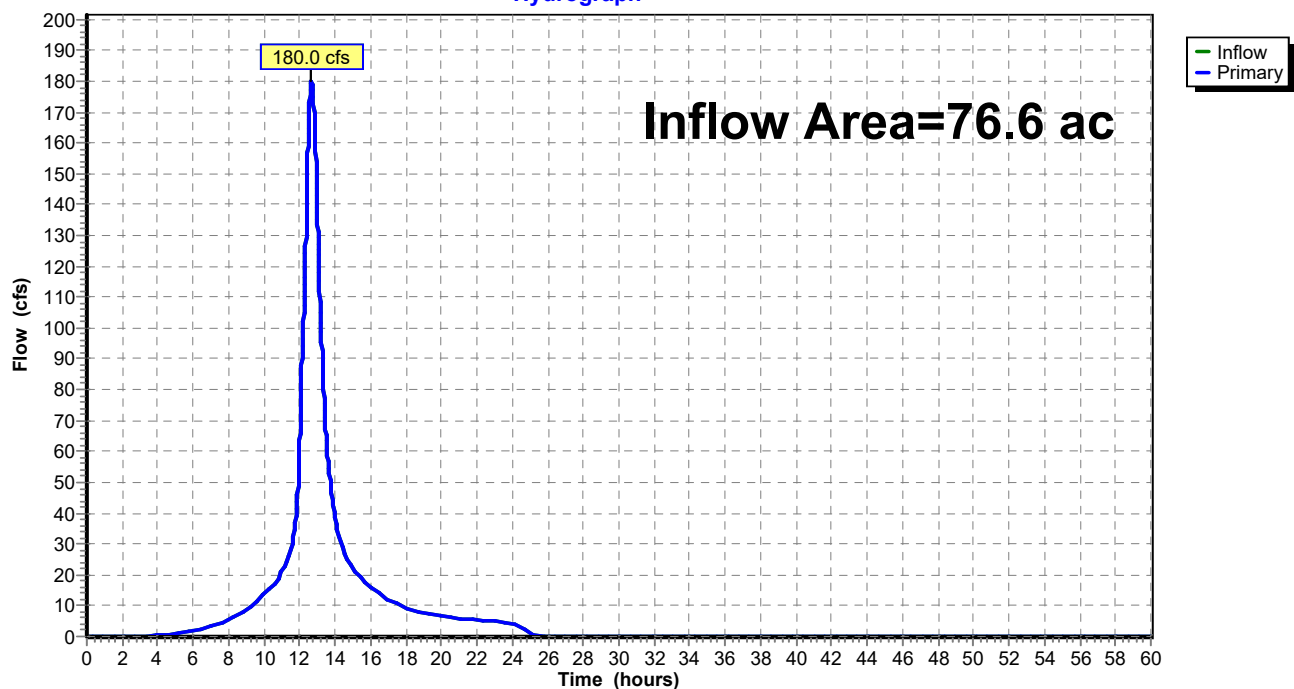
Summary for Link POA-2:

Inflow Area = 76.6 ac, 59.22% Impervious, Inflow Depth = 5.18" for 25-YR event
 Inflow = 180.0 cfs @ 12.68 hrs, Volume= 33.040 af
 Primary = 180.0 cfs @ 12.68 hrs, Volume= 33.040 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



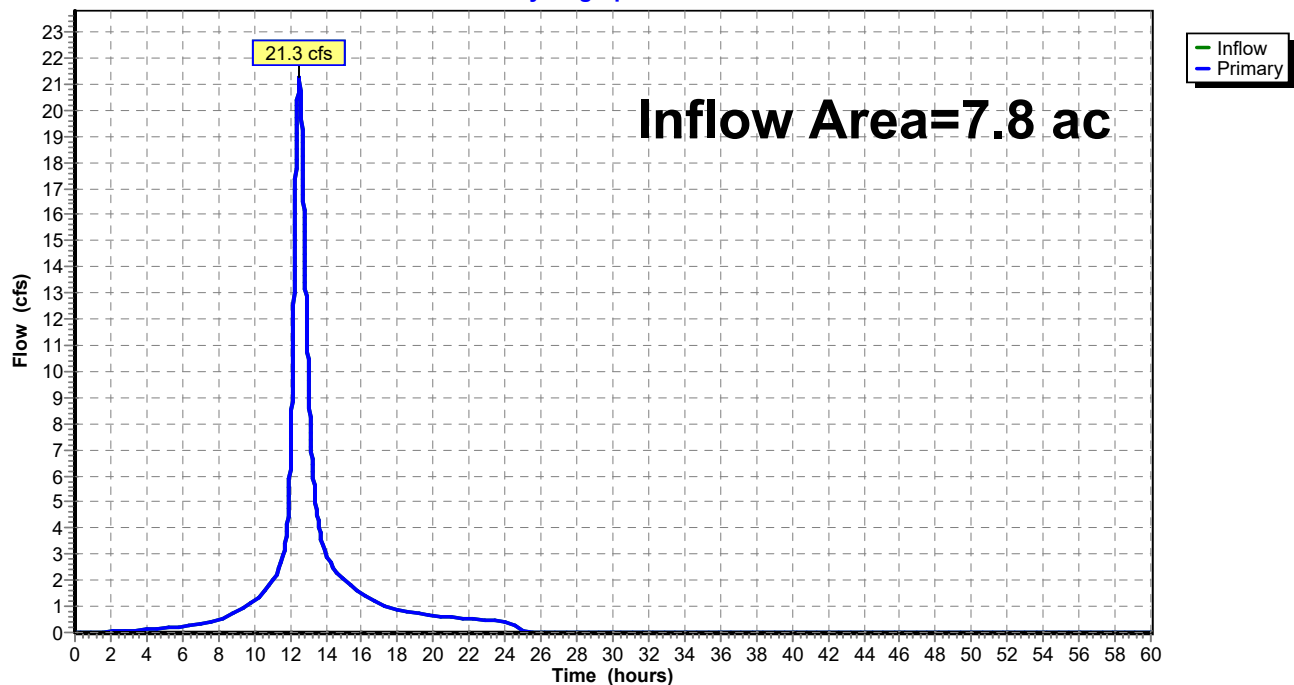
Summary for Link POA-3:

Inflow Area = 7.8 ac, 24.37% Impervious, Inflow Depth = 4.87" for 25-YR event
Inflow = 21.3 cfs @ 12.51 hrs, Volume= 3.168 af
Primary = 21.3 cfs @ 12.51 hrs, Volume= 3.168 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

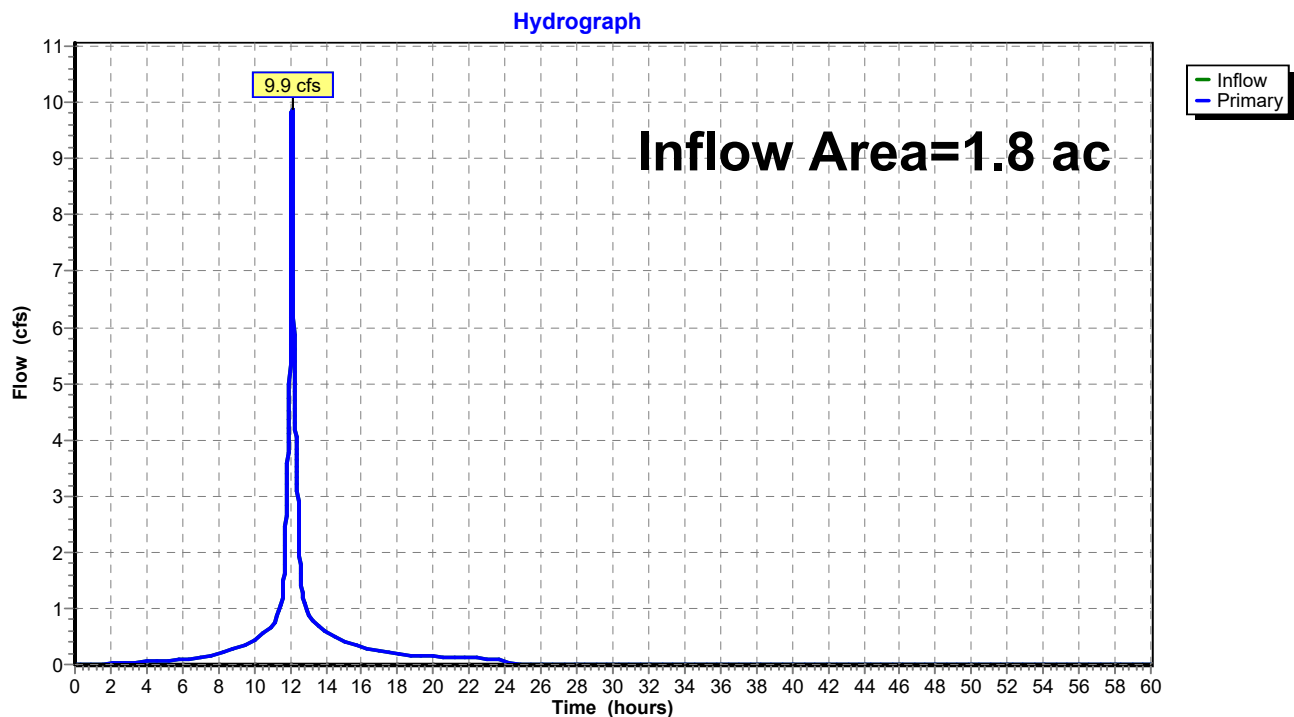
Hydrograph



Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
Inflow = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af
Primary = 9.9 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

| | |
|---------------------------------|--|
| Subcatchment1.1S: 1.2S | Runoff Area=300,080 sf 24.71% Impervious Runoff Depth=5.75"
Flow Length=325' Tc=21.0 min CN=WQ Runoff=29.1 cfs 3.303 af |
| Subcatchment2.10S: 2.10S | Runoff Area=7,550 sf 78.41% Impervious Runoff Depth=6.61"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.2 cfs 0.095 af |
| Subcatchment2.11S: 2.11S | Runoff Area=14,120 sf 46.46% Impervious Runoff Depth=6.79"
Flow Length=220' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.3 cfs 0.183 af |
| Subcatchment2.12S: 2.12S | Runoff Area=9,090 sf 11.99% Impervious Runoff Depth=5.83"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.3 cfs 0.101 af |
| Subcatchment2.13S: 2.13S | Runoff Area=11,500 sf 58.26% Impervious Runoff Depth=6.40"
Flow Length=95' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.8 cfs 0.141 af |
| Subcatchment2.14S: | Runoff Area=238,790 sf 4.27% Impervious Runoff Depth=5.49"
Flow Length=1,011' Tc=45.4 min CN=WQ Runoff=15.8 cfs 2.506 af |
| Subcatchment2.1S: 2.1S | Runoff Area=7,310 sf 49.36% Impervious Runoff Depth=6.01"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.084 af |
| Subcatchment2.2S: 2.2S | Runoff Area=49,060 sf 66.09% Impervious Runoff Depth=6.36"
Flow Length=86' Slope=0.0150 '/' Tc=9.1 min CN=WQ Runoff=6.9 cfs 0.597 af |
| Subcatchment2.3S: 2.2S | Runoff Area=30,790 sf 87.07% Impervious Runoff Depth=6.79"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=4.9 cfs 0.400 af |
| Subcatchment2.4S: 2.4S | Runoff Area=3,580 sf 100.00% Impervious Runoff Depth=7.06"
Flow Length=195' Slope=0.1500 '/' Tc=6.0 min CN=WQ Runoff=0.6 cfs 0.048 af |
| Subcatchment2.5S: 2.5S | Runoff Area=17,570 sf 80.93% Impervious Runoff Depth=6.66"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.8 cfs 0.224 af |
| Subcatchment2.6S: 2.6S | Runoff Area=18,540 sf 77.40% Impervious Runoff Depth=6.59"
Flow Length=65' Slope=0.0230 '/' Tc=6.5 min CN=WQ Runoff=2.9 cfs 0.234 af |
| Subcatchment2.7S: 2.7S | Runoff Area=40,900 sf 83.06% Impervious Runoff Depth=6.71"
Flow Length=155' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=6.5 cfs 0.525 af |
| Subcatchment2.8S: | Runoff Area=7,170 sf 22.73% Impervious Runoff Depth=6.23"
Flow Length=70' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.085 af |
| Subcatchment2.9S: 2.9S | Runoff Area=20,450 sf 85.43% Impervious Runoff Depth=6.76"
Flow Length=180' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=3.3 cfs 0.264 af |
| Subcatchment3.1S: | Runoff Area=339,930 sf 24.37% Impervious Runoff Depth=5.93"
Flow Length=250' Tc=38.3 min CN=WQ Runoff=25.7 cfs 3.857 af |

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Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=6.46"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=11.8 cfs 0.964 af

Subcatchment5.1S: Runoff Area=2,860,020 sf 62.85% Impervious Runoff Depth=6.32"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=195.4 cfs 34.563 af

Pond 2.10P: CB-4 Peak Elev=70.36' Inflow=1.2 cfs 0.095 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0100 '/ Outflow=1.2 cfs 0.095 af

Pond 2.11P: CB-6 Peak Elev=66.87' Inflow=9.6 cfs 0.768 af
18.0" Round Culvert n=0.013 L=45.0' S=0.0111 '/ Outflow=9.6 cfs 0.768 af

Pond 2.12P: CB-7 Peak Elev=66.87' Inflow=10.9 cfs 0.869 af
18.0" Round Culvert n=0.013 L=170.0' S=0.0104 '/ Outflow=10.9 cfs 0.869 af

Pond 2.13P: CB-3 Peak Elev=68.96' Inflow=2.9 cfs 0.225 af
15.0" Round Culvert n=0.013 L=235.0' S=0.0109 '/ Outflow=2.9 cfs 0.225 af

Pond 2.1P: CB-2 Peak Elev=70.73' Inflow=1.1 cfs 0.084 af
12.0" Round Culvert n=0.013 L=180.0' S=0.0106 '/ Outflow=1.1 cfs 0.084 af

Pond 2.21P: DMH-6 Peak Elev=69.24' Inflow=6.9 cfs 0.597 af
15.0" Round Culvert n=0.013 L=115.0' S=0.0113 '/ Outflow=6.9 cfs 0.597 af

Pond 2.22P: DMH-8 Peak Elev=66.70' Inflow=6.9 cfs 0.597 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0108 '/ Outflow=6.9 cfs 0.597 af

Pond 2.2P: DMH-7 Peak Elev=76.12' Inflow=6.9 cfs 0.597 af
12.0" Round Culvert n=0.013 L=165.0' S=0.0113 '/ Outflow=6.9 cfs 0.597 af

Pond 2.31BP: CMP DETENTIONWITHOUT Peak Elev=64.07' Storage=7,390 cf Inflow=32.7 cfs 2.700 af
Outflow=32.5 cfs 2.581 af

Pond 2.32P: DMH-12 Peak Elev=65.83' Inflow=32.5 cfs 2.581 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0093 '/ Outflow=32.5 cfs 2.581 af

Pond 2.33P: DMH-13 Peak Elev=58.77' Inflow=35.9 cfs 2.864 af
36.0" Round Culvert n=0.013 L=122.0' S=0.0093 '/ Outflow=35.9 cfs 2.864 af

Pond 2.34P: DMH-16 Peak Elev=57.53' Inflow=35.9 cfs 2.864 af
36.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/ Outflow=35.9 cfs 2.864 af

Pond 2.3P: CB-24 Peak Elev=65.62' Inflow=11.5 cfs 0.997 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0220 '/ Outflow=11.5 cfs 0.997 af

Pond 2.4P: CB-17 Peak Elev=57.73' Inflow=3.5 cfs 0.282 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0103 '/ Outflow=3.5 cfs 0.282 af

Pond 2.5P: CB-20 Peak Elev=62.25' Inflow=2.8 cfs 0.224 af
15.0" Round Culvert n=0.013 L=28.0' S=0.0093 '/ Outflow=2.8 cfs 0.224 af

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Pond 2.6P: CB-15Peak Elev=60.67' Inflow=2.9 cfs 0.234 af
15.0" Round Culvert n=0.013 L=245.0' S=0.0110 '/ Outflow=2.9 cfs 0.234 af**Pond 2.7P: CB-8**Peak Elev=64.57' Inflow=6.5 cfs 0.525 af
15.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/ Outflow=6.5 cfs 0.525 af**Pond 2.81P: DMH-3**Peak Elev=63.21' Inflow=12.0 cfs 0.955 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0113 '/ Outflow=12.0 cfs 0.955 af**Pond 2.8P: CB-14**Peak Elev=63.55' Inflow=1.1 cfs 0.085 af
12.0" Round Culvert n=0.013 L=110.0' S=0.0066 '/ Outflow=1.1 cfs 0.085 af**Pond 2.9P: CB-5**Peak Elev=68.25' Inflow=7.3 cfs 0.585 af
15.0" Round Culvert n=0.013 L=80.0' S=0.0104 '/ Outflow=7.3 cfs 0.585 af**Pond 4P: CB - Elm Street**Peak Elev=58.38' Inflow=11.8 cfs 0.964 af
Primary=5.0 cfs 0.865 af Secondary=6.8 cfs 0.099 af Outflow=11.8 cfs 0.964 af**Pond 5.1P:**Peak Elev=68.19' Inflow=195.4 cfs 34.563 af
42.0" Round Culvert n=0.012 L=175.0' S=0.0120 '/ Outflow=195.4 cfs 34.563 af**Pond 5.2P: 42" RCP Outfall**Peak Elev=65.99' Inflow=195.4 cfs 34.563 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0121 '/ Outflow=195.4 cfs 34.563 af**Pond 5P: Box Culvert - Railroad**Peak Elev=64.62' Inflow=195.4 cfs 34.563 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/ Outflow=195.4 cfs 34.563 af**Pond 51P: Box Culvert - Slab Top**Peak Elev=56.00' Inflow=195.4 cfs 34.563 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/ Outflow=195.4 cfs 34.563 af**Link POA-1:**Inflow=29.1 cfs 3.303 af
Primary=29.1 cfs 3.303 af**Link POA-2:**Inflow=215.5 cfs 39.932 af
Primary=215.5 cfs 39.932 af**Link POA-3:**Inflow=25.7 cfs 3.857 af
Primary=25.7 cfs 3.857 af**Link POA-4:**Inflow=11.8 cfs 0.964 af
Primary=11.8 cfs 0.964 af**Total Runoff Area = 93.1 ac Runoff Volume = 48.175 af Average Runoff Depth = 6.21"**
46.64% Pervious = 43.4 ac 53.36% Impervious = 49.7 ac

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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 1.1S: 1.2S

Runoff = 29.1 cfs @ 12.28 hrs, Volume= 3.303 af, Depth= 5.75"
 Routed to Link POA-1 :

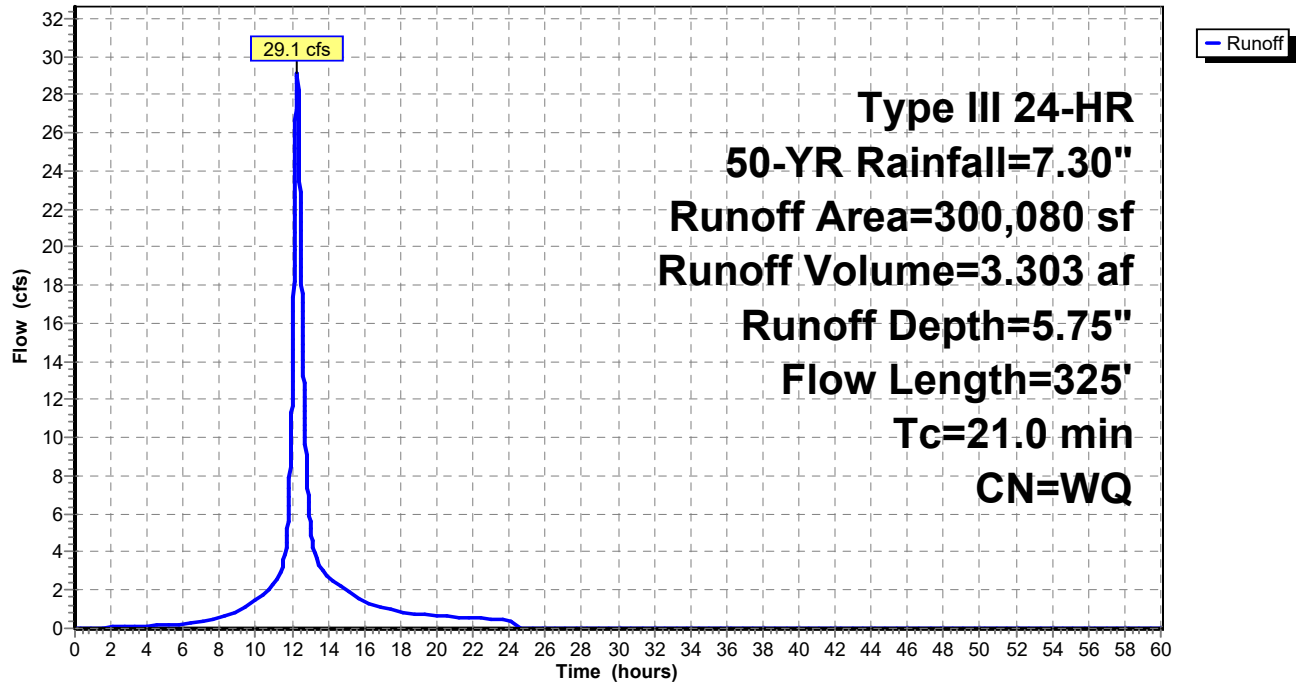
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 35,120 | 98 | Paved parking, HSG D |
| * 6,450 | 98 | Sidewalks, HSG D |
| 32,665 | 89 | <50% Grass cover, Poor, HSG D |
| 141,705 | 83 | Woods, Poor, HSG D |
| 43,190 | 80 | >75% Grass cover, Good, HSG D |
| 8,360 | 78 | Meadow, non-grazed, HSG D |
| 300,080 | | Weighted Average |
| 225,920 | | 75.29% Pervious Area |
| 74,160 | | 24.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.5 | 50 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.6 | 75 | 0.0200 | 2.12 | | Shallow Concentrated Flow, C-D
Grassed Waterway Kv= 15.0 fps |
| 0.1 | 25 | 0.0100 | 4.54 | 3.56 | Pipe Channel, D-E
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 1.8 | 75 | 0.0200 | 0.71 | | Shallow Concentrated Flow, E-F
Woodland Kv= 5.0 fps |
| 21.0 | 325 | Total | | | |

Subcatchment 1.1S: 1.2S

Hydrograph



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Summary for Subcatchment 2.10S: 2.10S

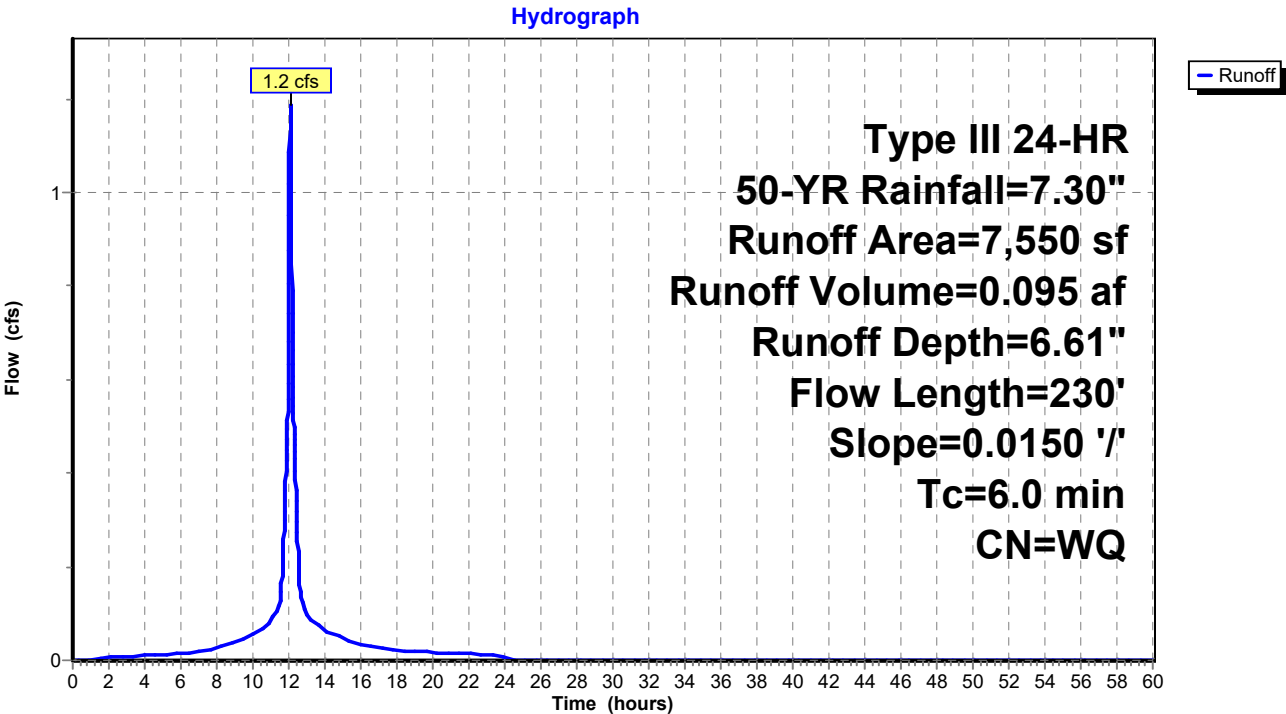
Runoff = 1.2 cfs @ 12.08 hrs, Volume= 0.095 af, Depth= 6.61"
Routed to Pond 2.10P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 780 | 98 | Sidewalks, HSG D |
| 5,140 | 98 | Paved parking, HSG D |
| 1,630 | 80 | >75% Grass cover, Good, HSG D |
| 7,550 | | Weighted Average |
| 1,630 | | 21.59% Pervious Area |
| 5,920 | | 78.41% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.6 | 230 | 0.0150 | 1.47 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.4 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 230 | Total | | | |

Subcatchment 2.10S: 2.10S



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.11S: 2.11S

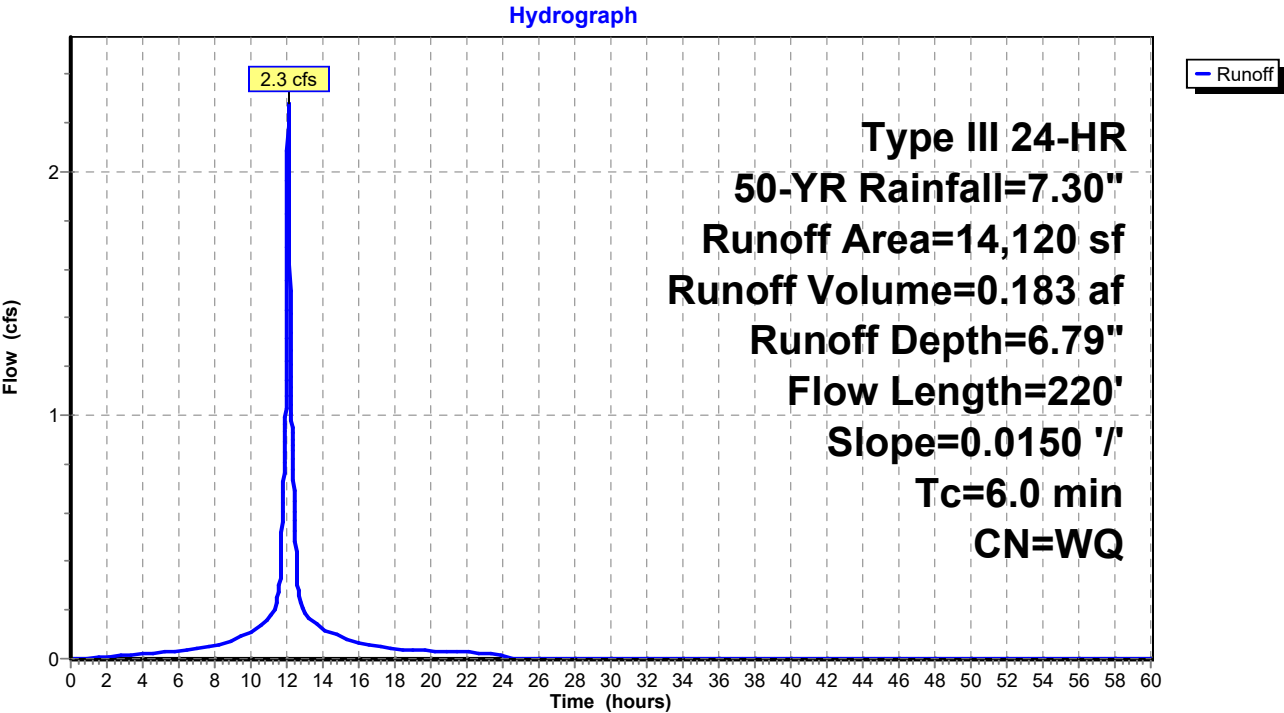
Runoff = 2.3 cfs @ 12.08 hrs, Volume= 0.183 af, Depth= 6.79"
Routed to Pond 2.11P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 340 | 98 | Sidewalks, HSG D |
| 1,100 | 80 | >75% Grass cover, Good, HSG D |
| 6,220 | 98 | Paved parking, HSG D |
| 6,460 | 96 | Gravel surface, HSG D |
| 14,120 | | Weighted Average |
| 7,560 | | 53.54% Pervious Area |
| 6,560 | | 46.46% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.5 | 220 | 0.0150 | 1.46 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 220 | Total | | | |

Subcatchment 2.11S: 2.11S



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Summary for Subcatchment 2.12S: 2.12S

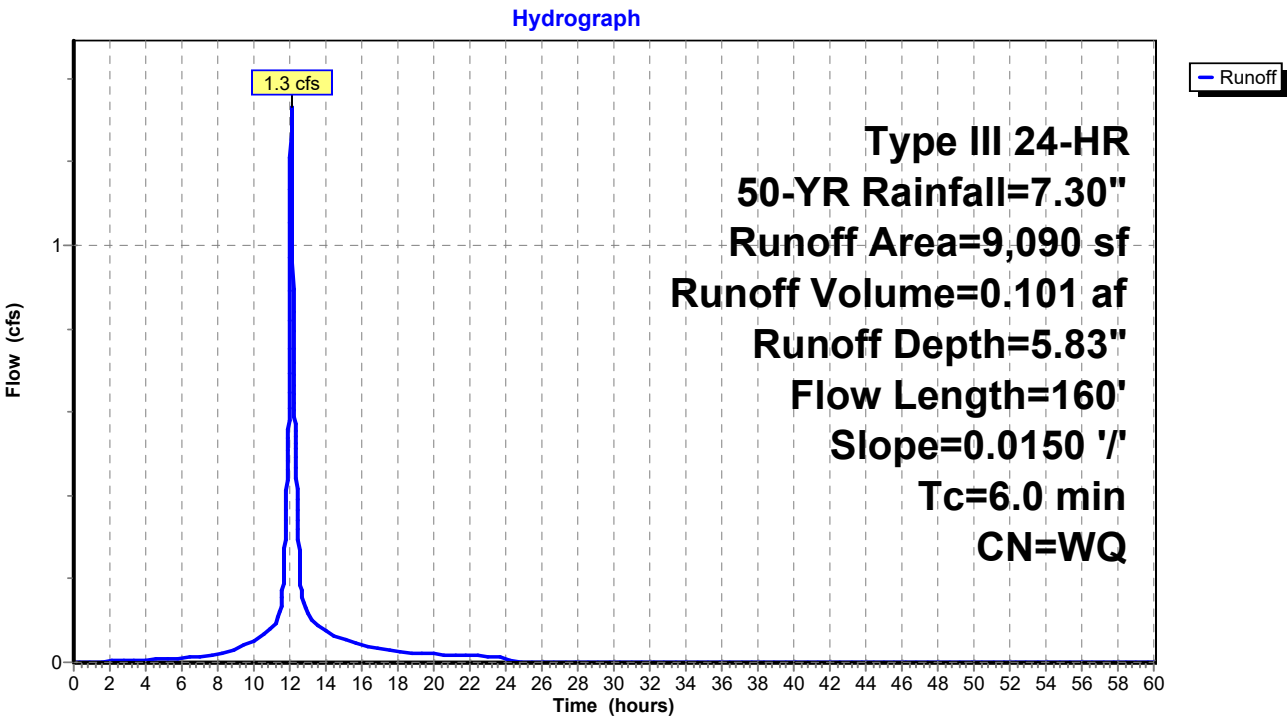
Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af, Depth= 5.83"
Routed to Pond 2.12P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 1,090 | 98 | Sidewalks, HSG D |
| | 5,020 | 80 | >75% Grass cover, Good, HSG D |
| | 2,980 | 96 | Gravel surface, HSG D |
| | 9,090 | | Weighted Average |
| | 8,000 | | 88.01% Pervious Area |
| | 1,090 | | 11.99% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.12S: 2.12S



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.13S: 2.13S

Runoff = 1.8 cfs @ 12.08 hrs, Volume= 0.141 af, Depth= 6.40"
Routed to Pond 2.13P : CB-3

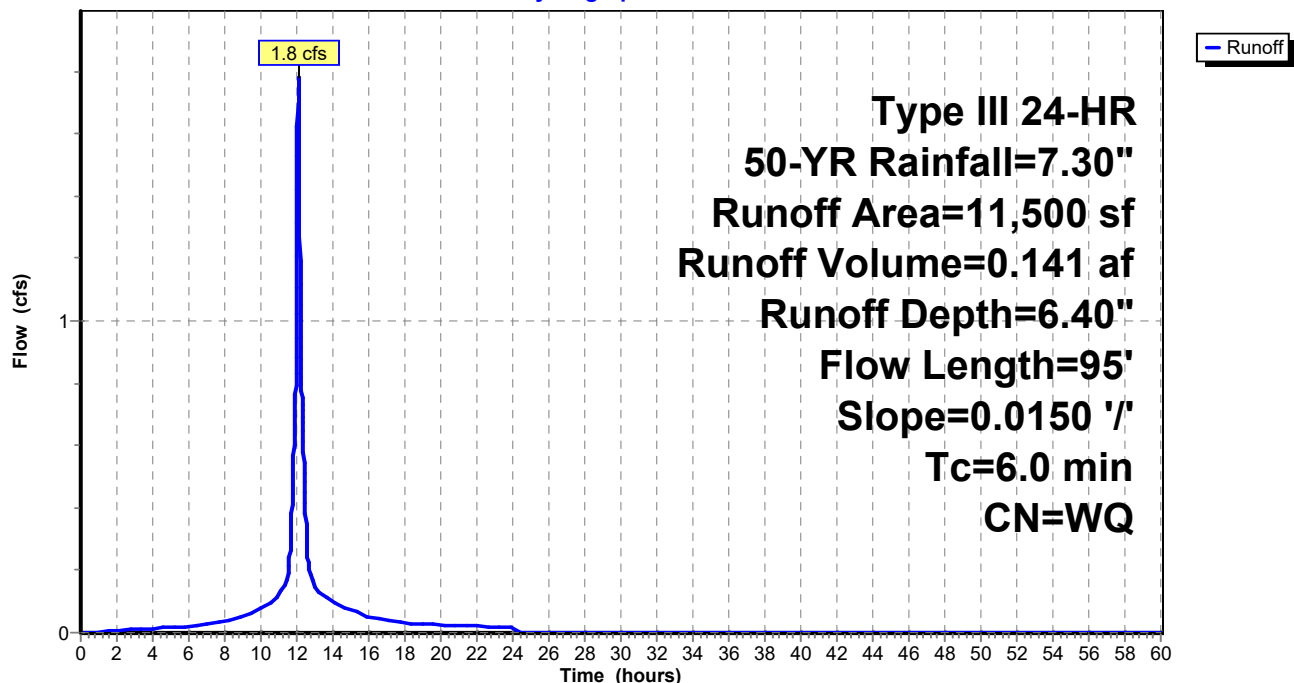
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 5,860 | 98 | Paved parking, HSG D |
| 3,510 | 80 | >75% Grass cover, Good, HSG D |
| * 540 | 98 | Sidewalks, HSG D |
| 300 | 98 | Unconnected pavement, HSG D |
| 1,290 | 96 | Gravel surface, HSG D |
| 11,500 | | Weighted Average |
| 4,800 | | 41.74% Pervious Area |
| 6,700 | | 58.26% Impervious Area |
| 300 | | 4.48% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.3 | 95 | 0.0150 | 1.23 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.7 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 95 | Total | | | |

Subcatchment 2.13S: 2.13S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.14S:

Runoff = 15.8 cfs @ 12.61 hrs, Volume= 2.506 af, Depth= 5.49"
 Routed to Link POA-2 :

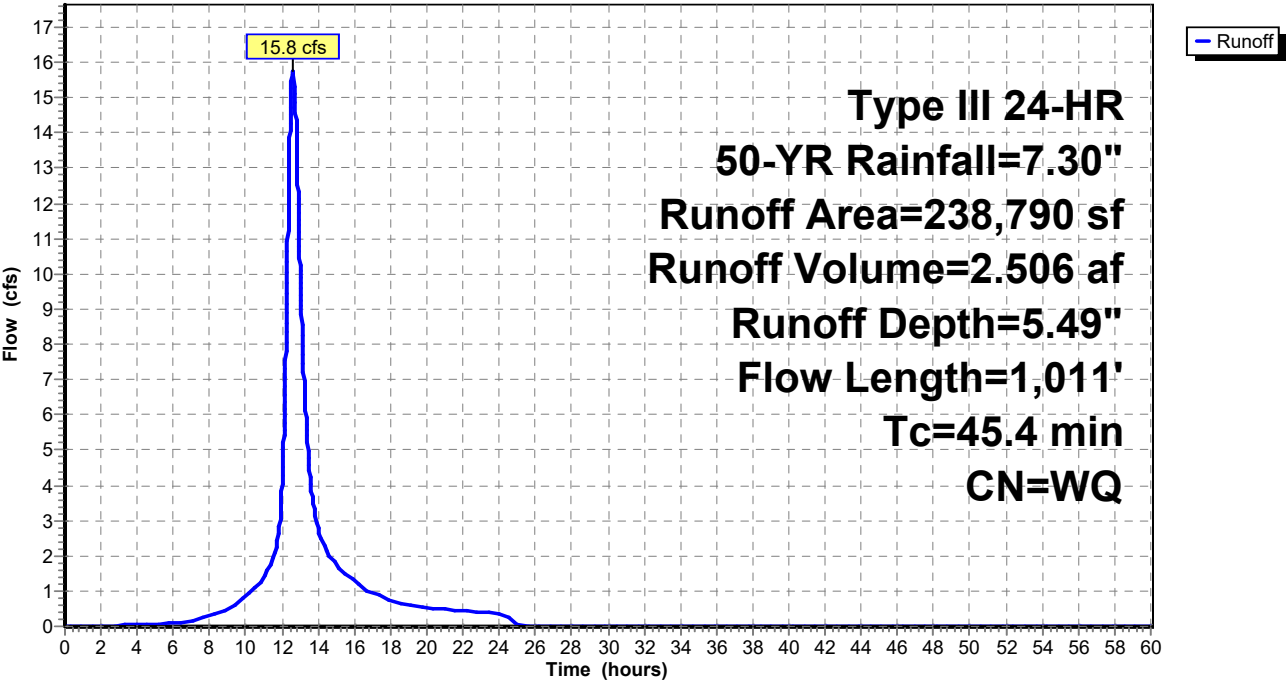
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 24,375 | 89 | <50% Grass cover, Poor, HSG D |
| 122,695 | 83 | Woods, Poor, HSG D |
| * 3,360 | 98 | Roofs, HSG D |
| * 19,110 | 96 | Gravel surface, HSG D |
| * 6,840 | 98 | Sidewalks, HSG D |
| 58,620 | 80 | >75% Grass cover, Good, HSG D |
| 3,790 | 78 | Meadow, non-grazed, HSG D |
| 238,790 | | Weighted Average |
| 228,590 | | 95.73% Pervious Area |
| 10,200 | | 4.27% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 2.6 | 110 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 1.6 | 200 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.4 | 50 | 0.0200 | 2.12 | | Shallow Concentrated Flow, E-F |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.1 | 135 | 0.0200 | 2.12 | | Shallow Concentrated Flow, F-G |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.6 | 250 | 0.0300 | 2.60 | | Shallow Concentrated Flow, G-H |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 56 | 0.0150 | 5.56 | 4.36 | Pipe Channel, H-I |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 10 | 0.3300 | 8.62 | | Shallow Concentrated Flow, I-J |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 30 | 0.3300 | 2.87 | | Shallow Concentrated Flow, J-K |
| | | | | | Woodland Kv= 5.0 fps |
| 45.4 | 1,011 | Total | | | |

Subcatchment 2.14S:

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.1S: 2.1S

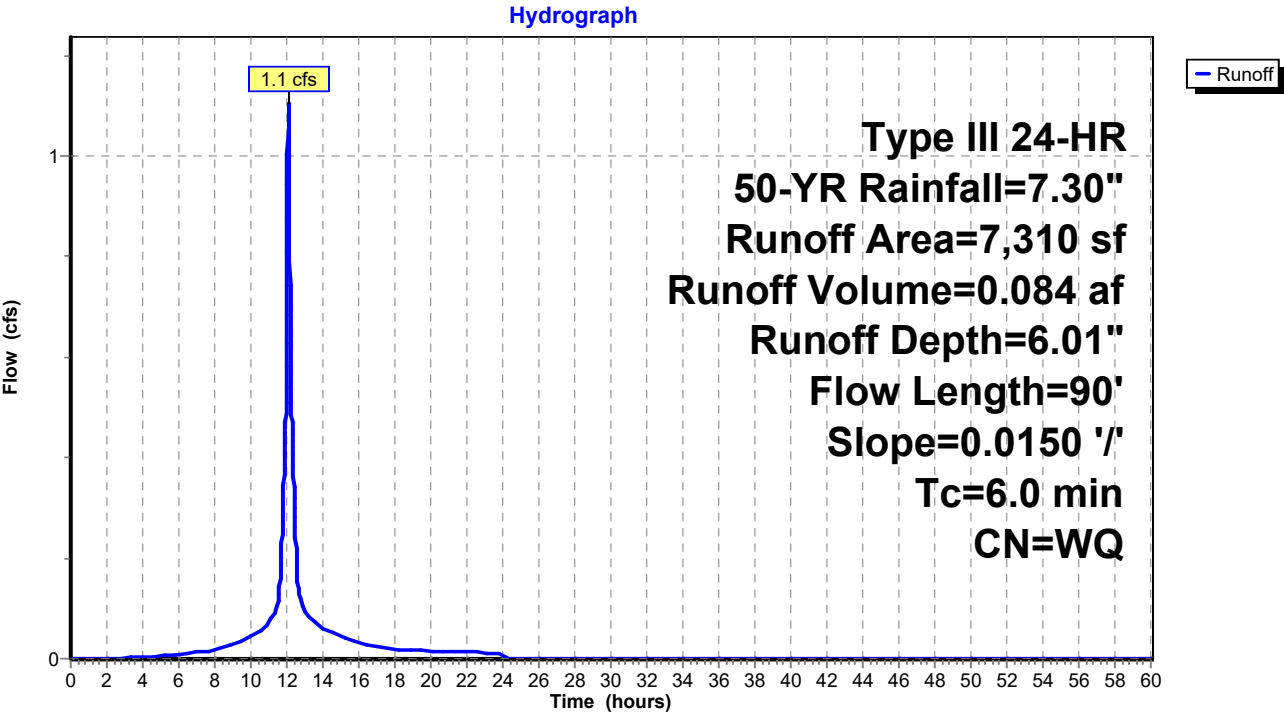
Runoff = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af, Depth= 6.01"
Routed to Pond 2.1P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 870 | 98 | Paved parking, HSG D |
| * 190 | 98 | Sidewalks, HSG D |
| 2,330 | 80 | >75% Grass cover, Good, HSG D |
| 3,920 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 7,310 | | Weighted Average |
| 3,702 | | 50.64% Pervious Area |
| 3,608 | | 49.36% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.1S: 2.1S



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.2S: 2.2S

Runoff = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af, Depth= 6.36"
Routed to Pond 2.2P : DMH-7

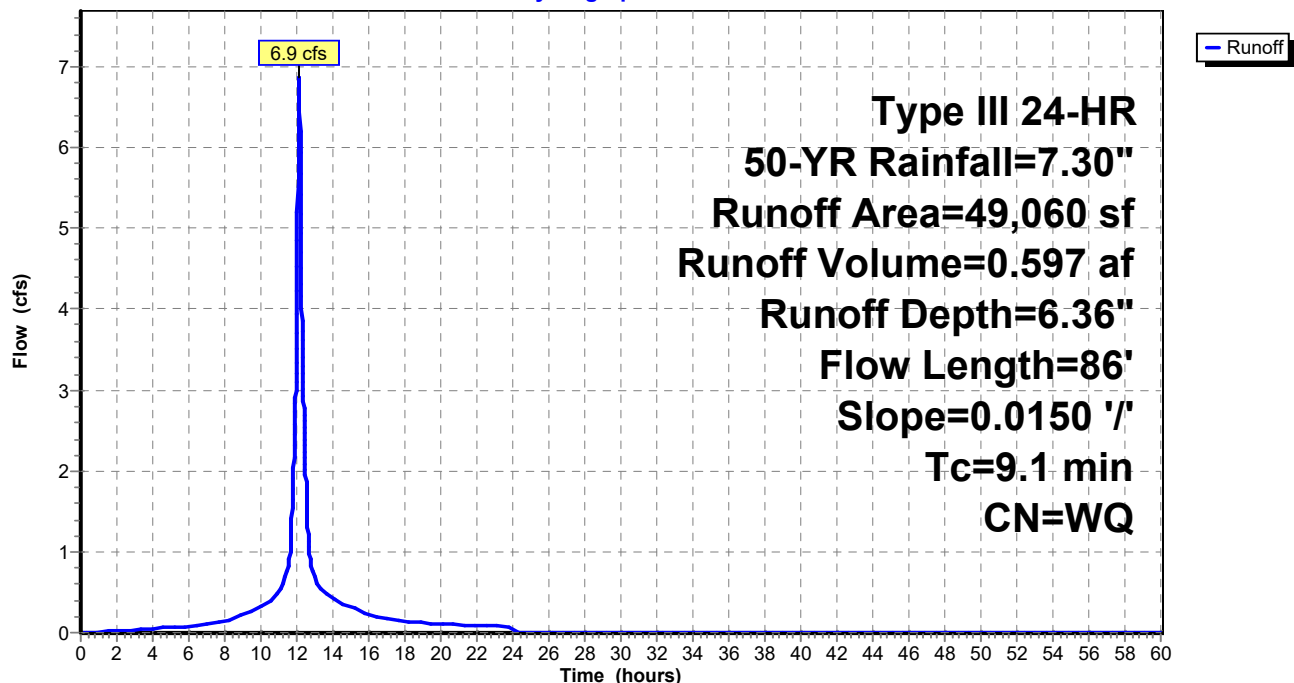
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 11,330 | 98 | Paved parking, HSG D |
| * 1,450 | 98 | Sidewalks, HSG D |
| 9,060 | 98 | Roofs, HSG D |
| 10,940 | 80 | >75% Grass cover, Good, HSG D |
| 16,280 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 49,060 | | Weighted Average |
| 16,638 | | 33.91% Pervious Area |
| 32,422 | | 66.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 9.1 | 80 | 0.0150 | 0.15 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 6 | 0.0150 | 2.49 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 9.1 | 86 | Total | | | |

Subcatchment 2.2S: 2.2S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.3S: 2.2S

Runoff = 4.9 cfs @ 12.08 hrs, Volume= 0.400 af, Depth= 6.79"
Routed to Pond 2.3P : CB-24

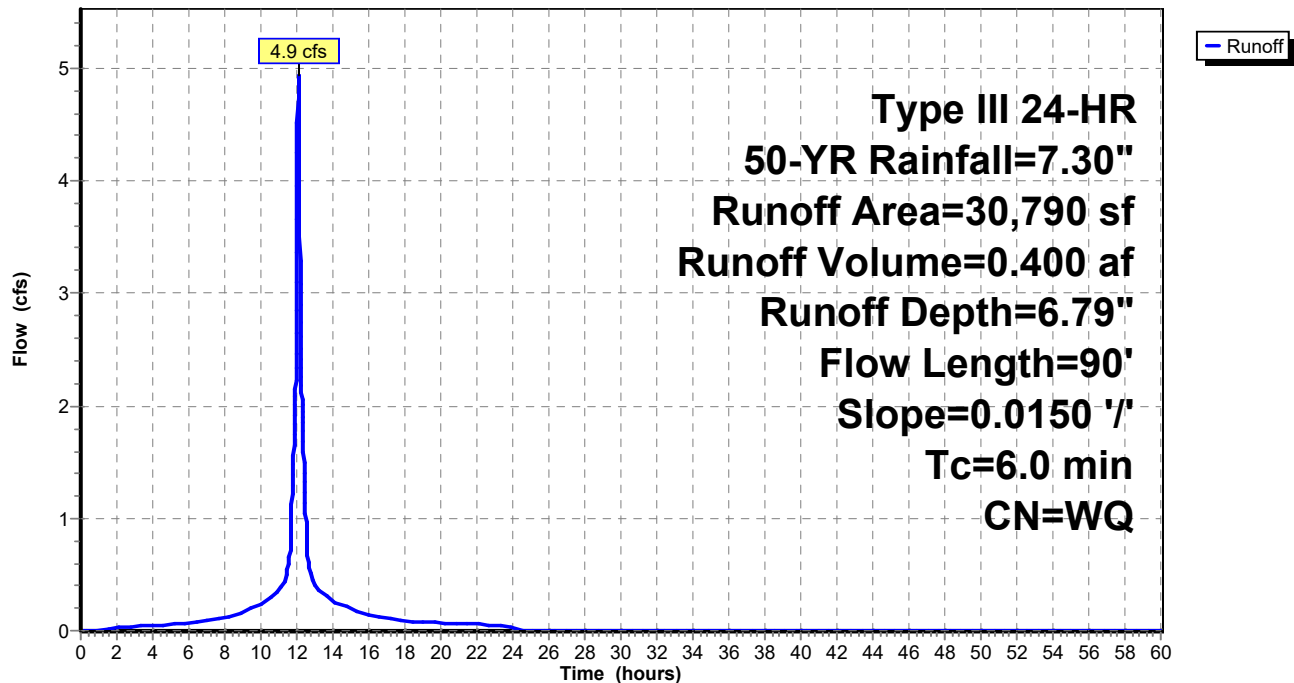
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,330 | 98 | Paved parking, HSG D |
| * 5,830 | 98 | Sidewalks, HSG D |
| 8,650 | 98 | Roofs, HSG D |
| 3,980 | 80 | >75% Grass cover, Good, HSG D |
| 30,790 | | Weighted Average |
| 3,980 | | 12.93% Pervious Area |
| 26,810 | | 87.07% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.3S: 2.2S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.4S: 2.4S

Runoff = 0.6 cfs @ 12.08 hrs, Volume= 0.048 af, Depth= 7.06"
Routed to Pond 2.4P : CB-17

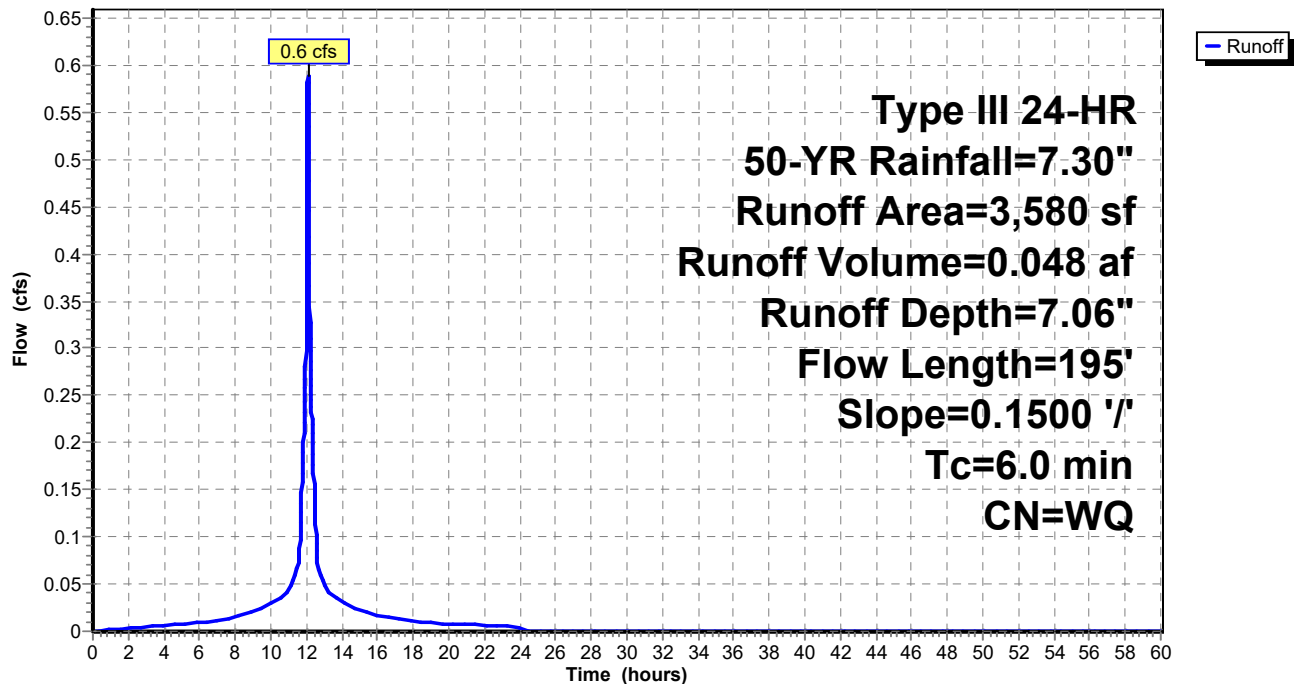
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| * 500 | 98 | Sidewalks, HSG D |
| 3,080 | 98 | Paved parking, HSG D |
| 3,580 | | Weighted Average |
| 3,580 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.9 | 195 | 0.1500 | 3.57 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 5.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 195 | Total | | | |

Subcatchment 2.4S: 2.4S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.5S: 2.5S

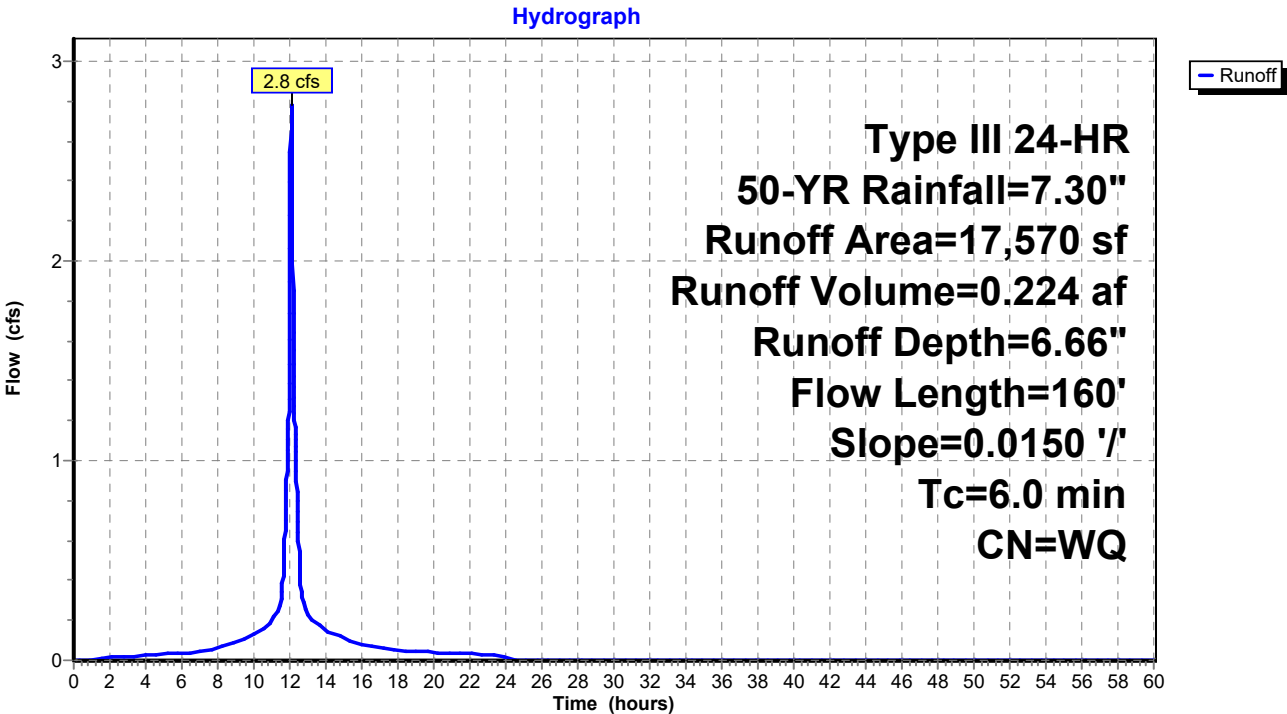
Runoff = 2.8 cfs @ 12.08 hrs, Volume= 0.224 af, Depth= 6.66"
Routed to Pond 2.5P : CB-20

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,530 | 98 | Paved parking, HSG D |
| * 4,690 | 98 | Sidewalks, HSG D |
| 3,350 | 80 | >75% Grass cover, Good, HSG D |
| 17,570 | | Weighted Average |
| 3,350 | | 19.07% Pervious Area |
| 14,220 | | 80.93% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.5S: 2.5S



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Type III 24-HR 50-YR Rainfall=7.30"
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Summary for Subcatchment 2.6S: 2.6S

Runoff = 2.9 cfs @ 12.09 hrs, Volume= 0.234 af, Depth= 6.59"
Routed to Pond 2.6P : CB-15

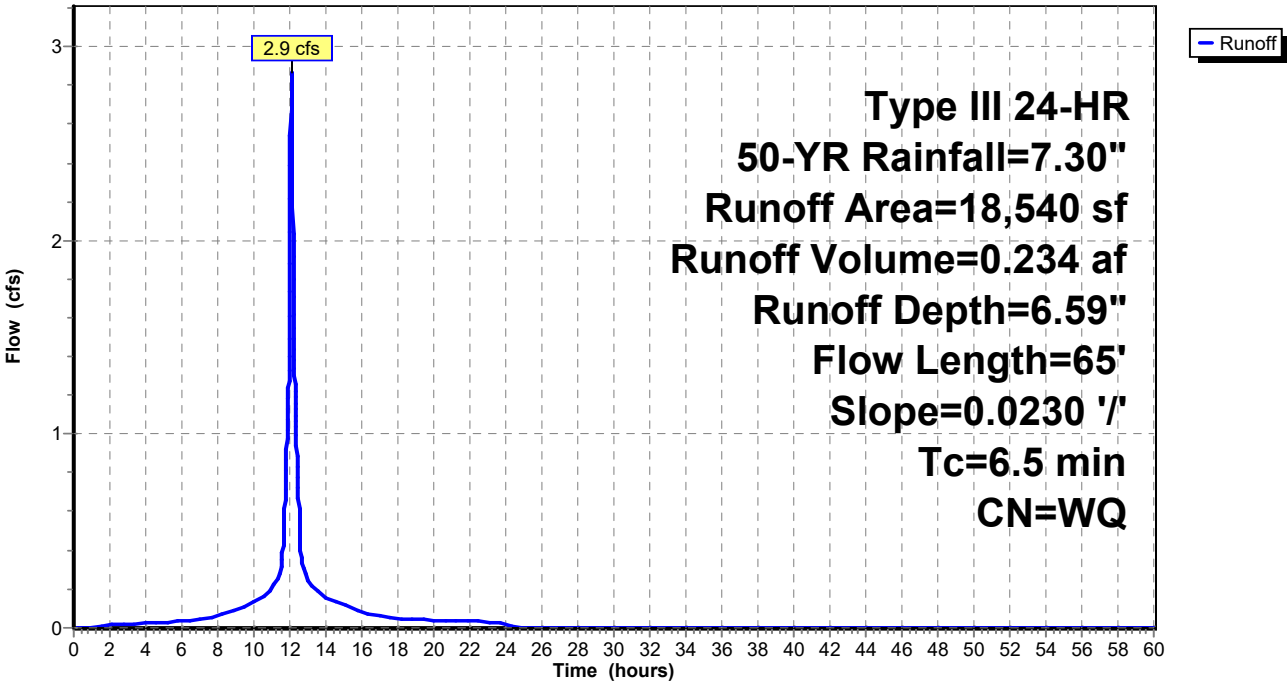
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 2,010 | 98 | Sidewalks, HSG D |
| | 4,190 | 80 | >75% Grass cover, Good, HSG D |
| | 12,340 | 98 | Paved parking, HSG D |
| | 18,540 | | Weighted Average |
| | 4,190 | | 22.60% Pervious Area |
| | 14,350 | | 77.40% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------|
| 6.5 | 65 | 0.0230 | 0.17 | | Sheet Flow, A |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |

Subcatchment 2.6S: 2.6S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.7S: 2.7S

Runoff = 6.5 cfs @ 12.08 hrs, Volume= 0.525 af, Depth= 6.71"
Routed to Pond 2.7P : CB-8

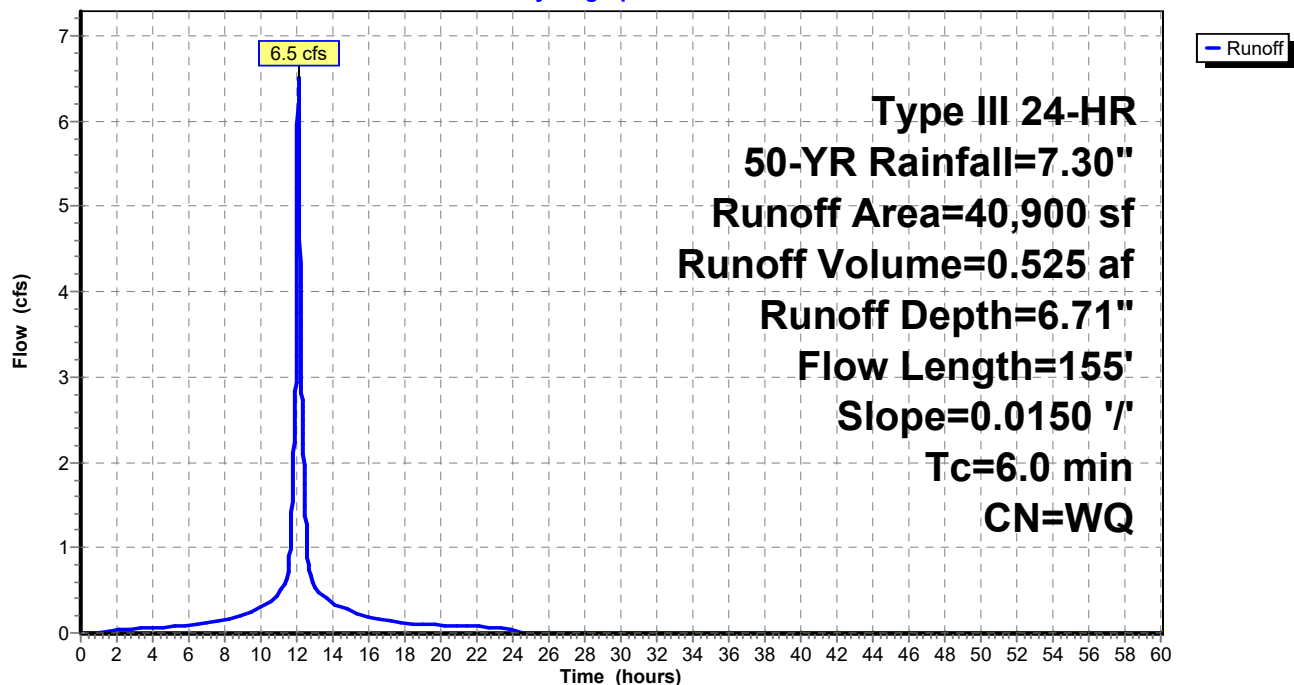
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,000 | 98 | Unconnected pavement, HSG D |
| 14,870 | 98 | Paved parking, HSG D |
| 17,100 | 98 | Roofs, HSG D |
| 6,930 | 80 | >75% Grass cover, Good, HSG D |
| 40,900 | | Weighted Average |
| 6,930 | | 16.94% Pervious Area |
| 33,970 | | 83.06% Impervious Area |
| 2,000 | | 5.89% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 155 | 0.0150 | 1.36 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 155 | Total | | | |

Subcatchment 2.7S: 2.7S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.8S:

Runoff = 1.1 cfs @ 12.08 hrs, Volume= 0.085 af, Depth= 6.23"
Routed to Pond 2.8P : CB-14

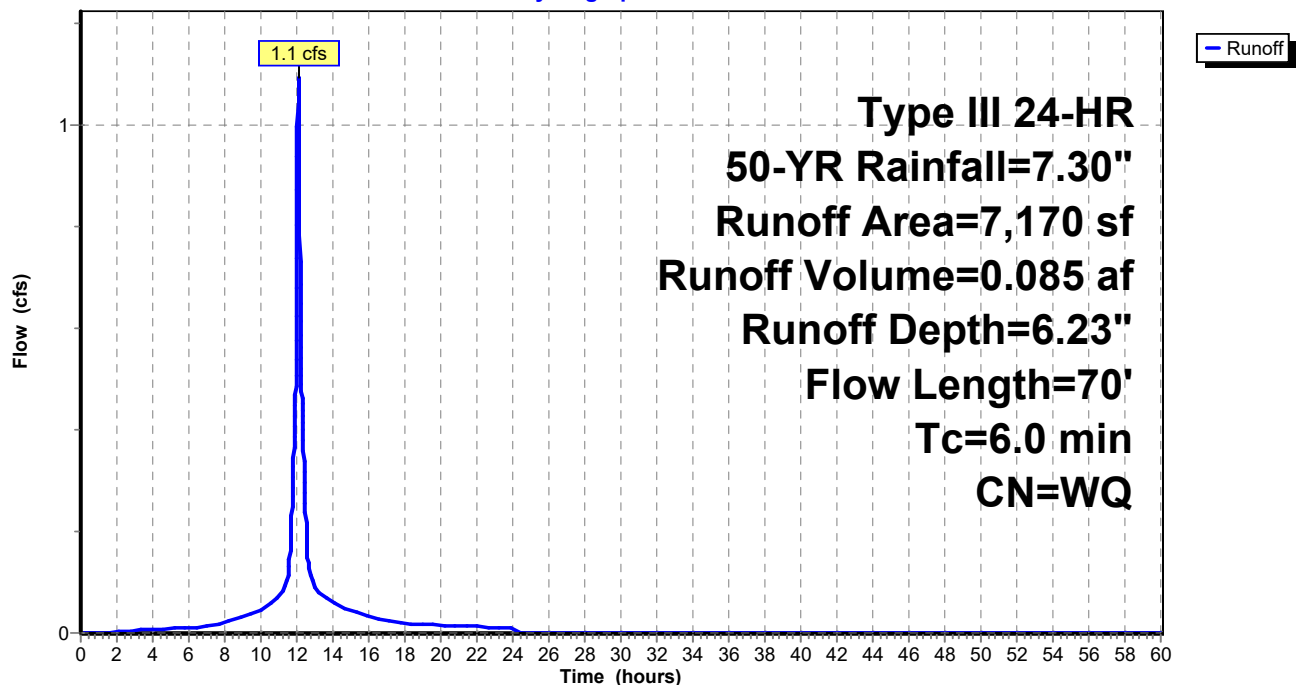
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,510 | 80 | >75% Grass cover, Good, HSG D |
| * 1,630 | 98 | Sidewalks, HSG D |
| 3,030 | 96 | Gravel surface, HSG D |
| 7,170 | | Weighted Average |
| 5,540 | | 77.27% Pervious Area |
| 1,630 | | 22.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 5.5 | 60 | 0.0300 | 0.18 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 10 | 0.0600 | 4.97 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 70 | Total | | | |

Subcatchment 2.8S:

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 2.9S: 2.9S

Runoff = 3.3 cfs @ 12.08 hrs, Volume= 0.264 af, Depth= 6.76"
Routed to Pond 2.9P : CB-5

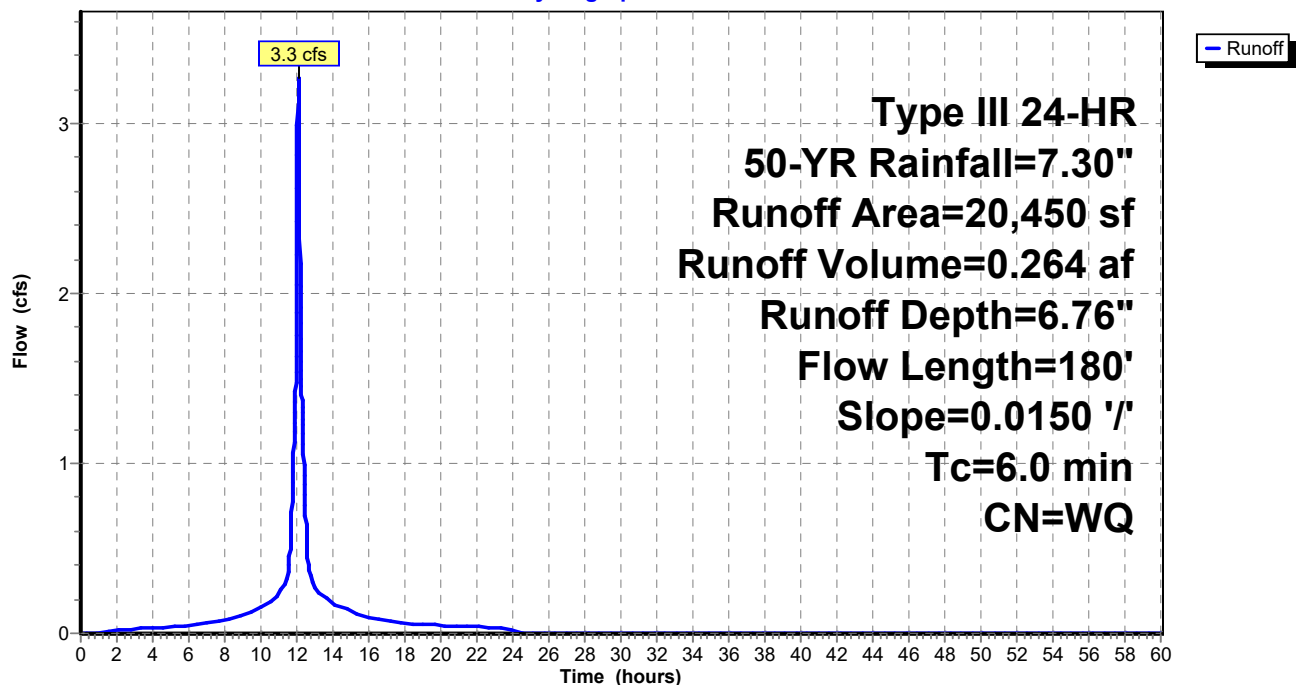
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,980 | 80 | >75% Grass cover, Good, HSG D |
| * 2,170 | 98 | Sidewalks, HSG D |
| 15,300 | 98 | Paved parking, HSG D |
| 20,450 | | Weighted Average |
| 2,980 | | 14.57% Pervious Area |
| 17,470 | | 85.43% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.1 | 180 | 0.0150 | 1.40 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.9 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 180 | Total | | | |

Subcatchment 2.9S: 2.9S

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 3.1S:

Runoff = 25.7 cfs @ 12.51 hrs, Volume= 3.857 af, Depth= 5.93"
 Routed to Link POA-3 :

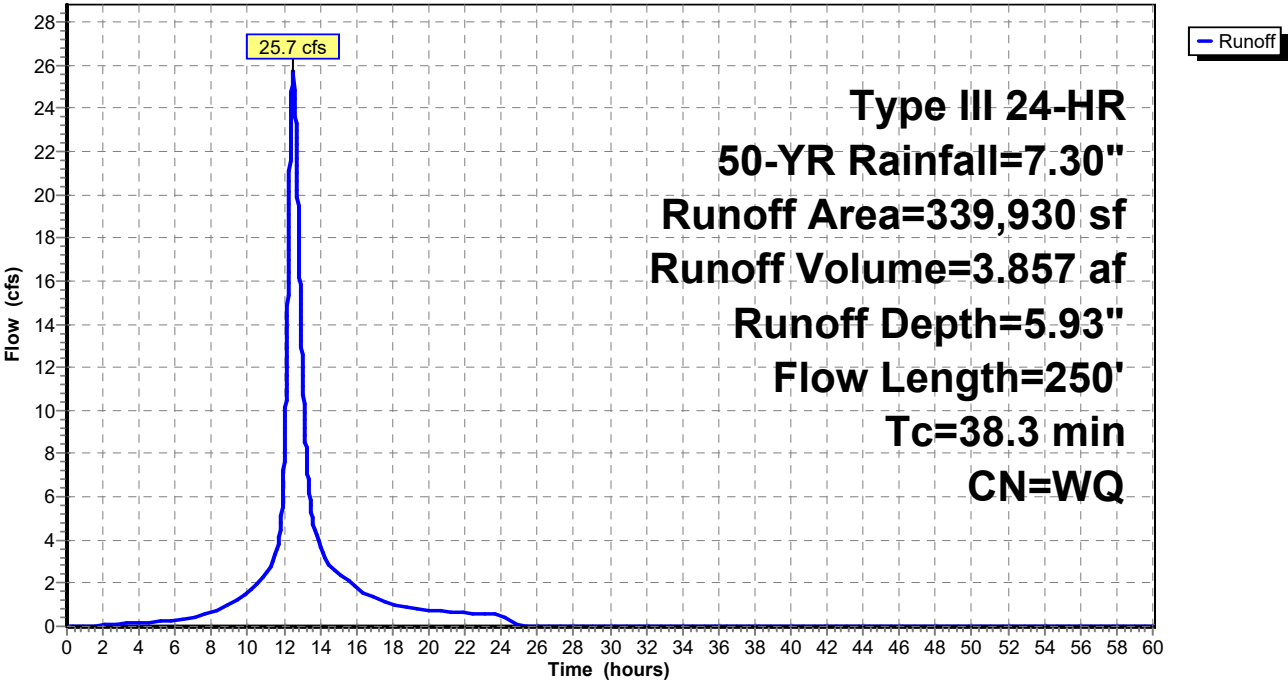
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 44,220 | 98 | Roofs, HSG D |
| 28,895 | 98 | Paved parking, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 50,270 | 89 | <50% Grass cover, Poor, HSG D |
| 154,640 | 83 | Woods, Poor, HSG D |
| 7,700 | 78 | Meadow, non-grazed, HSG D |
| 17,355 | 80 | >75% Grass cover, Good, HSG D |
| * 9,740 | 98 | Sidewalks, HSG D |
| 339,930 | | Weighted Average |
| 257,075 | | 75.63% Pervious Area |
| 82,855 | | 24.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 40 | 0.3300 | 8.62 | | Shallow Concentrated Flow, B-C |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 10 | 0.0150 | 2.49 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | 55 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 38.3 | 250 | Total | | | |

Subcatchment 3.1S:

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 4S:

Runoff = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Depth= 6.46"
Routed to Pond 4P : CB - Elm Street

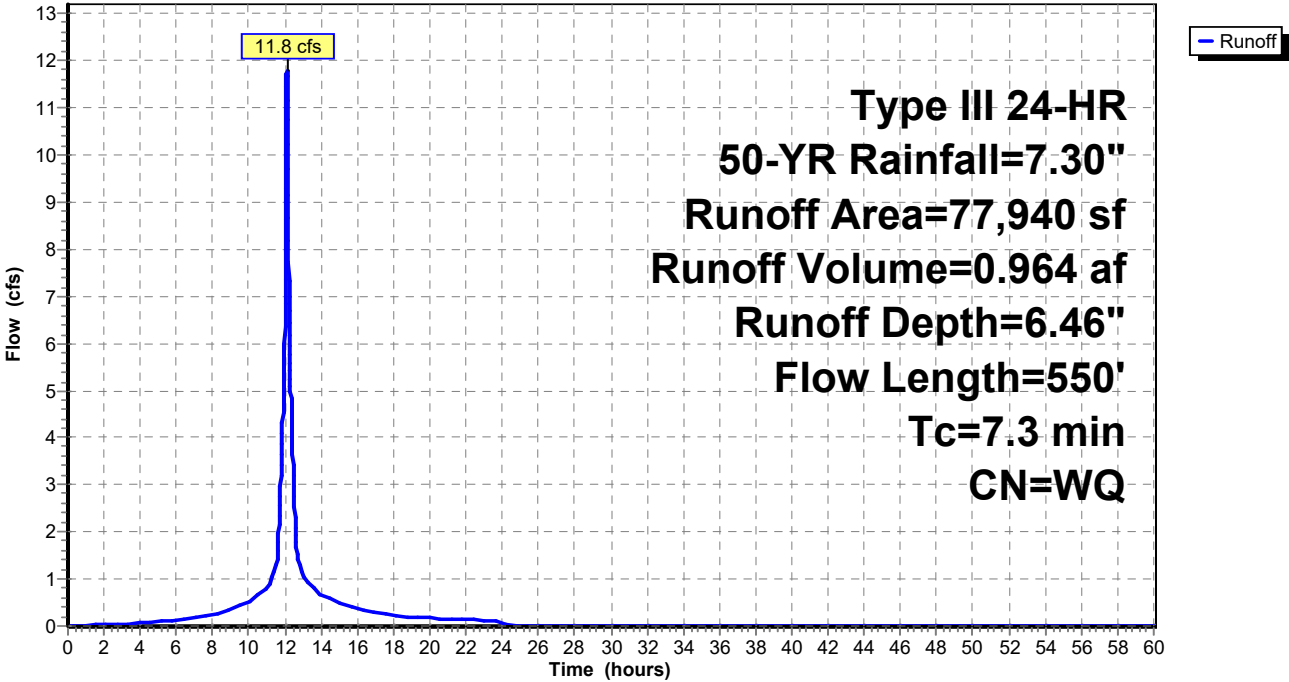
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Subcatchment 5.1S:

Runoff = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af, Depth= 6.32"
 Routed to Pond 5P : Box Culvert - Railroad

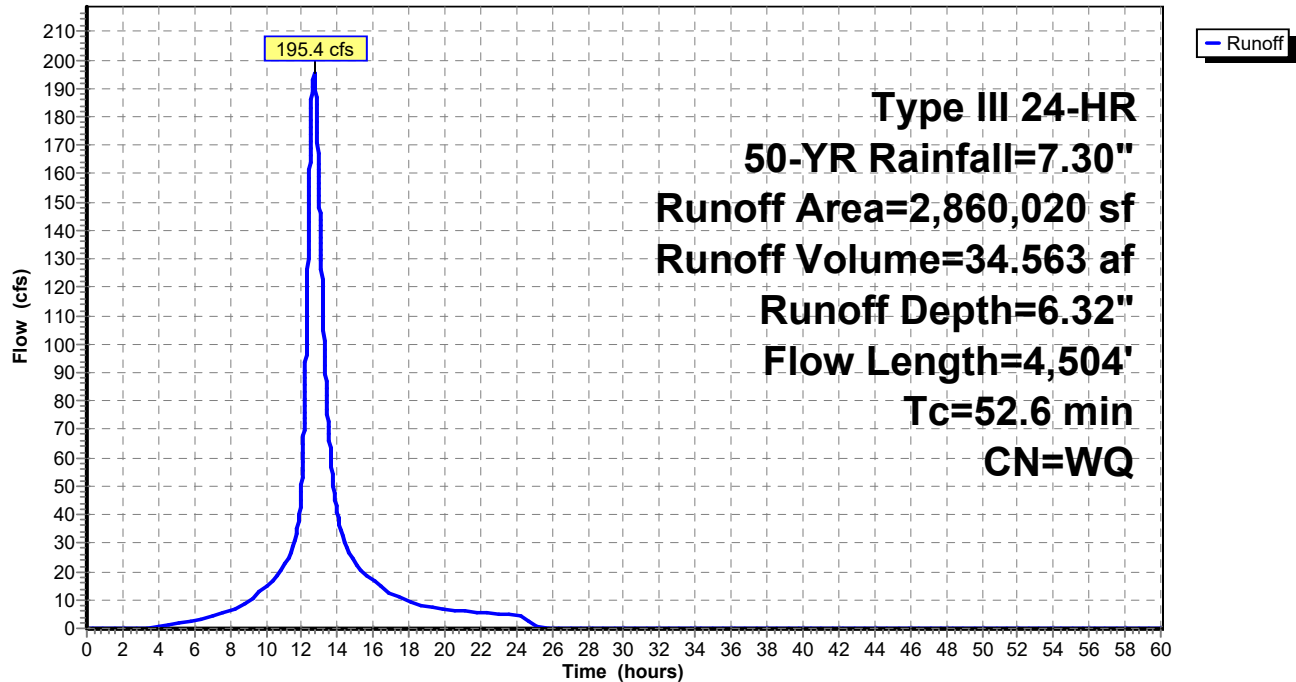
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-HR 50-YR Rainfall=7.30"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,765,240 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,600 | 83 | Woods, Poor, HSG D |
| 4,430 | 80 | >75% Grass cover, Good, HSG D |
| 1,750 | 96 | Gravel surface, HSG D |
| 2,860,020 | | Weighted Average |
| 1,062,614 | | 37.15% Pervious Area |
| 1,797,406 | | 62.85% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5.1S:

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.10P: CB-4

Inflow Area = 0.2 ac, 78.41% Impervious, Inflow Depth = 6.61" for 50-YR event
Inflow = 1.2 cfs @ 12.08 hrs, Volume= 0.095 af
Outflow = 1.2 cfs @ 12.08 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.08 hrs, Volume= 0.095 af
Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.36' @ 12.08 hrs

Flood Elev= 73.30'

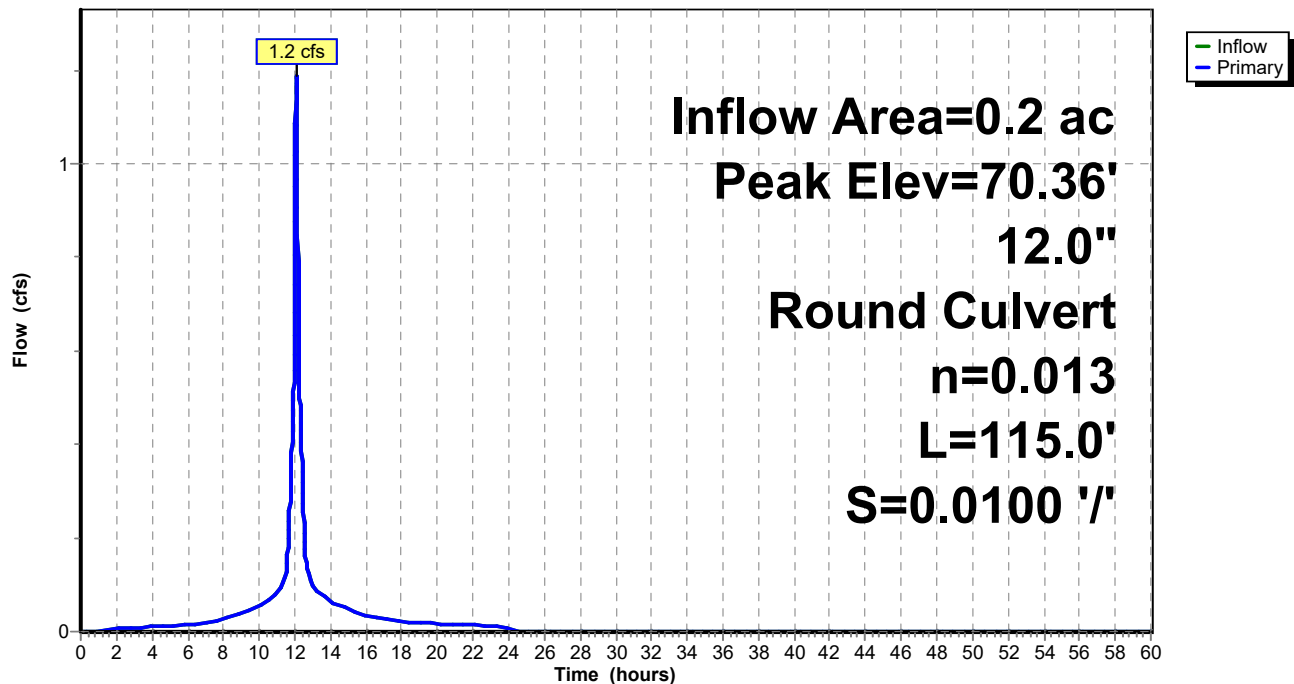
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 69.70' | 12.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 69.70' / 68.55' S= 0.0100 '/ Cc= 0.900
n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=1.2 cfs @ 12.08 hrs HW=70.36' (Free Discharge)

↑1=Culvert (Inlet Controls 1.2 cfs @ 2.18 fps)

Pond 2.10P: CB-4

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.11P: CB-6

Inflow Area = 1.4 ac, 66.07% Impervious, Inflow Depth = 6.59" for 50-YR event
Inflow = 9.6 cfs @ 12.08 hrs, Volume= 0.768 af
Outflow = 9.6 cfs @ 12.08 hrs, Volume= 0.768 af, Atten= 0%, Lag= 0.0 min
Primary = 9.6 cfs @ 12.08 hrs, Volume= 0.768 af
Routed to Pond 2.12P : CB-7

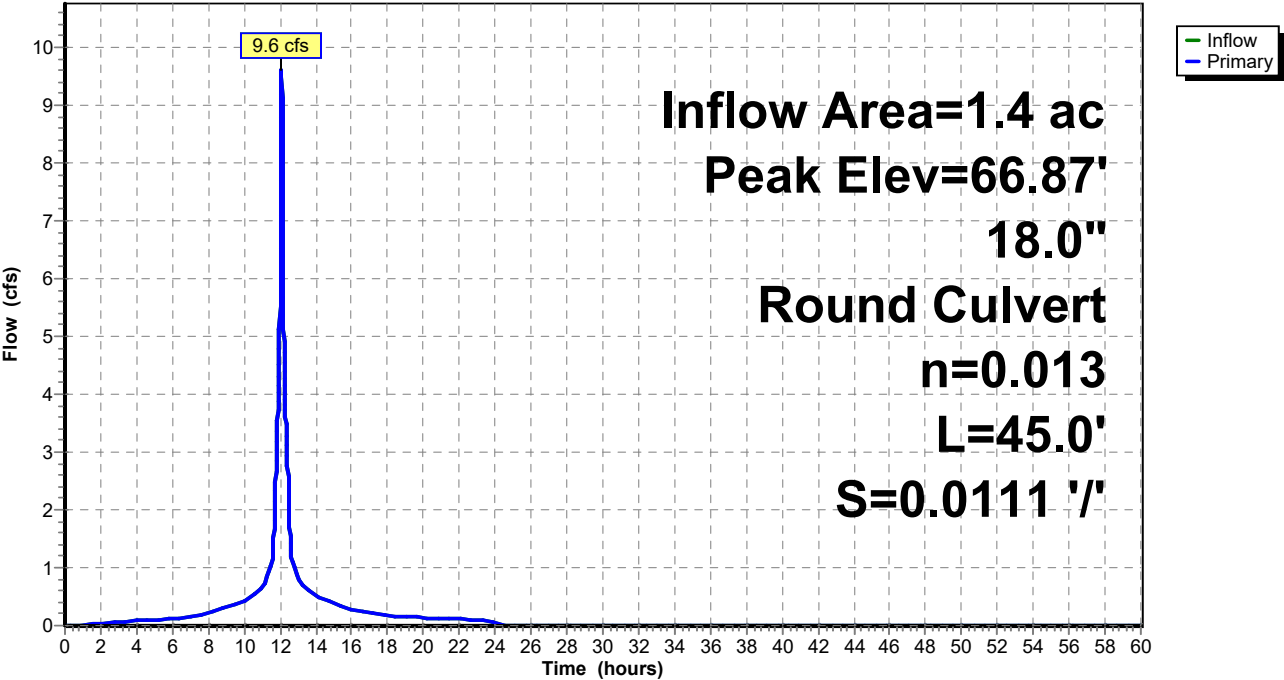
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.87' @ 12.08 hrs
Flood Elev= 73.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.07' | 18.0" Round Culvert
L= 45.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.07' / 63.57' S= 0.0111 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=9.6 cfs @ 12.08 hrs HW=66.86' (Free Discharge)
↑1=Culvert (Inlet Controls 9.6 cfs @ 5.43 fps)

Pond 2.11P: CB-6

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.12P: CB-7

Inflow Area = 1.6 ac, 59.05% Impervious, Inflow Depth = 6.49" for 50-YR event
Inflow = 10.9 cfs @ 12.08 hrs, Volume= 0.869 af
Outflow = 10.9 cfs @ 12.08 hrs, Volume= 0.869 af, Atten= 0%, Lag= 0.0 min
Primary = 10.9 cfs @ 12.08 hrs, Volume= 0.869 af
Routed to Pond 2.81P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 66.87' @ 12.08 hrs

Flood Elev= 73.50'

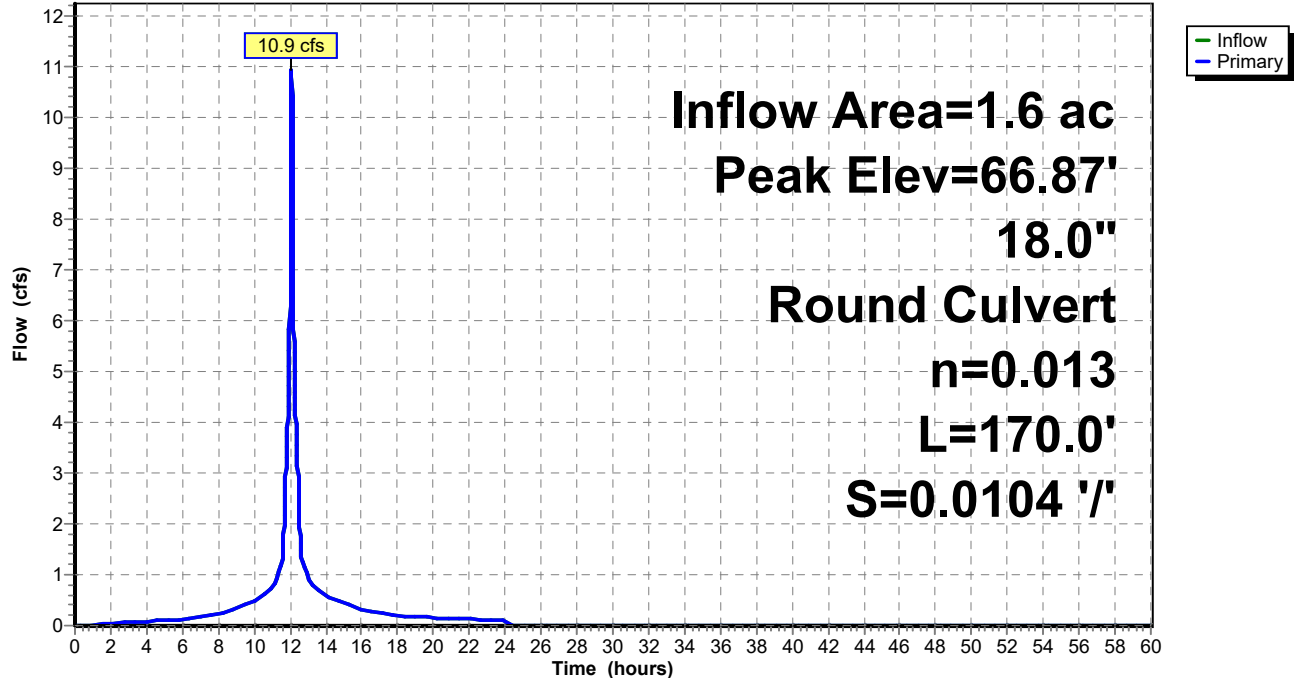
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.47' | 18.0" Round Culvert
L= 170.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.47' / 61.70' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=10.9 cfs @ 12.08 hrs HW=66.86' (Free Discharge)

↑1=Culvert (Inlet Controls 10.9 cfs @ 6.18 fps)

Pond 2.12P: CB-7

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.13P: CB-3

Inflow Area = 0.4 ac, 54.80% Impervious, Inflow Depth = 6.25" for 50-YR event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 0.225 af
Outflow = 2.9 cfs @ 12.08 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.08 hrs, Volume= 0.225 af
Routed to Pond 2.9P : CB-5

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.96' @ 12.08 hrs

Flood Elev= 73.00'

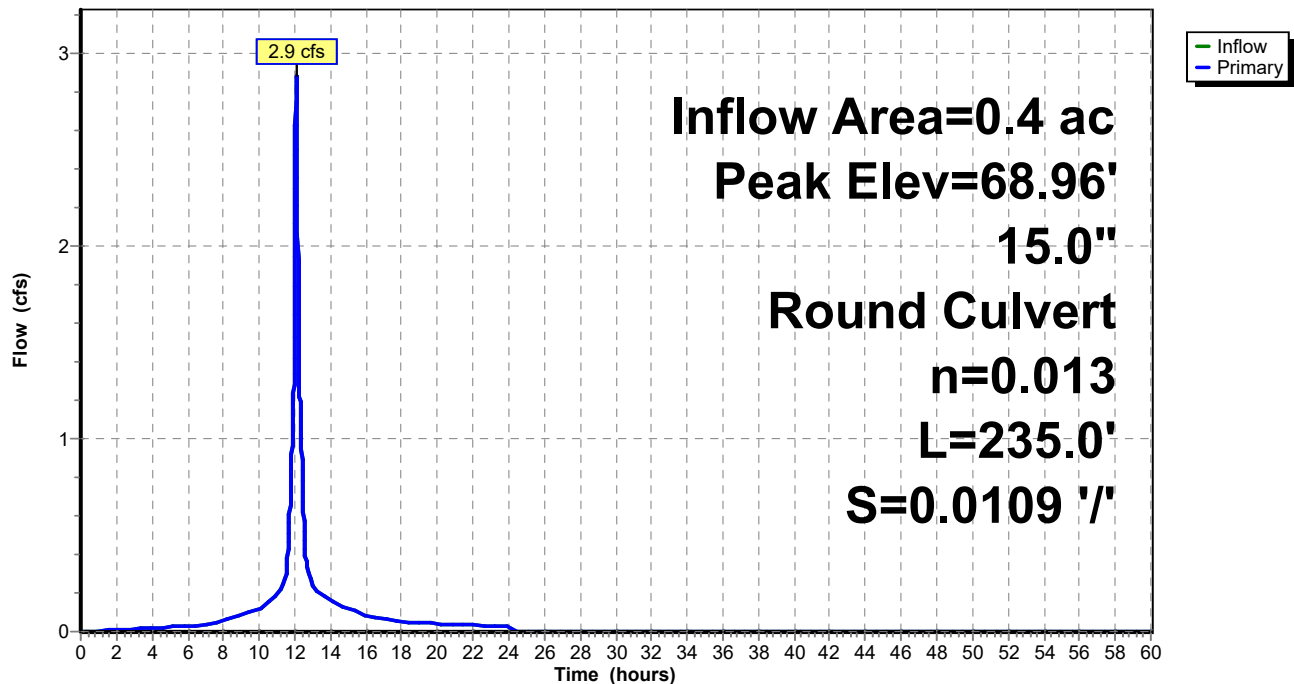
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 67.95' | 15.0" Round Culvert
L= 235.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 67.95' / 65.40' S= 0.0109 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=68.96' (Free Discharge)

↑1=Culvert (Inlet Controls 2.9 cfs @ 2.70 fps)

Pond 2.13P: CB-3

Hydrograph



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Summary for Pond 2.1P: CB-2

Inflow Area = 0.2 ac, 49.36% Impervious, Inflow Depth = 6.01" for 50-YR event
Inflow = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af
Outflow = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af
Routed to Pond 2.13P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.73' @ 12.08 hrs

Flood Elev= 74.20'

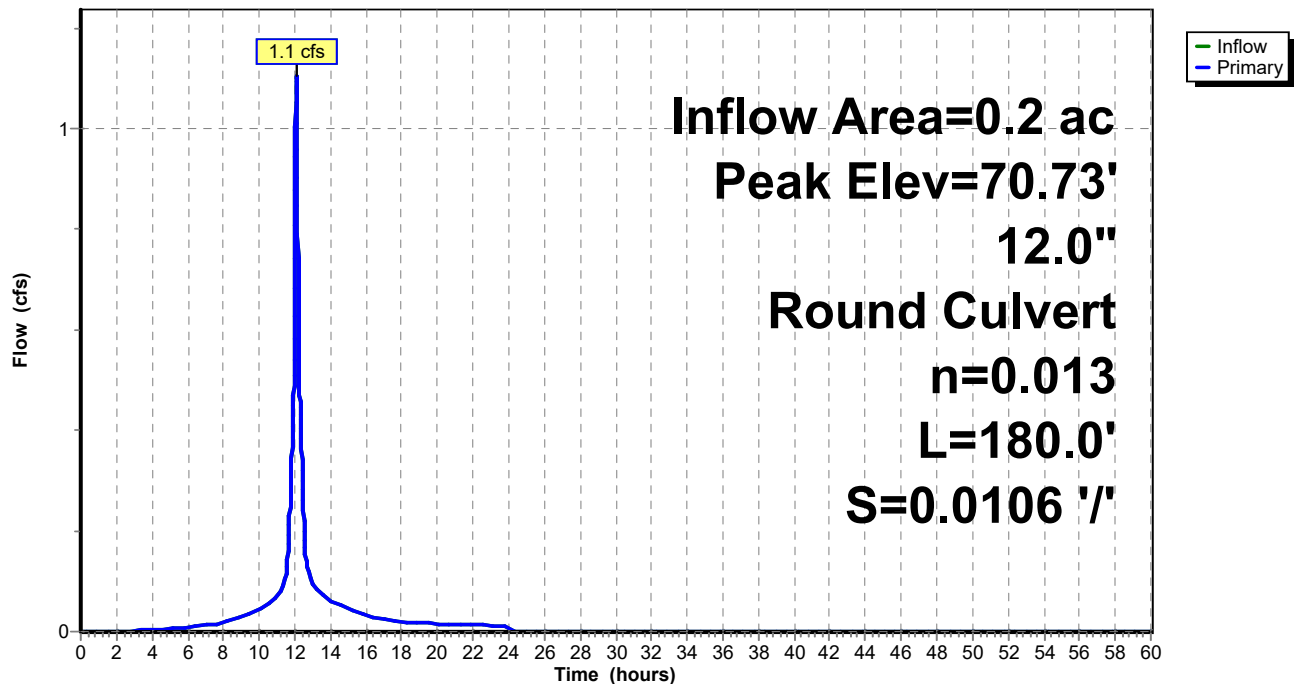
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 70.10' | 12.0" Round Culvert
L= 180.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 70.10' / 68.20' S= 0.0106 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=1.1 cfs @ 12.08 hrs HW=70.73' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.13 fps)

Pond 2.1P: CB-2

Hydrograph



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Summary for Pond 2.21P: DMH-6

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 6.36" for 50-YR event
Inflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Outflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min
Primary = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Routed to Pond 2.22P : DMH-8

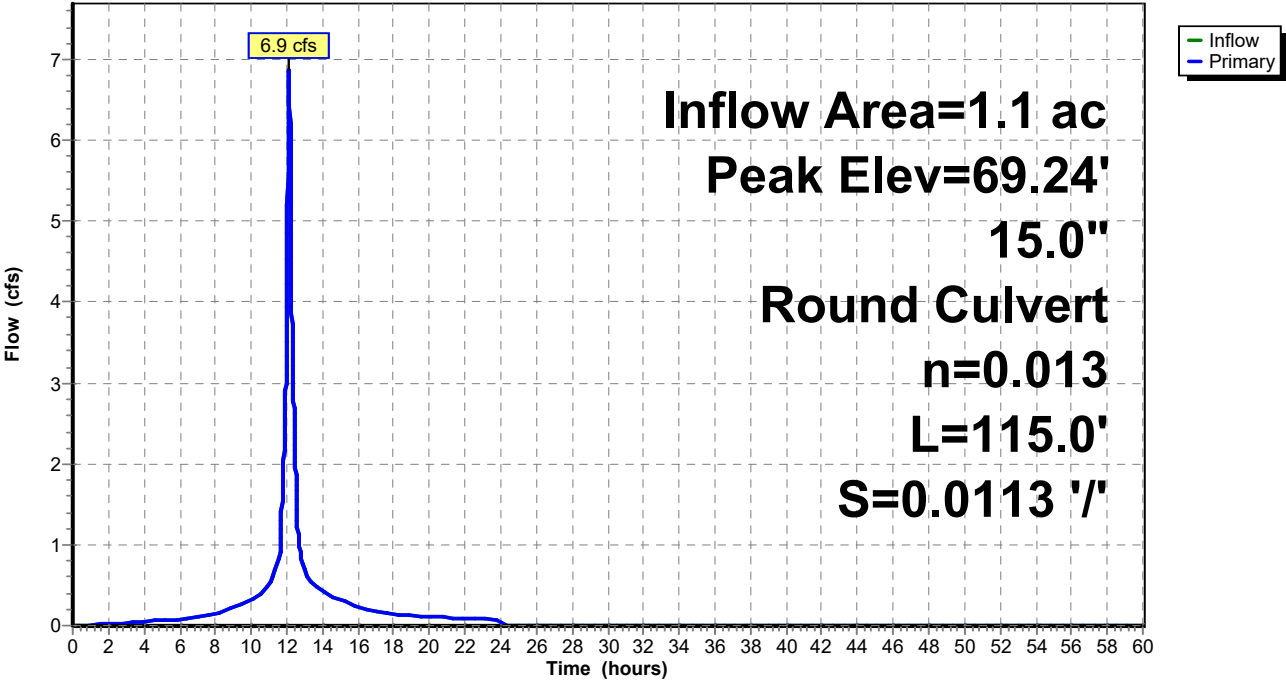
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 69.24' @ 12.12 hrs
Flood Elev= 73.75'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 66.45' | 15.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 66.45' / 65.15' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=6.9 cfs @ 12.12 hrs HW=69.24' (Free Discharge)
1=Culvert (Inlet Controls 6.9 cfs @ 5.59 fps)

Pond 2.21P: DMH-6

Hydrograph



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Summary for Pond 2.22P: DMH-8

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 6.36" for 50-YR event
Inflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Outflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min
Primary = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Routed to Pond 2.3P : CB-24

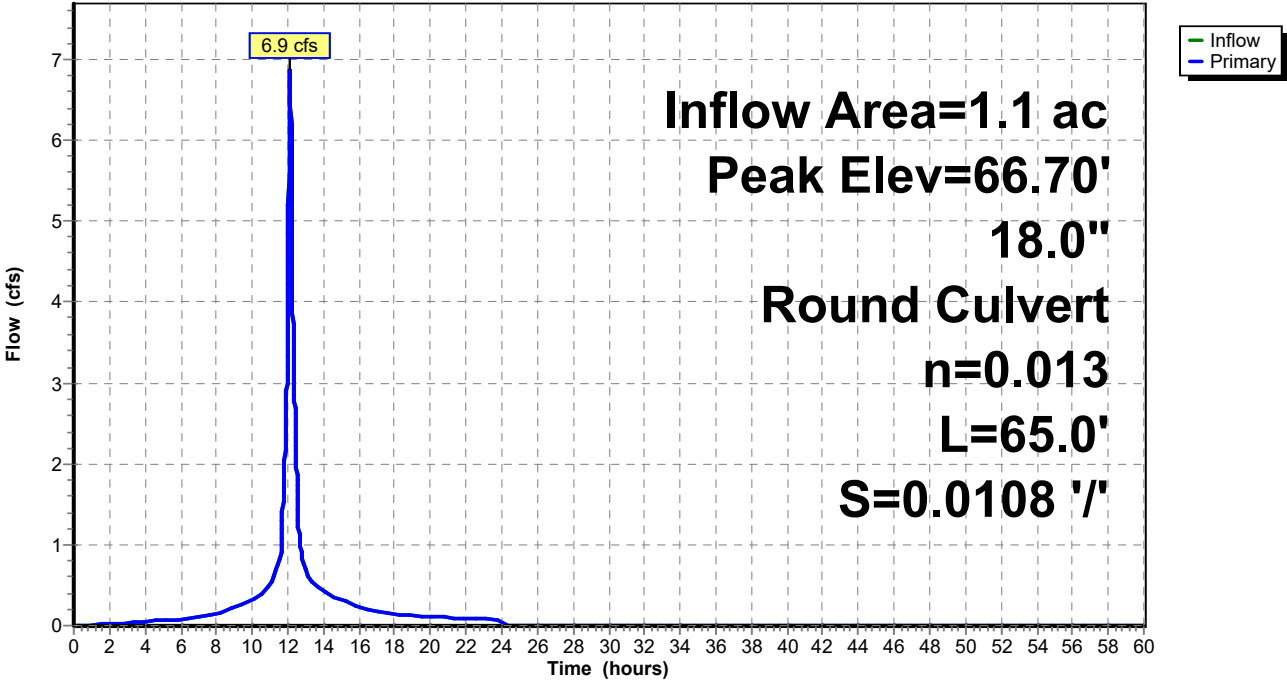
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.70' @ 12.12 hrs
Flood Elev= 71.40'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.90' | 18.0" Round Culvert
L= 65.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.90' / 64.20' S= 0.0108 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=6.9 cfs @ 12.12 hrs HW=66.69' (Free Discharge)
↑1=Culvert (Inlet Controls 6.9 cfs @ 3.88 fps)

Pond 2.22P: DMH-8

Hydrograph



Summary for Pond 2.2P: DMH-7

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 6.36" for 50-YR event
Inflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Outflow = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min
Primary = 6.9 cfs @ 12.12 hrs, Volume= 0.597 af
Routed to Pond 2.21P : DMH-6

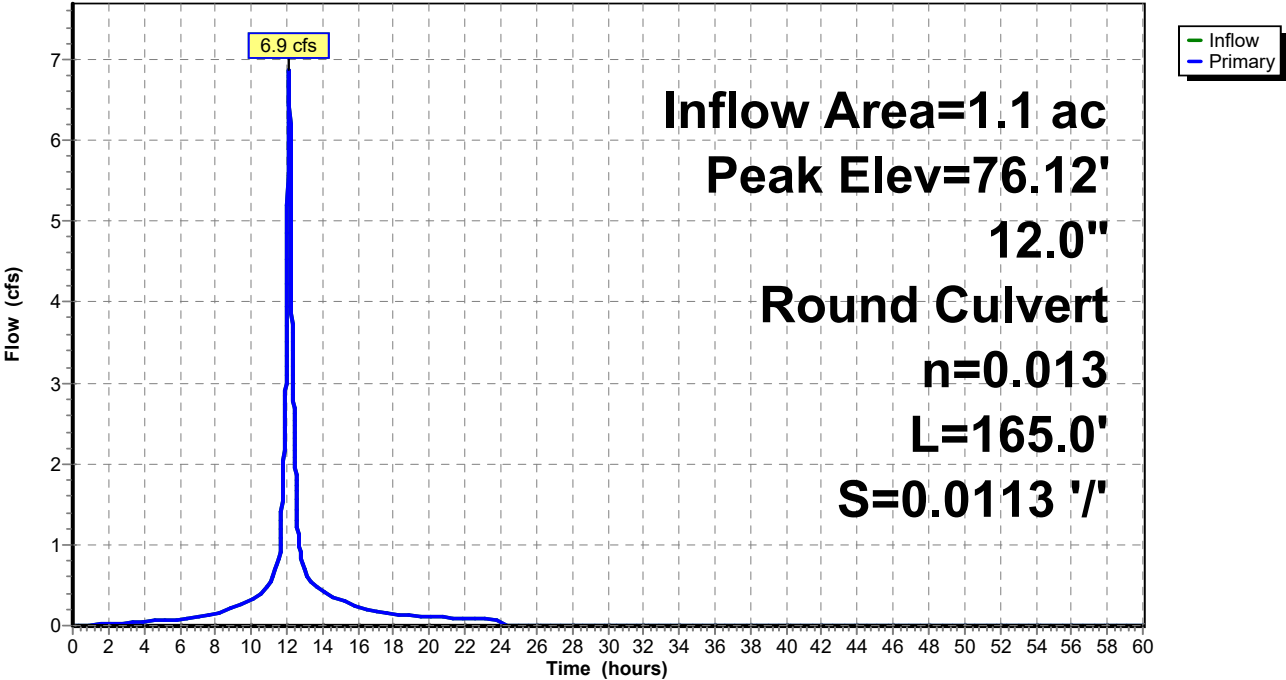
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 76.12' @ 12.12 hrs
Flood Elev= 74.70'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 68.56' | 12.0" Round Culvert
L= 165.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 68.56' / 66.70' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=6.9 cfs @ 12.12 hrs HW=76.10' (Free Discharge)
1=Culvert (Barrel Controls 6.9 cfs @ 8.74 fps)

Pond 2.2P: DMH-7

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 6.55" for 50-YR event
 Inflow = 32.7 cfs @ 12.09 hrs, Volume= 2.700 af
 Outflow = 32.5 cfs @ 12.10 hrs, Volume= 2.581 af, Atten= 1%, Lag= 0.5 min
 Primary = 32.5 cfs @ 12.10 hrs, Volume= 2.581 af
 Routed to Pond 2.32P : DMH-12

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 64.07' @ 12.10 hrs Surf.Area= 2,862 sf Storage= 7,390 cf

Plug-Flow detention time= 51.5 min calculated for 2.581 af (96% of inflow)
 Center-of-Mass det. time= 25.3 min (781.7 - 756.4)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| #3 | 64.80' | 40,157 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| | | 47,766 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Elevation
(feet) | Surf.Area
(sq-ft) | Voids
(%) | Inc.Store
(cubic-feet) | Cum.Store
(cubic-feet) |
|---------------------|----------------------|--------------|---------------------------|---------------------------|
| 64.80 | 7,000 | 0.0 | 0 | 0 |
| 67.99 | 7,000 | 0.1 | 22 | 22 |
| 68.00 | 20,000 | 100.0 | 135 | 157 |
| 69.00 | 60,000 | 100.0 | 40,000 | 40,157 |

| Device | Routing | Invert | Outlet Devices |
|--------|----------|--------|---|
| #1 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 ' / ' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |
| #2 | Device 1 | 62.62' | 6.0' long x 5.45' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |

Primary OutFlow Max=32.4 cfs @ 12.10 hrs HW=64.06' (Free Discharge)

↑ **1=Culvert** (Passes 32.4 cfs of 41.3 cfs potential flow)

↑ **2=Sharp-Crested Rectangular Weir**(Weir Controls 32.4 cfs @ 3.93 fps)

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Type III 24-HR 50-YR Rainfall=7.30"

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Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)

Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf

Overall Size= 60.0"W x 60.0"H x 20.00'L

Row Length Adjustment= +10.00' x 19.63 sf x 4 rows

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

4 Chambers/Row x 20.00' Long +10.00' Row Adjustment +5.00' Header x 1 = 95.00' Row Length +12.0"

End Stone x 2 = 97.00' Base Length

4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width

6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

16 Chambers x 392.7 cf +10.00' Row Adjustment x 19.63 sf x 4 Rows + 27.50' Header x 19.63 sf =
7,608.5 cf Chamber Storage

17,169.0 cf Field - 7,608.5 cf Chambers = 9,560.5 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 7,608.5 cf = 0.175 af

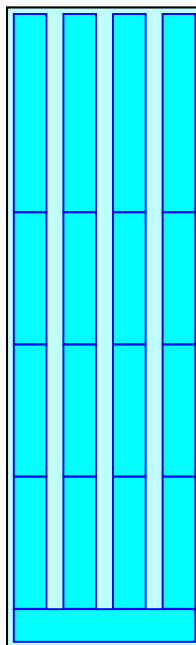
Overall Storage Efficiency = 44.3%

Overall System Size = 97.00' x 29.50' x 6.00'

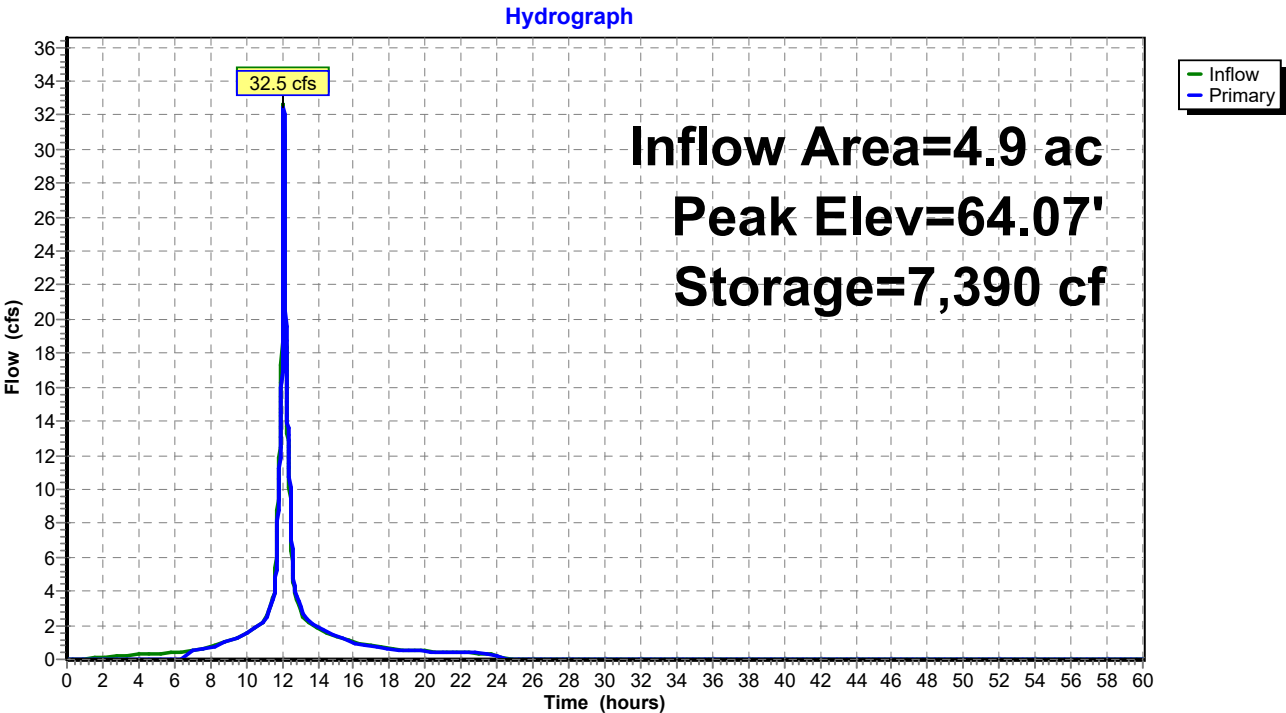
16 Chambers

635.9 cy Field

354.1 cy Stone



Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER



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Summary for Pond 2.32P: DMH-12

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 6.26" for 50-YR event
Inflow = 32.5 cfs @ 12.10 hrs, Volume= 2.581 af
Outflow = 32.5 cfs @ 12.10 hrs, Volume= 2.581 af, Atten= 0%, Lag= 0.0 min
Primary = 32.5 cfs @ 12.10 hrs, Volume= 2.581 af
Routed to Pond 2.33P : DMH-13

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.83' @ 12.10 hrs

Flood Elev= 69.40'

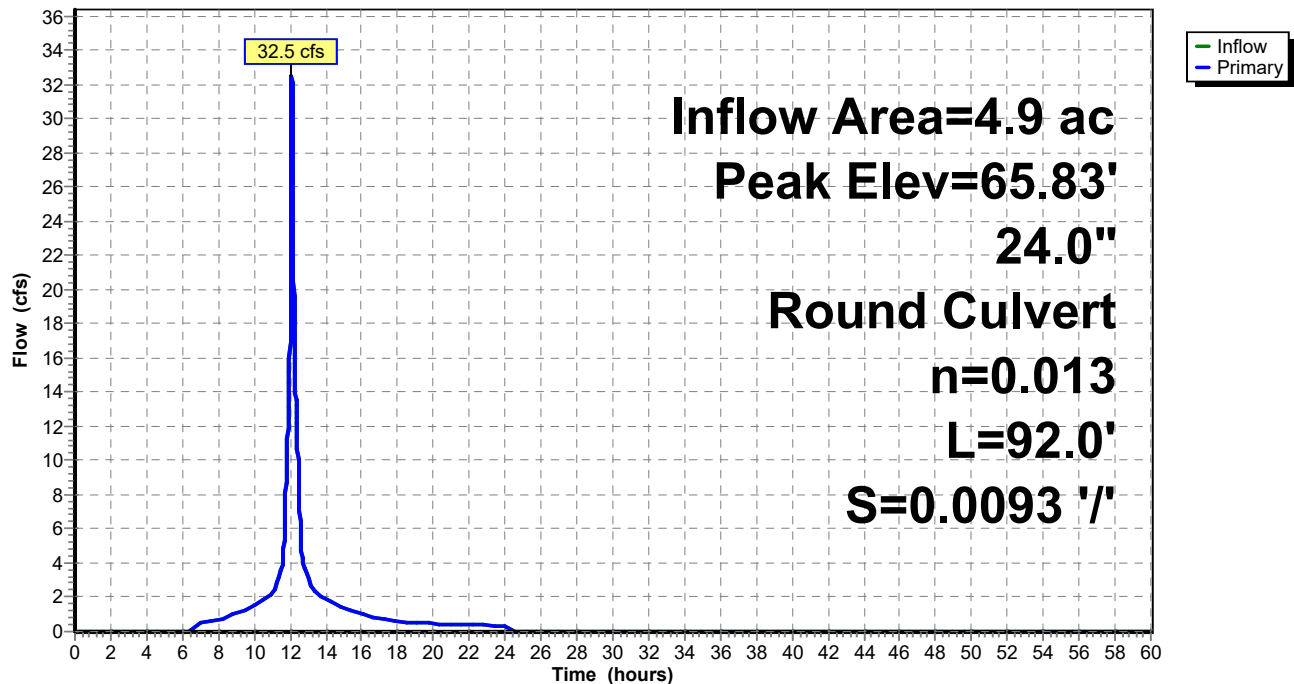
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 57.44' | 24.0" Round Culvert
L= 92.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.44' / 56.58' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=32.4 cfs @ 12.10 hrs HW=65.82' (Free Discharge)

↑1=Culvert (Inlet Controls 32.4 cfs @ 10.32 fps)

Pond 2.32P: DMH-12

Hydrograph



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Type III 24-HR 50-YR Rainfall=7.30"

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Summary for Pond 2.33P: DMH-13

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 6.30" for 50-YR event
Inflow = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af
Outflow = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af, Atten= 0%, Lag= 0.0 min
Primary = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af
Routed to Pond 2.34P : DMH-16

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.77' @ 12.10 hrs

Flood Elev= 69.00'

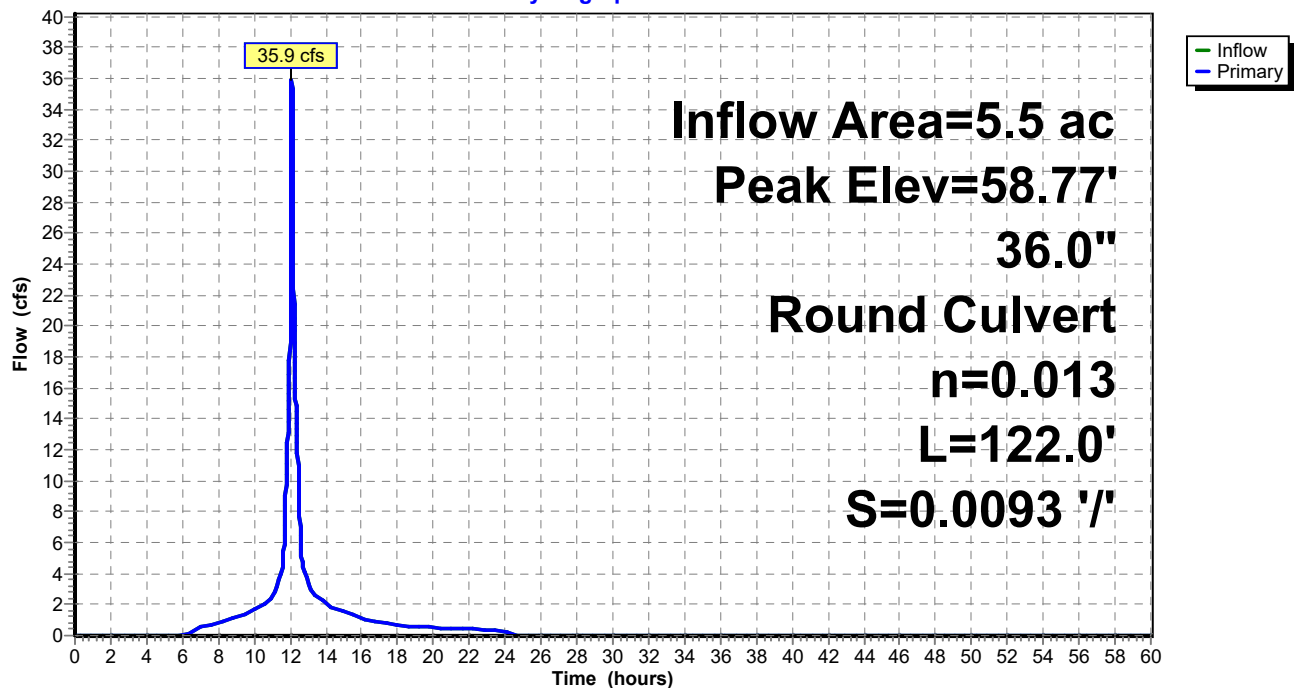
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 55.48' | 36.0" Round Culvert
L= 122.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 55.48' / 54.35' S= 0.0093 '/' Cc= 0.900
n= 0.013, Flow Area= 7.07 sf |

Primary OutFlow Max=35.9 cfs @ 12.10 hrs HW=58.76' (Free Discharge)

↑1=Culvert (Inlet Controls 35.9 cfs @ 5.07 fps)

Pond 2.33P: DMH-13

Hydrograph



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Summary for Pond 2.34P: DMH-16

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 6.30" for 50-YR event
Inflow = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af
Outflow = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af, Atten= 0%, Lag= 0.0 min
Primary = 35.9 cfs @ 12.10 hrs, Volume= 2.864 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.53' @ 12.10 hrs

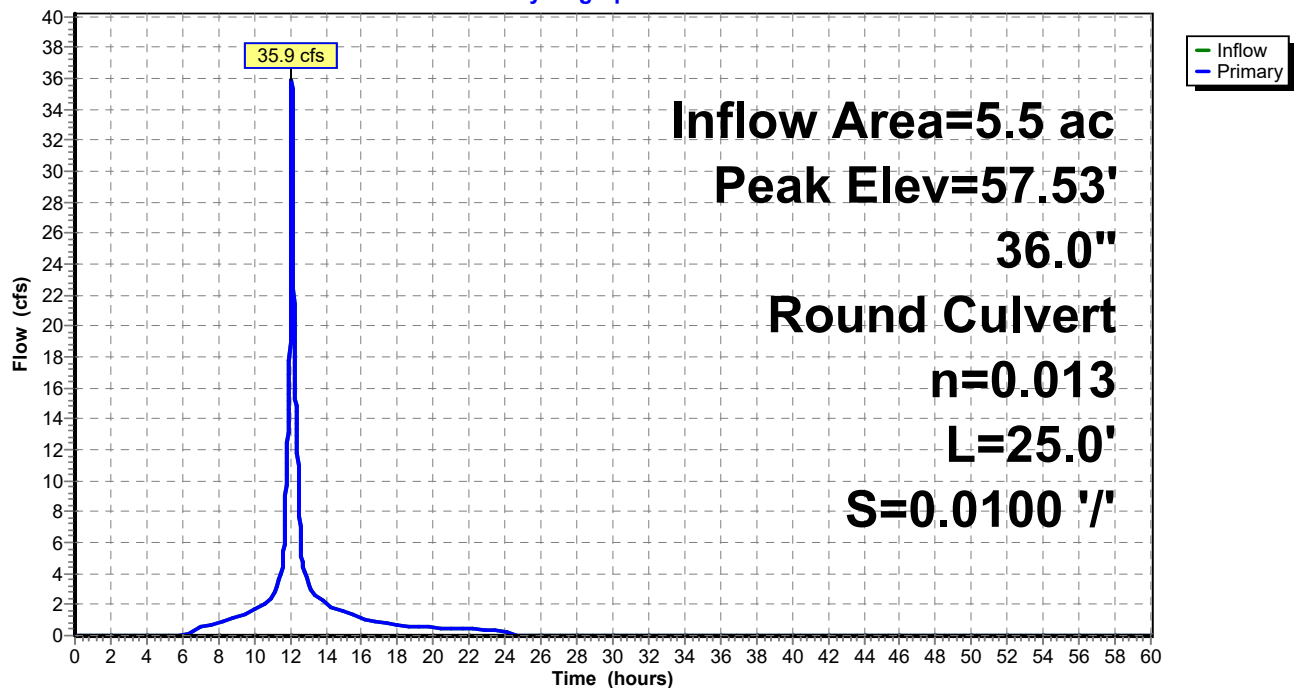
Flood Elev= 60.55'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 54.25' | 36.0" Round Culvert
L= 25.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 54.25' / 54.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf |

Primary OutFlow Max=35.9 cfs @ 12.10 hrs HW=57.53' TW=55.50' (Fixed TW Elev= 55.50')
↑1=Culvert (Inlet Controls 35.9 cfs @ 5.07 fps)

Pond 2.34P: DMH-16

Hydrograph



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Summary for Pond 2.3P: CB-24

Inflow Area = 1.8 ac, 74.18% Impervious, Inflow Depth = 6.53" for 50-YR event
Inflow = 11.5 cfs @ 12.10 hrs, Volume= 0.997 af
Outflow = 11.5 cfs @ 12.10 hrs, Volume= 0.997 af, Atten= 0%, Lag= 0.0 min
Primary = 11.5 cfs @ 12.10 hrs, Volume= 0.997 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

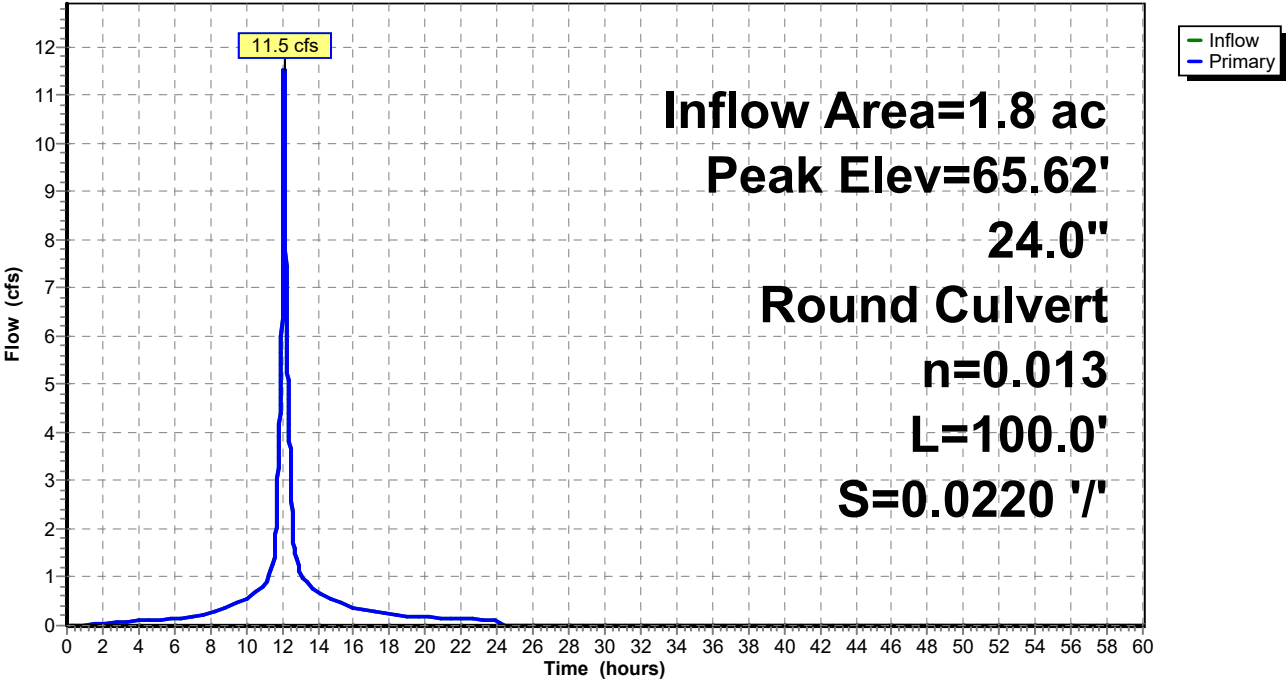
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 65.62' @ 12.10 hrs
Flood Elev= 69.90'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.70' | 24.0" Round Culvert
L= 100.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.70' / 61.50' S= 0.0220 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=11.5 cfs @ 12.10 hrs HW=65.61' (Free Discharge)
↑1=Culvert (Inlet Controls 11.5 cfs @ 3.72 fps)

Pond 2.3P: CB-24

Hydrograph



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Summary for Pond 2.4P: CB-17

Inflow Area = 0.5 ac, 81.06% Impervious, Inflow Depth = 6.67" for 50-YR event
Inflow = 3.5 cfs @ 12.09 hrs, Volume= 0.282 af
Outflow = 3.5 cfs @ 12.09 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
Primary = 3.5 cfs @ 12.09 hrs, Volume= 0.282 af
Routed to Pond 2.33P : DMH-13

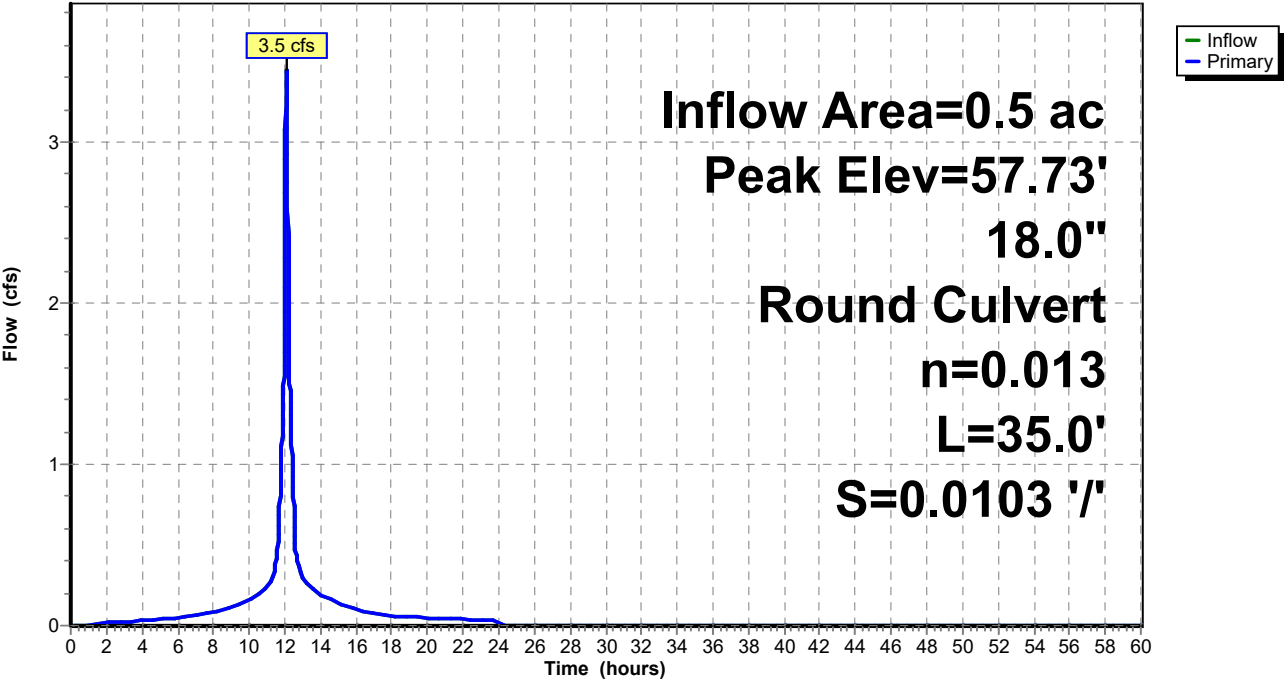
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 57.73' @ 12.09 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 56.71' | 18.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 56.71' / 56.35' S= 0.0103 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=3.4 cfs @ 12.09 hrs HW=57.73' (Free Discharge)
↑1=Culvert (Inlet Controls 3.4 cfs @ 2.71 fps)

Pond 2.4P: CB-17

Hydrograph



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Summary for Pond 2.5P: CB-20

Inflow Area = 0.4 ac, 80.93% Impervious, Inflow Depth = 6.66" for 50-YR event
Inflow = 2.8 cfs @ 12.08 hrs, Volume= 0.224 af
Outflow = 2.8 cfs @ 12.08 hrs, Volume= 0.224 af, Atten= 0%, Lag= 0.0 min
Primary = 2.8 cfs @ 12.08 hrs, Volume= 0.224 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.25' @ 12.08 hrs

Flood Elev= 65.75'

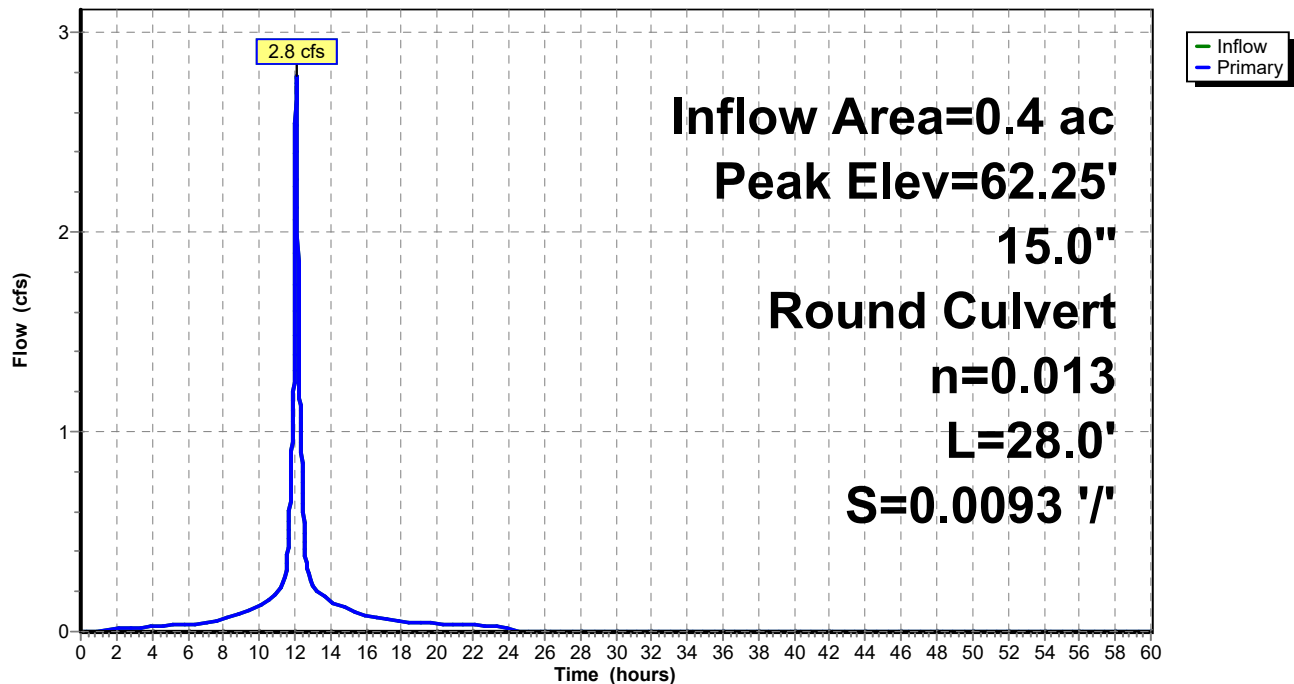
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.26' | 15.0" Round Culvert
L= 28.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.26' / 61.00' S= 0.0093 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=2.8 cfs @ 12.08 hrs HW=62.25' (Free Discharge)

↑1=Culvert (Barrel Controls 2.8 cfs @ 3.64 fps)

Pond 2.5P: CB-20

Hydrograph



Summary for Pond 2.6P: CB-15

Inflow Area = 0.4 ac, 77.40% Impervious, Inflow Depth = 6.59" for 50-YR event
Inflow = 2.9 cfs @ 12.09 hrs, Volume= 0.234 af
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 0.234 af
Routed to Pond 2.4P : CB-17

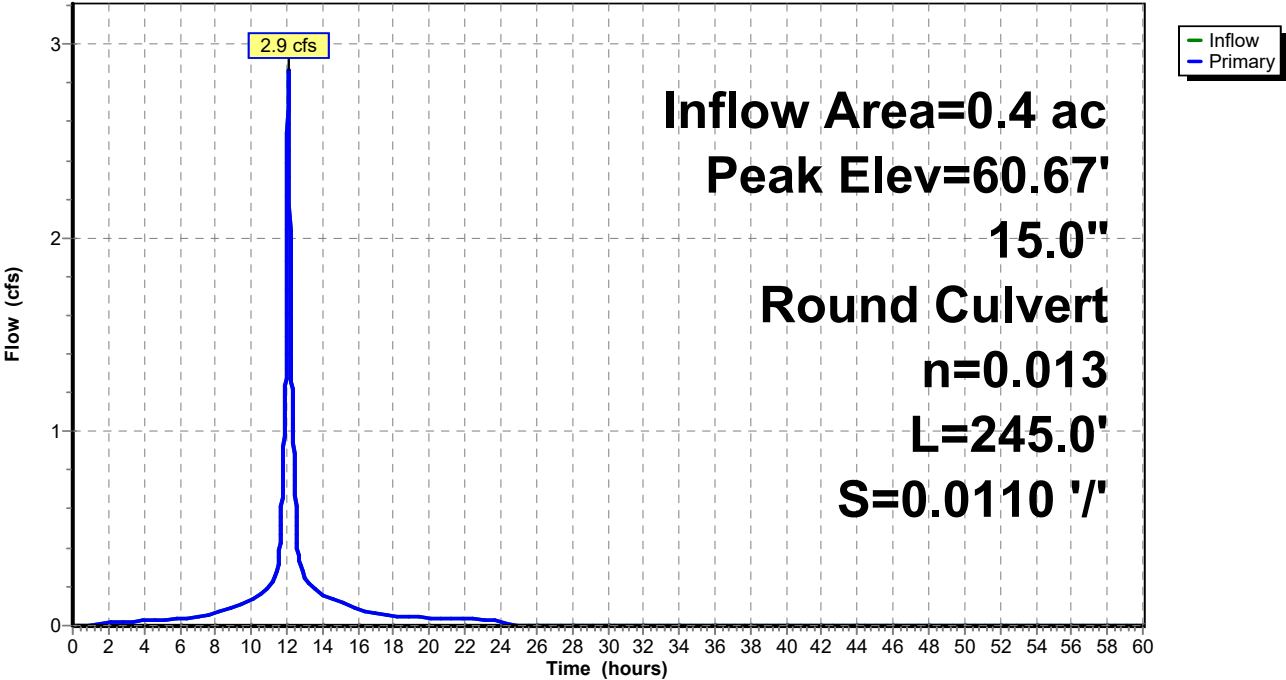
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 60.67' @ 12.09 hrs
Flood Elev= 64.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.66' | 15.0" Round Culvert
L= 245.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 59.66' / 56.96' S= 0.0110 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=60.67' (Free Discharge)
1=Culvert (Inlet Controls 2.9 cfs @ 2.70 fps)

Pond 2.6P: CB-15

Hydrograph



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Summary for Pond 2.7P: CB-8

Inflow Area = 0.9 ac, 83.06% Impervious, Inflow Depth = 6.71" for 50-YR event
Inflow = 6.5 cfs @ 12.08 hrs, Volume= 0.525 af
Outflow = 6.5 cfs @ 12.08 hrs, Volume= 0.525 af, Atten= 0%, Lag= 0.0 min
Primary = 6.5 cfs @ 12.08 hrs, Volume= 0.525 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.57' @ 12.08 hrs

Flood Elev= 68.00'

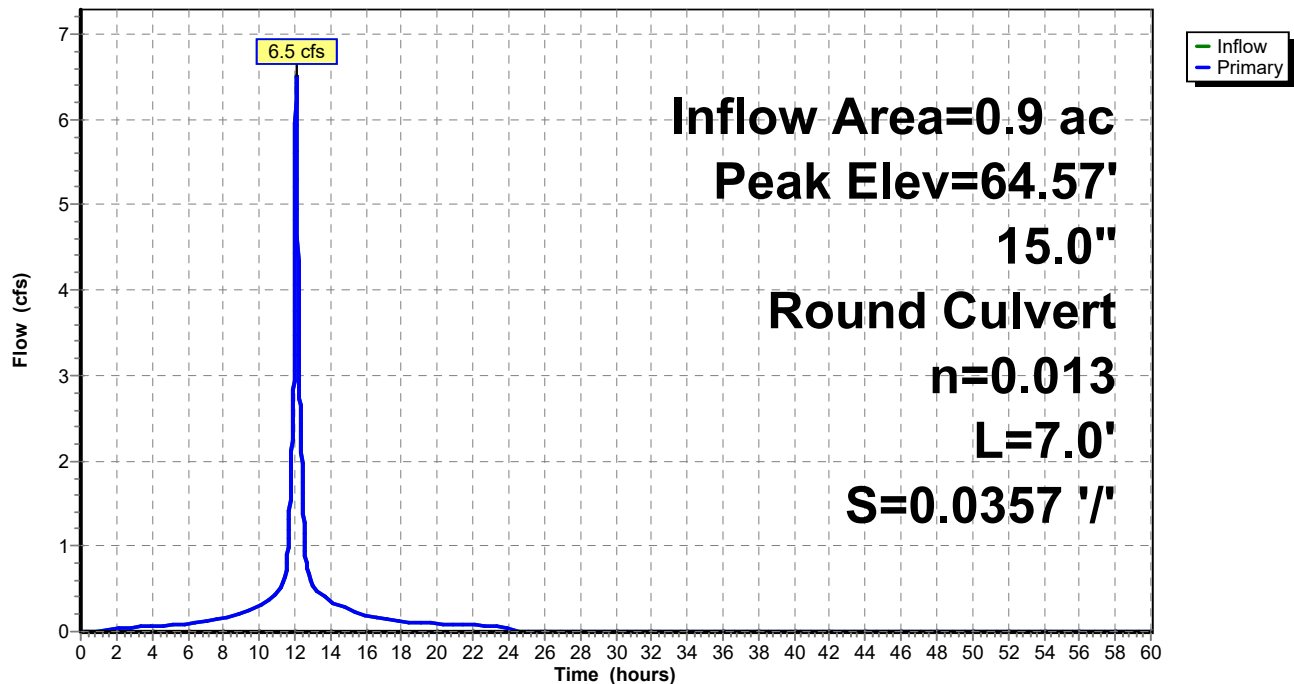
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.00' | 15.0" Round Culvert
L= 7.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.00' / 61.75' S= 0.0357 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=6.5 cfs @ 12.08 hrs HW=64.56' (Free Discharge)

↑1=Culvert (Inlet Controls 6.5 cfs @ 5.29 fps)

Pond 2.7P: CB-8

Hydrograph



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Summary for Pond 2.81P: DMH-3

Inflow Area = 1.8 ac, 55.68% Impervious, Inflow Depth = 6.47" for 50-YR event
Inflow = 12.0 cfs @ 12.08 hrs, Volume= 0.955 af
Outflow = 12.0 cfs @ 12.08 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min
Primary = 12.0 cfs @ 12.08 hrs, Volume= 0.955 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.21' @ 12.08 hrs

Flood Elev= 70.85'

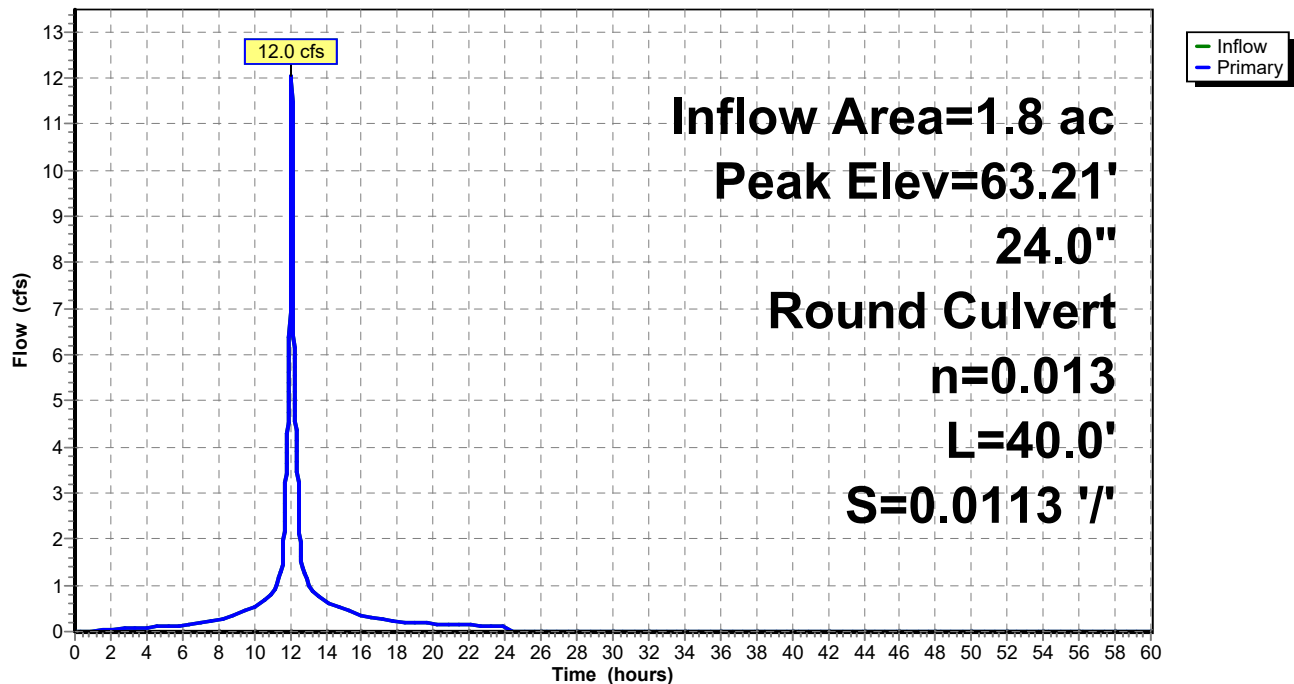
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 61.20' | 24.0" Round Culvert
L= 40.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.20' / 60.75' S= 0.0113 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=12.0 cfs @ 12.08 hrs HW=63.21' (Free Discharge)

↑1=Culvert (Inlet Controls 12.0 cfs @ 3.82 fps)

Pond 2.81P: DMH-3

Hydrograph



Summary for Pond 2.8P: CB-14

Inflow Area = 0.2 ac, 22.73% Impervious, Inflow Depth = 6.23" for 50-YR event
Inflow = 1.1 cfs @ 12.08 hrs, Volume= 0.085 af
Outflow = 1.1 cfs @ 12.08 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.08 hrs, Volume= 0.085 af
Routed to Pond 2.81P : DMH-3

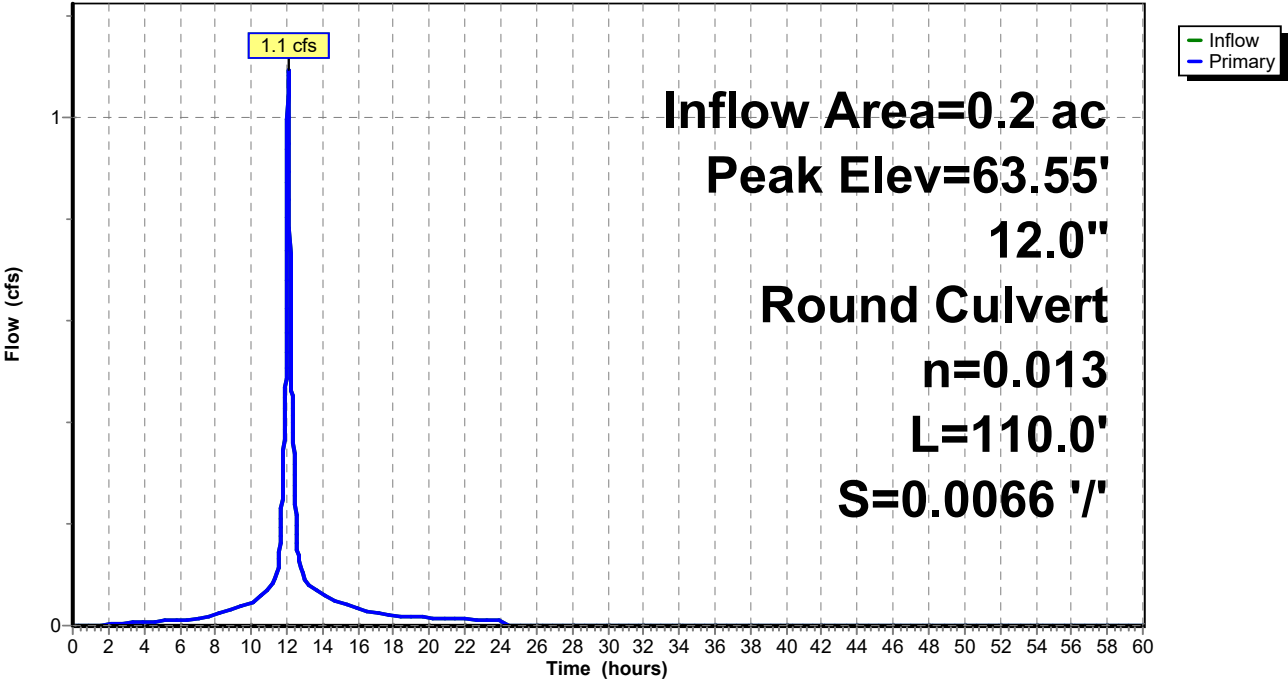
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 63.55' @ 12.08 hrs
Flood Elev= 67.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 62.93' | 12.0" Round Culvert
L= 110.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.93' / 62.20' S= 0.0066 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=1.1 cfs @ 12.08 hrs HW=63.55' (Free Discharge)
↑1=Culvert (Inlet Controls 1.1 cfs @ 2.12 fps)

Pond 2.8P: CB-14

Hydrograph



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Summary for Pond 2.9P: CB-5

Inflow Area = 1.1 ac, 71.99% Impervious, Inflow Depth = 6.53" for 50-YR event
Inflow = 7.3 cfs @ 12.08 hrs, Volume= 0.585 af
Outflow = 7.3 cfs @ 12.08 hrs, Volume= 0.585 af, Atten= 0%, Lag= 0.0 min
Primary = 7.3 cfs @ 12.08 hrs, Volume= 0.585 af
Routed to Pond 2.11P : CB-6

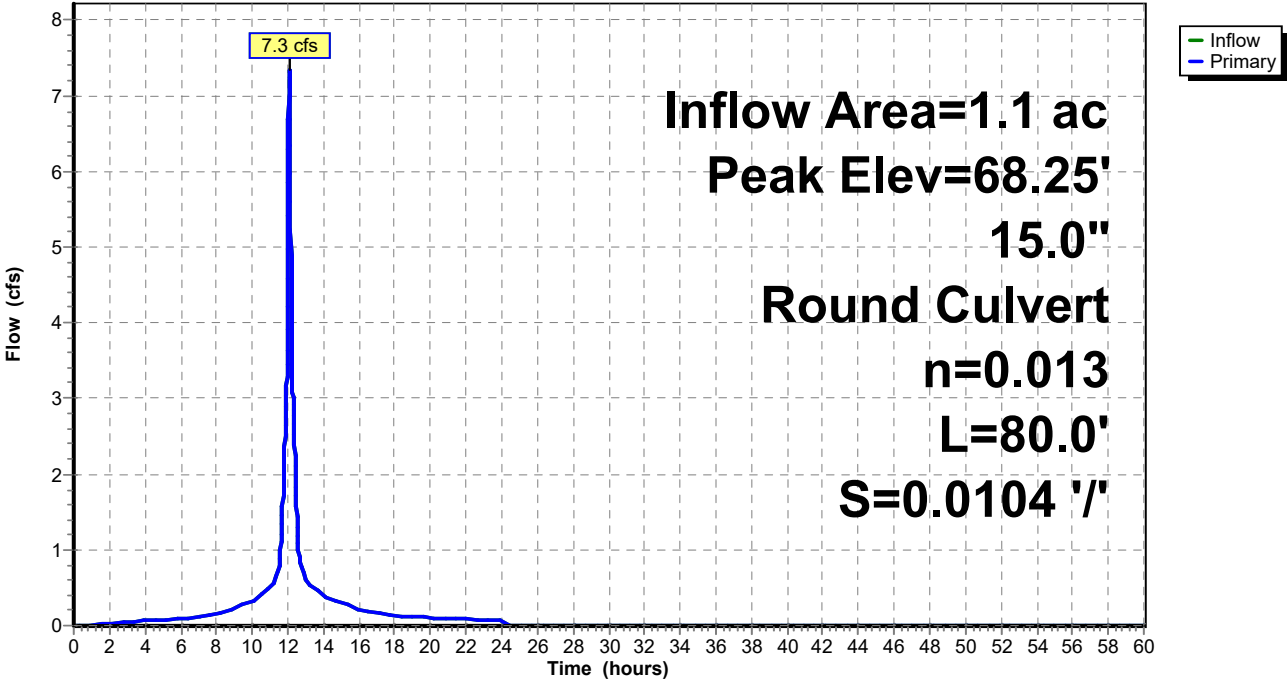
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 68.25' @ 12.08 hrs
Flood Elev= 72.50'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 65.15' | 15.0" Round Culvert
L= 80.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 65.15' / 64.32' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=7.3 cfs @ 12.08 hrs HW=68.24' (Free Discharge)
↑1=Culvert (Inlet Controls 7.3 cfs @ 5.97 fps)

Pond 2.9P: CB-5

Hydrograph



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Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 6.46" for 50-YR event
Inflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af
Outflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Atten= 0%, Lag= 0.0 min
Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.865 af
Routed to Link POA-4 :
Secondary = 6.8 cfs @ 12.10 hrs, Volume= 0.099 af
Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.38' @ 12.10 hrs

Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.38' (Free Discharge)

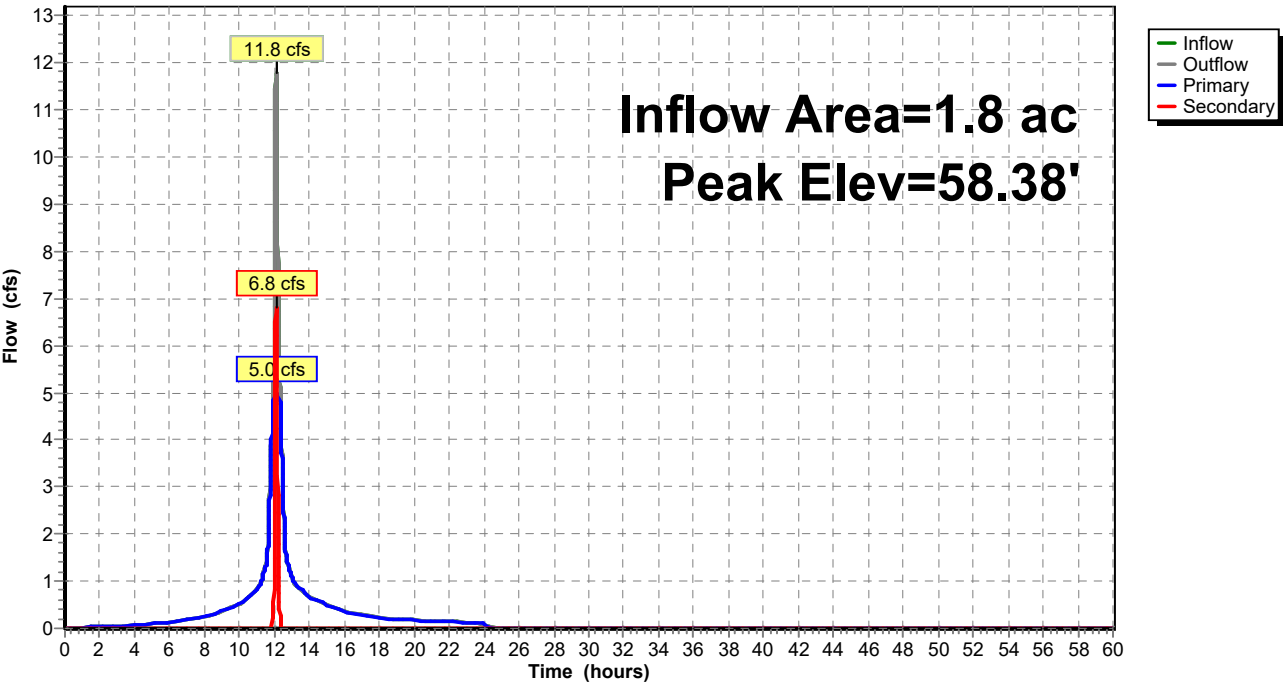
↑1=Culvert (Barrel Controls 5.0 cfs @ 4.06 fps)

Secondary OutFlow Max=6.8 cfs @ 12.10 hrs HW=58.38' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 6.8 cfs @ 1.79 fps)

Pond 4P: CB - Elm Street

Hydrograph



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Summary for Pond 5.1P:

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 6.32" for 50-YR event
Inflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Outflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af, Atten= 0%, Lag= 0.0 min
Primary = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Routed to Pond 5.2P : 42" RCP Outfall

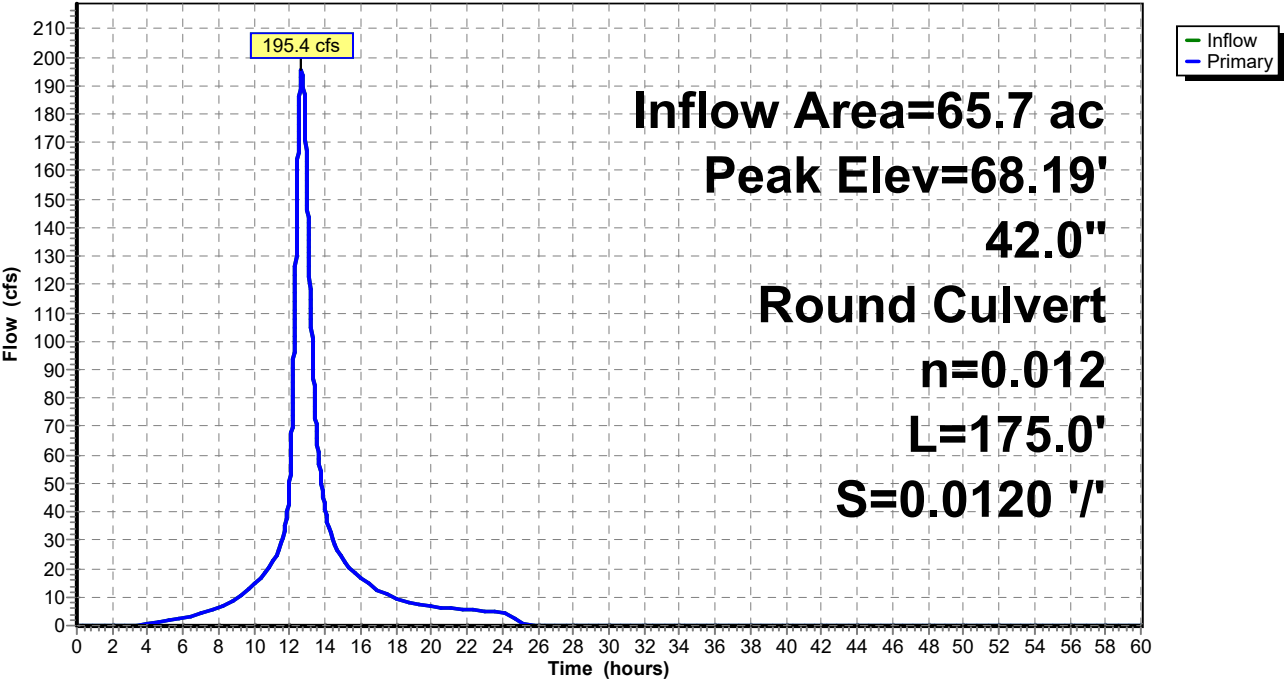
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 68.19' @ 12.68 hrs
Flood Elev= 60.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 48.65' | 42.0" Round Culvert
L= 175.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 48.65' / 46.55' S= 0.0120 '/ Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf |

Primary OutFlow Max=195.3 cfs @ 12.68 hrs HW=68.18' (Free Discharge)
↑1=Culvert (Inlet Controls 195.3 cfs @ 20.30 fps)

Pond 5.1P:

Hydrograph



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Summary for Pond 5.2P: 42" RCP Outfall

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 6.32" for 50-YR event
Inflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Outflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af, Atten= 0%, Lag= 0.0 min
Primary = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.99' @ 12.68 hrs

Flood Elev= 57.00'

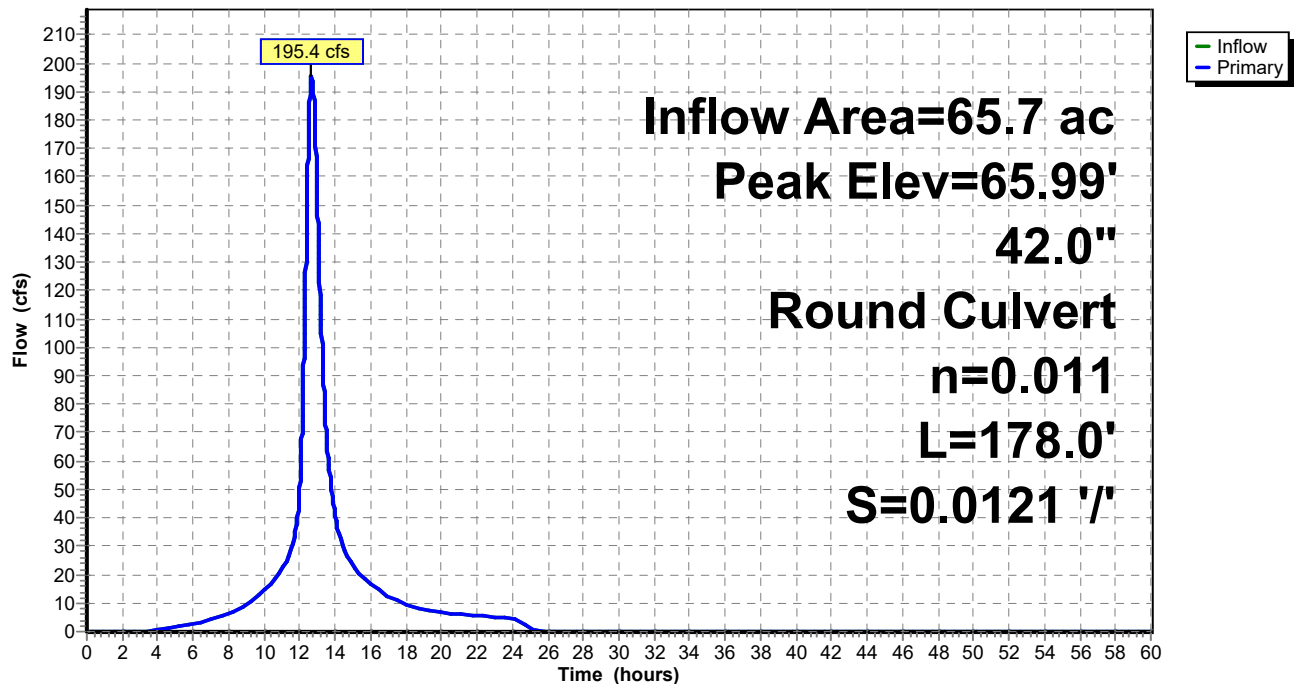
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.45' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.45' / 44.30' S= 0.0121 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=195.3 cfs @ 12.68 hrs HW=65.98' (Free Discharge)

↑1=Culvert (Inlet Controls 195.3 cfs @ 20.30 fps)

Pond 5.2P: 42" RCP Outfall

Hydrograph



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Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 6.32" for 50-YR event
Inflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Outflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af, Atten= 0%, Lag= 0.0 min
Primary = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.62' @ 12.68 hrs

Flood Elev= 75.77'

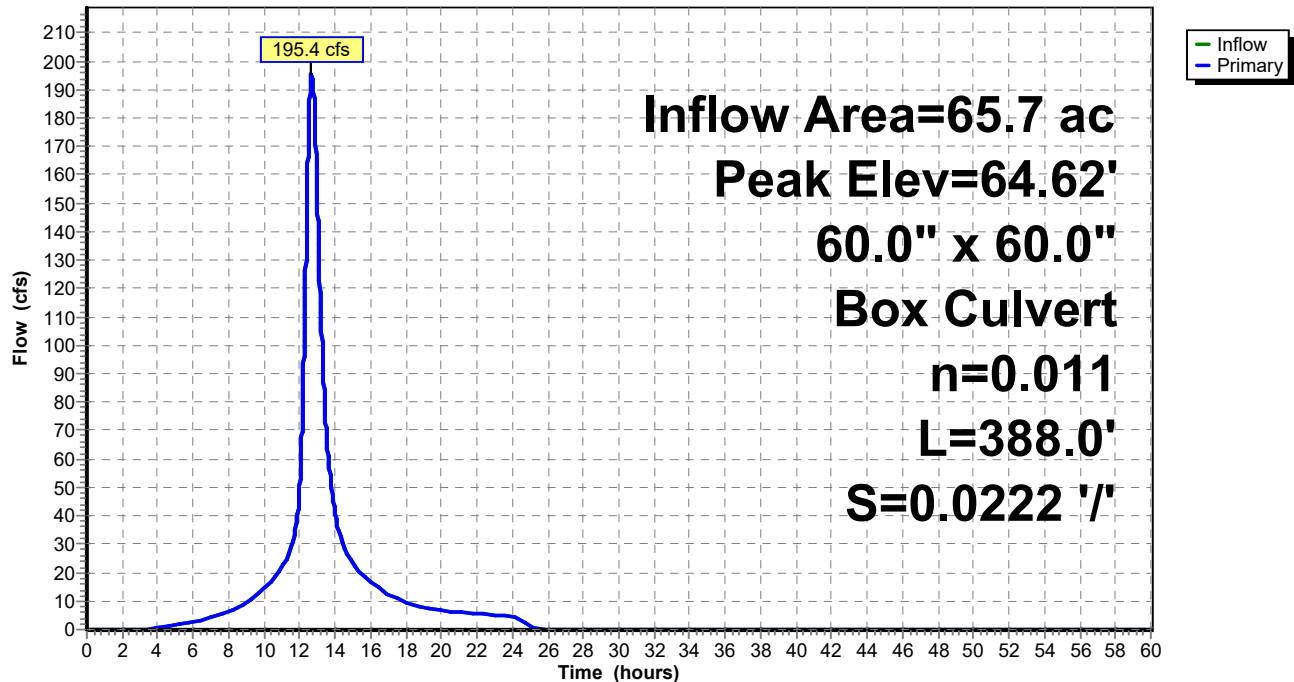
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=195.4 cfs @ 12.68 hrs HW=64.62' (Free Discharge)

↑1=Culvert (Inlet Controls 195.4 cfs @ 7.82 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



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Summary for Pond 51P: Box Culvert - Slab Top

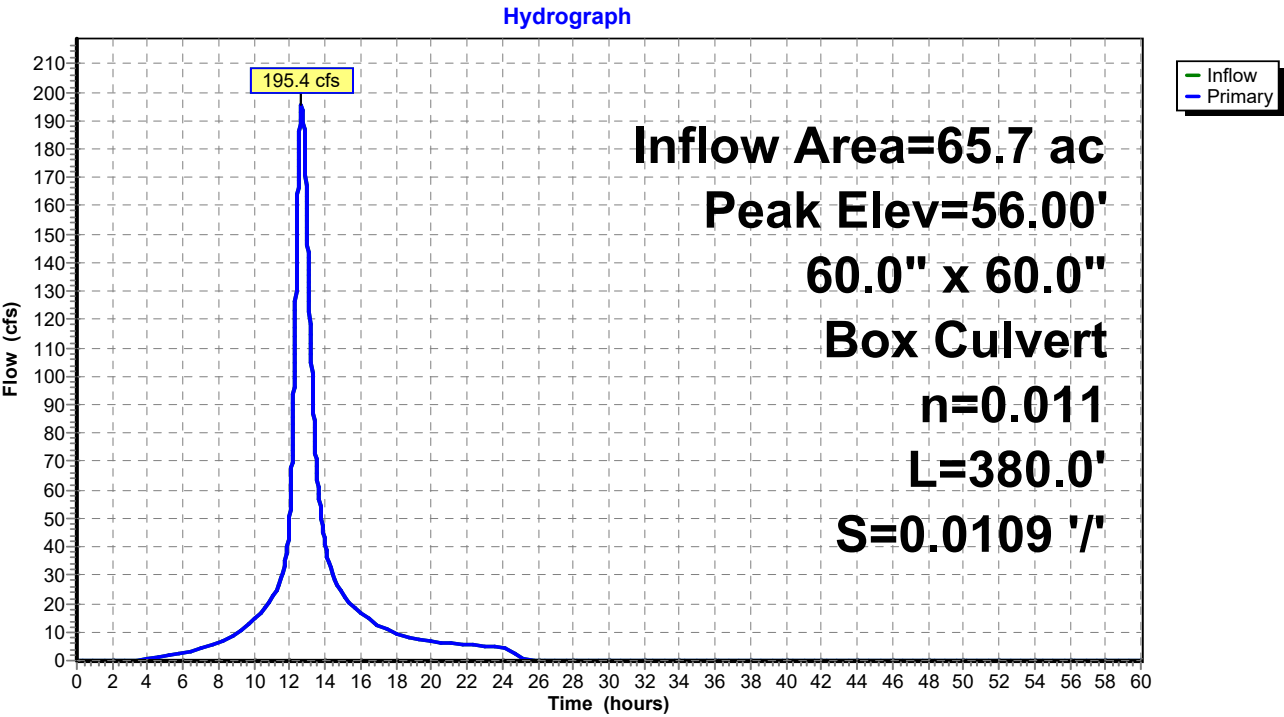
Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 6.32" for 50-YR event
Inflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Outflow = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af, Atten= 0%, Lag= 0.0 min
Primary = 195.4 cfs @ 12.68 hrs, Volume= 34.563 af
Routed to Pond 5.1P :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 56.00' @ 12.68 hrs
Flood Elev= 55.65'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=195.3 cfs @ 12.68 hrs HW=56.00' (Free Discharge)
↑1=Culvert (Inlet Controls 195.3 cfs @ 7.81 fps)

Pond 51P: Box Culvert - Slab Top



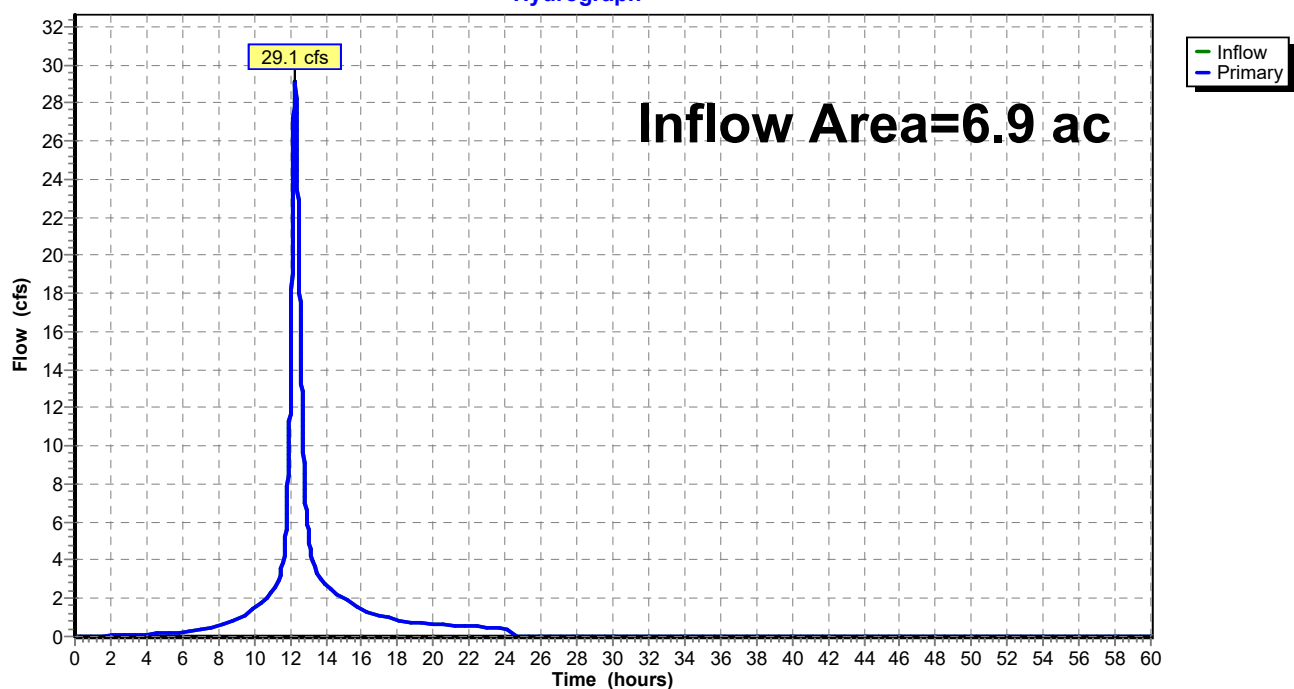
Summary for Link POA-1:

Inflow Area = 6.9 ac, 24.71% Impervious, Inflow Depth = 5.75" for 50-YR event
Inflow = 29.1 cfs @ 12.28 hrs, Volume= 3.303 af
Primary = 29.1 cfs @ 12.28 hrs, Volume= 3.303 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

Hydrograph



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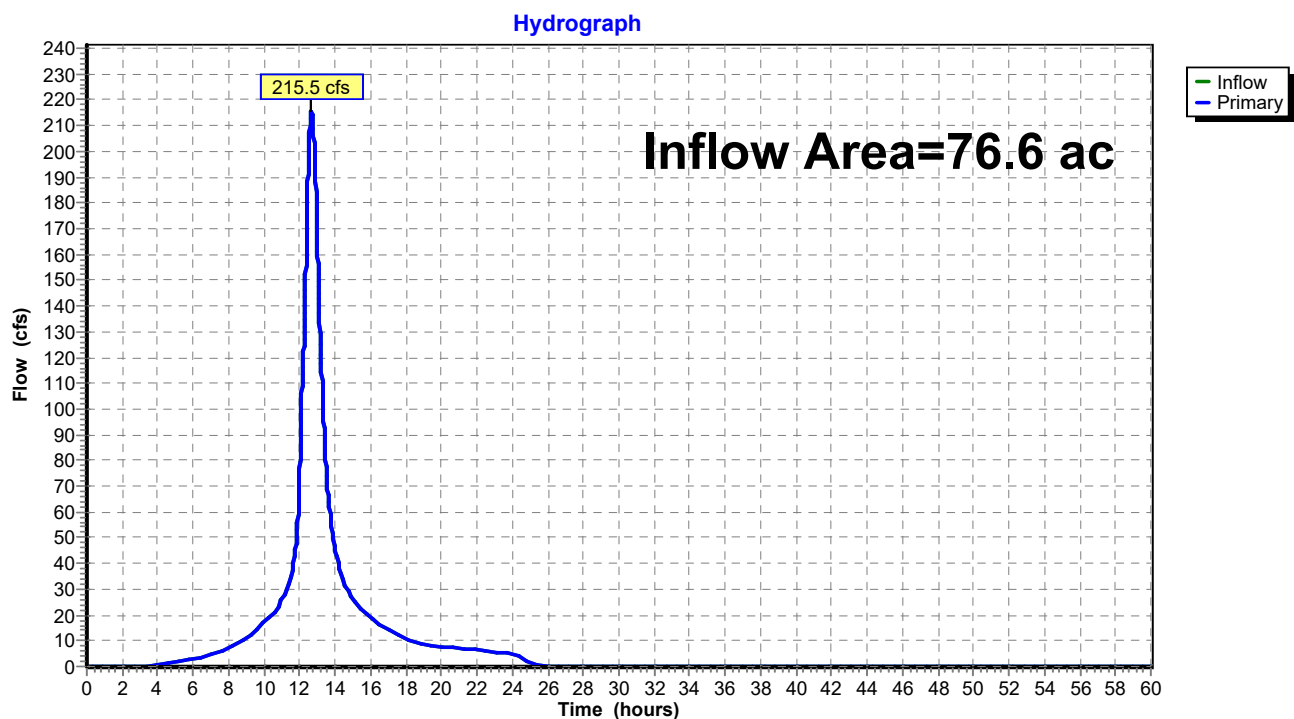
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Summary for Link POA-2:

Inflow Area = 76.6 ac, 59.22% Impervious, Inflow Depth = 6.26" for 50-YR event
Inflow = 215.5 cfs @ 12.68 hrs, Volume= 39.932 af
Primary = 215.5 cfs @ 12.68 hrs, Volume= 39.932 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:



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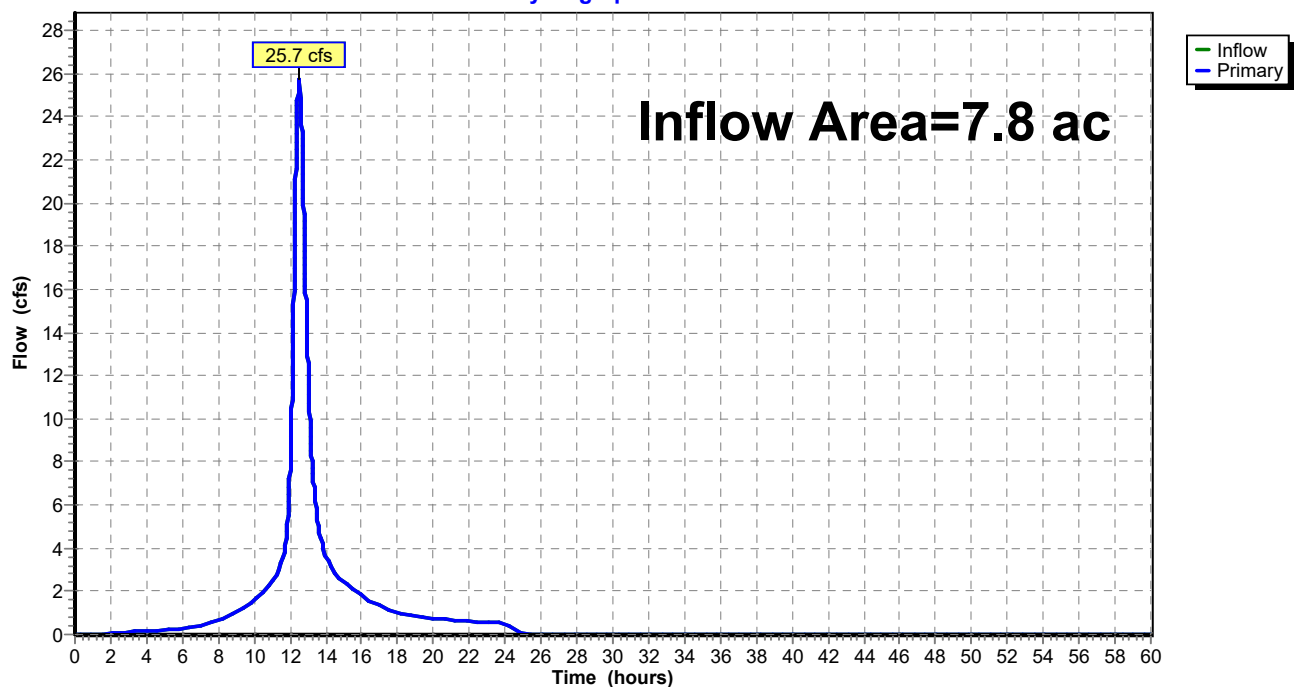
Summary for Link POA-3:

Inflow Area = 7.8 ac, 24.37% Impervious, Inflow Depth = 5.93" for 50-YR event
Inflow = 25.7 cfs @ 12.51 hrs, Volume= 3.857 af
Primary = 25.7 cfs @ 12.51 hrs, Volume= 3.857 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

Hydrograph



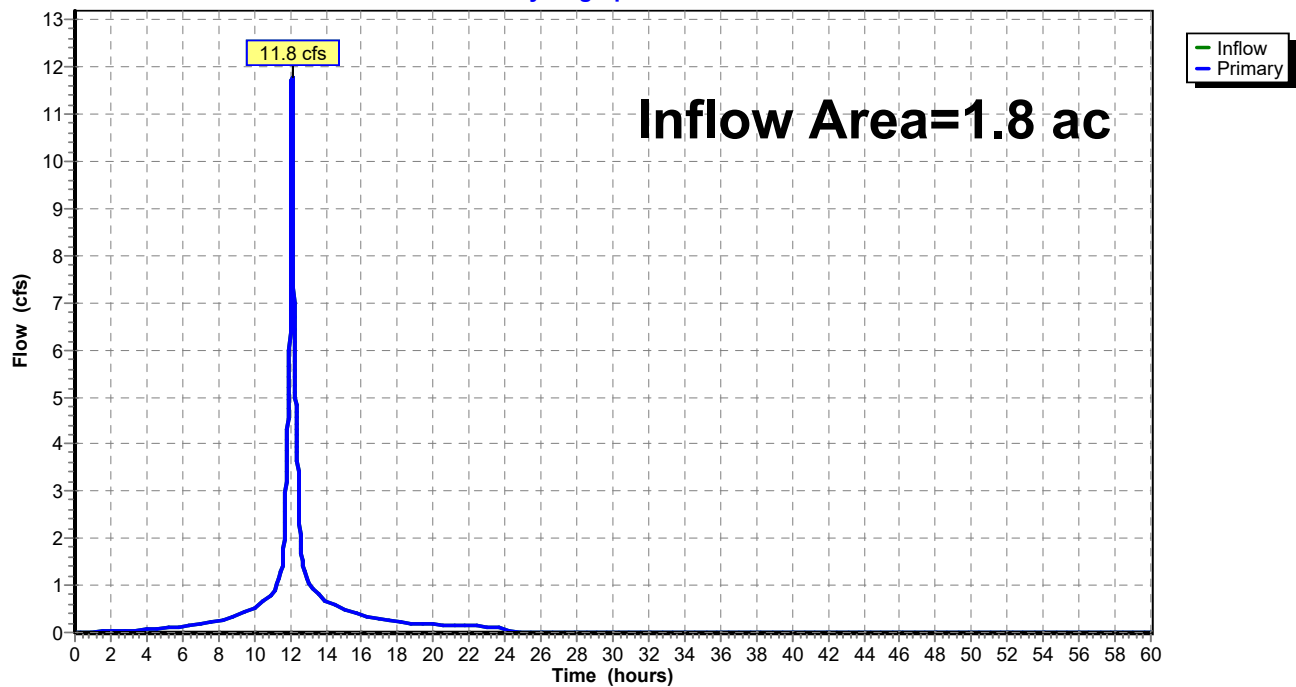
Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 6.46" for 50-YR event
 Inflow = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af
 Primary = 11.8 cfs @ 12.10 hrs, Volume= 0.964 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

Hydrograph



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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

| | |
|---------------------------------|--|
| Subcatchment1.1S: 1.2S | Runoff Area=300,080 sf 24.71% Impervious Runoff Depth=7.11"
Flow Length=325' Tc=21.0 min CN=WQ Runoff=35.7 cfs 4.079 af |
| Subcatchment2.10S: 2.10S | Runoff Area=7,550 sf 78.41% Impervious Runoff Depth=7.99"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.4 cfs 0.115 af |
| Subcatchment2.11S: 2.11S | Runoff Area=14,120 sf 46.46% Impervious Runoff Depth=8.18"
Flow Length=220' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.7 cfs 0.221 af |
| Subcatchment2.12S: 2.12S | Runoff Area=9,090 sf 11.99% Impervious Runoff Depth=7.18"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.6 cfs 0.125 af |
| Subcatchment2.13S: 2.13S | Runoff Area=11,500 sf 58.26% Impervious Runoff Depth=7.77"
Flow Length=95' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=2.1 cfs 0.171 af |
| Subcatchment2.14S: | Runoff Area=238,790 sf 4.27% Impervious Runoff Depth=6.83"
Flow Length=1,011' Tc=45.4 min CN=WQ Runoff=19.5 cfs 3.118 af |
| Subcatchment2.1S: 2.1S | Runoff Area=7,310 sf 49.36% Impervious Runoff Depth=7.38"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=1.3 cfs 0.103 af |
| Subcatchment2.2S: 2.2S | Runoff Area=49,060 sf 66.09% Impervious Runoff Depth=7.73"
Flow Length=86' Slope=0.0150 '/' Tc=9.1 min CN=WQ Runoff=8.3 cfs 0.726 af |
| Subcatchment2.3S: 2.2S | Runoff Area=30,790 sf 87.07% Impervious Runoff Depth=8.18"
Flow Length=90' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=5.9 cfs 0.482 af |
| Subcatchment2.4S: 2.4S | Runoff Area=3,580 sf 100.00% Impervious Runoff Depth=8.46"
Flow Length=195' Slope=0.1500 '/' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.058 af |
| Subcatchment2.5S: 2.5S | Runoff Area=17,570 sf 80.93% Impervious Runoff Depth=8.04"
Flow Length=160' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=3.3 cfs 0.270 af |
| Subcatchment2.6S: 2.6S | Runoff Area=18,540 sf 77.40% Impervious Runoff Depth=7.97"
Flow Length=65' Slope=0.0230 '/' Tc=6.5 min CN=WQ Runoff=3.4 cfs 0.283 af |
| Subcatchment2.7S: 2.7S | Runoff Area=40,900 sf 83.06% Impervious Runoff Depth=8.09"
Flow Length=155' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=7.8 cfs 0.633 af |
| Subcatchment2.8S: | Runoff Area=7,170 sf 22.73% Impervious Runoff Depth=7.60"
Flow Length=70' Tc=6.0 min CN=WQ Runoff=1.3 cfs 0.104 af |
| Subcatchment2.9S: 2.9S | Runoff Area=20,450 sf 85.43% Impervious Runoff Depth=8.14"
Flow Length=180' Slope=0.0150 '/' Tc=6.0 min CN=WQ Runoff=3.9 cfs 0.319 af |
| Subcatchment3.1S: | Runoff Area=339,930 sf 24.37% Impervious Runoff Depth=7.29"
Flow Length=250' Tc=38.3 min CN=WQ Runoff=31.4 cfs 4.741 af |

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Subcatchment4S:Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=7.85"
Flow Length=550' Tc=7.3 min CN=WQ Runoff=14.2 cfs 1.170 af**Subcatchment5.1S:**Runoff Area=2,860,020 sf 62.85% Impervious Runoff Depth=7.70"
Flow Length=4,504' Tc=52.6 min CN=WQ Runoff=235.9 cfs 42.137 af**Pond 2.10P: CB-4**Peak Elev=70.44' Inflow=1.4 cfs 0.115 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0100 '/' Outflow=1.4 cfs 0.115 af**Pond 2.11P: CB-6**Peak Elev=67.79' Inflow=11.6 cfs 0.929 af
18.0" Round Culvert n=0.013 L=45.0' S=0.0111 '/' Outflow=11.6 cfs 0.929 af**Pond 2.12P: CB-7**Peak Elev=68.08' Inflow=13.2 cfs 1.054 af
18.0" Round Culvert n=0.013 L=170.0' S=0.0104 '/' Outflow=13.2 cfs 1.054 af**Pond 2.13P: CB-3**Peak Elev=69.13' Inflow=3.5 cfs 0.274 af
15.0" Round Culvert n=0.013 L=235.0' S=0.0109 '/' Outflow=3.5 cfs 0.274 af**Pond 2.1P: CB-2**Peak Elev=70.81' Inflow=1.3 cfs 0.103 af
12.0" Round Culvert n=0.013 L=180.0' S=0.0106 '/' Outflow=1.3 cfs 0.103 af**Pond 2.21P: DMH-6**Peak Elev=70.24' Inflow=8.3 cfs 0.726 af
15.0" Round Culvert n=0.013 L=115.0' S=0.0113 '/' Outflow=8.3 cfs 0.726 af**Pond 2.22P: DMH-8**Peak Elev=67.18' Inflow=8.3 cfs 0.726 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0108 '/' Outflow=8.3 cfs 0.726 af**Pond 2.2P: DMH-7**Peak Elev=79.99' Inflow=8.3 cfs 0.726 af
12.0" Round Culvert n=0.013 L=165.0' S=0.0113 '/' Outflow=8.3 cfs 0.726 af**Pond 2.31BP: CMP DETENTIONWITHOUT**Peak Elev=64.27' Storage=7,554 cf Inflow=39.3 cfs 3.269 af
Outflow=39.2 cfs 3.150 af**Pond 2.32P: DMH-12**Peak Elev=69.24' Inflow=39.2 cfs 3.150 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0093 '/' Outflow=39.2 cfs 3.150 af**Pond 2.33P: DMH-13**Peak Elev=59.59' Inflow=43.4 cfs 3.491 af
36.0" Round Culvert n=0.013 L=122.0' S=0.0093 '/' Outflow=43.4 cfs 3.491 af**Pond 2.34P: DMH-16**Peak Elev=58.36' Inflow=43.4 cfs 3.491 af
36.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=43.4 cfs 3.491 af**Pond 2.3P: CB-24**Peak Elev=66.05' Inflow=13.9 cfs 1.208 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0220 '/' Outflow=13.9 cfs 1.208 af**Pond 2.4P: CB-17**Peak Elev=57.85' Inflow=4.1 cfs 0.341 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0103 '/' Outflow=4.1 cfs 0.341 af**Pond 2.5P: CB-20**Peak Elev=62.39' Inflow=3.3 cfs 0.270 af
15.0" Round Culvert n=0.013 L=28.0' S=0.0093 '/' Outflow=3.3 cfs 0.270 af

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Pond 2.6P: CB-15Peak Elev=60.82' Inflow=3.4 cfs 0.283 af
15.0" Round Culvert n=0.013 L=245.0' S=0.0110 '/ Outflow=3.4 cfs 0.283 af**Pond 2.7P: CB-8**Peak Elev=65.43' Inflow=7.8 cfs 0.633 af
15.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/ Outflow=7.8 cfs 0.633 af**Pond 2.81P: DMH-3**Peak Elev=63.68' Inflow=14.5 cfs 1.158 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0113 '/ Outflow=14.5 cfs 1.158 af**Pond 2.8P: CB-14**Peak Elev=63.63' Inflow=1.3 cfs 0.104 af
12.0" Round Culvert n=0.013 L=110.0' S=0.0066 '/ Outflow=1.3 cfs 0.104 af**Pond 2.9P: CB-5**Peak Elev=69.37' Inflow=8.8 cfs 0.708 af
15.0" Round Culvert n=0.013 L=80.0' S=0.0104 '/ Outflow=8.8 cfs 0.708 af**Pond 4P: CB - Elm Street**Peak Elev=58.46' Inflow=14.2 cfs 1.170 af
Primary=5.0 cfs 1.013 af Secondary=9.2 cfs 0.157 af Outflow=14.2 cfs 1.170 af**Pond 5.1P:**Peak Elev=76.33' Inflow=235.9 cfs 42.137 af
42.0" Round Culvert n=0.012 L=175.0' S=0.0120 '/ Outflow=235.9 cfs 42.137 af**Pond 5.2P: 42" RCP Outfall**Peak Elev=74.13' Inflow=235.9 cfs 42.137 af
42.0" Round Culvert n=0.011 L=178.0' S=0.0121 '/ Outflow=235.9 cfs 42.137 af**Pond 5P: Box Culvert - Railroad**Peak Elev=65.75' Inflow=235.9 cfs 42.137 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/ Outflow=235.9 cfs 42.137 af**Pond 51P: Box Culvert - Slab Top**Peak Elev=57.13' Inflow=235.9 cfs 42.137 af
60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/ Outflow=235.9 cfs 42.137 af**Link POA-1:**Inflow=35.7 cfs 4.079 af
Primary=35.7 cfs 4.079 af**Link POA-2:**Inflow=260.6 cfs 48.746 af
Primary=260.6 cfs 48.746 af**Link POA-3:**Inflow=31.4 cfs 4.741 af
Primary=31.4 cfs 4.741 af**Link POA-4:**Inflow=14.2 cfs 1.170 af
Primary=14.2 cfs 1.170 af**Total Runoff Area = 93.1 ac Runoff Volume = 58.855 af Average Runoff Depth = 7.59"**
46.64% Pervious = 43.4 ac 53.36% Impervious = 49.7 ac

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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 1.1S: 1.2S

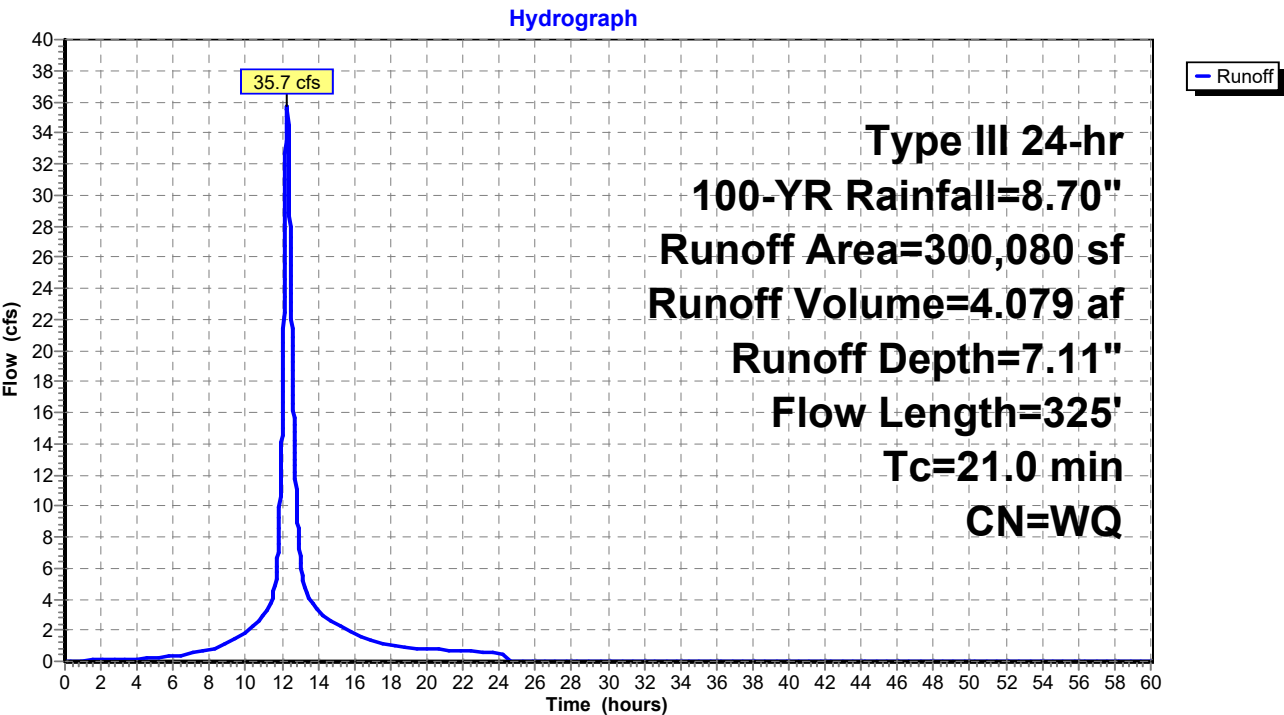
Runoff = 35.7 cfs @ 12.28 hrs, Volume= 4.079 af, Depth= 7.11"
 Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 32,590 | 98 | Roofs, HSG D |
| 35,120 | 98 | Paved parking, HSG D |
| * 6,450 | 98 | Sidewalks, HSG D |
| 32,665 | 89 | <50% Grass cover, Poor, HSG D |
| 141,705 | 83 | Woods, Poor, HSG D |
| 43,190 | 80 | >75% Grass cover, Good, HSG D |
| 8,360 | 78 | Meadow, non-grazed, HSG D |
| 300,080 | | Weighted Average |
| 225,920 | | 75.29% Pervious Area |
| 74,160 | | 24.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 18.0 | 100 | 0.0300 | 0.09 | | Sheet Flow, A-B
Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.5 | 50 | 0.1100 | 1.66 | | Shallow Concentrated Flow, B-C
Woodland Kv= 5.0 fps |
| 0.6 | 75 | 0.0200 | 2.12 | | Shallow Concentrated Flow, C-D
Grassed Waterway Kv= 15.0 fps |
| 0.1 | 25 | 0.0100 | 4.54 | 3.56 | Pipe Channel, D-E
12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
n= 0.013 Corrugated PE, smooth interior |
| 1.8 | 75 | 0.0200 | 0.71 | | Shallow Concentrated Flow, E-F
Woodland Kv= 5.0 fps |
| 21.0 | 325 | Total | | | |

Subcatchment 1.1S: 1.2S



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Summary for Subcatchment 2.10S: 2.10S

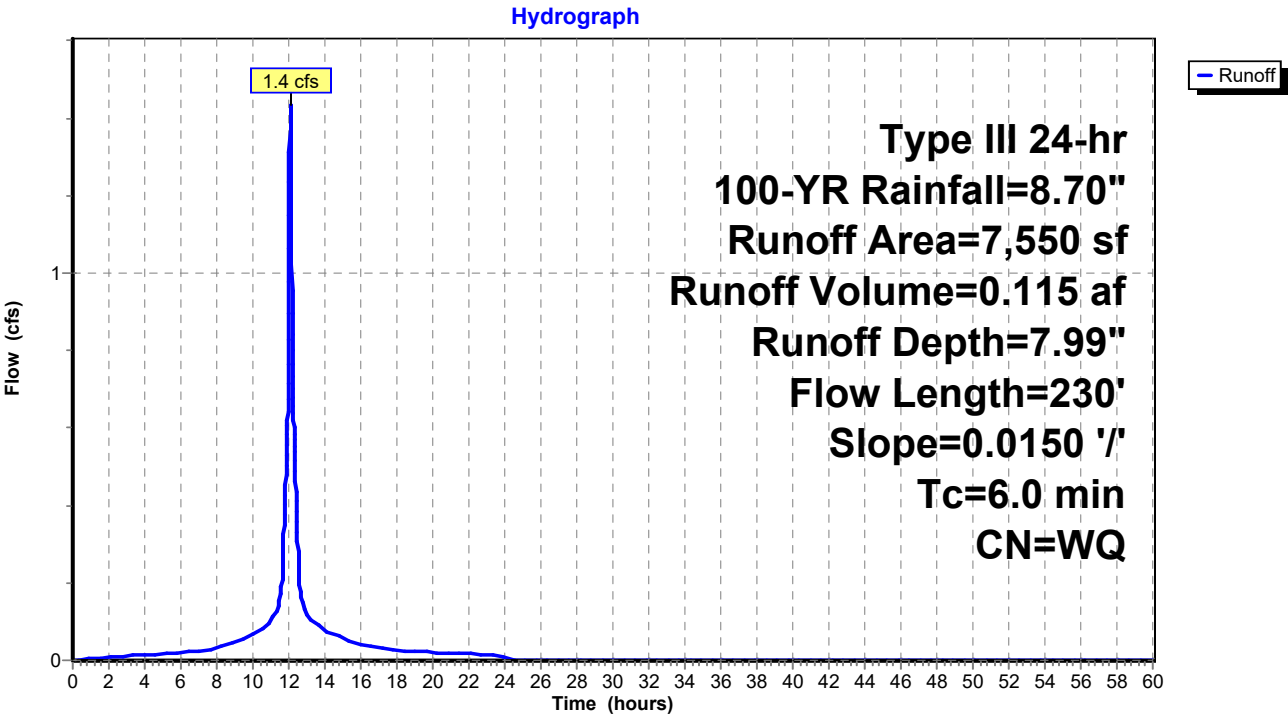
Runoff = 1.4 cfs @ 12.08 hrs, Volume= 0.115 af, Depth= 7.99"
Routed to Pond 2.10P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 780 | 98 | Sidewalks, HSG D |
| 5,140 | 98 | Paved parking, HSG D |
| 1,630 | 80 | >75% Grass cover, Good, HSG D |
| 7,550 | | Weighted Average |
| 1,630 | | 21.59% Pervious Area |
| 5,920 | | 78.41% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.6 | 230 | 0.0150 | 1.47 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.4 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 230 | Total | | | |

Subcatchment 2.10S: 2.10S



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.11S: 2.11S

Runoff = 2.7 cfs @ 12.08 hrs, Volume= 0.221 af, Depth= 8.18"
Routed to Pond 2.11P : CB-6

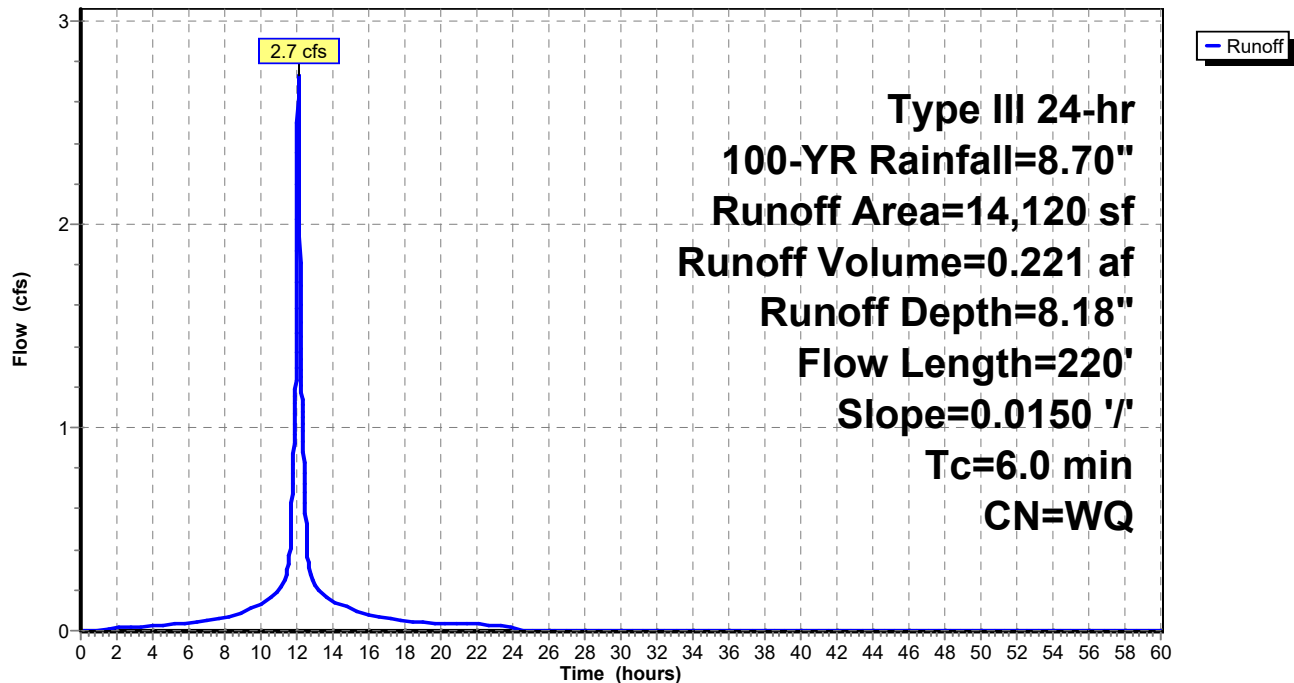
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| * 340 | 98 | Sidewalks, HSG D |
| 1,100 | 80 | >75% Grass cover, Good, HSG D |
| 6,220 | 98 | Paved parking, HSG D |
| 6,460 | 96 | Gravel surface, HSG D |
| 14,120 | | Weighted Average |
| 7,560 | | 53.54% Pervious Area |
| 6,560 | | 46.46% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.5 | 220 | 0.0150 | 1.46 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 220 | Total | | | |

Subcatchment 2.11S: 2.11S

Hydrograph



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Summary for Subcatchment 2.12S: 2.12S

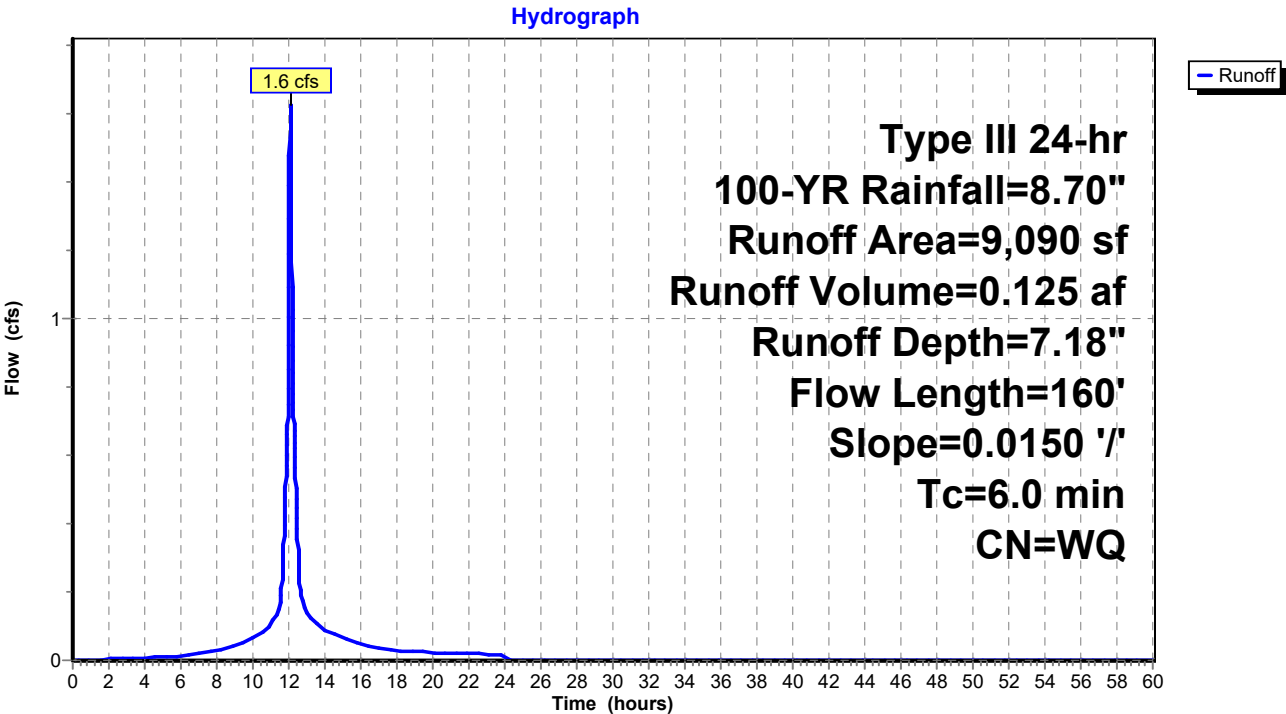
Runoff = 1.6 cfs @ 12.08 hrs, Volume= 0.125 af, Depth= 7.18"
Routed to Pond 2.12P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 1,090 | 98 | Sidewalks, HSG D |
| | 5,020 | 80 | >75% Grass cover, Good, HSG D |
| | 2,980 | 96 | Gravel surface, HSG D |
| | 9,090 | | Weighted Average |
| | 8,000 | | 88.01% Pervious Area |
| | 1,090 | | 11.99% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.12S: 2.12S



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.13S: 2.13S

Runoff = 2.1 cfs @ 12.08 hrs, Volume= 0.171 af, Depth= 7.77"
Routed to Pond 2.13P : CB-3

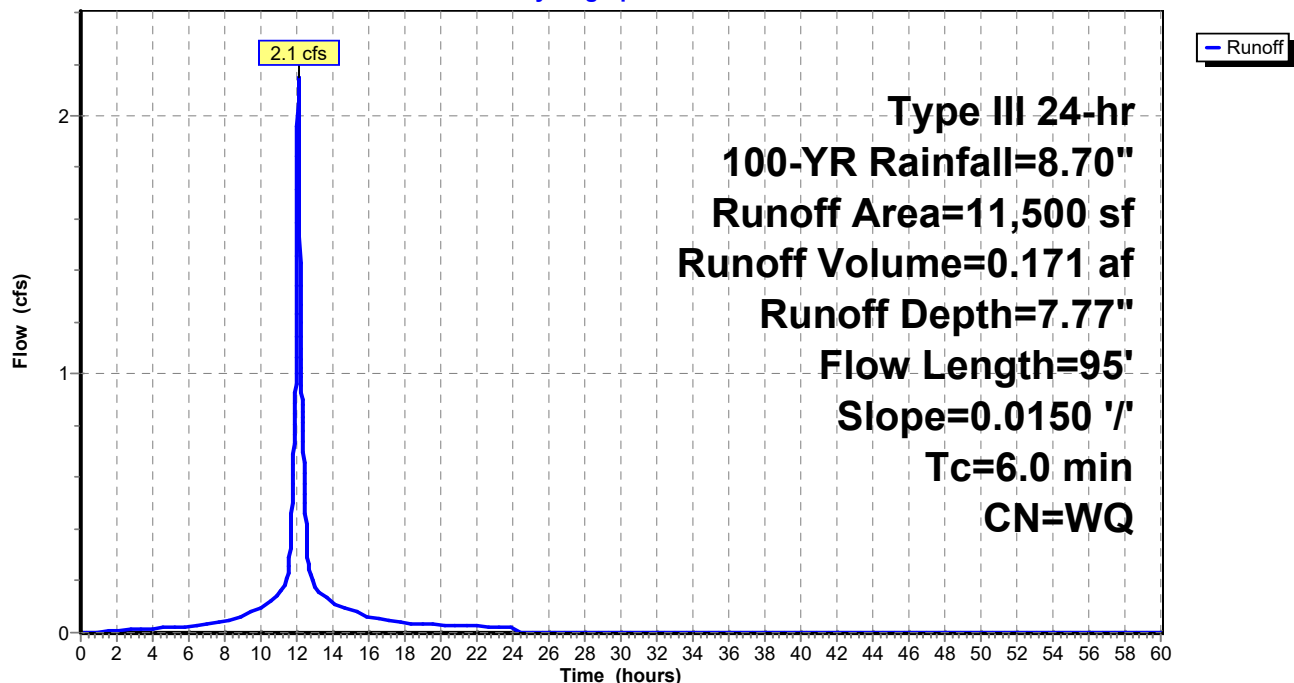
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 5,860 | 98 | Paved parking, HSG D |
| 3,510 | 80 | >75% Grass cover, Good, HSG D |
| * 540 | 98 | Sidewalks, HSG D |
| 300 | 98 | Unconnected pavement, HSG D |
| 1,290 | 96 | Gravel surface, HSG D |
| 11,500 | | Weighted Average |
| 4,800 | | 41.74% Pervious Area |
| 6,700 | | 58.26% Impervious Area |
| 300 | | 4.48% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.3 | 95 | 0.0150 | 1.23 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.7 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 95 | Total | | | |

Subcatchment 2.13S: 2.13S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.14S:

Runoff = 19.5 cfs @ 12.61 hrs, Volume= 3.118 af, Depth= 6.83"
 Routed to Link POA-2 :

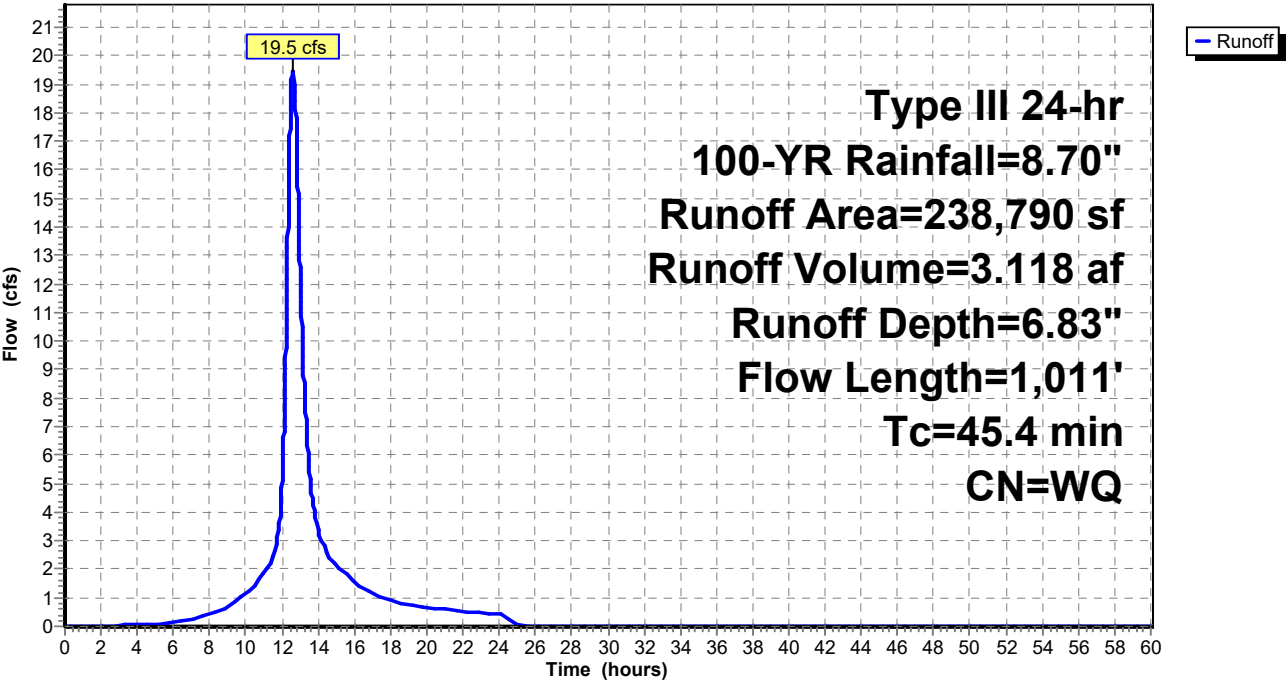
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 24,375 | 89 | <50% Grass cover, Poor, HSG D |
| 122,695 | 83 | Woods, Poor, HSG D |
| * 3,360 | 98 | Roofs, HSG D |
| * 19,110 | 96 | Gravel surface, HSG D |
| * 6,840 | 98 | Sidewalks, HSG D |
| 58,620 | 80 | >75% Grass cover, Good, HSG D |
| 3,790 | 78 | Meadow, non-grazed, HSG D |
| 238,790 | | Weighted Average |
| 228,590 | | 95.73% Pervious Area |
| 10,200 | | 4.27% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 25 | 0.3200 | 2.83 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 2.6 | 110 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 1.6 | 200 | 0.1700 | 2.06 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 0.4 | 50 | 0.0200 | 2.12 | | Shallow Concentrated Flow, E-F |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.1 | 135 | 0.0200 | 2.12 | | Shallow Concentrated Flow, F-G |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 1.6 | 250 | 0.0300 | 2.60 | | Shallow Concentrated Flow, G-H |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 56 | 0.0150 | 5.56 | 4.36 | Pipe Channel, H-I |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 0.0 | 10 | 0.3300 | 8.62 | | Shallow Concentrated Flow, I-J |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.2 | 30 | 0.3300 | 2.87 | | Shallow Concentrated Flow, J-K |
| | | | | | Woodland Kv= 5.0 fps |
| 45.4 | 1,011 | Total | | | |

Subcatchment 2.14S:

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.1S: 2.1S

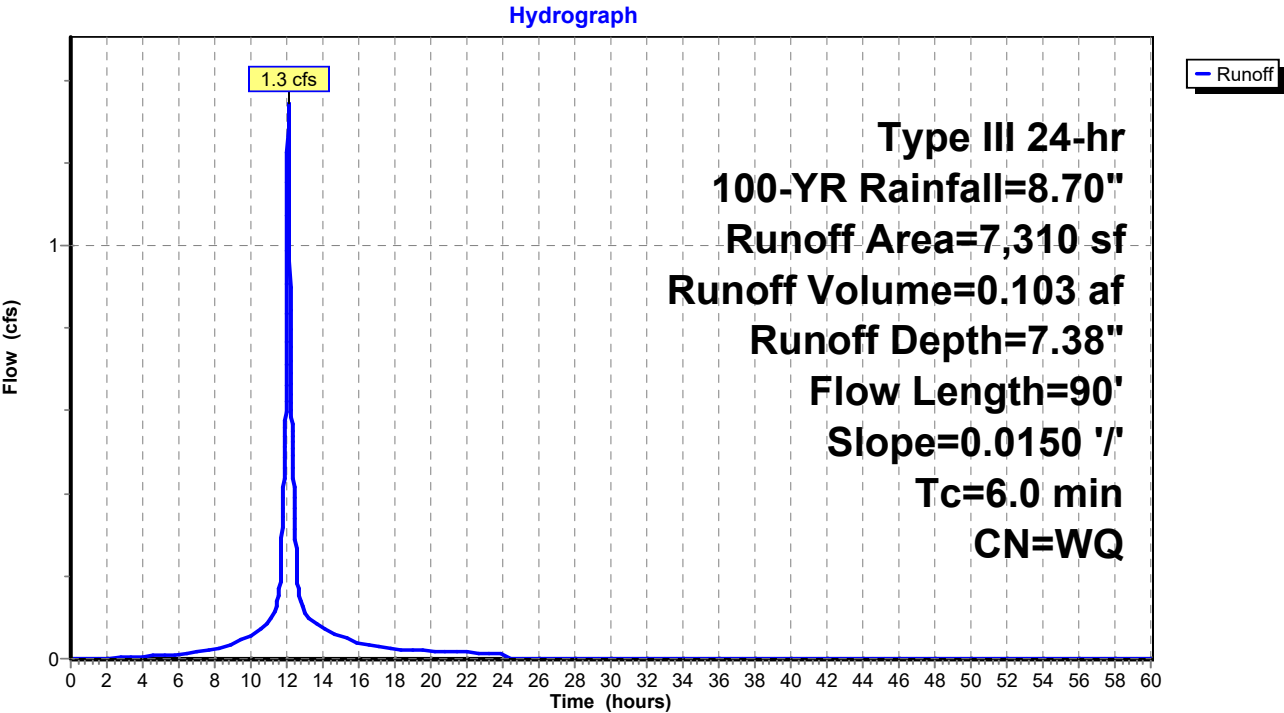
Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 7.38"
Routed to Pond 2.1P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 870 | 98 | Paved parking, HSG D |
| * 190 | 98 | Sidewalks, HSG D |
| 2,330 | 80 | >75% Grass cover, Good, HSG D |
| 3,920 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 7,310 | | Weighted Average |
| 3,702 | | 50.64% Pervious Area |
| 3,608 | | 49.36% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.1S: 2.1S



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.2S: 2.2S

Runoff = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af, Depth= 7.73"
Routed to Pond 2.2P : DMH-7

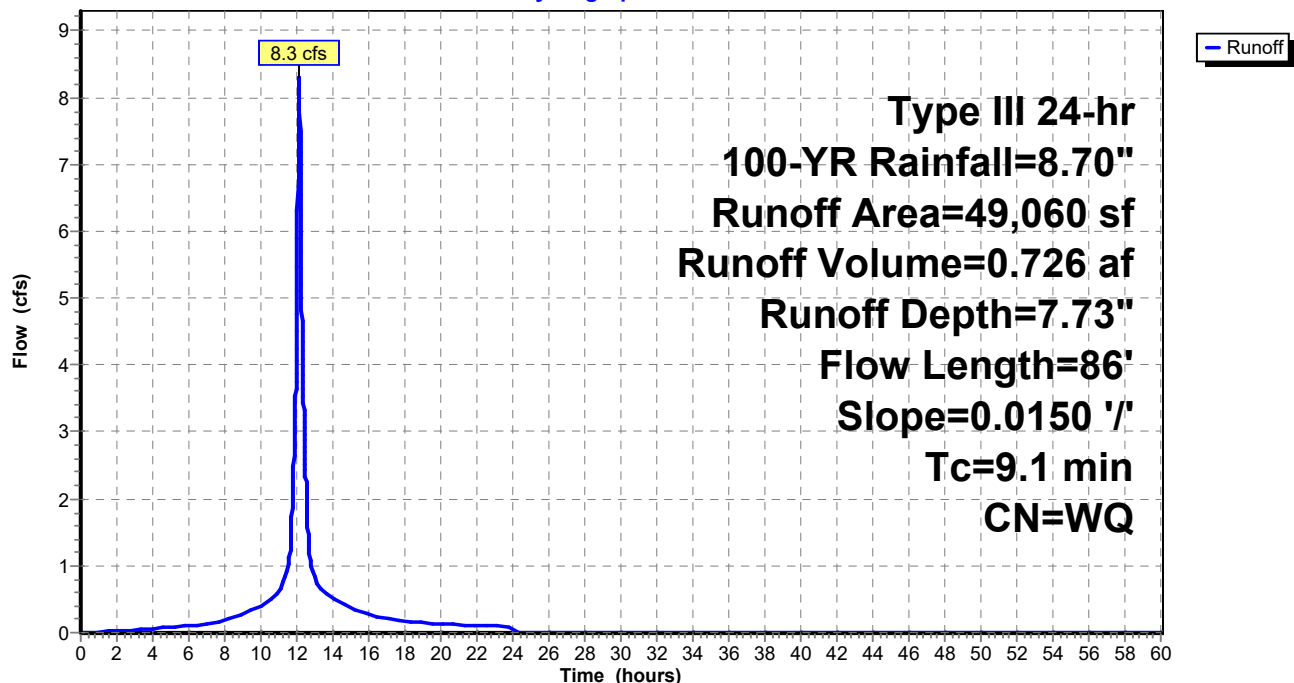
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 11,330 | 98 | Paved parking, HSG D |
| * 1,450 | 98 | Sidewalks, HSG D |
| 9,060 | 98 | Roofs, HSG D |
| 10,940 | 80 | >75% Grass cover, Good, HSG D |
| 16,280 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 49,060 | | Weighted Average |
| 16,638 | | 33.91% Pervious Area |
| 32,422 | | 66.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 9.1 | 80 | 0.0150 | 0.15 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 6 | 0.0150 | 2.49 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 9.1 | 86 | Total | | | |

Subcatchment 2.2S: 2.2S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.3S: 2.2S

Runoff = 5.9 cfs @ 12.08 hrs, Volume= 0.482 af, Depth= 8.18"
Routed to Pond 2.3P : CB-24

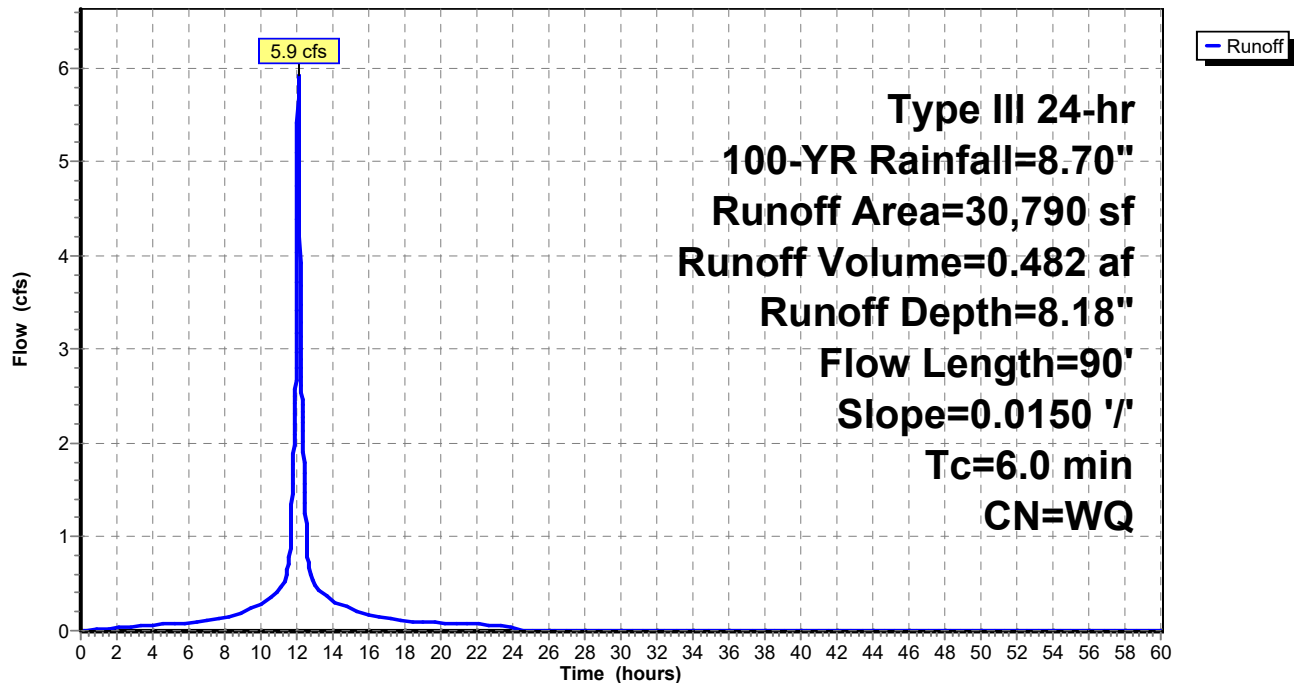
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 12,330 | 98 | Paved parking, HSG D |
| * 5,830 | 98 | Sidewalks, HSG D |
| 8,650 | 98 | Roofs, HSG D |
| 3,980 | 80 | >75% Grass cover, Good, HSG D |
| 30,790 | | Weighted Average |
| 3,980 | | 12.93% Pervious Area |
| 26,810 | | 87.07% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.2 | 90 | 0.0150 | 1.22 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.8 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 90 | Total | | | |

Subcatchment 2.3S: 2.2S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.4S: 2.4S

Runoff = 0.7 cfs @ 12.08 hrs, Volume= 0.058 af, Depth= 8.46"
Routed to Pond 2.4P : CB-17

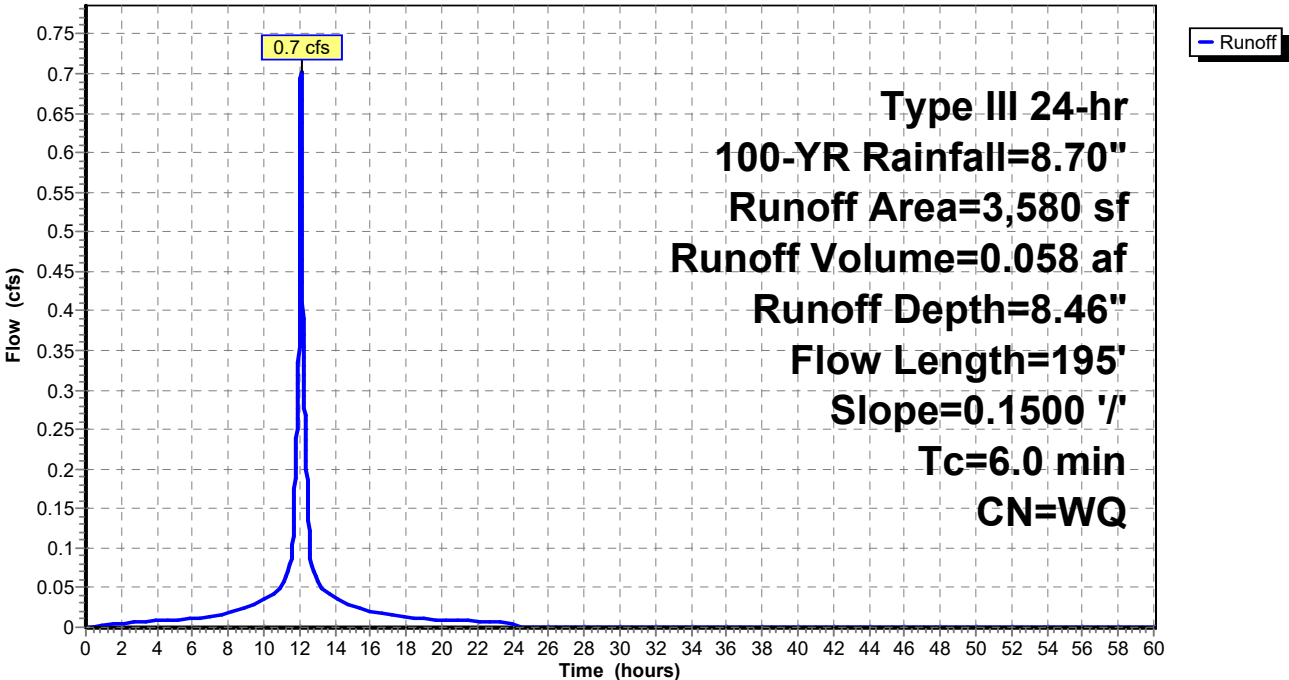
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| * 500 | 98 | Sidewalks, HSG D |
| 3,080 | 98 | Paved parking, HSG D |
| 3,580 | | Weighted Average |
| 3,580 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.9 | 195 | 0.1500 | 3.57 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 5.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 195 | Total | | | |

Subcatchment 2.4S: 2.4S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.5S: 2.5S

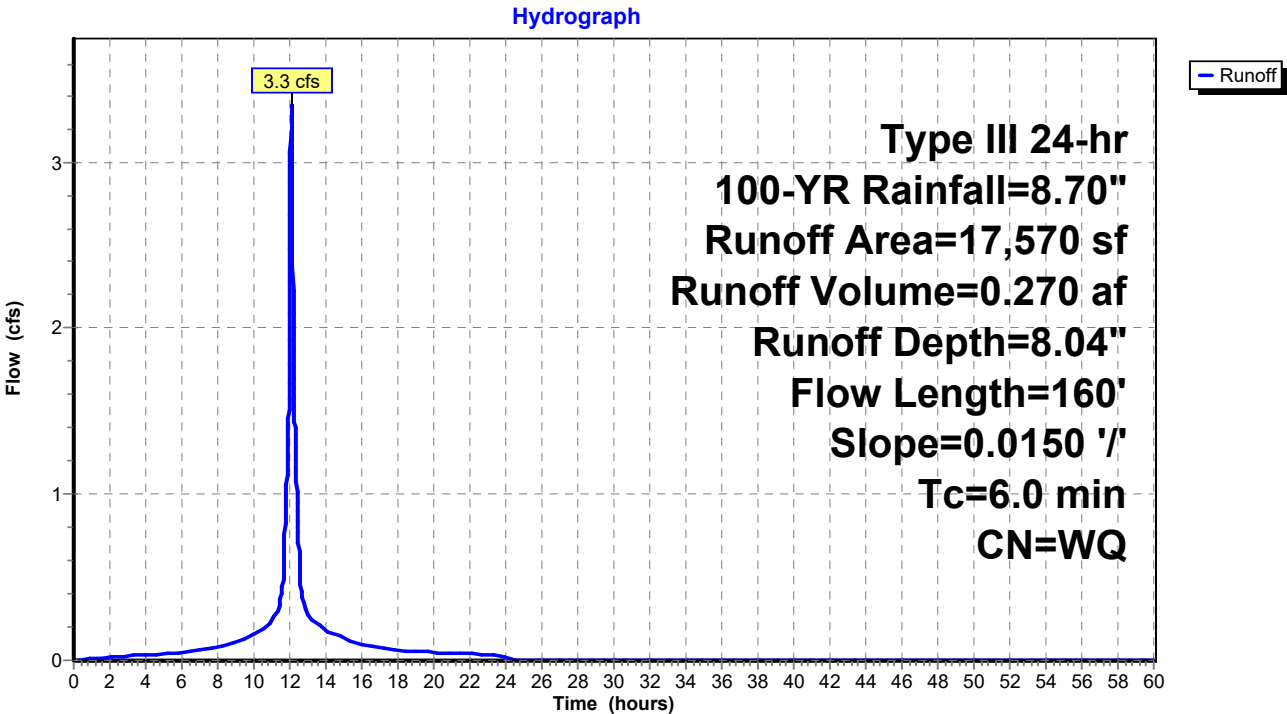
Runoff = 3.3 cfs @ 12.08 hrs, Volume= 0.270 af, Depth= 8.04"
Routed to Pond 2.5P : CB-20

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,530 | 98 | Paved parking, HSG D |
| * 4,690 | 98 | Sidewalks, HSG D |
| 3,350 | 80 | >75% Grass cover, Good, HSG D |
| 17,570 | | Weighted Average |
| 3,350 | | 19.07% Pervious Area |
| 14,220 | | 80.93% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 160 | 0.0150 | 1.37 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 160 | Total | | | |

Subcatchment 2.5S: 2.5S



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.6S: 2.6S

Runoff = 3.4 cfs @ 12.09 hrs, Volume= 0.283 af, Depth= 7.97"
Routed to Pond 2.6P : CB-15

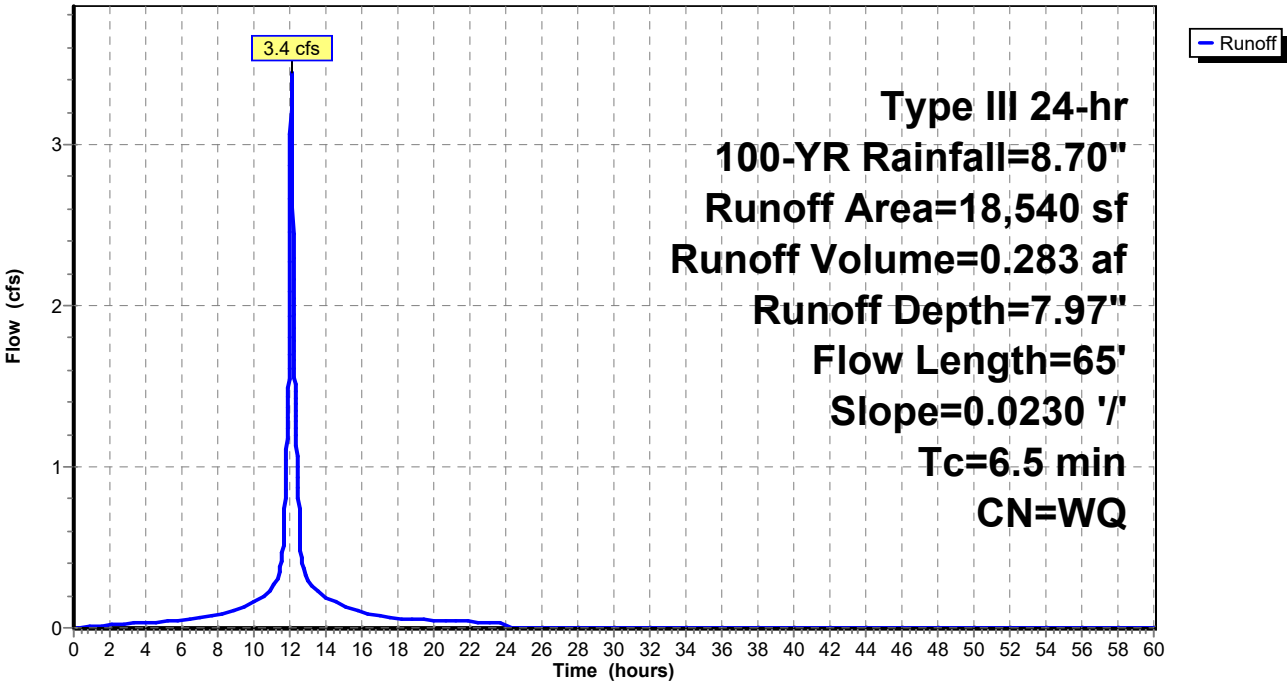
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| | Area (sf) | CN | Description |
|---|-----------|----|-------------------------------|
| * | 2,010 | 98 | Sidewalks, HSG D |
| | 4,190 | 80 | >75% Grass cover, Good, HSG D |
| | 12,340 | 98 | Paved parking, HSG D |
| | 18,540 | | Weighted Average |
| | 4,190 | | 22.60% Pervious Area |
| | 14,350 | | 77.40% Impervious Area |

| Tc
(min) | Length
(feet) | Slope
(ft/ft) | Velocity
(ft/sec) | Capacity
(cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------------|
| 6.5 | 65 | 0.0230 | 0.17 | | Sheet Flow, A |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |

Subcatchment 2.6S: 2.6S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.7S: 2.7S

Runoff = 7.8 cfs @ 12.08 hrs, Volume= 0.633 af, Depth= 8.09"
Routed to Pond 2.7P : CB-8

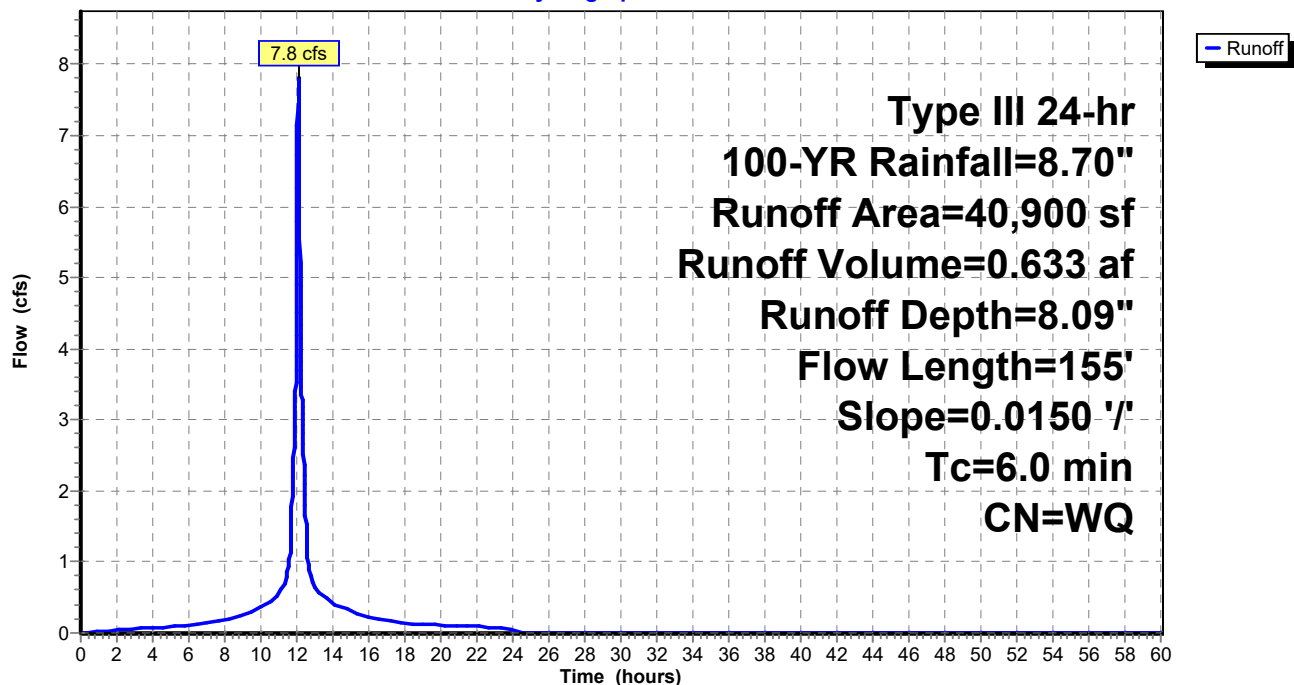
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,000 | 98 | Unconnected pavement, HSG D |
| 14,870 | 98 | Paved parking, HSG D |
| 17,100 | 98 | Roofs, HSG D |
| 6,930 | 80 | >75% Grass cover, Good, HSG D |
| 40,900 | | Weighted Average |
| 6,930 | | 16.94% Pervious Area |
| 33,970 | | 83.06% Impervious Area |
| 2,000 | | 5.89% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 1.9 | 155 | 0.0150 | 1.36 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 4.1 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 155 | Total | | | |

Subcatchment 2.7S: 2.7S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.8S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.104 af, Depth= 7.60"
Routed to Pond 2.8P : CB-14

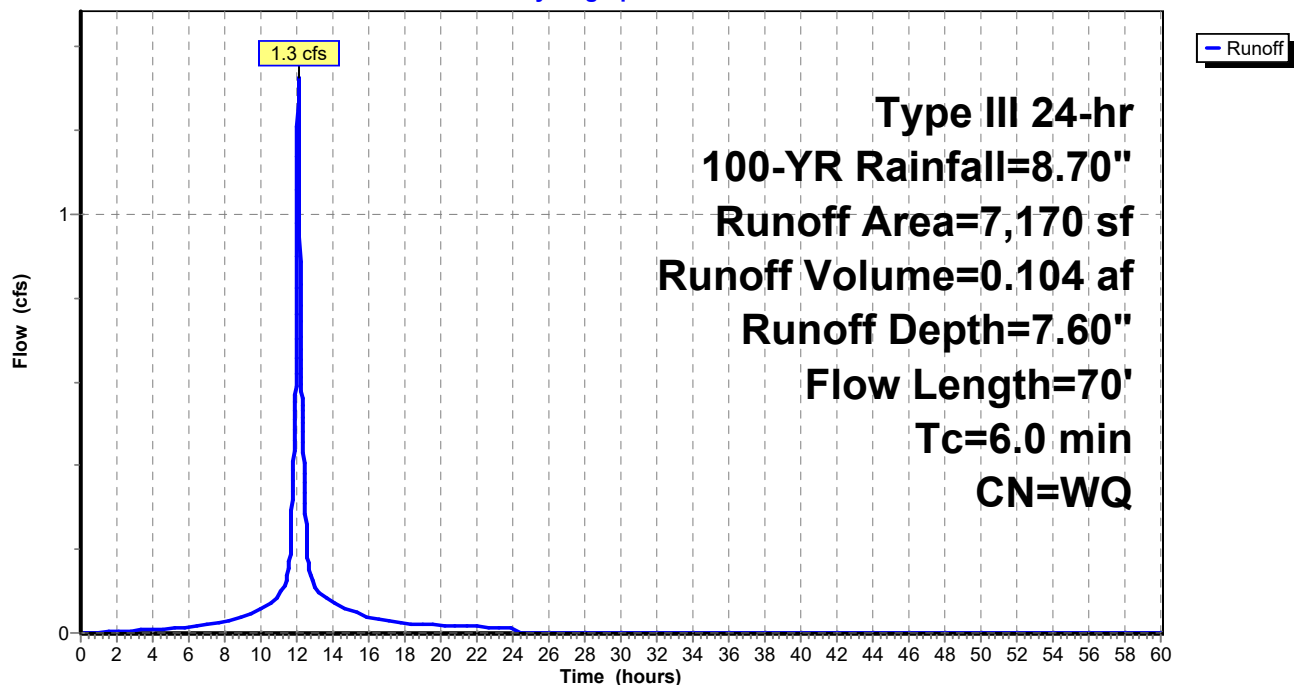
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,510 | 80 | >75% Grass cover, Good, HSG D |
| * 1,630 | 98 | Sidewalks, HSG D |
| 3,030 | 96 | Gravel surface, HSG D |
| 7,170 | | Weighted Average |
| 5,540 | | 77.27% Pervious Area |
| 1,630 | | 22.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 5.5 | 60 | 0.0300 | 0.18 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.0 | 10 | 0.0600 | 4.97 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 70 | Total | | | |

Subcatchment 2.8S:

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 2.9S: 2.9S

Runoff = 3.9 cfs @ 12.08 hrs, Volume= 0.319 af, Depth= 8.14"
Routed to Pond 2.9P : CB-5

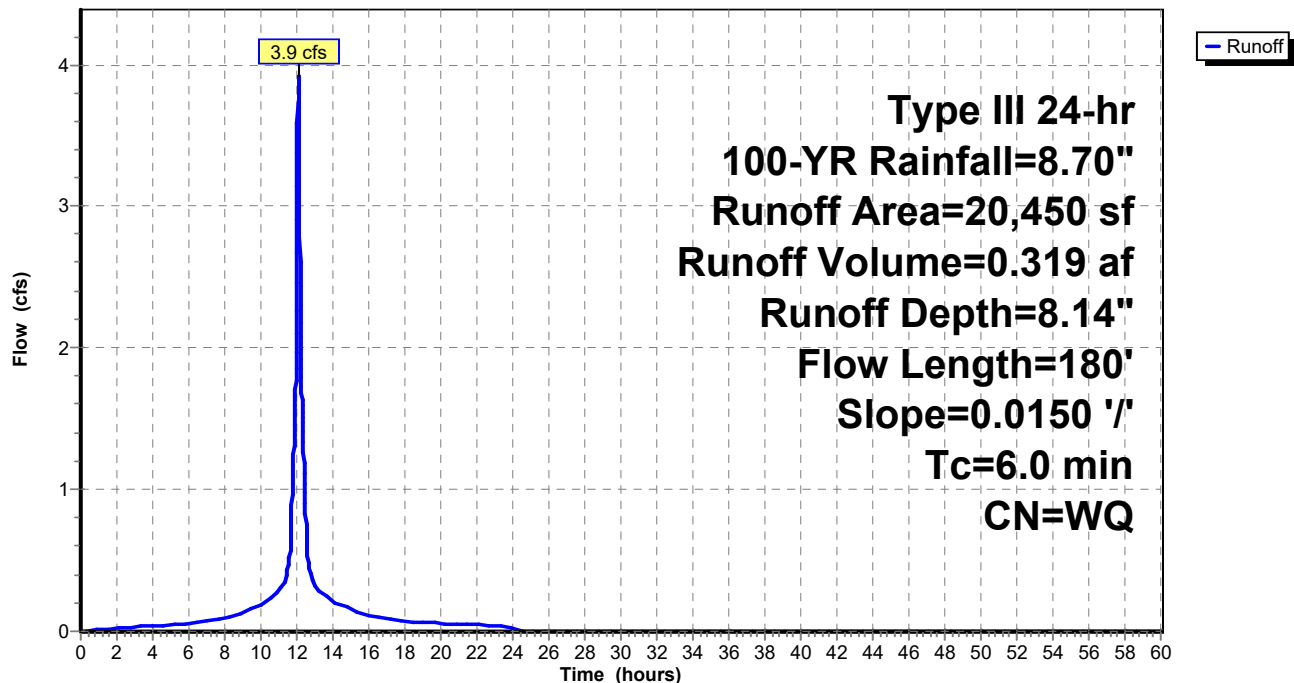
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,980 | 80 | >75% Grass cover, Good, HSG D |
| * 2,170 | 98 | Sidewalks, HSG D |
| 15,300 | 98 | Paved parking, HSG D |
| 20,450 | | Weighted Average |
| 2,980 | | 14.57% Pervious Area |
| 17,470 | | 85.43% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 2.1 | 180 | 0.0150 | 1.40 | | Sheet Flow, A |
| | | | | | Smooth surfaces n= 0.011 P2= 3.30" |
| 3.9 | | | | | Direct Entry, DIRECT ENTRY |
| 6.0 | 180 | Total | | | |

Subcatchment 2.9S: 2.9S

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Subcatchment 3.1S:

Runoff = 31.4 cfs @ 12.51 hrs, Volume= 4.741 af, Depth= 7.29"
 Routed to Link POA-3 :

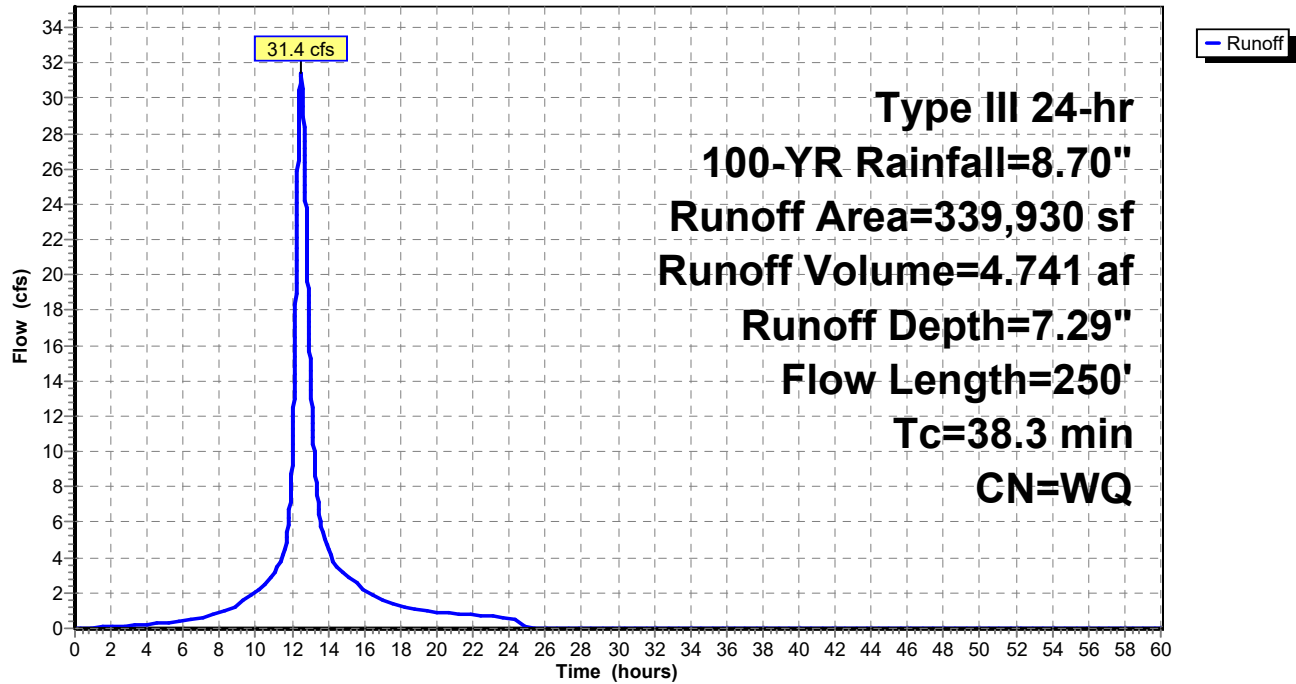
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 44,220 | 98 | Roofs, HSG D |
| 28,895 | 98 | Paved parking, HSG D |
| 27,110 | 96 | Gravel surface, HSG D |
| 50,270 | 89 | <50% Grass cover, Poor, HSG D |
| 154,640 | 83 | Woods, Poor, HSG D |
| 7,700 | 78 | Meadow, non-grazed, HSG D |
| 17,355 | 80 | >75% Grass cover, Good, HSG D |
| * 9,740 | 98 | Sidewalks, HSG D |
| 339,930 | | Weighted Average |
| 257,075 | | 75.63% Pervious Area |
| 82,855 | | 24.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 37.6 | 145 | 0.0100 | 0.06 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 0.1 | 40 | 0.3300 | 8.62 | | Shallow Concentrated Flow, B-C |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 0.1 | 10 | 0.0150 | 2.49 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 0.5 | 55 | 0.1500 | 1.94 | | Shallow Concentrated Flow, D-E |
| | | | | | Woodland Kv= 5.0 fps |
| 38.3 | 250 | Total | | | |

Subcatchment 3.1S:

Hydrograph



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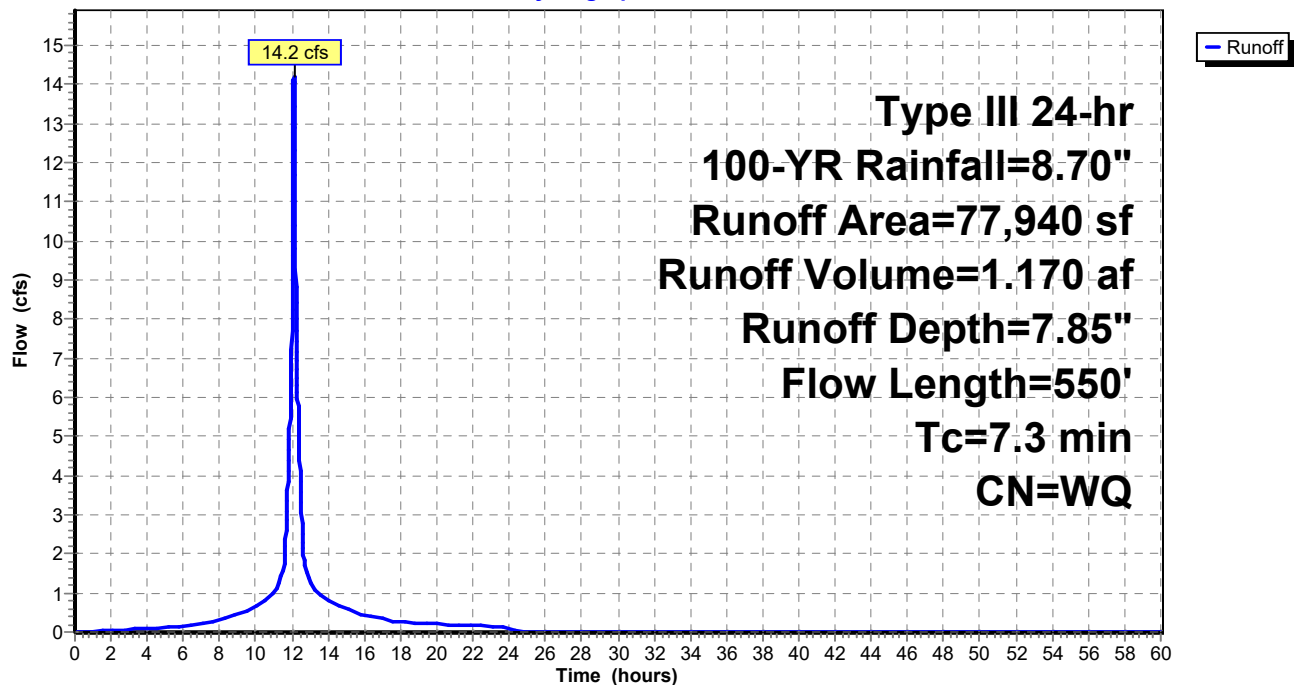
Summary for Subcatchment 4S:

Runoff = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Depth= 7.85"
Routed to Pond 4P : CB - Elm Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------------|
| 10,320 | 98 | Roofs, HSG D |
| 20,270 | 98 | Paved roads w/curbs & sewers, HSG D |
| 4,370 | 96 | Gravel surface, HSG D |
| 42,980 | 89 | <50% Grass cover, Poor, HSG D |
| 77,940 | | Weighted Average |
| 47,350 | | 60.75% Pervious Area |
| 30,590 | | 39.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------|
| 4.9 | 60 | 0.0400 | 0.21 | | Sheet Flow, A-B |
| | | | | | Grass: Short n= 0.150 P2= 3.30" |
| 0.8 | 280 | 0.0900 | 6.09 | | Shallow Concentrated Flow, B-C |
| | | | | | Paved Kv= 20.3 fps |
| 1.6 | 210 | 0.0110 | 2.13 | | Shallow Concentrated Flow, C-D |
| | | | | | Paved Kv= 20.3 fps |
| 7.3 | 550 | Total | | | |

Subcatchment 4S:**Hydrograph**

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Summary for Subcatchment 5.1S:

Runoff = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af, Depth= 7.70"
 Routed to Pond 5P : Box Culvert - Railroad

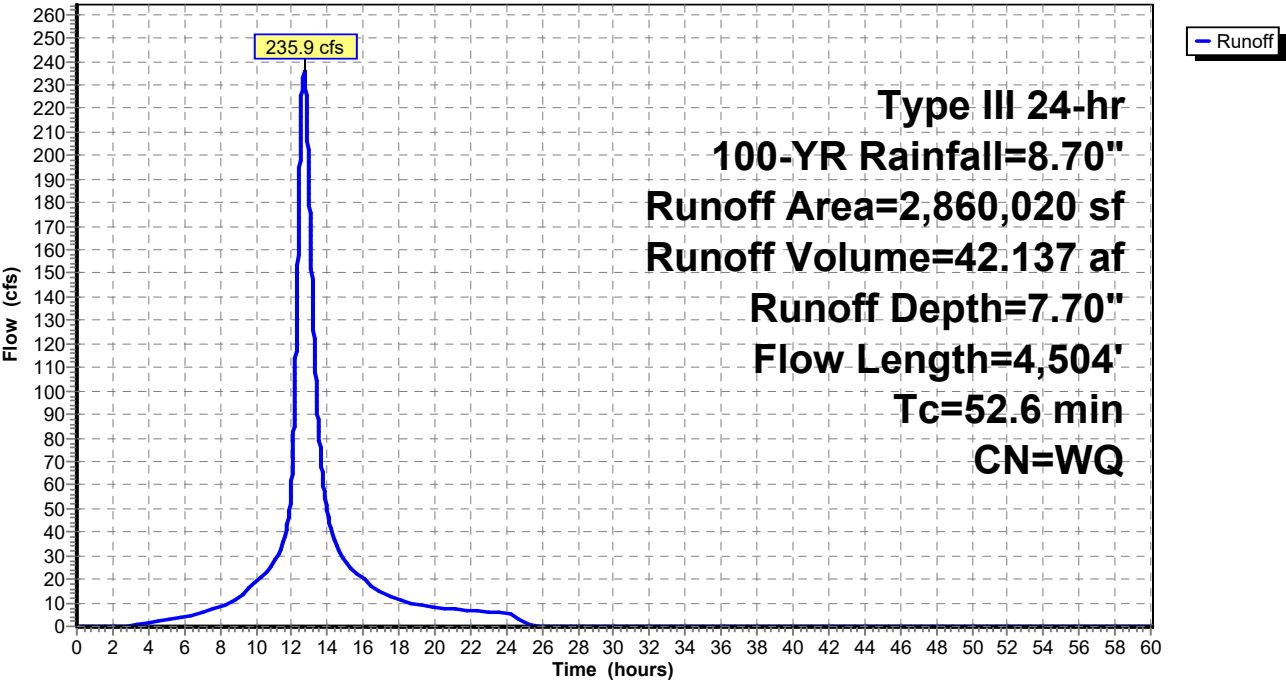
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-YR Rainfall=8.70"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 2,765,240 | 92 | 1/8 acre lots, 65% imp, HSG D |
| 88,600 | 83 | Woods, Poor, HSG D |
| 4,430 | 80 | >75% Grass cover, Good, HSG D |
| 1,750 | 96 | Gravel surface, HSG D |
| 2,860,020 | | Weighted Average |
| 1,062,614 | | 37.15% Pervious Area |
| 1,797,406 | | 62.85% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 20.0 | 93 | 0.0200 | 0.08 | | Sheet Flow, A-B |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.30" |
| 9.7 | 411 | 0.0200 | 0.71 | | Shallow Concentrated Flow, B-C |
| | | | | | Woodland Kv= 5.0 fps |
| 9.4 | 400 | 0.0200 | 0.71 | | Shallow Concentrated Flow, C-D |
| | | | | | Woodland Kv= 5.0 fps |
| 0.6 | 100 | 0.0200 | 2.87 | | Shallow Concentrated Flow, D-E |
| | | | | | Paved Kv= 20.3 fps |
| 12.9 | 3,500 | 0.0100 | 4.54 | 3.56 | Pipe Channel, E-F |
| | | | | | 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' |
| | | | | | n= 0.013 Corrugated PE, smooth interior |
| 52.6 | 4,504 | Total | | | |

Subcatchment 5.1S:

Hydrograph



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Summary for Pond 2.10P: CB-4

Inflow Area = 0.2 ac, 78.41% Impervious, Inflow Depth = 7.99" for 100-YR event
Inflow = 1.4 cfs @ 12.08 hrs, Volume= 0.115 af
Outflow = 1.4 cfs @ 12.08 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.4 cfs @ 12.08 hrs, Volume= 0.115 af
Routed to Pond 2.9P : CB-5

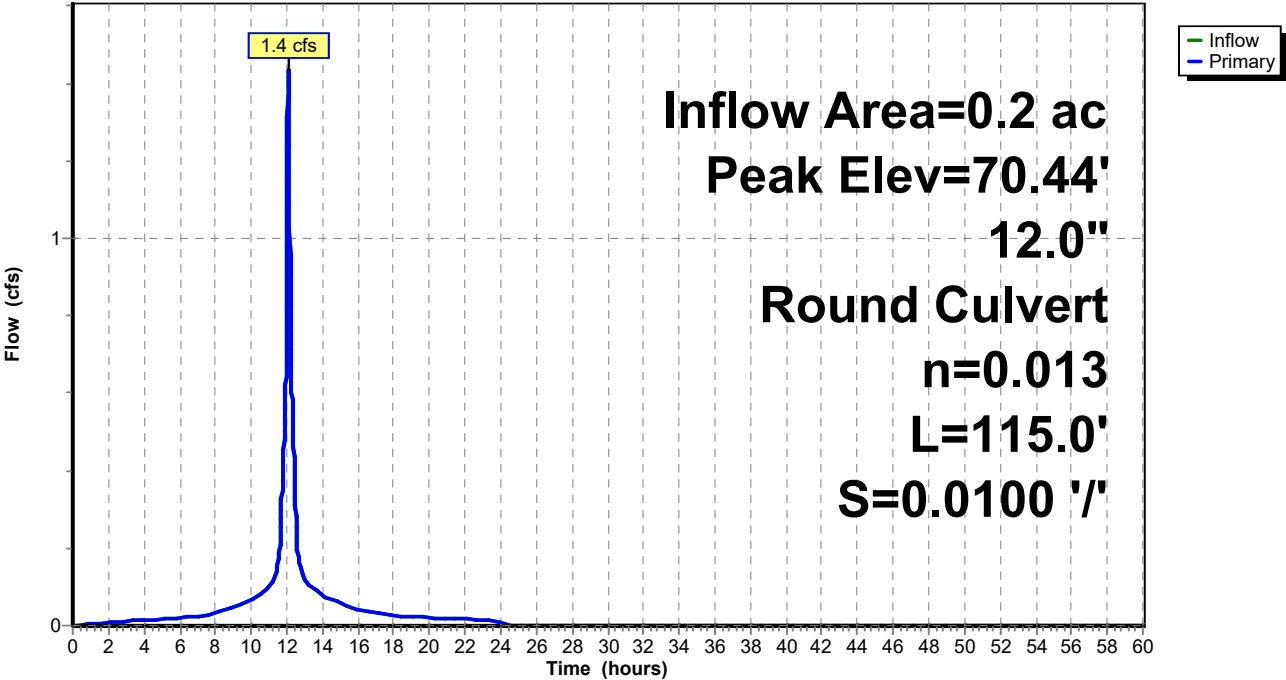
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.44' @ 12.08 hrs
Flood Elev= 73.30'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 69.70' | 12.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 69.70' / 68.55' S= 0.0100 '/ Cc= 0.900
n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=1.4 cfs @ 12.08 hrs HW=70.44' (Free Discharge)
1=Culvert (Inlet Controls 1.4 cfs @ 2.31 fps)

Pond 2.10P: CB-4

Hydrograph



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Summary for Pond 2.11P: CB-6

Inflow Area = 1.4 ac, 66.07% Impervious, Inflow Depth = 7.97" for 100-YR event
Inflow = 11.6 cfs @ 12.08 hrs, Volume= 0.929 af
Outflow = 11.6 cfs @ 12.08 hrs, Volume= 0.929 af, Atten= 0%, Lag= 0.0 min
Primary = 11.6 cfs @ 12.08 hrs, Volume= 0.929 af
Routed to Pond 2.12P : CB-7

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.79' @ 12.08 hrs

Flood Elev= 73.20'

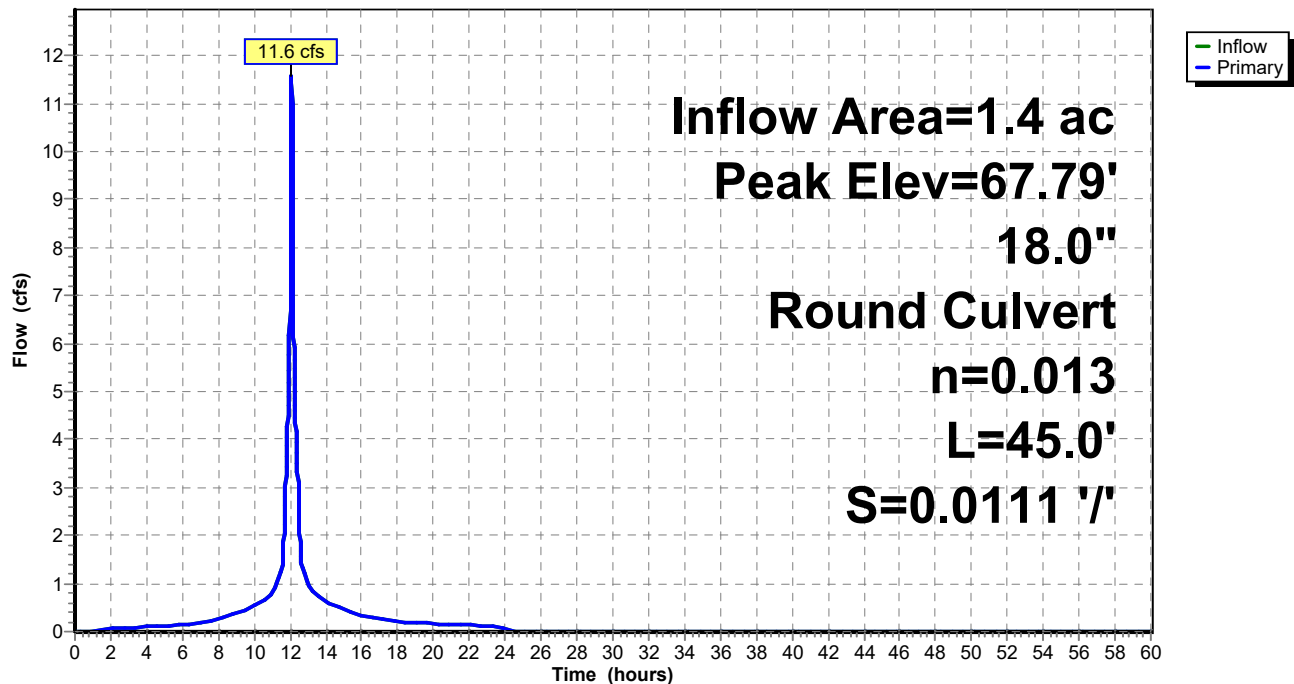
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 64.07' | 18.0" Round Culvert
L= 45.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.07' / 63.57' S= 0.0111 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=11.5 cfs @ 12.08 hrs HW=67.78' (Free Discharge)

↑1=Culvert (Inlet Controls 11.5 cfs @ 6.54 fps)

Pond 2.11P: CB-6

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 2.12P: CB-7

Inflow Area = 1.6 ac, 59.05% Impervious, Inflow Depth = 7.87" for 100-YR event
Inflow = 13.2 cfs @ 12.08 hrs, Volume= 1.054 af
Outflow = 13.2 cfs @ 12.08 hrs, Volume= 1.054 af, Atten= 0%, Lag= 0.0 min
Primary = 13.2 cfs @ 12.08 hrs, Volume= 1.054 af
Routed to Pond 2.81P : DMH-3

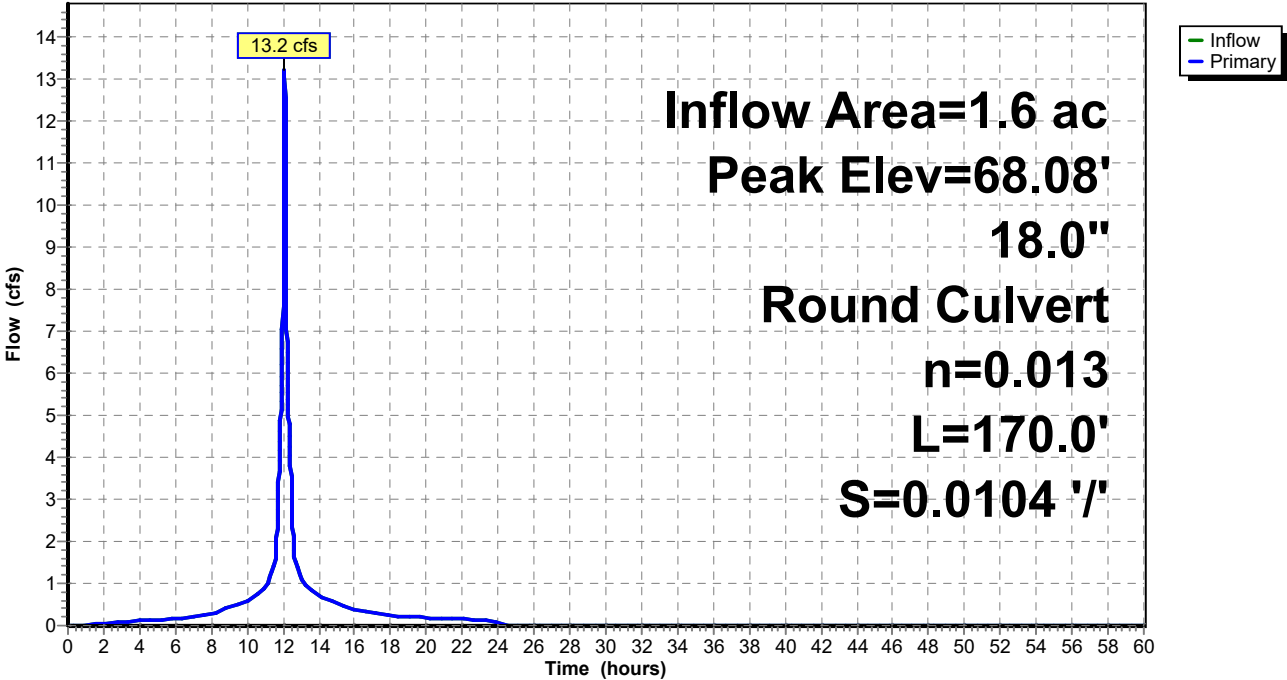
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 68.08' @ 12.08 hrs
Flood Elev= 73.50'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.47' | 18.0" Round Culvert
L= 170.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.47' / 61.70' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=13.2 cfs @ 12.08 hrs HW=68.07' (Free Discharge)
1=Culvert (Inlet Controls 13.2 cfs @ 7.45 fps)

Pond 2.12P: CB-7

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 2.13P: CB-3

Inflow Area = 0.4 ac, 54.80% Impervious, Inflow Depth = 7.62" for 100-YR event
Inflow = 3.5 cfs @ 12.08 hrs, Volume= 0.274 af
Outflow = 3.5 cfs @ 12.08 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min
Primary = 3.5 cfs @ 12.08 hrs, Volume= 0.274 af
Routed to Pond 2.9P : CB-5

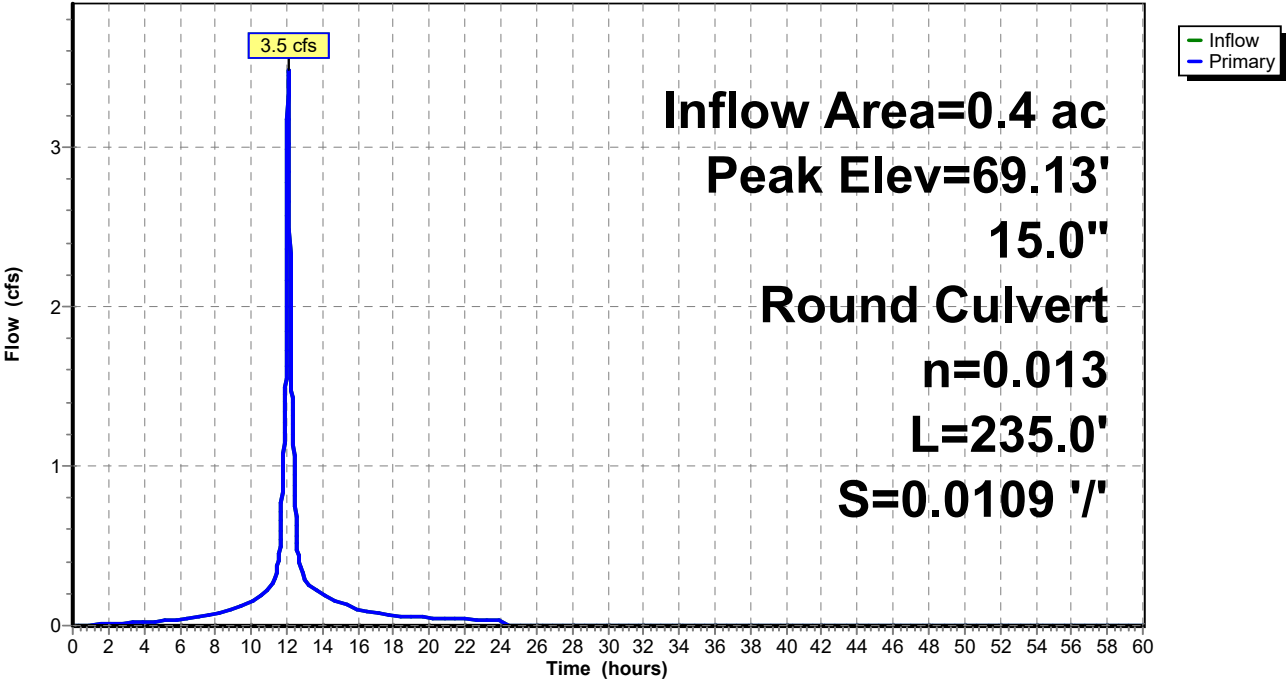
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 69.13' @ 12.08 hrs
Flood Elev= 73.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 67.95' | 15.0" Round Culvert
L= 235.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 67.95' / 65.40' S= 0.0109 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=3.5 cfs @ 12.08 hrs HW=69.12' (Free Discharge)
↑1=Culvert (Inlet Controls 3.5 cfs @ 2.91 fps)

Pond 2.13P: CB-3

Hydrograph



Summary for Pond 2.1P: CB-2

Inflow Area = 0.2 ac, 49.36% Impervious, Inflow Depth = 7.38" for 100-YR event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af
Routed to Pond 2.13P : CB-3

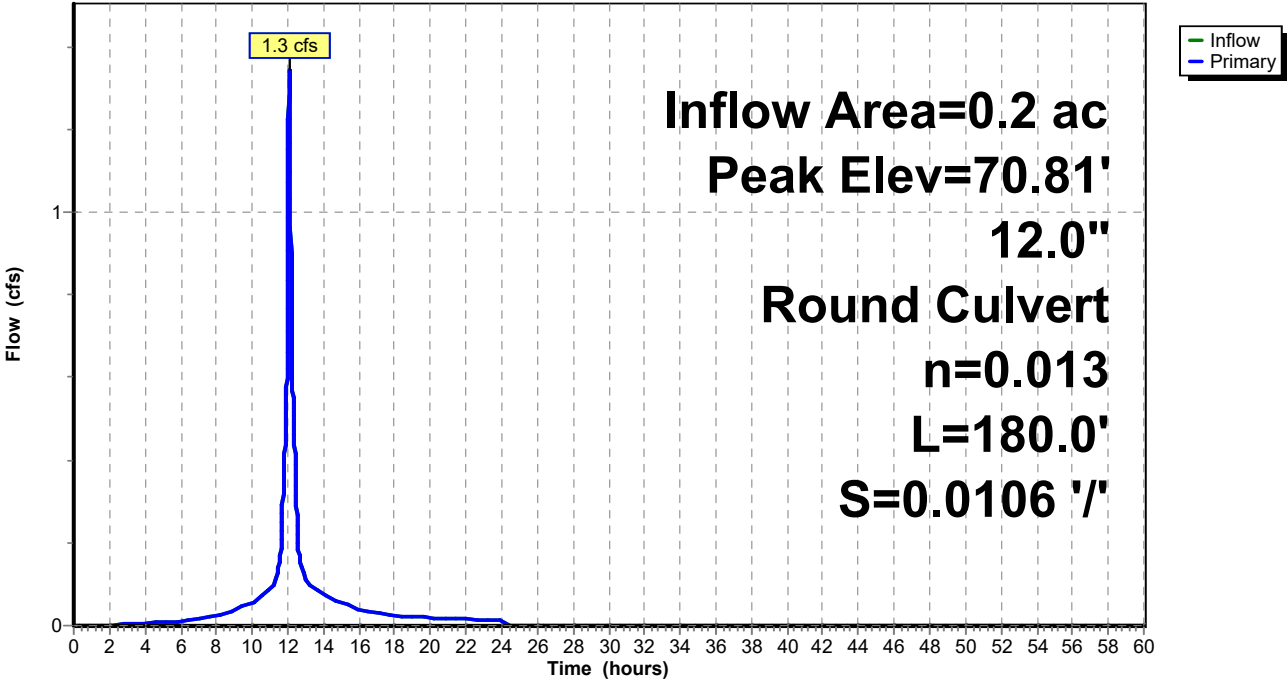
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.81' @ 12.08 hrs
Flood Elev= 74.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 70.10' | 12.0" Round Culvert
L= 180.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 70.10' / 68.20' S= 0.0106 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=70.81' (Free Discharge)
1=Culvert (Inlet Controls 1.3 cfs @ 2.26 fps)

Pond 2.1P: CB-2

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 2.21P: DMH-6

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 7.73" for 100-YR event
Inflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Outflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af, Atten= 0%, Lag= 0.0 min
Primary = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Routed to Pond 2.22P : DMH-8

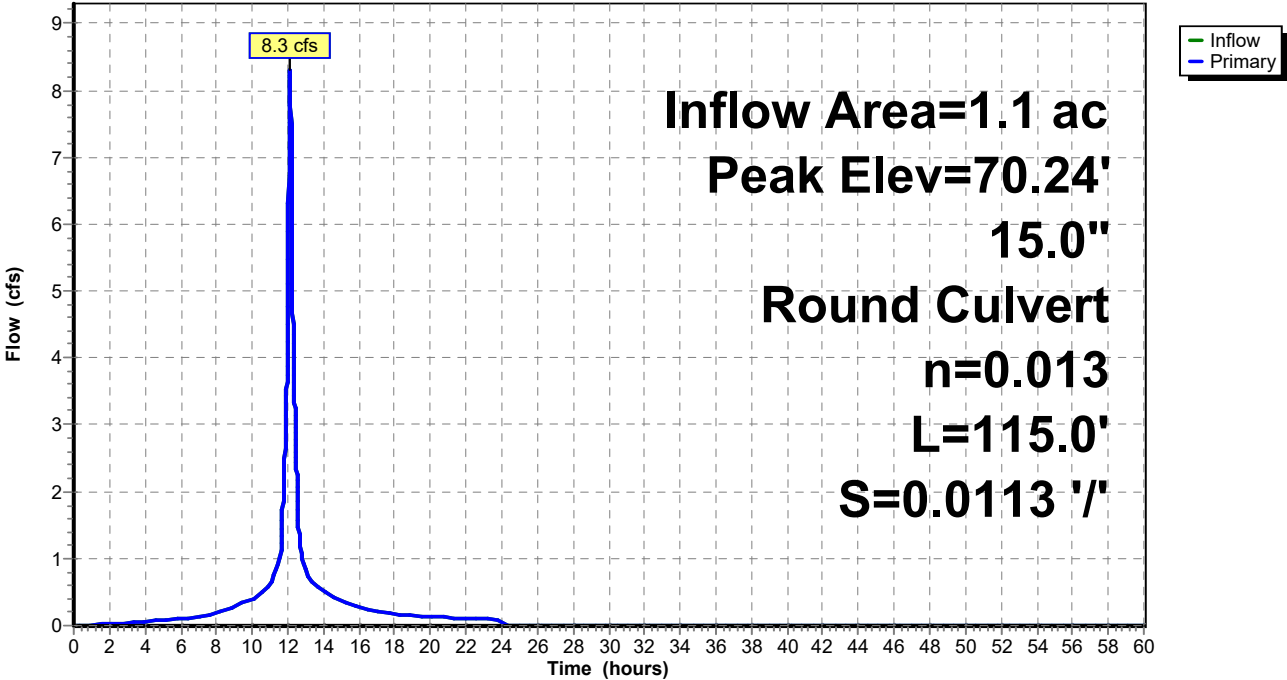
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.24' @ 12.12 hrs
Flood Elev= 73.75'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 66.45' | 15.0" Round Culvert
L= 115.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 66.45' / 65.15' S= 0.0113 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=8.3 cfs @ 12.12 hrs HW=70.24' (Free Discharge)
↑1=Culvert (Inlet Controls 8.3 cfs @ 6.76 fps)

Pond 2.21P: DMH-6

Hydrograph



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Summary for Pond 2.22P: DMH-8

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 7.73" for 100-YR event
Inflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Outflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af, Atten= 0%, Lag= 0.0 min
Primary = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Routed to Pond 2.3P : CB-24

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.18' @ 12.12 hrs

Flood Elev= 71.40'

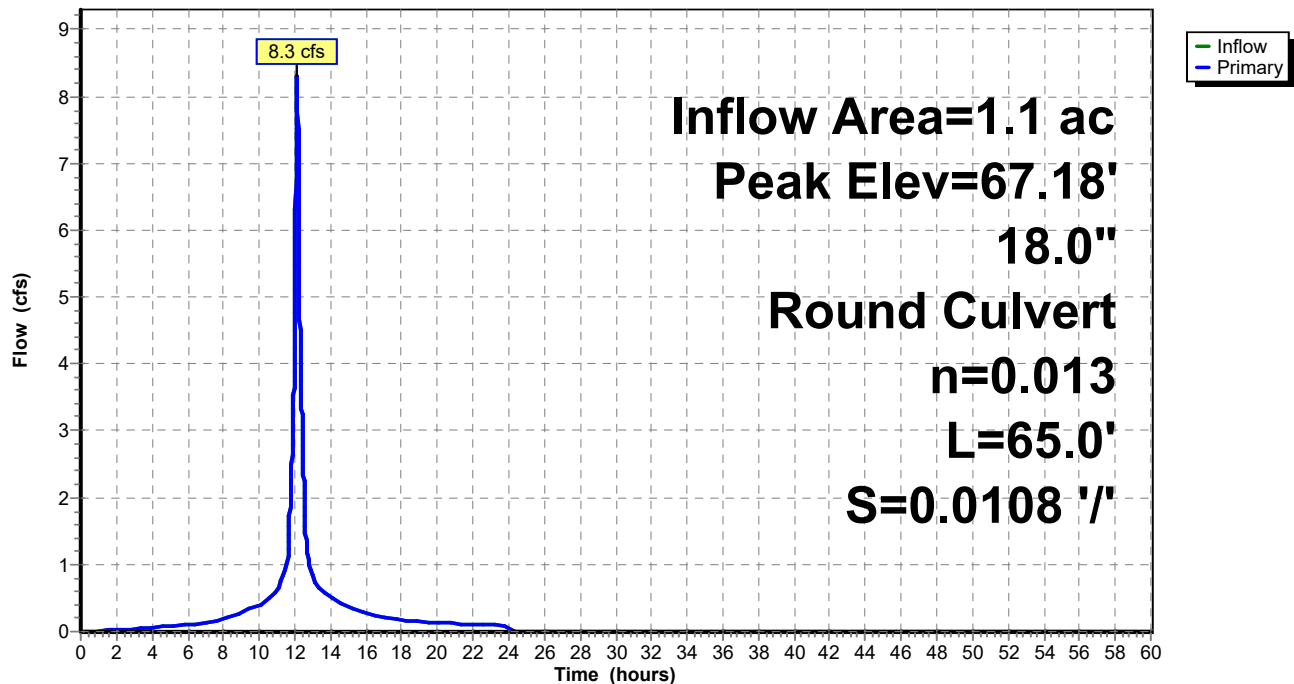
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 64.90' | 18.0" Round Culvert
L= 65.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 64.90' / 64.20' S= 0.0108 '/ Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=8.3 cfs @ 12.12 hrs HW=67.17' (Free Discharge)

↑1=Culvert (Inlet Controls 8.3 cfs @ 4.69 fps)

Pond 2.22P: DMH-8

Hydrograph



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Summary for Pond 2.2P: DMH-7

Inflow Area = 1.1 ac, 66.09% Impervious, Inflow Depth = 7.73" for 100-YR event
Inflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Outflow = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af, Atten= 0%, Lag= 0.0 min
Primary = 8.3 cfs @ 12.12 hrs, Volume= 0.726 af
Routed to Pond 2.21P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 79.99' @ 12.12 hrs

Flood Elev= 74.70'

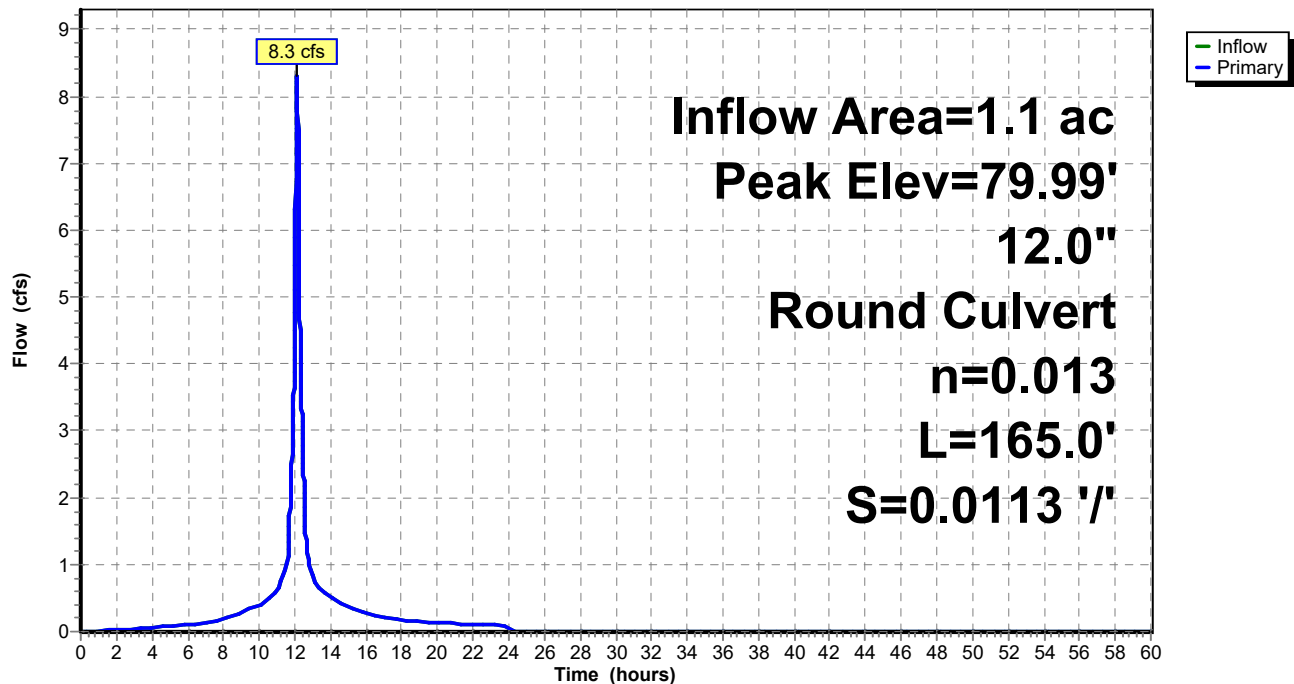
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 68.56' | 12.0" Round Culvert
L= 165.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 68.56' / 66.70' S= 0.0113 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=8.3 cfs @ 12.12 hrs HW=79.96' (Free Discharge)

↑1=Culvert (Barrel Controls 8.3 cfs @ 10.56 fps)

Pond 2.2P: DMH-7

Hydrograph



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Summary for Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 7.93" for 100-YR event
 Inflow = 39.3 cfs @ 12.09 hrs, Volume= 3.269 af
 Outflow = 39.2 cfs @ 12.09 hrs, Volume= 3.150 af, Atten= 0%, Lag= 0.3 min
 Primary = 39.2 cfs @ 12.09 hrs, Volume= 3.150 af
 Routed to Pond 2.32P : DMH-12

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 64.27' @ 12.09 hrs Surf.Area= 2,862 sf Storage= 7,554 cf

Plug-Flow detention time= 44.5 min calculated for 3.150 af (96% of inflow)
 Center-of-Mass det. time= 22.3 min (776.0 - 753.7)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|--------|---------------|---|
| #1A | 58.90' | 0 cf | 29.50'W x 97.00'L x 6.00'H Field A
17,169 cf Overall - 7,609 cf Embedded = 9,560 cf x 0.0% Voids |
| #2A | 59.40' | 7,609 cf | CMP Round 60 x 16 Inside #1
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L
Row Length Adjustment= +10.00' x 19.63 sf x 4 rows
27.50' Header x 19.63 sf x 1 = 540.0 cf Inside |
| #3 | 64.80' | 40,157 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| | | 47,766 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Elevation
(feet) | Surf.Area
(sq-ft) | Voids
(%) | Inc.Store
(cubic-feet) | Cum.Store
(cubic-feet) |
|---------------------|----------------------|--------------|---------------------------|---------------------------|
| 64.80 | 7,000 | 0.0 | 0 | 0 |
| 67.99 | 7,000 | 0.1 | 22 | 22 |
| 68.00 | 20,000 | 100.0 | 135 | 157 |
| 69.00 | 60,000 | 100.0 | 40,000 | 40,157 |

| Device | Routing | Invert | Outlet Devices |
|--------|----------|--------|---|
| #1 | Primary | 57.91' | 30.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.91' / 57.54' S= 0.0106 ' / ' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf |
| #2 | Device 1 | 62.62' | 6.0' long x 5.45' rise Sharp-Crested Rectangular Weir
2 End Contraction(s) |

Primary OutFlow Max=39.2 cfs @ 12.09 hrs HW=64.27' (Free Discharge)

1=Culvert (Passes 39.2 cfs of 42.2 cfs potential flow)

2=Sharp-Crested Rectangular Weir(Weir Controls 39.2 cfs @ 4.20 fps)

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Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)

Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf

Overall Size= 60.0"W x 60.0"H x 20.00'L

Row Length Adjustment= +10.00' x 19.63 sf x 4 rows

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

4 Chambers/Row x 20.00' Long +10.00' Row Adjustment +5.00' Header x 1 = 95.00' Row Length +12.0"

End Stone x 2 = 97.00' Base Length

4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width

6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

16 Chambers x 392.7 cf +10.00' Row Adjustment x 19.63 sf x 4 Rows + 27.50' Header x 19.63 sf =
7,608.5 cf Chamber Storage

17,169.0 cf Field - 7,608.5 cf Chambers = 9,560.5 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 7,608.5 cf = 0.175 af

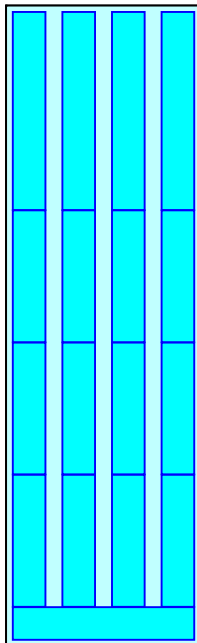
Overall Storage Efficiency = 44.3%

Overall System Size = 97.00' x 29.50' x 6.00'

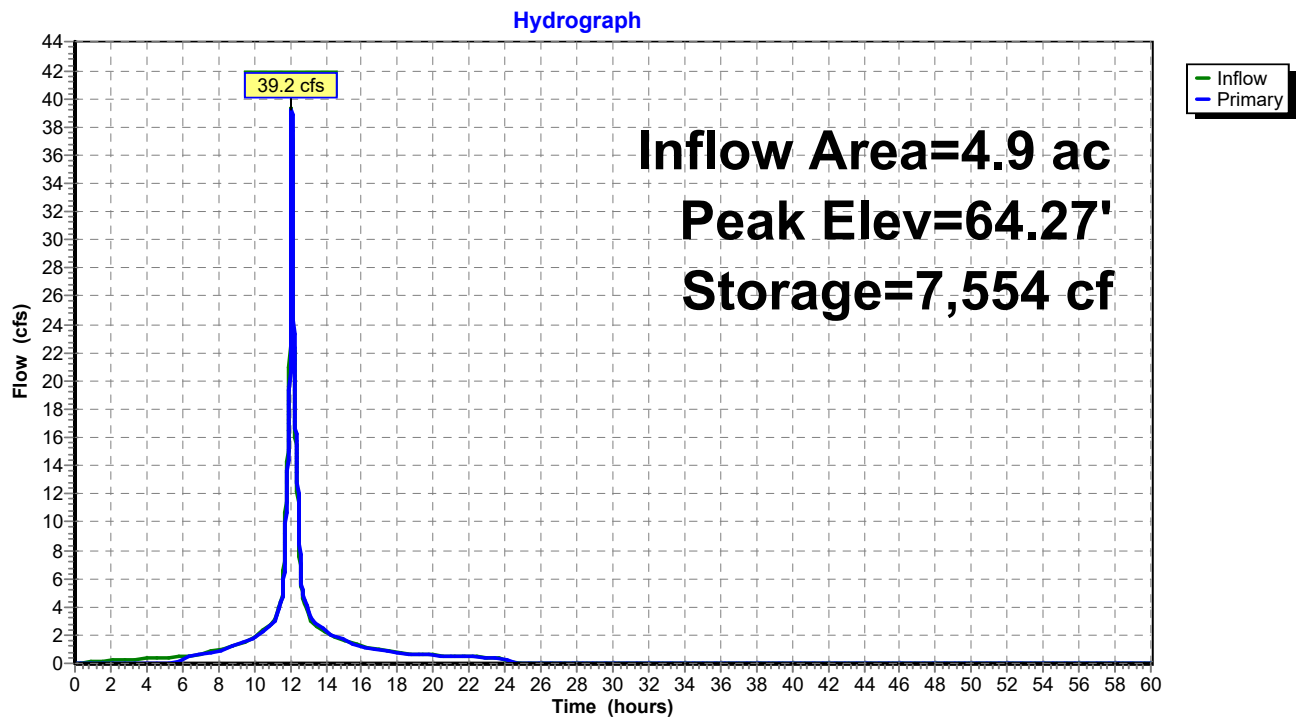
16 Chambers

635.9 cy Field

354.1 cy Stone



Pond 2.31BP: CMP DETENTION WITHOUT STORMFILTER



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Summary for Pond 2.32P: DMH-12

Inflow Area = 4.9 ac, 69.79% Impervious, Inflow Depth = 7.64" for 100-YR event
Inflow = 39.2 cfs @ 12.09 hrs, Volume= 3.150 af
Outflow = 39.2 cfs @ 12.09 hrs, Volume= 3.150 af, Atten= 0%, Lag= 0.0 min
Primary = 39.2 cfs @ 12.09 hrs, Volume= 3.150 af
Routed to Pond 2.33P : DMH-13

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 69.24' @ 12.09 hrs

Flood Elev= 69.40'

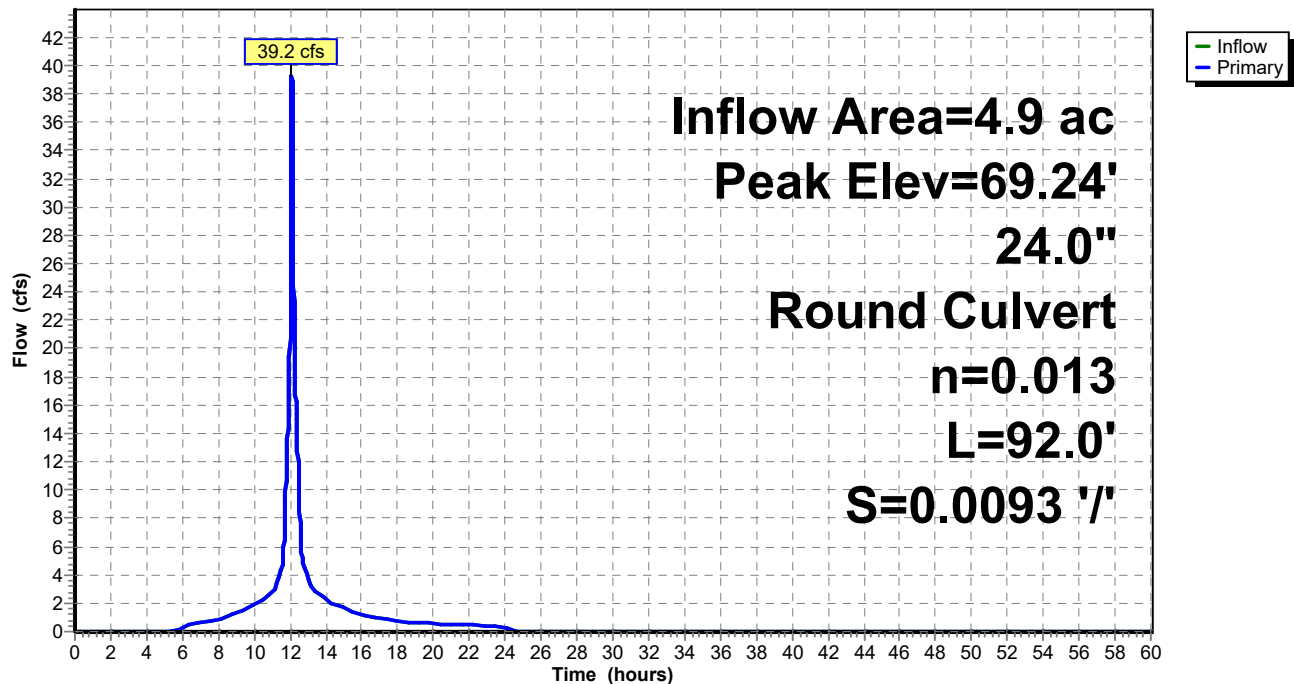
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 57.44' | 24.0" Round Culvert
L= 92.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 57.44' / 56.58' S= 0.0093 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=39.2 cfs @ 12.09 hrs HW=69.19' (Free Discharge)

↑1=Culvert (Inlet Controls 39.2 cfs @ 12.47 fps)

Pond 2.32P: DMH-12

Hydrograph



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Summary for Pond 2.33P: DMH-13

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 7.68" for 100-YR event
Inflow = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af
Outflow = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af, Atten= 0%, Lag= 0.0 min
Primary = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af
Routed to Pond 2.34P : DMH-16

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.59' @ 12.09 hrs

Flood Elev= 69.00'

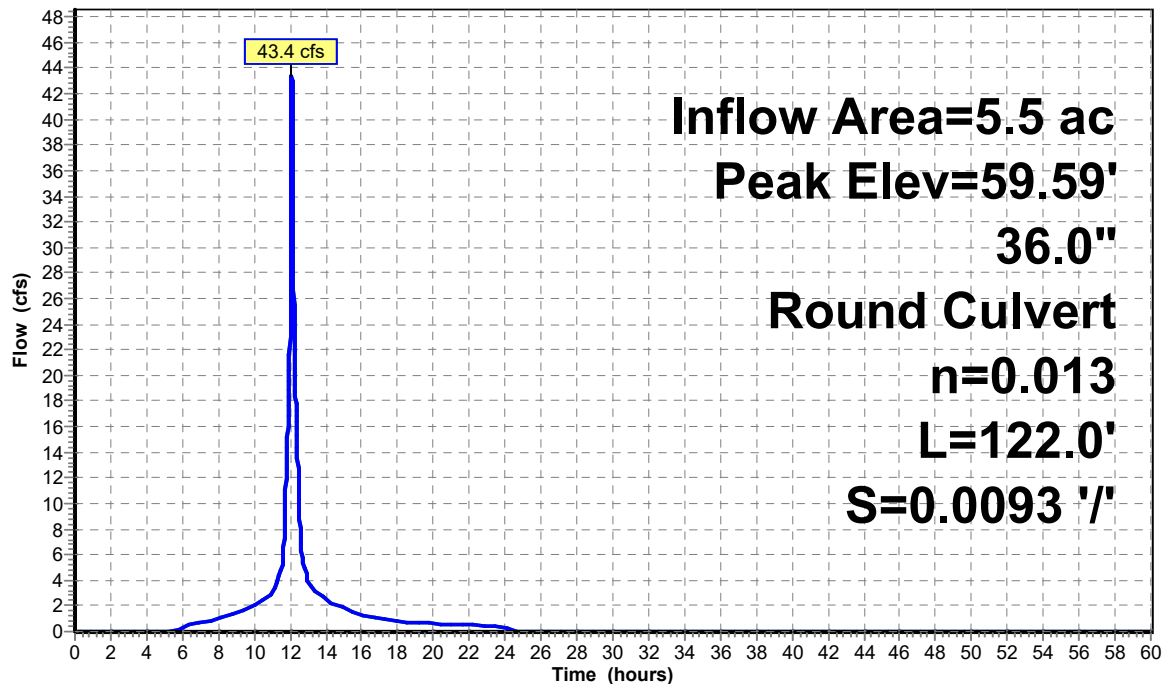
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 55.48' | 36.0" Round Culvert
L= 122.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 55.48' / 54.35' S= 0.0093 '/ Cc= 0.900
n= 0.013, Flow Area= 7.07 sf |

Primary OutFlow Max=43.3 cfs @ 12.09 hrs HW=59.58' (Free Discharge)

↑1=Culvert (Inlet Controls 43.3 cfs @ 6.13 fps)

Pond 2.33P: DMH-13

Hydrograph



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Summary for Pond 2.34P: DMH-16

Inflow Area = 5.5 ac, 70.84% Impervious, Inflow Depth = 7.68" for 100-YR event
Inflow = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af
Outflow = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af, Atten= 0%, Lag= 0.0 min
Primary = 43.4 cfs @ 12.09 hrs, Volume= 3.491 af
Routed to Link POA-2 :

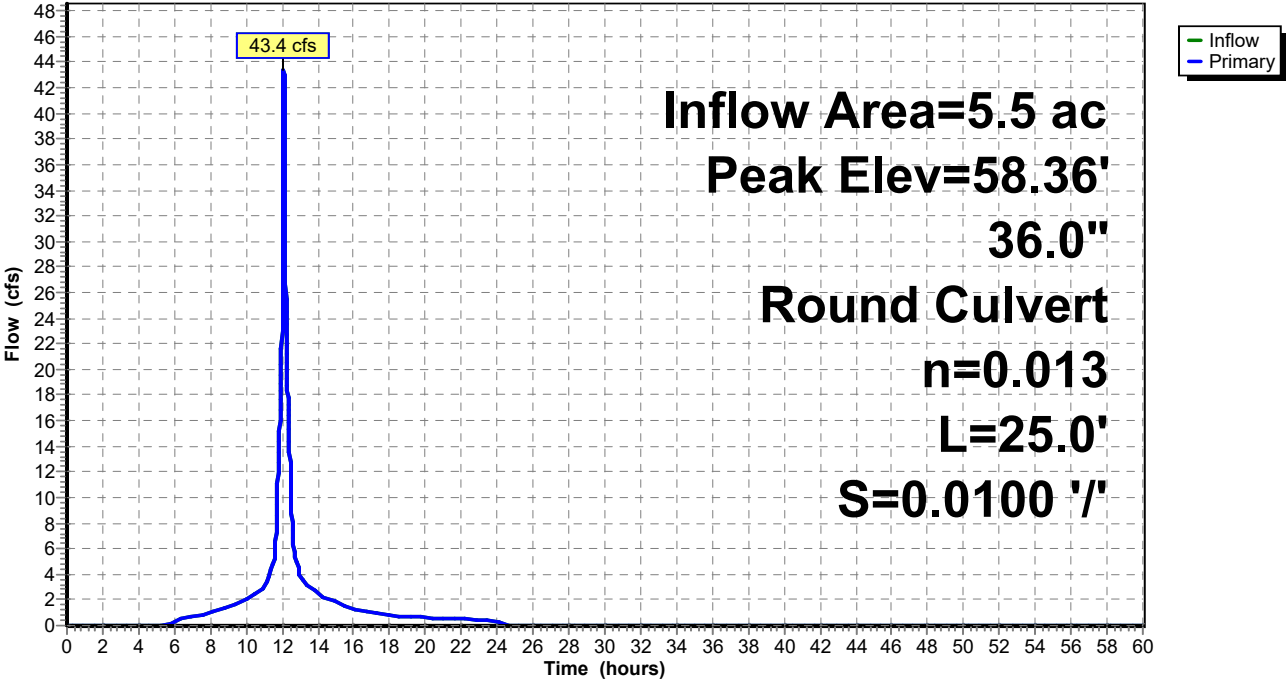
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 58.36' @ 12.09 hrs
Flood Elev= 60.55'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 54.25' | 36.0" Round Culvert
L= 25.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 54.25' / 54.00' S= 0.0100 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf |

Primary OutFlow Max=43.3 cfs @ 12.09 hrs HW=58.35' TW=55.50' (Fixed TW Elev= 55.50')
↑1=Culvert (Inlet Controls 43.3 cfs @ 6.12 fps)

Pond 2.34P: DMH-16

Hydrograph



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Summary for Pond 2.3P: CB-24

Inflow Area = 1.8 ac, 74.18% Impervious, Inflow Depth = 7.91" for 100-YR event
Inflow = 13.9 cfs @ 12.10 hrs, Volume= 1.208 af
Outflow = 13.9 cfs @ 12.10 hrs, Volume= 1.208 af, Atten= 0%, Lag= 0.0 min
Primary = 13.9 cfs @ 12.10 hrs, Volume= 1.208 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

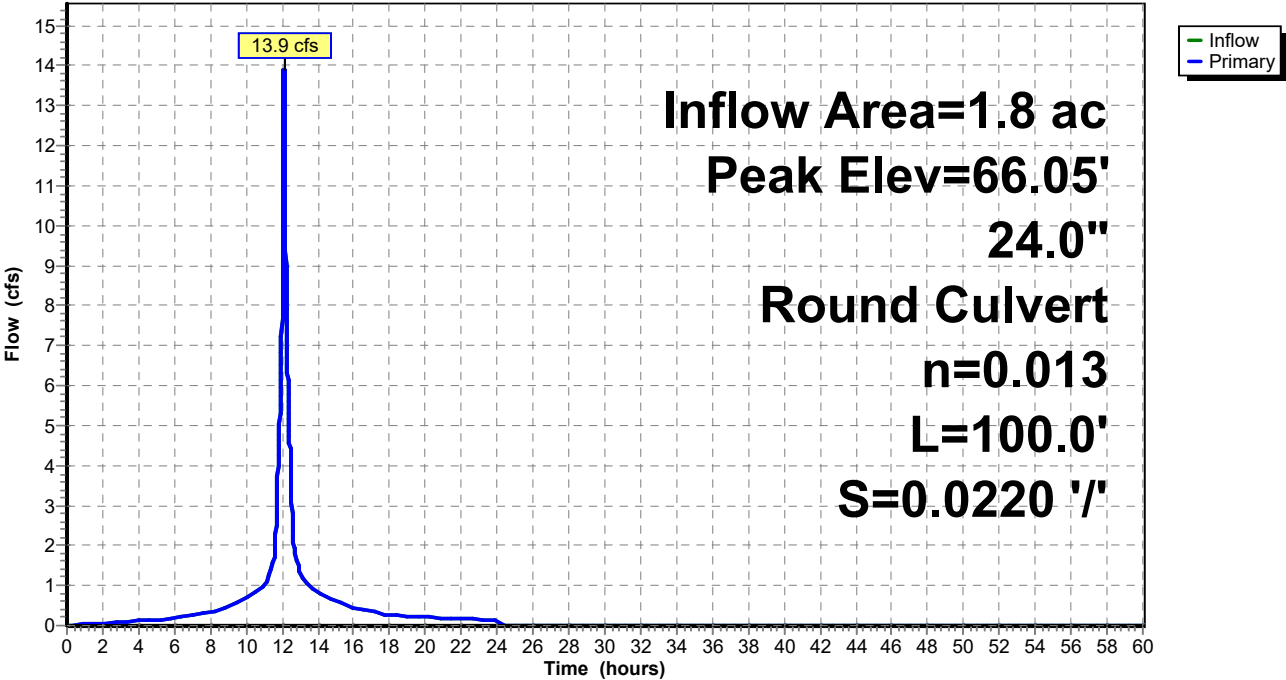
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 66.05' @ 12.10 hrs
Flood Elev= 69.90'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 63.70' | 24.0" Round Culvert
L= 100.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 63.70' / 61.50' S= 0.0220 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=13.9 cfs @ 12.10 hrs HW=66.05' (Free Discharge)
1=Culvert (Inlet Controls 13.9 cfs @ 4.41 fps)

Pond 2.3P: CB-24

Hydrograph



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Summary for Pond 2.4P: CB-17

Inflow Area = 0.5 ac, 81.06% Impervious, Inflow Depth = 8.05" for 100-YR event
Inflow = 4.1 cfs @ 12.09 hrs, Volume= 0.341 af
Outflow = 4.1 cfs @ 12.09 hrs, Volume= 0.341 af, Atten= 0%, Lag= 0.0 min
Primary = 4.1 cfs @ 12.09 hrs, Volume= 0.341 af
Routed to Pond 2.33P : DMH-13

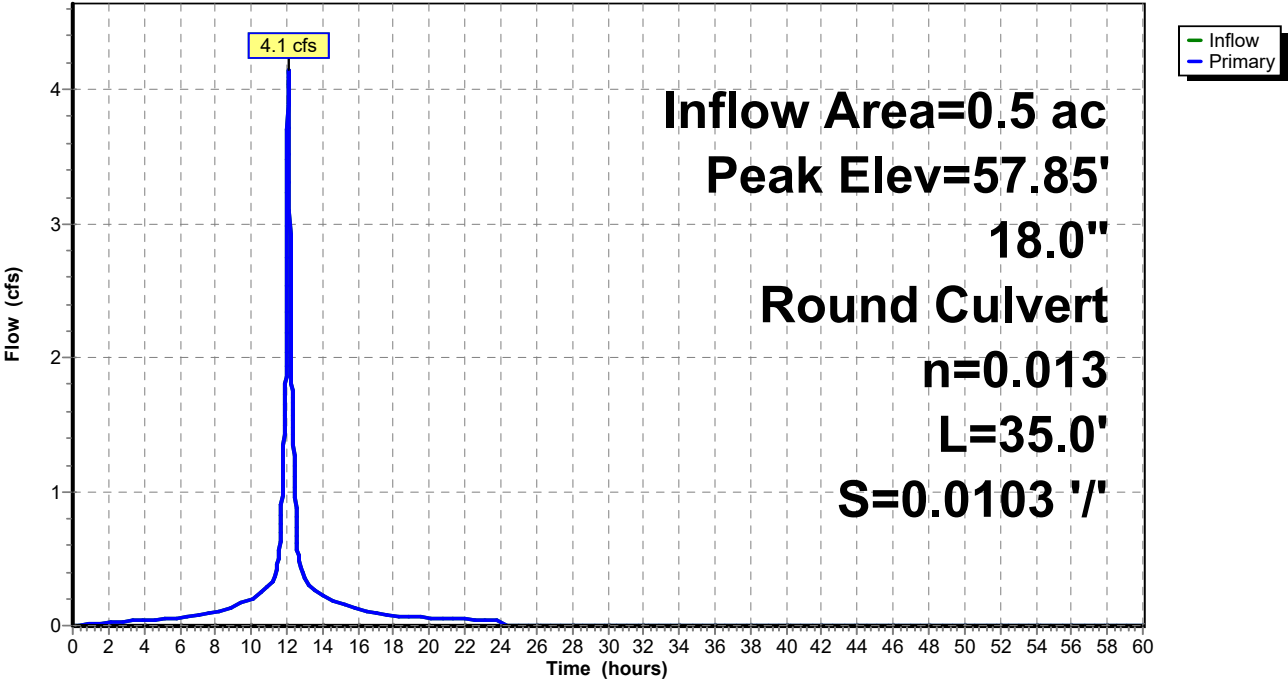
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 57.85' @ 12.09 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 56.71' | 18.0" Round Culvert
L= 35.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 56.71' / 56.35' S= 0.0103 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf |

Primary OutFlow Max=4.1 cfs @ 12.09 hrs HW=57.85' (Free Discharge)
↑1=Culvert (Inlet Controls 4.1 cfs @ 2.87 fps)

Pond 2.4P: CB-17

Hydrograph



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Summary for Pond 2.5P: CB-20

Inflow Area = 0.4 ac, 80.93% Impervious, Inflow Depth = 8.04" for 100-YR event
Inflow = 3.3 cfs @ 12.08 hrs, Volume= 0.270 af
Outflow = 3.3 cfs @ 12.08 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 3.3 cfs @ 12.08 hrs, Volume= 0.270 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

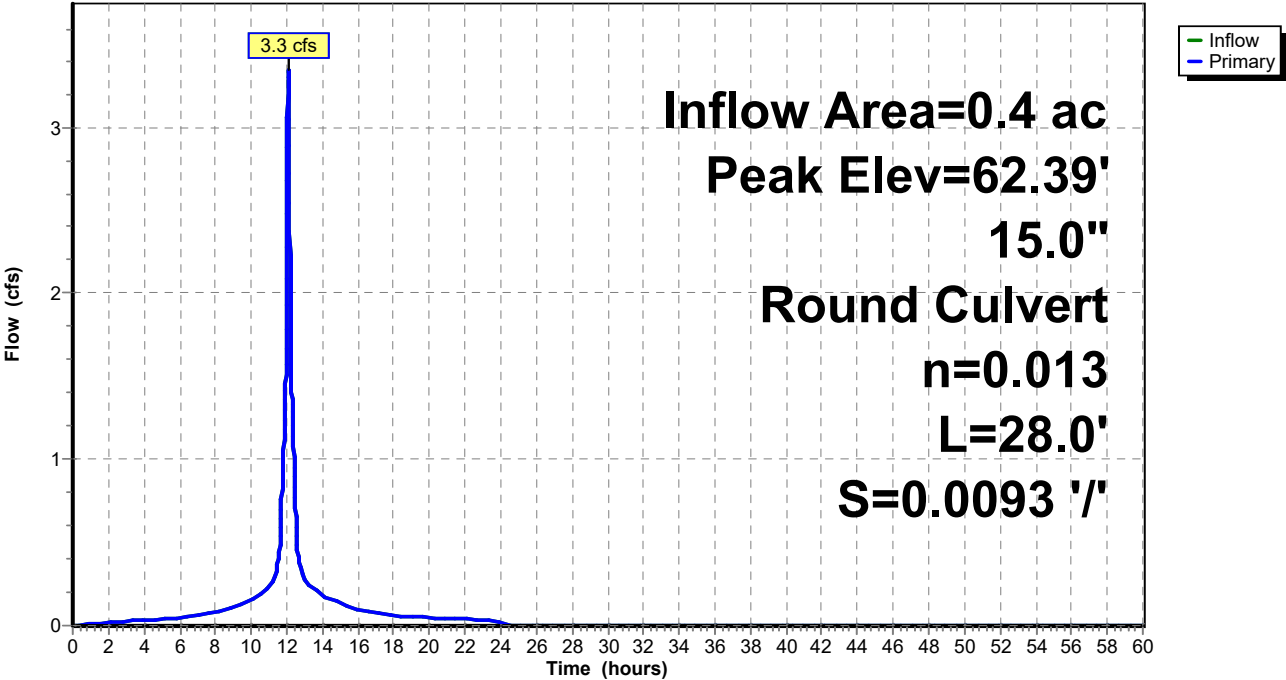
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 62.39' @ 12.08 hrs
Flood Elev= 65.75'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.26' | 15.0" Round Culvert
L= 28.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.26' / 61.00' S= 0.0093 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=3.3 cfs @ 12.08 hrs HW=62.39' (Free Discharge)
1=Culvert (Inlet Controls 3.3 cfs @ 2.86 fps)

Pond 2.5P: CB-20

Hydrograph



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Summary for Pond 2.6P: CB-15

Inflow Area = 0.4 ac, 77.40% Impervious, Inflow Depth = 7.97" for 100-YR event
Inflow = 3.4 cfs @ 12.09 hrs, Volume= 0.283 af
Outflow = 3.4 cfs @ 12.09 hrs, Volume= 0.283 af, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.09 hrs, Volume= 0.283 af
Routed to Pond 2.4P : CB-17

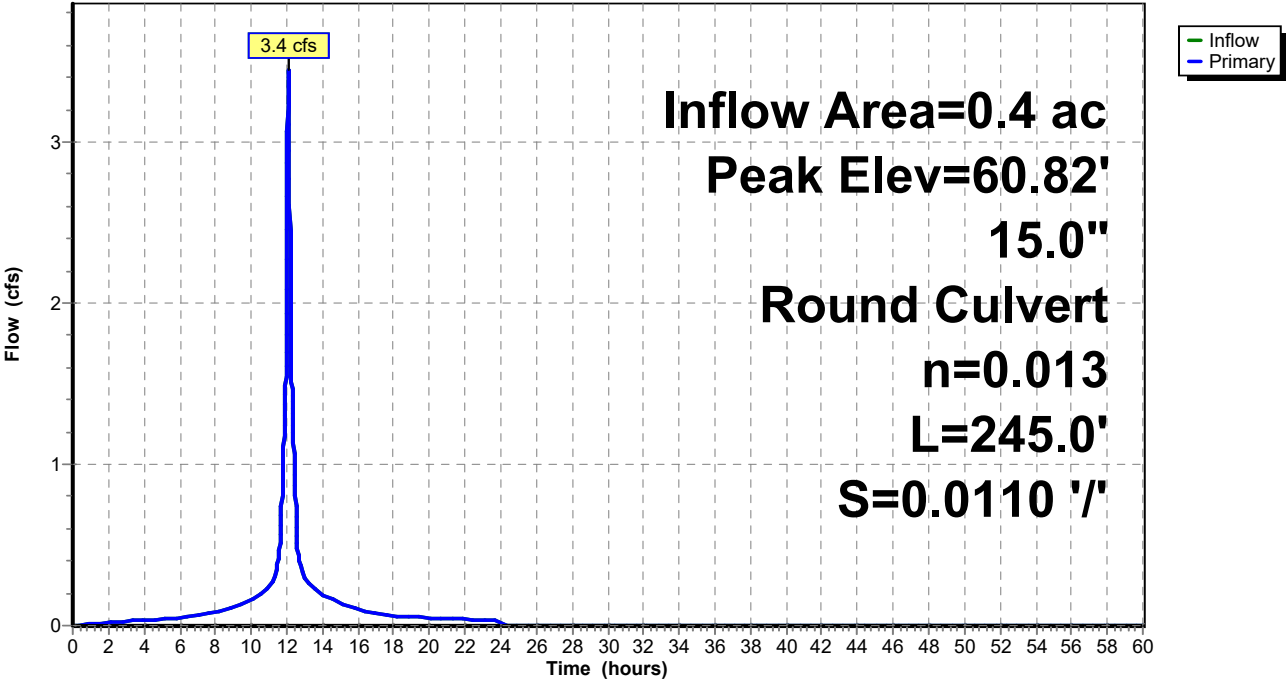
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 60.82' @ 12.09 hrs
Flood Elev= 64.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 59.66' | 15.0" Round Culvert
L= 245.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 59.66' / 56.96' S= 0.0110 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=3.4 cfs @ 12.09 hrs HW=60.82' (Free Discharge)
1=Culvert (Inlet Controls 3.4 cfs @ 2.90 fps)

Pond 2.6P: CB-15

Hydrograph



Summary for Pond 2.7P: CB-8

Inflow Area = 0.9 ac, 83.06% Impervious, Inflow Depth = 8.09" for 100-YR event
Inflow = 7.8 cfs @ 12.08 hrs, Volume= 0.633 af
Outflow = 7.8 cfs @ 12.08 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min
Primary = 7.8 cfs @ 12.08 hrs, Volume= 0.633 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

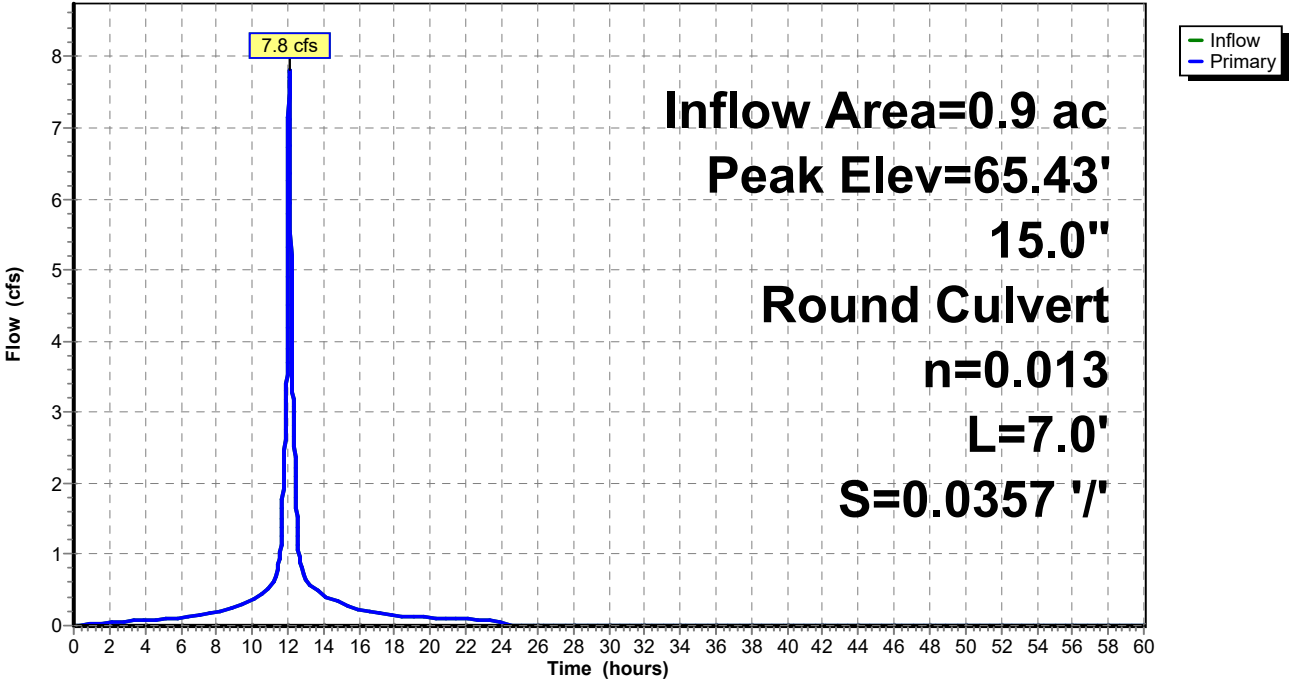
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 65.43' @ 12.08 hrs
Flood Elev= 68.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 62.00' | 15.0" Round Culvert
L= 7.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.00' / 61.75' S= 0.0357 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=7.8 cfs @ 12.08 hrs HW=65.42' (Free Discharge)
1=Culvert (Inlet Controls 7.8 cfs @ 6.35 fps)

Pond 2.7P: CB-8

Hydrograph



18462 POST with Stormfilter

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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 2.81P: DMH-3

Inflow Area = 1.8 ac, 55.68% Impervious, Inflow Depth = 7.84" for 100-YR event
Inflow = 14.5 cfs @ 12.08 hrs, Volume= 1.158 af
Outflow = 14.5 cfs @ 12.08 hrs, Volume= 1.158 af, Atten= 0%, Lag= 0.0 min
Primary = 14.5 cfs @ 12.08 hrs, Volume= 1.158 af
Routed to Pond 2.31BP : CMP DETENTION WITHOUT STORMFILTER

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.68' @ 12.08 hrs

Flood Elev= 70.85'

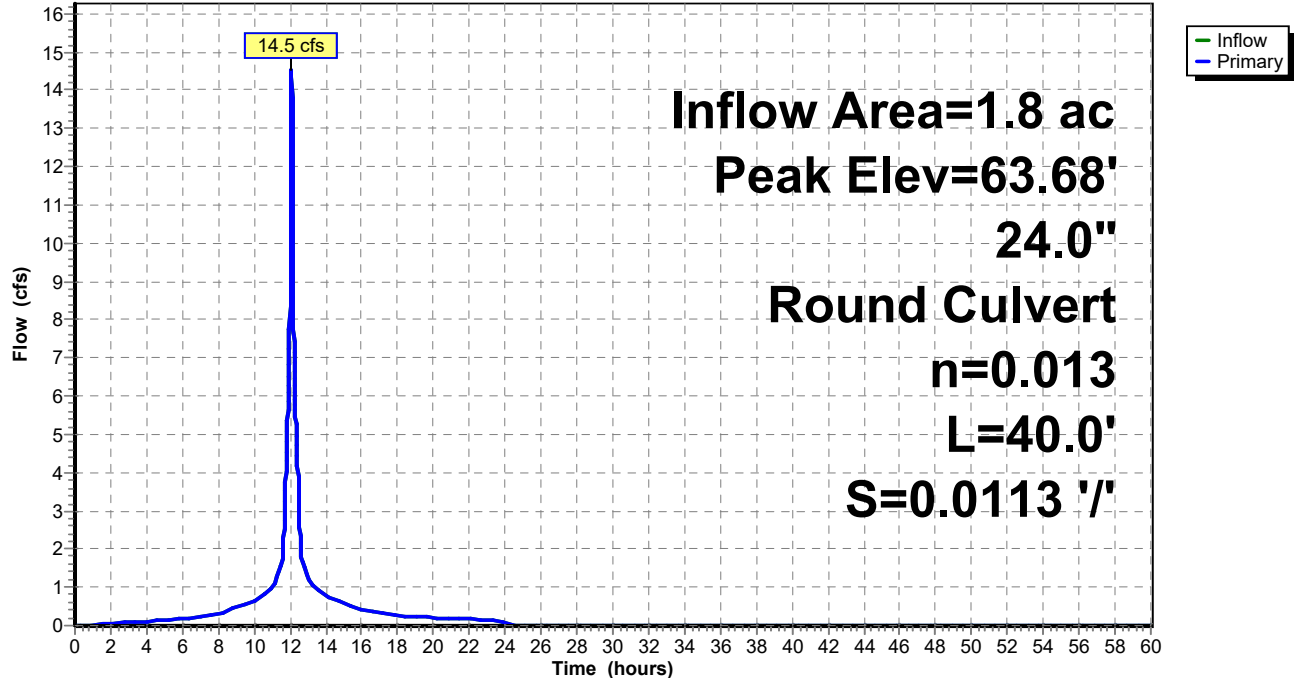
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 61.20' | 24.0" Round Culvert
L= 40.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.20' / 60.75' S= 0.0113 '/ Cc= 0.900
n= 0.013, Flow Area= 3.14 sf |

Primary OutFlow Max=14.5 cfs @ 12.08 hrs HW=63.67' (Free Discharge)

↑1=Culvert (Inlet Controls 14.5 cfs @ 4.61 fps)

Pond 2.81P: DMH-3

Hydrograph



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Summary for Pond 2.8P: CB-14

Inflow Area = 0.2 ac, 22.73% Impervious, Inflow Depth = 7.60" for 100-YR event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.104 af
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 0.104 af
Routed to Pond 2.81P : DMH-3

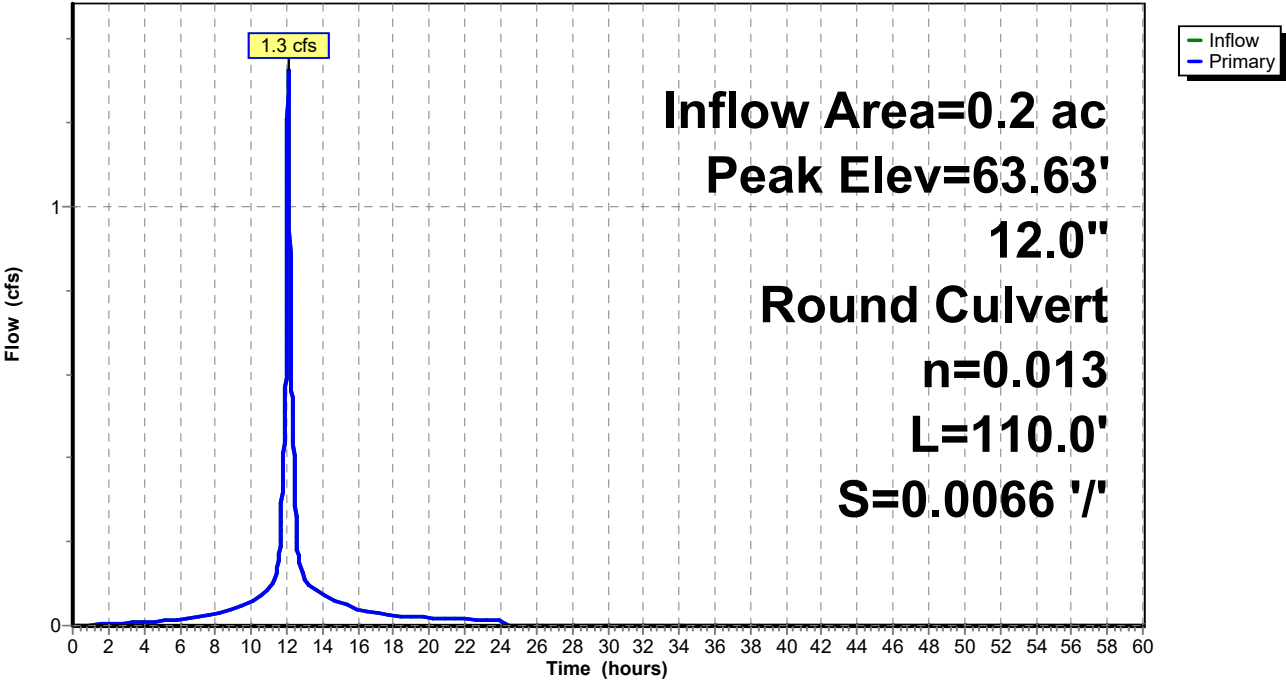
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 63.63' @ 12.08 hrs
Flood Elev= 67.00'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 62.93' | 12.0" Round Culvert
L= 110.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 62.93' / 62.20' S= 0.0066 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=63.63' (Free Discharge)
↑1=Culvert (Inlet Controls 1.3 cfs @ 2.25 fps)

Pond 2.8P: CB-14

Hydrograph



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Summary for Pond 2.9P: CB-5

Inflow Area = 1.1 ac, 71.99% Impervious, Inflow Depth = 7.91" for 100-YR event
Inflow = 8.8 cfs @ 12.08 hrs, Volume= 0.708 af
Outflow = 8.8 cfs @ 12.08 hrs, Volume= 0.708 af, Atten= 0%, Lag= 0.0 min
Primary = 8.8 cfs @ 12.08 hrs, Volume= 0.708 af
Routed to Pond 2.11P : CB-6

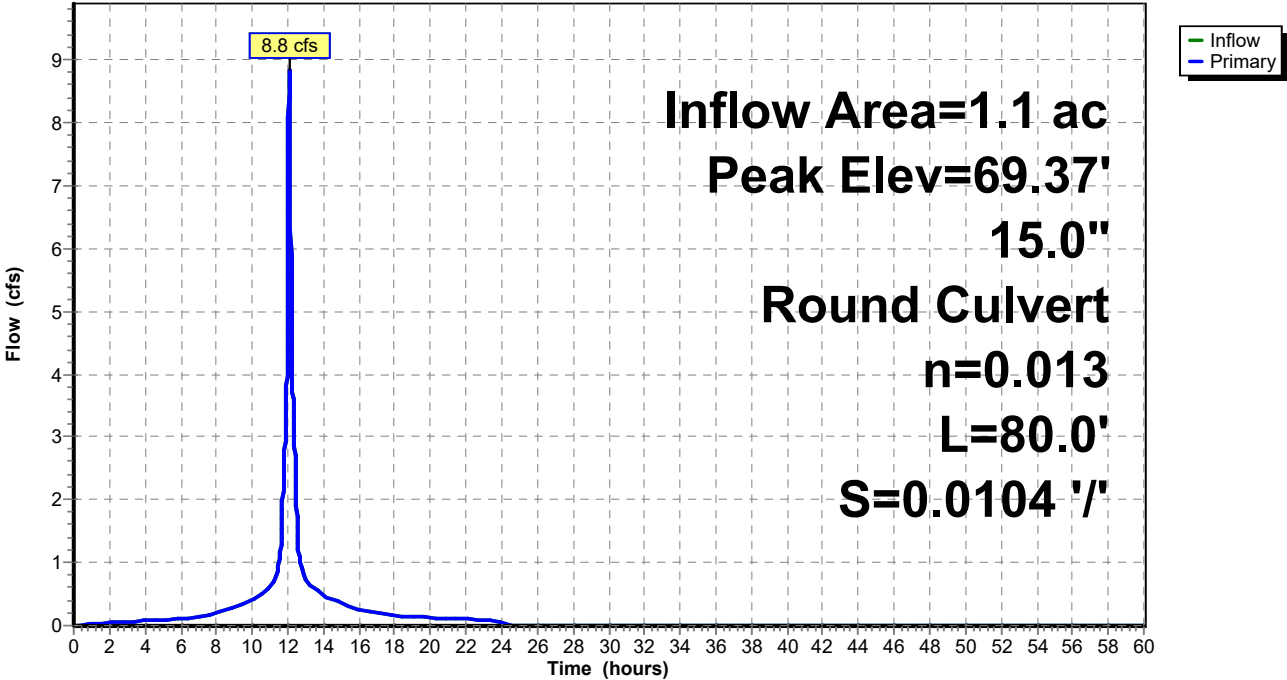
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 69.37' @ 12.08 hrs
Flood Elev= 72.50'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 65.15' | 15.0" Round Culvert
L= 80.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 65.15' / 64.32' S= 0.0104 '/ Cc= 0.900
n= 0.013, Flow Area= 1.23 sf |

Primary OutFlow Max=8.8 cfs @ 12.08 hrs HW=69.35' (Free Discharge)
↑1=Culvert (Inlet Controls 8.8 cfs @ 7.19 fps)

Pond 2.9P: CB-5

Hydrograph



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Summary for Pond 4P: CB - Elm Street

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 7.85" for 100-YR event
Inflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af
Outflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Atten= 0%, Lag= 0.0 min
Primary = 5.0 cfs @ 12.10 hrs, Volume= 1.013 af
Routed to Link POA-4 :
Secondary = 9.2 cfs @ 12.10 hrs, Volume= 0.157 af
Routed to Link POA-4 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.46' @ 12.10 hrs

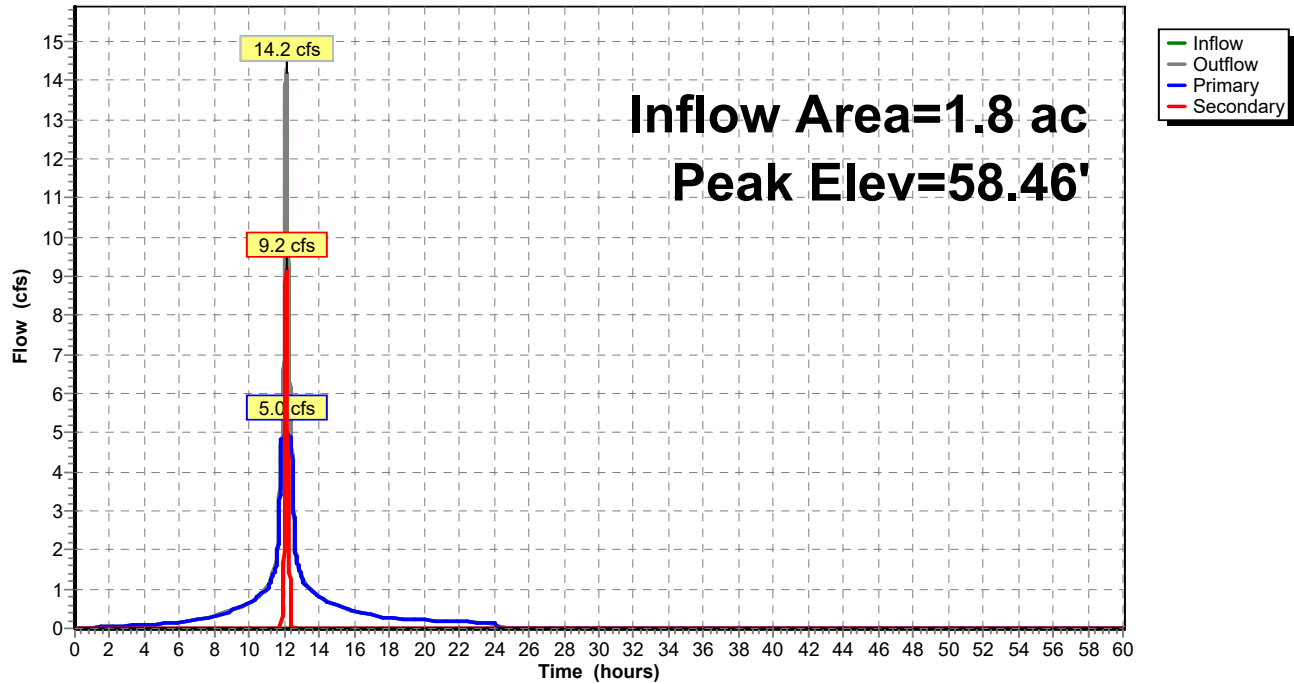
Flood Elev= 58.25'

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|--------|---|
| #1 | Primary | 53.27' | 15.0" Round Culvert
L= 250.0' CMP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 53.27' / 51.13' S= 0.0086 '/ Cc= 0.900
n= 0.025 Corrugated metal, Flow Area= 1.23 sf |
| #2 | Secondary | 58.00' | 10.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32 |

Primary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.46' (Free Discharge)↑**1=Culvert** (Barrel Controls 5.0 cfs @ 4.08 fps)**Secondary OutFlow** Max=9.2 cfs @ 12.10 hrs HW=58.46' (Free Discharge)↑**2=Broad-Crested Rectangular Weir**(Weir Controls 9.2 cfs @ 2.01 fps)

Pond 4P: CB - Elm Street

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 5.1P:

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 7.70" for 100-YR event
Inflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Outflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af, Atten= 0%, Lag= 0.0 min
Primary = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Routed to Pond 5.2P : 42" RCP Outfall

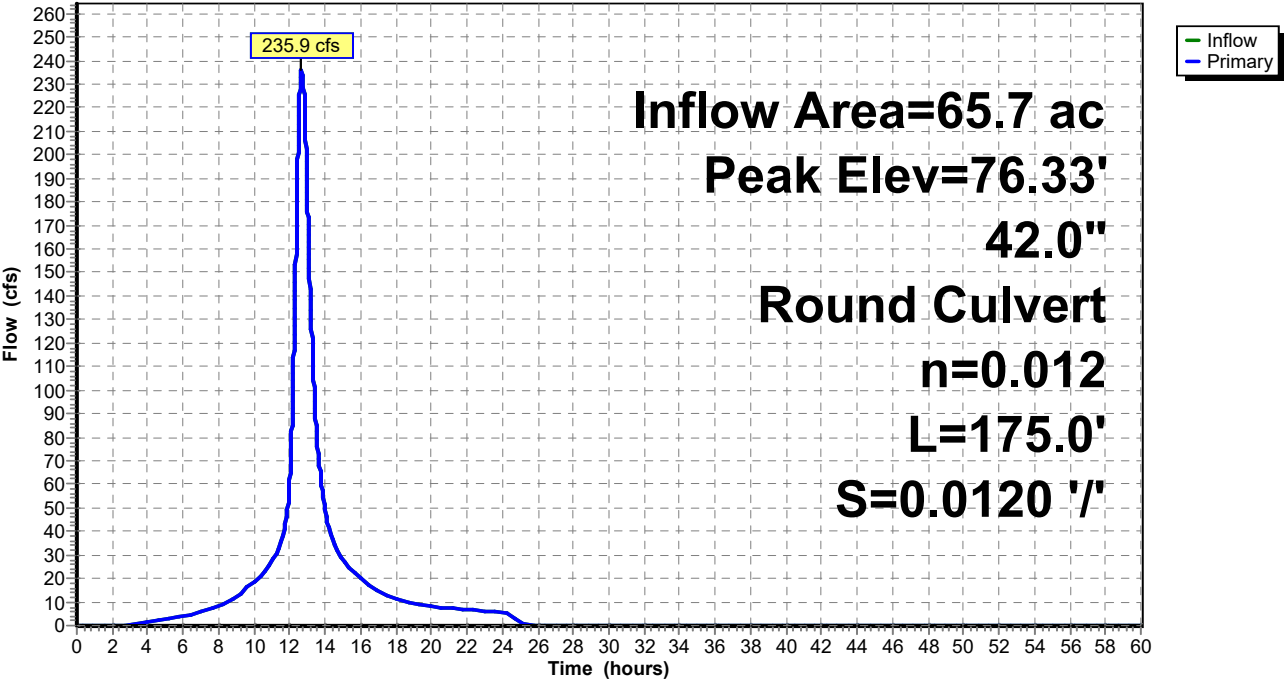
Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 76.33' @ 12.68 hrs
Flood Elev= 60.20'

| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|--|
| #1 | Primary | 48.65' | 42.0" Round Culvert
L= 175.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 48.65' / 46.55' S= 0.0120 '/ Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf |

Primary OutFlow Max=235.8 cfs @ 12.68 hrs HW=76.31' (Free Discharge)
↑1=Culvert (Inlet Controls 235.8 cfs @ 24.51 fps)

Pond 5.1P:

Hydrograph



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Summary for Pond 5.2P: 42" RCP Outfall

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 7.70" for 100-YR event
Inflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Outflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af, Atten= 0%, Lag= 0.0 min
Primary = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Routed to Link POA-2 :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 74.13' @ 12.68 hrs

Flood Elev= 57.00'

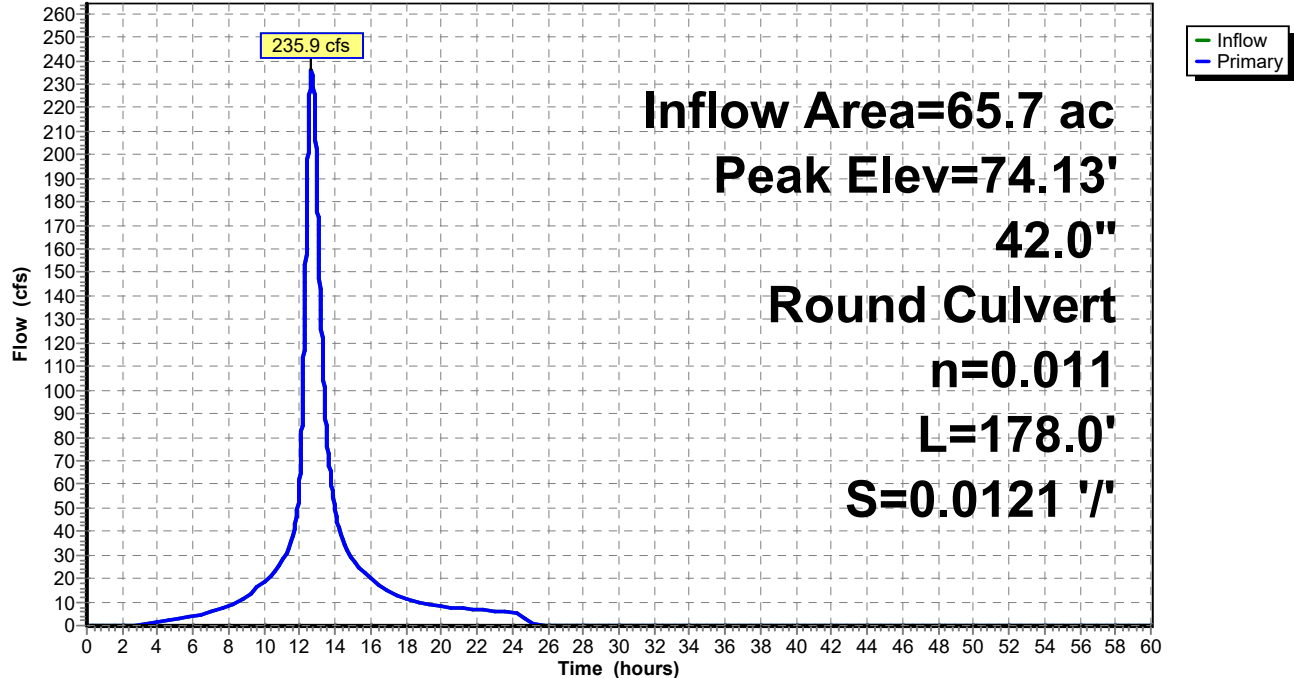
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 46.45' | 42.0" Round Culvert
L= 178.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 46.45' / 44.30' S= 0.0121 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 9.62 sf |

Primary OutFlow Max=235.8 cfs @ 12.68 hrs HW=74.11' (Free Discharge)

↑1=Culvert (Inlet Controls 235.8 cfs @ 24.51 fps)

Pond 5.2P: 42" RCP Outfall

Hydrograph



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Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 7.70" for 100-YR event
Inflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Outflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af, Atten= 0%, Lag= 0.0 min
Primary = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Routed to Pond 51P : Box Culvert - Slab Top

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.75' @ 12.68 hrs

Flood Elev= 75.77'

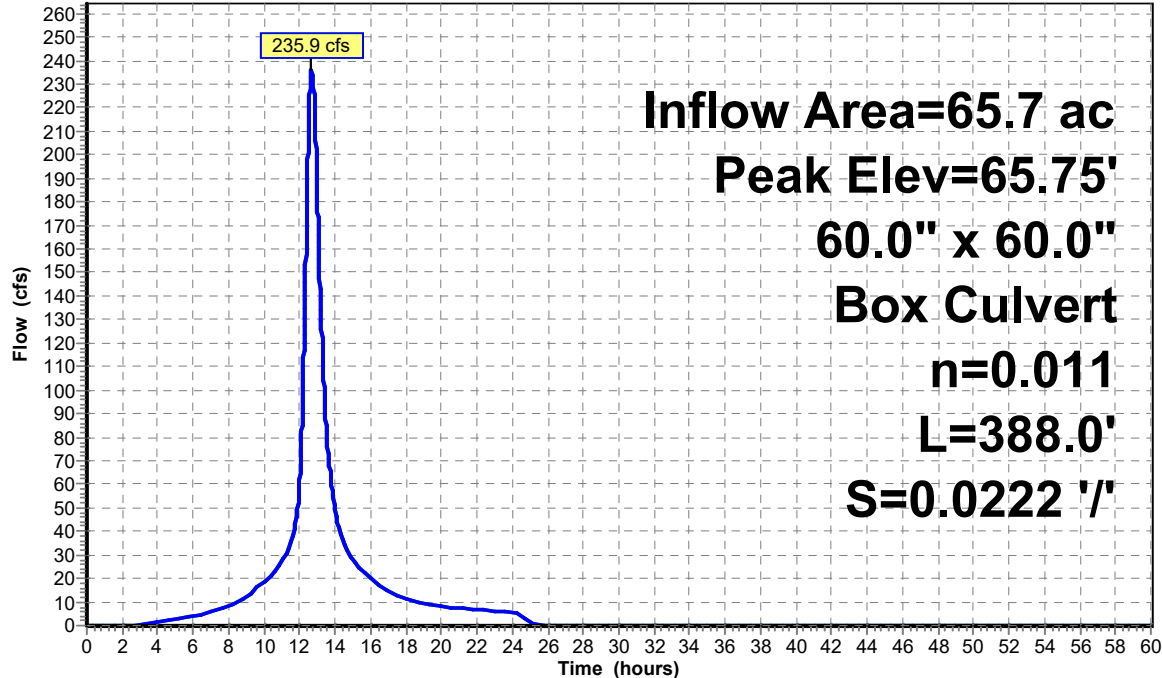
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 59.27' | 60.0" W x 60.0" H Box Culvert
L= 388.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 59.27' / 50.65' S= 0.0222 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=235.8 cfs @ 12.68 hrs HW=65.75' (Free Discharge)

↑1=Culvert (Inlet Controls 235.8 cfs @ 9.43 fps)

Pond 5P: Box Culvert - Railroad

Hydrograph



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Type III 24-hr 100-YR Rainfall=8.70"

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Summary for Pond 51P: Box Culvert - Slab Top

Inflow Area = 65.7 ac, 62.85% Impervious, Inflow Depth = 7.70" for 100-YR event
Inflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Outflow = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af, Atten= 0%, Lag= 0.0 min
Primary = 235.9 cfs @ 12.68 hrs, Volume= 42.137 af
Routed to Pond 5.1P :

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.13' @ 12.68 hrs

Flood Elev= 55.65'

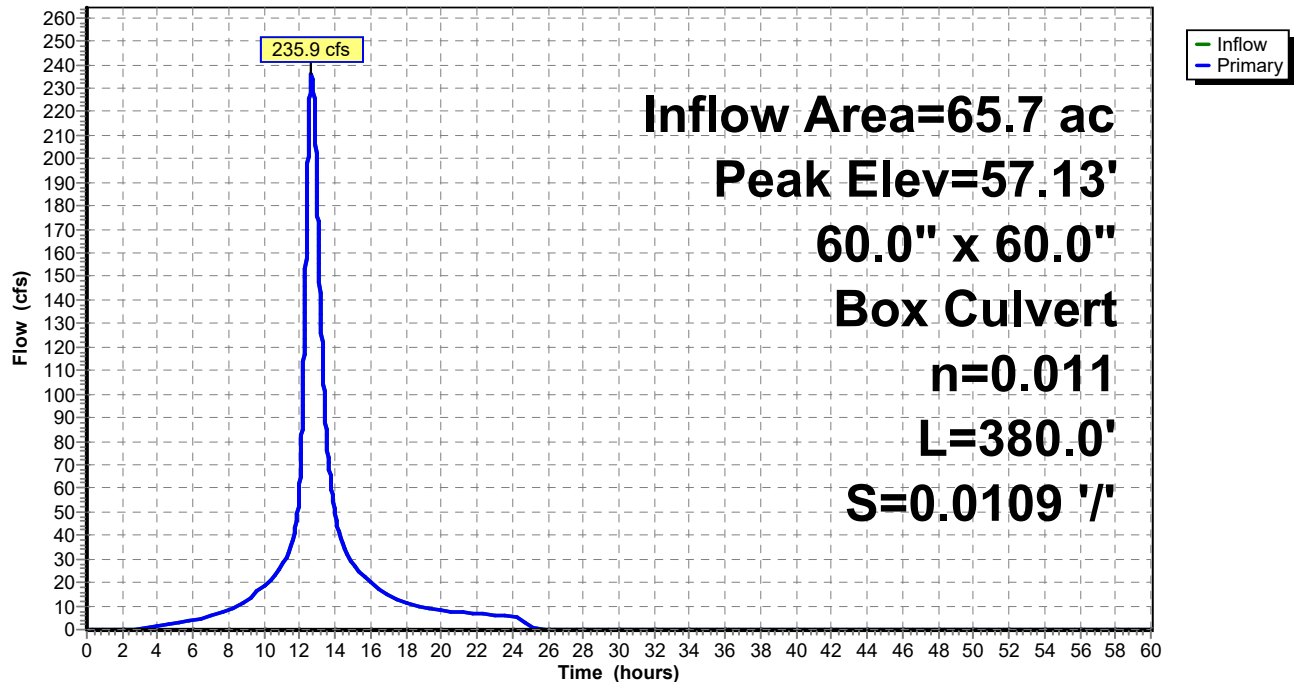
| Device | Routing | Invert | Outlet Devices |
|--------|---------|--------|---|
| #1 | Primary | 50.65' | 60.0" W x 60.0" H Box Culvert
L= 380.0' RCP, sq.cut end projecting, Ke= 0.500
Inlet / Outlet Invert= 50.65' / 46.50' S= 0.0109 '/ Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf |

Primary OutFlow Max=235.8 cfs @ 12.68 hrs HW=57.13' (Free Discharge)

↑1=Culvert (Inlet Controls 235.8 cfs @ 9.43 fps)

Pond 51P: Box Culvert - Slab Top

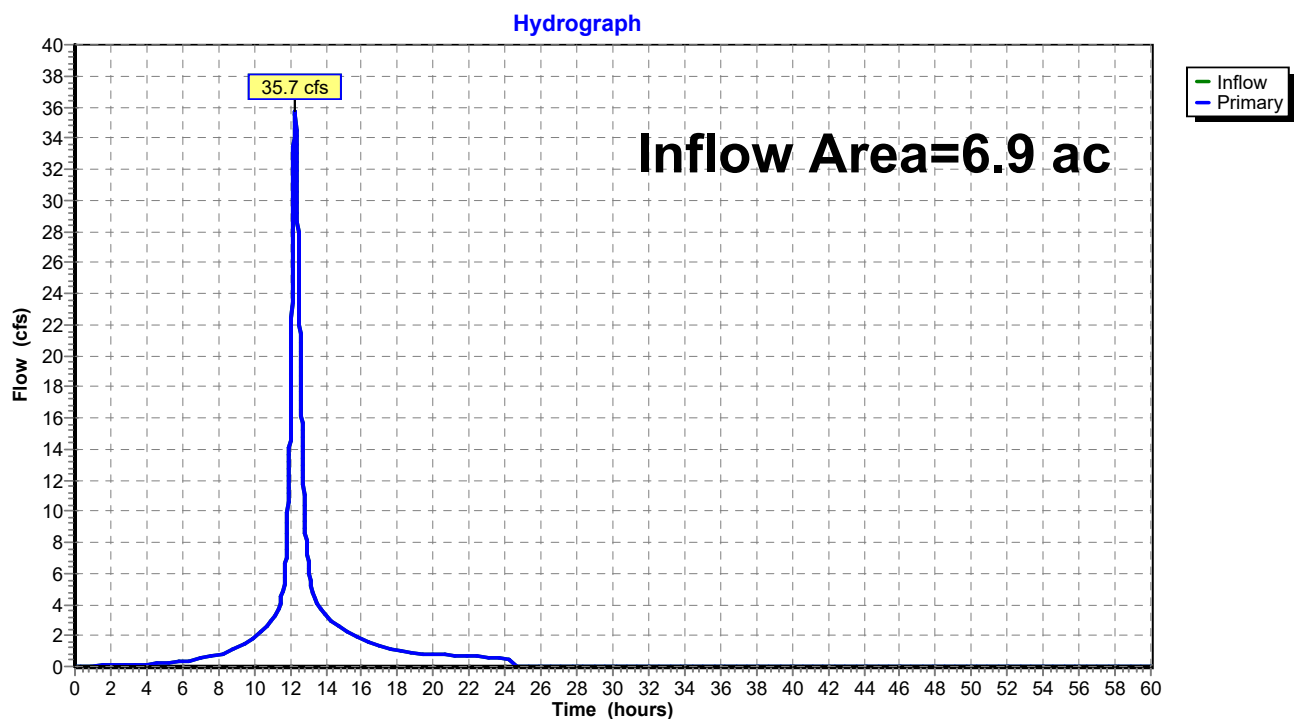
Hydrograph



Summary for Link POA-1:

Inflow Area = 6.9 ac, 24.71% Impervious, Inflow Depth = 7.11" for 100-YR event
Inflow = 35.7 cfs @ 12.28 hrs, Volume= 4.079 af
Primary = 35.7 cfs @ 12.28 hrs, Volume= 4.079 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-1:

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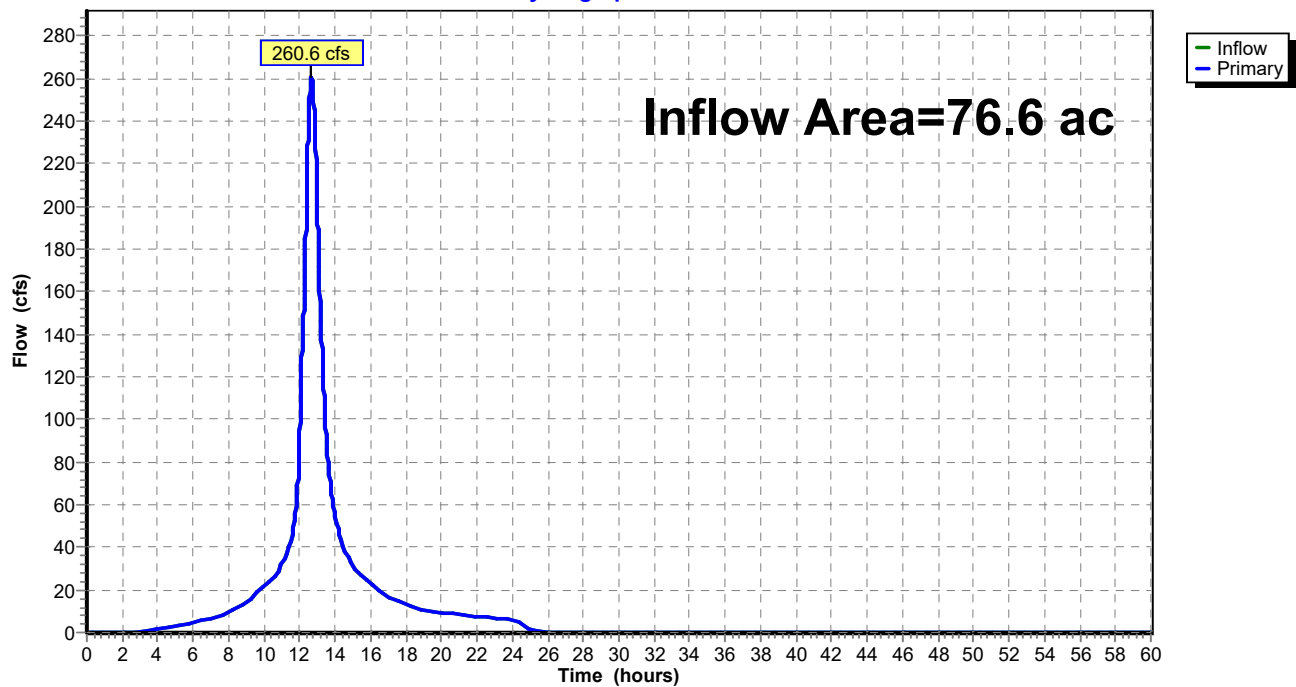
Summary for Link POA-2:

Inflow Area = 76.6 ac, 59.22% Impervious, Inflow Depth = 7.64" for 100-YR event
Inflow = 260.6 cfs @ 12.68 hrs, Volume= 48.746 af
Primary = 260.6 cfs @ 12.68 hrs, Volume= 48.746 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-2:

Hydrograph



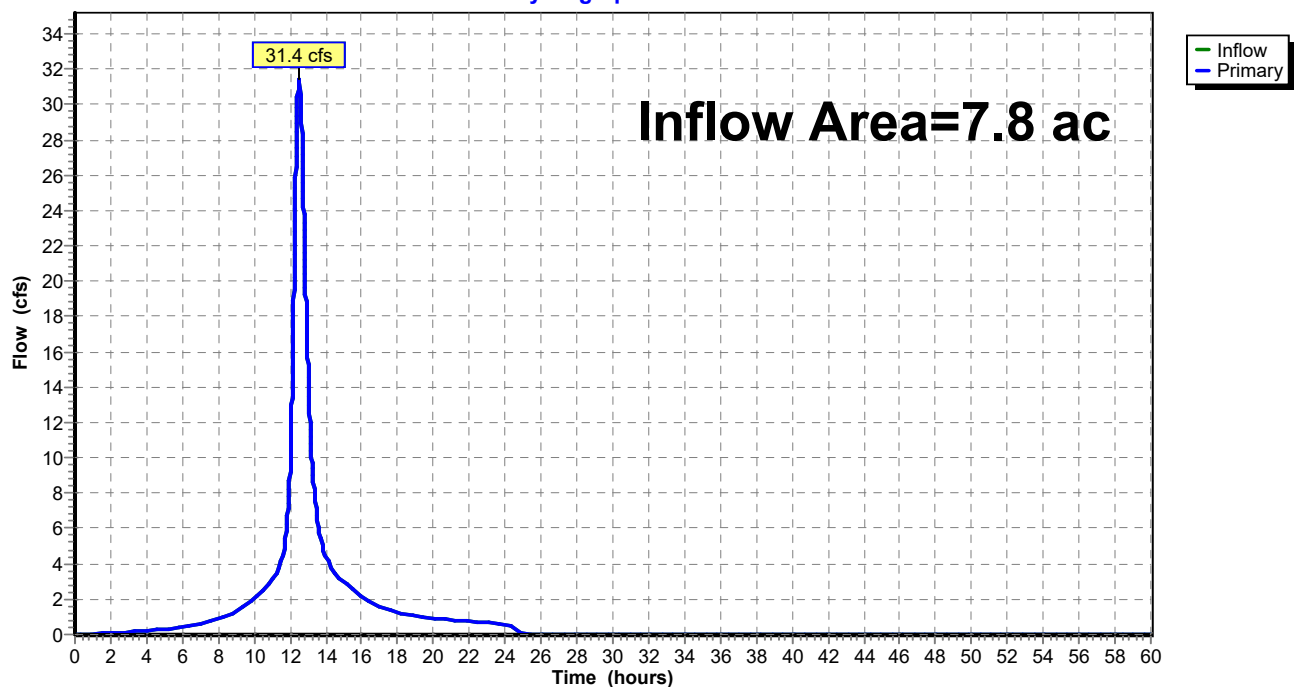
Summary for Link POA-3:

Inflow Area = 7.8 ac, 24.37% Impervious, Inflow Depth = 7.29" for 100-YR event
 Inflow = 31.4 cfs @ 12.51 hrs, Volume= 4.741 af
 Primary = 31.4 cfs @ 12.51 hrs, Volume= 4.741 af, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-3:

Hydrograph



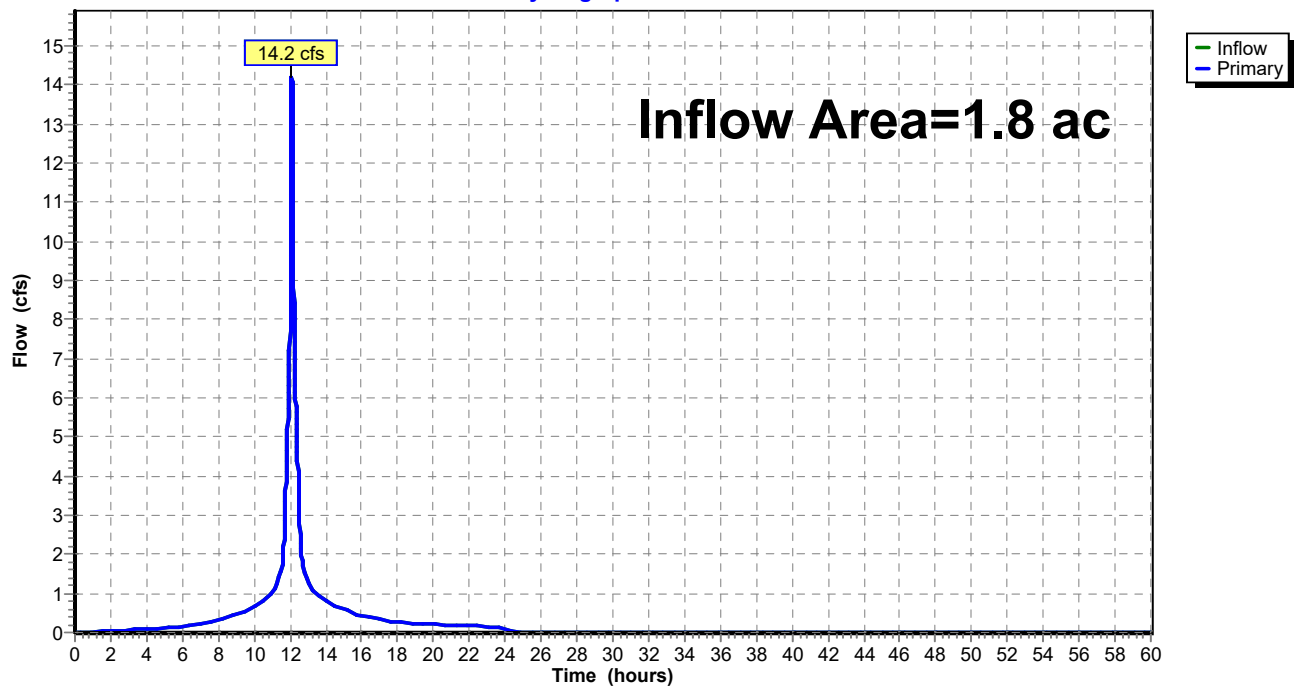
Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 7.85" for 100-YR event
Inflow = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af
Primary = 14.2 cfs @ 12.10 hrs, Volume= 1.170 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Link POA-4:

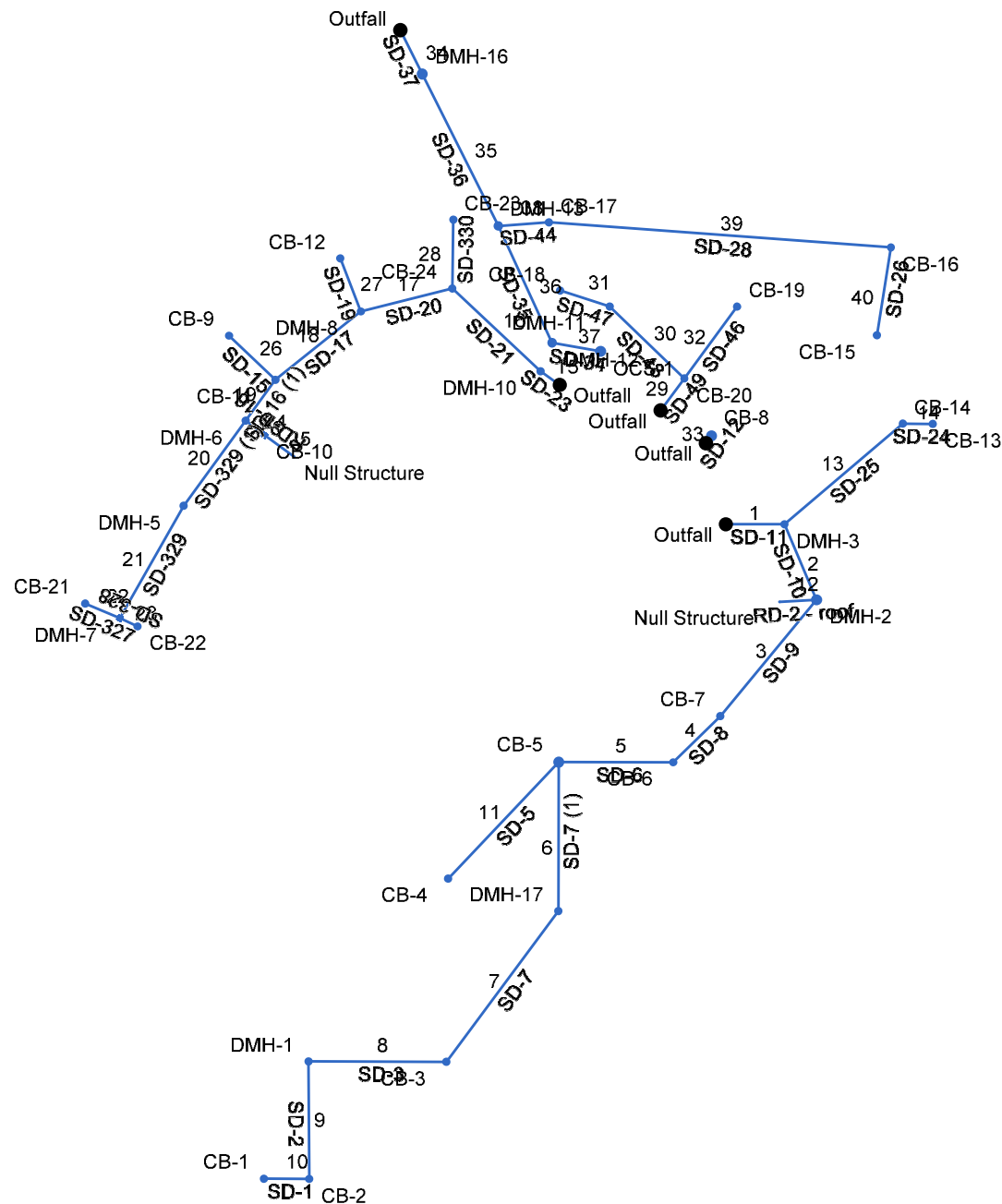
Hydrograph



Appendix 2C

Hydraulic Modeling – Pipe Sizing Calculations and Model Summary

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



Storm Sewer Inventory Report

| Line No. | Alignment | | | | Flow Data | | | | Physical Data | | | | | | | | Line ID |
|--|----------------|------------------|------------------|-----------|---------------|----------------|------------------|------------------|-------------------|----------------|-------------------|---------------------|------------|-------------|------------------|--------------------|-------------|
| | Dnstr Line No. | Line Length (ft) | Defl angle (deg) | Junc Type | Known Q (cfs) | Drng Area (ac) | Runoff Coeff (C) | Inlet Time (min) | Invert El Dn (ft) | Line Slope (%) | Invert El Up (ft) | Line Size (in) | Line Shape | N Value (n) | J-Loss Coeff (K) | Inlet/ Rim El (ft) | |
| 1 | End | 42.000 | 0.000 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 60.75 | 1.07 | 61.20 | 24 | Cir | 0.012 | 0.93 | 70.85 | SD-11 |
| 2 | 1 | 59.088 | 67.054 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 61.70 | 1.00 | 62.29 | 18 | Cir | 0.012 | 1.00 | 73.40 | SD-10 |
| 3 | 2 | 108.435 | 62.489 | Grate | 0.00 | 0.10 | 0.25 | 10.0 | 62.39 | 1.00 | 63.47 | 18 | Cir | 0.012 | 0.50 | 73.50 | SD-9 |
| 4 | 3 | 47.390 | 5.849 | Grate | 0.00 | 0.19 | 0.90 | 6.0 | 63.57 | 1.06 | 64.07 | 18 | Cir | 0.012 | 1.12 | 73.20 | SD-8 |
| 5 | 4 | 82.092 | 44.689 | Grate | 0.00 | 0.45 | 0.90 | 6.0 | 64.32 | 1.01 | 65.15 | 15 | Cir | 0.012 | 1.73 | 72.50 | SD-6 |
| 6 | 5 | 107.149 | -89.998 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 65.40 | 1.03 | 66.50 | 12 | Cir | 0.012 | 0.65 | 75.20 | SD-7 (1) |
| 7 | 6 | 134.882 | 36.405 | Grate | 0.00 | 0.00 | 0.00 | 0.0 | 66.60 | 1.00 | 67.95 | 15 | Cir | 0.012 | 1.26 | 73.00 | SD-7 |
| 8 | 7 | 98.882 | 53.682 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 68.20 | 1.01 | 69.20 | 12 | Cir | 0.012 | 1.00 | 73.80 | SD-3 |
| 9 | 8 | 84.584 | -90.538 | Grate | 0.00 | 0.05 | 0.90 | 6.0 | 69.30 | 0.95 | 70.10 | 12 | Cir | 0.012 | 1.50 | 74.20 | SD-2 |
| 10 | 9 | 32.575 | 90.605 | Grate | 0.00 | 0.08 | 0.75 | 6.0 | 70.20 | 1.23 | 70.60 | 12 | Cir | 0.012 | 1.00 | 74.20 | SD-1 |
| 11 | 5 | 115.230 | -46.730 | Grate | 0.00 | 0.14 | 0.90 | 6.0 | 68.55 | 1.00 | 69.70 | 12 | Cir | 0.012 | 1.00 | 73.30 | SD-5 |
| 12 | 2 | 26.542 | 109.879 | None | 0.00 | 0.45 | 0.95 | 6.0 | 68.30 | 2.64 | 69.00 | 12 | Cir | 0.012 | 1.00 | 0.00 | RD-2 - roof |
| 13 | 1 | 111.448 | -40.526 | Grate | 0.00 | 0.03 | 0.90 | 6.0 | 62.20 | 0.66 | 62.93 | 12 | Cir | 0.012 | 1.06 | 67.00 | SD-25 |
| 14 | 13 | 21.649 | 41.144 | Grate | 0.00 | 0.13 | 0.75 | 10.0 | 63.03 | 0.55 | 63.15 | 12 | Cir | 0.012 | 1.00 | 67.00 | SD-24 |
| 15 | End | 16.923 | -144.461 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 61.50 | 2.95 | 62.00 | 24 | Cir | 0.012 | 0.16 | 70.60 | SD-23 |
| 16 | 15 | 86.926 | 7.715 | Grate | 0.00 | 0.11 | 0.85 | 6.0 | 62.10 | 1.84 | 63.70 | 24 | Cir | 0.012 | 1.75 | 69.90 | SD-21 |
| 17 | 16 | 67.394 | -57.469 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 64.20 | 1.04 | 64.90 | 18 | Cir | 0.012 | 0.99 | 72.40 | SD-20 |
| 18 | 17 | 78.561 | -24.540 | Grate | 0.00 | 0.06 | 0.85 | 6.0 | 65.15 | 1.02 | 65.95 | 15 | Cir | 0.012 | 1.49 | 73.00 | SD-17 |
| 19 | 18 | 36.294 | -15.243 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 66.05 | 1.10 | 66.45 | 15 | Cir | 0.012 | 1.00 | 73.75 | SD-16 (1) |
| 20 | 19 | 75.754 | 0.044 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 66.70 | 1.00 | 67.46 | 12 | Cir | 0.012 | 0.15 | 73.95 | SD-329 (1) |
| 21 | 20 | 92.840 | -6.598 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 67.56 | 1.08 | 68.56 | 12 | Cir | 0.012 | 1.00 | 72.75 | SD-329 |
| 22 | 21 | 26.890 | 83.397 | Grate | 0.00 | 0.21 | 0.85 | 10.0 | 68.66 | 1.82 | 69.15 | 12 | Cir | 0.012 | 1.00 | 72.75 | SD-327 |
| 23 | 21 | 14.100 | -94.366 | Grate | 0.00 | 0.29 | 0.85 | 10.0 | 68.66 | 0.99 | 68.80 | 12 | Cir | 0.012 | 1.00 | 72.40 | SD-328 |
| Project File: 18462_Full SD System.stm | | | | | | | | | | | | Number of lines: 40 | | | | Date: 6/11/2024 | |

Storm Sewer Inventory Report

| Line No. | Alignment | | | | Flow Data | | | | Physical Data | | | | | | | | Line ID |
|--|----------------|------------------|------------------|-----------|---------------|----------------|------------------|------------------|-------------------|----------------|-------------------|---------------------|------------|-------------|------------------|--------------------|---------|
| | Dnstr Line No. | Line Length (ft) | Defl angle (deg) | Junc Type | Known Q (cfs) | Drng Area (ac) | Runoff Coeff (C) | Inlet Time (min) | Invert El Dn (ft) | Line Slope (%) | Invert El Up (ft) | Line Size (in) | Line Shape | N Value (n) | J-Loss Coeff (K) | Inlet/ Rim El (ft) | |
| 24 | 19 | 17.043 | -87.734 | Grate | 0.00 | 0.07 | 0.85 | 6.0 | 68.30 | 1.17 | 68.50 | 12 | Cir | 0.012 | 0.50 | 73.45 | SD-16 |
| 25 | 24 | 26.327 | -2.331 | None | 0.00 | 0.35 | 0.95 | 6.0 | 68.60 | 1.52 | 69.00 | 12 | Cir | 0.012 | 1.00 | 0.00 | RD-1 |
| 26 | 18 | 46.087 | 82.267 | Grate | 0.00 | 0.08 | 0.90 | 6.0 | 68.50 | 1.08 | 69.00 | 12 | Cir | 0.012 | 1.00 | 72.60 | SD-15 |
| 27 | 17 | 41.029 | 82.889 | Grate | 0.00 | 0.09 | 0.90 | 6.0 | 66.94 | 1.00 | 67.35 | 12 | Cir | 0.012 | 1.00 | 70.95 | SD-19 |
| 28 | 16 | 49.560 | 47.591 | Grate | 0.00 | 0.07 | 0.90 | 6.0 | 65.40 | 1.01 | 65.90 | 12 | Cir | 0.012 | 1.00 | 69.50 | SD-330 |
| 29 | End | 28.627 | -53.603 | Grate | 0.00 | 0.13 | 0.85 | 6.0 | 61.00 | 0.91 | 61.26 | 15 | Cir | 0.012 | 1.49 | 65.75 | SD-49 |
| 30 | 29 | 74.395 | -82.327 | Grate | 0.00 | 0.00 | 0.00 | 0.0 | 61.51 | 3.35 | 64.00 | 12 | Cir | 0.012 | 0.74 | 67.70 | SD-48 |
| 31 | 30 | 37.228 | -26.130 | Grate | 0.00 | 0.12 | 0.85 | 6.0 | 64.10 | 2.15 | 64.90 | 12 | Cir | 0.012 | 1.00 | 68.50 | SD-47 |
| 32 | 29 | 63.978 | -0.166 | Grate | 0.00 | 0.10 | 0.90 | 6.0 | 61.51 | 1.00 | 62.15 | 12 | Cir | 0.012 | 1.00 | 65.75 | SD-46 |
| 33 | End | 6.522 | -54.048 | Grate | 0.00 | 0.39 | 0.90 | 6.0 | 63.27 | 13.49 | 64.15 | 15 | Cir | 0.012 | 1.00 | 68.00 | SD-12 |
| 34 | End | 35.218 | 63.435 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 54.00 | 0.71 | 54.25 | 36 | Cir | 0.012 | 0.15 | 60.55 | SD-37 |
| 35 | 34 | 122.122 | 0.110 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 54.35 | 0.93 | 55.48 | 36 | Cir | 0.012 | 0.94 | 69.00 | SD-36 |
| 36 | 35 | 92.457 | 1.745 | MH | 0.00 | 0.00 | 0.00 | 0.0 | 56.58 | 0.93 | 57.44 | 24 | Cir | 0.012 | 0.85 | 69.70 | SD-35 |
| 37 | 36 | 35.172 | -55.159 | MH | 32.50 | 0.00 | 0.00 | 0.0 | 57.54 | 1.05 | 57.91 | 24 | Cir | 0.012 | 1.00 | 70.35 | SD-34 |
| 38 | 35 | 36.408 | -67.666 | Grate | 0.00 | 0.08 | 0.95 | 6.0 | 56.35 | 0.99 | 56.71 | 18 | Cir | 0.012 | 0.50 | 68.00 | SD-44 |
| 39 | 38 | 245.602 | 8.330 | Grate | 0.00 | 0.16 | 0.90 | 6.0 | 56.96 | 1.10 | 59.66 | 15 | Cir | 0.012 | 1.50 | 64.00 | SD-28 |
| 40 | 39 | 63.959 | 94.771 | Grate | 0.00 | 0.26 | 0.90 | 6.0 | 59.76 | 1.00 | 60.40 | 15 | Cir | 0.012 | 1.00 | 64.00 | SD-26 |
| Project File: 18462_Full SD System.stm | | | | | | | | | | | | Number of lines: 40 | | | | Date: 6/11/2024 | |

Structure Report

| Struct No. | Structure ID | Junction Type | Rim Elev (ft) | Structure | | | Line Out | | | Line In | | |
|--|----------------|---------------|---------------|-----------|-------------|------------|--------------------------|-------|-------------|---------------------|------------|----------------|
| | | | | Shape | Length (ft) | Width (ft) | Size (in) | Shape | Invert (ft) | Size (in) | Shape | Invert (ft) |
| 1 | DMH-3 | Manhole | 70.85 | Cir | 4.00 | 4.00 | 24 | Cir | 61.20 | 18
12 | Cir
Cir | 61.70
62.20 |
| 2 | DMH-2 | Manhole | 73.40 | Cir | 6.00 | 6.00 | 18 | Cir | 62.29 | 18
12 | Cir
Cir | 62.39
68.30 |
| 3 | CB-7 | Grate | 73.50 | Cir | 4.00 | 4.00 | 18 | Cir | 63.47 | 18 | Cir | 63.57 |
| 4 | CB-6 | Grate | 73.20 | Cir | 4.00 | 4.00 | 18 | Cir | 64.07 | 15 | Cir | 64.32 |
| 5 | CB-5 | Grate | 72.50 | Cir | 6.00 | 6.00 | 15 | Cir | 65.15 | 12
12 | Cir
Cir | 65.40
68.55 |
| 6 | DMH-17 | Manhole | 75.20 | Cir | 4.00 | 4.00 | 12 | Cir | 66.50 | 15 | Cir | 66.60 |
| 7 | CB-3 | Grate | 73.00 | Cir | 4.00 | 4.00 | 15 | Cir | 67.95 | 12 | Cir | 68.20 |
| 8 | DMH-1 | Manhole | 73.80 | Cir | 4.00 | 4.00 | 12 | Cir | 69.20 | 12 | Cir | 69.30 |
| 9 | CB-2 | Grate | 74.20 | Cir | 4.00 | 4.00 | 12 | Cir | 70.10 | 12 | Cir | 70.20 |
| 10 | CB-1 | Grate | 74.20 | Cir | 4.00 | 4.00 | 12 | Cir | 70.60 | | | |
| 11 | CB-4 | Grate | 73.30 | Cir | 4.00 | 4.00 | 12 | Cir | 69.70 | | | |
| 12 | Null Structure | None | 0.00 | n/a | n/a | n/a | 12 | Cir | 69.00 | | | |
| 13 | CB-14 | Grate | 67.00 | Cir | 4.00 | 4.00 | 12 | Cir | 62.93 | 12 | Cir | 63.03 |
| 14 | CB-13 | Grate | 67.00 | Cir | 4.00 | 4.00 | 12 | Cir | 63.15 | | | |
| 15 | DMH-10 | Manhole | 70.60 | Cir | 4.00 | 4.00 | 24 | Cir | 62.00 | 24 | Cir | 62.10 |
| 16 | CB-24 | Grate | 69.90 | Cir | 4.00 | 4.00 | 24 | Cir | 63.70 | 18
12 | Cir
Cir | 64.20
65.40 |
| 17 | DMH-8 | Manhole | 72.40 | Cir | 4.00 | 4.00 | 18 | Cir | 64.90 | 15
12 | Cir
Cir | 65.15
66.94 |
| 18 | CB-11 | Grate | 73.00 | Cir | 4.00 | 4.00 | 15 | Cir | 65.95 | 15
12 | Cir
Cir | 66.05
68.50 |
| 19 | DMH-6 | Manhole | 73.75 | Cir | 4.00 | 4.00 | 15 | Cir | 66.45 | 12
12 | Cir
Cir | 66.70
68.30 |
| Project File: 18462_Full SD System.stm | | | | | | | Number of Structures: 40 | | | Run Date: 6/11/2024 | | |

Structure Report

| Struct No. | Structure ID | Junction Type | Rim Elev (ft) | Structure | | | Line Out | | | Line In | | |
|--|----------------|---------------|---------------|-----------|-------------|------------|--------------------------|-------|-------------|---------------------|------------|----------------|
| | | | | Shape | Length (ft) | Width (ft) | Size (in) | Shape | Invert (ft) | Size (in) | Shape | Invert (ft) |
| 20 | DMH-5 | Manhole | 73.95 | Cir | 4.00 | 4.00 | 12 | Cir | 67.46 | 12 | Cir | 67.56 |
| 21 | DMH-7 | Manhole | 72.75 | Rect | 4.00 | 4.00 | 12 | Cir | 68.56 | 12
12 | Cir
Cir | 68.66
68.66 |
| 22 | CB-21 | Grate | 72.75 | Cir | 4.00 | 4.00 | 12 | Cir | 69.15 | | | |
| 23 | CB-22 | Grate | 72.40 | Cir | 4.00 | 4.00 | 12 | Cir | 68.80 | | | |
| 24 | CB-10 | Grate | 73.45 | Rect | 4.00 | 4.00 | 12 | Cir | 68.50 | 12 | Cir | 68.60 |
| 25 | Null Structure | None | 0.00 | n/a | n/a | n/a | 12 | Cir | 69.00 | | | |
| 26 | CB-9 | Grate | 72.60 | Cir | 4.00 | 4.00 | 12 | Cir | 69.00 | | | |
| 27 | CB-12 | Grate | 70.95 | Cir | 4.00 | 4.00 | 12 | Cir | 67.35 | | | |
| 28 | CB-23 | Grate | 69.50 | Cir | 4.00 | 4.00 | 12 | Cir | 65.90 | | | |
| 29 | CB-20 | Grate | 65.75 | Cir | 4.00 | 4.00 | 15 | Cir | 61.26 | 12
12 | Cir
Cir | 61.51
61.51 |
| 30 | DMH-11 | Grate | 67.70 | Cir | 4.00 | 4.00 | 12 | Cir | 64.00 | 12 | Cir | 64.10 |
| 31 | CB-18 | Grate | 68.50 | Cir | 4.00 | 4.00 | 12 | Cir | 64.90 | | | |
| 32 | CB-19 | Grate | 65.75 | Cir | 4.00 | 4.00 | 12 | Cir | 62.15 | | | |
| 33 | CB-8 | Grate | 68.00 | Cir | 6.00 | 6.00 | 15 | Cir | 64.15 | | | |
| 34 | DMH-16 | Manhole | 60.55 | Cir | 6.00 | 6.00 | 36 | Cir | 54.25 | 36 | Cir | 54.35 |
| 35 | DMH-13 | Manhole | 69.00 | Cir | 5.00 | 5.00 | 36 | Cir | 55.48 | 24
18 | Cir
Cir | 56.58
56.35 |
| 36 | DMH-12 | Manhole | 69.70 | Cir | 5.00 | 5.00 | 24 | Cir | 57.44 | 24 | Cir | 57.54 |
| 37 | OCS-1 | Manhole | 70.35 | Cir | 6.00 | 6.00 | 24 | Cir | 57.91 | | | |
| 38 | CB-17 | Grate | 68.00 | Cir | 4.00 | 4.00 | 18 | Cir | 56.71 | 15 | Cir | 56.96 |
| 39 | CB-16 | Grate | 64.00 | Cir | 4.00 | 4.00 | 15 | Cir | 59.66 | 15 | Cir | 59.76 |
| 40 | CB-15 | Grate | 64.00 | Cir | 4.00 | 4.00 | 15 | Cir | 60.40 | | | |
| Project File: 18462_Full SD System.stm | | | | | | | Number of Structures: 40 | | | Run Date: 6/11/2024 | | |

Storm Sewer Summary Report

| Line No. | Line ID | Flow rate (cfs) | Line Size (in) | Line shape | Line length (ft) | Invert EL Dn (ft) | Invert EL Up (ft) | Line Slope (%) | HGL Down (ft) | HGL Up (ft) | Minor loss (ft) | HGL Junct (ft) | Dns Line No. | Junction Type |
|----------|-------------|-----------------|----------------|------------|------------------|-------------------|-------------------|----------------|---------------|-------------|-----------------|----------------|--------------|---------------|
| 1 | SD-11 | 5.70 | 24 | Cir | 42.000 | 60.75 | 61.20 | 1.071 | 64.07* | 64.09* | 0.05 | 64.14 | End | Manhole |
| 2 | SD-10 | 5.22 | 18 | Cir | 59.088 | 61.70 | 62.29 | 0.999 | 64.14* | 64.26* | 0.14 | 64.40 | 1 | Manhole |
| 3 | SD-9 | 3.51 | 18 | Cir | 108.435 | 62.39 | 63.47 | 0.996 | 64.40 | 64.48 | 0.06 | 64.54 | 2 | Grate |
| 4 | SD-8 | 3.43 | 18 | Cir | 47.390 | 63.57 | 64.07 | 1.055 | 64.54 | 64.78 | n/a | 64.78 j | 3 | Grate |
| 5 | SD-6 | 2.74 | 15 | Cir | 82.092 | 64.32 | 65.15 | 1.011 | 64.86 | 65.81 | n/a | 65.81 | 4 | Grate |
| 6 | SD-7 (1) | 0.48 | 12 | Cir | 107.149 | 65.40 | 66.50 | 1.027 | 65.81 | 66.79 | n/a | 66.79 j | 5 | Manhole |
| 7 | SD-7 | 0.55 | 15 | Cir | 134.882 | 66.60 | 67.95 | 1.001 | 66.84 | 68.24 | 0.13 | 68.24 | 6 | Grate |
| 8 | SD-3 | 0.59 | 12 | Cir | 98.882 | 68.20 | 69.20 | 1.011 | 68.46 | 69.52 | n/a | 69.52 | 7 | Manhole |
| 9 | SD-2 | 0.64 | 12 | Cir | 84.584 | 69.30 | 70.10 | 0.946 | 69.58 | 70.43 | n/a | 70.43 | 8 | Grate |
| 10 | SD-1 | 0.38 | 12 | Cir | 32.575 | 70.20 | 70.60 | 1.228 | 70.43 | 70.86 | 0.09 | 70.86 | 9 | Grate |
| 11 | SD-5 | 0.80 | 12 | Cir | 115.230 | 68.55 | 69.70 | 0.998 | 68.86 | 70.07 | n/a | 70.07 | 5 | Grate |
| 12 | RD-2 - roof | 2.72 | 12 | Cir | 26.542 | 68.30 | 69.00 | 2.637 | 68.76 | 69.71 | n/a | 69.71 | 2 | None |
| 13 | SD-25 | 0.66 | 12 | Cir | 111.448 | 62.20 | 62.93 | 0.655 | 64.14* | 64.17* | 0.01 | 64.18 | 1 | Grate |
| 14 | SD-24 | 0.53 | 12 | Cir | 21.649 | 63.03 | 63.15 | 0.554 | 64.18* | 64.19* | 0.01 | 64.20 | 13 | Grate |
| 15 | SD-23 | 5.75 | 24 | Cir | 16.923 | 61.50 | 62.00 | 2.955 | 64.07* | 64.08* | 0.01 | 64.09 | End | Manhole |
| 16 | SD-21 | 5.90 | 24 | Cir | 86.926 | 62.10 | 63.70 | 1.841 | 64.09 | 64.56 | n/a | 64.56 j | 15 | Grate |
| 17 | SD-20 | 5.18 | 18 | Cir | 67.394 | 64.20 | 64.90 | 1.039 | 64.90 | 65.78 | 0.36 | 65.78 | 16 | Manhole |
| 18 | SD-17 | 4.82 | 15 | Cir | 78.561 | 65.15 | 65.95 | 1.018 | 65.91 | 66.84 | n/a | 66.84 | 17 | Grate |
| 19 | SD-16 (1) | 4.21 | 15 | Cir | 36.294 | 66.05 | 66.45 | 1.102 | 66.84 | 67.28 | 0.37 | 67.28 | 18 | Manhole |
| 20 | SD-329 (1) | 2.23 | 12 | Cir | 75.754 | 66.70 | 67.46 | 1.003 | 67.28 | 68.10 | n/a | 68.10 | 19 | Manhole |
| 21 | SD-329 | 2.27 | 12 | Cir | 92.840 | 67.56 | 68.56 | 1.077 | 68.10 | 69.20 | 0.28 | 69.20 | 20 | Manhole |
| 22 | SD-327 | 0.97 | 12 | Cir | 26.890 | 68.66 | 69.15 | 1.822 | 69.20 | 69.56 | n/a | 69.56 j | 21 | Grate |
| 23 | SD-328 | 1.33 | 12 | Cir | 14.100 | 68.66 | 68.80 | 0.993 | 69.20 | 69.29 | n/a | 69.29 j | 21 | Grate |
| 24 | SD-16 | 2.48 | 12 | Cir | 17.043 | 68.30 | 68.50 | 1.174 | 68.85 | 69.17 | n/a | 69.17 | 19 | Grate |

Project File: 18462_Full SD System.stm

Number of lines: 40

Run Date: 6/11/2024

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

| Line No. | Line ID | Flow rate (cfs) | Line Size (in) | Line shape | Line length (ft) | Invert EL Dn (ft) | Invert EL Up (ft) | Line Slope (%) | HGL Down (ft) | HGL Up (ft) | Minor loss (ft) | HGL Junct (ft) | Dns Line No. | Junction Type |
|--|---------|-----------------|----------------|------------|------------------|-------------------|-------------------|----------------|---------------------|-------------|-----------------|----------------|---------------------|---------------|
| 25 | RD-1 | 2.12 | 12 | Cir | 26.327 | 68.60 | 69.00 | 1.519 | 69.17 | 69.62 | 0.27 | 69.62 | 24 | None |
| 26 | SD-15 | 0.46 | 12 | Cir | 46.087 | 68.50 | 69.00 | 1.085 | 68.73 | 69.28 | 0.10 | 69.28 | 18 | Grate |
| 27 | SD-19 | 0.52 | 12 | Cir | 41.029 | 66.94 | 67.35 | 0.999 | 67.19 | 67.65 | n/a | 67.65 | 17 | Grate |
| 28 | SD-330 | 0.40 | 12 | Cir | 49.560 | 65.40 | 65.90 | 1.009 | 65.62 | 66.16 | 0.09 | 66.16 | 16 | Grate |
| 29 | SD-49 | 1.75 | 15 | Cir | 28.627 | 61.00 | 61.26 | 0.908 | 64.07* | 64.09* | 0.05 | 64.13 | End | Grate |
| 30 | SD-48 | 0.63 | 12 | Cir | 74.395 | 61.51 | 64.00 | 3.347 | 64.13 | 64.33 | n/a | 64.33 j | 29 | Grate |
| 31 | SD-47 | 0.65 | 12 | Cir | 37.228 | 64.10 | 64.90 | 2.149 | 64.33 | 65.24 | 0.12 | 65.24 | 30 | Grate |
| 32 | SD-46 | 0.57 | 12 | Cir | 63.978 | 61.51 | 62.15 | 1.000 | 64.13* | 64.15* | 0.01 | 64.16 | 29 | Grate |
| 33 | SD-12 | 2.24 | 15 | Cir | 6.522 | 63.27 | 64.15 | 13.492 | 64.07 | 64.75 | n/a | 64.75 j | End | Grate |
| 34 | SD-37 | 34.97 | 36 | Cir | 35.218 | 54.00 | 54.25 | 0.710 | 55.92 | 56.17 | 0.12 | 56.17 | End | Manhole |
| 35 | SD-36 | 35.01 | 36 | Cir | 122.122 | 54.35 | 55.48 | 0.925 | 56.17 | 57.40 | n/a | 57.40 | 34 | Manhole |
| 36 | SD-35 | 32.50 | 24 | Cir | 92.457 | 56.58 | 57.44 | 0.930 | 58.58* | 60.21* | 1.41 | 61.62 | 35 | Manhole |
| 37 | SD-34 | 32.50 | 24 | Cir | 35.172 | 57.54 | 57.91 | 1.052 | 61.62* | 62.24* | 1.66 | 63.91 | 36 | Manhole |
| 38 | SD-44 | 2.55 | 18 | Cir | 36.408 | 56.35 | 56.71 | 0.989 | 57.40 | 57.31 | n/a | 57.31 j | 35 | Grate |
| 39 | SD-28 | 2.31 | 15 | Cir | 245.602 | 56.96 | 59.66 | 1.099 | 57.44 | 60.27 | n/a | 60.27 | 38 | Grate |
| 40 | SD-26 | 1.49 | 15 | Cir | 63.959 | 59.76 | 60.40 | 1.001 | 60.27 | 60.88 | n/a | 60.88 j | 39 | Grate |
| Project File: 18462_Full SD System.stm | | | | | | | | | Number of lines: 40 | | | | Run Date: 6/11/2024 | |
| NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump. | | | | | | | | | | | | | | |

Hydraulic Grade Line Computations

| Line | Size

(in) | Q

(cfs) | Downstream | | | | | | | | Len

(ft) | Upstream | | | | | | | | Check | | JL
coeff

(K) | Minor
loss

(ft) |
|------|------------------|----------------|------------------------|---------------------|---------------|----------------|---------------|---------------------|---------------------|-----------|-----------------|------------------------|---------------------|---------------|----------------|---------------|---------------------|---------------------|-----------|------------------|-----------------------|------------------------|---------------------------|
| | | | Invert
elev
(ft) | HGL
elev
(ft) | Depth
(ft) | Area
(sqft) | Vel
(ft/s) | Vel
head
(ft) | EGL
elev
(ft) | Sf
(%) | | Invert
elev
(ft) | HGL
elev
(ft) | Depth
(ft) | Area
(sqft) | Vel
(ft/s) | Vel
head
(ft) | EGL
elev
(ft) | Sf
(%) | Ave
Sf
(%) | Enrgy
loss
(ft) | | |
| 1 | 24 | 5.70 | 60.75 | 64.07 | 2.00 | 3.14 | 1.82 | 0.05 | 64.12 | 0.054 | 42.000 | 61.20 | 64.09 | 2.00 | 3.14 | 1.81 | 0.05 | 64.14 | 0.054 | 0.054 | 0.023 | 0.93 | 0.05 |
| 2 | 18 | 5.22 | 61.70 | 64.14 | 1.50 | 1.77 | 2.96 | 0.14 | 64.28 | 0.211 | 59.088 | 62.29 | 64.26 | 1.50 | 1.77 | 2.96 | 0.14 | 64.40 | 0.211 | 0.211 | 0.125 | 1.00 | 0.14 |
| 3 | 18 | 3.51 | 62.39 | 64.40 | 1.50 | 1.77 | 1.99 | 0.06 | 64.46 | 0.095 | 108.43 | 563.47 | 64.48 | 1.01 | 1.26 | 2.79 | 0.12 | 64.60 | 0.153 | 0.124 | 0.134 | 0.50 | 0.06 |
| 4 | 18 | 3.43 | 63.57 | 64.54 | 0.97 | 0.82 | 2.85 | 0.27 | 64.81 | 0.000 | 47.390 | 64.07 | 64.78 j | 0.71** | 0.82 | 4.20 | 0.27 | 65.05 | 0.000 | 0.000 | n/a | 1.12 | 0.31 |
| 5 | 15 | 2.74 | 64.32 | 64.86 | 0.54* | 0.51 | 5.37 | 0.27 | 65.13 | 0.000 | 82.092 | 65.15 | 65.81 | 0.66** | 0.66 | 4.14 | 0.27 | 66.08 | 0.000 | 0.000 | n/a | 1.73 | n/a |
| 6 | 12 | 0.48 | 65.40 | 65.81 | 0.41 | 0.19 | 1.57 | 0.10 | 65.92 | 0.000 | 107.14 | 966.50 | 66.79 j | 0.29** | 0.19 | 2.58 | 0.10 | 66.89 | 0.000 | 0.000 | n/a | 0.65 | 0.07 |
| 7 | 15 | 0.55 | 66.60 | 66.84 | 0.24* | 0.16 | 3.40 | 0.10 | 66.94 | 0.000 | 134.88 | 267.95 | 68.24 | 0.29** | 0.22 | 2.56 | 0.10 | 68.34 | 0.000 | 0.000 | n/a | 1.26 | 0.13 |
| 8 | 12 | 0.59 | 68.20 | 68.46 | 0.26* | 0.17 | 3.57 | 0.12 | 68.58 | 0.000 | 98.882 | 69.20 | 69.52 | 0.32** | 0.22 | 2.74 | 0.12 | 69.64 | 0.000 | 0.000 | n/a | 1.00 | n/a |
| 9 | 12 | 0.64 | 69.30 | 69.58 | 0.28* | 0.18 | 3.56 | 0.12 | 69.70 | 0.000 | 84.584 | 70.10 | 70.43 | 0.33** | 0.23 | 2.79 | 0.12 | 70.55 | 0.000 | 0.000 | n/a | 1.50 | n/a |
| 10 | 12 | 0.38 | 70.20 | 70.43 | 0.23 | 0.14 | 2.77 | 0.09 | 70.52 | 0.000 | 32.575 | 70.60 | 70.86 | 0.26** | 0.16 | 2.42 | 0.09 | 70.95 | 0.000 | 0.000 | n/a | 1.00 | 0.09 |
| 11 | 12 | 0.80 | 68.55 | 68.86 | 0.31* | 0.21 | 3.87 | 0.14 | 69.00 | 0.000 | 115.23 | 069.70 | 70.07 | 0.37** | 0.27 | 2.99 | 0.14 | 70.21 | 0.000 | 0.000 | n/a | 1.00 | n/a |
| 12 | 12 | 2.72 | 68.30 | 68.76 | 0.46* | 0.35 | 7.69 | 0.33 | 69.09 | 0.000 | 26.542 | 69.00 | 69.71 | 0.71** | 0.59 | 4.59 | 0.33 | 70.03 | 0.000 | 0.000 | n/a | 1.00 | n/a |
| 13 | 12 | 0.66 | 62.20 | 64.14 | 1.00 | 0.79 | 0.84 | 0.01 | 64.15 | 0.029 | 111.44 | 862.93 | 64.17 | 1.00 | 0.79 | 0.84 | 0.01 | 64.18 | 0.029 | 0.029 | 0.033 | 1.06 | 0.01 |
| 14 | 12 | 0.53 | 63.03 | 64.18 | 1.00 | 0.79 | 0.67 | 0.01 | 64.19 | 0.019 | 21.649 | 63.15 | 64.19 | 1.00 | 0.79 | 0.67 | 0.01 | 64.20 | 0.019 | 0.019 | 0.004 | 1.00 | 0.01 |
| 15 | 24 | 5.75 | 61.50 | 64.07 | 2.00 | 3.14 | 1.83 | 0.05 | 64.12 | 0.055 | 16.923 | 62.00 | 64.08 | 2.00 | 3.14 | 1.83 | 0.05 | 64.13 | 0.055 | 0.055 | 0.009 | 0.16 | 0.01 |
| 16 | 24 | 5.90 | 62.10 | 64.09 | 1.99 | 1.29 | 1.88 | 0.33 | 64.41 | 0.000 | 86.926 | 63.70 | 64.56 j | 0.86** | 1.29 | 4.58 | 0.33 | 64.88 | 0.000 | 0.000 | n/a | 1.75 | 0.57 |
| 17 | 18 | 5.18 | 64.20 | 64.90 | 0.70* | 0.81 | 6.37 | 0.36 | 65.27 | 0.000 | 67.394 | 64.90 | 65.78 | 0.88** | 1.07 | 4.83 | 0.36 | 66.14 | 0.000 | 0.000 | n/a | 0.99 | 0.36 |
| 18 | 15 | 4.82 | 65.15 | 65.91 | 0.76* | 0.78 | 6.19 | 0.41 | 66.32 | 0.000 | 78.561 | 65.95 | 66.84 | 0.89** | 0.93 | 5.16 | 0.41 | 67.25 | 0.000 | 0.000 | n/a | 1.49 | n/a |
| 19 | 15 | 4.21 | 66.05 | 66.84 | 0.79 | 0.82 | 5.16 | 0.37 | 67.21 | 0.000 | 36.294 | 66.45 | 67.28 | 0.83** | 0.87 | 4.87 | 0.37 | 67.65 | 0.000 | 0.000 | n/a | 1.00 | 0.37 |
| 20 | 12 | 2.23 | 66.70 | 67.28 | 0.58 | 0.47 | 4.71 | 0.28 | 67.56 | 0.000 | 75.754 | 67.46 | 68.10 | 0.64** | 0.53 | 4.21 | 0.28 | 68.37 | 0.000 | 0.000 | n/a | 0.15 | n/a |
| 21 | 12 | 2.27 | 67.56 | 68.10 | 0.54* | 0.43 | 5.26 | 0.28 | 68.38 | 0.000 | 92.840 | 68.56 | 69.20 | 0.64** | 0.53 | 4.24 | 0.28 | 69.48 | 0.000 | 0.000 | n/a | 1.00 | 0.28 |
| 22 | 12 | 0.97 | 68.66 | 69.20 | 0.54 | 0.31 | 2.21 | 0.16 | 69.36 | 0.000 | 26.890 | 69.15 | 69.56 j | 0.41** | 0.31 | 3.16 | 0.16 | 69.72 | 0.000 | 0.000 | n/a | 1.00 | n/a |

Project File: 18462_Full SD System.stm

Number of lines: 40

Run Date: 6/11/2024

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

| Line | Size

(in) | Q

(cfs) | Downstream | | | | | | | | Len

(ft) | Upstream | | | | | | | | Check | | JL
coeff

(K) | Minor
loss

(ft) |
|------|------------------|----------------|------------------------|---------------------|---------------|----------------|---------------|---------------------|---------------------|-----------|-----------------|------------------------|---------------------|---------------|----------------|---------------|---------------------|---------------------|-----------|------------------|-----------------------|------------------------|---------------------------|
| | | | Invert
elev
(ft) | HGL
elev
(ft) | Depth
(ft) | Area
(sqft) | Vel
(ft/s) | Vel
head
(ft) | EGL
elev
(ft) | Sf
(%) | | Invert
elev
(ft) | HGL
elev
(ft) | Depth
(ft) | Area
(sqft) | Vel
(ft/s) | Vel
head
(ft) | EGL
elev
(ft) | Sf
(%) | Ave
Sf
(%) | Enrgy
loss
(ft) | | |
| 23 | 12 | 1.33 | 68.66 | 69.20 | 0.54 | 0.38 | 3.06 | 0.19 | 69.39 | 0.000 | 14.100 | 68.80 | 69.29 j | 0.49** | 0.38 | 3.50 | 0.19 | 69.48 | 0.000 | 0.000 | n/a | 1.00 | 0.19 |
| 24 | 12 | 2.48 | 68.30 | 68.85 | 0.55* | 0.45 | 5.54 | 0.30 | 69.16 | 0.000 | 17.043 | 68.50 | 69.17 | 0.67** | 0.56 | 4.40 | 0.30 | 69.47 | 0.000 | 0.000 | n/a | 0.50 | n/a |
| 25 | 12 | 2.12 | 68.60 | 69.17 | 0.57 | 0.47 | 4.54 | 0.27 | 69.44 | 0.000 | 26.327 | 69.00 | 69.62 | 0.62** | 0.51 | 4.13 | 0.27 | 69.89 | 0.000 | 0.000 | n/a | 1.00 | 0.27 |
| 26 | 12 | 0.46 | 68.50 | 68.73 | 0.23* | 0.13 | 3.40 | 0.10 | 68.83 | 0.000 | 46.087 | 69.00 | 69.28 | 0.28** | 0.18 | 2.54 | 0.10 | 69.38 | 0.000 | 0.000 | n/a | 1.00 | 0.10 |
| 27 | 12 | 0.52 | 66.94 | 67.19 | 0.25* | 0.15 | 3.41 | 0.11 | 67.29 | 0.000 | 41.029 | 67.35 | 67.65 | 0.30** | 0.20 | 2.63 | 0.11 | 67.76 | 0.000 | 0.000 | n/a | 1.00 | n/a |
| 28 | 12 | 0.40 | 65.40 | 65.62 | 0.22* | 0.13 | 3.19 | 0.09 | 65.71 | 0.000 | 49.560 | 65.90 | 66.16 | 0.26** | 0.16 | 2.45 | 0.09 | 66.26 | 0.000 | 0.000 | n/a | 1.00 | 0.09 |
| 29 | 15 | 1.75 | 61.00 | 64.07 | 1.25 | 1.23 | 1.42 | 0.03 | 64.10 | 0.062 | 28.627 | 61.26 | 64.09 | 1.25 | 1.23 | 1.42 | 0.03 | 64.12 | 0.062 | 0.062 | 0.018 | 1.49 | 0.05 |
| 30 | 12 | 0.63 | 61.51 | 64.13 | 1.00 | 0.23 | 0.80 | 0.01 | 64.14 | 0.027 | 74.395 | 64.00 | 64.33 j | 0.33** | 0.23 | 2.78 | 0.12 | 64.45 | 0.481 | 0.254 | n/a | 0.74 | 0.09 |
| 31 | 12 | 0.65 | 64.10 | 64.33 | 0.23 | 0.14 | 4.77 | 0.12 | 64.45 | 0.000 | 37.228 | 64.90 | 65.24 | 0.34** | 0.23 | 2.81 | 0.12 | 65.36 | 0.000 | 0.000 | n/a | 1.00 | 0.12 |
| 32 | 12 | 0.57 | 61.51 | 64.13 | 1.00 | 0.79 | 0.73 | 0.01 | 64.14 | 0.022 | 63.978 | 62.15 | 64.15 | 1.00 | 0.79 | 0.73 | 0.01 | 64.16 | 0.022 | 0.022 | 0.014 | 1.00 | 0.01 |
| 33 | 15 | 2.24 | 63.27 | 64.07 | 0.80 | 0.58 | 2.69 | 0.23 | 64.30 | 0.000 | 6.522 | 64.15 | 64.75 j | 0.60** | 0.58 | 3.87 | 0.23 | 64.98 | 0.000 | 0.000 | n/a | 1.00 | 0.23 |
| 34 | 36 | 34.97 | 54.00 | 55.92 | 1.92 | 4.78 | 7.32 | 0.83 | 56.75 | 0.000 | 35.218 | 54.25 | 56.17 | 1.92** | 4.78 | 7.32 | 0.83 | 57.00 | 0.000 | 0.000 | n/a | 0.15 | 0.12 |
| 35 | 36 | 35.01 | 54.35 | 56.17 | 1.82 | 4.49 | 7.80 | 0.83 | 57.00 | 0.000 | 122.122 | 55.48 | 57.40 | 1.92** | 4.78 | 7.32 | 0.83 | 58.23 | 0.000 | 0.000 | n/a | 0.94 | n/a |
| 36 | 24 | 32.50 | 56.58 | 58.58 | 2.00* | 3.14 | 10.35 | 1.66 | 60.24 | 1.760 | 92.457 | 57.44 | 60.21 | 2.00 | 3.14 | 10.35 | 1.66 | 61.87 | 1.759 | 1.760 | 1.627 | 0.85 | 1.41 |
| 37 | 24 | 32.50 | 57.54 | 61.62 | 2.00 | 3.14 | 10.35 | 1.66 | 63.29 | 1.760 | 35.172 | 57.91 | 62.24 | 2.00 | 3.14 | 10.35 | 1.66 | 63.91 | 1.759 | 1.760 | 0.619 | 1.00 | 1.66 |
| 38 | 18 | 2.55 | 56.35 | 57.40 | 1.05 | 0.67 | 1.93 | 0.23 | 57.63 | 0.000 | 36.408 | 56.71 | 57.31 j | 0.60** | 0.67 | 3.82 | 0.23 | 57.54 | 0.000 | 0.000 | n/a | 0.50 | n/a |
| 39 | 15 | 2.31 | 56.96 | 57.44 | 0.48* | 0.44 | 5.29 | 0.24 | 57.68 | 0.000 | 245.602 | 59.66 | 60.27 | 0.61** | 0.59 | 3.91 | 0.24 | 60.51 | 0.000 | 0.000 | n/a | 1.50 | n/a |
| 40 | 15 | 1.49 | 59.76 | 60.27 | 0.51 | 0.44 | 3.19 | 0.18 | 60.45 | 0.000 | 63.959 | 60.40 | 60.88 j | 0.48** | 0.44 | 3.41 | 0.18 | 61.06 | 0.000 | 0.000 | n/a | 1.00 | n/a |

Project File: 18462_Full SD System.stm

Number of lines: 40

Run Date: 6/11/2024

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Appendix 3

Inspection, Maintenance and Housekeeping Plan



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
One Diamond Development
Biddeford, ME

By:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control measures as well as stormwater management facilities for the project. This plan also outlines several housekeeping requirements that shall be followed during and after construction. These procedures shall be followed in order to ensure the intended function of the designed measures and to prevent unreasonably adverse impacts to the surrounding environment.

The procedures outlined in this Inspection, Maintenance and Housekeeping Plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event (0.5" of rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.
2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).
3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed

to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event (0.5" of rainfall). They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Erosion Control Blankets:

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains

into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

- A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
- B. Groundwater protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
- C. Fugitive sediment and dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.
- D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.
- E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area

that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

Post-Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.
2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

A. Vegetated Areas:

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5") to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

B. Ditches, Swales and Other Open Channels:

- Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
- Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
- Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains (>0.5") to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Removal of Winter Sand:

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.

E. Stormfilter:

- Refer to the Contech – Stormfilter Operation Manual for guidance on required maintenance and inspection.

3. Documentation:

- A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the local municipality, provide a completed and signed certification on a form provided by the local municipality, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.
- B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

- 4. Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the MDEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with MDEP standards. Upon such assumption of responsibility, and approval by the MDEP, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

One Diamond Development Biddeford, ME

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for the parking expansion at the One Diamond Development in Biddeford, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the City of Biddefordetport and the Maine DEP. Qualified personnel familiar with the drainage systems and soils shall perform all inspections. A copy of the construction and post-construction maintenance logs are provided.

General Site

| INSPECTION MAINTENANCE AND HOUSEKEEPING FORM | | | |
|--|---|--------------------------------|-------------------------------------|
| General Information | | | |
| Project Name: | | Inspection Date: | |
| Project Location: | | Current Weather: | |
| | | Date / Amount Last Precip: | |
| | | | |
| BMP Owner: | | Company conducting inspection: | |
| Owner Mailing Address: | | Company Mailing Address | |
| | | | |
| Owner Phone #: | | Company Phone #: | |
| Owner Email: | | Inspector Name: | |
| | | Inspector Email: | |
| | | | |
| Site Element | Suggested Maintenance (recm'd frequency) | Observations | Inspection Notes/Recommended Action |
| | | | |
| Vegetated Areas | Inspect Slopes/Embankments for erosion (annually) | | |
| | Replant bare areas or areas of sparse growth (annually) | | |
| Ditches/Swales | Remove obstructions/debris/sediment (monthly) | | |
| | Inspect for erosion/repair as needed (annually) | | |
| | Remove woody vegetation (annually) | | |
| | Mow vegetated ditches (annually) | | |
| Catch Basins | Remove sediment/debris from sump (annually) | | |
| | Remove accumulated debris from inlet grate | | |
| Culverts | Remove sediment/debris from inlet/outlet aprons (annually) | | |
| | Inspect inlet/outlet aprons for erosion, repair as needed (annually) | | |
| | Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually) | | |
| Pipe Outlets | Remove sediment/debris from outlet aprons (annually) | | |
| | Inspect outlet aprons for erosion, repair as needed (annually) | | |
| | Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually) | | |
| Stormfilter | Inspect Anually | | |
| Additional Notes/Observations: | | | |

Appendix 4

Subsurface Investigations & FEMA Flood Map



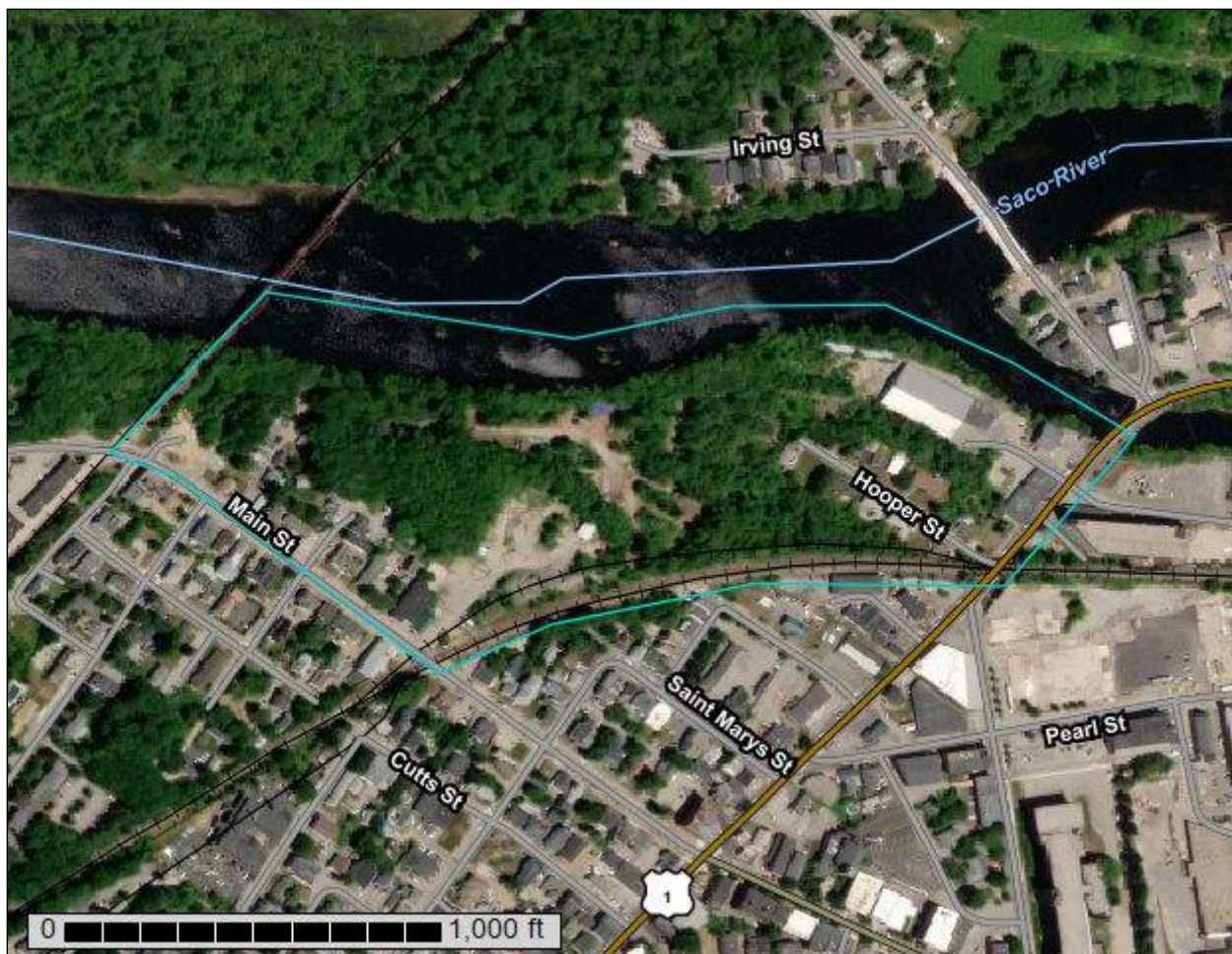
United States
Department of
Agriculture

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 York County, Maine



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

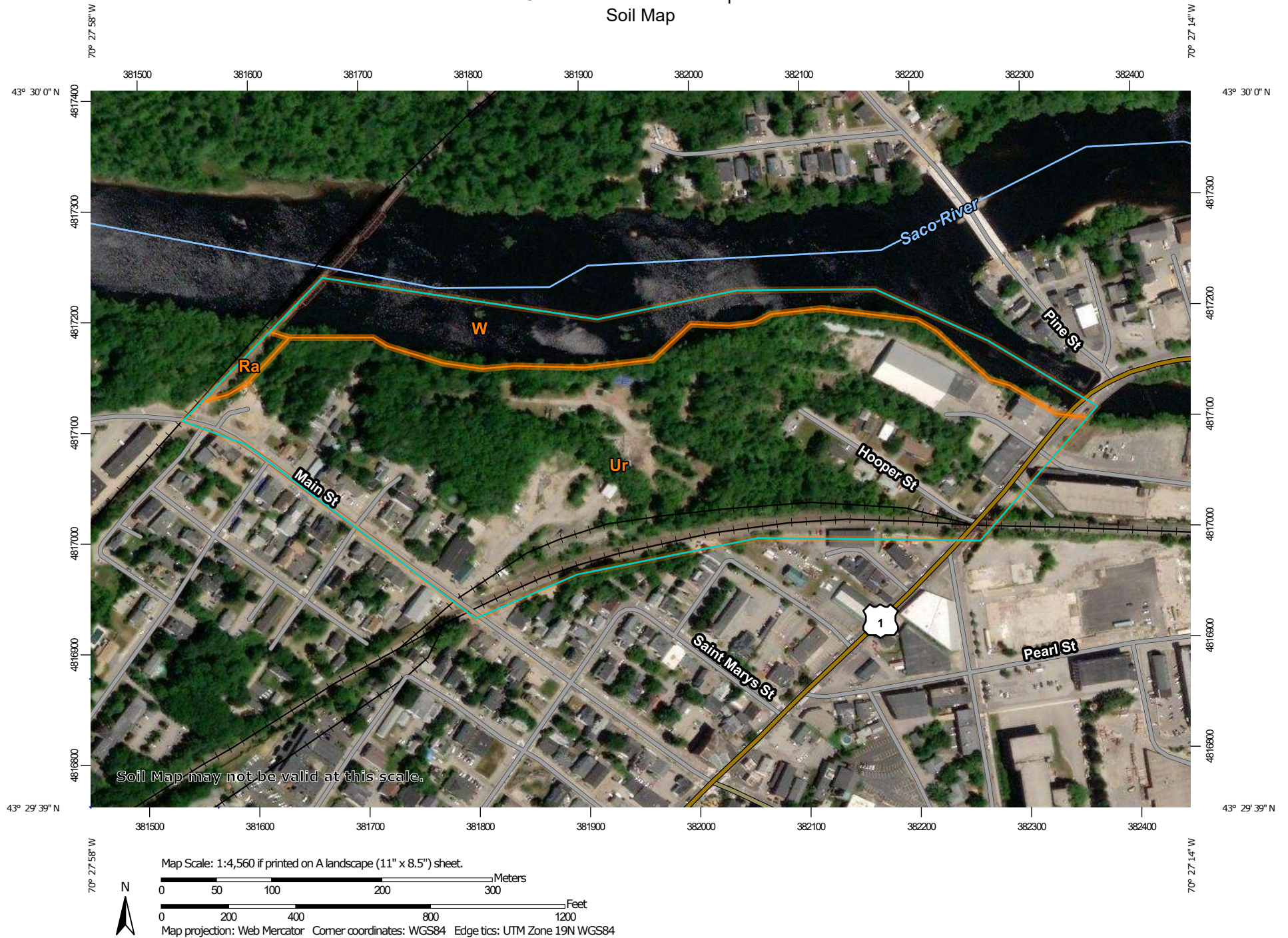
Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 20, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|-------------------|--------------|----------------|
| Ra | Raynham silt loam | 0.3 | 0.8% |
| Ur | Urban land | 33.0 | 82.7% |
| W | Water bodies | 6.6 | 16.4% |
| Totals for Area of Interest | | 39.9 | 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.

York County, Maine

Ra—Raynham silt loam

Map Unit Setting

National map unit symbol: 9k6d
Elevation: 10 to 1,750 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Raynham and similar soils: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raynham

Setting

Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits derived from sandstone and siltstone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 36 inches: silt loam
H3 - 36 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 14.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Ur—Urban land

Map Unit Composition

Urban land: 90 percent

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

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

H1 - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent

Drainage class: Moderately well drained

Depth to water table: About 24 to 72 inches

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

W—Water bodies

Map Unit Composition

Water: 100 percent

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

Description of Water

Setting

Landform: Hills

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

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

Custom Soil Resource Report

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

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

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

Custom Soil Resource Report Map—Hydrologic Soil Group



MAP LEGEND**Area of Interest (AOI)**
 Area of Interest (AOI)
Soils**Soil Rating Polygons**

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features
 Streams and Canals
Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background
 Aerial Photography
MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
 Survey Area Data: Version 20, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

Table—Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|-------------------|--------|--------------|----------------|
| Ra | Raynham silt loam | C/D | 0.3 | 0.8% |
| Ur | Urban land | | 33.0 | 82.7% |
| W | Water bodies | | 6.6 | 16.4% |
| Totals for Area of Interest | | | 39.9 | 100.0% |

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

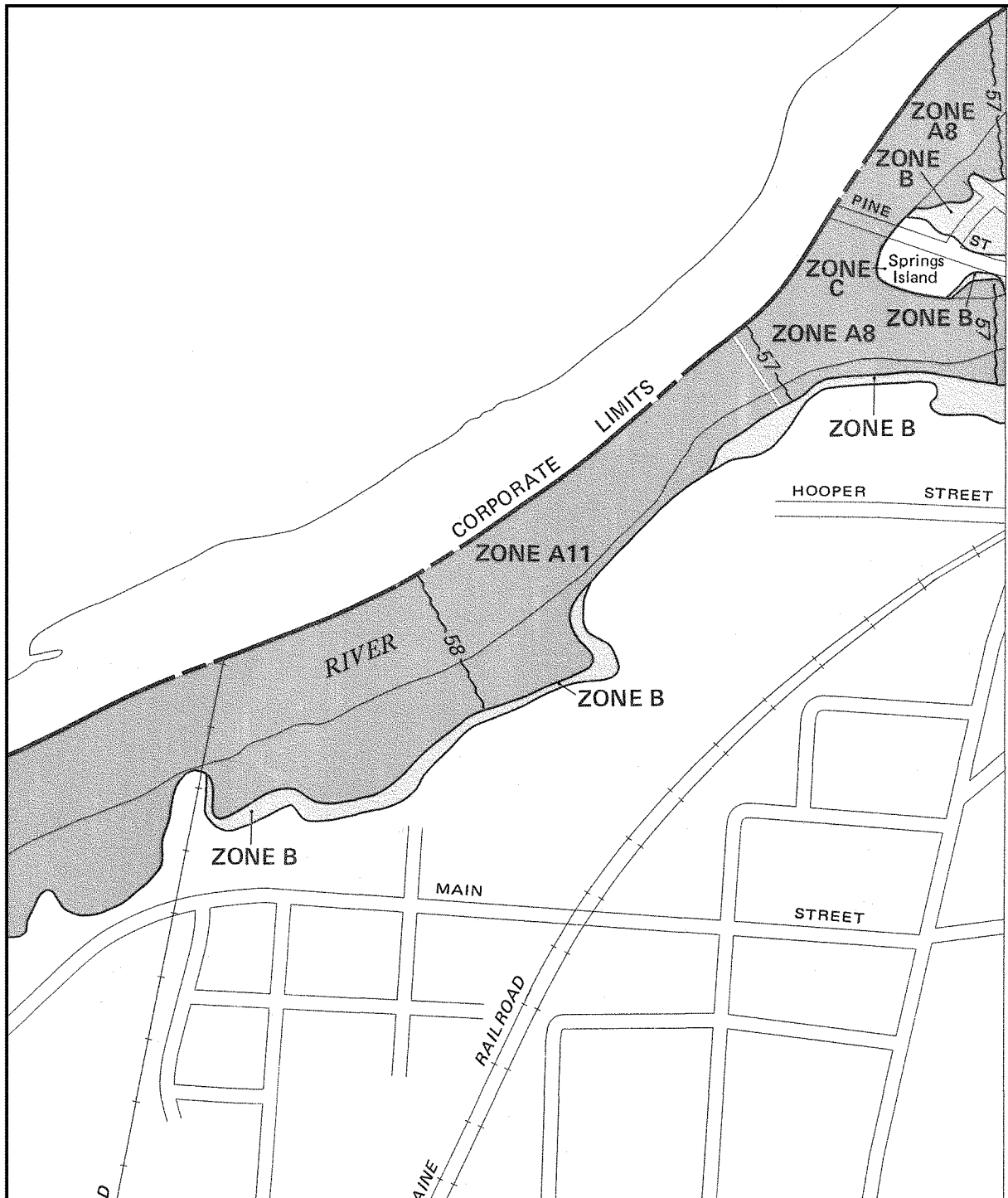
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APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

CITY OF
BIDDEFORD,
MAINE
YORK COUNTY

PANEL 3 OF 11
(SEE MAP INDEX FOR PANELS NOT PRINTED)

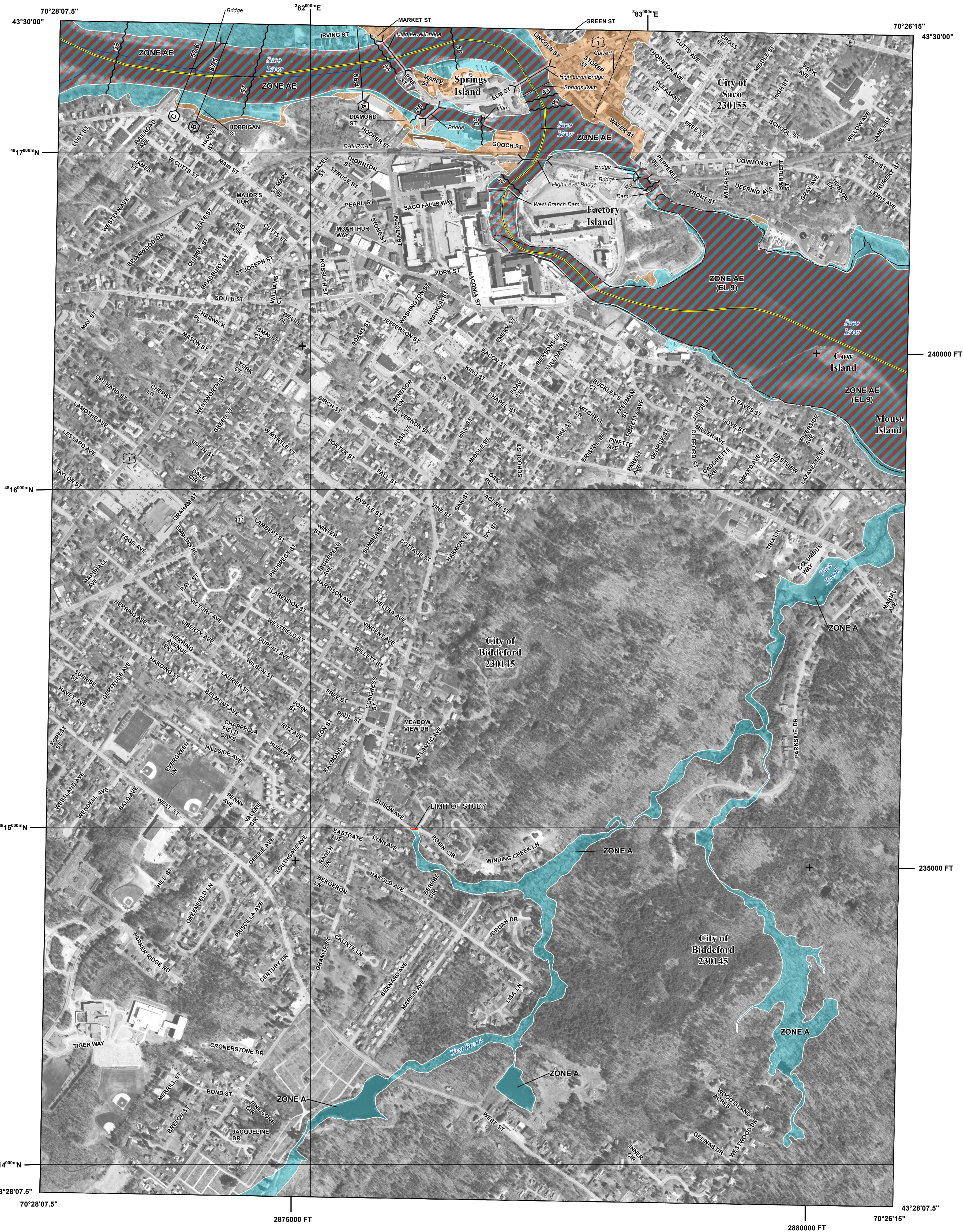
COMMUNITY-PANEL NUMBER
230145 0003 B

EFFECTIVE DATE:
MAY 15, 1984



Federal Emergency Management Agency

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



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SPECIAL FLOOD HAZARD AREAS

Without Base Flood Elevation (BFE)
Zone A,V, A99
With BFE or Depth Zone AE, AO, AH, VE, AR

Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee See Notes. Zone X

Area with Flood Risk due to Levee Zone D

OTHER AREAS

NO SCREEN Area of Minimal Flood Hazard Zone X

Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES

Channel, Culvert, or Storm Sewer

Levee, Dike, or Floodwall

OTHER FEATURES

18.2
17.5
Cross Sections with 1% Annual Chance Water Surface Elevation

Coastal Transect Baseline

Profile Baseline

Hydrographic Feature

Base Flood Elevation Line (BFE)

Limit of Study

Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

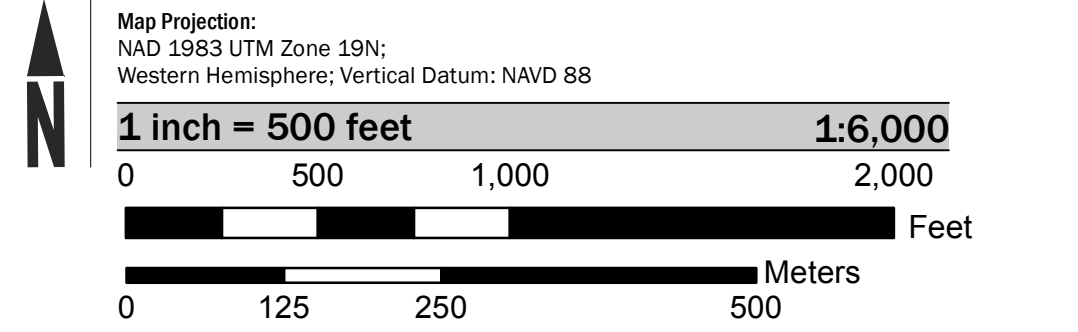
For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

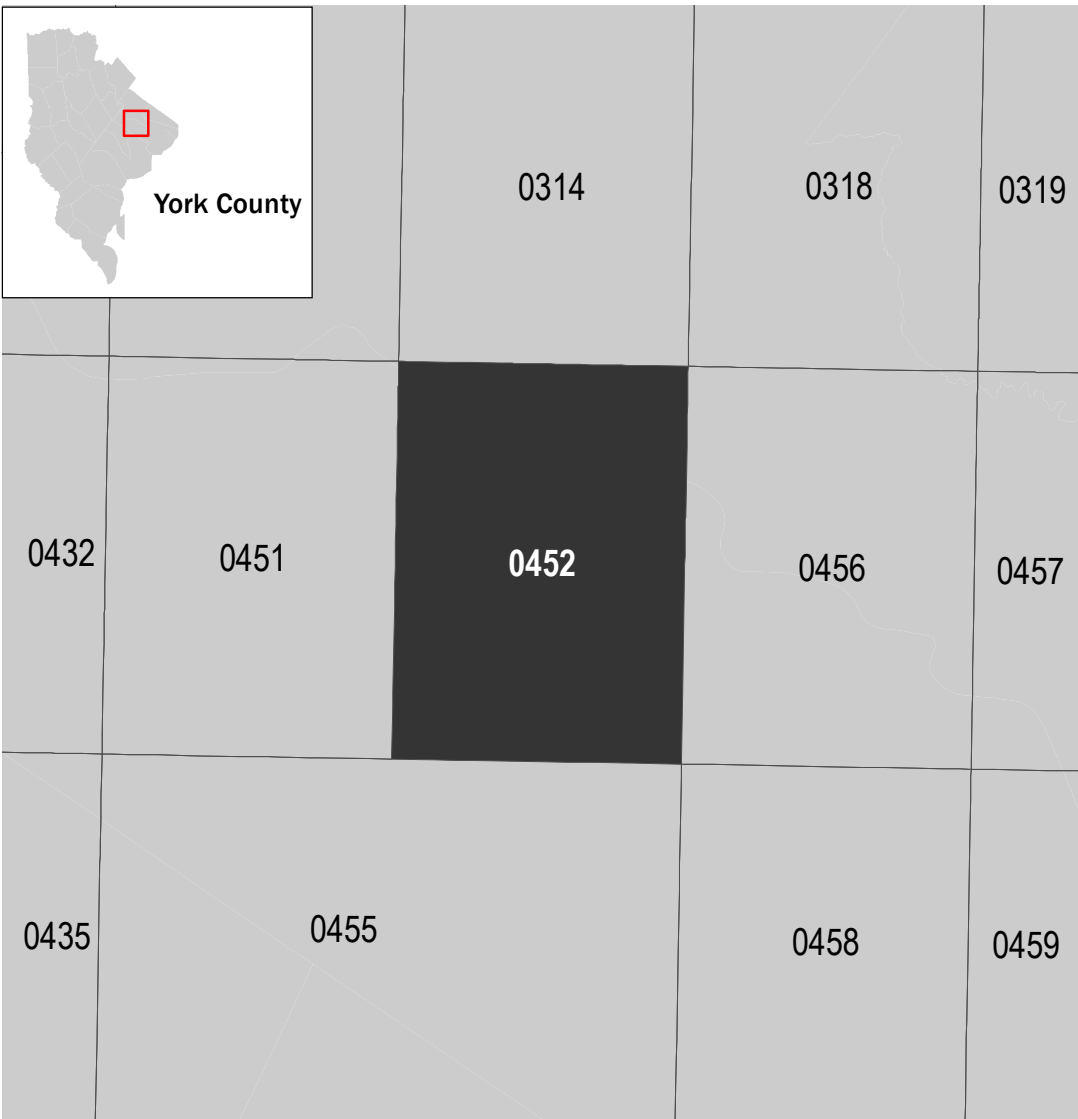
Base map information shown on this FIRM provided in digital format by State of Maine, Maine office of GIS (MeGIS). This information was derived from MeGIS, dated 2012.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and FDTs may reflect stream channel distances that differ from what is shown on the map.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
YORK COUNTY, MAINE
All Jurisdictions

PANEL 0452 of 0837

Panel Contains:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|--------------------|--------|-------|--------|
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| SACO, CITY OF | 230155 | 0452 | G |

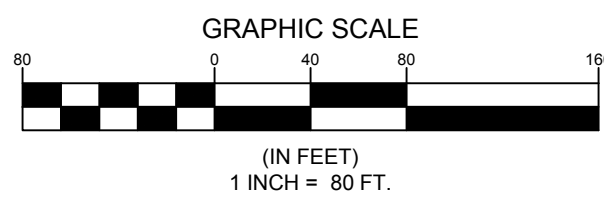
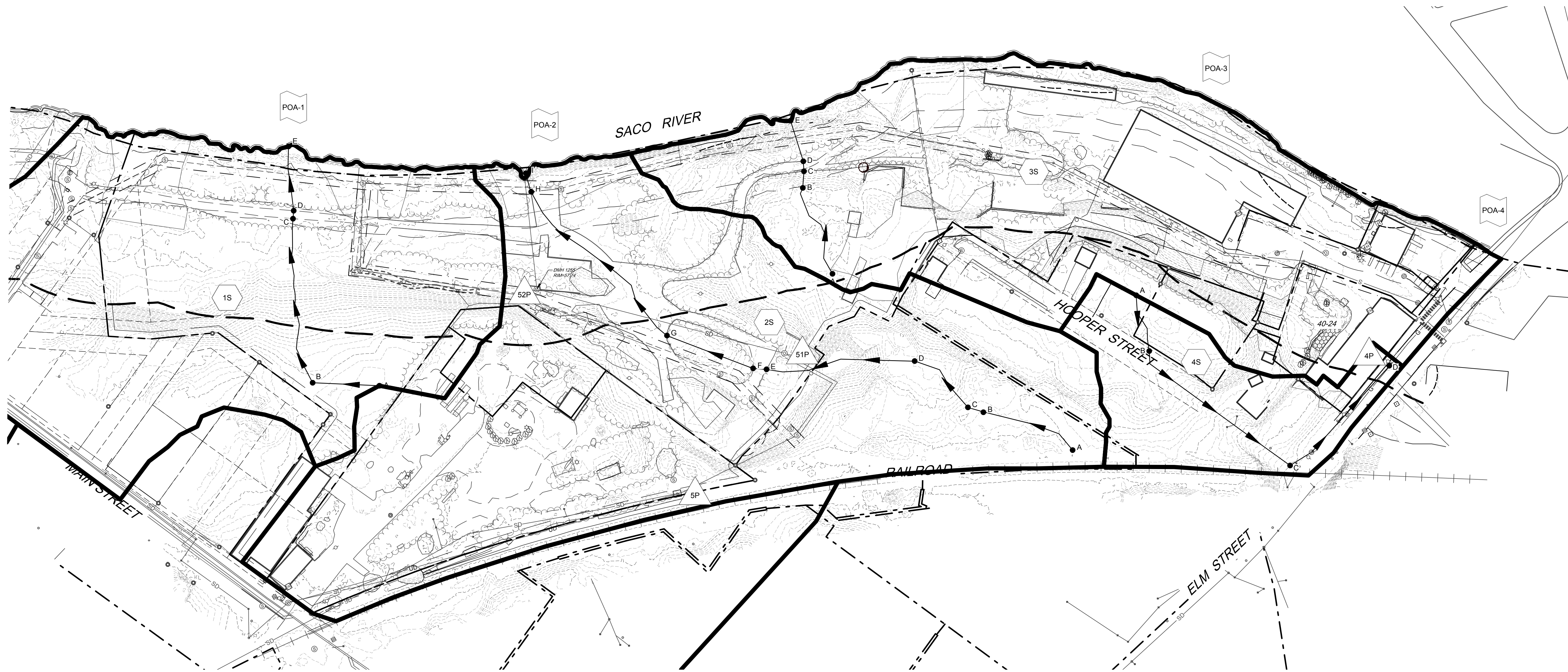
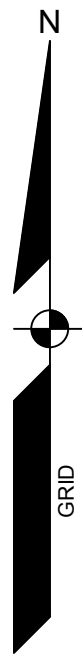
REVISED
PRELIMINARY
3/28/2018

VERSION NUMBER
2.3.2.1
MAP NUMBER
23031C0452G
EFFECTIVE DATE

Appendix 5

Stormwater Management Plans

F:\Projects\1800\18462\DWG\Design\18462 SWP PRE.dwg 6/12/2024 11:34 AM TANNER F. GOODINE



EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
A — B TIME OF CONCENTRATION
O — O REACH
1S SUBCATCHMENT LABEL
1R REACH
POA-1 POINT OF ANALYSIS
1P STORMWATER TREATMENT/DETENTION POND
HSG # SOILS BOUNDARY
HSG #

NOTES:

- ON-SITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY ON FEBRUARY 16, 2022. THE ON-SITE SOILS WERE IDENTIFIED AS U1 (URBAN LAND). A HYDROLOGIC SOIL GROUP (HSG) WAS NOT SPECIFIED FROM THE WEB SOIL SURVEY. A HSG OF D WAS ASSUMED FOR ON-SITE SOIL TYPES TO ACCOUNT FOR A COMPACTED URBAN FILL SCENARIO.
- OFF-SITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.
- T_c PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

18462 SWP PRE.dwg: TALEXISTING CONDITIONS WATERSHED PLAN

EXISTING CONDITIONS WATERSHED PLAN

OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

| | |
|----------|------------|
| DESIGNED | TFG |
| DRAWN | DAB |
| CHECKED | CAB |
| DATE | 06/12/2024 |
| SCALE | 1" = 80' |
| PROJECT | 18462 |

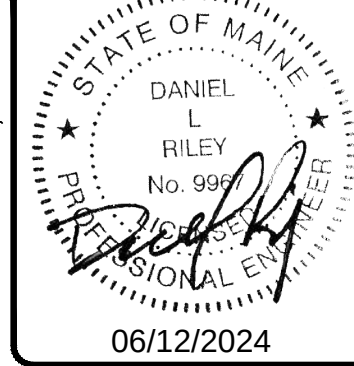
SHEET 1 OF 4

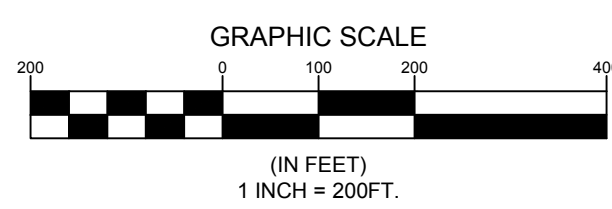
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T E C H N I C S

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South Portland, ME 04086
207-200-2100

South Portland, Biddeford, Springvale and Bath

DANIEL L. RILEY, P.E. 0687





EXISTING CONDITIONS LEGEND

-
- Figure 1 is a schematic diagram of the HSG model. It illustrates the vertical structure of the model, showing various layers and components. At the top, a thick black horizontal bar represents the 'SUBCATCHMENT BOUNDARY'. Below this, a horizontal line with arrows pointing outwards is labeled 'TIME OF CONCENTRATION'. Further down, a horizontal line with circles at each end is labeled 'REACH'. Below the reach, a horizontal line with a central rectangle is labeled 'SUBCATCHMENT LABEL'. The main body of the diagram is divided into several horizontal layers. The top layer is labeled '1S' and contains a hexagon. Below it is a layer labeled '1R' containing a rectangle. The next layer is labeled 'POA-1' and contains a jagged, wavy line. Below that is a layer labeled '1P' containing a triangle. The bottom layer is labeled 'STORMWATER TREATMENT/DETENTION POND'. At the very bottom, a horizontal line with dots on either side is labeled 'HSG #' and 'SOILS BOUNDARY'.

NOTES:

1. ONSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY ON FEBRUARY 16, 2022. THE ONSITE SOILS WERE IDENTIFIED AS (UPLAND) AND A HIGH ACTIVITY CLAYEY SOIL GROUP (HSG) WAS NOT SPECIFIED FROM THE WEB SOIL SURVEY. A HSG OF WAS ASSUMED FOR ONSITE SOIL TYPES TO ACCOUNT FOR A COMPACTED URBAN FILL SCENARIO.
2. OFFSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY ON FEBRUARY 16, 2022. OFFSITE SOILS WERE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.
3. Tc PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

OFF-SITE WATERSHED PLAN

OF:

ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE

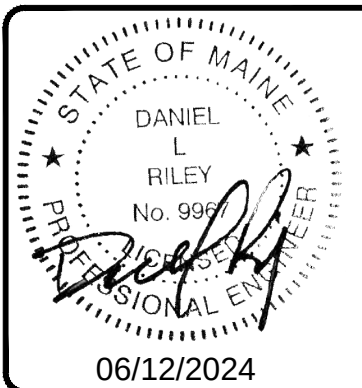
FOR:

ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

| | |
|----------|------------|
| DESIGNED | TFG |
| DRAWN | DAB |
| CHECKED | CAB |
| DATE | 06/12/2024 |
| SCALE | 1" = 200' |
| PROJECT | 18462 |

SHEET 2 OF 4

DANIEL L. RILEY, PE 9967



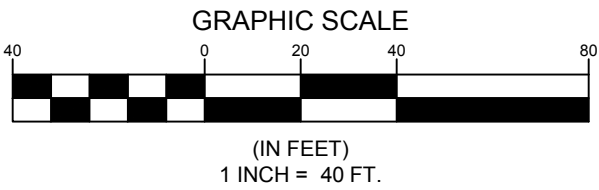
| | | | |
|---|------|------------|--|
| B | D/R | 06/12/2024 | ISSUED TO CITY OF BIRDFORD FOR FINAL SITE PLAN |
| A | D/R | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |
| | REV: | BY: | DATE: |
| | | | STATUS: |

THIS PLAN SHALL NOT BE MOVED WITHOUT WRITTEN PERMISSION FROM SENGCO TECHNOLOGIES INC. ANY ALTERATIONS

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| | |
|---|-------------------------------------|
|  | SUBCATCHMENT BOUNDARY |
|  | TIME OF CONCENTRATION |
|  | REACH |
|  | SUBCATCHMENT LABEL |
|  | REACH |
|  | POINT OF ANALYSIS |
|  | STORMWATER TREATMENT/DETENTION POND |
|  | SOILS BOUNDARY |

1. ONSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY ON FEBRUARY 16, 2022. THE ONSITE SOILS WERE IDENTIFIED AS U (URBAN LAND) AND HYDRO (HYDRO) SOIL GROUP (HSG). WAS NOT SPECIFIED FROM THE WEB SOIL SURVEY. A HSG OF U WAS ASSUMED FOR ONSITE SOIL TYPES TO ACCOUNT FOR A COMPACTED URBAN FILL SCENARIO.

2. OFFSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY ON FEBRUARY 16, 2022. OFFSITE SOILS ARE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.

3. TC-Paths NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

06/12/2024

[illegible]

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207-200-2100

South Portland, Bridgton, Scarborough and Bath

DESIGNED TFG / KMM

DRAWN DAB

CHECKED DLR

DATE 06/12/2024

SCALE 1" = 40'

PROJECT 18462

PROPOSED CONDITIONS WATERSHED PLAN 1

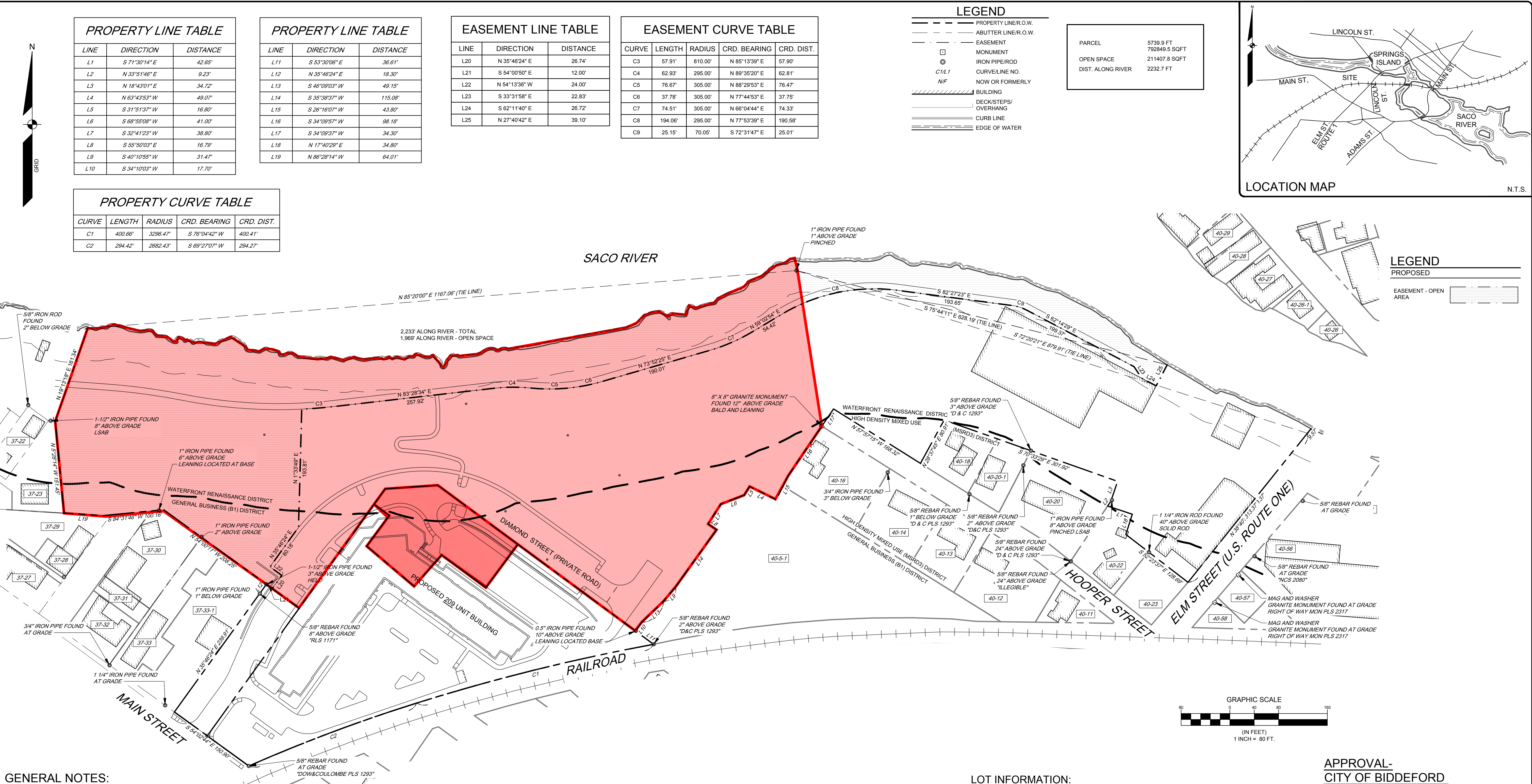
OF: ONE DIAMOND

MAIN STREET
MONTGOMERY, MAINE

FOR: ONE DIAMOND DEVELOPMENT, LLC

2 LIVEMELL DRIVE, SUITE 207

SHEET 3 OF 4



PROGRESS PRINT

NOT FOR CONSTRUCTION

ISSUED TO CITY OF BIDDEFORD FOR REVIEW

DATE: 06/14/2024

STATUS: A

REV: 1

BY: DLR

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SEBAGOTECHNICS.COM

75 John Roberts Rd. Suite 4A

South Portland, ME 04106

207-200-2100

South Portland, Bridgton, Sanford and Bath

SUBDIVISION PLAN

OF: ONE DIAMOND

MAIN STREET

BIDDEFORD, MAINE 04005

FOR RECORD OWNER: ONE DIAMOND DEVELOPMENT, LLC

2 LIVERWELL DRIVE, SUITE 201

KENNEBUNK, MAINE 04043

STATE OF MAINE, YORK COUNTY SS, REGISTRY OF DEEDS

RECEIVED _____, 20

AT _____ H _____ M AND _____ M

RECORDED IN _____

PLAN BOOK _____ PAGE _____

ATTEST: _____

REGISTER

ONE DIAMOND

BIDDEFORD, ME 04005



GENERAL NOTES:

- FIELD VERIFY ALL DIMENSIONS AND LAYOUT PRIOR TO PROCEEDING WITH WORK. NOTIFY ARCHITECT IN WRITING OF ANY DISCREPANCIES OR INCONSISTENCIES. FAILURE TO REPORT ANY DISCREPANCIES WITHIN THESE CONSTRUCTION DOCUMENTS TO THE ARCHITECT WILL NOT BE GROUNDS FOR ADDITIONAL COST OR CHANGE ORDERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS (UNLESS NOTED OTHERWISE), AND WORKMANSHIP IN ACCORDANCE WITH FEDERAL, STATE, CITY, AND LOCAL BUILDING CODES AND THEIR REQUIREMENTS.
- CONTRACTOR AND ALL TRADES SHALL NOTE REQUIREMENTS OF "GENERAL NOTES" ON ALL SHEETS.
- EACH TRADE TO PROVIDE SMOKE OR FIRE SEALANT AT PENETRATIONS AS REQUIRED FOR WALL TYPE (UNLESS NOTED OTHERWISE). ALL SEALANT, FIRE STOPPING AND SMOKE STOPPING ASSEMBLIES SHALL BE U.L. RATED.
- REFER TO ALL CONSTRUCTION DOCUMENTS FOR REQUIREMENTS WHICH MAY AFFECT THE WORK IN ANOTHER AREA AND/OR DISCIPLINE AND COORDINATE.
- CONTRACTOR SHALL PROVIDE BLOCKING IN WALLS AS NECESSARY WHERE CASEWORK, FURNITURE, SHELVES, HANDRAILS, AND/OR OTHER MISC. EQUIPMENT IS LOCATED. ALL BLOCKING AND MISC. STEEL SHALL BE CONTINUOUS UNLESS NOTED OTHERWISE.
- REFER TO <INSERT SHEET #> SHEETS FOR GENERAL MOUNTING HEIGHTS.
- DO NOT SCALE CONSTRUCTION DOCUMENTS.
- PROVIDE MEANS FURNISH AND INSTALL.
- NOTE THAT ARCHITECTURAL ELEVATION 100'-0" DOES NOT EQUAL THE USGS ELEVATION. RE-CIVIL FOR USGS ELEVATIONS.
- WHERE ARCHITECTURAL DRAWINGS DEPICT MECHANICAL OR ELECTRICAL ITEMS OR EQUIPMENT (LIGHTS, DIFFUSERS, ETC.) INSTALLATION OF SUCH ITEMS SHALL BE COORDINATED WITH EACH RESPECTIVE TRADE SUB-CONTRACTOR.
- WHERE THE DRAWINGS DO NOT ADDRESS INSTALLATION METHODOLOGY, THE CONTRACTOR SHALL BE BOUND TO PERFORM IN STRICT COMPLIANCE WITH CODES, THE MANUFACTURER'S SPECIFICATIONS AND INDUSTRY STANDARDS.
- THE CONTRACTOR AND THEIR SUBCONTRACTORS SHALL NOT MAKE STRUCTURAL CHANGES OR MODIFICATIONS WITHOUT WRITTEN APPROVAL OF THE ARCHITECT/STRUCTURAL ENGINEER, UNLESS OTHERWISE DETAILED ON THE DRAWINGS.
- PROVIDE FIRE-RATED PLYWOOD PANEL RATING LABEL FACING OUTWARD AT ALL ELECTRICAL AND TELEPHONE/DATA ROOMS AND CLOSETS.
- ALL MATERIALS SHALL BE ASBESTOS-FREE.
- PRODUCTS NOTED IN DRAWINGS WITH A SPECIFIC MANUFACTURER'S NAME OR PRODUCT NAME ARE INTENDED TO IDENTIFY THE TYPE OF PRODUCT REQUIRED. REFER TO SPECIFICATIONS FOR SPECIFIC PRODUCT REQUIREMENTS AND FOR MANUFACTURER OR SUBSTITUTION OPTIONS.

ONE DIAMOND



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SMRT Architects & Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101

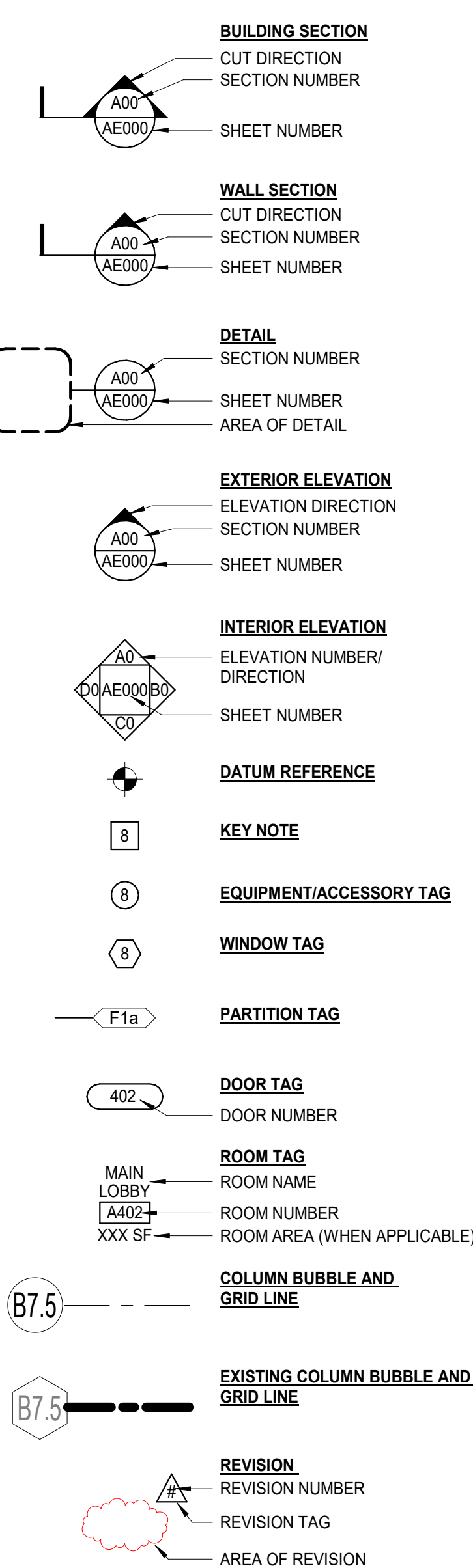
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ARCHITECTURAL ABBREVIATIONS:

| | |
|--------|---|
| AB | ANCHOR BOLT |
| AC | AIR CONDITIONING |
| ACCU | AIR CONDITIONING CONDENSER UNIT |
| ACPLAS | ACOUSTICAL PLASTER |
| ACT | ACOUSTIC CEILING TILE |
| AFT | ABOVE FINISH FLOOR |
| AGG | AGGREGATE |
| ALT | ALTERNATE |
| AP | ACCESS PANEL |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECTURAL |
| BCX | BOTTOM CORD EXTENSION |
| BD | BOARD |
| BIT | BITUMINOUS |
| BLDG | BUILDING |
| BLP | BORROWED LIGHT PANEL |
| BO | BOTTOM OF |
| BOF | BOTTOM OF FOOTING |
| BOT | BOTTOM |
| BRDG | BRIDGING |
| BRG | BEARING |
| BS | BOTH SIDES |
| BSE | BRICK SHELF ELEVATION |
| C | CHANNEL |
| CB | CATCH BASIN / CHALKBOARD |
| CEM BD | CEMENTITIOUS BACKER BOARD |
| CFM | CUBIC FEET PER MINUTE |
| CIP | CAST IN PLACE |
| CJ | CONTROL JOINT / CONSTRUCTION JOINT |
| CL | CENTER LINE |
| CLL | CONTRACT LIMIT LINE |
| CLR | CLEAR |
| CMU | CONCRETE MASONRY UNIT |
| COL | COLUMN |
| CONC | CONCRETE |
| CONT | CONTINUOUS |
| CT | CERAMIC TILE |
| CUH | CABINET UNIT HEATER |
| D | DIAMETER |
| DBL | DOUBLE |
| DF | DRINKING FOUNTAIN |
| DL | DEAD LOAD |
| DR | DISPLAY RAIL |
| DTL | DETAIL |
| DW | DISHWASHER |
| DWG | DRAWING |
| EA | EACH |
| EF | EXHAUST FAN / EACH FACE |
| EJ | EXPANSION JOINT |
| EL | ELEVATION |
| ELEC | ELECTRICAL |
| EOP | EDGE OF PAVEMENT |
| EPDM | ETHYLENE PROPYLENE DIENE MONOMER |
| EQ | EQUAL |
| EW | EACH WAY |
| EWV | ELECTRIC WATER COOLER |
| EXIST | EXISTING |
| EXP | EXPANSION |
| EXT | EXTERIOR |
| FB | FLAT BAR |
| FBO | FURNISHED BY OTHERS |
| FCO | FLOOR CLEAN-OUT |
| FD | FLOOR DRAIN |
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |
| FF | FINISH FLOOR / FAR FACE |
| FFE | FINISH FLOOR ELEVATION |
| FO | FRAMED OPENING |
| FRP | FIBER REINFORCED PLASTIC |
| FS | FAR SIDE |
| FTG | FOOTING |
| GA | GAUGE |
| GALV | GALVANIZED |
| GB | GRAB BAR |
| GC | GENERAL CONTRACTOR |
| GDT | GYPSUM DROP-IN TILE |
| GV | GRAVITY VENT |
| GWB | GYPSUM WALL BOARD |
| H | HORIZONTAL |
| HC | HANDICAPPED / HOLLOW CORE |
| HORIZ | HORIZONTAL |
| HM | HOLLOW METAL |
| HRU | HEAT RECOVERY UNIT |
| HV | HEATING AND VENTILATING |
| HVAC | HEATING, VENTILATING AND AIR CONDITIONING |
| I | INCLUDED ANGLE |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IJ | ISOLATION JOINT |
| IMP | IMPACT RESISTANT |
| INS | INSULATED |
| INV | INVERT |
| JS | JOINT SUBSTITUTE |
| K | KIPS |

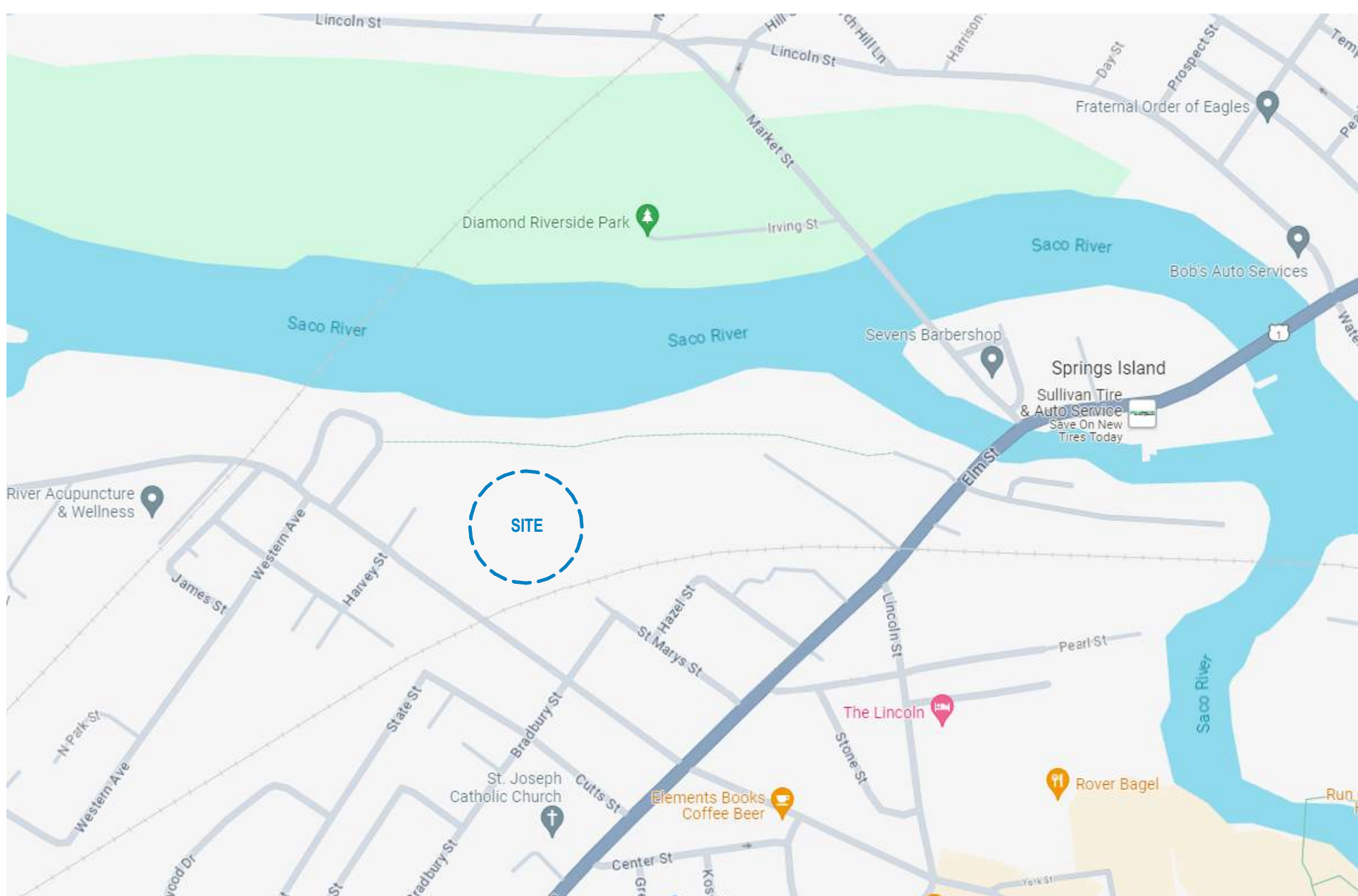
| | |
|-------|-------------------------------------|
| L | ANGLE / LENGTH |
| LF | LEFT |
| LINO | SHEET LINOLEUM |
| LL | LIVE LOAD |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LP | LIGHTING PANEL / LIQUIFIED PROPANE |
| MAX | MAXIMUM |
| MB | MARKER BOARD |
| MDO | MEDIUM DENSITY OVERLAY |
| MIECH | MECHANICAL |
| MFR | MANUFACTURER |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MO | MASONRY OPENING |
| MR | MOISTURE-RESISTANT |
| MUA | MAKE-UP AIR |
| N | NOISING |
| NCB | NEW CATCH BASIN |
| NDMH | NEW DRAIN MANHOLE |
| NFM | NEW FORCE MAIN |
| NIC | NOT IN CONTRACT |
| NS | NEAR SIDE |
| NSD | NEW STORM DRAIN LINE |
| NSS | NEW SANITARY SEWER LINE |
| NTS | NOT TO SCALE |
| NW | NEW WATER LINE |
| OC | ON CENTER |
| OF | OUTSIDE FACE |
| OH | OVERHEAD |
| PA | PUBLIC ADDRESS |
| PAF | POWER-ACTUATED FASTENER |
| PDU | POOL DEHUMIDIFICATION UNIT |
| PL | PLATE / PROPERTY LINE |
| PLAM | PLASTIC LAMINATE |
| PLF | POUNDS PER LINEAR FOOT |
| PP | POWER PANEL |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PT | PRESSURE-TREATED |
| PVC | POLYVINYL CHLORIDE |
| P/MT | PAVEMENT |
| R | RISER / RADIUS |
| RB | RESILIENT BASE |
| RD | ROOF DRAIN |
| REINF | REINFORCED |
| REQ'D | REQUIRED |
| RT | RIGHT |
| RO | ROUGH OPENING |
| ROW | RIGHT OF WAY |
| RR | RUB-RAIL |
| RTU | ROOF TOP UNIT (HVAC) |
| SACT | SUSPENDED ACOUSTIC TILE CEILING |
| SC | SOLID CORE |
| SF | SQUARE FOOT / SUPPLY FAN |
| SFRM | SPRAYED FIRE-RESISTIVE MATERIAL |
| SH | SHEET |
| SIM | SIMILAR |
| SK | SHEAR KEY |
| SN | SANITARY NAPKIN (DISPENSER) |
| SP | SPECIAL |
| SS | STAINLESS STEEL |
| STA | STATION |
| STL | STEEL |
| STRUC | STRUCTURAL |
| T | TREAD |
| TB | TACKBOARD |
| T&B | TOP AND BOTTOM |
| TBM | TEMPORARY BENCHMARK |
| TCE | TOP CHORD EXTENSION |
| TJ | TIE JOIST |
| TO | TOP OF |
| TOC | TOP OF CONCRETE |
| TOF | TOP OF FOOTING |
| TOM | TOP OF MASONRY |
| TOP | TOP OF PIER |
| TOS | TOP OF STEEL |
| TOW | TOP OF WALL |
| TP | TOILET PAPER (DISPENSER) / TEST PIT |
| TS | TUBE STEEL |
| TYP | TYPICAL |
| UH | UNIT HEATER |
| UNO | UNLESS NOTED OTHERWISE |
| V | VENT PIPE / VERTICAL |
| VB | VAPOR BARRIER |
| VCT | VINYL COMPOSITION TILE |
| VERT | VERTICAL |
| VP | VISION PANEL |
| VTR | VENT THROUGH THE ROOF |
| W | WITH |
| WC | WATER CLOSET |
| WD | WOOD |
| WF | WIDE FLANGE |
| WH | WATER HEATER |
| WO | WITH OUT |
| WP | WORKING POINT |
| WS | WEB STIFFENER |
| WWF | WELDED WIRE FABRIC |

ARCHITECTURAL SYMBOL LEGEND:



| SHEET NUMBER | SHEET NAME |
|-------------------|-------------------------------|
| 01. GENERAL | |
| G001 | COVER SHEET |
| G010 | SITE PLAN |
| 09. ARCHITECTURAL | |
| A101 | FIRST FLOOR PLAN |
| A102 | SECOND FLOOR PLAN |
| A103 | THIRD TO FIFTH FLOOR PLAN |
| A141 | UNIT PLANS |
| A142 | UNIT PLANS |
| A143 | UNIT PLANS |
| A151 | ROOF PLAN |
| A201 | EXTERIOR ELEVATIONS |
| A202 | EXTERIOR ELEVATIONS |
| A301 | BUILDING SECTIONS |
| A301 | WALL TYPES & SECTIONS |
| A700 | REFERENCE - MASSING DIAGRAMS |
| A701 | REFERENCE - ISOMETRIC VIEWS |
| A702 | REFERENCE - PERSPECTIVE VIEWS |

LOCATION MAP:



SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

COVER SHEET

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.

SCALE: 1/2" = 1'-0" DESIGNED BY: SMRT
SMRT PROJECT #: 24026 DRAWN BY: SMRT

G001

NOT FOR CONSTRUCTION



CONCEPTUAL SITE PLAN



| # | Description | Date |
|---|-------------|------|
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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

SITE PLAN

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
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SCALE: DESIGNED BY Designer
SMRT PROJECT #: 24026 DRAWN BY: Author

G010



UNIT COUNTS - 209 TOTAL

FIRST FLOOR

- STUDIOS: 14 UNITS
- ONE BEDROOMS: 15 UNITS
- TWO BEDROOMS: 4 UNITS
- AMENITIES: 10,030 NET SF

SECOND FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS
- OUTDOOR TERRACE / BALCONIES

THIRD FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FOURTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FIFTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

GENERAL NOTE:
BUILDING STEEL STRUCTURE THAT SUPPORTS THE 2-HR
RATED WALLS AT THE STAIRS AND ELEVATOR SHAFTS IS
REQUIRED TO RECEIVE 2-HR SPRAY APPLIED FIRE
PROOFING (BEAMS AND COLUMNS). ASSUME 10-15% OF
THE BUILDING STRUCTURE SHALL REQUIRE SPRAY
APPLIED FIRE PROOFING TO ACHIEVE 2-HR RATING.

1 LEVEL 1 - FLOOR PLAN
1/16" = 1'-0"

COLOR LEGEND:

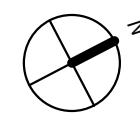
- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION

ONE DIAMOND



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| # | Description | Date |
|---|-------------|------|
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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

FIRST FLOOR PLAN

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.

SCALE: As indicated DESIGNED BY: SMRT
SMRT PROJECT #: 24026 DRAWN BY: SMRT

A101

NOT FOR CONSTRUCTION

COLOR LEGEND:

- UNITS: STUDIO
UNITS: ONE BEDROOM
UNITS: TWO BEDROOM
AMENITY
SUPPORT
CIRCULATION

ONE DIAMOND



Architecture • Engineering • Planning

SMRT Architects & Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtnyc.com



UNIT COUNTS - 209 TOTAL

FIRST FLOOR

- STUDIOS: 14 UNITS
- ONE BEDROOMS: 15 UNITS
- TWO BEDROOMS: 4 UNITS
- AMENITIES: 10,030 NET SF

SECOND FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS
- OUTDOOR TERRACE / BALCONIES

THIRD FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FOURTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FIFTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

1 LEVEL 2 - FLOOR PLAN
1/16" = 1'-0"



| # | Description | Date |
|---|-------------|------|
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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

SECOND FLOOR PLAN

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.

SCALE: As indicated DESIGNED BY: SMRT
SMRT PROJECT #: 24026 DRAWN BY: SMRT

A102

NOT FOR CONSTRUCTION

COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION

ONE DIAMOND



Architecture • Engineering • Planning

SMRT Architects & Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtninc.com



UNIT COUNTS - 209 TOTAL

FIRST FLOOR

- STUDIOS: 14 UNITS
- ONE BEDROOMS: 15 UNITS
- TWO BEDROOMS: 4 UNITS
- AMENITIES: 10,030 NET SF

SECOND FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS
- OUTDOOR TERRACE / BALCONIES

THIRD FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FOURTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

FIFTH FLOOR

- STUDIOS: 22 UNITS
- ONE BEDROOMS: 17 UNITS
- TWO BEDROOMS: 5 UNITS

1 LEVEL 3 - 5 FLOOR PLAN
1/16" = 1'-0"



| # | Description | Date |
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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

THIRD TO FIFTH FLOOR PLAN

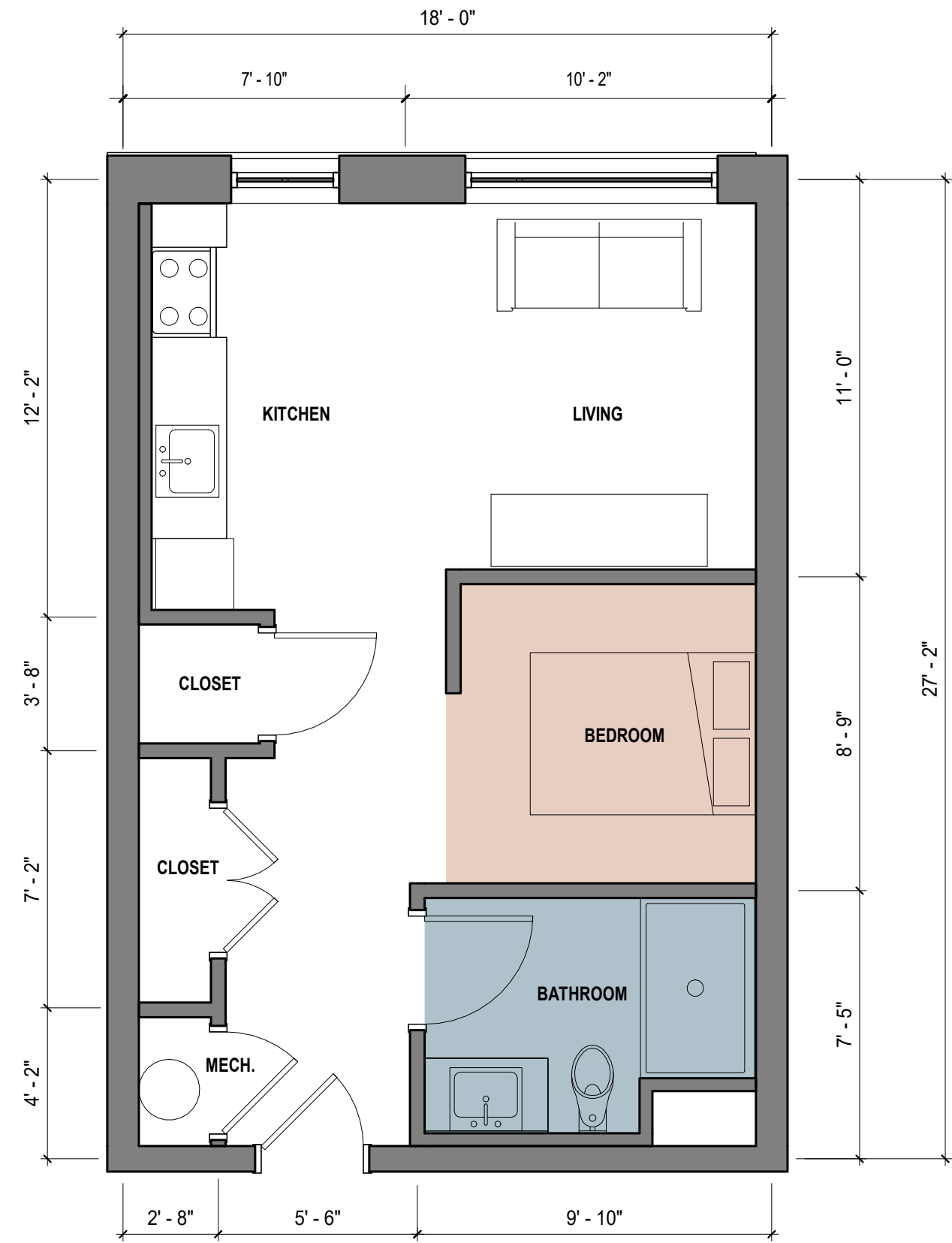
Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.
SCALE: As indicated DESIGNED BY: SMRT
SMRT PROJECT #: 24026 DRAWN BY: SMRT

A103

NOT FOR CONSTRUCTION

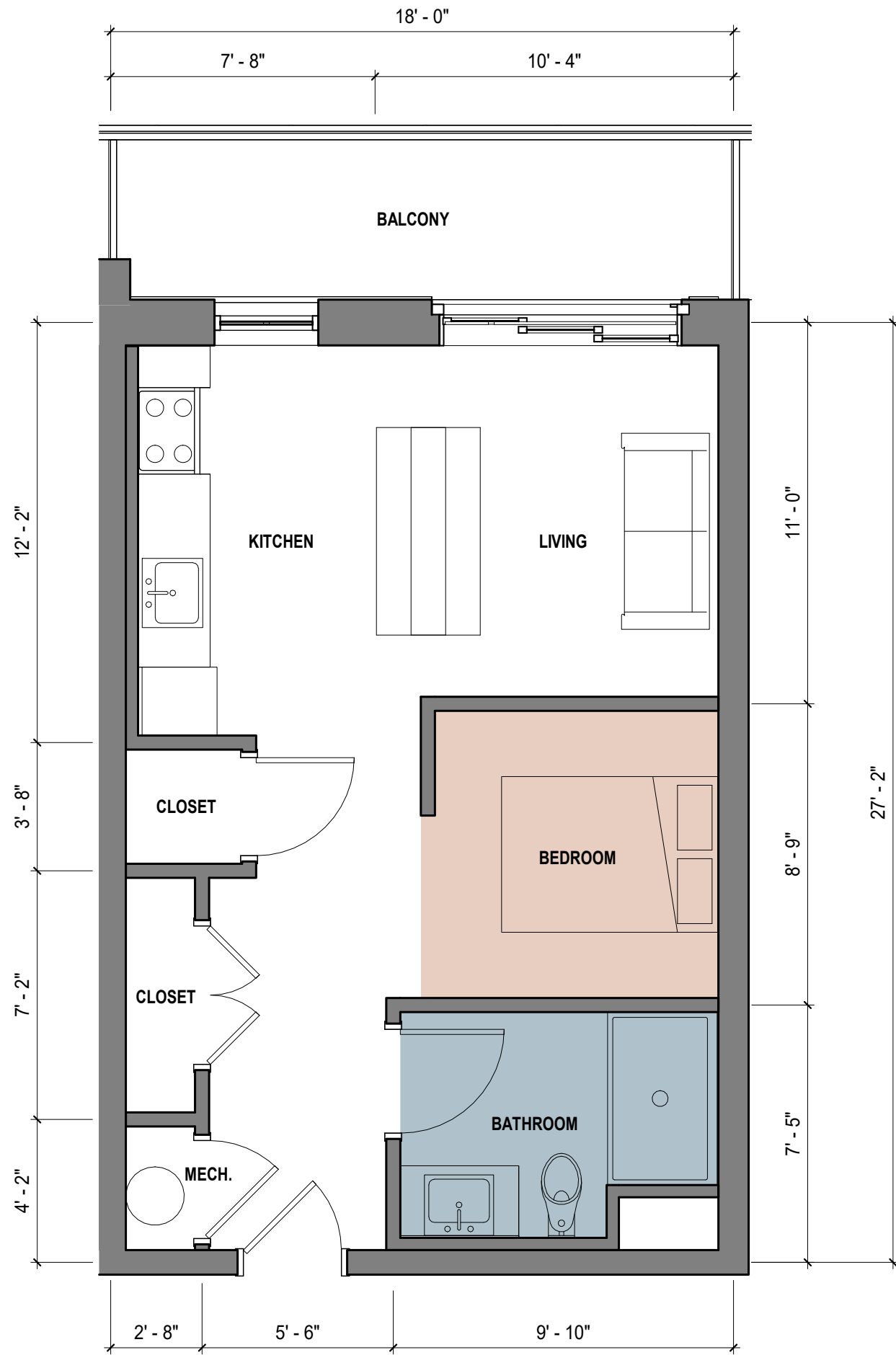
STUDIO UNIT

- NET AREA: 489 SQFT
- OPEN FLOOR PLAN WITH A NOOK SPACE FOR THE BED.
 - OPEN CONCEPT LIVING SPACE WITH LARGE WINDOW.



STUDIO UNIT WITH BALCONY (2ND FL)

- NET AREA: 489 SQFT + 99 SQFT (BALCONY)
= 588 SQFT (TOTAL)
- OPEN FLOOR PLAN WITH A NOOK SPACE FOR THE BED.
 - OPEN CONCEPT LIVING SPACE WITH LARGE WINDOW.
 - 2ND FLOOR WITH SPECIAL BALCONY UNIT.



1 STUDIO UNIT - TYPICAL
1/4" = 1'-0"

2 STUDIO UNIT - WITH BALCONY
1/4" = 1'-0"

BASIC ONE BEDROOM UNIT - TYPE A

- NET AREA: 667 SQFT
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
 - BUILT IN ISLAND WITH SEATING.
 - BUMPED OUT LIVING ROOM TO ENLARGE LIVING AREA AND BREAK UP FACADE.



BASIC ONE BEDROOM UNIT - TYPE B

- NET AREA: 667 SQFT
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
 - BUILT IN ISLAND WITH SEATING.
 - BUMPED OUT LIVING ROOM TO ENLARGE LIVING AREA AND BREAK UP FACADE.
 - ADDITIONAL WALK-IN CLOSET SPACE ON ENTRANCE.



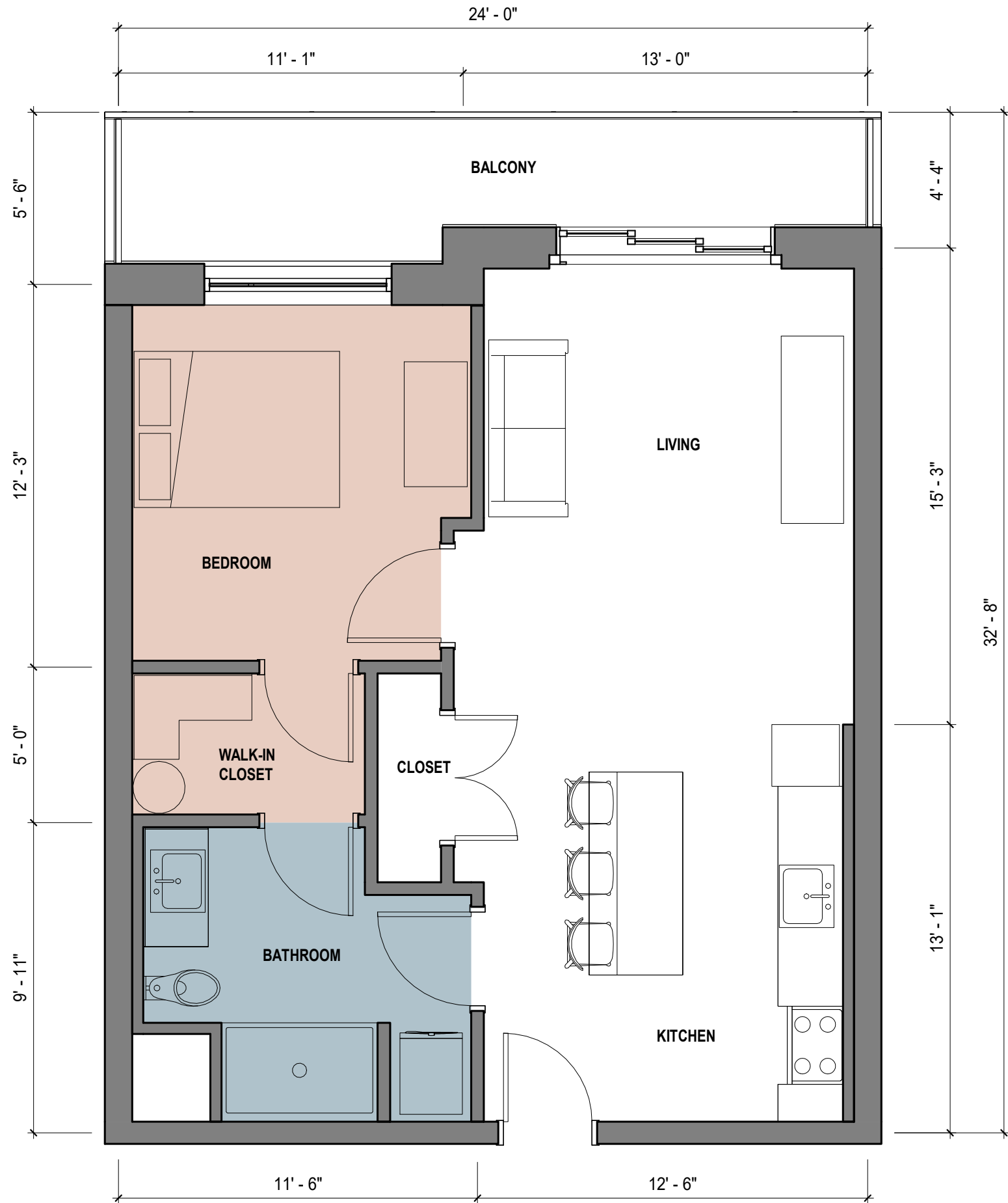
3 ONE BEDROOM UNIT - TYPE A
1/4" = 1'-0"

4 ONE BEDROOM UNIT - TYPE B
1/4" = 1'-0"

BASIC ONE BEDROOM UNIT - WITH BALCONY - TYPE A

NET AREA: 667 SQFT + 114 SQFT (BALCONY)
= 781 SQFT (TOTAL)

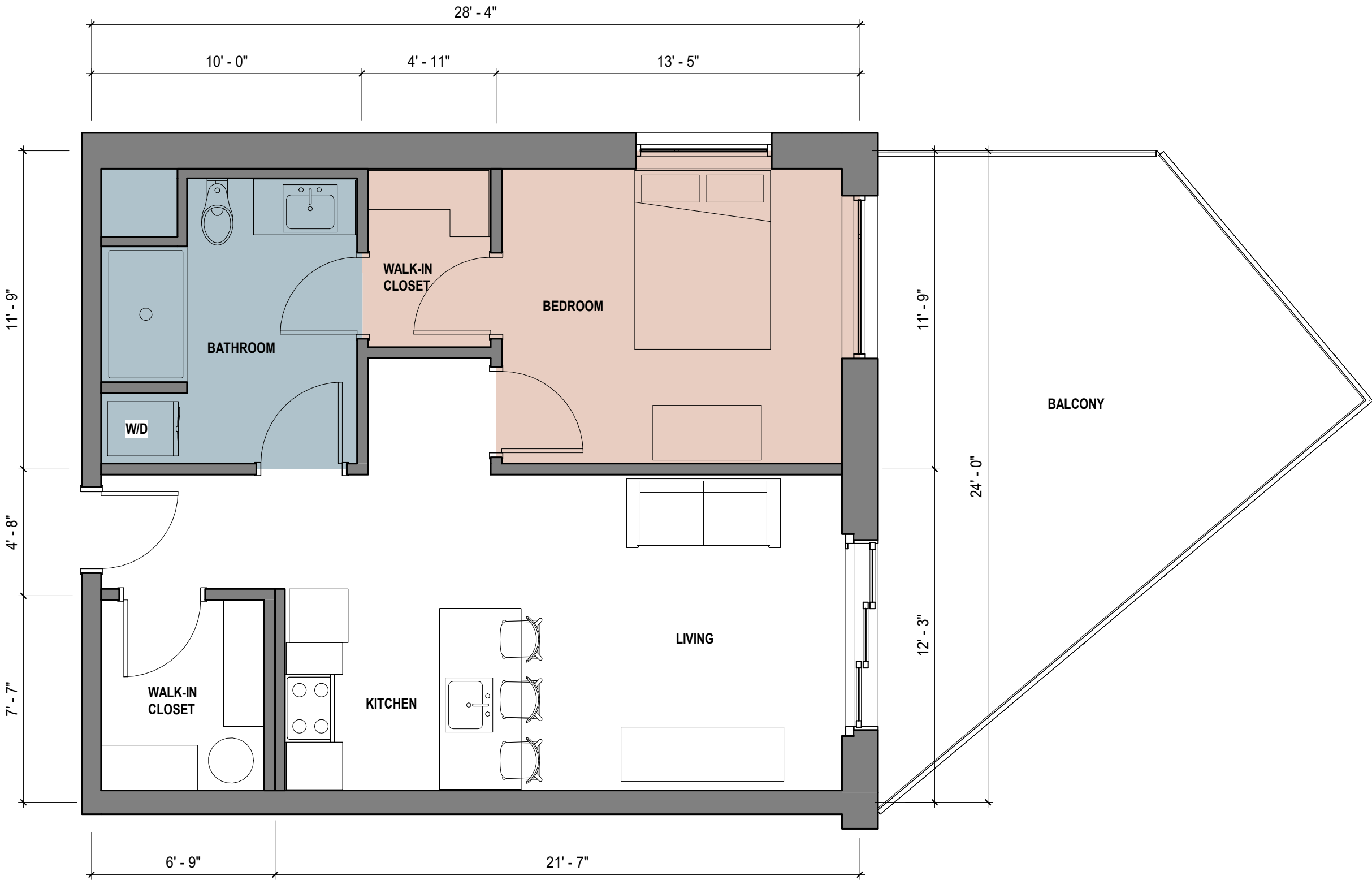
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
- BUILT IN ISLAND WITH SEATING.
- BUMPED OUT LIVING ROOM TO ENLARGE LIVING AREA AND BREAK UP FACADE.
- 2ND FLOOR WITH SPECIAL BALCONY UNIT.



BASIC ONE BEDROOM UNIT - WITH BALCONY - TYPE B

NET AREA: 680 SQFT + 283 SQFT (BALCONY)
= 963 SQFT (TOTAL)

- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
- BUILT IN ISLAND WITH SEATING.
- WINDOWS ON BOTH CORNERS OF LIVING SPACE FOR ENHANCED VIEWING.
- 2ND FLOOR WITH SPECIAL BALCONY UNIT.



1 ONE BEDROOM UNIT - WITH BALCONY - TYPE A
1/8" = 1'-0"

2 ONE BEDROOM UNIT - WITH BALCONY - TYPE B
1/8" = 1'-0"

BASIC ONE BEDROOM CORNER UNIT

NET AREA: 680 SQFT

- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
- BUILT IN ISLAND WITH SEATING.
- ADDITIONAL WALK-IN CLOSET SPACE ON ENTRANCE.
- WINDOWS ON BOTH CORNERS OF LIVING SPACE FOR ENHANCED VIEWING.



3 ONE BEDROOM CORNER UNIT
1/4" = 1'-0"

BASIC TWO BEDROOM UNIT - TYPE A

- NET AREA: 1020 SQFT
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
 - BUILT IN ISLAND WITH SEATING.
 - TWO FULL BATHS WITH WALK-IN CLOSET FROM ENTRANCE
 - WINDOWS ON BOTH CORNERS OF LIVING SPACE FOR ENHANCED VIEWING.



BASIC TWO BEDROOM UNIT - TYPE B

- NET AREA: 992 SQFT
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
 - BUILT IN ISLAND WITH SEATING.
 - TWO FULL BATHS WITH WALK-IN CLOSET FROM ENTRANCE
 - BUMPED OUT LIVING ROOM TO ENLARGE LIVING AREA AND BREAK UP FACADE.



1 TWO BEDROOM UNIT - TYPE A
1/4" = 1'-0"

2 TWO BEDROOM UNIT - TYPE B
1/4" = 1'-0"

BASIC TWO BEDROOM UNIT - WITH BALCONY

- NET AREA: 978 SQFT + 192 SQFT (BALCONY)
= 1170 SQFT (TOTAL)
- OPEN FLOOR PLAN BETWEEN KITCHEN AND LIVING AREA.
 - BUILT IN ISLAND WITH SEATING.
 - TWO FULL BATHS WITH WALK-IN CLOSET FROM ENTRANCE
 - WINDOWS ON BOTH CORNERS OF LIVING SPACE FOR ENHANCED VIEWING.
 - 2ND FLOOR WITH SPECIAL BALCONY UNIT.



3 TWO BEDROOM UNIT - WITH BALCONY
1/4" = 1'-0"

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SCHEMATIC DESIGN

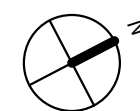
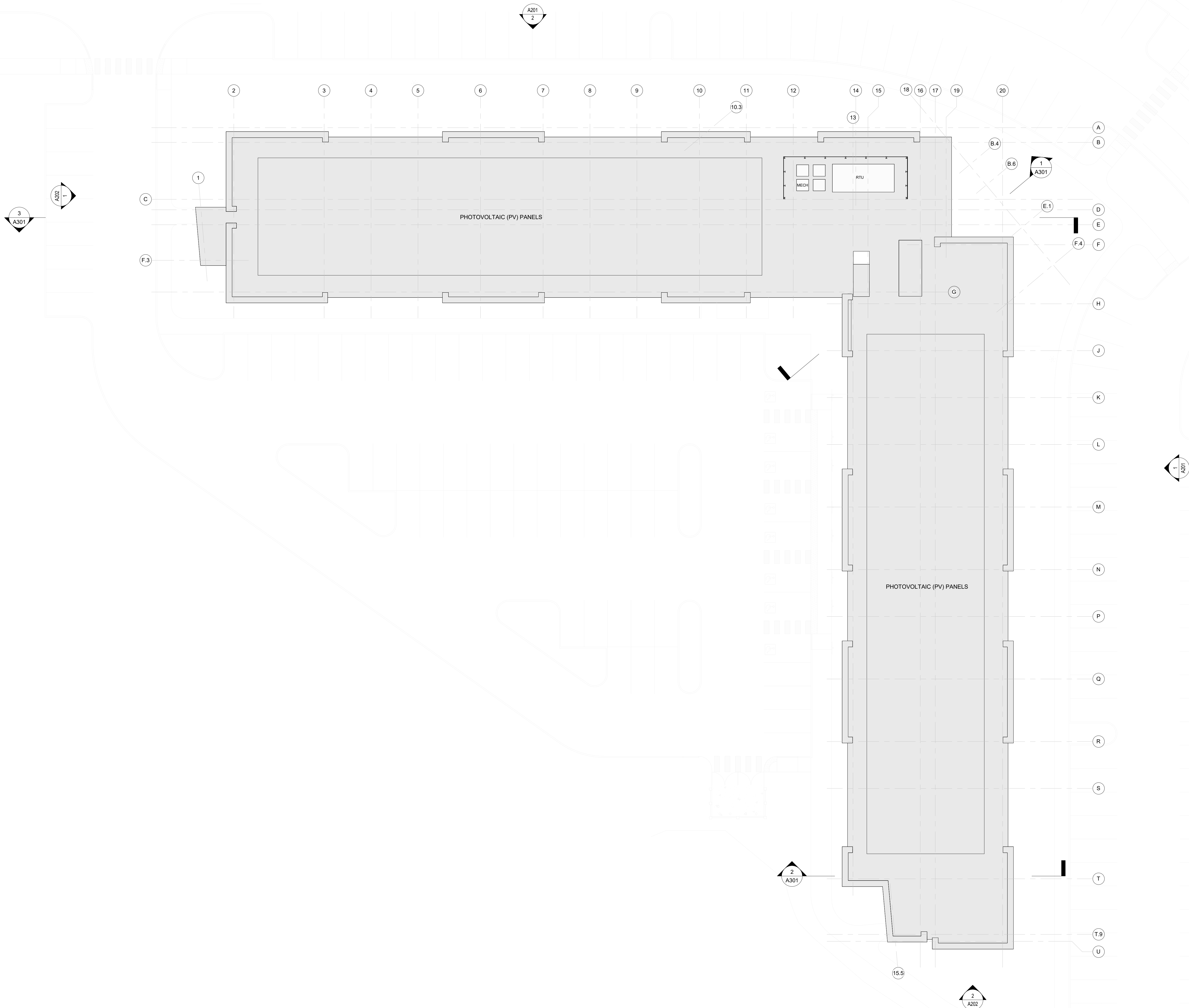
04-26-24

SHEET TITLE:

UNIT PLANS

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.
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A143



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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

ROOF PLAN

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A151



1 OVERALL ELEVATION - NORTHEAST

3/32" = 1'-0"



2 OVERALL ELEVATION - NORTHWEST

3/32" = 1'-0"

Description Date

SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

EXTERIOR ELEVATIONS

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.

Sheet is printed in color.

SCALE: 3/32" = 1'-0" DESIGNED BY: SMRT

SMRT PROJECT #: 24026 DRAWN BY: SMRT

A201

NOT FOR CONSTRUCTION

1 OVERALL ELEVATION - SOUTHEAST
3/32" = 1'-0"2 OVERALL ELEVATION - SOUTHWEST
3/32" = 1'-0"

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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

EXTERIOR ELEVATIONS

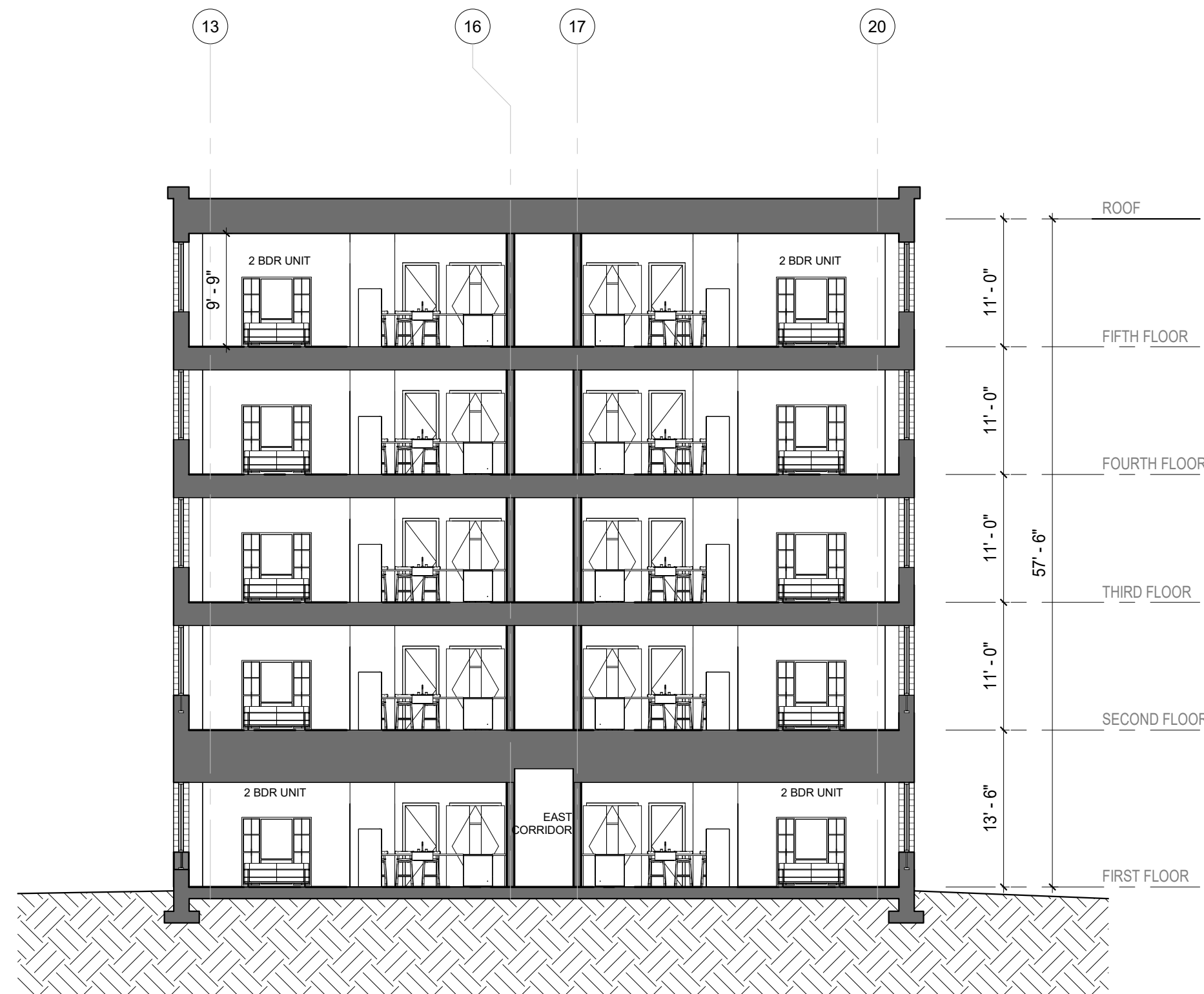
Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
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SMRT PROJECT #: 24026 DRAWN BY: SMRT

A202

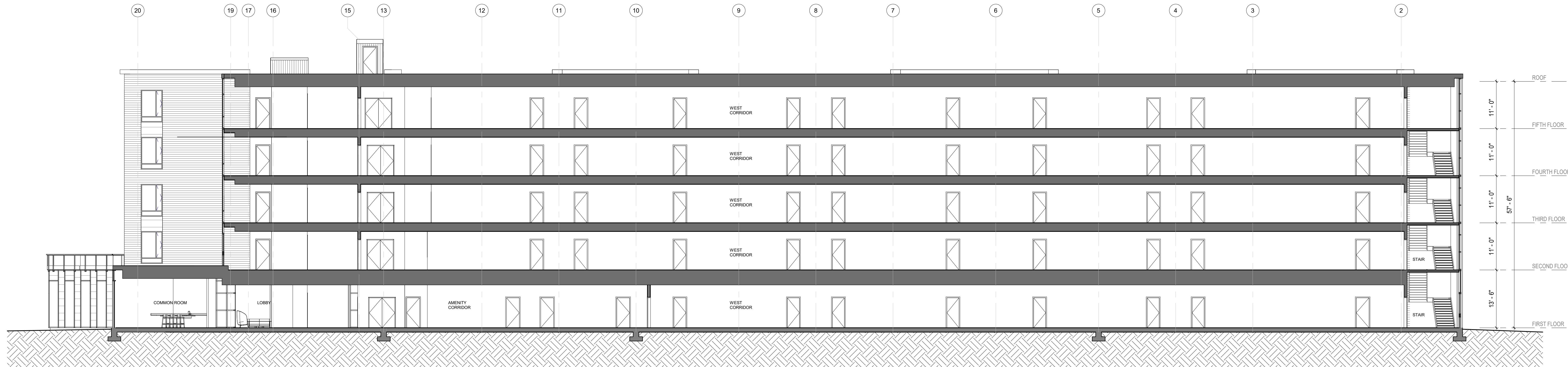
NOT FOR CONSTRUCTION



1 BUILDING SECTION - KNUCKLE
3/32" = 1'-0"



2 BUILDING SECTION - EAST WING
3/32" = 1'-0"



3 BUILDING SECTION - WEST WING - LONGITUDINAL
3/32" = 1'-0"

| # | Description | Date |
|---|-------------|------|
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SCHEMATIC DESIGN

04-26-24

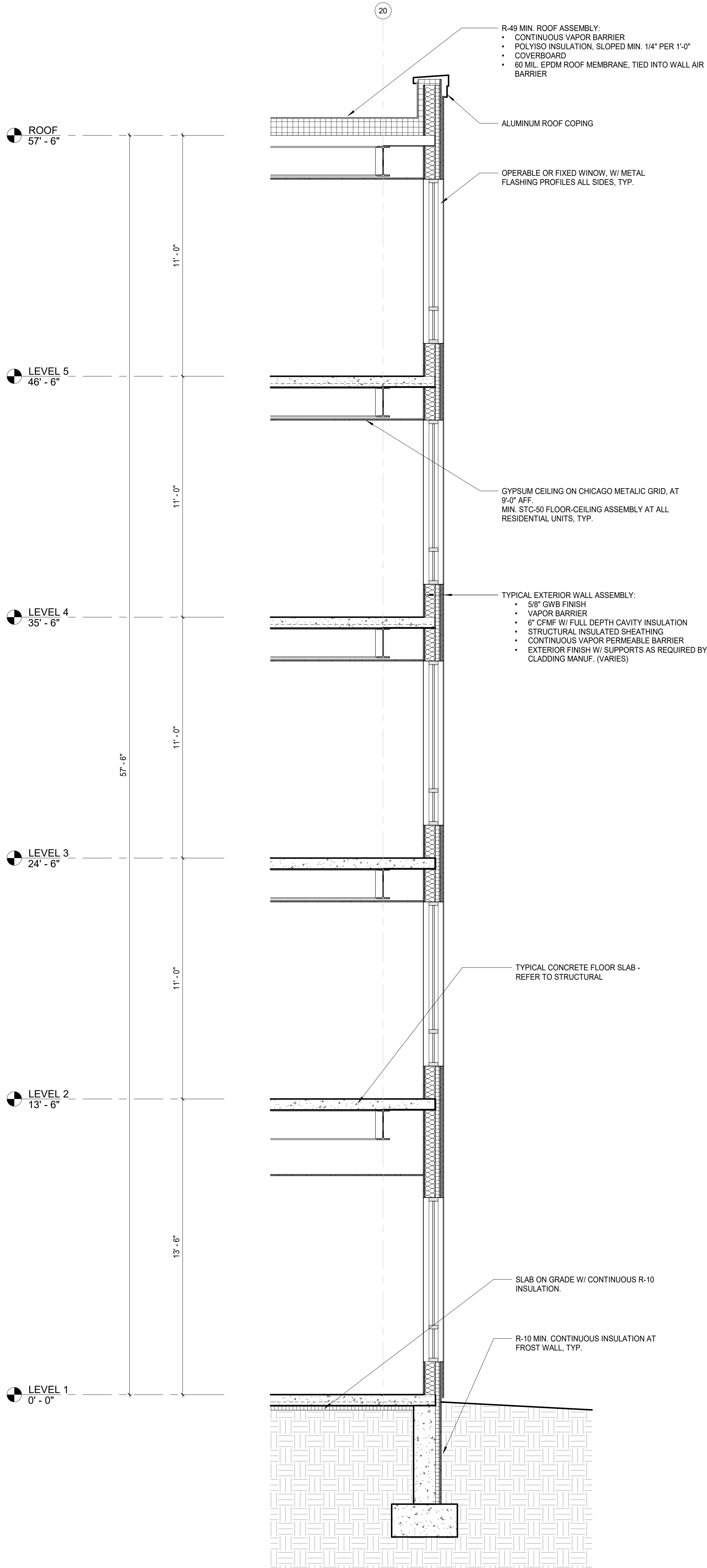
SHEET TITLE:

BUILDING SECTIONS

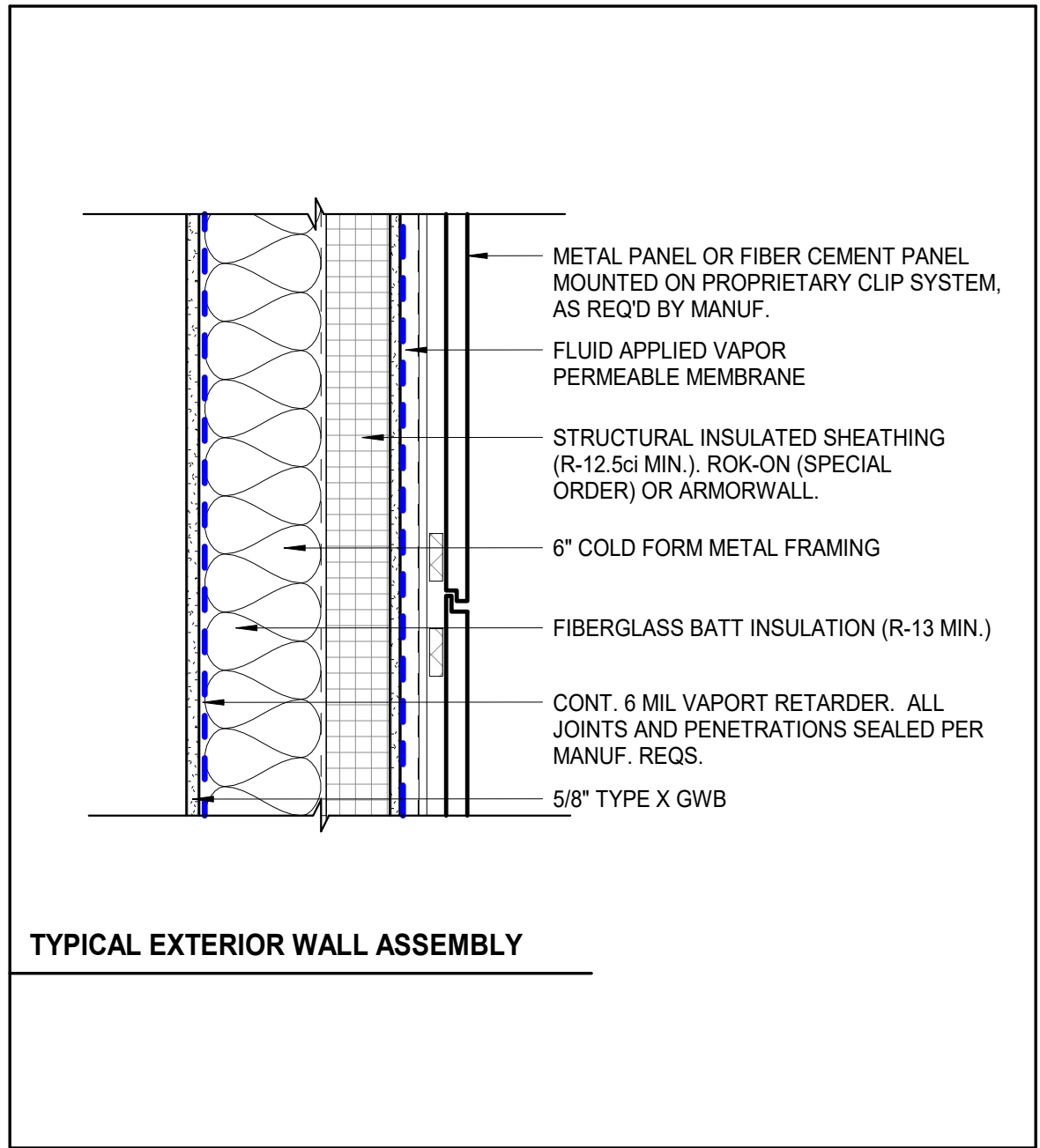
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A301

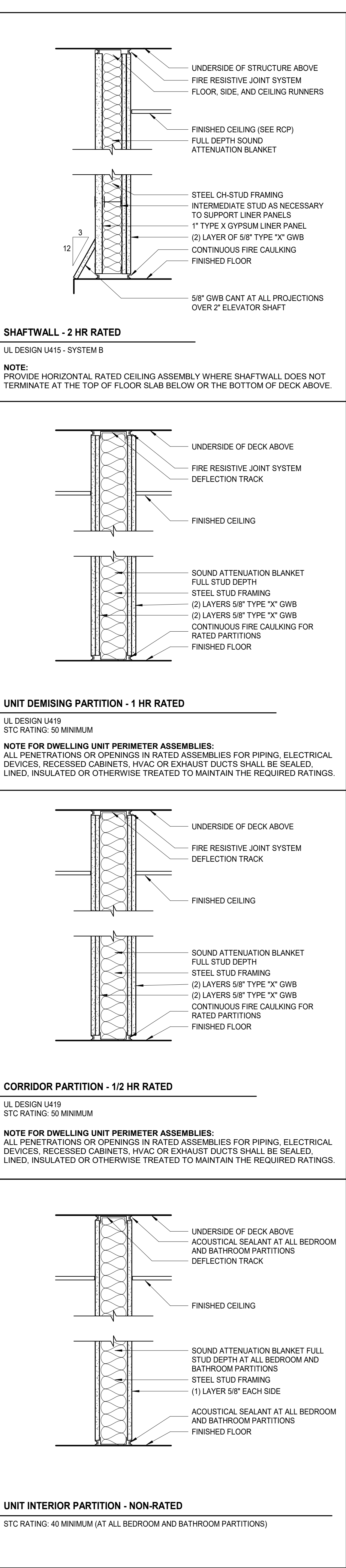
NOT FOR CONSTRUCTION



3 TYPICAL WALL SECTION
3/8" = 1'-0"



1 TYPICAL EXT ASSEMBLY
1 1/2" = 1'-0"



2 TYPICAL PARTITION TYPES
1 1/2" = 1'-0"

| # | Description | Date |
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SCHEMATIC DESIGN

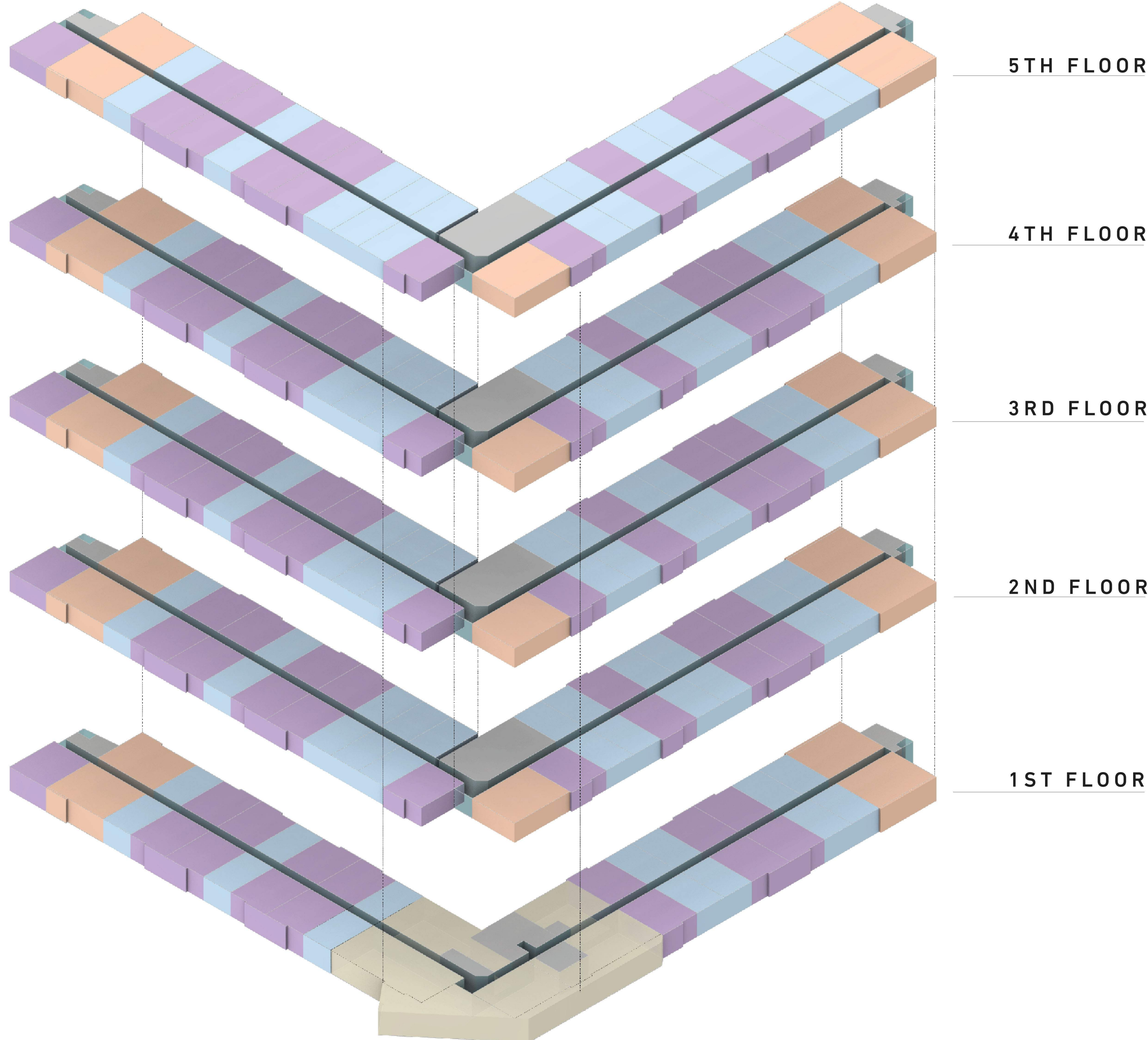
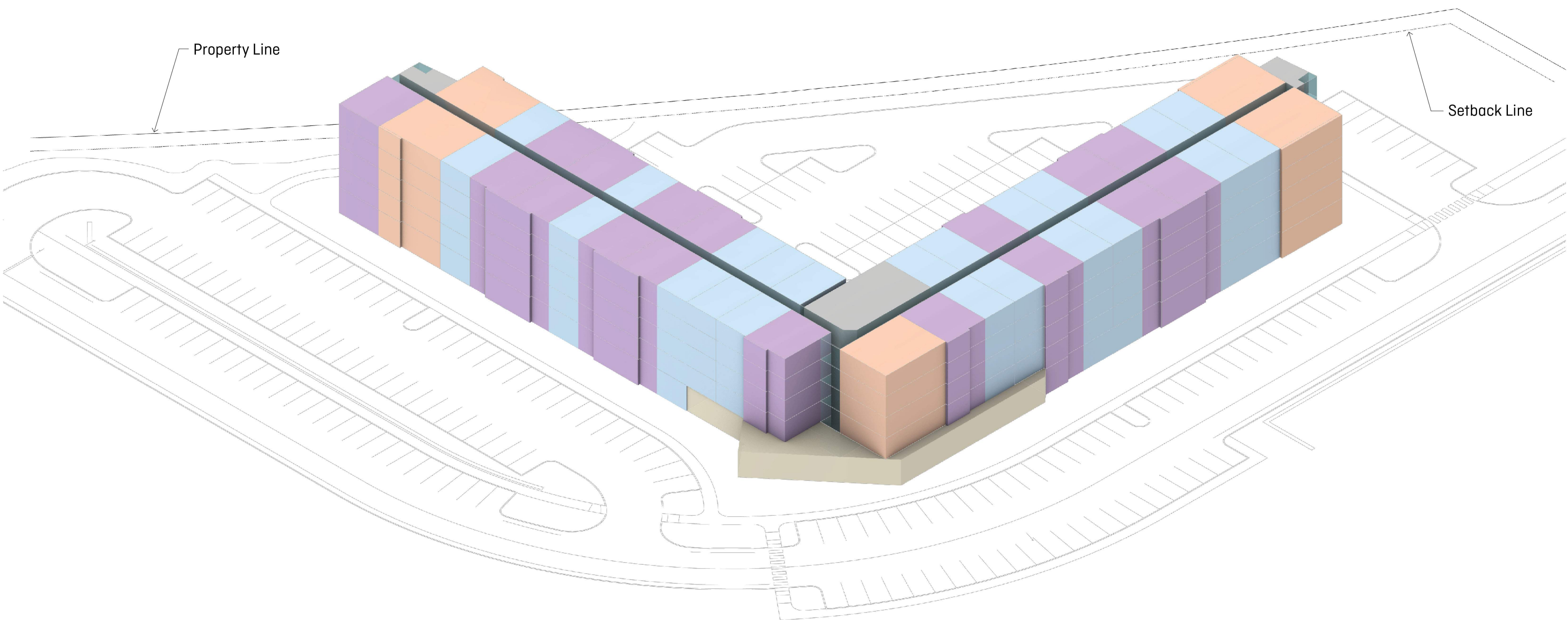
04-26-24

SHEET TITLE:

WALL TYPES & SECTIONS

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A351



TOTAL UNIT COUNTS

- 2 BEDROOMS - 5 PER FLOOR
- UP TO 24 TOTAL
- +/- 11%
- 1 BEDROOM - 17 PER FLOOR
- UP TO 82 TOTAL
- +/- 40%
- STUDIOS - 22 PER FLOOR
- UP TO 102 TOTAL
- +/- 49%

TOTAL UNITS - 209*

* INCLUDING FIRST FLOOR AMENITY SPACE OF 10,030 NET SF

- UNITS: STUDIO
- UNITS: 1 BEDROOM
- UNITS: 2 BEDROOM
- AMENITIES / LOBBY
- CORE / SUPPORT (BOH)
- CIRCULATION

| # | Description | Date |
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SCHEMATIC DESIGN
04-26-24

**REFERENCE - MASSING
DIAGRAMS**

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
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SMRT PROJECT #: 24026 DRAWN BY: SMRT



1 REFERENCE - ISONOMETRIC VIEW FROM NORTH



2 REFERENCE - ISONOMETRIC VIEW FROM SOUTH

SMRT Architects & Engineers

ONE DIAMOND



Architecture • Engineering • Planning

SMRT Architects & Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

| # | Description | Date |
|---|-------------|------|
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SCHEMATIC DESIGN

04-26-24

SHEET TITLE:

REFERENCE - ISONOMETRIC
VIEWS

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SMRT PROJECT #: 24026 DRAWN BY: Author

A701

NOT FOR CONSTRUCTION



1 REFERENCE - PERSPECTIVE VIEW FROM NORTH



2 REFERENCE - PERSPECTIVE VIEW FROM SOUTH



3 REFERENCE - PERSPECTIVE VIEW FROM NORTHEAST



4 REFERENCE - PERSPECTIVE VIEW FROM NORTHWEST

| # | Description | Date |
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SCHEMATIC DESIGN
04-26-24

SHEET TITLE:
**REFERENCE - PERSPECTIVE
VIEWS**

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.
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SMRT PROJECT #: 24026 DRAWN BY: SMRT

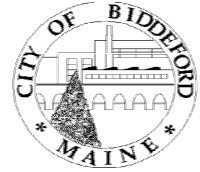
A702
NOT FOR CONSTRUCTION

City of Biddeford, Maine

COST ESTIMATE WORKSHEET

OWNER/APPLICANT: One Diamond Development, LLC

PROJECT NAME: One Diamond



| | ITEM | UNIT | QUANTITY | UNIT COST | TOTAL |
|----|------------------------------------|------------------|----------------------|-------------|---------------------|
| 1 | Clearing and Grubbing | Acre | 3.4 | \$10,000.00 | \$20,400.00 |
| 2 | Erosion/Sediment Control | Lump Sum | 1 | \$45,000.00 | \$45,000.00 |
| 3 | Site Stabilization | Lump Sum | Earthwork & Grubbing | | \$517,592.00 |
| 4 | Ledge Removal | Cubic Yard | ALLOW | | \$400,000.00 |
| 5 | Sanitary Sewer | | | | \$647,000.00 |
| | Manholes *DIA. Varies | Each | 9 | \$11,833.33 | \$106,500.00 |
| | Main *DIA. Varies | Linear Foot | 1,400 | \$382.14 | \$535,000.00 |
| | House Services | Linear Foot | 1 | \$5,500.00 | \$5,500.00 |
| 6 | Water Main | | | | \$225,100.00 |
| | Main | Linear Foot | 1,100 | \$175.00 | \$192,500.00 |
| | House Services | Linear Foot | 2 | \$10,500.00 | \$21,000.00 |
| | Hydrants | Each | 2 | \$5,800.00 | \$11,600.00 |
| 7 | Electric | | LUMP SUM | | \$127,500.00 |
| | Underground Utility Trench | Linear Foot | | | |
| | Conduit/Wiring | Linear Foot | | | |
| | Transformer Bases | Each | | | |
| 8 | Storm Drainage | | | | \$573,445.00 |
| | Pipe/Culvert *DIA. Varies | Linear Foot | 2,781 | \$113.79 | \$316,445.00 |
| | Catch Basin *DIA. Varies | Each | 42 | \$6,119.00 | \$257,400.00 |
| | Other Treatment Devices | Each | | | |
| 9 | Stormwater Management | | | | \$382,500.00 |
| | Outlet Control Structure | Each | 1 | | \$7,500.00 |
| | Stromwater Management Facilities | Each | 1 | | \$375,000.00 |
| 10 | Excavate and Grade Subgrade | Cubic Yard | | | |
| 11 | Roadways | Includes Item 13 | | | \$574,650.00 |
| | Subbase Gravel | Cubic Yard | 4,750 | \$32.00 | \$152,000.00 |
| | Base/Finish Gravel | Cubic Yard | 950 | \$39.00 | \$37,050.00 |
| | Base Paving | Ton | 1,600 | \$145.00 | \$232,000.00 |
| | Finish Paving | Ton | 960 | \$160.00 | \$153,600.00 |
| | Geotextile Fabric | Ton | | | |
| 12 | Sidewalks | | | | \$73,300.00 |
| | Subbase Gravel | Cubic Yard | 590 | \$45.00 | \$26,550.00 |
| | Base/Finish Gravel *Riverwalk Only | Cubic Yard | 110 | \$65.00 | \$7,150.00 |
| | Base Paving | Ton | | | |
| | Finish Paving | Ton | 240 | \$165.00 | \$39,600 |
| 13 | Parking Lots/Other Areas | | | | Included in Item 11 |
| | Subbase Gravel | Cubic Yard | | | |
| | Base/Finish Gravel | Cubic Yard | | | |
| | Base Paving | Ton | | | |
| | Finish Paving | Ton | | | |

City of Biddeford, Maine

COST ESTIMATE WORKSHEET

| | | | | | |
|----|--------------------------|-------------------|-------|------------|---------------------|
| 14 | Curbing – Bituminous | Linear Foot | | | |
| 15 | Curbing - Concrete | Linear Foot | 3,760 | \$18.50 | \$69,560.00 |
| 15 | Curbing – Granite | Linear Foot | 150 | \$48.00 | \$7,200.00 |
| 16 | Pavement Striping | Linear Foot | LS | | \$15,550.00 |
| 17 | Guardrail | Linear Foot | | | |
| 18 | Fencing | Linear Foot | 400 | \$37.50 | \$15,000.00 |
| 19 | Loam and Seed | 1,000 Square Feet | LS | | \$103,540.00 |
| 20 | Riprap | Cubic Yard | 120 | | |
| 21 | Landscaping | Lump Sum | 1 | | \$125,000.00 |
| 22 | Street Lights | Each | 57 | \$7,000.00 | \$256,500.00 |
| 23 | Site Lighting | Each | | | Included in Item 22 |
| 24 | Monuments/Iron Pipes | Lump Sum | | | |
| 25 | Clean Up | Lump Sum | | | |
| 26 | As Builts | Lump Sum | | | |
| 27 | Other - Concrete Pads | SF | 750 | \$25.00 | \$18,750.00 |
| 28 | Other - Unit Paver Patio | SF | 3,520 | \$25.12 | \$88,422.40 |
| 29 | Other - Retaining Wall | LF | 750 | \$209.04 | \$156,780.00 |
| 30 | Other | | | | |
| 31 | Other | | | | |

COST ESTIMATE TOTAL: \$4,442,789.40

150% of TOTAL: \$6,664,184.10

FOR OFFICE USE ONLY

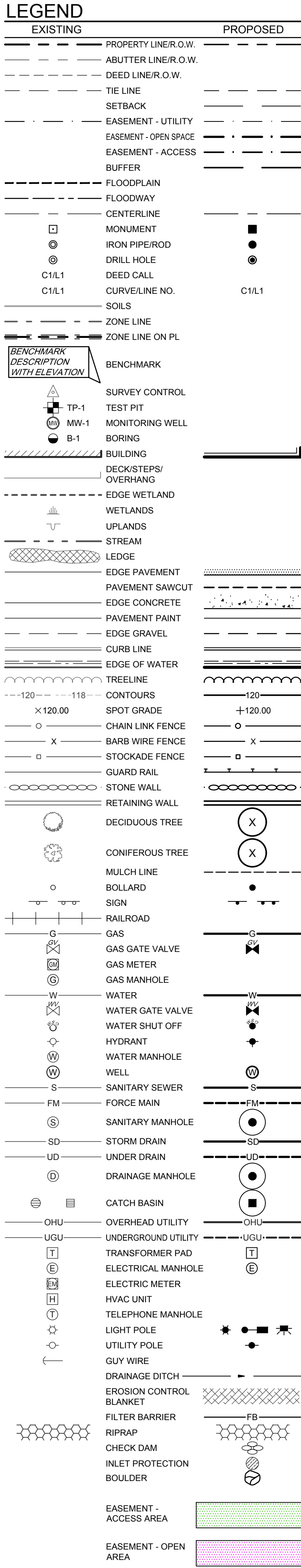
EROSION CONTROL/SITE STABILIZATION BOND (IF APPLICABLE):

PERFORMANCE GUARANTEE REQUIRED:

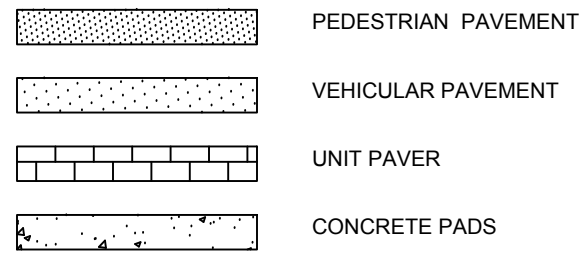
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Signature:

Date:



PAVEMENT LEGEND



SIGN SCHEDULE

- S1 - STOP SIGN
S2 - DO NOT ENTER SIGN
S3 - ONE WAY SIGN
S4 - ADA RESERVED PARKING
S5 - RIVERWALK PARKING SIGN
S6 - RIVERWALK DIRECTIONAL SIGN

CURB LEGEND

- VSCC - VERTICAL SLIPFORM CONCRETE CURB
VGC - VERTICAL GRANITE CURB
TD1 - SLIPFORM CONCRETE CURB TIPODOWN
TD2 - VERTICAL GRANITE CURB TIPODOWN

GENERAL NOTES

- THE RECORD OWNER OF THE PARCEL IS AS FOLLOWS BY DEEDS RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD).
ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 34 18941866
ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 35 18941868
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25-1 1891396
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 24 18996630
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25 18941344
UNION OIL CO. OF MAINE MAP 40, LOT 74 745584
CITY OF BIDEFORD MAP 40, LOT 25-2 2158491
- THE PROPERTY IS SHOWN AS LOTS 24, 25, 25-1, 25-2 AND 74 ON THE CITY OF BIDEFORD TAX MAP 40 AND LOTS 34 AND 35 ON MAP 37 AND IS LOCATED IN THE WATERFRONT RENAISSANCE, HIGH DENSITY MIXED USE (MSRD-3), AND GENERAL BUSINESS (B1) DISTRICTS.
- SPACE AND BULK CRITERIA FOR DISTRICTS ARE AS FOLLOWS: (AREA IS IN SQUARE FEET)
WATERFRONT MSRD-3 B1
NET RESIDENTIAL DENSITY: 425/UNIT - RESIDENTIAL - -
MINIMUM LOT SIZE: 5,000 - COMMERCIAL - - 1,000
425 - RESIDENTIAL - -
MINIMUM STREET FRONTAGE: - - -
MINIMUM SHORE FRONTAGE: NONE (RESIDENTIAL) - -
100 FT - COMMERCIAL - -
MINIMUM SHORE SETBACK: 25 FT - -
MINIMUM FRONT YARD: - - - 10 FT
MINIMUM SIDE YARD: - - - 10 FT
MINIMUM REAR YARD: - - - 10 FT
MAXIMUM BUILDING HEIGHT: - - MINIMUM 28 FT/ 60 FT
2 STORIES 6 STORIES
LOT COVERAGE: 55%
* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
- TOTAL AREA OF PARCEL IS APPROXIMATELY 15.20 ACRES.
- BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. IN JANUARY AND FEBRUARY OF 2022. TOPOGRAPHIC INFORMATION IS BASED UPON AN ORTHORECTIFIED AERIAL PHOTOGRAPHY TAKEN IN NOVEMBER 2019 AND UPDATED WITH PUBLICLY AVAILABLE LIDAR FLOW IN 2020 FROM NOAA.
- PLAN REFERENCES:
A. "PLAN SHOWING A SURVEY OF LAND FOR DIAMOND INTERNATIONAL, CORP. BIDEFORD, MAINE," MADE BY DOW, COULOMBE & BROWN INCORPORATED ENGINEERS & SURVEYORS SACO, MAINE, DATED JANUARY 1973.
B. "PLAN OF DIAMOND MATCH PARK, BIDEFORD, MAINE," FOR GORRILL-PALMER MADE BY TITCOMB ASSOCIATES FALMOUTH MAINE, DATED APRIL 27, 2012.
C. "PLAN SHOWING A BOUNDARY SURVEY AND TOPOGRAHIC SURVEY MADE FOR THE CITY OF BIDEFORD" DATED APRIL 6, 2021 BY DOW & COULOMBE, INC.
D. "PLAN SHOWING LAND ON RIVER STREET - BIDEFORD, MAINE" DATED OCTOBER 11, 1959 BY LIBBY & DOW ENGINEERS RECORDED AT THE YCRD IN PLAN BOOK 15, PAGE 36.
E. WAKEFIELD BROOK LOT, BELONGING TO THE ESTATE OF DOMINICUS CUTTS, DATED JULY 20, 1848 BY TRISTIM JORDAN, JR. AND RECORDED AT THE YCRD IN PLAN BOOK 2, PAGE 46.
F. "LAND IN BIDEFORD, ME," DATED JULY 29, 1925 BY E.W. CHAPMAN AND RECORDED AT THE YCRD IN PLAN BOOK 10, PAGE 8.
G. "PLAN SHOWING A BOUNDARY SURVEY OF LAND LOCATED AT 388 MAIN STREET BIDEFORD, MAINE," DATED MAY 10, 2019 BY DOW & COULOMBE, INC. AND RECORDED AT THE YCRD IN PLAN BOOK 402, PAGE 3.
H. "PLAN OF LAND TO THE HERBS OF WILLIAM D. SCOMER, ESQ. SITUATED IN BIDEFORD IN THE COUNTY OF YORK," DATED OCTOBER 8, 1958 BY G.W. LUQUES AND RECORDED AT THE YCRD IN PLAN BOOK 1, PAGE 47.
I. CROCKETT LOT IN HOLLIS BY LIBBY & DOW, ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 25, PAGE 28.
J. "PLAN SHOWING A PROPOSED SEWER EASEMENT BIDEFORD, MAINE" DATED APRIL 6, 1984 BY LIBBY & DOW ENGRS AND RECORDED AT THE YCRD IN PLAN BOOK 38, PAGE 11.
K. "PLAN SHOWING A PROPOSED SEWER EASEMENT AND PUMPING STATION LOT BIDEFORD, MAINE" DATED MARCH 24, 1984 BY LIBBY & DOW AND RECORDED AT THE YCRD IN PLAN BOOK 38, PAGE 40.
L. "PLAN SHOWING LAND IN KENNEBUNK, MAINE TO BE CONVEYED BY ROBINSON TO THE ROMAN CATHOLIC BISHOP OF PORTLAND" BY LIBBY & DOW ENGRS DATED JANUARY 23, 1987 AND RECORDED AT THE YCRD IN PLAN BOOK 43, PAGE 20.
M. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "T" BIDEFORD YORK COUNTY FEDERAL AID PROJECT NO. BR-01-01747" DATED JANUARY 1985, MAY 1985, BY RICHARD A. COLEMAN AND RECORDED AT THE YCRD IN BOOK 161, PAGE 16.
N. "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE LYING UPON THE NORTH WESTERLY SIDE OF MAIN STREET IN BIDEFORD, YORK CO., ME" BY G.W. LUQUES DATED APRIL 19, 1899 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 0010.
O. "PLAN OF LAND OF E.H.C. HOOPERS OF HON. P. HOOPER IN BIDEFORD" BY G.W. LUQUES DATED JULY 14, 1899 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 43.
P. "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE IN BIDEFORD ON THE SOUTHWESTERLY SIDE OF A RESERVED STREET FROM MAIN STREET TOWARDS THE "TEAM MILL" BY G.W. LUQUES DATED OCTOBER 2, 1898 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 0048.
- PLAN ORIENTATION IS GRID NORTH. MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-AD83, ELEVATIONS DEPICTED HEREON ARE NAVD83, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.
- BENCHMARKS:
BM-1 SPIKE IN UTILITY POLE ELEVATION: 59.54' (NAVD83)
BM-2 NAIL IN UTILITY POLE ELEVATION: 60.38' (NAVD83)
BM-3 NAIL IN UTILITY POLE ELEVATION: 75.39' (NAVD83)
BM-4 NAIL IN UTILITY POLE ELEVATION: 55.60' (NAVD83)
SEE EXISTING CONDITIONS PLAN FOR BENCHMARK LOCATIONS.
- UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD CHASE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
- THE LOCUS PROPERTY AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDEFORD, MAINE, YORK COUNTY, COMMUNITY-PANEL NUMBER 280145 0003, HAVING AN EFFECTIVE DATE OF MAY 15, 1984. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE A & A1. AREAS OF 100-YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED, A PORTION OF THE PARCEL, ALSO FALLS WITHIN AN AREA IDENTIFIED AS ZONE B, AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD, OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE SQUARE MILE, OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD.
- A VERNAL POOL SURVEY WAS PERFORMED ON APRIL 10, 2023 BY ANNA K. BIDDLE, CERTIFIED SOILS SCIENTIST OF SEBAGO TECHNICS, INC. NO VERNAL POOLS WERE IDENTIFIED (SIGNIFICANT OR NON-SIGNIFICANT).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED. CLEAR TREES AS SHOWN ON THE PLANS HEREON. PRIOR TO DISTURBANCE, THE PROPOSED TREE LINE IN THE VICINITY OF THE WOODED BUFFERS SHALL BE STAKED BY A MAINE LICENSED LAND SURVEYOR TO VERIFY COMPLIANCE WITH THE STORMWATER MANAGEMENT DESIGN.
- ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.
- CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

- THE CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
- PROVIDE ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND OWNERS REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.
- CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.
- SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
- CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USDO PUBLIC WORKS SYSTEMS.
- CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 22 M.R.S.A. §11-1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.
- ALL PAVEMENT MARKINGS AND DIRECTIONAL SIGNAGE SHOWN ON THE PLAN SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
- PAVEMENT JOINTS SHALL BE SAWCUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
- IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AND AS SPECIFIED ON PLANS.
- THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. THE CONTRACTOR SHALL REPLACE OR REPAIR AS DIRECTED BY THE OWNER ALL SUCH DAMAGED OR DEFECTIVE MATERIALS WHICH APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- ALL WORK PERFORMED BY THE GENERAL CONTRACTOR AND/OR TRADE SUBCONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL LAWS, AS WELL AS ANY OTHER GOVERNING REGULATIONS, WHETHER OR NOT SPECIFIED ON THE DRAWINGS.
- WHERE THE TERMS "APPROVED EQUAL," "OTHER APPROVED," "EQUAL TO," "ACCEPTABLE" OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF SEBAGO TECHNICS, INC.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FOR THE WORK UNTIL TURNED OVER TO THE OWNER.
- THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES.
- THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
- BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.
- THE CONTRACTOR IS REQUIRED TO PROVIDE A SECURE PROJECT WORK AREA. ALL PIPE TRENCH EXCAVATIONS SHALL BE BACKFILLED AND "CLOSED" DURING CONTRACTOR NON-WORKING HOURS INCLUDING WEEKENDS AND HOLIDAYS. THEREAFTER, THE CONTRACTOR MAY REQUEST IN WRITING TO THE ENGINEER AND OWNER TO SECURE OPEN EXCAVATION IN LIEU OF BACKFILLED AND "CLOSED." NOT ALLOWING A SECURE OPEN EXCAVATION SHALL NOT BE A BASIS FOR CLAIMS AGAINST THE OWNER.
- NET RESIDENTIAL DENSITY CALCULATION:

| DISTRICT | TOTAL AREA (SF) | UNAVAILABLE AREA (SF) | DEVELOPABLE AREA (SF) | MINIMUM DENSITY | AVAILABLE UNITS | PROPOSED UNITS |
|-----------------|-----------------|-----------------------|-----------------------|-----------------|-----------------|----------------|
| MR DISTRICT | 529,635 | 315,109 | 213,536 | 425 SF/UNIT | 502 | 102 |
| B1 DISTRICT | 263,407 | 58,586 | 206,821 | 1,000 SF/UNIT | 206 | 63 |
| MSRD-3 DISTRICT | 13,795 | 729 | 13,066 | N/A | N/A | 24 |
| SITE TOTAL | 805,837 | 372,424 | 433,423 | | 708 | 209 |

39. PARKING COUNT CALCULATION:

| | PARKING COUNT | | | |
|--------------------------------------|---------------------------------|-----------------------|------------------------|------------------|
| | NUMBER OF RES. UNITS/COMM. AREA | REQUIRED PARKING RATE | TOTAL PARKING REQUIRED | PROPOSED PARKING |
| PHASE ONE | | | | |
| STUDIO | 102 | 1 | 102 | |
| 1 BR | 83 | 1 | 83 | |
| 2 BR | 24 | 2 | 48 | |
| TOTAL RESIDENTIAL | 209 | | 233 | 221 |
| PUBLIC* | | | 6 | 5 |
| VISITOR* | | 3% OF RESIDENTIAL | 12 | 12 |
| TOTAL PHASE 1 | | | 251 | 239 |
| TOTAL NUMBER OF ADA DESIGNATED SPOTS | | | | |

*PUBLIC PARKING REQUIRED BY ADA WITH CITY. PUBLIC PARKING PROVIDED FROM ELM STREET ENTRANCE

*5% PER PART III, ARTICLE XL, SECTION 5, SUBPARAGRAPH 3 C OF CITY OF BIDEFORD LAND DEVELOPMENT REGULATIONS

40. LOT COVERAGE CALCULATIONS:

| PROPOSED IMPERVIOUS COVERAGE WITHIN 250' SETBACK | |
|--|---------|
| PHASE 1 | |
| TOTAL PROPOSED IMPERVIOUS AREA | 37,470 |
| EXISTING IMPERVIOUS TO REMAIN | 91,580 |
| TOTAL IMPERVIOUS AREA | 129,050 |
| TOTAL IMPERVIOUS AREA | 525,000 |
| % IMPERVIOUS COVERAGE | 23% |
| ALLOWABLE COVERAGE | 60% |

UTILITY DEMOLITION NOTES

- PROTECT EXISTING BOUNDARY LINE MONUMENTATION. IF DISTURBED, EXISTING MONUMENTATION TO BE RESET BY A PROFESSIONAL LAND SURVEYOR.
- DEMOLITION OF UTILITIES REQUIRING TREE REMOVAL SHALL BE COORDINATED WITH THE OWNER AND IN ACCORDANCE WITH PROJECT PLANS.
- UTILITY DEMOLITION SHALL BE COMPLETED IN COORDINATION WITH NEW INFRASTRUCTURE. CONTRACTOR SHALL ENSURE EXISTING SURFACE DRAINAGE IS MAINTAINED DURING CONSTRUCTION.
- EXISTING SEWER AND STORM DRAINAGE INFRASTRUCTURE TO REMAIN ACTIVE DURING CONSTRUCTION AND UPON COMPLETION OF PROJECT. DEMOLITION CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE OR IMPED EXISTING FLOWS. CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS REQUIRED DURING SEWER AND STORM DEMOLITION AND NEW CONSTRUCTION. DAMAGE TO EXISTING SEWER INFRASTRUCTURE SHALL BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE.
- DEMOLITION SHOWN IS FOR MAJOR SITE ELEMENTS TO BE DEMOLISHED. OTHER MINOR DEMOLITION MAY BE REQUIRED AS PART OF CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. COORDINATE ALL DEMOLITION WORK WITH SITE AND BUILDING DRAWINGS.
- PRIOR TO ANY DEMOLITION, THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF DEMOLITION PLANS TO THE OWNER. THIS PLAN SHALL DEPICT LOCATIONS OF PROPOSED TERMINATIONS AND ANY TEMPORARY SERVICES THAT WILL BE NEEDED.
- CONTRACTOR REQUIRED TO CONFIRM/MAINTAIN BENCHMARKS. IF IMPACTED CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION/RELOCATION AND COORDINATION WITH PROJECT TEAM.

UTILITY NOTES

- UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION. PROTECT EXISTING ON-SITE SEWER PIPE AND ADJUST MANHOLE RIMS TO GRADE WHERE APPLICABLE.
- ALL GRAVITY CONDUIT PIPES SHALL BE INSTALLED USING A PIPE LASER AND TARGET SYSTEM THROUGH THE PIPE. ON PIPE RUNS 50 FEET OR LESS, THE CONTRACTOR SHALL REQUEST ENGINEER'S APPROVAL TO USE OR NOT USE A GROUND LASER.
- ALL WORK ASSOCIATED WITH THE PROPOSED WATER SERVICE SHALL MEET MAINE WATER COMPANY STANDARDS.
- ALL WORK ASSOCIATED WITH THE PROPOSED SANITARY SEWER LINE SHALL MEET THE CITY OF BIDEFORD DEPARTMENT OF WASTEWATER CONTROL STANDARDS.
- MAINTAIN MINIMUM 5'-6" OF COVER ABOVE TOP OF WATER SERVICE PIPE.
- MAINTAIN MINIMUM 10 FEET HORIZONTAL SEPARATION BETWEEN WATER SERVICES AND OTHER UTILITIES. MAINTAIN MINIMUM 18 INCHES VERTICAL SEPARATION BETWEEN WATER SERVICES AND OTHER UTILITIES.
- LOWER OR RAISE WATER SERVICES AS REQUIRED TO MAINTAIN MINIMUM 12 INCH VERTICAL SEPARATION FROM OTHER UTILITIES. WATER SERVICES CROSSING SEWERS SHALL BE PROVIDE 12 INCH MINIMUM SEPARATION BETWEEN THE BOTTOM OF WATER LINE AND TOP OF SEWER UNLESS NOTED OTHERWISE ON THE PLANS.
- PIPE:
 - SEWER PIPE SHALL BE SDR 35 PVC, ADS SANITITE HDPE PIPE, OR APPROVED EQUAL. SEE UTILITY PLANS.
 - STORMDRAIN SHALL BE ADS R12 DUAL WALL HDPE PIPE WITH SMOOTH-WALLED INTERIOR OR APPROVED EQUAL, UNLESS NOTED OTHERWISE ON THE UTILITY PLANS.
 - WATER PIPE AND FITTINGS SHALL CONFORM TO MAINE WATER COMPANY WATER PIPING SPECIFICATIONS. MAIN WATER SERVICE PIPE SHALL BE DUCTILE IRON, CLASS 52 PUMP-ON PIPE MEETING THE REQUIREMENTS OF AWWA/C111-21.1 (LATEST REVISION). PIPE SHALL BE CEMENT-LENE AWWA/C111-21.1 WITH LINING TWICE THE THICKNESS SPECIFIED, AND COATED TWICE WITH A BITUMINOUS SLAC COATING. PROVIDE THRUST BLOCKS AT ALL WATER SERVICE BENDS.
- COORDINATE FOUNDATION UNDERDRAIN LOCATIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- COORDINATE UTILITY INVERTS AT BUILDING WITH ARCHITECTURAL, STRUCTURAL AND PLUMBING DRAWINGS.
- COORDINATE LOCATION OF SEWER, WATER, FOUNDATION DRAINS AND ROOF DRAIN INVERTS AT THE BUILDING DRAWING WITH ARCHITECTURAL DRAWINGS.
- WATER SERVICE ENTRANCE DESIGNS TO INCLUDE METERS AND BACKFLOW PREVENTERS TO MEET ALL STANDARDS AND REQUIREMENTS OF MAINE WATER COMPANY.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY GRADE CHANGES THAT WILL IMPACT STORM DRAINAGE INFRASTRUCTURE OR OTHER UTILITIES.
- UTILITIES WITHIN 5 FEET FROM FACE OF BUILDING ARE COORDINATED ON RELEVANT M.E.P. DRAWINGS. CONTRACTOR SHALL COORDINATE INVERTS, CONNECTIONS AND MATERIALS WITH ALL DRAWINGS.
- CONTRACTOR SHALL FURNISH AND INSTALL, TRENCHING, MATERIALS AND BACKFILL FOR ALL UTILITIES. ELECTRICAL AND TELECOM/DATA PROVIDERS WILL PULL PRIMARY SERVICE TO TRANSFORMER AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED WITH UTILITIES AND DRAWINGS. COORDINATE WITH ELECTRICAL DRAWINGS FOR CONDUIT SCHEDULE, TYPE AND SIZES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FLOW THROUGH THE EXISTING CLOSED STORM DRAINAGE SYSTEM DURING CONSTRUCTION AND SHALL SUBMIT A WORK PLAN FOR APPROVAL BY THE DESIGN ENGINEER.
- COORDINATE ALL WATER RELATED WORK WITH MAINE WATER COMPANY.
- REFER TO UTILITY DRAWINGS FOR STORM DRAINAGE PIPE AND STRUCTURE DATA TABLES.
- UTILITY CONTACTS:
ELECTRIC:
CENTRAL MAINE POWER (CMP)
RICK DURRINE, DISTRIBUTION ENGINEERING
(207) 458-1207
WATER:
MAINE WATER COMPANY
MARCUS KNIPP, ENGINEER
(207) 284-5943

GRADING & EROSION NOTES

- SIDESLOPES SHALL NOT BE STEEPER THAN 3:1 (H:V) EXCEPT AS OTHERWISE IDENTIFIED ON THIS PLAN. ALL SIDESLOPES STEEPER THAN 3:1 (H:V) SHALL BE LINED WITH EROSION CONTROL BLANKET, OR ADDITIONAL MEASURES AS INDICATED.
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENT CONTROL BMPs" MANUAL, PUBLISHED BY BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OCTOBER 2016 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
- ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED PER DETAIL, OTHERWISE ON THE PLANS.
- OPEN AREAS SHALL BE LIMITED TO AREAS BEING WORKED IN. THE AREA STRIPPED OF EXISTING VEGETATION AT ANY GIVEN TIME SHALL BE MINIMIZED AND BE PHASED WHERE PRACTICAL SO THAT AREAS ARE REVEGETATED AND PERMANENTLY STABILIZED BEFORE ADDITIONAL AREAS ARE STRIPPED OF EXISTING VEGETATION. CONSTRUCTION BY USE OF RIPRAP, SEED, MULCH, OR OTHER GROUND COVER WITHIN ONE WEEK FROM THE TIME IT WAS ACTIVELY WORKED. SURFACES SHALL BE STABILIZED PRIOR TO DIRECTING STORMWATER RUNOFF TOWARD STORMWATER BMPs. PLEASE REFER TO DRAINAGE PLANS FOR WATERSHED AREAS.

CONSTRUCTION PLAN

- PROVIDE EROSION CONTROL MEASURES PRIOR TO SITE DISTURBANCE.
- WETLANDS, ASSOCIATED SETBACKS AND STREAM SETBACKS TO BE STAKED BY OWNER PRIOR TO SITE DISTURBANCE.
- BEFORE TREE CLEARING, REFER TO PLANS FOR WOODED BUFFER LOCATIONS. TREES SHALL NOT BE CLEARED WITHIN DESIGNATED WOODED BUFFER AREAS.
- GRADING AND CLEARING LIMITS SHALL NOT ENDOGRAPH ON ADJACENT PROPERTIES UNLESS NOTED OTHERWISE ON THE PLANS.
- OPEN AREAS SHALL BE LIMITED TO AREAS BEING WORKED IN. THE AREA STRIPPED OF EXISTING VEGETATION AT ANY GIVEN TIME SHALL BE MINIMIZED AND BE PHASED WHERE PRACTICAL SO THAT AREAS ARE REVEGETATED AND PERMANENTLY STABILIZED BEFORE ADDITIONAL AREAS ARE STRIPPED OF EXISTING VEGETATION. CONSTRUCTION BY USE OF RIPRAP, SEED, MULCH, OR OTHER GROUND COVER WITHIN ONE WEEK FROM THE TIME IT WAS ACTIVELY WORKED. SURFACES SHALL BE STABILIZED PRIOR TO DIRECTING STORMWATER RUNOFF TOWARD STORMWATER BMPs. PLEASE REFER TO DRAINAGE PLANS FOR WATERSHED AREAS.

LANDSCAPE NOTES

- PLANT QUANTITIES SHOWN ON PLANT LISTS ARE FOR CONVENIENCE TO THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANT MATERIAL INSTALLATION AS SHOWN ON PLANS.
- SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF "U.S.A. STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
- ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING, STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE BY THE OWNER.
- PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR BY THE CONTRACTOR AND A PERIOD OF TWO YEARS THEREAFTER BY THE OWNER FROM DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE PERIOD, DEAD PLANT MATERIAL SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE ONE YEAR PERIOD, THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
- ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
- EXISTING TREES TO BE PRESERVED WILL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF THE UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER.
- ALL SHRUB BEDS SHALL BE MULCHED WITH 3" CLEAN SHREDDED DARK BROWN BARK MULCH.
- THE CONTRACTOR SHALL PROVIDE 4" LOAM FOR ALL AREAS TO BE SODDED OR SEEDED. PLANTING AREAS SHALL RECEIVE 12" MULCH THICKNESS OF LOAM. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
- ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
- WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR PERENNIAL AND ANNUAL FLOWER BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
- DURING CLEANING OF SITE AND PRIOR TO TREE AND SHRUB INSTALLATION, CONTRACTOR SHALL REMOVE INVASIVE PLANTS. AREAS WHERE INVASIVE PLANTS ARE REMOVED AND NO OTHER PLANTING IS PROPOSED, AREA SHALL BE LOAM AND SEED.

PAVEMENT MARKING NOTES

- ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, U.S. DOT, LATEST EDITION AND MAINE DOT'S STANDARD SPECIFICATIONS, REVISION DECEMBER 2002, WITH LATEST UPDATES.
 - SWEL, SWAL, DYCL, BWL, BWVL AND SYEL SHALL BE 4" WIDE PAINT.
 - SWSL AND PIANO KEY CROSSWALK BARS SHALL BE 24" WIDE PAINT.
 - PAVEMENT WORD AND SYMBOL MARKINGS SHALL BE PAINT.
- STROKE WIDTH AND LINE WIDTH VARIANCE SHALL BE NO MORE THAN +/- 1/4" FROM DIMENSIONS SHOWN.

TYPICAL ABBREVIATIONS

- | | |
|--------|------------------------------------|
| AC | ACRE |
| AFG | AFTER FINISH GRADE |
| APPROX | APPROXIMATELY |
| BC | BOTTOM OF CURB |
| BCC | BITUMINOUS CONCRETE CURB |
| BT | BITUMINOUS |
| BLDG | BUILDING |
| CB | BOTTOM OF WALL |
| CB | CATCH BASIN |
| CMC | CONCRETE |
| CONT | CONTINUOUS |
| DI | DUCTILE IRON |
| ELEV | ELEVATION |
| FIN | FINISH FLOOR ELEVATION |
| GR | GRASS |
| FTG | FOOTING |
| HDPE | HIGH DENSITY POLYETHYLENE |
| HGT | HEIGHT |
| HMA | HOT MIX ASPHALT |
| INVERT | INVERT |
| LIA | LANDSCAPED AREA |
| LF | LINEAR FEET |
| OC | ON CENTER |
| PVC | POLYVINYL CHLORIDE |
| PWD | PORTLAND WATER DISTRICT |
| R | RADIUS |
| R.O.W. | RIGHT OF WAY |
| S.F. | SQUARE FEET |
| SCH | SCHEDULE |
| SCSC | SLIPFORM CONCRETE SLOPED CURB |
| SOVC | SLIPFORM CONCRETE VERTICAL CURB |
| SD | SLOPED GRANITE CURB |
| SGC | SEWER MANHOLE SPECS SPECIFICATIONS |
| SS | SANITARY SEWER |
| SSC | SALVAGED SLOPED GRANITE CURB |
| SWEL | |



LEGEND

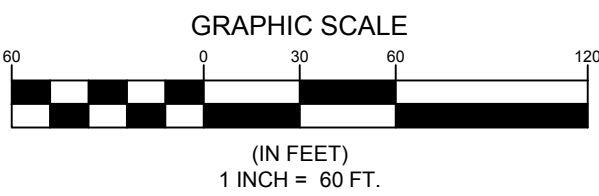
EXISTING PROPOSED

EASEMENT - OPEN AREA

**APPROVAL-
CITY OF BIDDEFORD
PLANNING BOARD**

DATE

CHAIRPERSON



NOT FOR CONSTRUCTION

STATE OF MAINE

DANIEL L. RILEY

No. 994

PROFESSIONAL ENGINEER

06/12/2024

ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN

A. DLR 05/24/2024 PHASE 1 SCHEMATIC DESIGN SET

B. DLR 06/12/2024

REV. BY: DATE: STATUS:

SEBAGO TECHNICS

SEBAGOTECHNICS.COM

75 John Roberts Rd. Suite 4A

South Portland, ME 04065

South Portland, Bridgton, Springdale and Bath

OVERALL SITE PLAN

OF: ONE DIAMOND

FOR: BIDDEFORD, MAINE, 04005

FOR: ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201

KENNEBUNK, MAINE, 04043

DESIGNED

DRAWN

CHECKED

DATE

SCALE

PROJECT

TFG / BAM

DAB

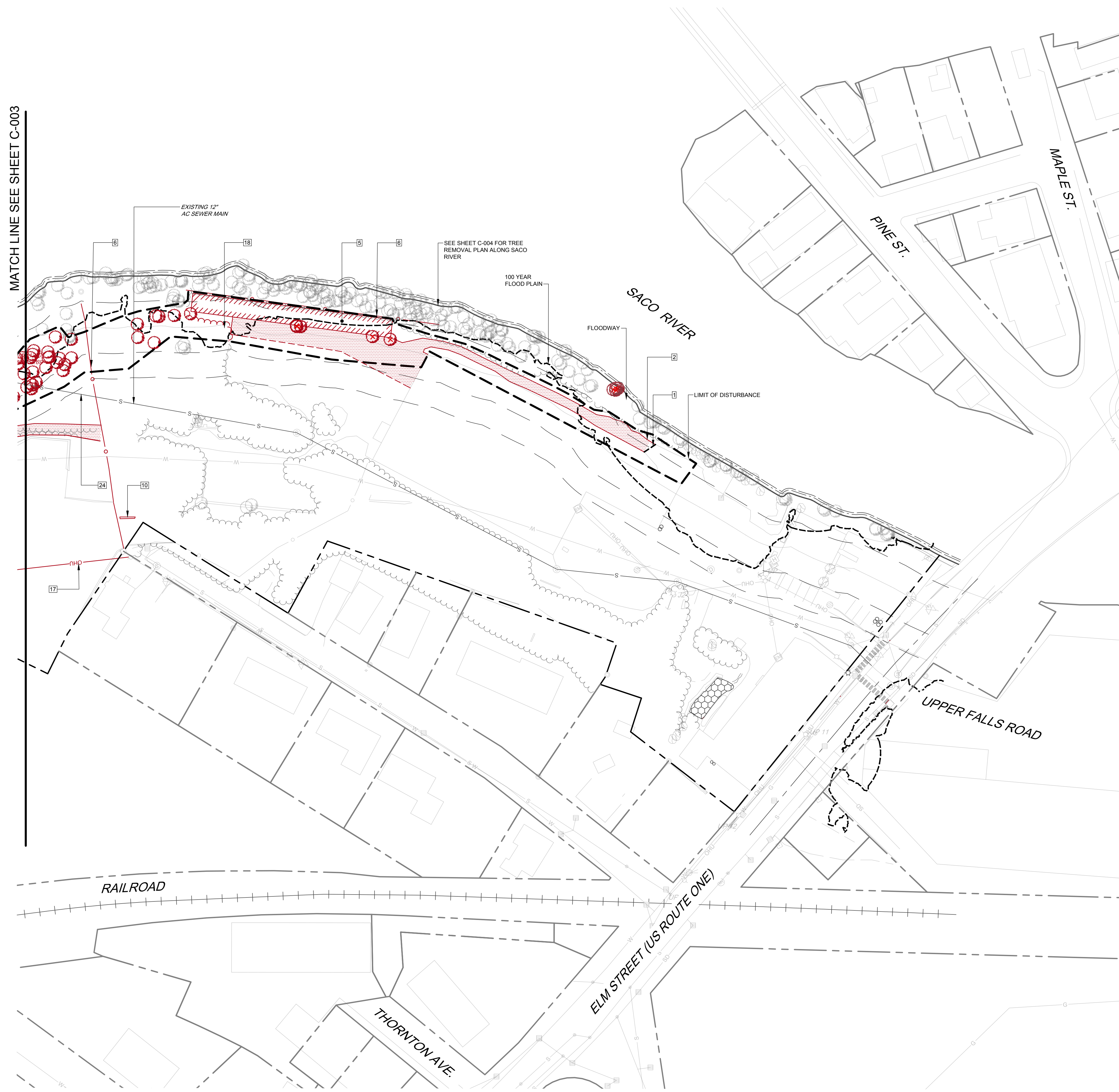
DLR

06/12/2024

1" = 60'

18462

SHEET C-001



NOTES

1. SEE NOTES AND LEGEND SHEET G-002 FOR UTILITY DEMOLITION NOTES.
2. DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS. APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS SHALL BE PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FROM THE PROPER LOCAL, STATE AND FEDERAL REGULATING AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEASURES TO MITIGATE DUST AND SOIL LOSS FROM THE SITE, IF OFF-SITE TRACKING OCCURS. PUBLIC ROADS SHOULD BE SWEEPED IMMEDIATELY AND REGULARLY AT LEAST ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS.
3. CONTRACTOR TO PAVE UTILITY TRENCHES WITHIN R.O.W. WITHIN 3 DAYS OF EXCAVATION OR PRIOR TO ANY RAIN EVENT.

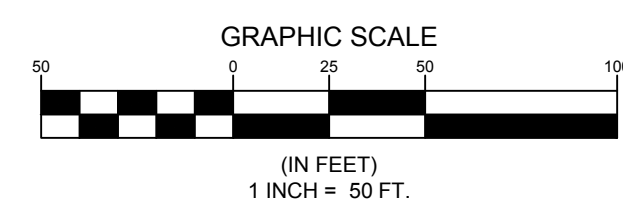
DEMOLITION KEY

- 1 SAWCUT PAVEMENT
- 2 REMOVE ASPHALT PAVEMENT
- 3 REMOVE GRAVEL
- 4 REMOVE OLD BUILDING
- 5 REMOVE EXISTING FOUNDATION
- 6 REMOVE EXISTING FENCE
- 7 REMOVE EXISTING HYDRANT
- 8 REMOVE & REPLACE STOP SIGN
- 9 REPLACE FLASHING BEACON
- 10 REMOVE RETAINING WALL
- 11 REMOVE MEP EQUIPMENT
- 12 PROTECT EXISTING MANHOLE
- 13 REMOVE EXISTING CURB
- 14 REMOVE SEWER PIPE
- 15 REMOVE SEWER MANHOLE
- 16 REMOVE UTILITY POLE
- 17 REMOVE OVERHEAD UTILITIES
- 18 REMOVE EXISTING VEGETATION
- 19 REMOVE RIPRAP
- 20 REMOVE WOOD PLANK RAMPS
- 21 REMOVE EXISTING LIGHT POLE
- 22 REMOVE EXISTING SIDEWALK
- 23 ABANDON SEWER PIPE IN PLACE
- 24 CAP SEWER PIPE
- 25 REMOVE HYDRANT

DEMOLITION LEGEND

DEMO PAVEMENT 

DEMO GRAVEL 



18462 DEMO.dwg T48-DEMOLITION PLAN.1

DEMOLITION PLAN - 1
 OF:
 ONE DIAMOND
 MAIN STREET
 BOWDOIN, MAINE, 04005
 FOR:
 ONE DIAMOND DEVELOPMENT, LLC
 2 LIVERWELL DRIVE, SUITE 201

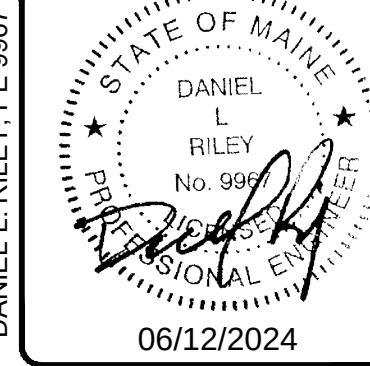
| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | 1" = 50' |
| PROJECT | 18462 |

SHEET C-002

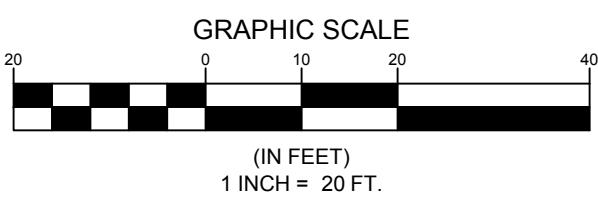
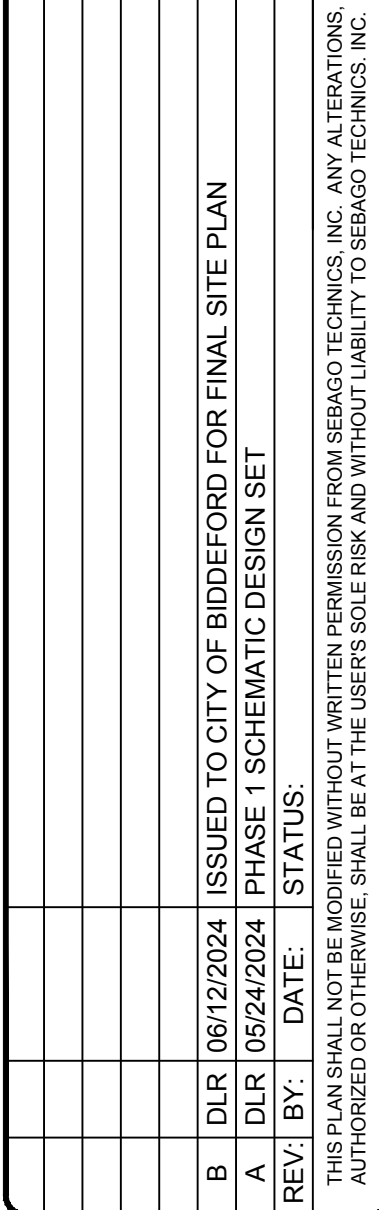
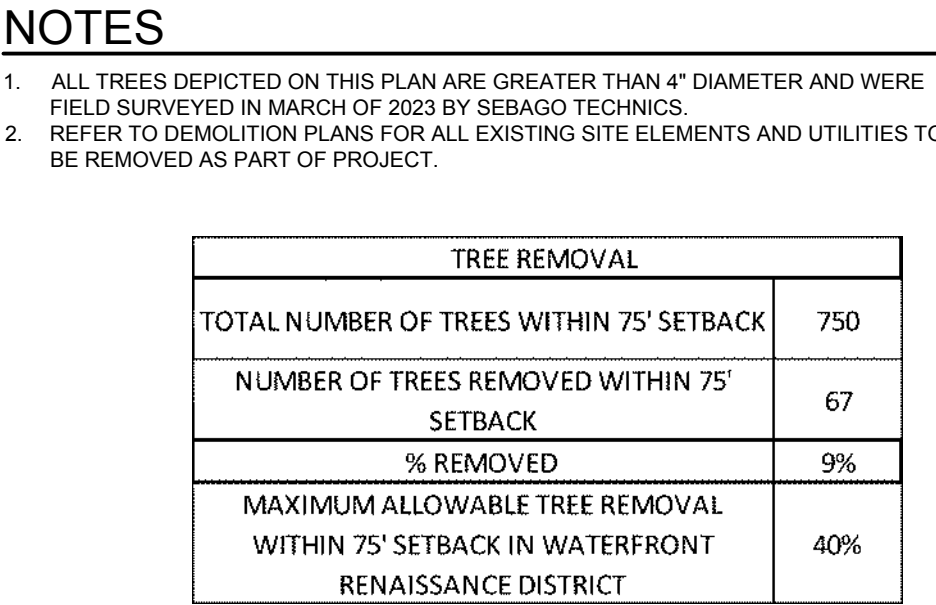
SEBAGO
TECHNICS
75 John Roberts Rd. Suite 4A
South Portland, ME 04106
207-200-2100

South Portland, Bidston, Cardinale, and Bath

DANIEL J. RILEY DE 0967

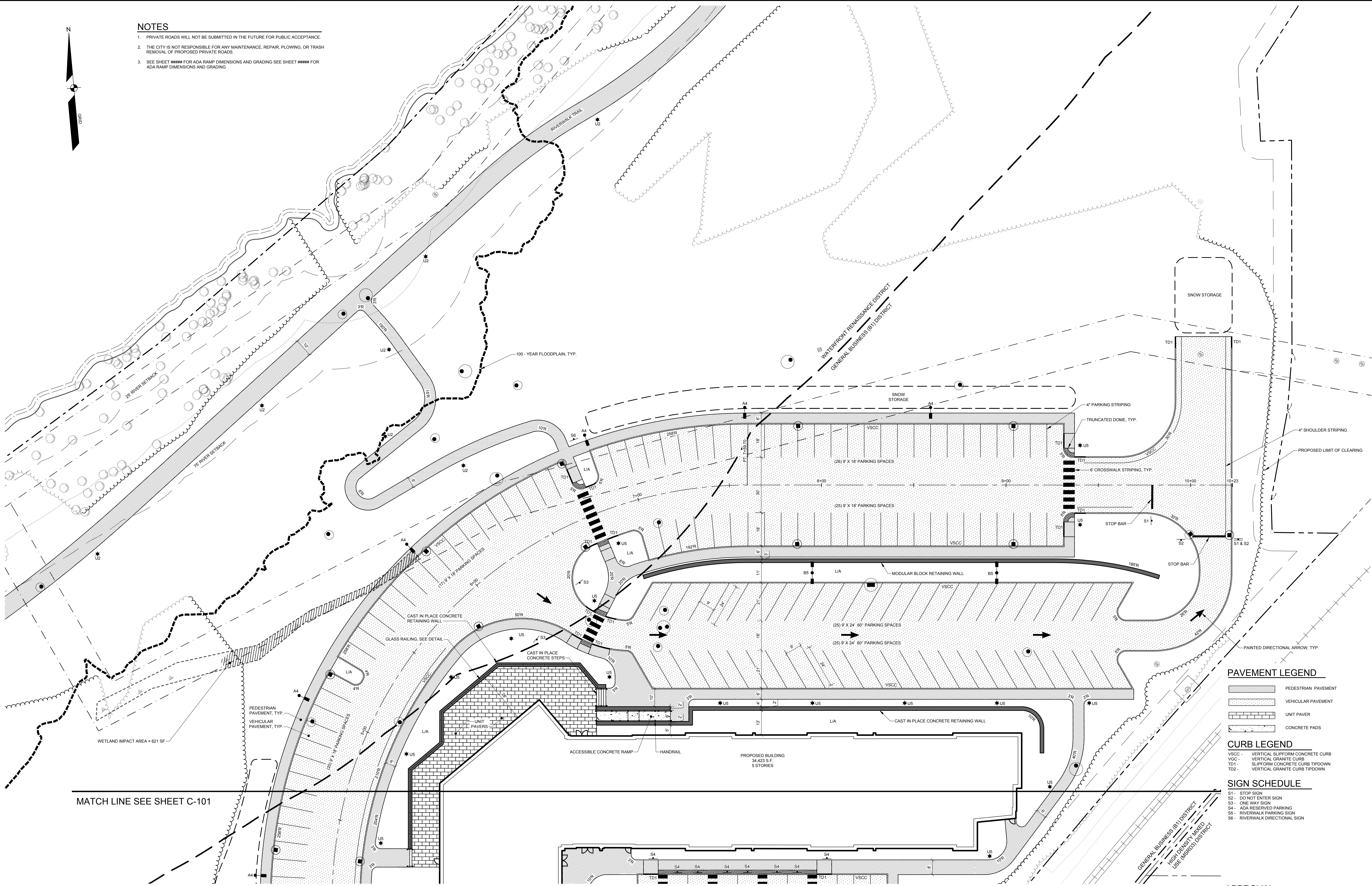


NOT FOR
CONSTRUCTION



NOTES

1. PRIVATE ROADS WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
2. THE CITY IS NOT RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
3. SEE SHEET ##### FOR ADA RAMP DIMENSIONS AND GRADING SEE SHEET ##### FOR ADA RAMP DIMENSIONS AND GRADING



MATCH LINE SEE SHEET C-101

PAVEMENT LEGEND

- PEDESTRIAN PAVEMENT
VEHICULAR PAVEMENT
UNIT PAVER
CONCRETE PADS

CURB LEGEND

- VSCC - VERTICAL SLIPFORM CONCRETE CURB
VSC - VERTICAL GRANITE CURB
TD1 - SLIPFORM CONCRETE CURB TIPDOWN
TD2 - VERTICAL GRANITE CURB TIPDOWN

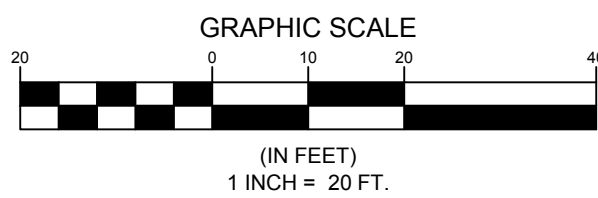
SIGN SCHEDULE

- S1 - STOP SIGN
S2 - DO NOT ENTER SIGN
S3 - ONE WAY SIGN
S4 - ADA RESERVED PARKING
S5 - RIVERWALK PARKING SIGN
S6 - RIVERWALK DIRECTIONAL SIGN

APPROVAL-
CITY OF BIDDEFORD
PLANNING BOARD

LIGHTING SCHEDULE

| QTY | LABEL | MOUNTING HEIGHT | LLF | LUM. LUMENS | LUM. WATTS | DESCRIPTION |
|-----|-------|-----------------|-------|-------------|------------|----------------------|
| 7 | A4 | 25' - 0" AFG | 0.900 | 19139 | 180 | VP-2-72L-180-4KT-4W |
| 6 | B5 | 25' - 0" AFG | 0.900 | 18708 | 180 | VP-2-72L-180-3KT-SQW |
| 18 | U2 | 15' - 0" AFG | 0.900 | 6839 | 62.3 | URB-18L-90-3KT-2 |
| 26 | U5 | 15' - 0" AFG | 0.900 | 6208 | 90 | URB-18L-90-3KT-SQW |



NOT FOR CONSTRUCTION

DANIEL L. RILEY, P.E. 06887

STATE OF MAINE

DANIEL L. RILEY, P.E.

No. 949

PROFESSIONAL ENGINEER

06/12/2024

| | | | |
|------|-----|------------|---|
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN |
| A | DLR | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |
| REV. | BY: | DATE: | STATUS: |

SEBAGO TECHNICS

SEBAGOTECHNICS.COM

75 John Roberts Rd. Suite 4A

South Portland, ME 04065

207-200-2109

South Portland, Bridgton, Springdale and Bath

SITE PLAN - PHASE 1 - AREA 1B

OF:

ONE DIAMOND

FOR

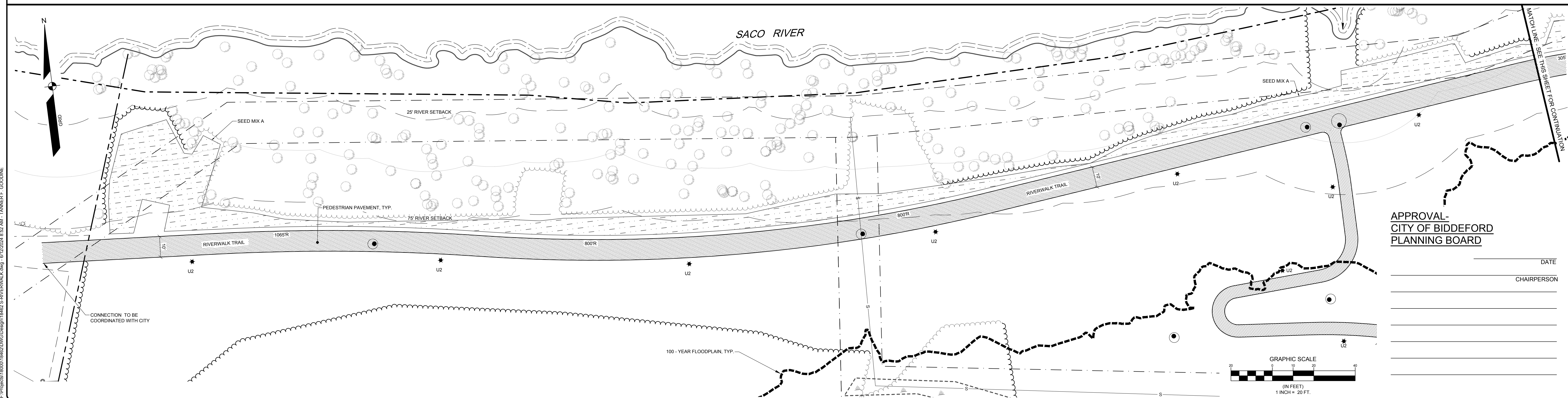
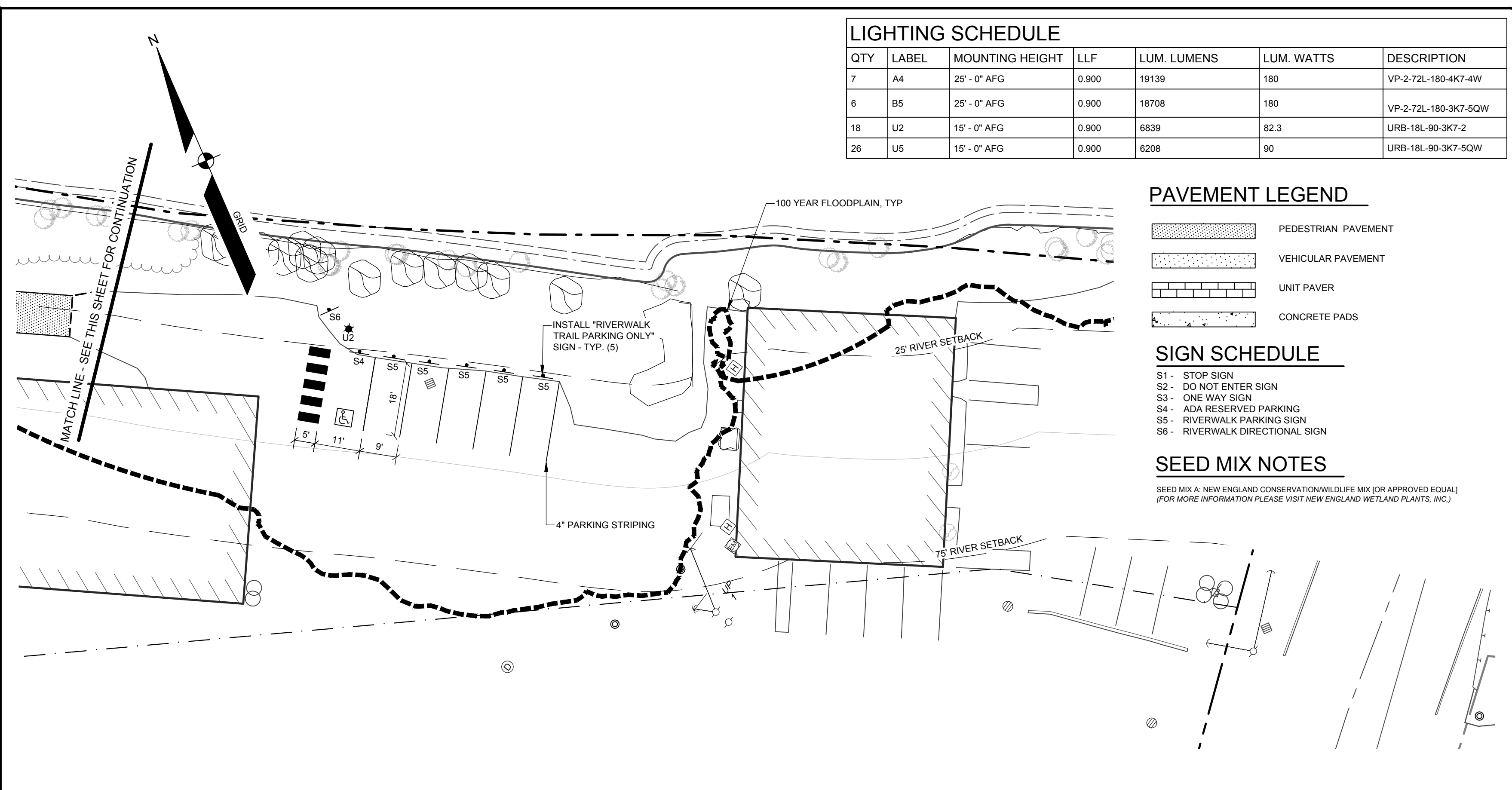
ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201

KENNEBUNK, MAINE, 04043

| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | 1" = 20' |
| PROJECT | 18462 |

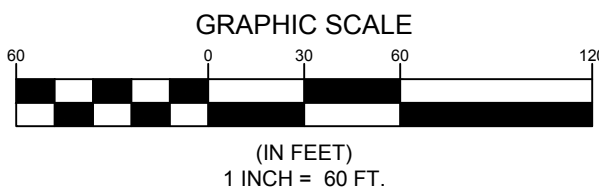
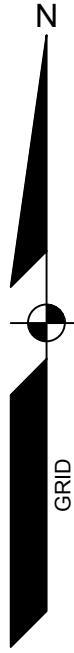
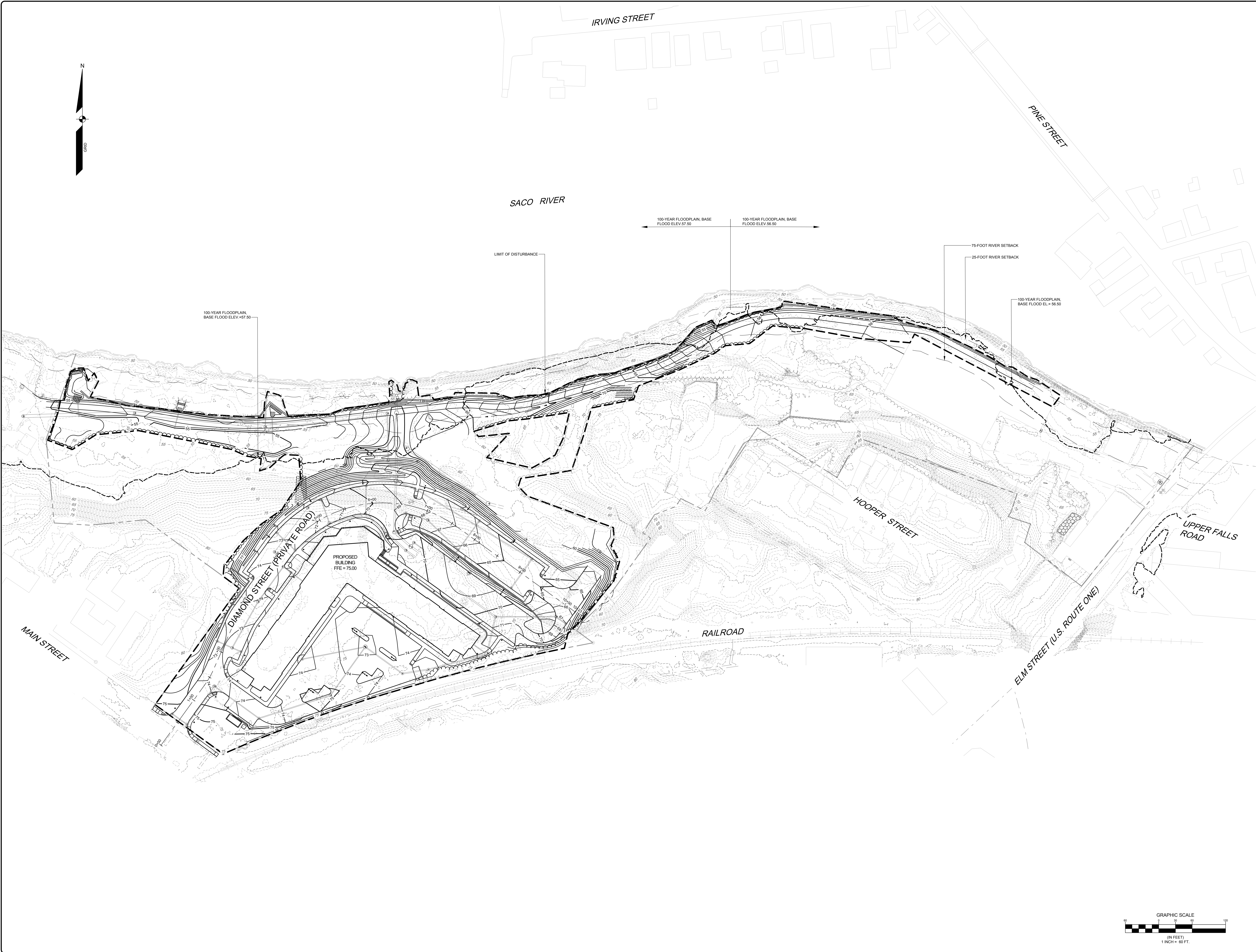
SHEET C-102



SEED MIX A: NEW ENGLAND CONSERVATION WILDLIFE MIX (OR APPROVED EQUAL
(FOR MORE INFORMATION PLEASE VISIT NEW ENGLAND WETLAND PLANTS, INC.)

[illegible]

F:\Projects\18462\18462\DWG\Design\18462_OAG.dwg 6/12/2024 8:52 AM TANNER E. GOODINE



18462_OAG.dwg, TAB: OVERALL GRADING PLAN

OVERALL GRADING PLAN

OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE, 04005
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNESBUNK, MAINE, 04043

| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | 1" = 60' |
| PROJECT | 18462 |

SHEET C-104

SEBAGO
TECHNICS

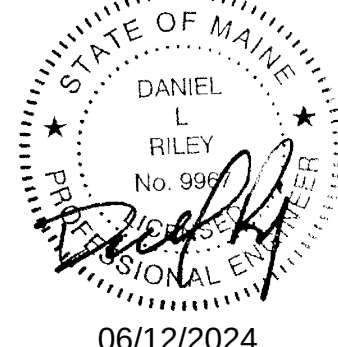
SEBAGOTECHNICS.COM
75 John Roberts Rd. Suite 4A
South Portland, ME 04065
207-200-2100

South Portland, Bridgton, Springdale and Bath

| | | | | |
|------|-----|------------|---|---------|
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN | STATUS: |
| A | DLR | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET | |
| REV. | BY: | DATE: | | |

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

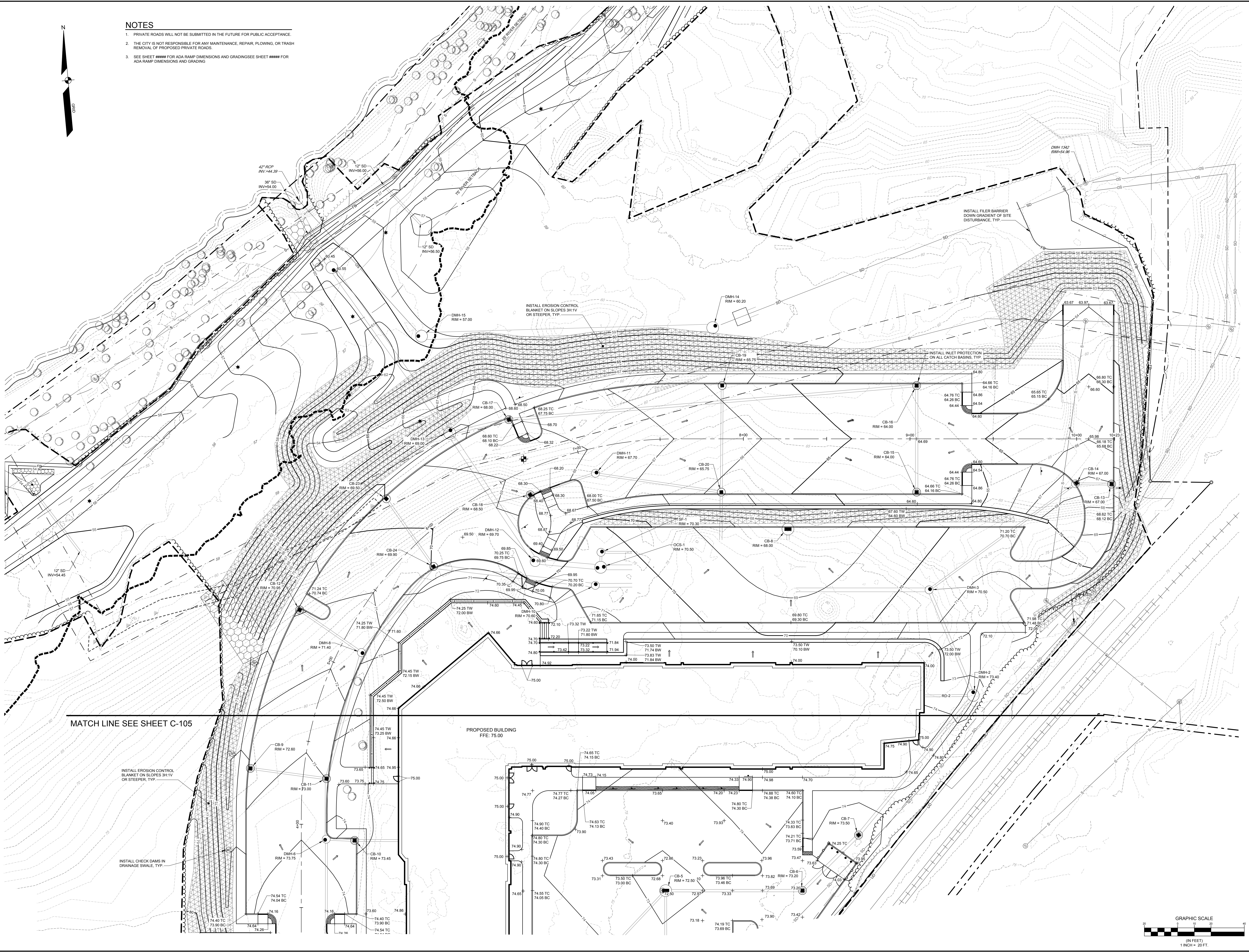
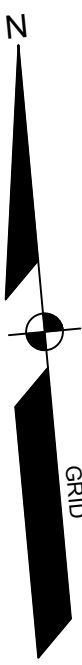
DANIEL L. RILEY, P.E. 06867



NOT FOR
CONSTRUCTION

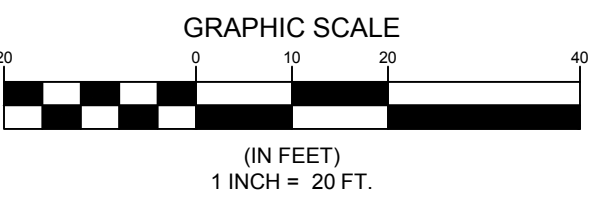
NOTES

- PRIVATE ROADS WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
- THE CITY IS NOT RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
- SEE SHEET ##### FOR ADA RAMP DIMENSIONS AND GRADINGSSEE SHEET ##### FOR ADA RAMP DIMENSIONS AND GRADING



MATCH LINE SEE SHEET C-105

PROPOSED BUILDING
FFE: 75.00



NOT FOR CONSTRUCTION

DANIEL L. RILEY
No. 949
Professional Engineer
06/12/2024

| | | | |
|------|-----|------------|---|
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN |
| A | DLR | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |
| REV. | BY: | DATE: | STATUS: |

SEBAGO
TECHNICS

SEBAGOTECHNICS.COM
75 John Roberts Rd. Suite 4A
South Portland, ME 04065
207.200.2100

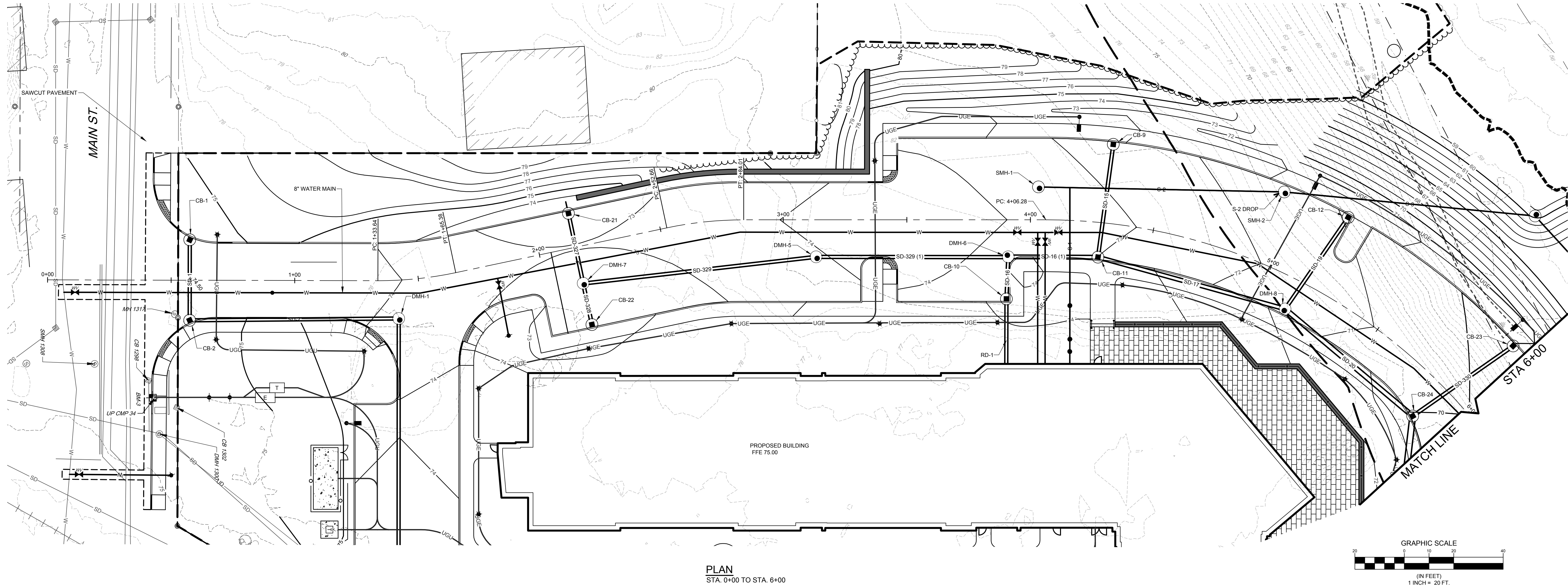
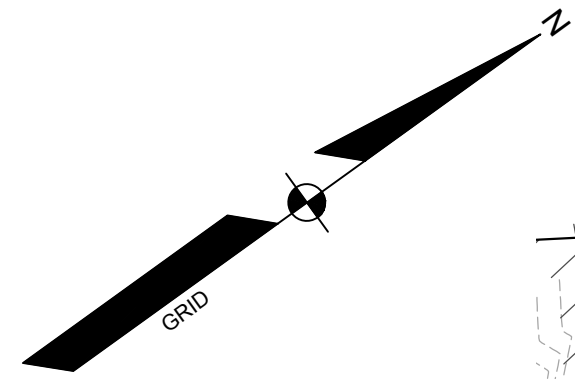
South Portland, Bridgton, Springdale and Bath

GRADING PLAN - PHASE 1 - AREA 1B

DESIGNED OF: ONE DIAMOND
DRAWN BY: MAIN STREET
CHECKED BY: BIDDEFORD, MAINE, 04005
DATE: 06/12/2024
SCALE: 1" = 20'
PROJECT: 18462

SHEET C-106

F:\Projects\18000\18462\18462-1\18462-1.dwg 6/12/2024 3:53 AM TANNER.F.000000



NOTES

- PRIVATE ROADS WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
- THE CITY IS NOT RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
- SEE UTILITY PLANS FOR UTILITY LOCATIONS AND DEPTHS.

NOT FOR CONSTRUCTION

DANIEL L. RILEY, P.E. 9887

STATE OF MAINE
DANIEL L. RILEY
No. 9887
Professional Engineer
06/12/2024

| | | | |
|------|-----|------------|---|
| REV. | BY: | DATE: | STATUS: |
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN |
| A | DLR | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |

SEBAGO TECHNICS

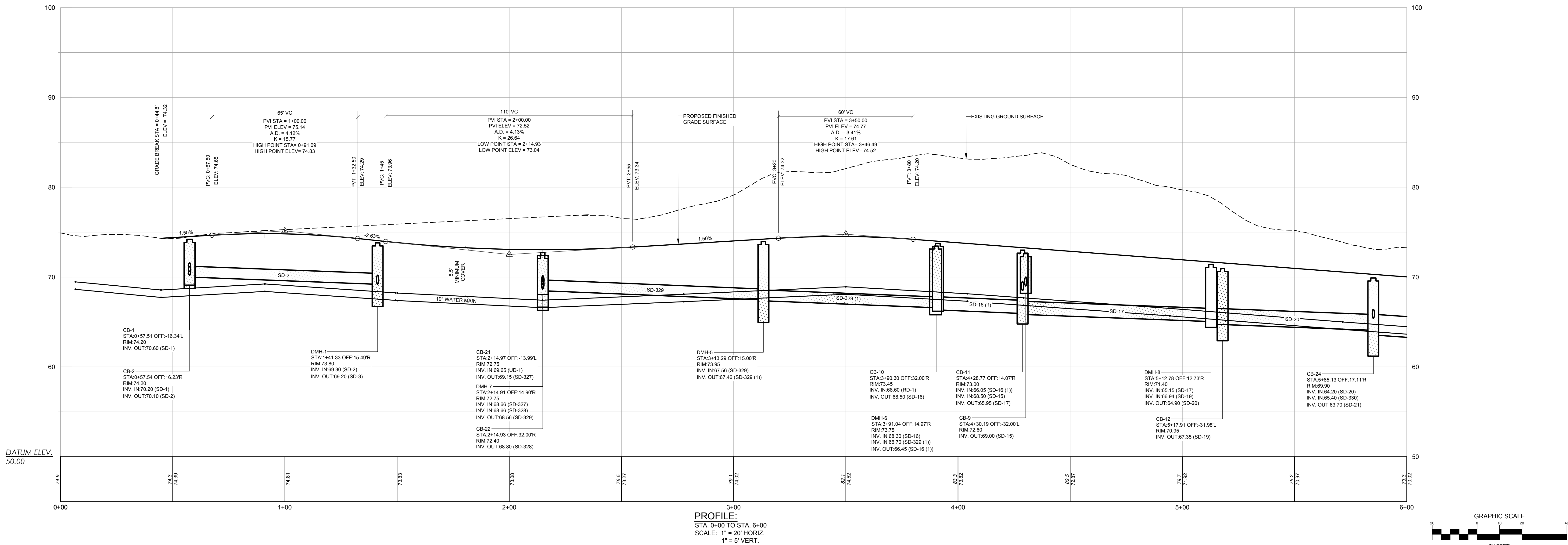
SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04065
207.200.2100

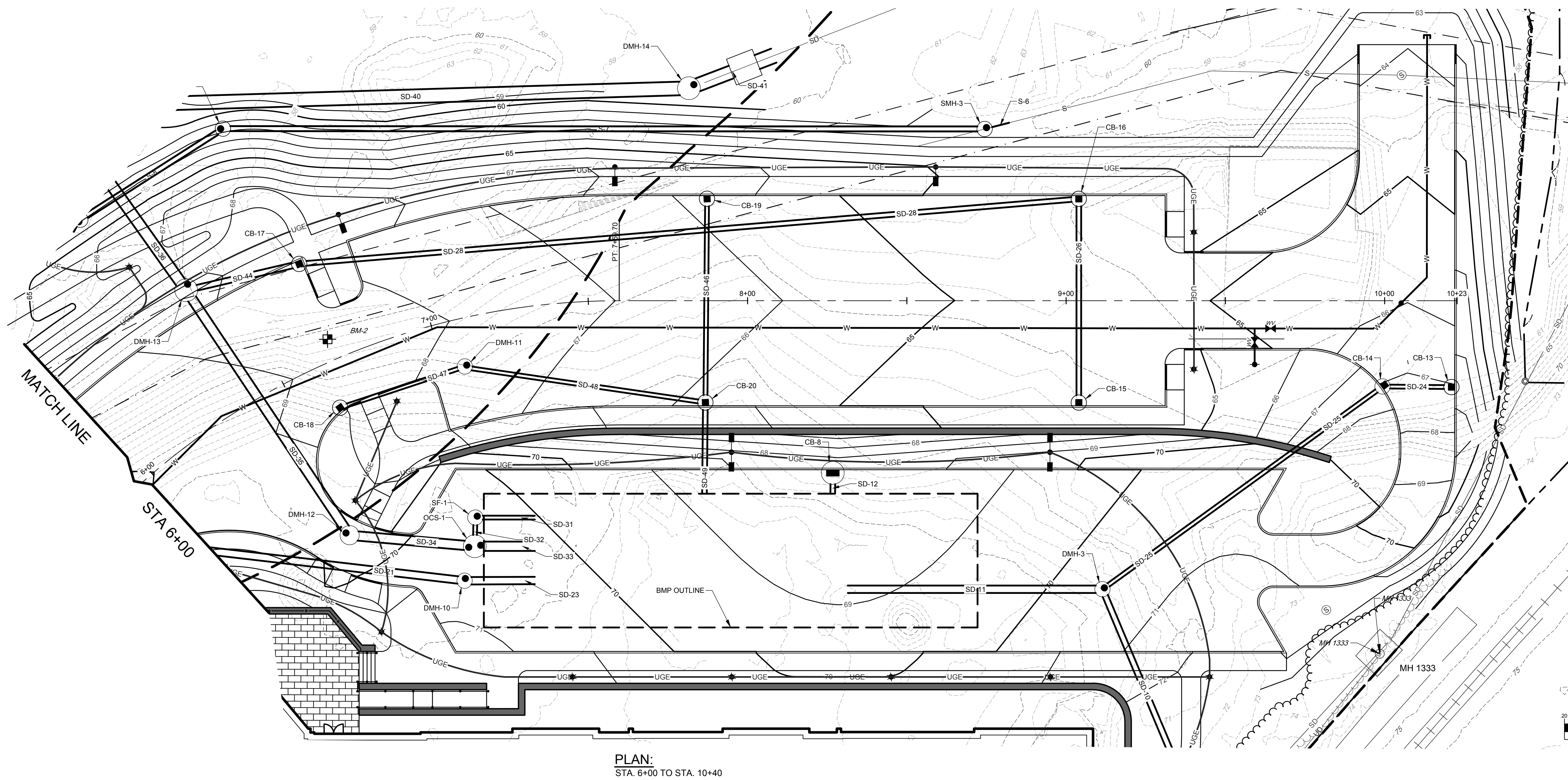
South Portland, Biddeford, Springdale and Bath

PROFILE - STA 0+00 TO STA 6+00
OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE 04005
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE SUITE 201
KENNESBURY, MAINE 04043

| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | 1" = 20' |
| PROJECT | 18462 |

SHEET C-201





NOT FOR
CONSTRUCTION

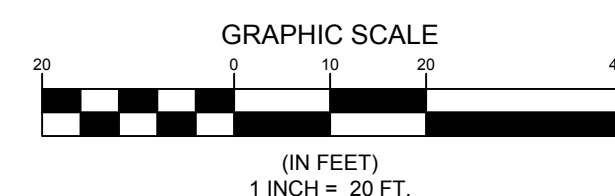
A circular professional engineer seal for the State of Maine. The outer ring contains the text "STATE OF MAINE" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The center of the seal contains the name "DANIEL L. RILEY" and the license number "No. 9961". A handwritten signature, "Daniel L. Riley", is written across the seal.

06/12/2024

| | | |
|---|------------|--|
| B | 06/12/2024 | ISSUED TO CITY OF BUDDEFORD FOR FINAL SITE PLAN |
| | | FOR SCHEMATIC DESIGN SET |
| | | DATE: STATUS: |
| | | BY: |
| | | THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO ENGINEERS, INC. ANY ALTERATIONS |

| | | |
|----------|-------|---------|
| REV. BY: | DATE: | STATUS: |
|----------|-------|---------|

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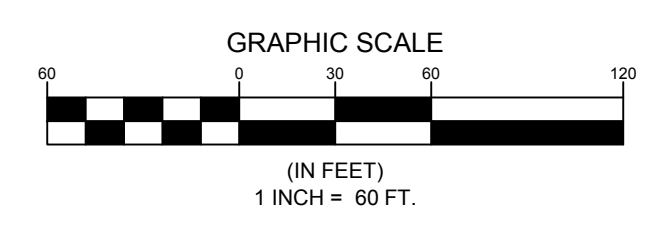
SEBAGO
TECHNICS

South Portland, Bridgton, Springvale and Bath

PROFILE - STA 6+00 TO STA 10+40
OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE, 04005
FOR:
ONE DIAMOND DEVELOPMENT, LLC
12 LIVEWELL DRIVE, SUITE 201

| | |
|----------|-----------|
| DESIGNED | TFG / BAK |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/202 |
| SCALE | 1" = 20' |
| PROJECT | 18462 |

SHEET C-202



| | | | |
|------|------|------------|--|
| B | D/LR | 06/12/2024 | ISSUED TO CITY OF BIRDESFORD FOR FINAL SITE PLAN |
| A | D/LR | 05/24/2024 | PHASE I SCHEMATIC DESIGN SET |
| REV: | BY: | DATE: | STATUS: |

THIS DRAWING IS NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM THE DESIGNING FIRM. ANY REVISIONS, ADDITIONS, OR DELETIONS TO THIS DRAWING MUST BE APPROVED BY THE DESIGNING FIRM. THE USER OF THIS DRAWING IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER OF THIS DRAWING IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

SEBAGO
T E C H N I C S

SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04106
207.290.2100

South Portland, Bridgton, Springvale and Bath

OVERALL UTILITY PLAN

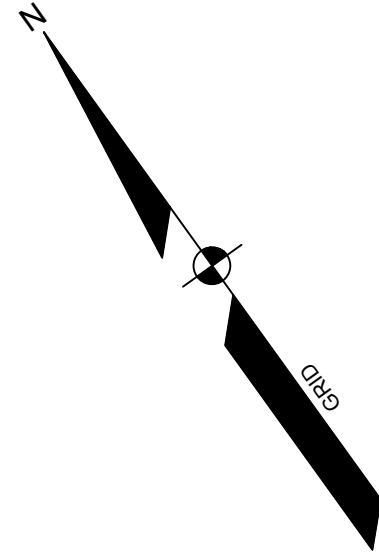
OF
ONE DIAMOND

FOR
BIDDEFORD, MAINE, 04005

ONE DIAMOND DEVELOPMENT, LLC

201 KENNEDY BLVD
KENNEBUNK, MAINE 04043

| | | |
|----------|------------|--|
| DESIGNED | TFG / BAM | |
| DRAWN | DAB | |
| CHECKED | DLR | |
| DATE | 06/12/2024 | |
| SCALE | 1" = 60' | |
| PROJECT | 18462 | |



MATCH LINE SEE SHEET C-303

INSTALL THRUST BLOCKS AT ALL PROPOSED WATER MAIN BENDS, TYP.

PROVIDE MIN. 18" SEPARATION FOR WATER MAIN AT ALL UTILITY CROSSINGS, TYP.

10" GATE VALVE, TYP. (BOTH SIDES)

INSTALL 10"x10"x8" TEE AND GATE VALVE AT DOMESTIC AND FIRE SERVICES

10" WATER MAIN

CONNECT RETAINING WALL UNDERDRAIN WITH CATCH BASIN USING (2) 45° BENDS, SEE PIPE DATA TABLE FOR INVERTS

INSTALL 10"x8" TEE, 6" GATE VALVE, AND 6" D.I. PIPE TO HYDRANT ASSEMBLY #1. INSTALL PIPE RESTRAINTS BETWEEN HYDRANT ASSEMBLY CONNECTION AND SERVICE

INSTALL AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN

CONNECT 10" WATER MAIN TO EXISTING WATER MAIN WITH 20"x10" TAPPING SLEEVE AND INSTALL 10" GATE VALVE. COORDINATE WORK WITH MAINE WATER COMPANY

INSTALL 45° WYE FITTING AND DEFLECT SEWER SERVICE VERTICALLY, INV. = 62.00

OFFSET SEWER SERVICE DOWN WITH (2) 45° BENDS, INV. = 68.80

INSTALL CLEANOUT, INV. = 68.90

INSTALL NEW 8" PVC SEWER SERVICE, INV. OUT = 69.00, COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS

COORDINATE DOMESTIC AND FIRE CONNECTIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS

INSTALL WATER SERVICES WITH MINIMUM 5.5' COVER, TYP.

ROOF DRAIN OUTLET W/ CLEANOUT, INV. OUT = 69.00, COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS

INSTALL HYDRANT ASSEMBLY #1

INSTALL 36" Y MANHOLE FROM ELECTRIC AND PULL BOX FOR TEL/DATA, INSTALL PER CMP STANDARDS, TYP.

PROPOSED GENERATOR PAD

INSTALL NEW RISER UTILITY POLE, COORDINATE PLACEMENT AND SUPPORT WITH CENTRAL MAINE POWER

RELOCATE EXISTING UTILITY POLE TO BEHIND PROPOSED SIDEWALK, RELAY EXISTING OVERHEAD SERVICES, COORDINATE PLACEMENT WITH CENTRAL MAINE POWER

UP CMP 34

CB 1302

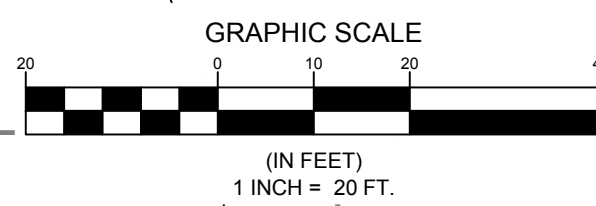
DMH 1300

INSTALL HYDRANT ASSEMBLY #3

INSTALL 20"x8" TEE, 6" GATE VALVE, AND 6" D.I. PIPE TO HYDRANT ASSEMBLY #3. INSTALL PIPE RESTRAINTS BETWEEN HYDRANT ASSEMBLY CONNECTION AND SERVICE

EXISTING MUNICIPAL CULVERT TO REMAIN

MAIN STREET



F:\Projects\18000\18462\DWG\18462-UPH1.dwg, 6/12/2024 8:54 AM, TANWEE E. CODDINE

18462-UPH1.dwg, 1846 UTILITY PLAN - PHASE 1 - AREA 1A

UTILITY PLAN - PHASE 1 - AREA 1A
OF:
ONE DIAMOND
MAIN STREET
BIDDEFORD, MAINE, 04005
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNESBUNK, MAINE, 04045

| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | 1" = 20' |
| PROJECT | 18462 |

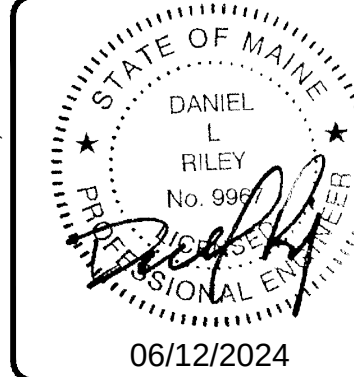
SHEET C-302

SEBAGO
T E C H N I C S
SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04065
207-200-2100
South Portland, Bridgton, Springdale and Bath

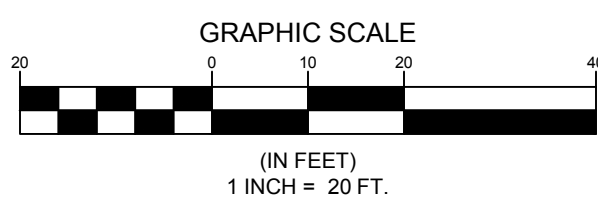
| | | | |
|------|-----|------------|---|
| REV. | BY | DATE | STATUS |
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN |
| A | DLR | 05/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

DANIEL RILEY PE 9987



NOT FOR
CONSTRUCTION



Page 8

| STORM DRAIN STRUCTURE DATA | | | | |
|----------------------------|-------|-------------------------------------|----------------|-----------------------|
| STRUCTURE | RIM | INV. IN | INV. OUT. | DIAM. |
| CB-1 | 74.20 | | 70.66 (SD-1) | 48" DIA. |
| CB-2 | 74.20 | 70.20 (SD-1) | 70.10 (SD-2) | 48" DIA. |
| CB-3 | 73.00 | 68.20 (SD-3) | 67.96 (SD-7) | 48" DIA. |
| CB-4 | 73.30 | | 69.75 (SD-4) | 48" DIA. |
| CB-5 | 72.50 | 68.55 (SD-7)
65.40 (SD-7-11) | 65.15 (SD-6) | CB-5-72" DOUBLE GRATE |
| CB-6 | 73.20 | 64.32 (SD-6) | 64.07 (SD-8) | 48" DIA. |
| CB-7 | 73.50 | 63.57 (SD-8) | 63.47 (SD-9) | 48" DIA. |
| CB-8 | 68.00 | | 62.00 (SD-12) | 72" DOUBLE GRATE |
| CB-9 | 72.60 | | 60.00 (SD-15) | |
| CB-10 | 73.45 | 68.60 (RD-1) | 68.50 (SD-16) | 48" DIA. |
| CB-11 | 73.00 | 66.05 (SD-16 (11))
65.50 (SD-16) | 65.95 (SD-17) | 48" DIA. |
| CB-12 | 70.95 | | 67.35 (SD-19) | 48" DIA. |
| CB-13 | 67.00 | | 63.15 (SD-24) | 48" DIA. |
| CB-14 | 67.00 | 63.03 (SD-24) | 62.93 (SD-25) | 48" DIA. |
| CB-15 | 64.00 | | 60.40 (SD-26) | 48" DIA. |
| CB-16 | 64.00 | 59.76 (SD-26) | 59.66 (SD-28) | 48" DIA. |
| CB-17 | 68.00 | 56.96 (SD-28) | 56.71 (SD-44) | 48" DIA. |
| CB-18 | 66.50 | | 64.90 (SD-47) | 48" DIA. |
| CB-19 | 65.75 | | 61.25 (SD-46) | 48" DIA. |
| CB-20 | 65.75 | 61.51 (SD-46)
61.51 (SD-48) | 61.26 (SD-49) | 48" DIA. |
| CB-21 | 72.75 | 69.65 (UD-1) | 69.15 (SD-327) | 48" DIA. |
| CB-22 | 72.40 | | 68.89 (SD-328) | 48" DIA. |
| CB-23 | 69.50 | | 65.90 (SD-330) | 48" DIA. |
| CB-24 | 69.90 | 64.20 (SD-20)
65.40 (SD-20) | 63.70 (SD-21) | 48" DIA. |
| DMH-1 | 73.80 | 59.30 (SD-2) | 60.20 (SD-3) | 48" DIA. |
| DMH-2 | 74.40 | 62.39 (SD-9)
62.30 (SD-9) | 62.29 (SD-10) | 72" DIA. |
| DMH-3 | 70.50 | 61.60 (SD-10)
62.20 (SD-25) | 61.10 (SD-11) | 48" DIA. |

| STORM DRAIN STRUCTURE DATA | | | | |
|----------------------------|-------|----------------------------------|--------------------|-----------------|
| STRUCTURE | RIM | INV. IN. | INV. OUT. | DIAM. |
| DMH-6 | 73.95 | 67.56 (SD-329) | 67.46 (SD-329) (1) | 48" DIA. |
| | | 68.30 (SD-16) | | |
| DMH-6 | 73.75 | 66.70 (SD-329) (1) | 66.45 (SD-16) (1) | 48" DIA. |
| DMH-7 | 72.75 | 68.69 (SD-327)
68.66 (SD-329) | 68.56 (SD-329) | 48" DIA. |
| DMH-8 | 71.40 | 65.15 (SD-17)
66.94 (SD-19) | 64.90 (SD-20) | 48" DIA. |
| DMH-10 | 70.60 | 62.00 (SD-21) | 61.90 (SD-23) | 48" DIA. |
| DMH-11 | 67.70 | 64.10 (SD-47) | 64.00 (SD-48) | 48" DIA. |
| DMH-12 | 69.70 | 57.54 (SD-34) | 57.44 (SD-35) | 60" DIA. |
| DMH-13 | 69.00 | 56.58 (SD-35)
56.35 (SD-44) | 55.48 (SD-36) | 72" DIA. |
| DMH-14 | 62.20 | 48.70 (SD-41) | 48.65 (SD-40) | 72" DIA. |
| DMH-15 | 57.00 | 46.55 (SD-40) | 46.45 (SD-42) | 72" DIA. |
| DMH-16 | 60.55 | 54.34 (SD-34) | 54.25 (SD-37) | 72" DIA. |
| DMH-17 | 75.20 | 66.60 (SD-7) | 66.50 (SD-7) (1) | 72" DIA. |
| DMH-18 | 59.65 | 48.92 (SD-50) | 48.82 (SD-51) | 96" x 96" Vault |
| OCS-1 | 70.50 | 59.40 (SD-33)
59.40 (SD-32) | 57.91 (SD-34) | 72" DIA. |
| SF-1 | 70.50 | 58.90 (SD-31) | 58.90 (SD-32) | 48" DIA. |

| SANITARY SEWER STRUCTURE DATA | | | | |
|-------------------------------|-------|--|--------------|-------|
| STRUCTURE | RIM | INV. IN | INV. OUT: | DIAM. |
| SMH-1 | 73.50 | | 61.80 (S-2) | 48" |
| SMH-2 | 70.05 | 58 10 (S-2 DROP)
60.80 (S-2) | 58.00 (S-3) | 48" |
| SMH-3 | 61.50 | 50.23 (S-7) | 50.13 (S-7) | 48" |
| SMH-4 | 64.00 | 47.61 (S-7) | 47.14 (S-8) | 48" |
| SMH-5 | 63.00 | 48.61 (S-8)
48.61 (S-4 DROP)
54.00 (S-8) | 46.51 (S-5) | 48" |
| SMH-6 | 59.90 | 45.70 (S-5) | 45.60 (SD-9) | 96" |
| SMH-7 | 56.50 | 45.21 (SD-9)
45.21 (S-11) | 45.16 (S-10) | 96" |
| SMH-8 | 55.80 | 44.50 (S-12)
44.80 (S-10) | 44.75 (S-12) | 96" |
| SMH-9 | 55.30 | | 44.75 (S-12) | 96" |
| SMH-10 | 50.00 | 55.00 (S-3) | 54.90 (S-4) | 48" |

| NAME | SIZE | LENGTH | SLOPE |
|----------|------|--------|-------|
| S-1 | 6" | 48' | 1.05% |
| S-2 | 8" | 96' | 1.05% |
| S-2 DROP | 8" | 2' | 0.00% |
| S-3 | 8" | 96' | 3.06% |
| S-4 | 8" | 74' | 1.22% |
| S-4 DROP | 8" | 2' | 0.00% |
| S-5 | 18" | 78' | 1.05% |
| S-6 | 8" | 6' | 0.34% |
| S-7 | 18" | 235' | 1.23% |
| S-8 | 18" | 49' | 1.09% |
| S-10 | 60" | 228' | 0.16% |
| S-11 | 12" | 52' | 0.17% |
| S-12 | 60" | 192' | 0.13% |
| SD-9 | 60" | 213' | 0.18% |

| STORM DRAIN PIPE DATA | | | |
|-----------------------|------|--------|-------|
| NAME | SIZE | LENGTH | SLOPE |
| RD-1 | 12" | 24' | 1.64% |
| RD-2 | 12" | 27' | 2.54% |
| SD-1 | 12" | 29' | 1.40% |
| SD-3 | 12" | 81' | 0.99% |
| SD-5 | 12" | 110' | 1.04% |
| SD-6 | 15" | 77' | 1.08% |
| SD-7 | 15" | 131' | 1.03% |
| SD-7 (1) | 12" | 102' | 1.08% |
| SD-8 | 18" | 43' | 1.15% |
| SD-9 | 18" | 103' | 1.04% |
| SD-10 | 18" | 64' | 1.08% |
| SD-11 | 24" | 78' | 0.51% |
| SD-12 | 15" | 4' | 7.04% |
| SD-15 | 12" | 42' | 1.19% |
| SD-16 | 12" | 13' | 1.53% |
| SD-16 (1) | 15" | 32' | 1.24% |
| SD-17 | 15" | 75' | 1.07% |
| SD-19 | 12" | 41' | 1.00% |
| SD-20 | 18" | 63' | 1.10% |

| STORM DRAIN PIPE DATA | | | |
|-----------------------|------|--------|-------|
| NAME | SIZE | LENGTH | SLOPE |
| SD-21 | 24" | 94' | 1.81% |
| SD-23 | 24" | 20' | 1.99% |
| SD-24 | 12" | 18' | 0.68% |
| SD-25 | 12" | 105' | 0.70% |
| SD-26 | 15" | 60' | 1.07% |
| SD-28 | 15" | 242' | 1.12% |
| SD-31 | 12" | 17' | 0.00% |
| SD-32 | 12" | 4' | 0.00% |
| SD-33 | 30" | 16' | 0.00% |
| SD-34 | 30" | 34' | 1.09% |
| SD-35 | 30" | 87' | 0.99% |
| SD-36 | 36" | 116' | 0.97% |
| SD-37 | 36" | 22' | 1.14% |
| SD-38 | 12" | 43' | 1.04% |
| SD-39 | 12" | 31' | 0.98% |
| SD-40 | 42" | 169' | 1.24% |
| SD-41 | 42" | 12' | 1.03% |
| SD-42 | 42" | 3' | 1.55% |
| SD-43 | 15" | 37' | 1.00% |
| SD-44 | 18" | 31' | 1.16% |

| NAME | SIZE | LENGTH | SLOPE |
|------------|------|--------|-------|
| SD-45 | 12" | 32' | 1.54% |
| SD-46 | 12" | 60' | 1.07% |
| SD-47 | 12" | 33' | 2.15% |
| SD-48 | 12" | 72' | 3.44% |
| SD-49 | 15" | 27' | 0.98% |
| SD-50 | 48" | 6' | 1.67% |
| SD-327 | 12" | 25' | 1.97% |
| SD-328 | 12" | 13' | 1.07% |
| SD-329 | 12" | 91' | 1.10% |
| SD-329 (1) | 12" | 74' | 1.03% |
| SD-330 | 12" | 46' | 1.10% |
| UD-1 | 6" | 3' | 3.54% |

PIPE AND STRUCTURE DATA TABLES

OF: **ONE DIAMOND**
 MAIN STREET
 BIDEFORD, MAINE 04005

FOR: **ONE DIAMOND DEVELOPMENT, LLC**
 12 LIVERELL DRIVE, SUITE 201
 KENNEBUNK, MAINE, 04043

| | |
|----------|------------|
| DESIGNED | TFG/BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2014 |
| SCALE | NTS |
| PROJECT | 18462 |

SHEET C-304

S=BAGO
T E C H N I C S

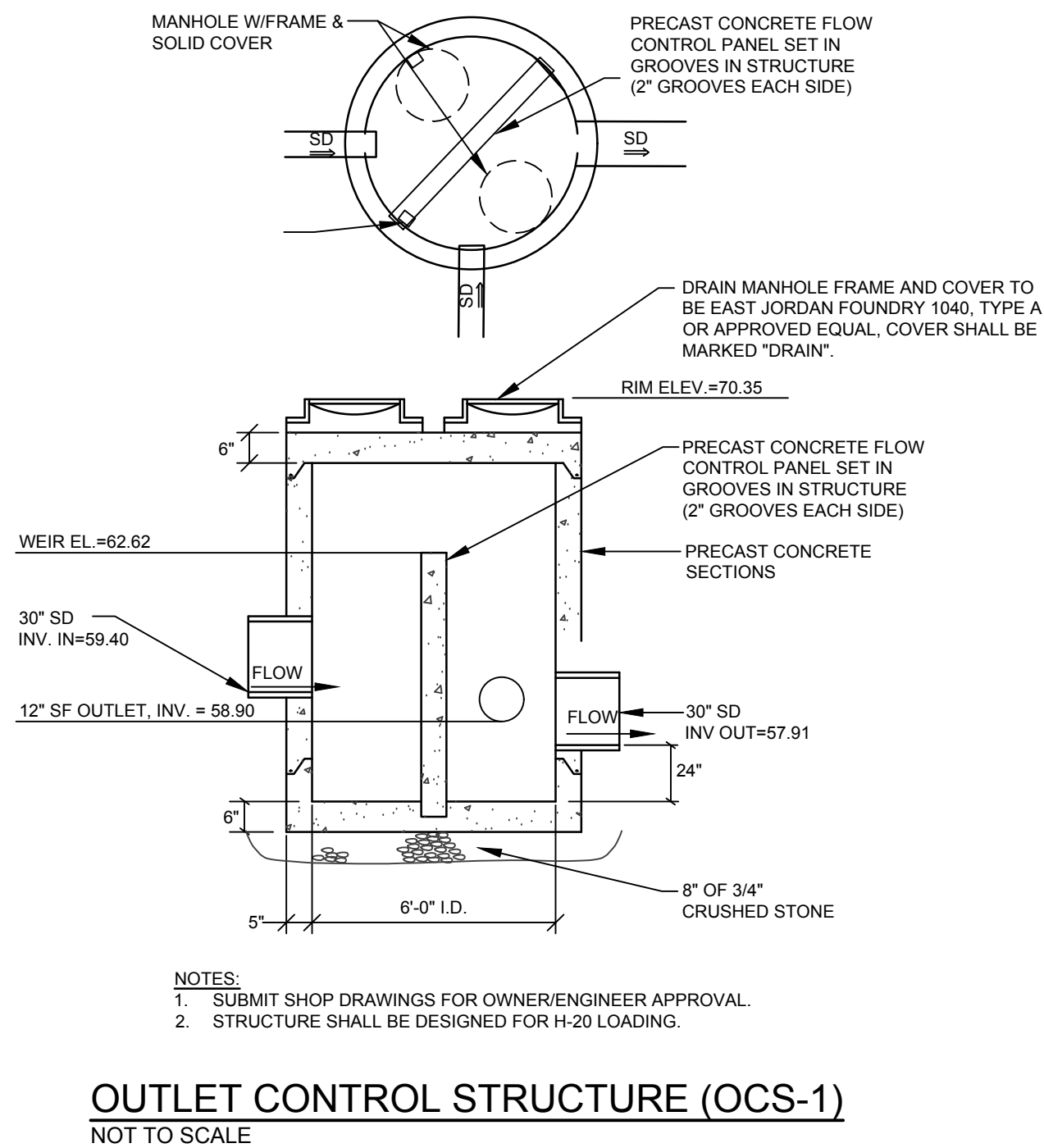
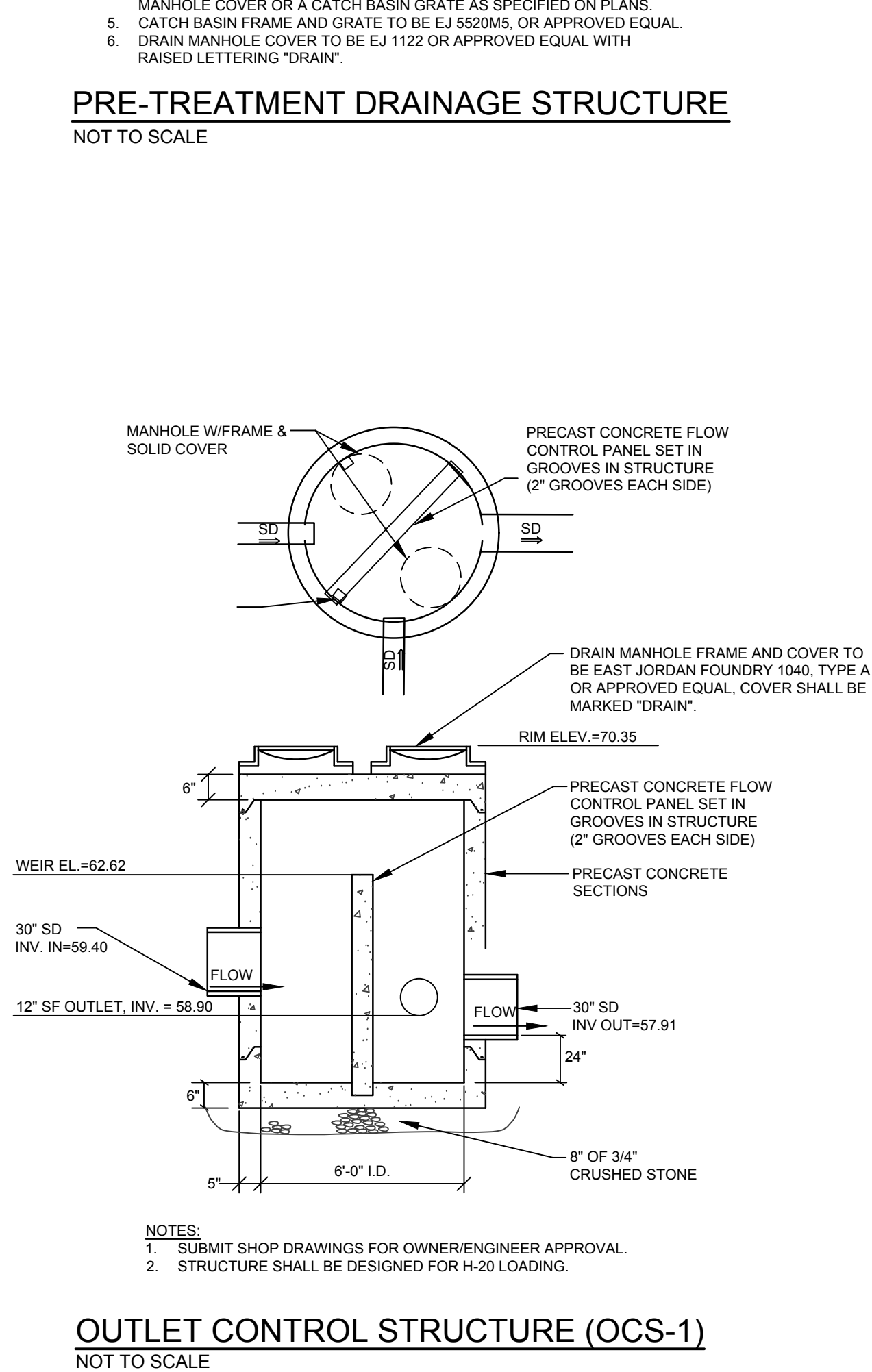
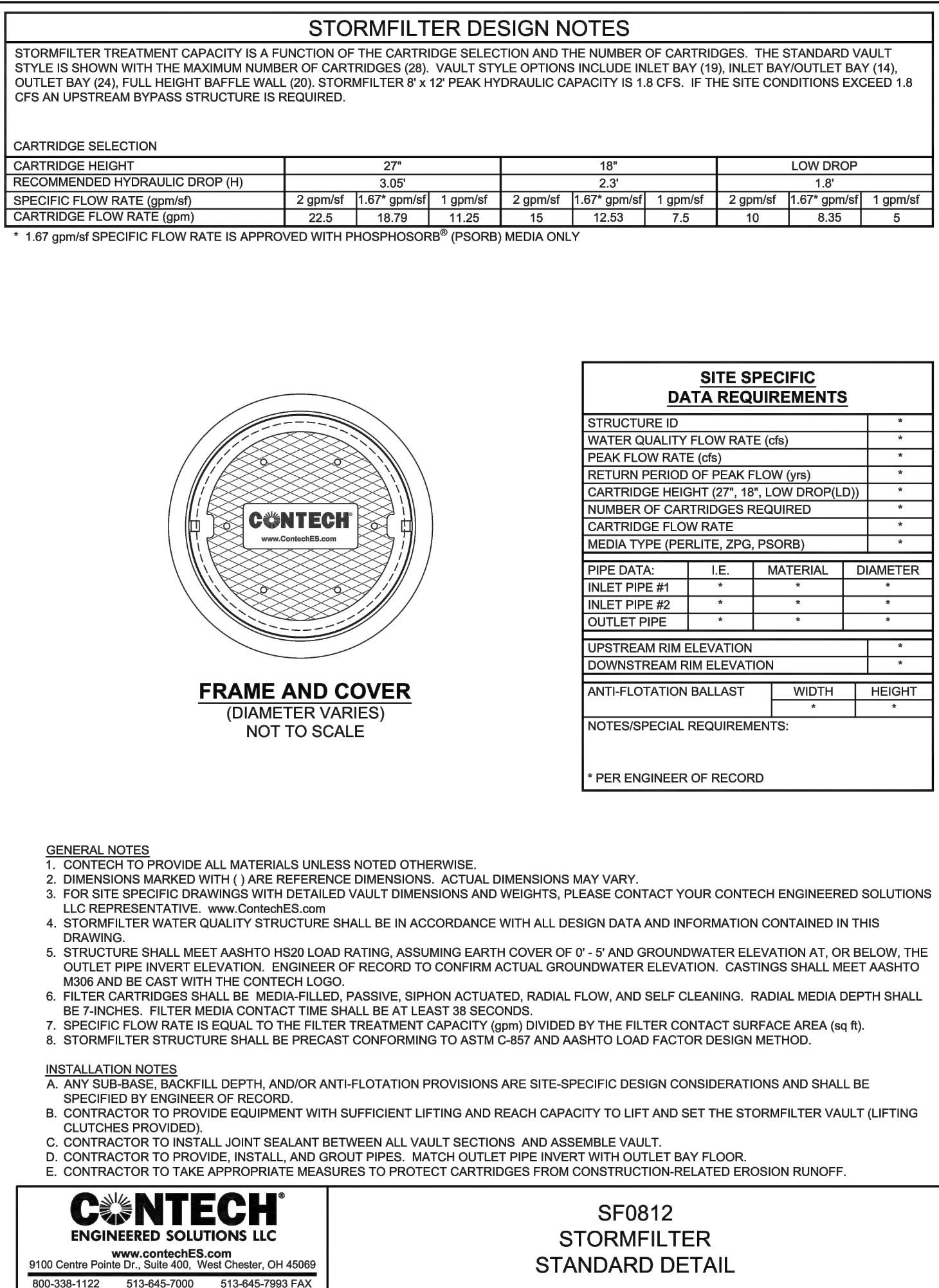
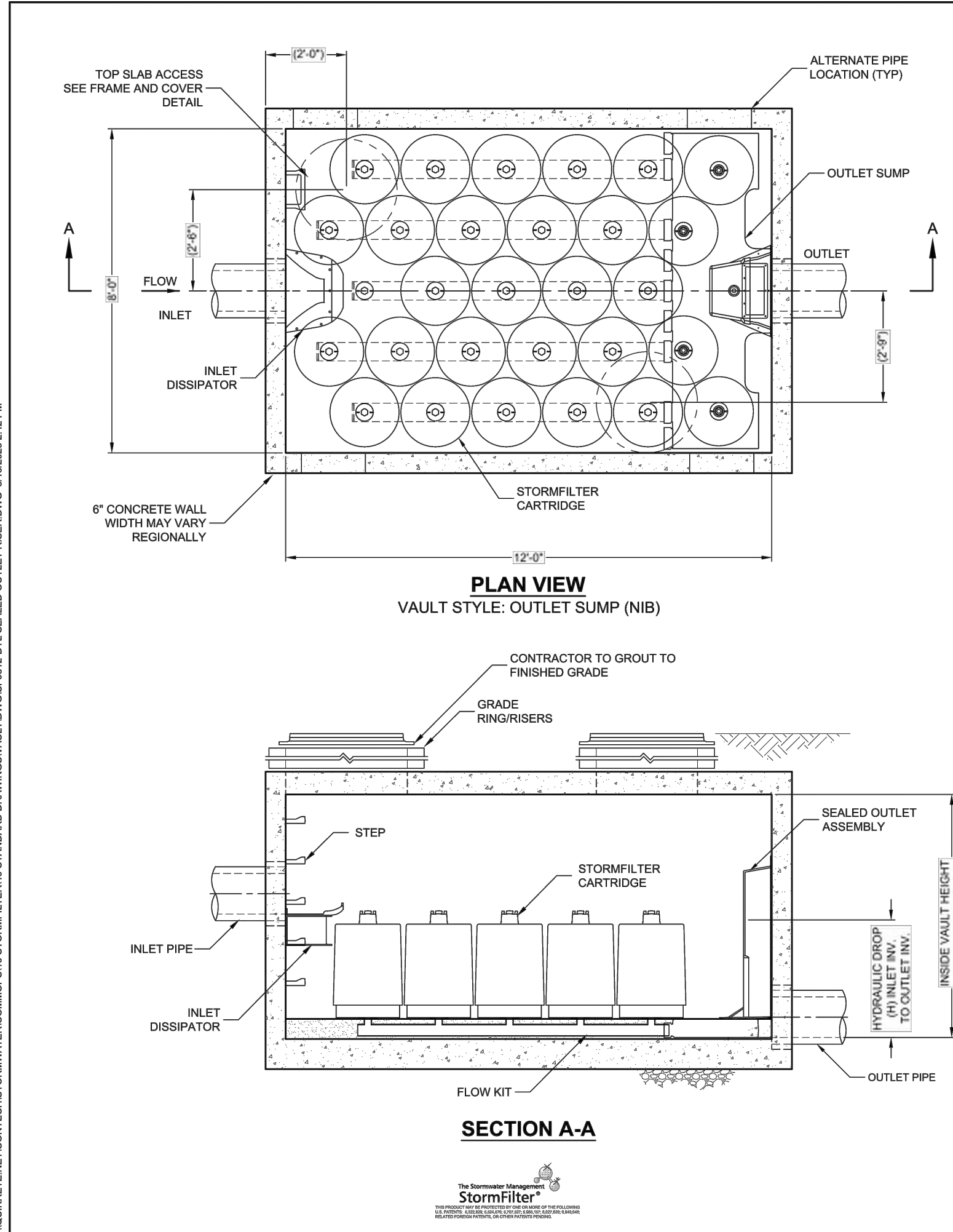
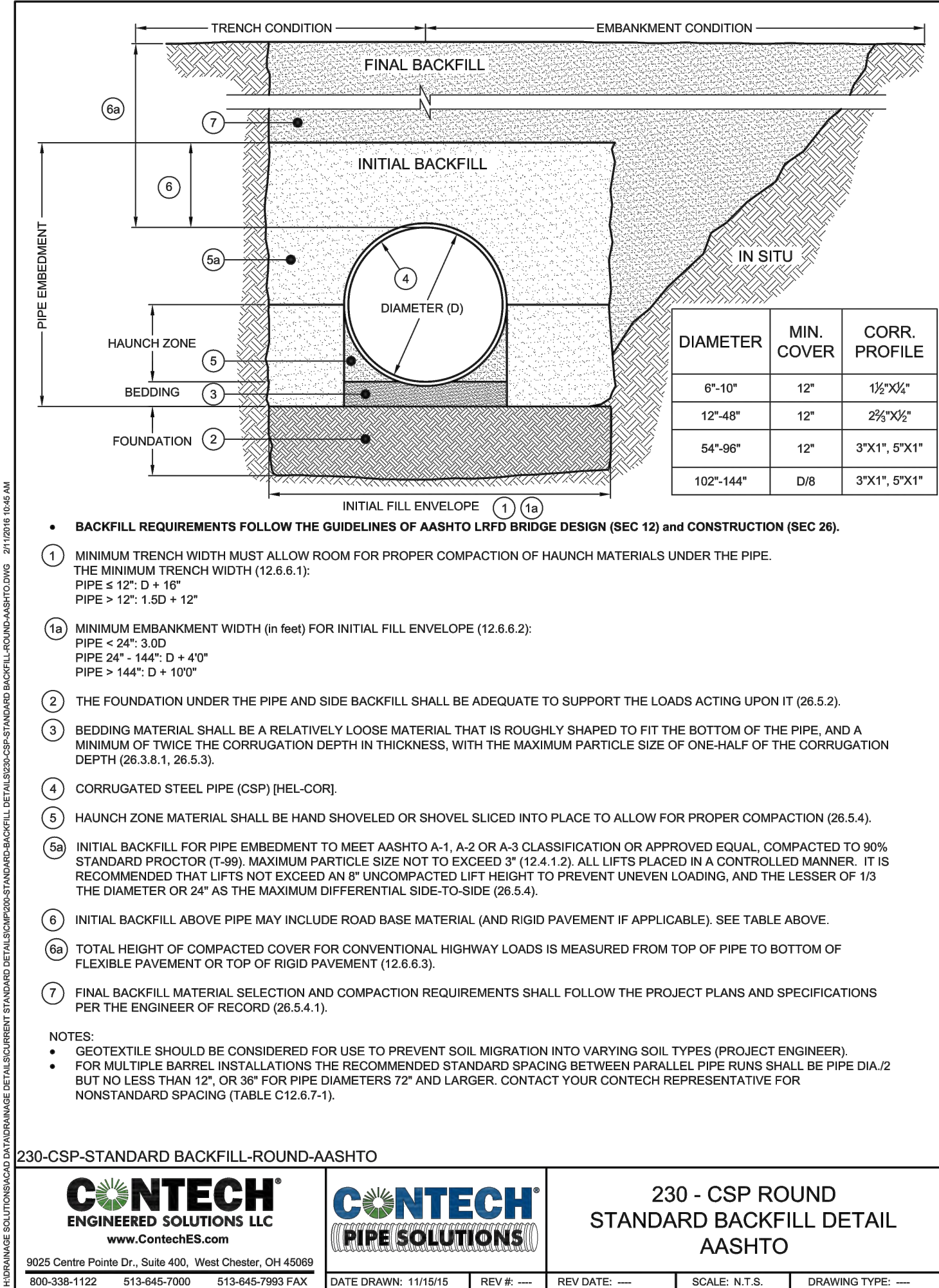
SEBAGOTECHNICS.COM
75 John Roberts Rd. Suite 4A
South Portland, ME 04106
207-200-2100

South Portland, Bridgton, Springvale and Bath

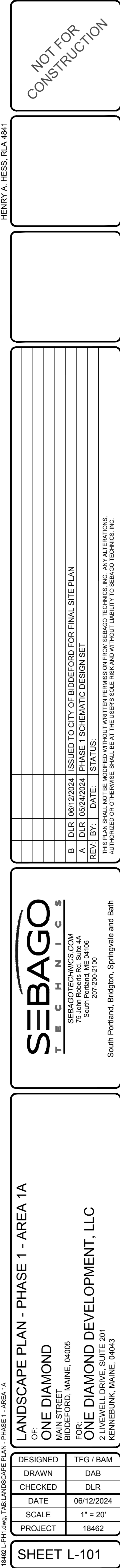
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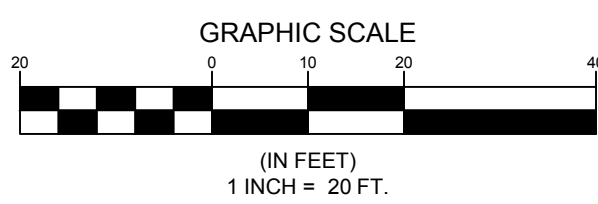
STATE OF MAINE
DANIEL
L
RILEY
No. 9997
PROFESSIONAL ENGINEER
06/12/2024

NOT FOR
CONSTRUCTION



OUTLET CONTROL STRUCTURE (OCS-1)
NOT TO SCALE





ALL DISTURBED AREAS NOT SPECIFIED AS SEED MIX A WILL BE LOAM AND SEEDED WITH MDOT PARK MIX #1 (OR APPROVED EQUAL)
(FOR MORE INFORMATION PLEASE DIVISION 700 OF THE MAINE DEPARTMENT OF TRANSPORTATION)

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQS, INC.

Page

EROSION CONTROL NOTES

PRE-CONSTRUCTION PHASE

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (SILT FENCE) WILL BE STAKED/INSTALLED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SEDIMENT BARRIERS SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THIS EROSION CONTROL PLAN AND DETAILS IN THIS PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED AT THE INTERSECTION OF THE PROPOSED ENTRANCES AND EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDULE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

CONSTRUCTION AND POST-CONSTRUCTION PHASE

AREAS UNDERGOING ACTIVE CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD, SUCH AS ACTIVE EXCAVATION AND ACTIVE GRADING. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS ACTIVELY OCCURRING OR CAN BE MULCHED IN THE SAME DAY. OPEN AREAS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL AS SHOWN ON THE DESIGN PLANS AND AS DESCRIBED WITHIN THIS EROSION CONTROL PLAN WITHIN SEVEN (7) DAYS OF DISTURBANCE. AREAS LOCATED WITHIN 10 FEET OF STREAMS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL WITHIN SEVEN (7) DAYS. REFER TO WINTER EROSION CONTROL NOTES FOR THE TREATMENT OF OPEN AREAS AFTER OCTOBER 1ST OF THE CONSTRUCTION YEAR.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

EROSION CONTROL APPLICATIONS & MEASURES
THE PLACEMENT OF EROSION CONTROL MEASURES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THE PLAN SET.

1. TEMPORARY MULCHING:

ALL DISTURBED AREAS SHALL BE MULCHED WITH MATERIALS SPECIFIED BELOW PRIOR TO ANY STORM EVENT. ALL DISTURBED AREAS NOT FINAL GRADED WITHIN 14 DAYS SHALL BE MULCHED. DISTURBED AREAS ADJACENT TO NATURAL RESOURCES THAT ARE NOT GRADED WITHIN SEVEN (7) DAYS SHALL BE MULCHED. ALSO, AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING. EROSION CONTROL BLANKETS ARE RECOMMENDED TO BE USED AT THE BASE OF GRASSED WATERWAYS AND ON SLOPES GREATER THAN 33%. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 6% AFTER SEPTEMBER 15TH OF THE CONSTRUCTION YEAR (SEE WINTER EROSION CONTROL NOTES).

HAY OR STRAW, SHALL BE APPLIED AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE).

EROSION CONTROL MIX, SHALL BE PLACED EVENLY AND MUST PROVIDE 100% SOIL COVERAGE. EROSION CONTROL MIX SHALL BE APPLIED SUCH THAT THE THICKNESS ON SLOPES 3:1 OR LESS IS 2 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 SHALL BE 4 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THIS SHALL NOT BE USED ON SLOPES GREATER THAN 2:1.

EROSION CONTROL BLANKET, SHALL BE INSTALLED SUCH THAT CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL IS OBTAINED. INSTALL BLANKETS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2. SOIL STOCKPILES:

STACKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING onto the STOCKPILE.

3. NATURAL RESOURCES PROTECTION:

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES SHALL BE MULCHED USING TEMPORARY MULCHING (AS DESCRIBED IN PART 1 OF THIS SECTION) WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS (AS DESCRIBED IN PART 4 OF THIS SECTION) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.

4. SEDIMENT BARRIERS:

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS SHALL BE STAKED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. SEDIMENT BARRIERS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

SILT FENCE, SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE EFFECTIVE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES. IT IS RECOMMENDED THAT SILT FENCE BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL, SO AS TO AVOID ADDITIONAL SOIL DISTURBANCE.

HAY BALES, SHALL NOT BE INSTALLED ADJACENT TO WETLAND. INSTALL PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRING-TIED AND THESE BRINDOS MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETERIORATION OF THE BRINDOS. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

EROSION CONTROL MIX, SHALL NOT BE USED ADJACENT TO WETLANDS. INSTALL PER THE DETAIL ON THE PLANS. THE MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. THE MIX COMPOSITION SHALL MEET THE STANDARDS DESCRIBED WITHIN THE BEST MANAGEMENT PRACTICES. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER. EROSION CONTROL MIX BERMAS SHALL NOT BE USED AT THE BOTTOM OF STEEP SLOPES (>6%) OR SLOPES WITH FLOWING WATER.

CONTINUOUS CONTAINED BERAL SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THIS SEDIMENT BARRIER IS EROSION CONTROL MIX PLACED WITHIN A SYNTHETIC TUBULAR NETTING AND PERFORM AS A STURDY SEDIMENT BARRIER THAT WORKS WELL ON HARD GROUND SUCH AS FROZEN CONDITIONS, TRAVELED AREAS OR PAVEMENT. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

5. TEMPORARY CHECK DAMS:

SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. CHECK DAMS ARE TO BE PLACED WITHIN DITCHES/SWALES AS SPECIFIED ON THE DESIGN PLANS IMMEDIATELY AFTER FINAL GRADING. CHECK DAMS SHALL BE 2 FEET HIGH. TEMPORARY CHECK DAMS MAY BE REMOVED ONLY AFTER THE ROADWAYS ARE PAVED AND THE VEGETATED SWALE ARE ESTABLISHED WITH AT LEAST 90% OF VIGOROUS PERENNIAL GROWTH. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL OF THE CHECK DAM.

STONE CHECK DAMS: STONE DAMS SHOULD BE CONSTRUCTED OF 2 TO 3 INCH STONE AND PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 8 INCHES LOWER THAT THE OUTER EDGES.

HAY BALE CHECK DAMS: BALES SHALL BE WIRE-BOUND OR STRING-TIED. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER. HAY BALES SHALL BE PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 8 INCHES LOWER THAT THE OUTER EDGES.

MANUFACTURED CHECK DAMS: MANUFACTURED CHECK DAMS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF AUTHORIZED BY THE PROPER LOCAL, STATE OR FEDERAL REGULATING AGENCIES. THESE UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

6. STORMDRAIN INLET PROTECTION:

INLET PROTECTION SHALL BE PLACED AROUND A STORMDRAIN DROP INLET OR CURB INLET PRIOR TO PERMANENT STABILIZATION OF THE IMMEDIATE AND UPSTREAM DISTURBED AREAS. THEY SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF WATER FROM THE PROTECTION METHOD MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

HAY BALE DROP INLET PROTECTION: WE DO NOT RECOMMEND THE USE OF HAY BALES AS INLET PROTECTION.

CONCRETE BLOCK AND STONE INLET SEDIMENT FILTER (DROP OR CURB INLET), SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE HEIGHT OF THE CONCRETE BLOCK BARRIER CAN VARY BUT MUST BE BETWEEN 12 AND 24 INCHES TALL. A MINIMUM OF 1 INCH CRUSHED STONE SHALL BE USED.

MANUFACTURED SEDIMENT BARRIERS AND FILTER (DROP OR CURB INLET), MANUFACTURED FILTERS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. STABILIZED CONSTRUCTION ENTRANCE/EXIT:

PRIOR TO CLEARING AND/OR GRUBBING THE SITE A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED WHEREVER TRAFFIC WILL EXIT THE CONSTRUCTION SITE ONTO A PAVED ROADWAY IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PUBLIC ROADWAYS. THE ENTRANCES AND ADJACENT ROADWAY AREAS SHALL BE PERIODICALLY SWEEP TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. THE TERM "SWEEP" IS UNDERSTOOD TO MEAN REMOVAL AND RECOVERY OF TRACKED SEDIMENT WITH A STREET SWEEPER, NOT BRUSHING THE MATERIAL INTO SWALES OR STRUCTURES WITH A MECHANICAL BROOM. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED IN AREAS SPECIFIED ON THE PLANS AND AS DETAILED ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

DUST CONTROL:

DUST CONTROL, DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS. APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS ARE ALLOWED IF AUTHORIZED BY THE PROPER LOCAL, STATE AND/OR FEDERAL REGULATING AGENCIES. HOWEVER, IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO MITIGATE DUST AND SOIL DRY LOSS FROM THE SITE. IF OFFSITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NOT LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS.

TEMPORARY VEGETATION:

TEMPORARY VEGETATION SHALL BE APPLIED TO DISTURBED AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR PERIODS UP TO 12 MONTHS. THIS PROCEDURE SHOULD BE USED EXTENSIVELY IN AREAS ADJACENT TO NATURAL RESOURCES. SEEDED PREPARATION AND APPLICATION OF SEED SHALL BE CONDUCTED AS INDICATED IN THE PERMANENT VEGETATION SECTION OF THIS NARRATIVE. SPECIFIC SEEDS (FAST GROWING AND SHORT LIVING) SHALL BE SELECTED FROM THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUALS FOR CONTRACTORS AND ENGINEERS, 2016 OR LATEST REVISION. ALTERNATIVE EROSION CONTROL MEASURES SHOULD BE USED IF SEEDING CAN NOT BE DONE BEFORE SEPTEMBER 15TH OF THE CONSTRUCTION YEAR.

PERMANENT VEGETATION:

REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF FINAL GRADING OF AREAS TO BE LOADED AND SEEDED. THE APPLICATION OF SEED SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR. PLEASE REFER TO THE WINTER EROSION CONTROL NOTES FOR MORE DETAIL. REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING.

SEEDED PREPARATION:

A. FOUR (4) INCHES OF LOAM SHALL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. LOAM SHALL BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER 2 INCHES OR LARGER IN ANY DIMENSION, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

B. SOIL S TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOIL TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14-DAY LIMIT ON SOIL EXPOSURE. BASED UPON TEST RESULTS, SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO FINAL SEEDINGS. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS MAY BE APPLIED AS FOLLOWS:

| ITEM | APPLICATION RATE |
|--|---------------------|
| 10-20 20 FERTILIZER (N-P205-K45 EQUAL) | 18.4 LBS/1,000 S.F. |
| GROUND LIMESTONE (50% CALCIUM & MAGNESIUM OXIDE) | 138 LBS/1,000 S.F. |

C. WORK LOAM AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL, TO A DEPTH OF 4 INCHES WITH PROPER EQUIPMENT. ROLL THE AREA TO FIRM THE SEEDED AREA. EXCEPT ON CLAY OR SILTY SOILS OR CORSE SAND.

APPLICATION OF SEED:

A. SEEDING, SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR. GENERALLY A SEED MIXTURE MAY BE APPLIED AS FOLLOWS (MDEP SEED MIX 2 IS DISPLAYED)

| SEED TYPE | APPLICATION RATE |
|----------------------|-----------------------------------|
| CREeping REED FESCUE | 0.46 LBS/1,000 S.F. (20 LBS/ACRE) |
| RED TOP | 0.06 LBS/1,000 S.F. (3 LBS/ACRE) |
| TALL FESCUE | 0.46 LBS/1,000 S.F. (20 LBS/ACRE) |
| TOTAL: | 0.97 LBS/1,000 S.F. (42 LBS/ACRE) |

NOTE: A SPECIFIC SEED MIXTURE SHOULD BE CHOSEN TO MATCH THE SOILS CONDITION OF THE SITE. VARIOUS AGENCIES CAN RECOMMEND SEED MIXTURES. MDEP RECOMMENDED SEED MIXTURES ARE IN THE EROSION AND SEDIMENT CONTROL BMP MANUAL, DATED 2016 OR LATEST REVISION.

B. HYDROSEEDING, SHALL BE CONDUCTED ON PREPARED AREAS WITH SLOPES LESS THAN 2:1. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

C. MULCHING, SHALL COMMENCE IMMEDIATELY AFTER SEED IS APPLIED. REFER TO THE TEMPORARY MULCHING SECTION OF THIS NARRATIVE FOR DETAILS.

SODDING:

FOLLOWING SEEDED PREPARATION, SOD CAN BE APPLIED IN LIEU OF SEEDING IN AREAS WHERE IMMEDIATE VEGETATION IS MOST BENEFICIAL, SUCH AS DITCHES, AROUND STORMWATER DROP INLETS AND AREAS OF AESTHETIC VALUE. SOD SHOULD BE Laid AT RIGHT ANGLES TO THE DIRECTION OF FLOW, STARTING AT THE LOWEST ELEVATION. SOD SHOULD BE ROLLED OR TAMPED DOWN TO EVEN OUT THE JOINTS ONCE Laid DOWN, WHERE FLOW IS PREVALENT THE SOD MUST BE PROPERLY ANCHORED DOWN, IRRIGATE THE SOD IMMEDIATELY AFTER INSTALLATION. IN MOST CASES, SOD CAN BE ESTABLISHED BETWEEN APRIL 1ST AND NOVEMBER 15TH OF THE CONSTRUCTION YEAR, HOWEVER, REFER TO THE WINTER EROSION CONTROL NOTES FOR ANY ACTIVITIES AFTER OCTOBER 1ST.

STANDARDS FOR TIMELY STABILIZATION:

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES - THE CONTRACTOR WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (10:1 V:1) TO BE A SLOPE. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS - BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3(C) OF THIS STANDARD.
- STABILIZE THE SLOPE WITH SOD - THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).
- STABILIZE THE SLOPE WITH MULCH - BY NOVEMBER 15 THE APPLICANT WILL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT WILL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 60% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SLOPE WITH STONE RIPRAP - THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES - BY SEPTEMBER 15 THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%: IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION - BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET. LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3(C) OF THIS STANDARD.
- STABILIZE THE SOIL WITH SOD - THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
- STABILIZE THE SOIL WITH MULCH - BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 100 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

1. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, AND AT LEAST EVERY SEVEN (7) DAYS, THE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES. THE CONTRACTOR SHALL PERFORM REPAIRS NO LATER THAN THE END OF THE NEXT WORKDAY, TO ALLOW CONTINUED PROPER FUNCTIONING OF THE EROSION CONTROL MEASURE. THE CONTRACTOR SHALL PROVIDE THE NECESSARY REGULATING AGENCIES WITH WRITTEN DOCUMENTATION DESCRIBING DATES OF INSPECTIONS AND NECESSARY FOLLOW-UP WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS OF THIS PLAN WITHIN SEVEN (7) DAYS.

2. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMI-MONTHLY UNTIL THE SEEDINGS HAVE BEEN ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 80% OF AREAS VEGETATED WITH VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW-UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

HOUSEKEEPING:

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE ACTIVITIES TO MINIMIZE EXPOSURE OF WASTE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, PUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DEREGISTERS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

5. EXCAVATION DE-WATERING: EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SiltED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL, WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES, WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST. THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

- DISCHARGES FROM FIRE FIGHTING ACTIVITY;
- FIRE HYDRANT FLUSHINGS;
- VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED;
- DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS;
- ROUTINE EXTERIOR BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
- UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
- UNCONTAMINATED EXCAVATION DEWATERING;
- POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
- LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES, SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- WASTEWATER FROM THE WASHOUT OR CLEAN OUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- SOLVENTS, SOLVENTS, OR CLEANING AND MAINTENANCE EQUIPMENT WASHWATER;
- TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

WINTER EROSION CONTROL MEASURES

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 1 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. ALL AREAS SHALL BE CONSIDERED TO BE DENURED UNTIL THE SUBURSE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED. SEEDING AND ANCHORING SHALL BE COMPLETED BY SEPTEMBER 15. A MINIMUM OF 160 LBS/1,000 S.F. (3 TONS PER ACRE) OF MULCH SHALL BE APPLIED. THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

STACKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS/1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCES PROTECTION

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.

PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENURED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED. SEEDED AND MULCHED HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75 LBS/1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1,000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.

BETWEEN THE DATES OF SEPTEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORK DAY.

5. MULCHING ON SLOPES AND DITCHES

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 200 LBS/1,000 S.F. ON ALL SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 2% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8%. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING

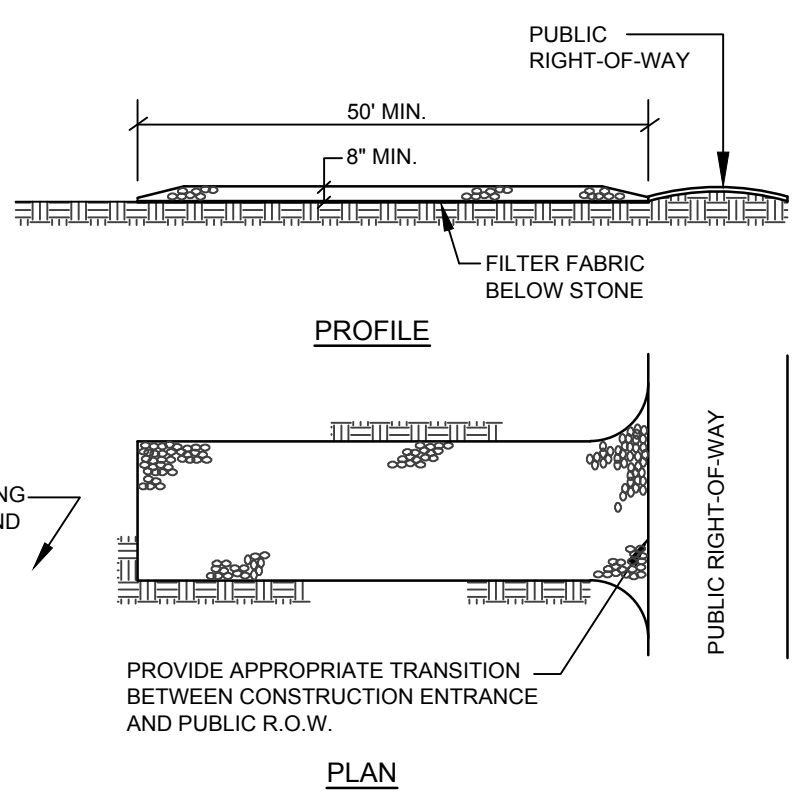
BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOADED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4 OF LOAM AND SEED AT AN APPLICATION RATE OF 5.85/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS SUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED WITH MULCH, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING. SEED TYPE SHALL BE WINTER RYE.

7. INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AT A MINIMUM, AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS N

CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.
2. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
4. PROTECT EXISTING BOUNDARY LINE MONUMENTATION. IF DISTURBED, EXISTING MONUMENTATION TO BE RESET BY A PROFESSIONAL LAND SURVEYOR.
5. DEMOLITION OF EXISTING PAVEMENT, UTILITIES AND OTHER SITE ELEMENTS SHALL BE COMPLETED IN COORDINATION WITH NEW SITE IMPROVEMENTS. ALL EXISTING UTILITY EXTENSIONS SHALL BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION. DEMOLITION WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. COORDINATE ALL DEMOLITION WORK WITH SITE AND BUILDING DRAWINGS.
6. PRIOR TO ANY DEMOLITION, THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF DEMOLITION PLAN TO THE OWNER. THIS PLAN SHALL DEPICT LOCATIONS OF PROPOSED TERMINATIONS AND ANY TEMPORARY SERVICES THAT WILL BE NEEDED.
7. EXISTING SEWER AND STORM DRAINAGE INFRASTRUCTURE TO REMAIN ACTIVE DURING CONSTRUCTION AND UPON COMPLETION OF PROJECT. DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE OR IMPEDE EXISTING FLOWS. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS REQUIRED DURING SEWER AND STORM DEMOLITION AND NEW CONSTRUCTION. DAMAGE TO EXISTING SEWER INFRASTRUCTURE SHALL BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE.
8. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND OWNERS REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
10. CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.
11. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.
12. SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
13. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENT CONTROL BMP'S" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
14. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
15. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG WHEN NOTIFIED. DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USPO PUBLIC WORKS SYSTEMS.
16. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.
17. ALL PAVEMENT MARKINGS AND DIRECTIONAL SIGNAGE SHOWN ON THE PLAN SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
18. ALL PAVEMENT JOINTS SHALL BE SAWCUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
19. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
20. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE A M.D.O.T. PERMIT AS WELL AS PERMITS FROM THE TOWN AS APPLICABLE.
21. THE PROPOSED LIMITS OF CLEARING SHOWN HEREON ARE APPROXIMATE BASED UPON THE PROPOSED LIMITS OF SITE GRADING. THE APPLICANT RESERVES THE RIGHT TO PERFORM NORMAL FOREST MANAGEMENT ACTIVITIES OUTSIDE OF THE CLEARING LIMIT AS SHOWN. TREE REMOVAL OUTSIDE OF THE LIMITS OF CLEARING MAY BE NECESSARY TO REMOVE DEAD OR DYING TREES OR TREE LIMBS. THIS REMOVAL IS DUE TO POTENTIAL SAFETY HAZARDS AND TO PROMOTE PROPER FOREST GROWTH.
22. IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AND AS SPECIFIED ON PLANS.
23. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. THE CONTRACTOR SHALL REPLACE OR REPAIR AS DIRECTED BY THE OWNER ALL SUCH DAMAGED OR DEFECTIVE MATERIALS WHICH APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
24. ALL WORK PERFORMED BY THE GENERAL CONTRACTOR AND/OR TRADE SUBCONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED ON THE DRAWINGS.
25. WHERE THE TERMS "APPROVED EQUAL," "OTHER APPROVED," "EQUAL TO," "ACCEPTABLE" OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGMENT OF SEBAGO TECHNIQS, INC.
26. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FOR THE WORK UNTIL TURNED OVER TO THE OWNER.
27. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES.
28. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
29. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
30. BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.
31. ALL SUBSURFACE UTILITY LINES SHOWN HEREON ARE BASED SOLELY ON THE FIELD LOCATION OF VISIBLE STRUCTURES, SMMS, CIPS, HYDRANTS, ETC. IN CONJUNCTION WITH DESIGN AND OR AS-BUILT PLANS SUPPLIED TO SEBAGO TECHNIQS INC. BY OTHERS. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, DRILLING, ETC. DIG SAFE MUST BE NOTIFIED AND A SITE IDENTIFICATION NUMBER ALONG WITH A SAFE TO DIG DATE OBTAINED. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION, DEPTH AND MATERIAL OF ALL SUBSURFACE UTILITY LINES SHOWN HEREON AND ANY AND ALL OTHERS LOCATED ON SITE WITHIN THE CONSTRUCTION AREA.

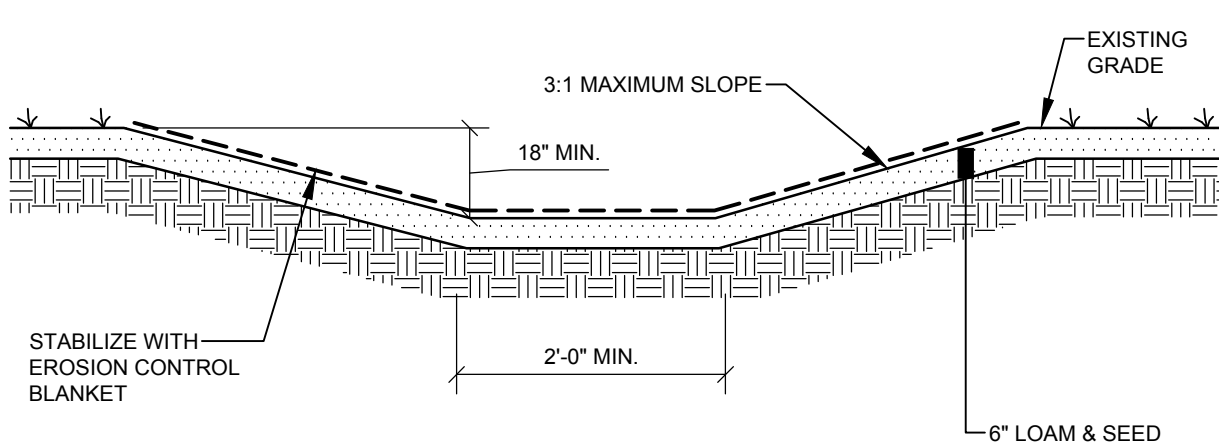


NOTES:

1. STONE SIZE: AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"), USE CRUSHED STONE.
2. LENGTH: AS SHOWN ON PLANS, MIN. 50 FEET.
3. THICKNESS: NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION EXIT

NOT TO SCALE

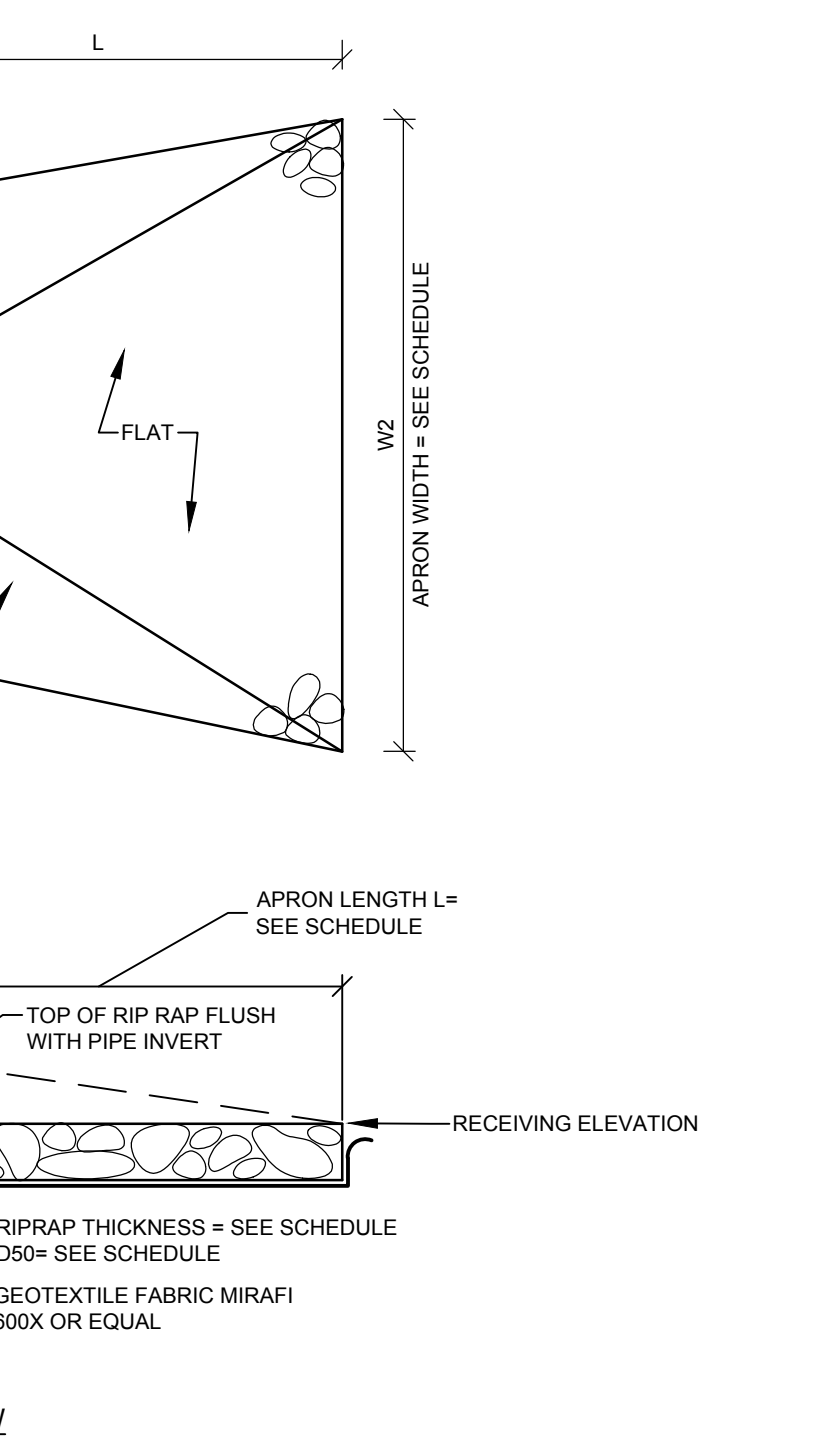


VEGETATED SWALE

NOT TO SCALE

STONE CHECK DAM

NOT TO SCALE



TYPICAL RIPRAP APRON SCHEDULE

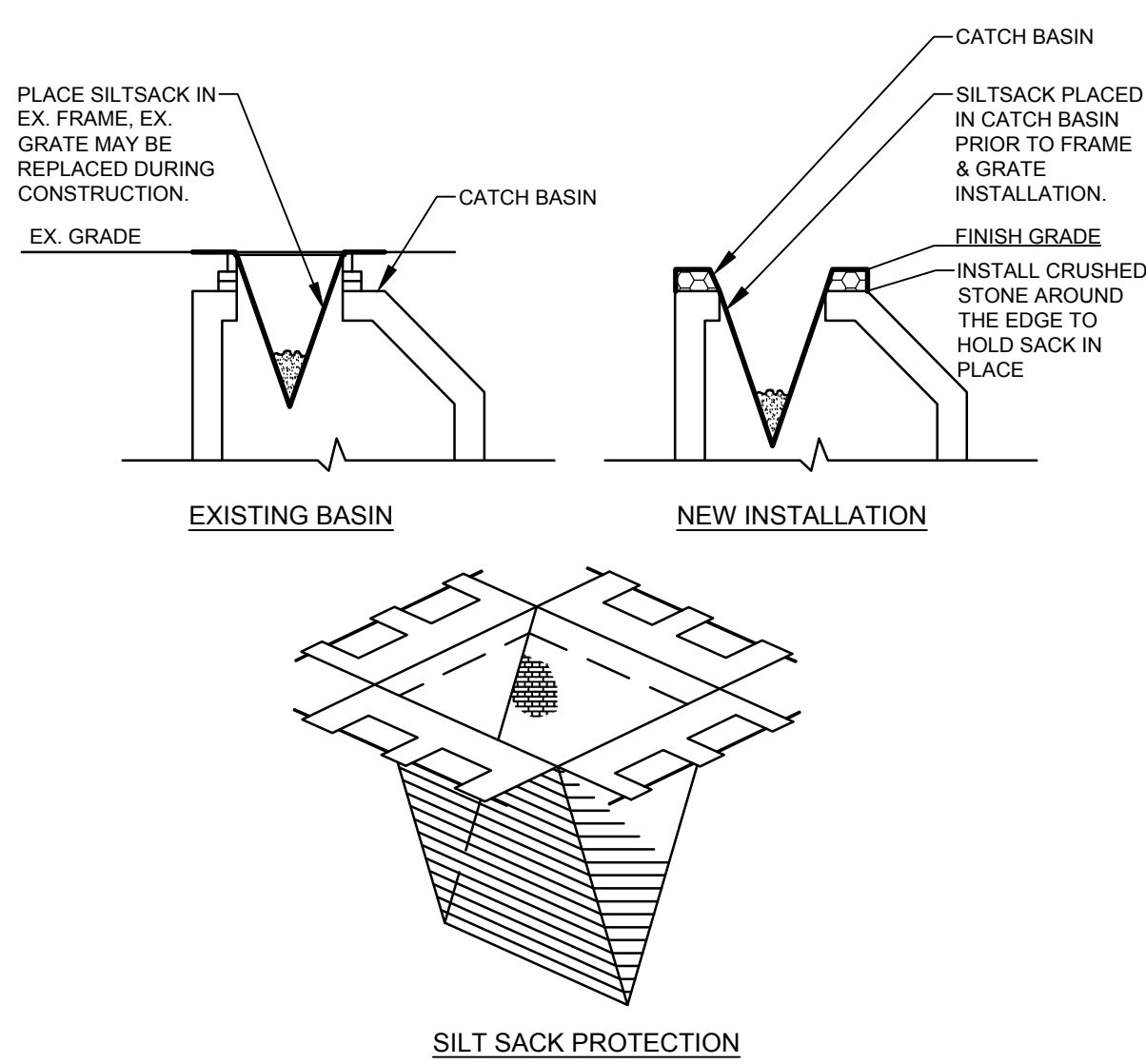
| CULVERT DIAMETER - D (IN.) | APRON LENGTH - L (FT.) | WIDTH - W1 (FT.) | WIDTH - W2 (FT.) | WIDTH - W3 (FT.) | RIPRAP D50 (IN.) | RIPRAP THICKNESS (IN.) |
|----------------------------|------------------------|------------------|------------------|------------------|------------------|------------------------|
| 12 | 8 | 3 | 9 | 6 | 14 | 14 |
| 15 | 10 | 4 | 12 | 6 | 14 | 14 |
| 18 | 13 | 5 | 15 | 7 | 16 | 16 |
| 24 | 18 | 6 | 20 | 8 | 18 | 18 |
| 36 | 29 | 9 | 32 | 11 | 25 | 25 |
| 42 | 33 | 11 | 37 | 12 | 27 | 27 |
| 48 | 39 | 12 | 43 | 16 | 36 | 36 |

NOTES:

1. RIPRAP TO BE PROCESSED ANGULAR ROCK.
2. RIPRAP GRADATION SHALL BE A WELL GRADED MIX FROM ABOUT 1.5 TIMES D SIZE TO 26 PERCENT OF THE D SIZE.
3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12" ONTO THE GEOTEXTILE.
5. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH, UNIFORMLY SLOPED SURFACE.

RIPRAP APRON

NOT TO SCALE

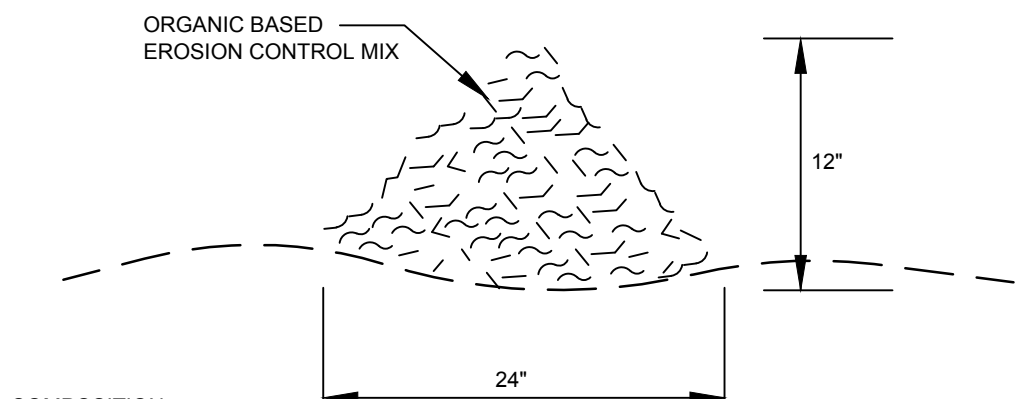


NOTES:

1. PRIOR TO FINAL GRADING AND PAVING OPERATIONS BEGIN A CATCH BASIN INSERT (SUCH AS A SILT SACK OR A DANDY BAG) MUST BE INSTALLED IN EACH BASIN PER MANUFACTURERS INSTRUCTIONS. HAY BALES SHOULD BE REMOVED ONCE INSERTS ARE INSTALLED.

CATCH BASIN PROTECTION DETAIL (FOR PAVED AREAS)

NOT TO SCALE



COMPOSITION

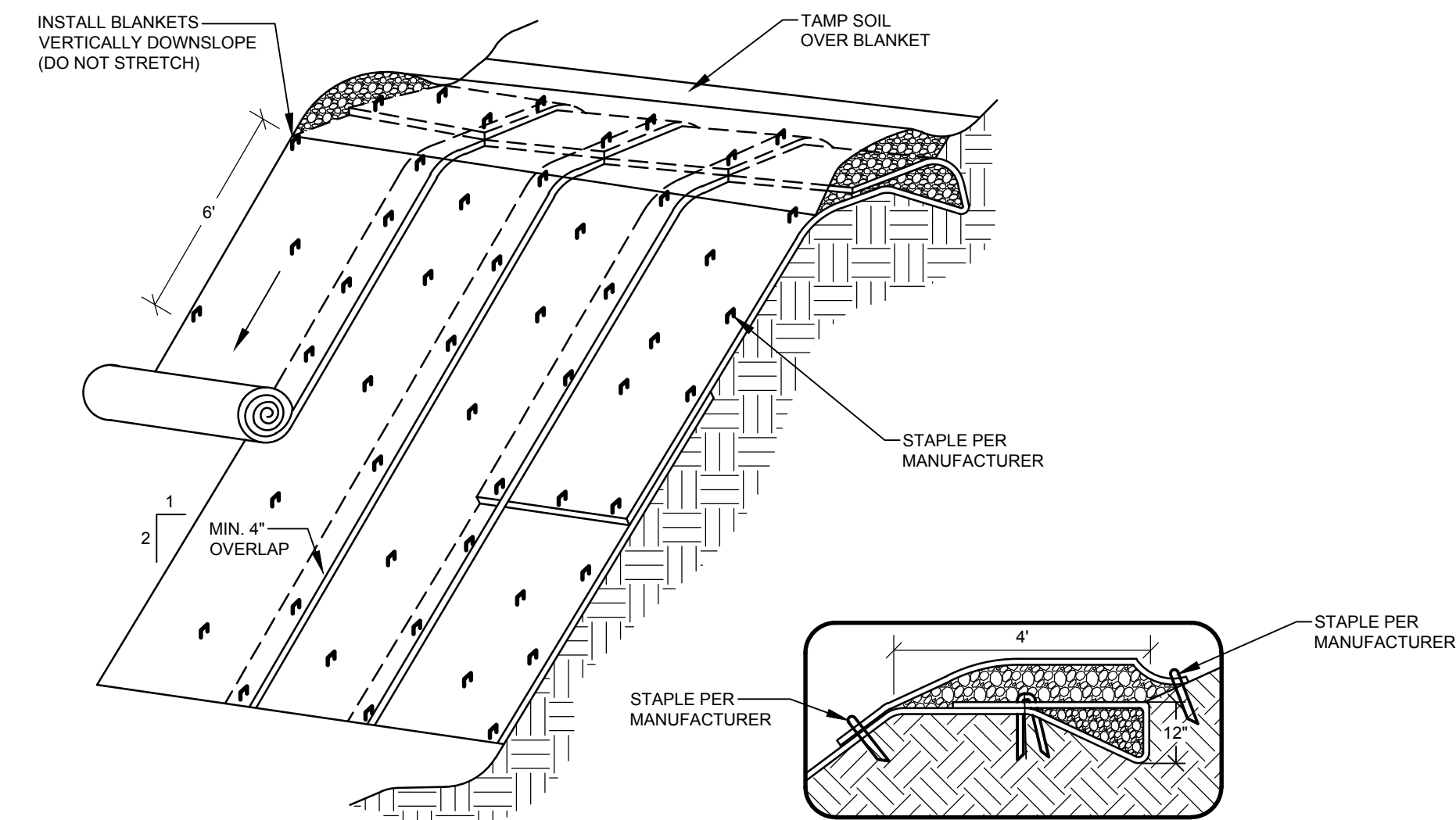
EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL, LAST REVISED 3/2003 OR LATER. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

INSTALLATION:

1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX CAN BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS IN AREAS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.

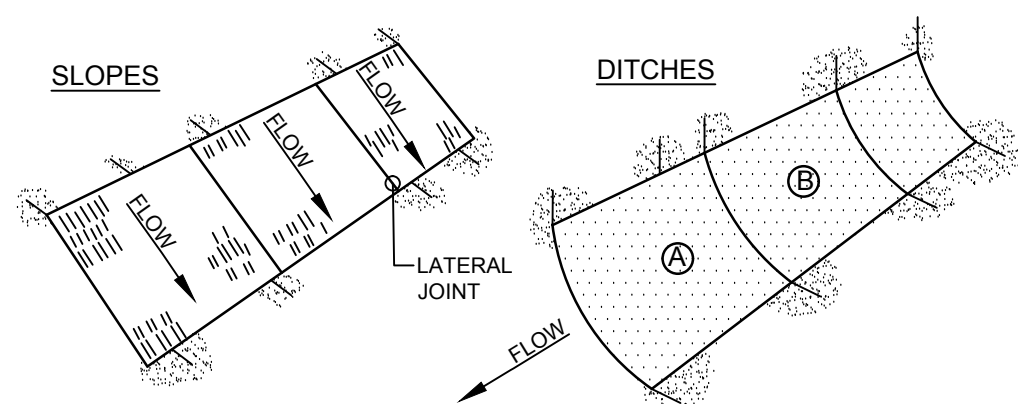
EROSION CONTROL MIX BERM

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. THE SOIL SURFACE SHALL BE FINELY GRADED AND SMOOTH FOR THE BLANKET TO HAVE DIRECT CONTACT WITH THE SOIL AND TO PREVENT UNDERMINING.
2. SEED SHALL BE SOWN BEFORE INSTALLING THE EROSION CONTROL BLANKET.
3. ALWAYS UNROLL THE BLANKET DOWNHILL WITHOUT STRETCHING AND ANCHOR THE UPSLOPE EDGE IN A 12 INCH DEEP TRENCH THAT IS BACKFILLED AND TAMPED. COVER TAMP HEDD WITH BLANKET AND STAPLE TO SECURE.
4. OVERLAP SINGLE STYLE A MINIMUM OF 12 INCHES AT THE TOP OF EACH ROW AND 4 INCHES AT THE EDGES OF PARALLEL ROWS. ANCHOR ALONG THE OVERLAP WITH A MAXIMUM SPACING OF 3 FEET OR AS REQUIRED BY THE MANUFACTURER.

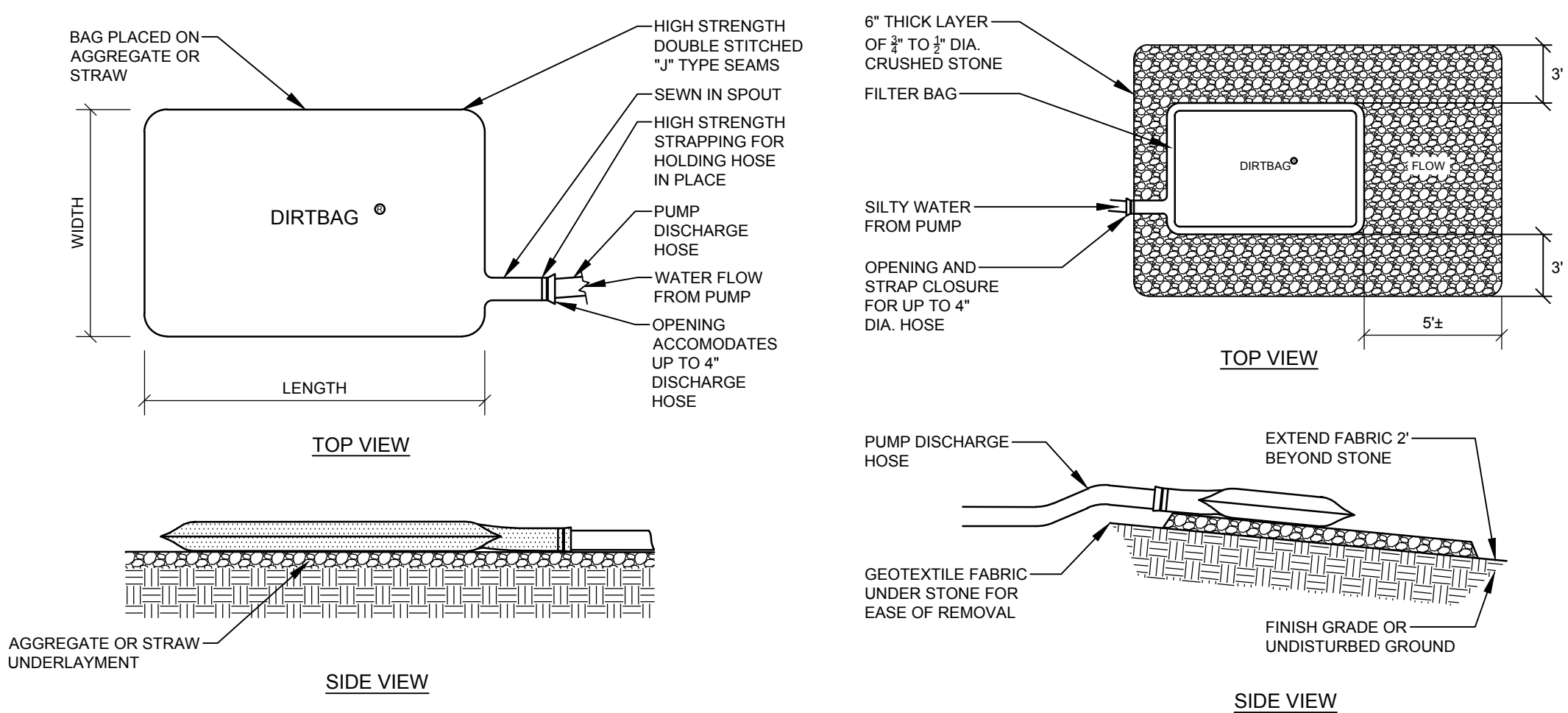


NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6\"/>

EROSION CONTROL BLANKET

NOT TO SCALE



A GEOTEXTILE FIBER IS A PREFABRICATED SACK THAT IS USED TO FILTER SEDIMENTS FROM DEWATERING ACTIVITIES. A FILTER BAG SHOULD BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED GUIDELINES. CONSULT THE DEP IF THE STRUCTURE WILL BE WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE OR IF SECONDARY CONTAINMENT IS REQUIRED.

- INSTALL THE FILTER BAG PRIOR TO INITIATING ANY ACTIVITIES WHICH WILL REQUIRE DEWATERING.
- THE TYPE OF FABRIC SHOULD BE BASED ON THE SIZE OF SOL PARTICLES TO BE TRAPPED (I.E. A WOVEN MATERIAL FOR COARSE PARTICLES AND A NONWOVEN MATERIAL FOR FINER PARTICLES).
- A FILTER BAG SHOULD BE LOCATED IN AN AREA MOSTLY LEVEL (WITH LESS THAN 5% SLOPE). A PAD OF CRUSHED GRAVEL MAY BE PROVIDED.
- AVOID DISCHARGING TO AN AREA THAT IS BARE OF VEGETATION OR NEWLY VEGETATED. ANY SIGN OF EROSION OR CHANNELIZATION FROM THE DISCHARGED WATER REQUIRES IMMEDIATE CORRECTION.
- FILTER BAGS HAVE A FINITE CAPACITY FOR SEDIMENT COLLECTION AND MAY BE PRONE TO PLUGGING. AVOID OVER-PRESSURIZING THE BAG OR IT MAY BURST.
- IF A SEDIMENT DISCHARGE IS OBSERVED, INSPECT THE FILTER BAG FOR TEARS OR OTHER MALFUNCTIONS.

DIRTBAG PUMPED SILT CONTROL SYSTEM

NOT TO SCALE

NOT FOR CONSTRUCTION

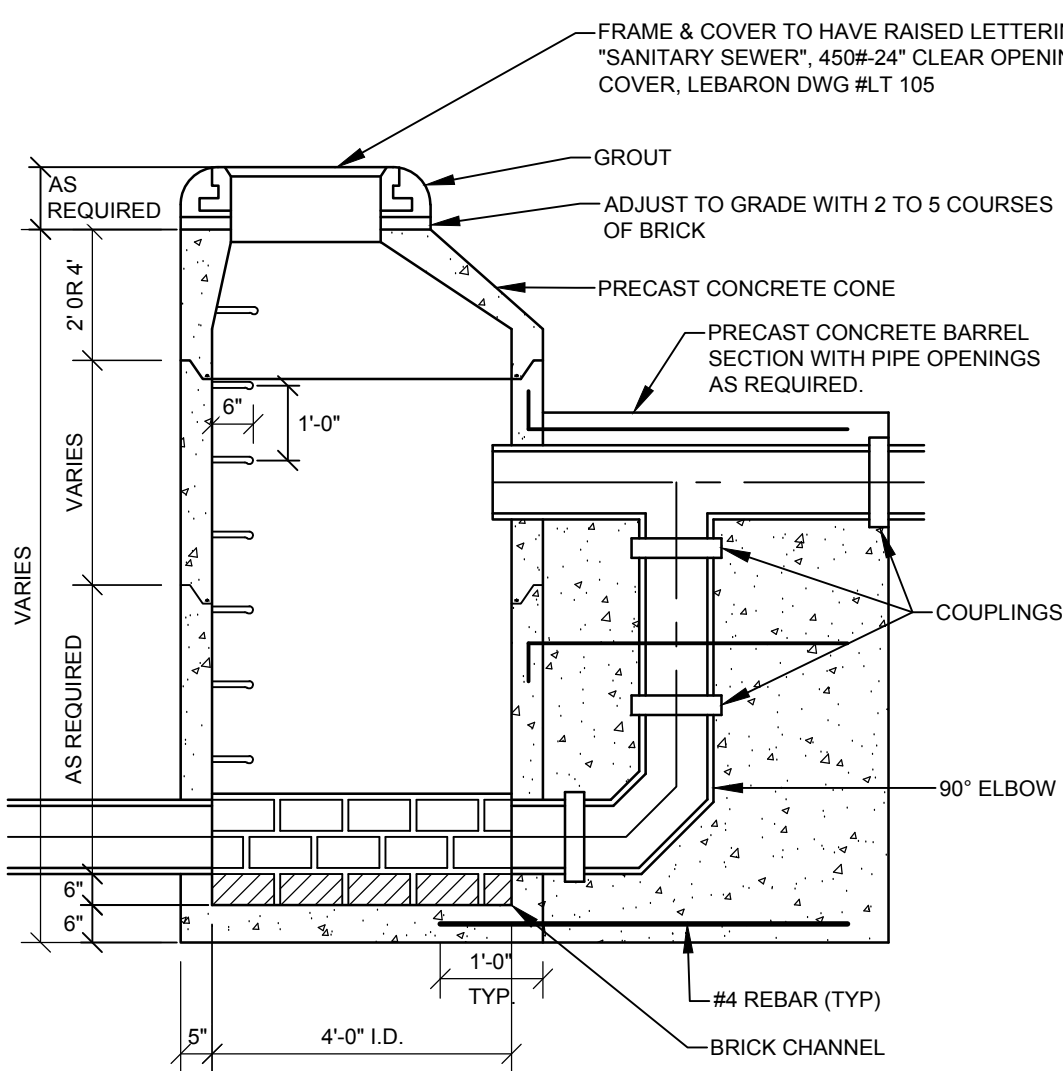
DANIEL L. RILEY, P.E. 9687
STATE OF MAINE
Professional Engineer
No. 9687
06/12/2024

ISSUED TO CITY OF BIDDEFORD FOR FINAL SITE PLAN
PHASE 1 SCHEMATIC DESIGN SET
DATE: 06/12/2024
BY: DLR
STATUS: A

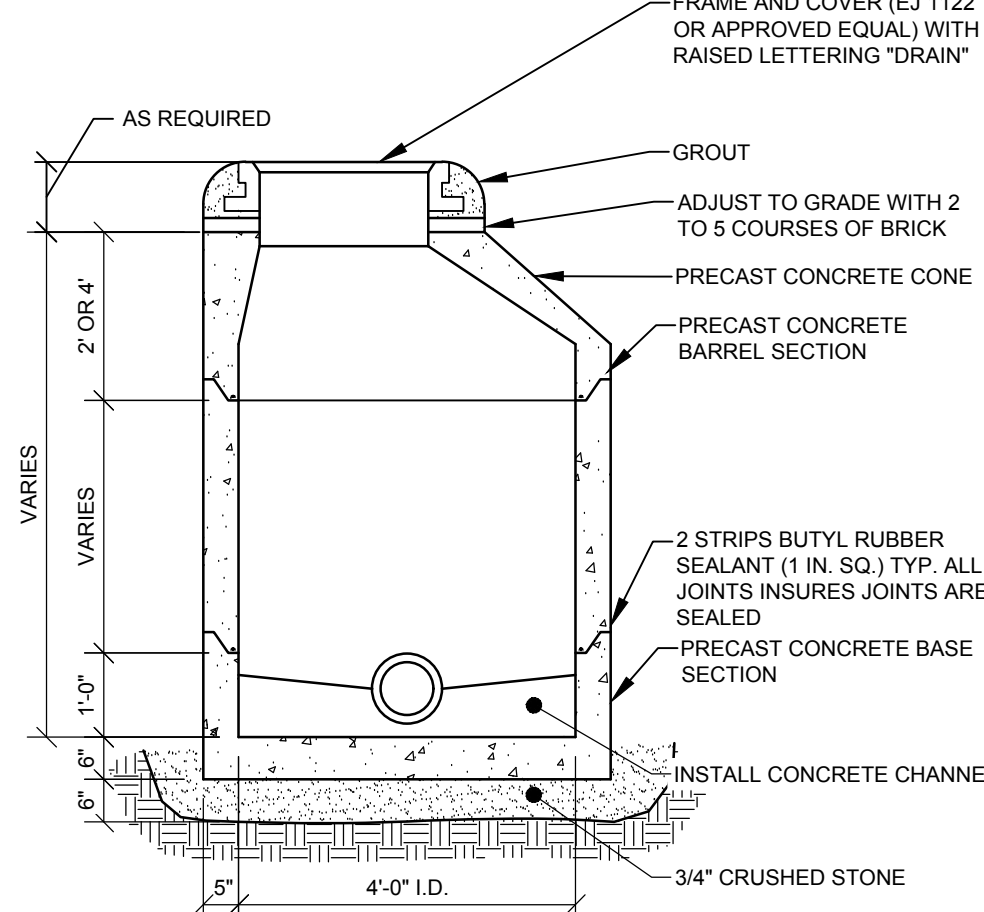
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQS, INC. ANY ALTERATIONS AUTHORIZED OR PERMITTED SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQS, INC.

SEBAGO TECHNIQS
SEBAGOTECHNIQS.COM
75 John Roberts Rd., Suite 4-A
South Portland, ME 04065
207.200.2100
South Portland, Biddeford, Bangor, Springdale and Bath

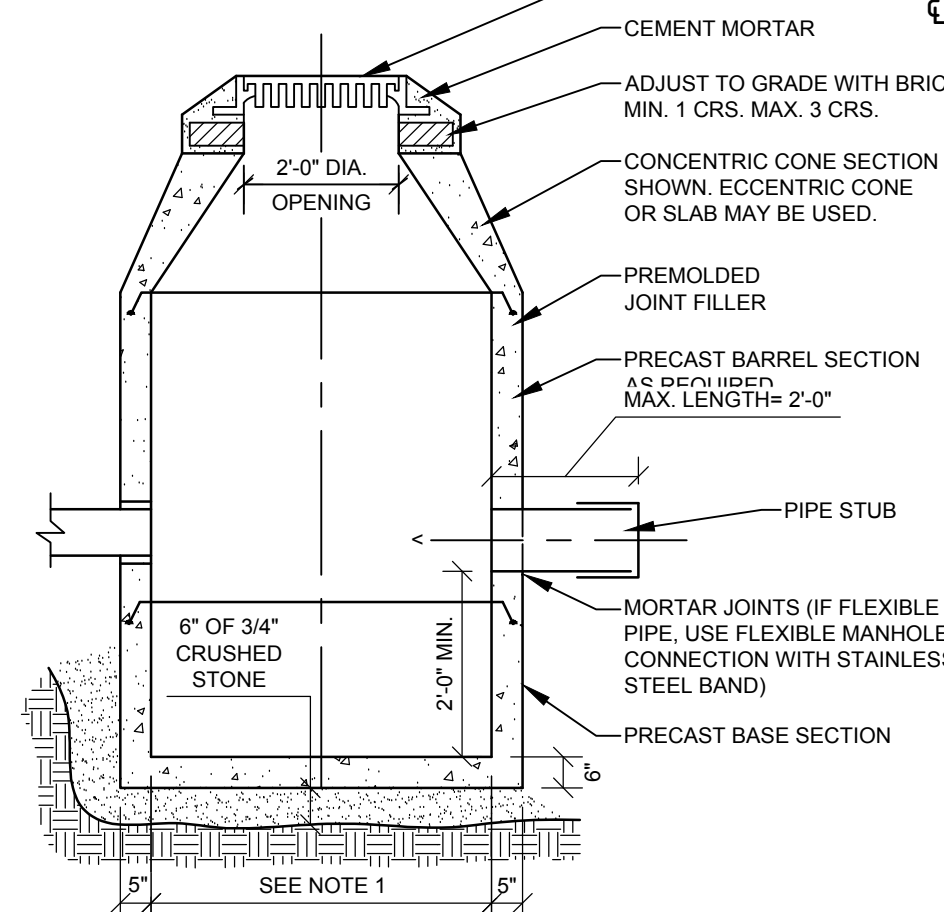
DETAILS - 1
DRAWN BY: ONE DIAMOND
CHECKED BY: DLR
DATE: 06/12/2024
SCALE: NTS
SHEET C-501



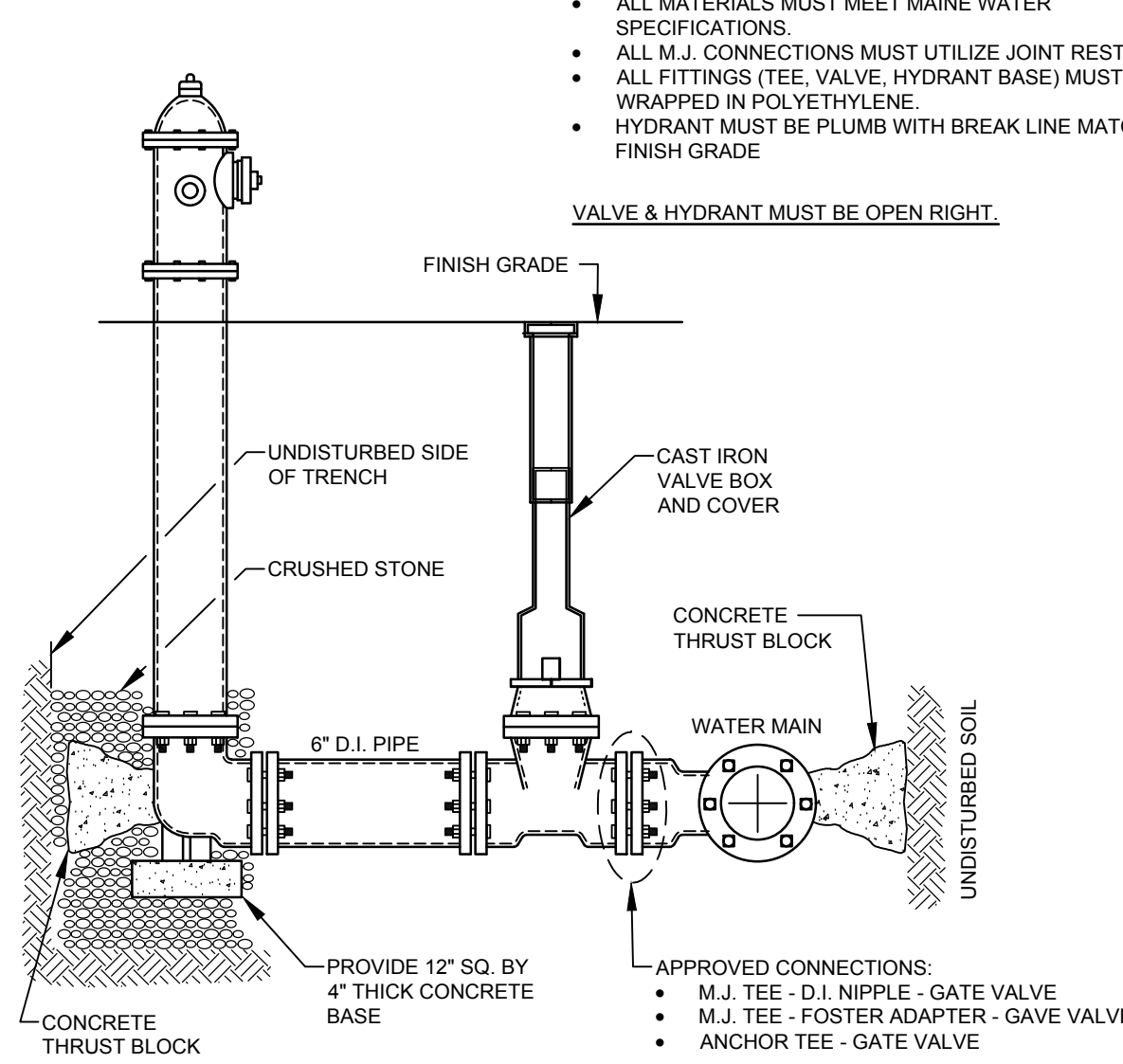
SANITARY EXTERIOR DROP MANHOLE
NOT TO SCALE



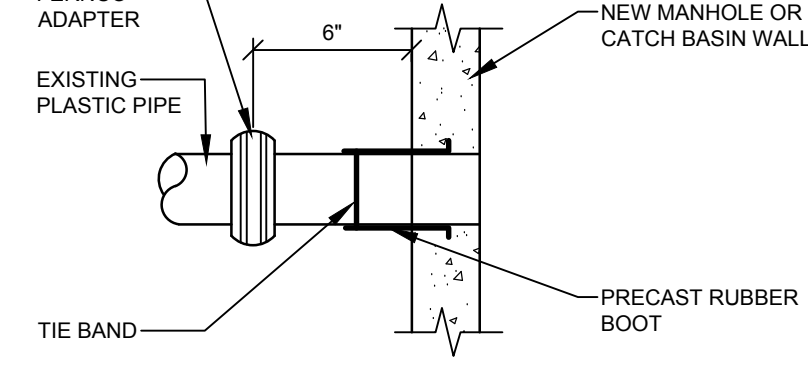
PRECAST MANHOLE
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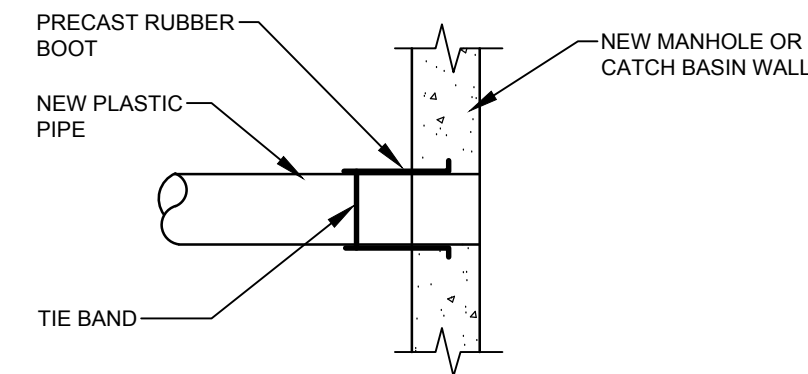
CATCH BASIN
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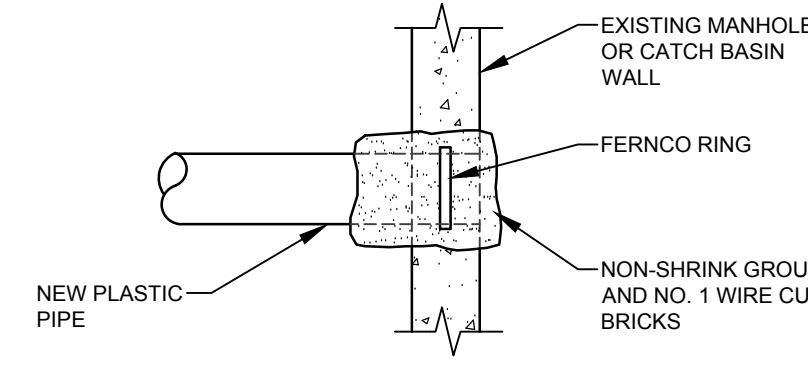
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NOT TO SCALE



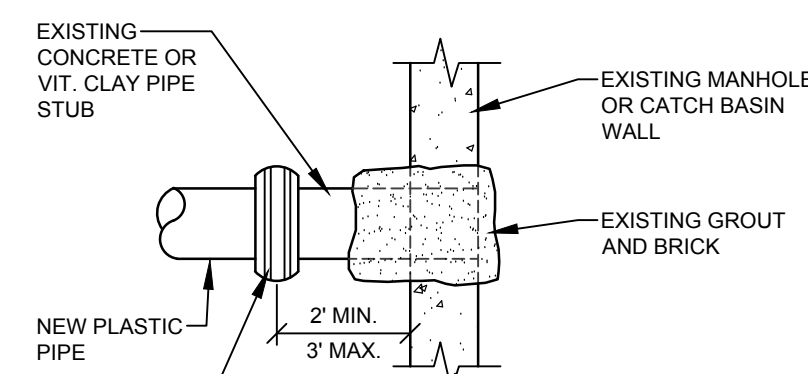
METHOD 1- EXISTING PIPE INTO NEW STRUCTURE



METHOD 2- NEW CONSTRUCTION

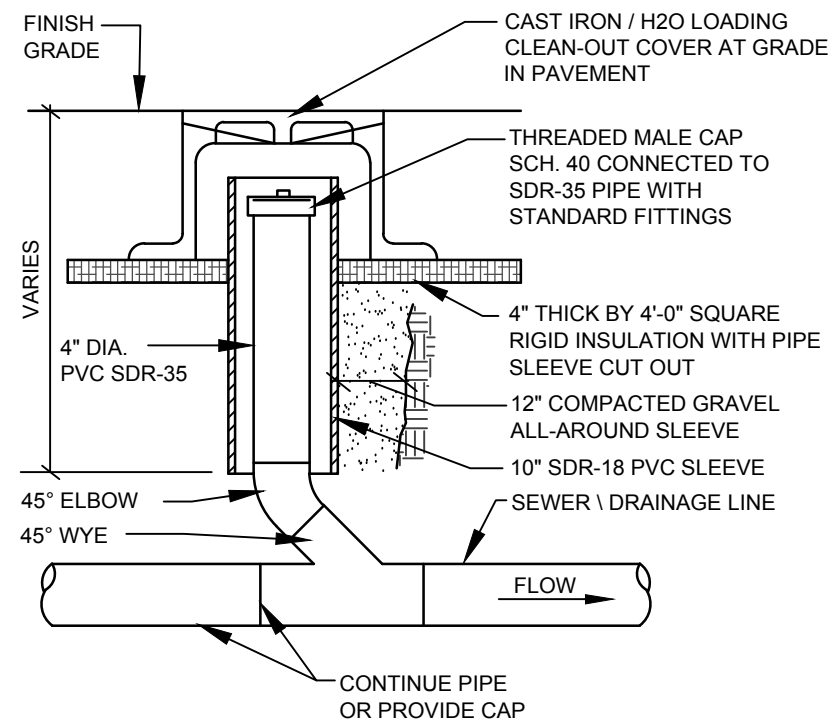


METHOD 3- NEW PIPE INTO EXISTING STRUCTURE

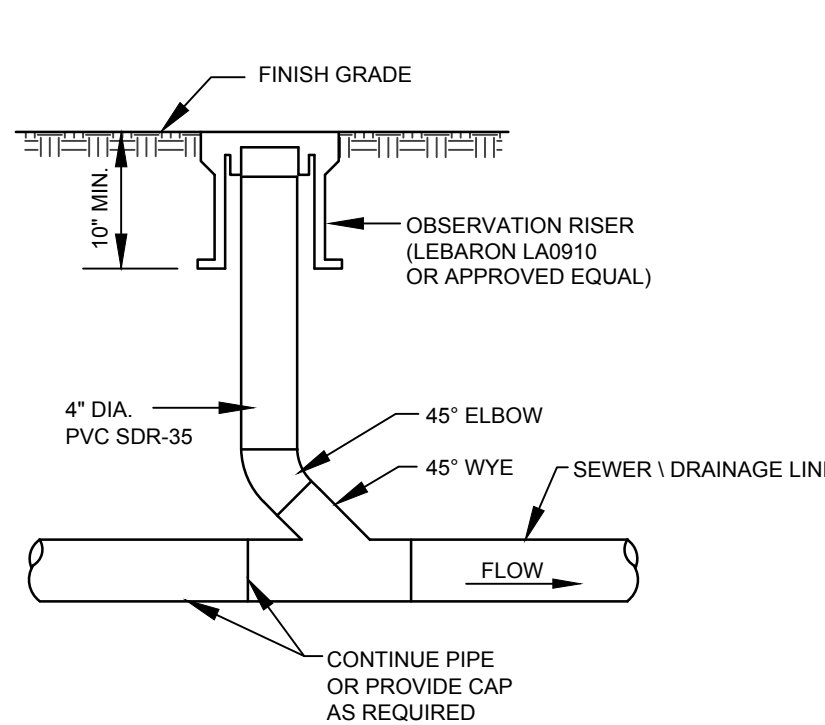


METHOD 4- NEW PIPE INTO EXISTING STUB

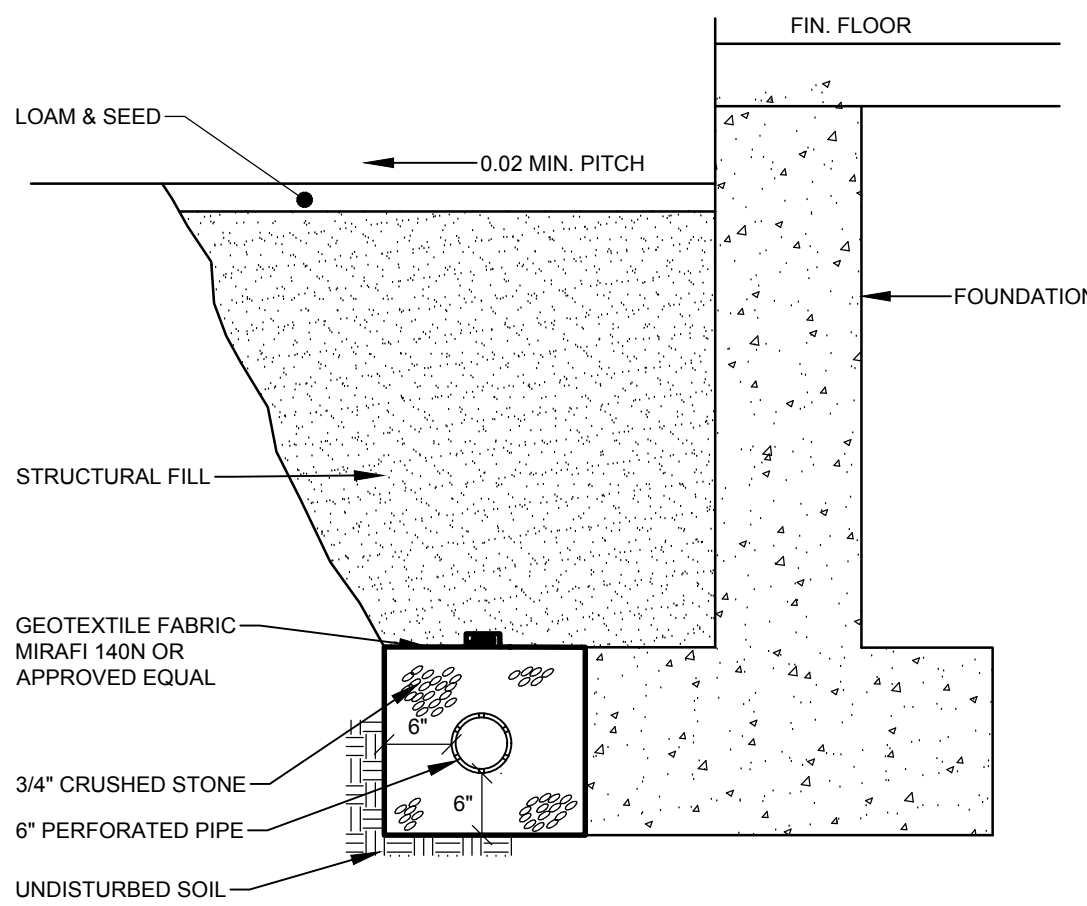
PLASTIC PIPE CONNECTIONS
NOT TO SCALE



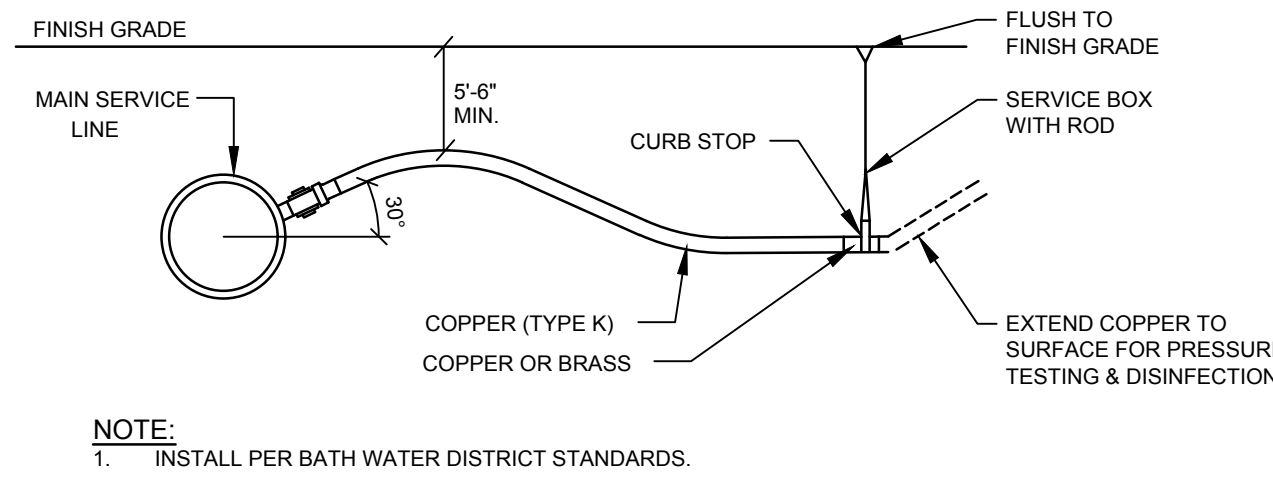
CLEAN-OUT IN PAVEMENT AREAS
NOT TO SCALE



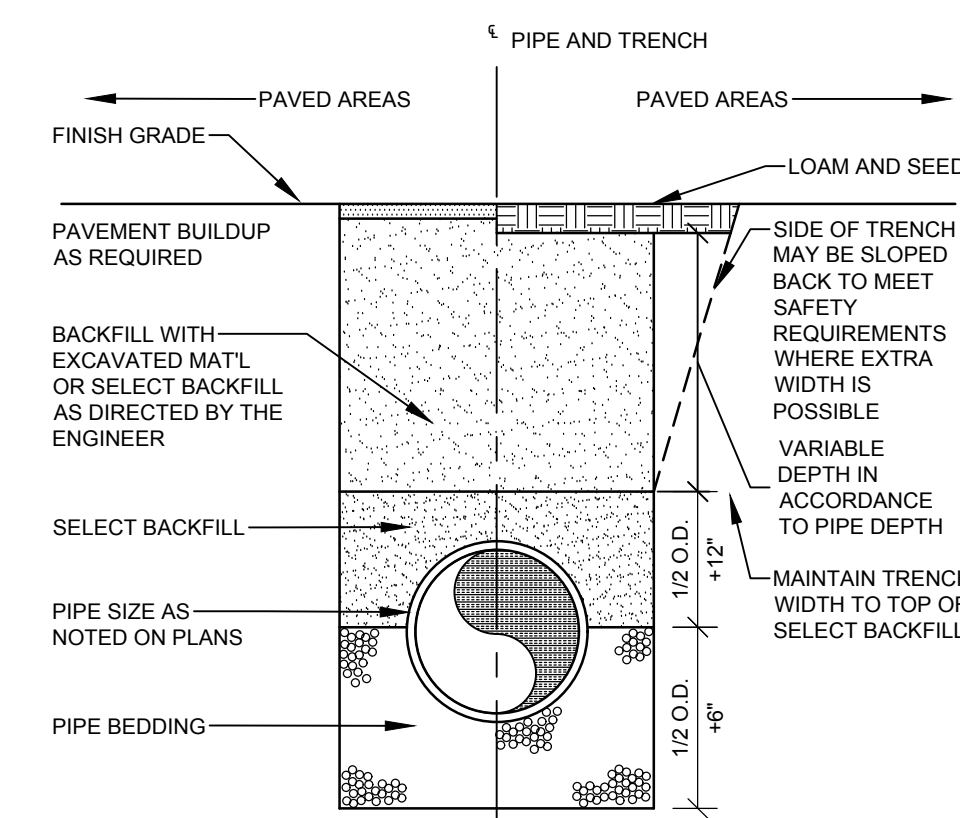
CLEAN-OUT IN GRASSED AREAS
NOT TO SCALE



FOUNDATION DRAIN SECTION
NOT TO SCALE



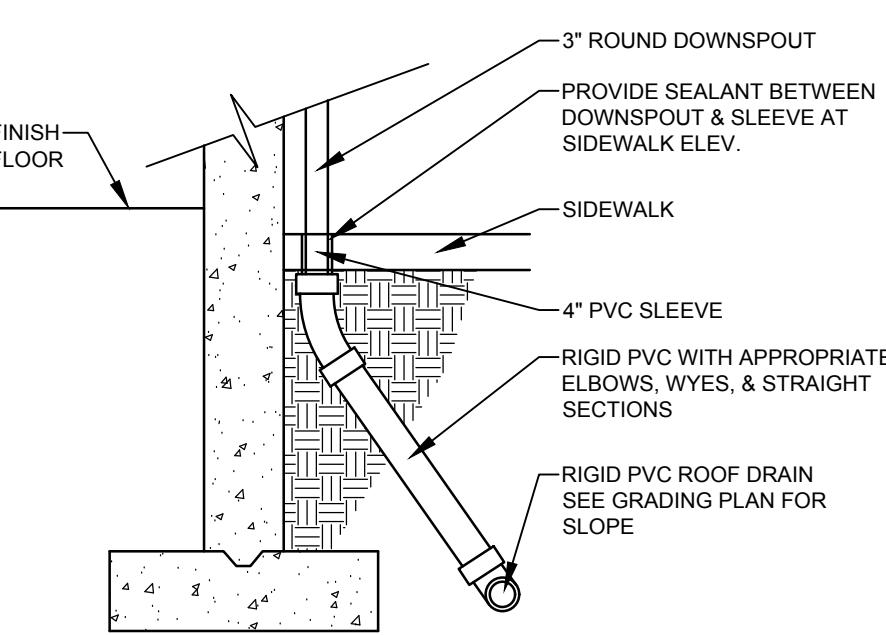
CHLORINATION TAP
NOT TO SCALE



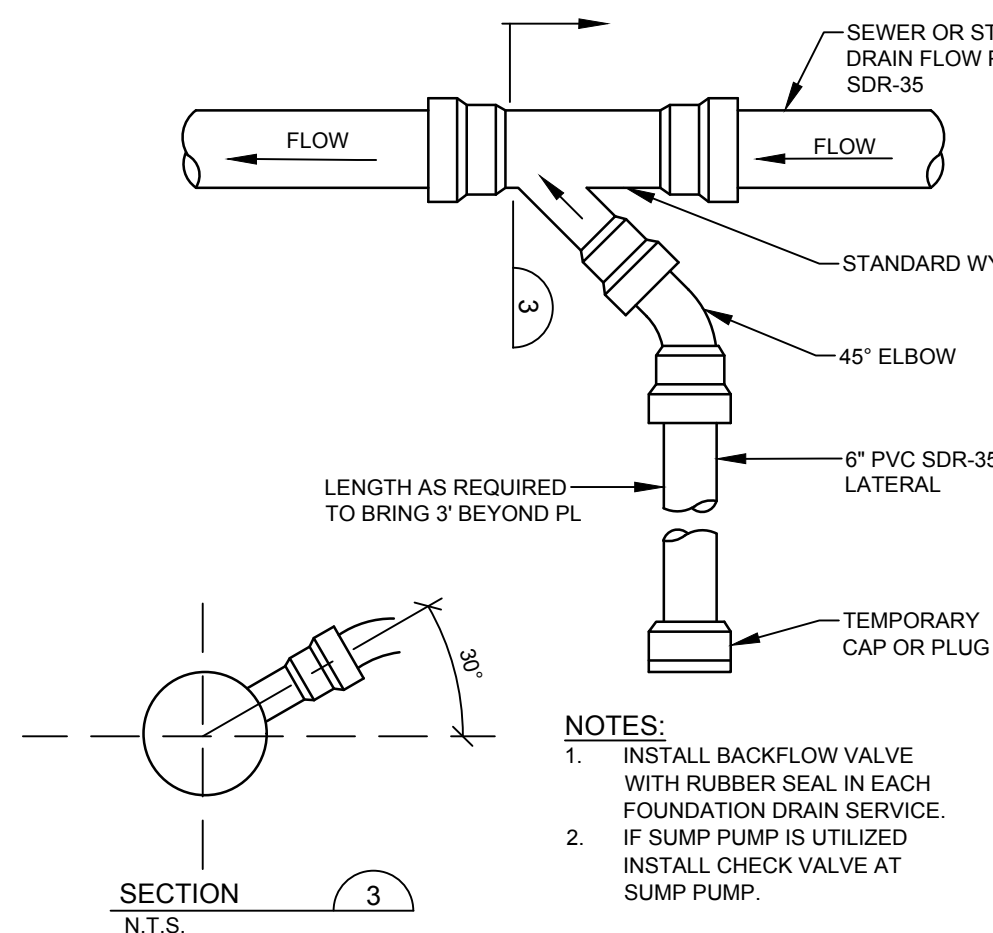
| TRENCH BACKFILL SCHEDULE | | |
|---|--------------------------------|---|
| PIPE TYPE | PIPE BEDDING MATERIAL | SELECT BACKFILL |
| CORRUGATED METAL DUCTILE IRON REINFORCED CONCRETE | MDOT 703.22 TYPE B UD BACKFILL | MDOT 703.22 TYPE B UD BACKFILL |
| PVC-SDR 35 HDPE | MDOT 703.13 3/4" CRUSHED STONE | MDOT 703.22 TYPE B UD BACKFILL, OR MDOT 703.13 3/4" CRUSHED STONE |
| PERFORATED PVC-SDR 35 HDPE | MDOT 703.13 3/4" CRUSHED STONE | MDOT 703.22 TYPE B UD BACKFILL, OR MDOT 703.13 3/4" CRUSHED STONE |

NOTE:
ALL BRACING AND SHEETING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL MEET ALL STATE AND O.S.H.A. SAFETY STANDARDS.

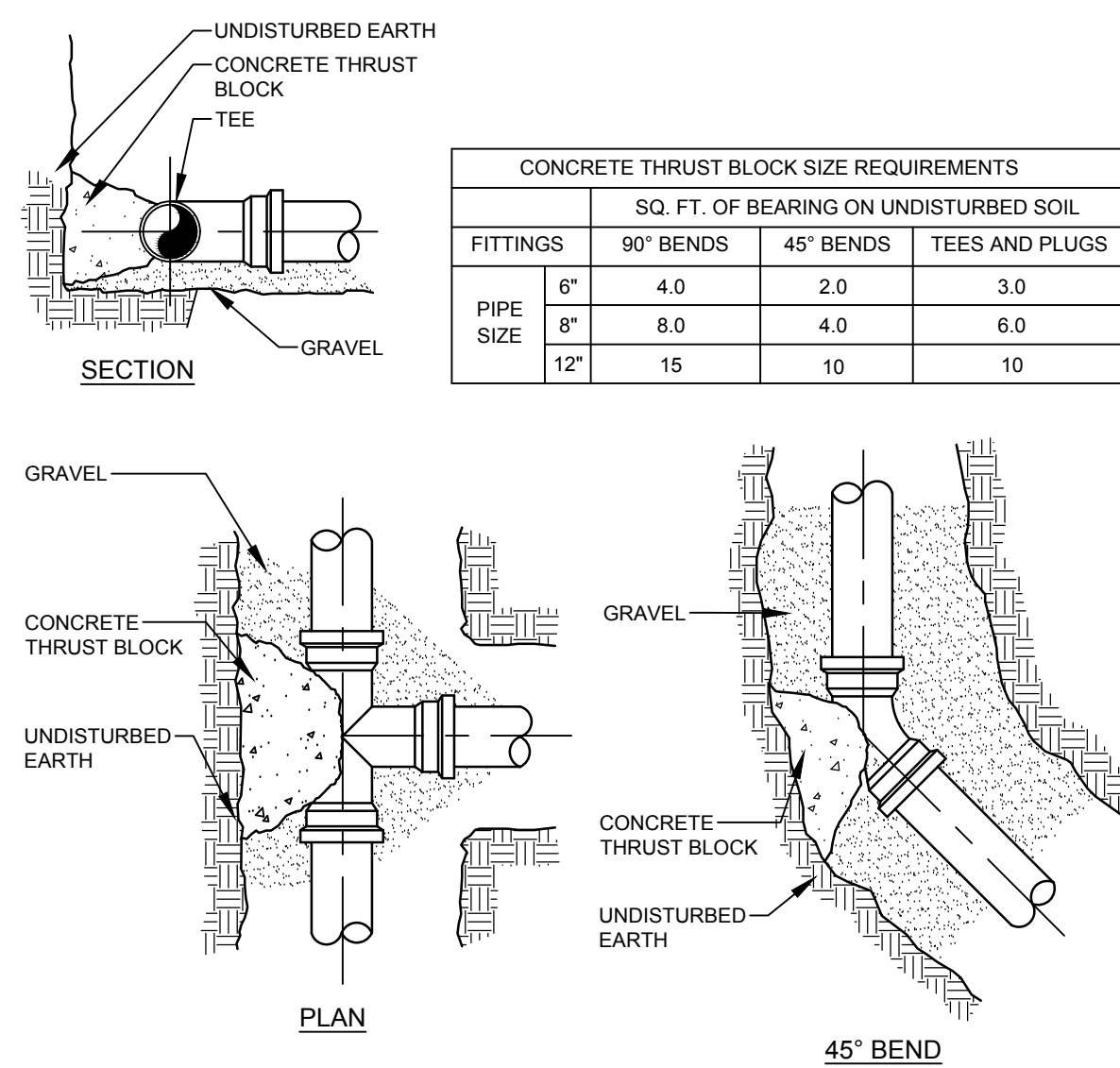
TRENCH SECTION
NOT TO SCALE



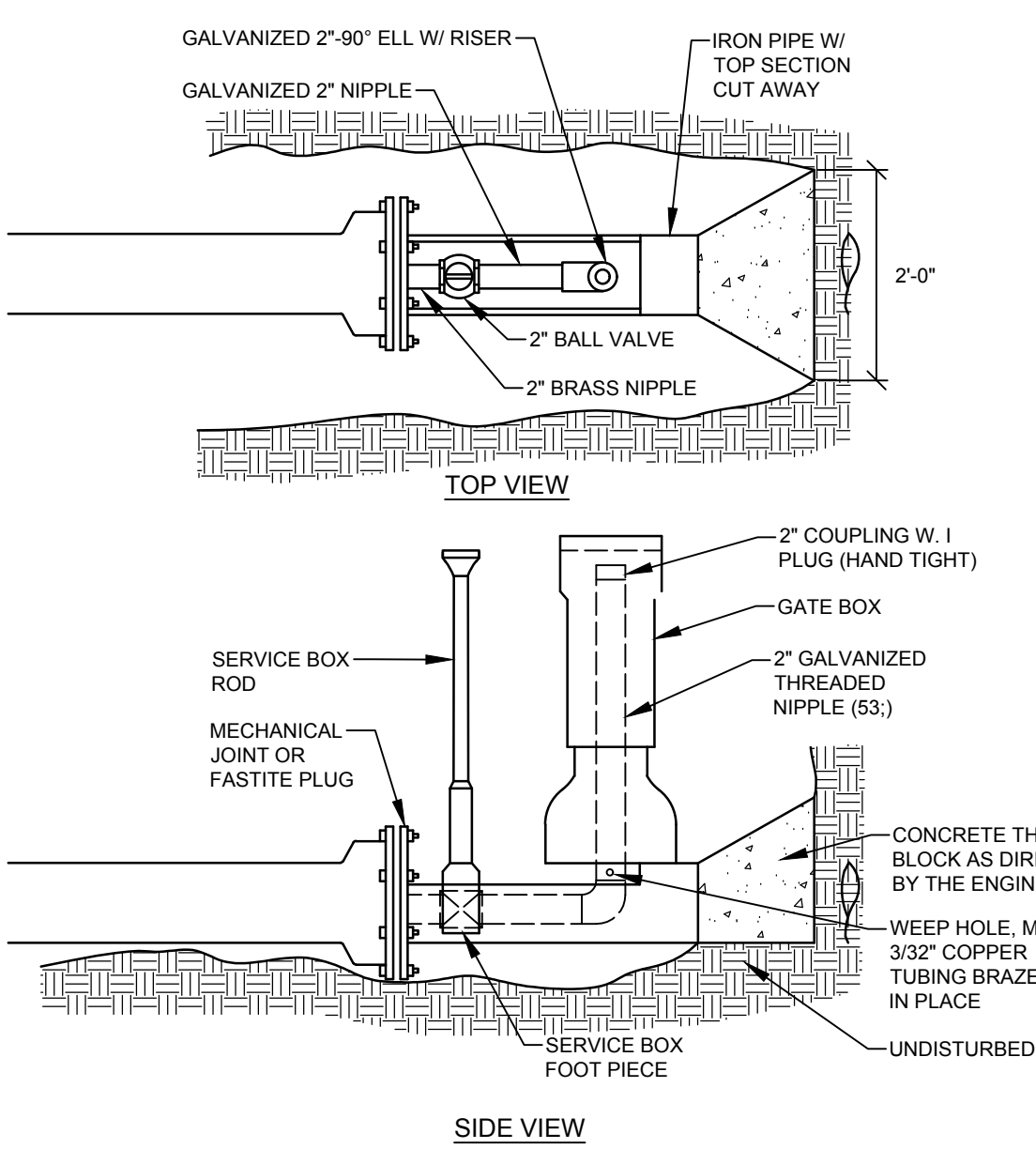
ROOF DRAIN CONNECTOR
NOT TO SCALE



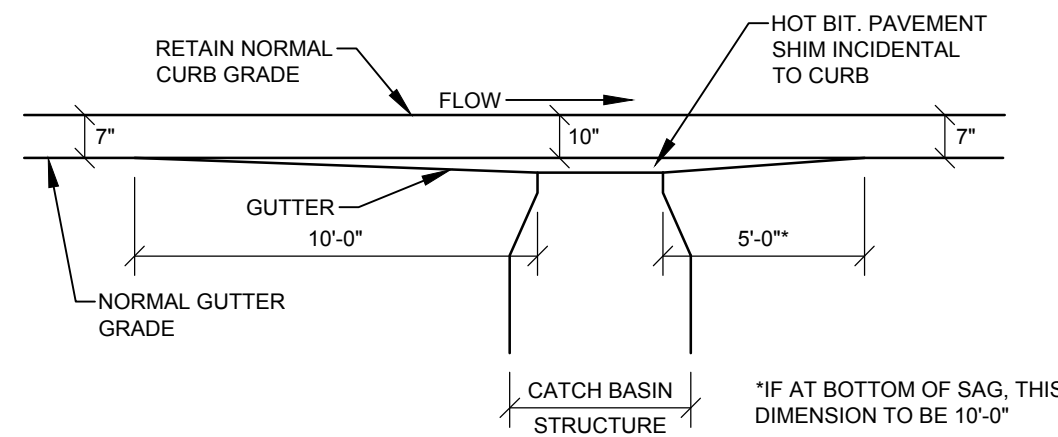
SEWER / FOUNDATION DRAIN SERVICE CONNECTION
NOT TO SCALE



TEE & BEND DETAIL
NOT TO SCALE

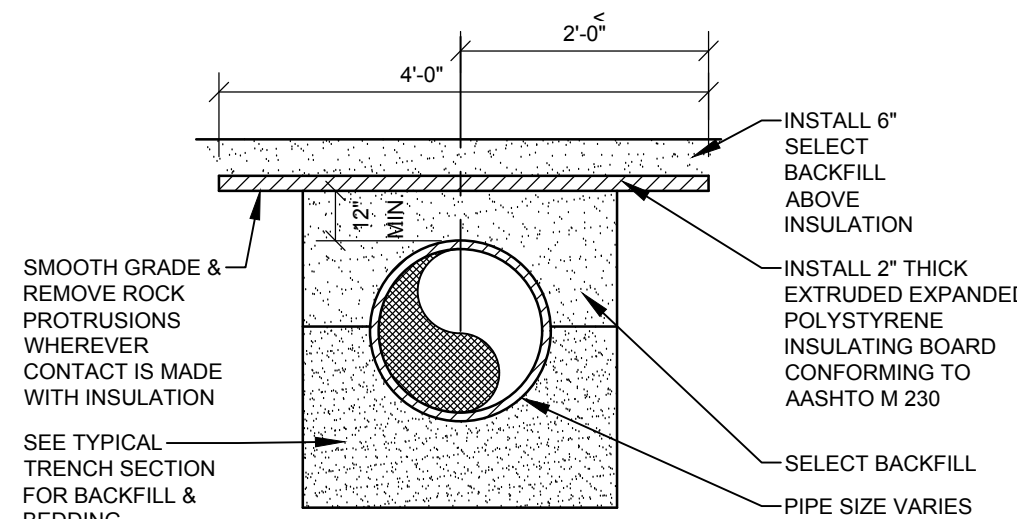


STANDARD 2" BLOW-OFF
NOT TO SCALE



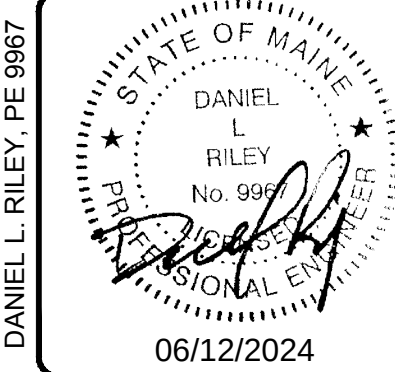
NOTES:
CATCH BASIN GRATES SHALL BE DERESSED 2" BELOW THE NORMAL GUTTER GRADE. UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT. DIMENSIONS ARE INTENDED TO BE NOMINAL.

GUTTER GRADE TRANSITION AT CATCH BASIN
NOT TO SCALE



PIPE INSULATION DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION



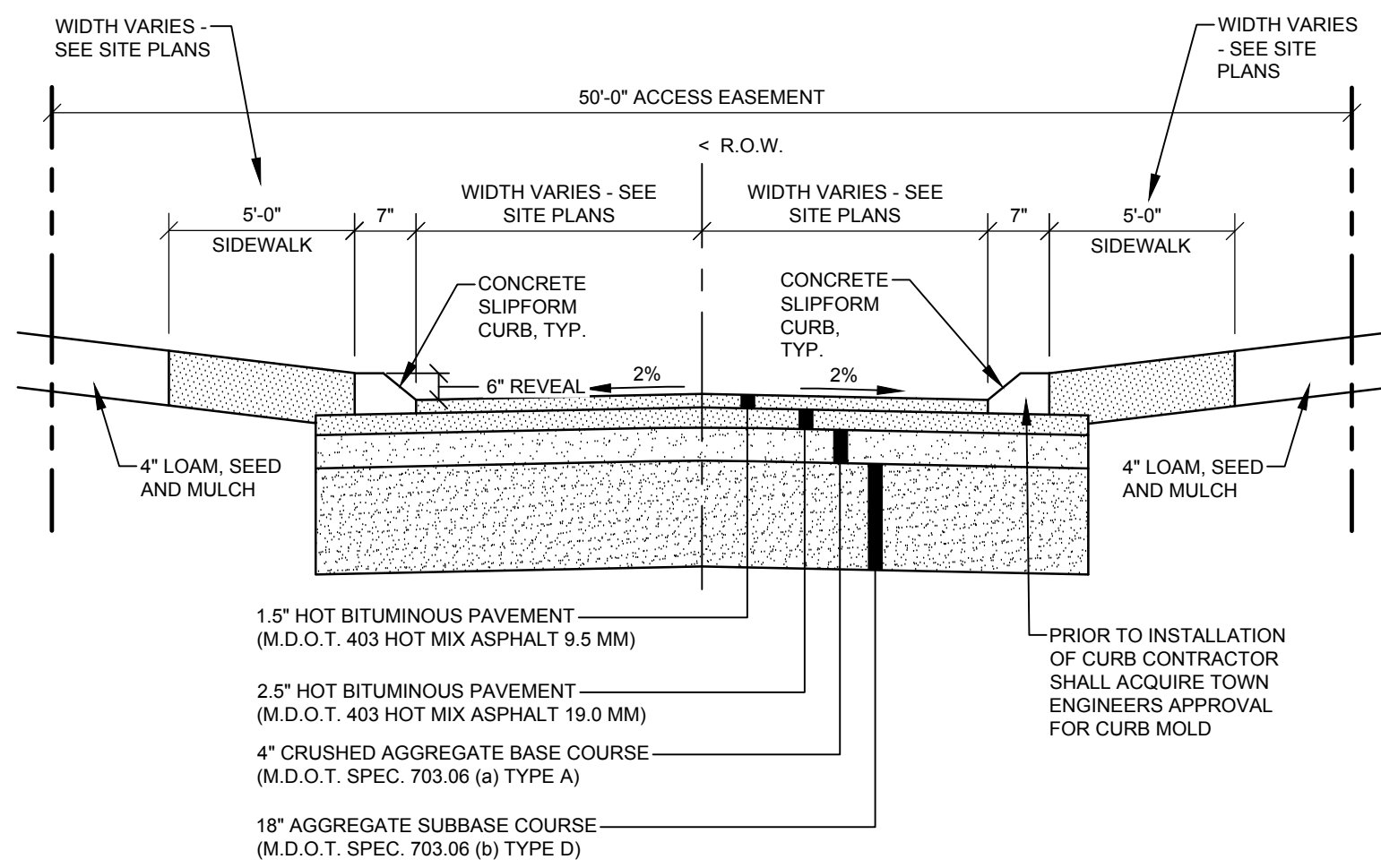
| | | | |
|------|-----|------------|--|
| B | DLR | 06/12/2024 | ISSUED TO CITY OF BIDEFORD FOR FINAL SITE PLAN |
| A | DLR | 06/24/2024 | PHASE 1 SCHEMATIC DESIGN SET |
| REV. | BY: | DATE: | STATUS: |



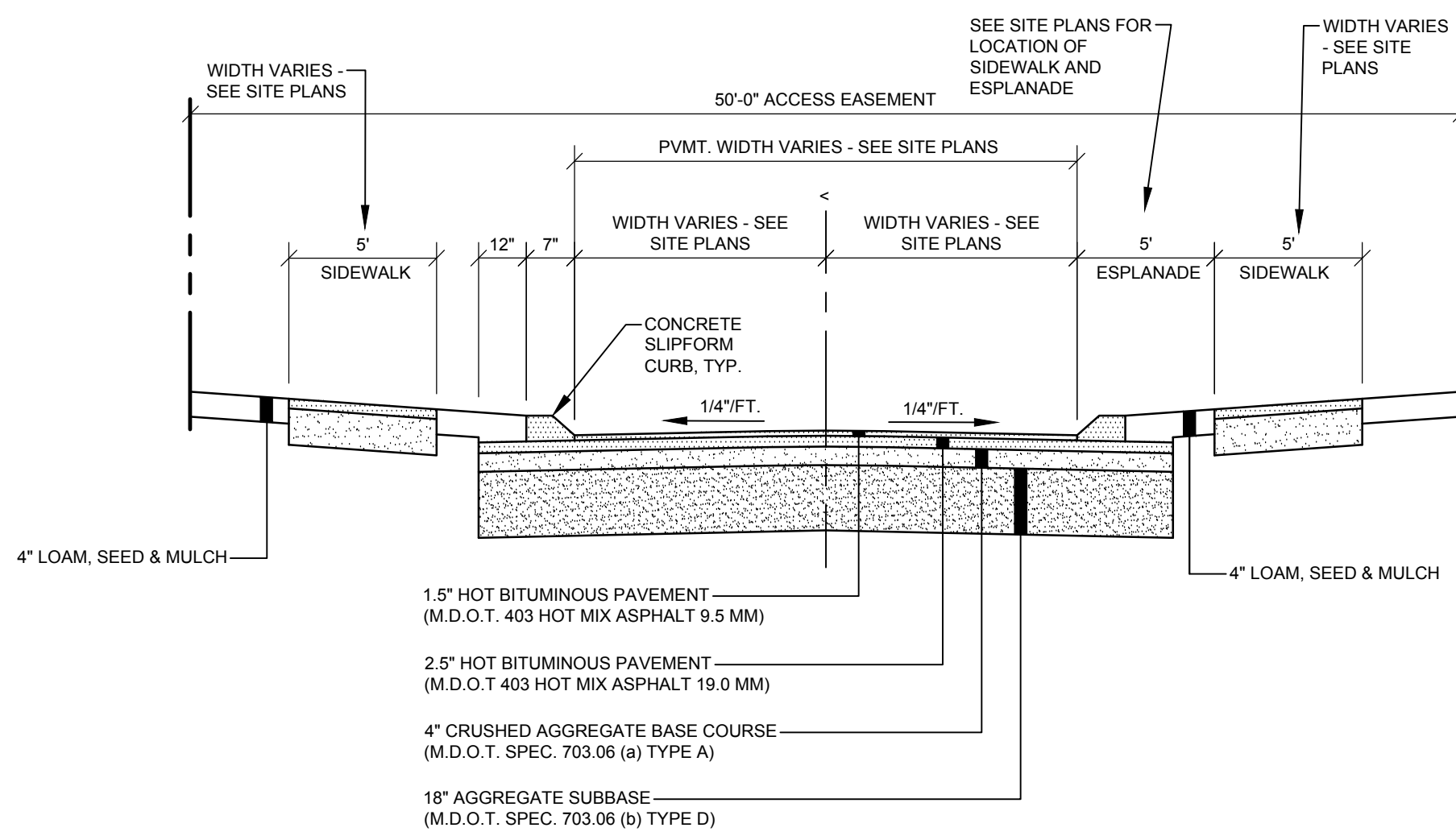
DETAILS - 2
OF:
ONE DIAMOND
MAIN STREET
BIDEFORD, MAINE 04005
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, MAINE 04043

| | |
|----------|------------|
| DESIGNED | TFO / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | NTS |
| PROJECT | 18462 |

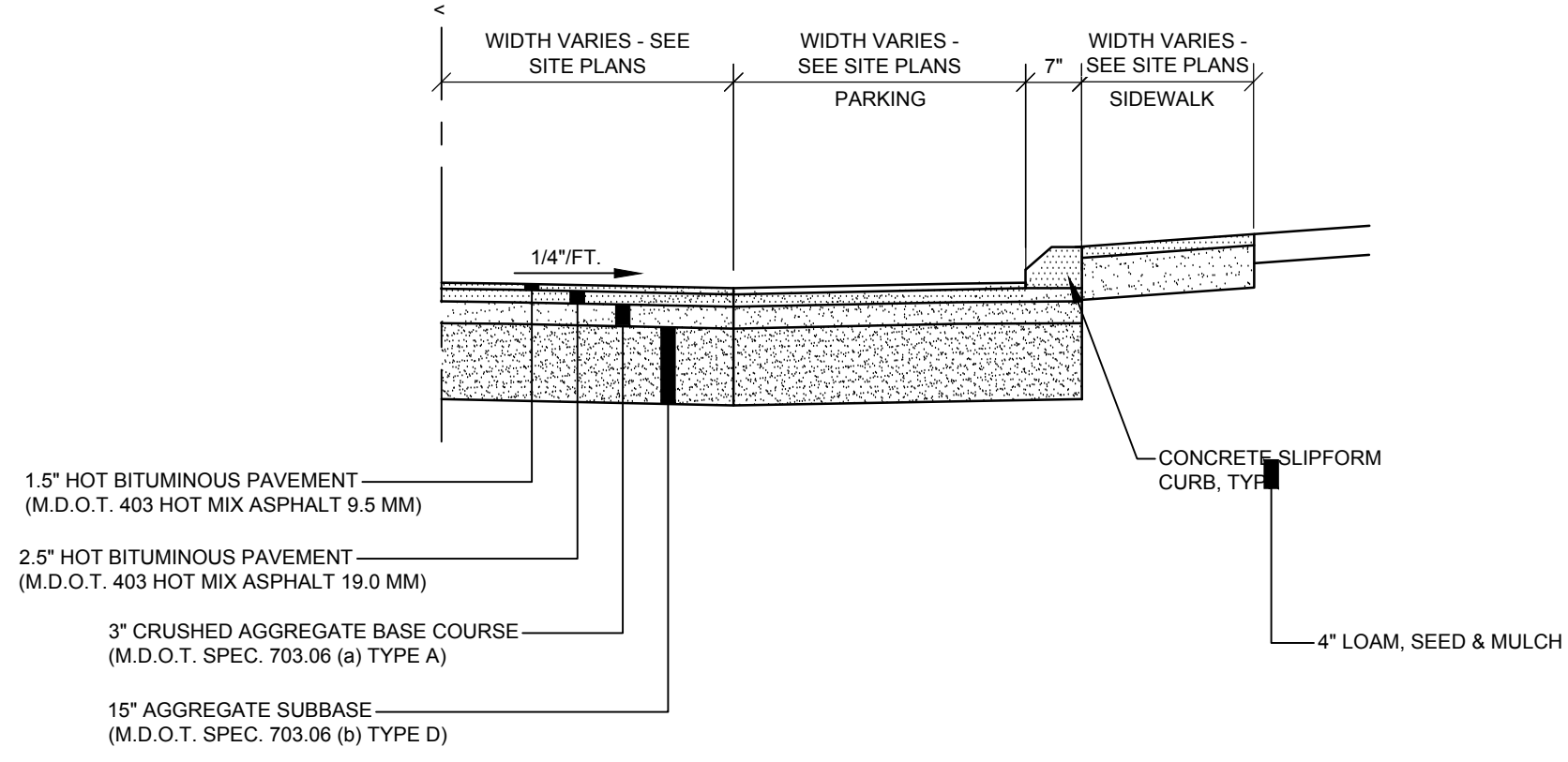
SHEET C-502



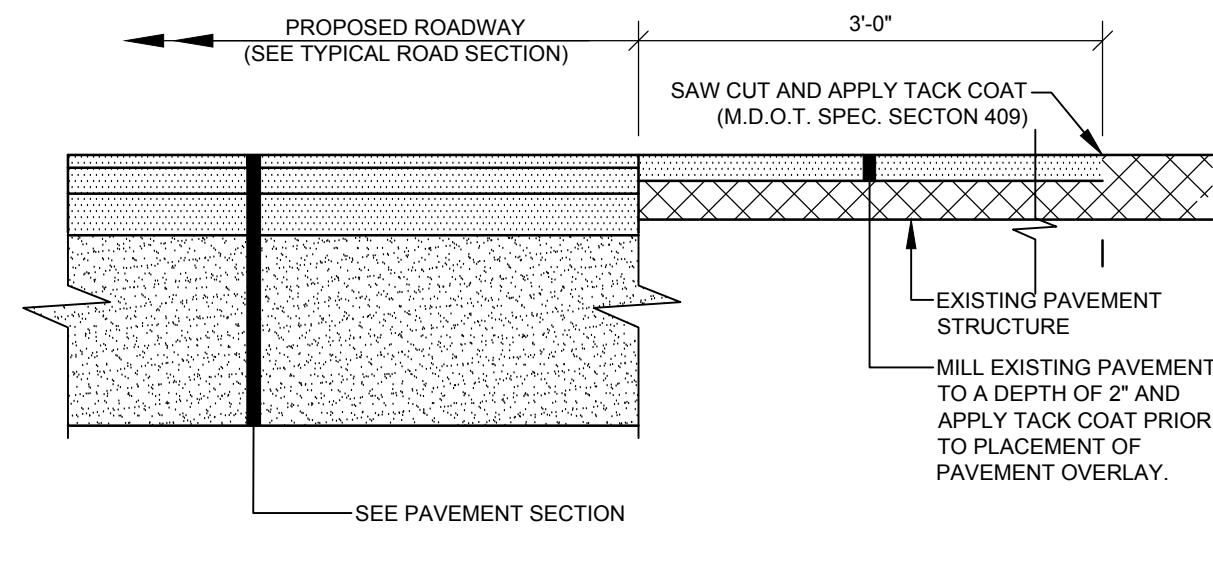
ROAD SECTION
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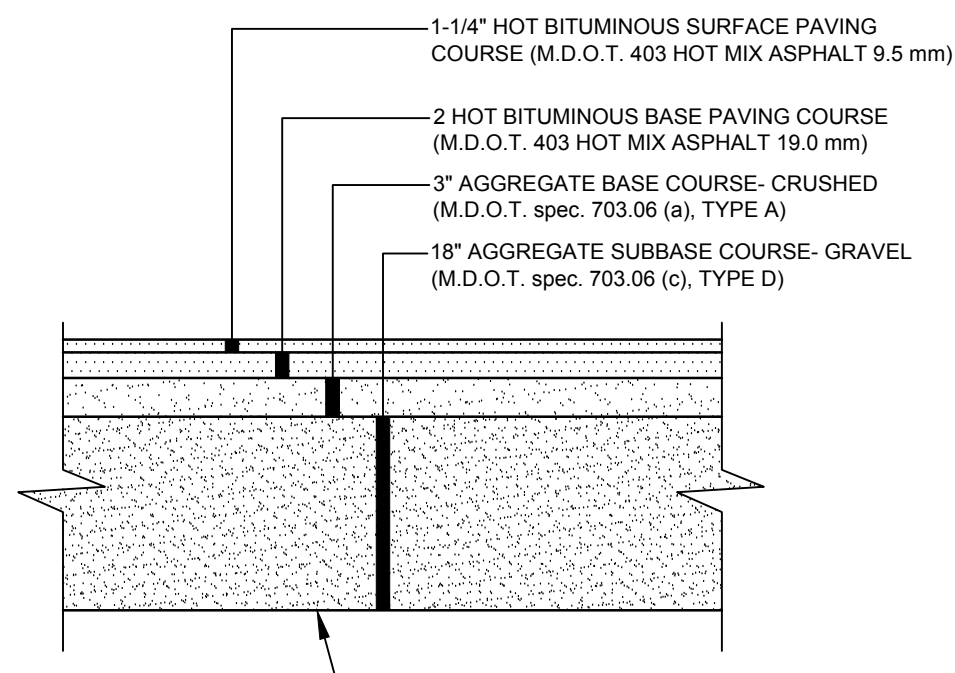
ROAD SECTION WITH ESPLANADE
NOT TO SCALE



ROAD SECTION WITH PARKING
NOT TO SCALE

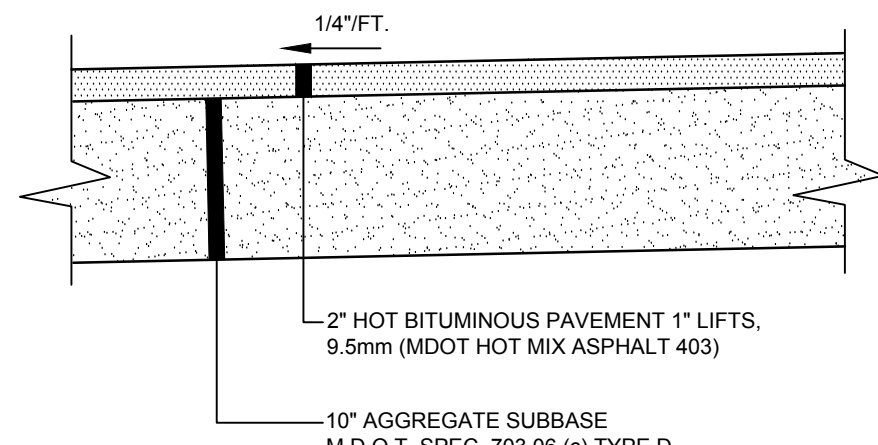


PAVEMENT JOINT
NOT TO SCALE

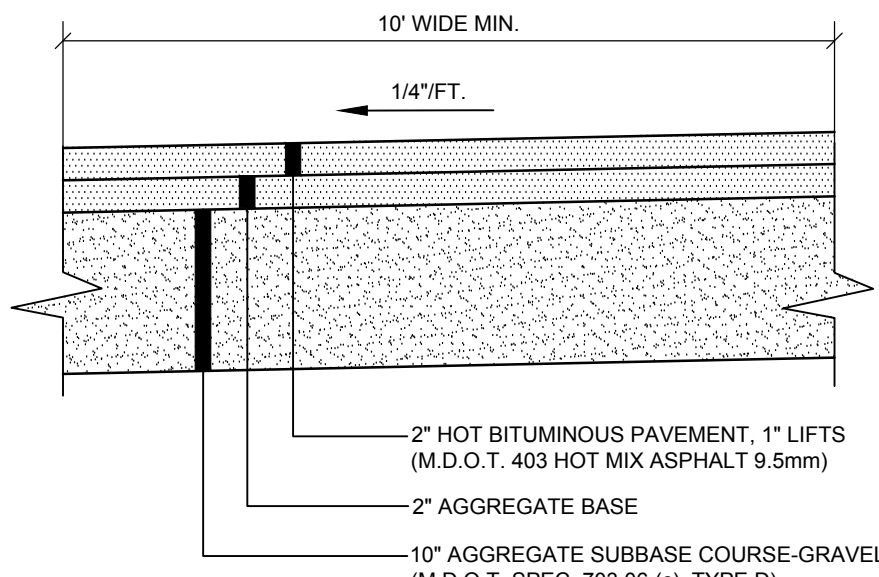


- NOTES:
1. COMPACT GRAVEL SUB-BASE, BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

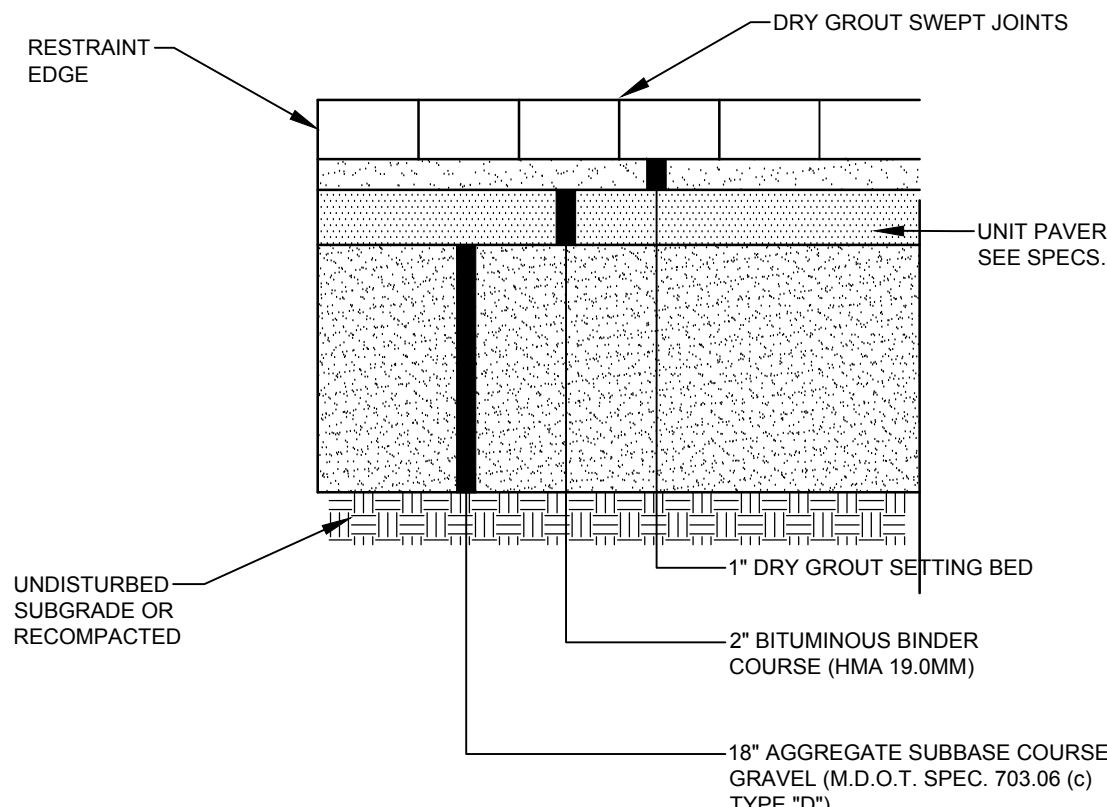
VEHICULAR PAVEMENT
NOT TO SCALE



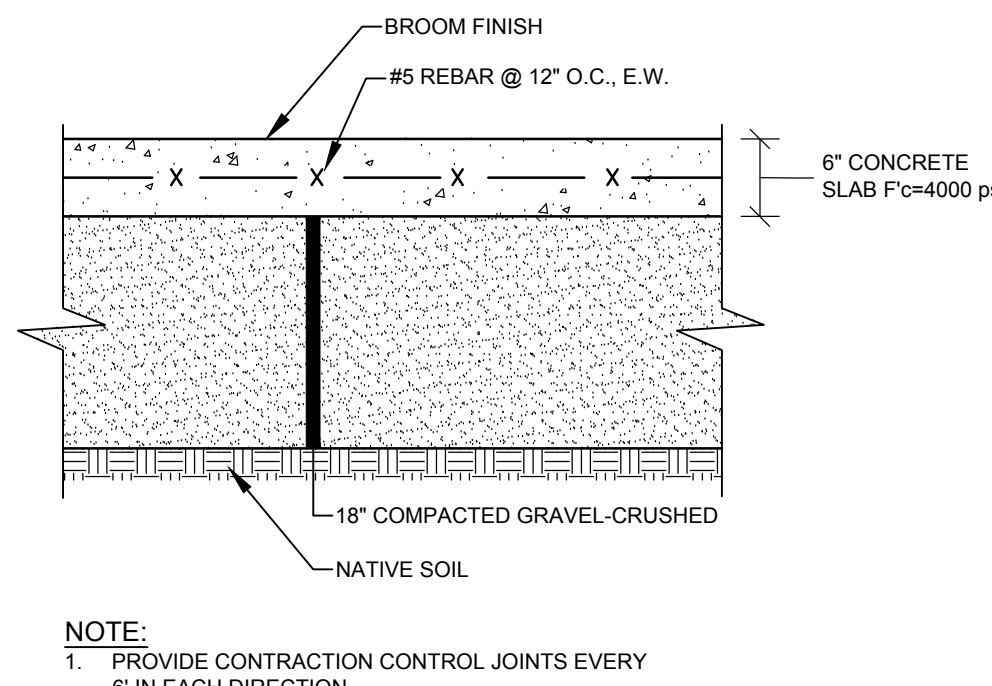
PEDESTRIAN PAVEMENT
NOT TO SCALE



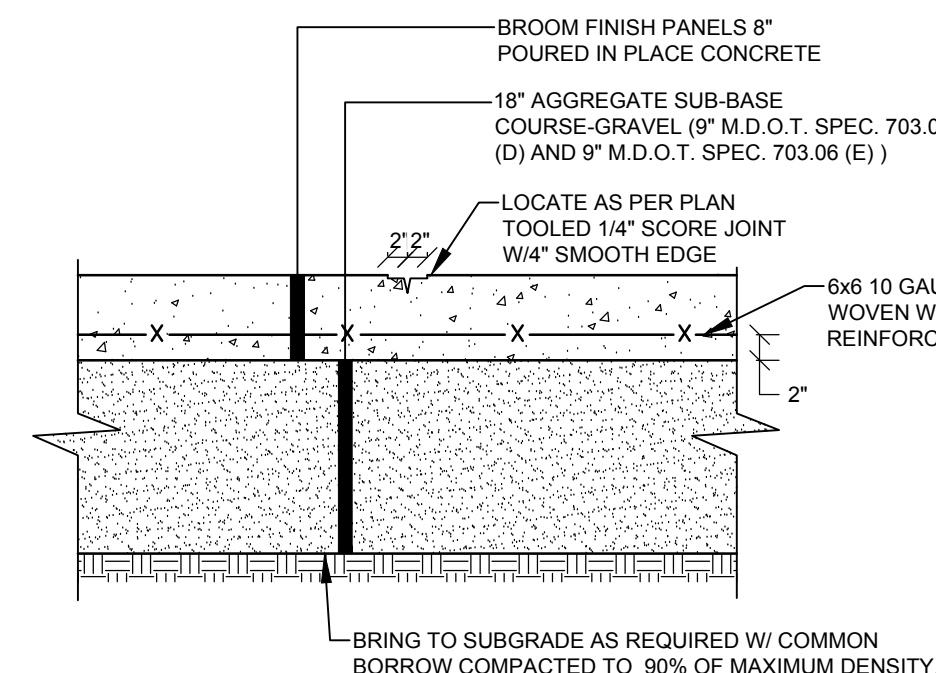
RIVERWALK TRAIL
NOT TO SCALE



UNIT PAVER
NOT TO SCALE

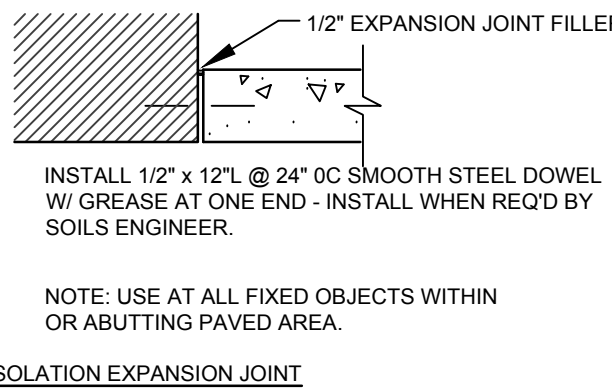


CONCRETE SLAB
NOT TO SCALE



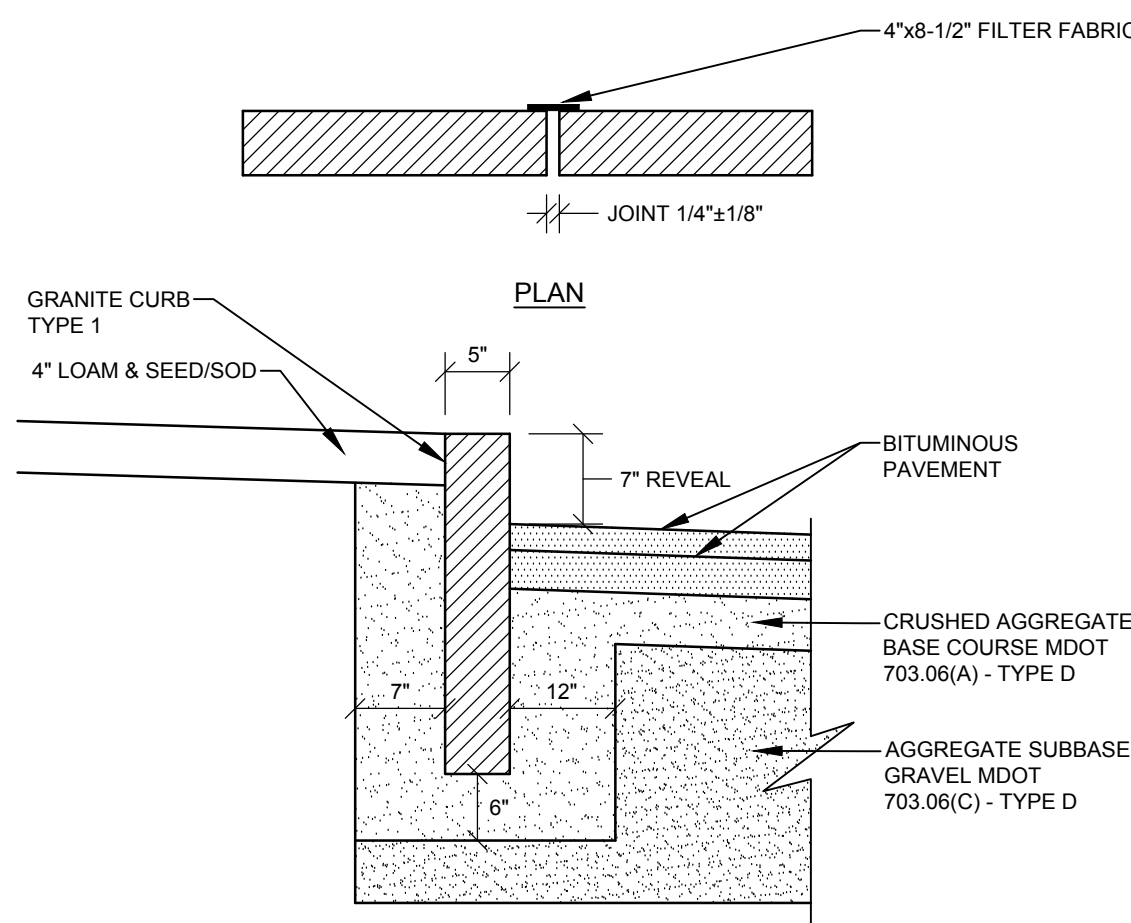
- NOTES:
1. COMPACT GRAVEL SUB-BASE, BASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.
 3. CONCRETE AND FOR STANDING GENERATORS TO BE COMPLETED BY STRUCTURAL ENGINEER LICENSED IN THE STATE OF MAINE.

HEAVY DUTY CONCRETE PAD
NOT TO SCALE



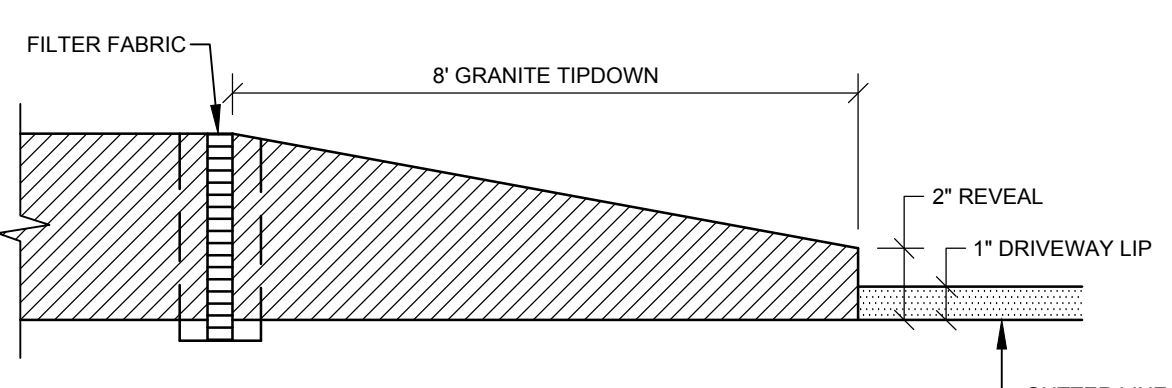
- GENERAL NOTES:
1. POUR CONCRETE IN CHECKER BOARD FASHION AS PER JOINT LAYOUT (SEE PLAN) ALL LONGITUDINAL JOINTS MAY BE CONST JOINTS AT CONTRACTORS OPTION TRANSVERSE CONSTR.
 2. JOINTS SHALL BE INSTALLED WHENEVER THE PLACING OF CONCRETE IS SUSPENDED A SUFFICIENT LENGTH OF TIME THAT THE CONCRETE MAY BEGIN TO HARDEN.
 3. SEE SITE PLANS FOR COLORED CONCRETE & DECORATIVE STAMPED PATTERN LOCATIONS.

CONTROL JOINTS & DETAILS
NOT TO SCALE

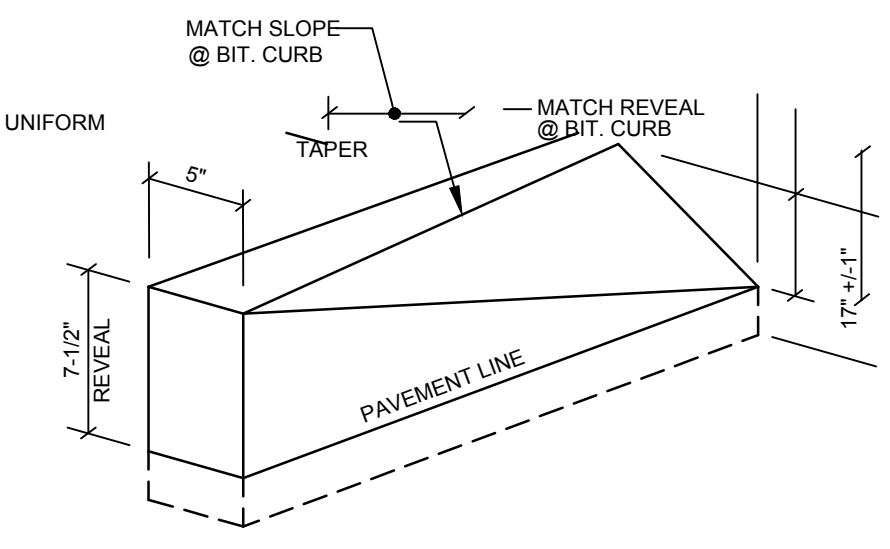


- NOTES:
1. EXCAVATION INCIDENTAL TO COST OF CURB
 2. SUBBASE SHALL BE COMPACTED TO A FIRM EVEN SURFACE PRIOR TO SETTING OF CURB

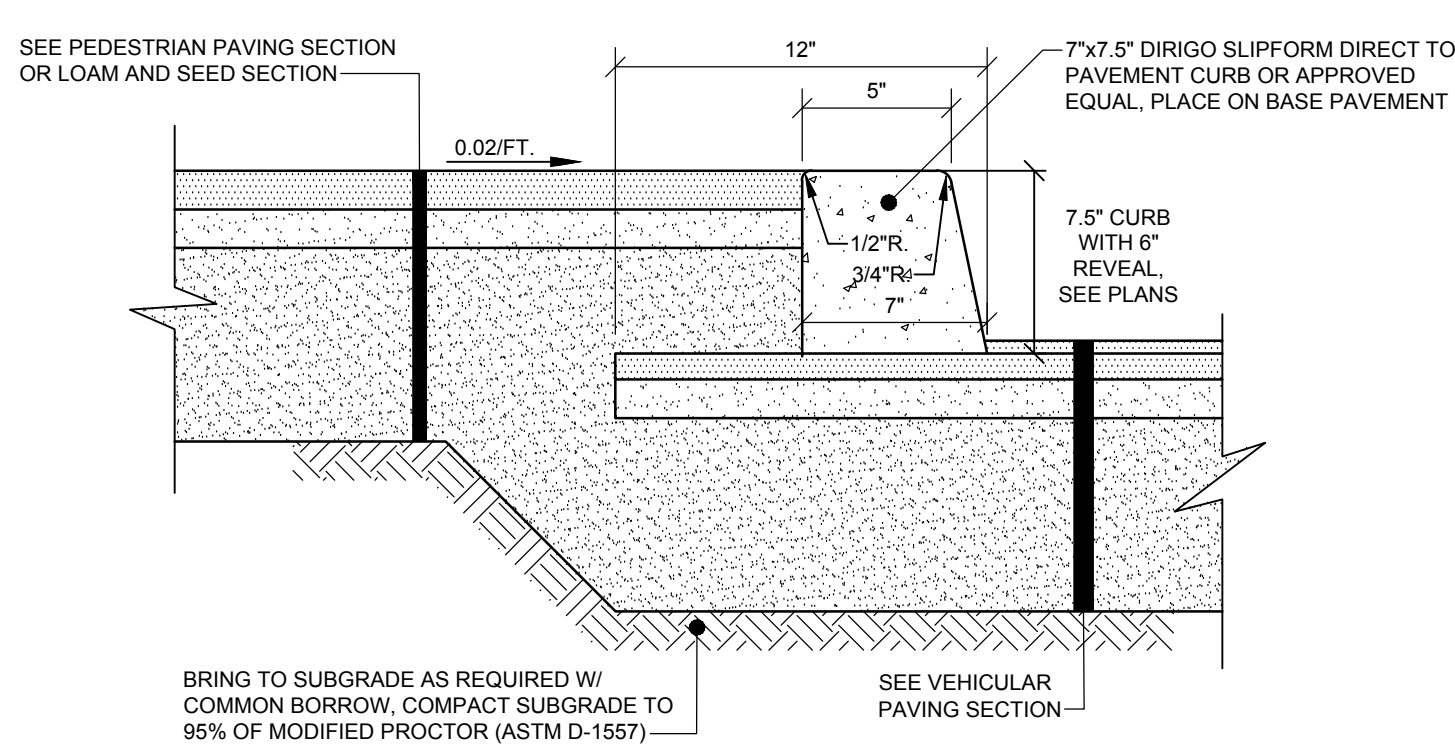
VERTICAL GRANITE CURB
NOT TO SCALE



GRANITE TIPDOWN CURB INSTALLATION
NOT TO SCALE

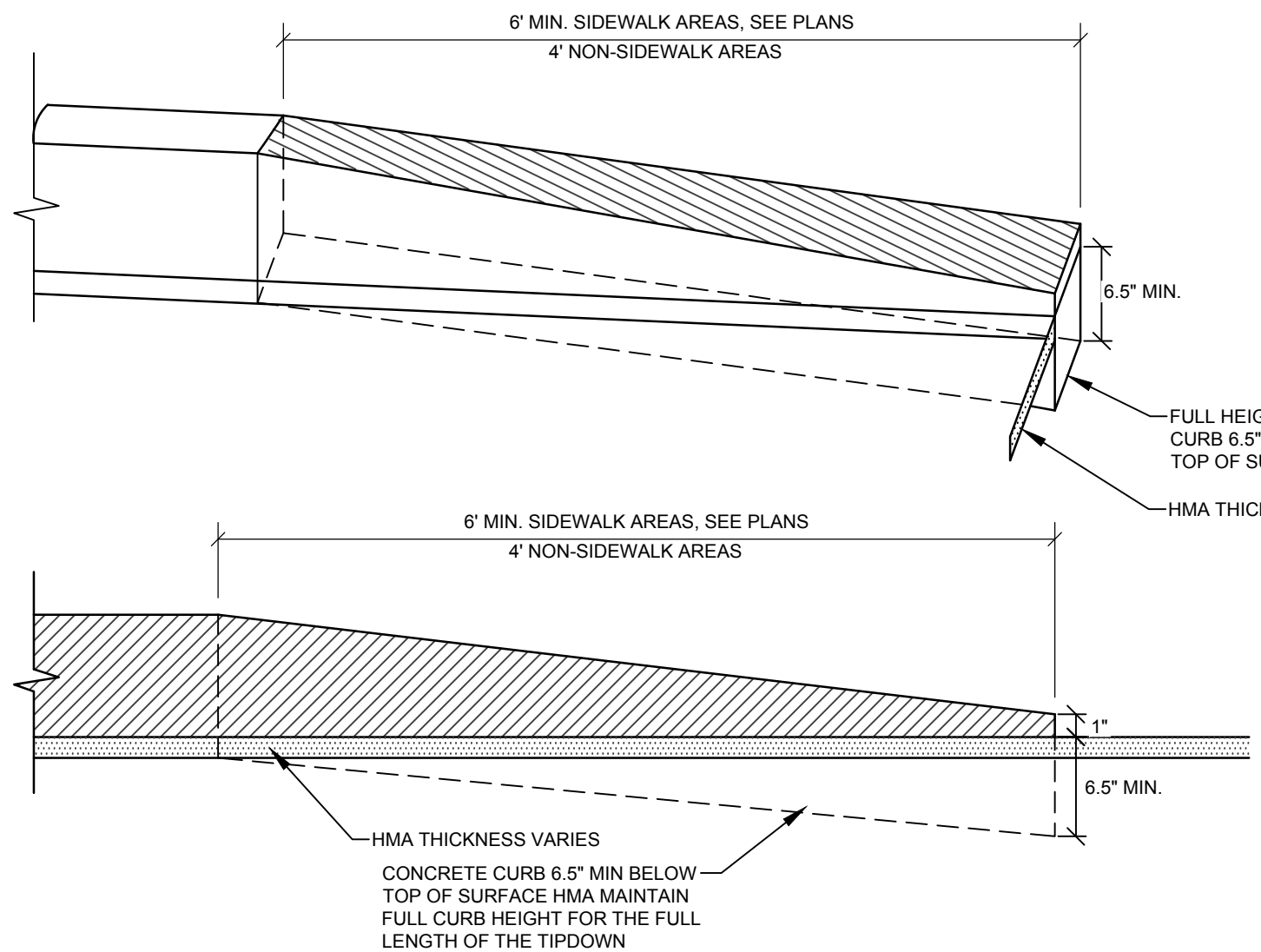


VERTICAL TO SLOPED CURB
GRANITE TRANSITION STONES
NOT TO SCALE

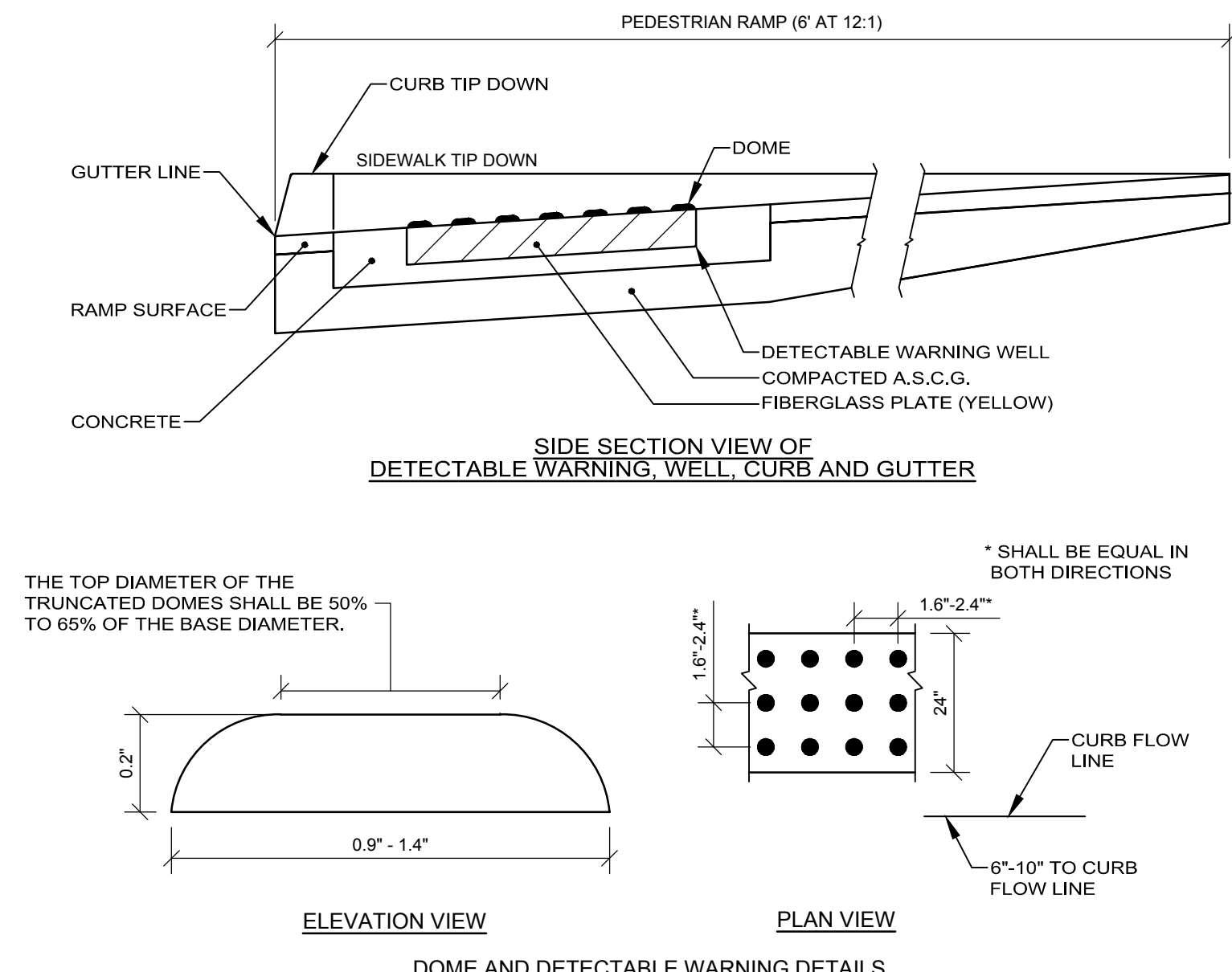


- NOTES:
1. COMPACT GRAVEL SUBBASE AND BASE COURSES TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
 2. HOT MIX ASPHALT SURFACE COARSE SHALL BE COMPACTED TO 95% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2941). BASE COARSE SHALL BE COMPACTED TO 95% 12.5% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2941).
 3. APPLY TACK COAT BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
 4. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.
 5. SEE TYPICAL ACCESS DRIVE SECTION FOR ROADWAY MATERIAL SPECIFICATIONS AND DEPTHS.
 6. TIPDOWNS SHALL BE PROVIDED AS SHOWN ON PLANS.

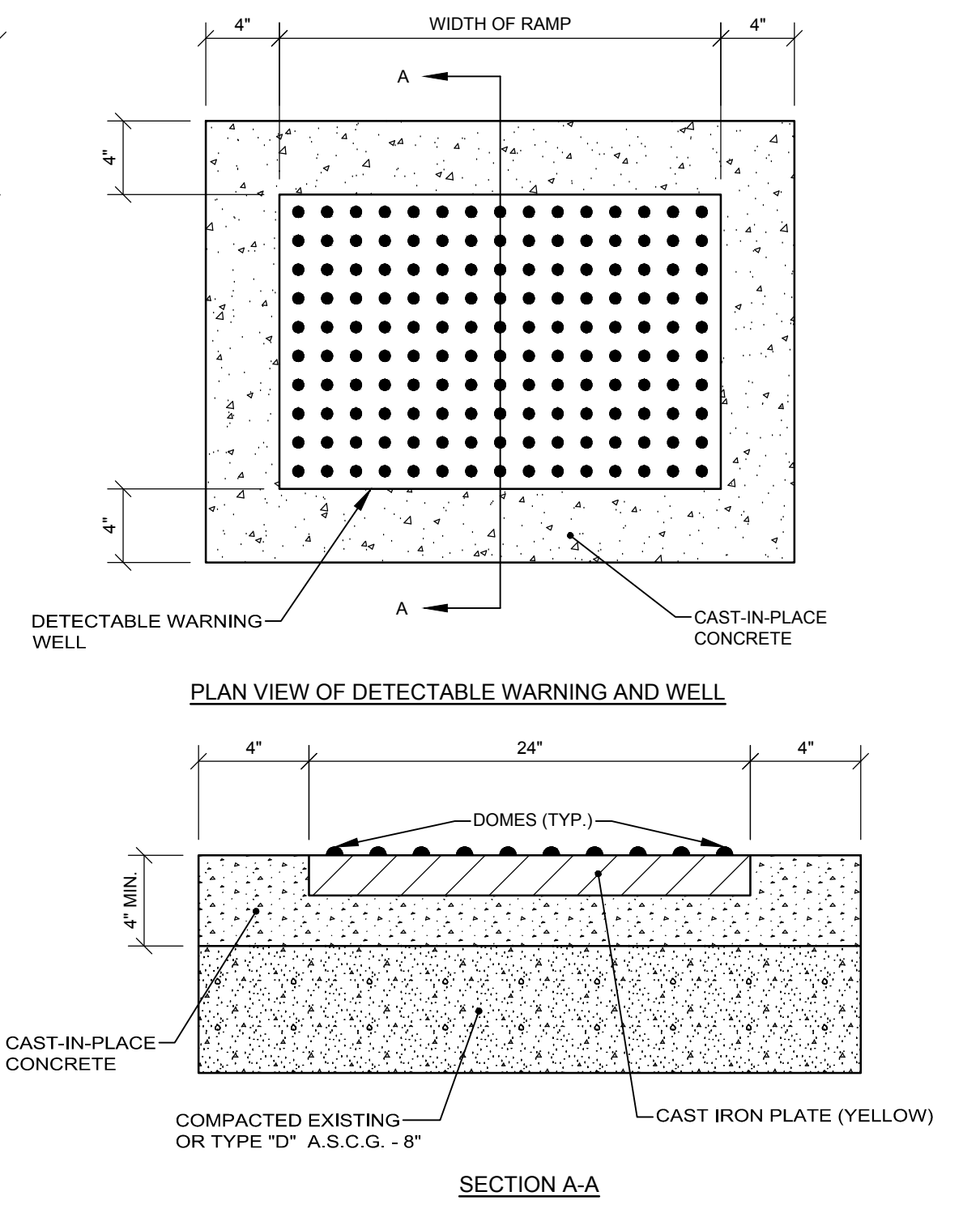
BITUMINOUS SIDEWALK WITH SLIPFORM CURB
NOT TO SCALE



SLIPFORM CONCRETE CURB TIPDOWN, TYPICAL
NOT TO SCALE



TRUNCATED DOME
NOT TO SCALE



SECTION A-A

NOT FOR CONSTRUCTION

DANIEL L. RILEY, P.E. 9887

STATE OF MAINE

PROFESSIONAL ENGINEER

06/12/2024

| | | | |
|------|------------|-----|--|
| REV. | DATE | BY | STATUS |
| B | 06/12/2024 | DLR | ISSUED TO CITY OF BIDEFORD FOR FINAL SITE PLAN |
| A | 06/24/2024 | DLR | PHASE 1 SCHEMATIC DESIGN SET |

SEBAGO TECHNICS

SEBAGOTECHNICS.COM

75 John Roberts Rd., Suite 4A

South Portland, ME 04065

207-200-2100

South Portland, Bridgton, Springdale and Bath

DETAILS - 3

OF: ONE DIAMOND

FOR: BIDEFORD, MAINE, 04005

MAIN STREET

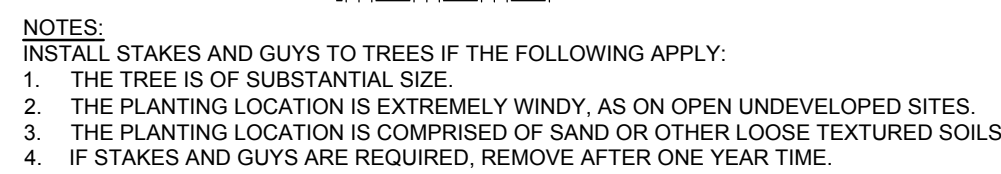
ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201

KENNEBUNK, MAINE, 04043

| | |
|----------|------------|
| DESIGNED | TFG / BAM |
| DRAWN | DAB |
| CHECKED | DLR |
| DATE | 06/12/2024 |
| SCALE | NTS |
| PROJECT | 18462 |

SHEET C-503



NOTES:
INSTALL STAKES AND GUYS TO TREES IF THE FOLLOWING APPLY:

1. THE TREE IS OF SUBSTANTIAL SIZE.
2. THE PLANTING LOCATION IS EXTREMELY WINDY, AS ON OPEN UNDEVELOPED SITES.
3. THE PLANTING LOCATION IS COMPRISED OF SAND OR OTHER LOOSE TEXTURED SOILS.
4. IF STAKES AND GUYS ARE REQUIRED, REMOVE AFTER ONE YEAR TIME.

DECIDUOUS & EVERGREEN SHRUB
NOT TO SCALE

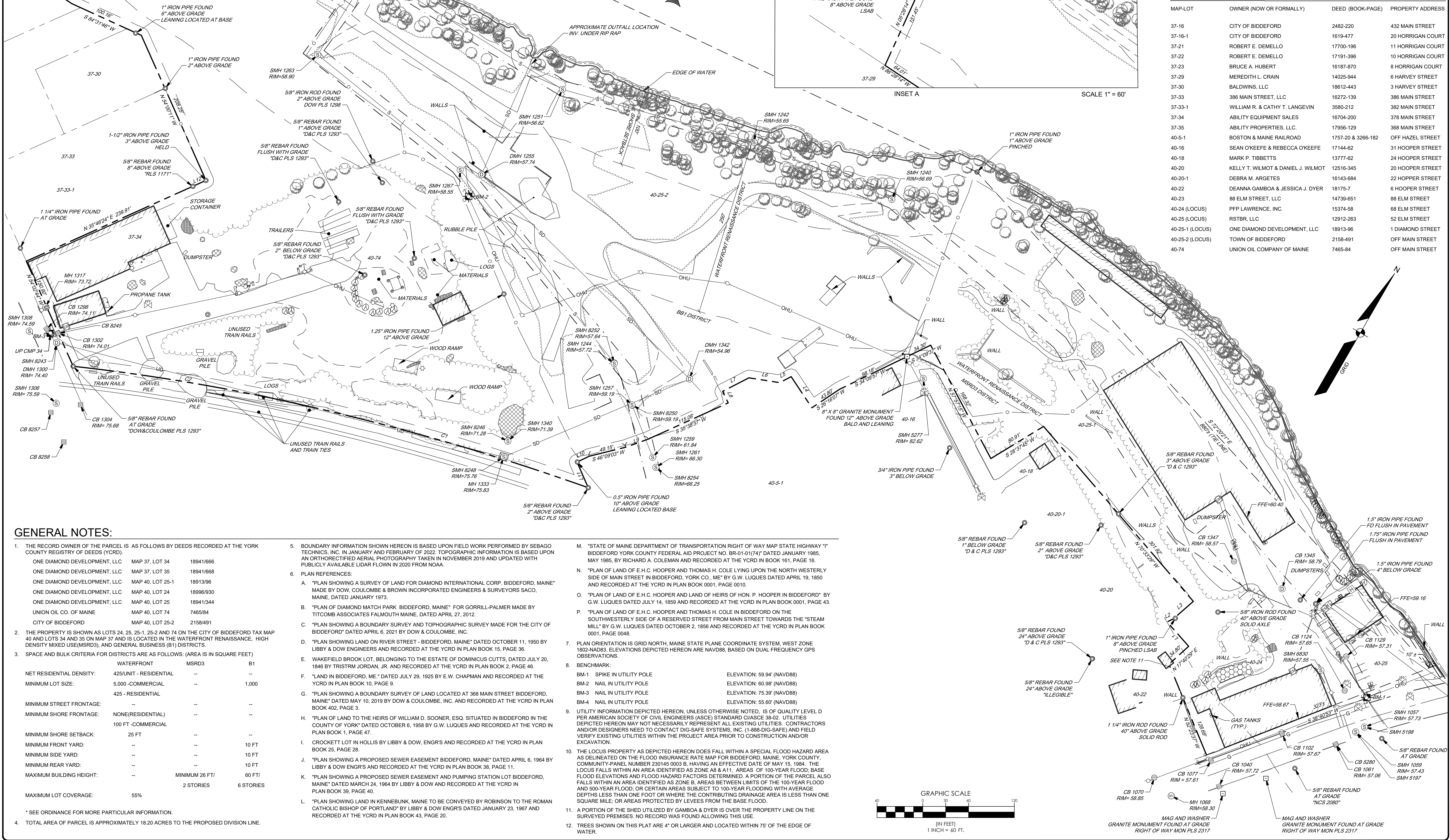
LEGEND

PROPERTY LINE, O.W.
ABUTTER LINE, O.W.
EASEMENT
MONUMENT
IRON PIPE/ROD
CURVE/LINE NO.
NOW OR FORMERLY
BM-1 BENCHMARK

CHAIN LINK FENCE
HYDRANT
WATER GATE VALVE
SANITARY SEWER
SANITARY MANHOLE
STORM DRAIN
UNDER DRAIN
DRAINAGE MANHOLE
CATCH BASIN
OHU
OVERHEAD UTILITY
ELECTRIC METER
HVAC UNIT
UTILITY POLE
GUY WIRE
DECIDUOUS TREE
DEBRIS PILE
MATERIALS

BUILDING
DECK/STEPS/
OVERHANG
EDGE PAVEMENT
EDGE CONCRETE
PAVEMENT PAINT
EDGE GRAVEL
CURB LINE
EDGE OF WATER
TREE/LINE
BOLLARD

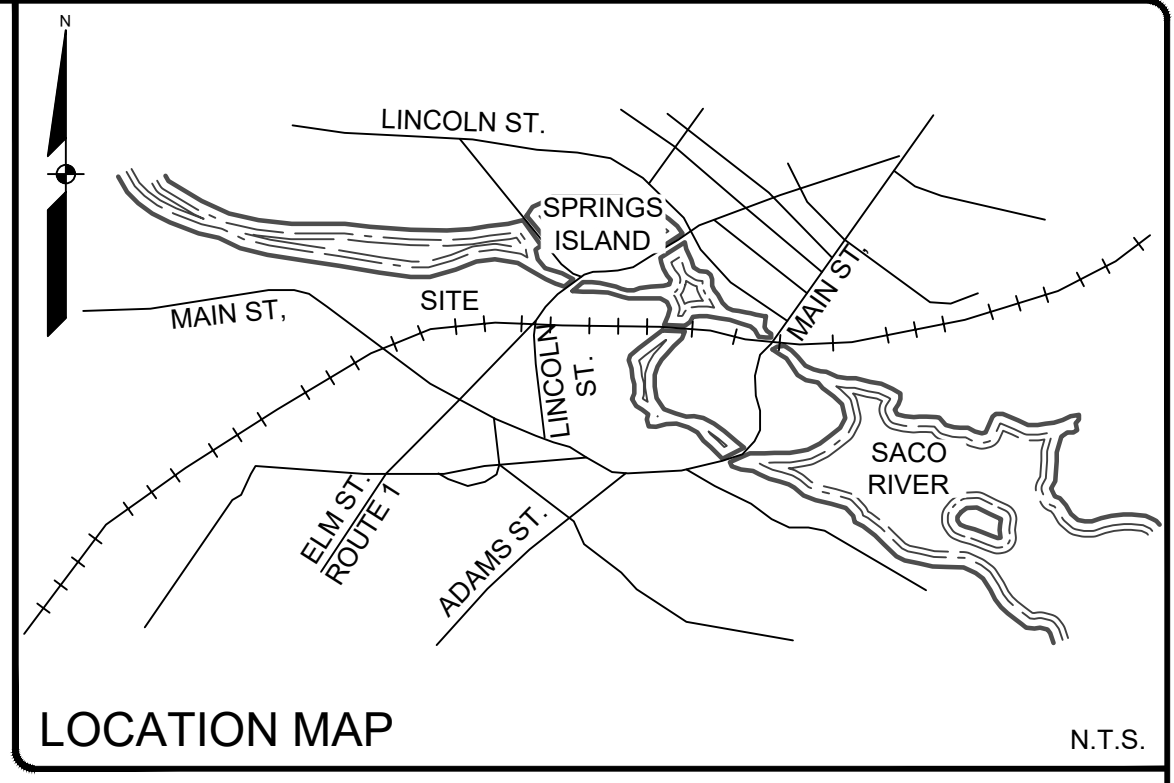
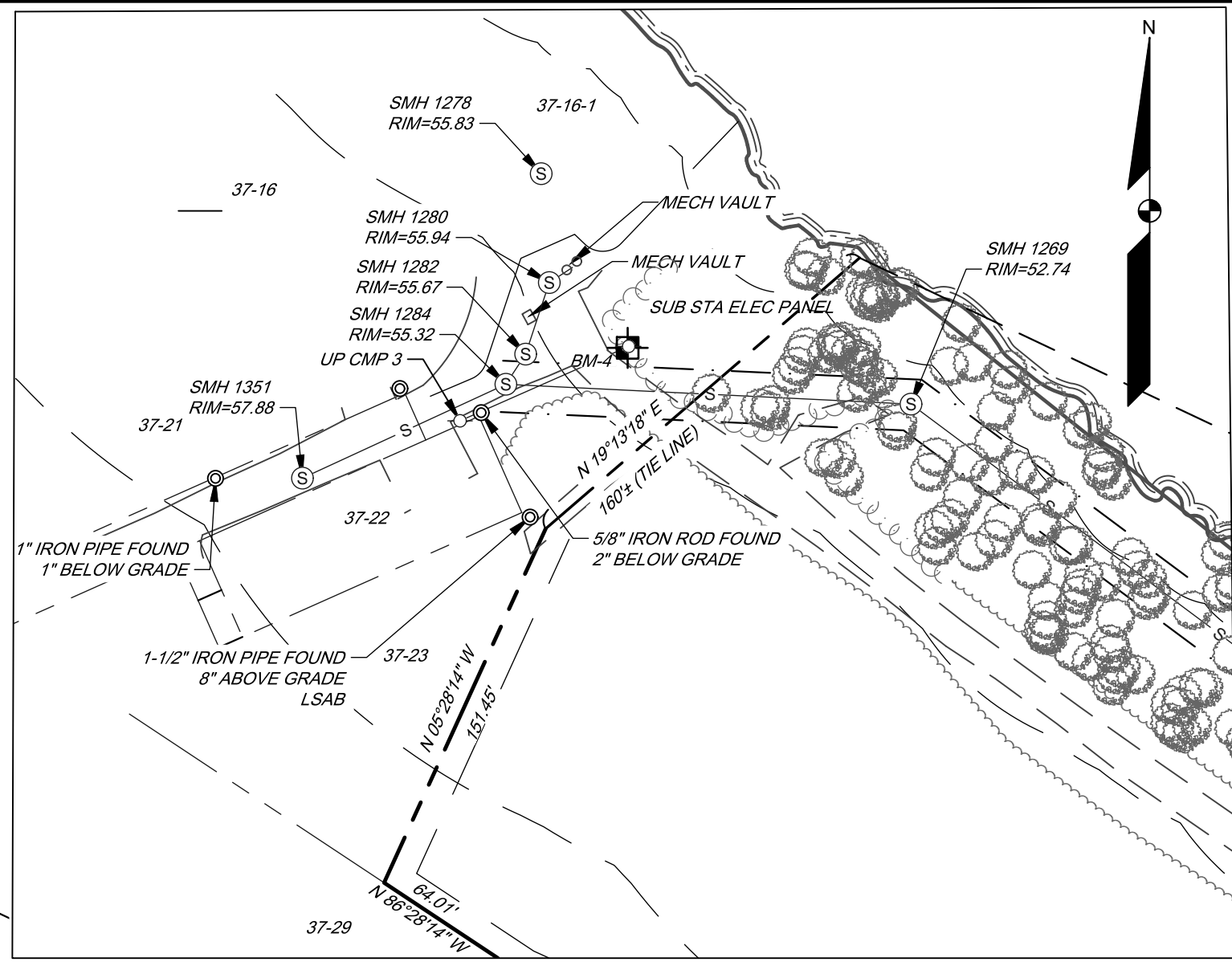
| PROPERTY LINE TABLE | | | PROPERTY CURVE TABLE | | | |
|---------------------|---------------|----------|----------------------|---------|----------|---------------|
| LINE | BEARING | DISTANCE | CURVE | LENGTH | RADIUS | CRD BEARING |
| L1 | N 71°30'14" W | 42.85' | C1 | 400.66' | 3296.47' | S 76°04'42" W |
| L2 | N 33°51'46" E | 9.23' | C2 | 294.42' | 2682.43' | S 69°27'07" W |
| L3 | N 18°43'01" E | 34.72' | | | | |
| L4 | N 63°43'53" W | 49.07' | | | | |
| L5 | S 31°51'57" W | 16.80' | | | | |
| L6 | S 68°55'08" W | 41.00' | | | | |
| L7 | S 32°41'23" W | 39.80' | | | | |
| L8 | S 55°50'03" E | 16.79' | | | | |
| L9 | S 40°10'55" W | 31.47' | | | | |
| L10 | S 34°10'03" W | 17.70' | | | | |
| L11 | S 33°10'08" E | 36.61' | | | | |
| L12 | N 35°46'24" E | 16.30' | | | | |



GENERAL NOTES:

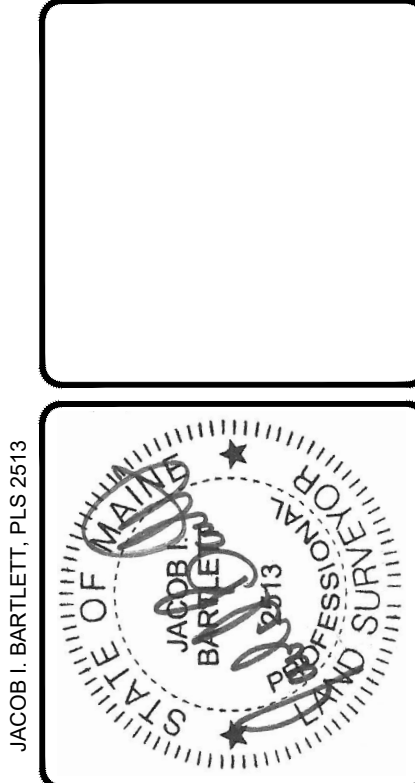
- THE RECORD OWNER OF THE PARCEL IS AS FOLLOWS BY DEEDS RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD):
 - ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 34 18941/666
 - ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 35 18941/668
 - ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25-1 18913/96
 - ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 24 18996/930
 - ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25 18941/344
 - UNION OIL CO. OF MAINE MAP 40, LOT 74 7465/84
 - CITY OF BIDDEFORD MAP 40, LOT 25-2 2158/491
- THE PROPERTY IS SHOWN AS LOTS 24, 25, 25-1, 25-2 AND 74 ON THE CITY OF BIDDEFORD TAX MAP 40 AND LOTS 34 AND 35 ON MAP 37 AND IS LOCATED IN THE WATERFRONT RENAISSANCE, HIGH DENSITY MIXED USE (MSRD3), AND GENERAL BUSINESS (B1) DISTRICTS.
- SPACE AND BULK CRITERIA FOR DISTRICTS ARE AS FOLLOWS: (AREA IS IN SQUARE FEET)

| | WATERFRONT | MSRD3 | B1 |
|--------------------------|------------------------|----------------|-----------|
| NET RESIDENTIAL DENSITY: | 425/UNIT - RESIDENTIAL | -- | -- |
| MINIMUM LOT SIZE: | 5,000 - COMMERCIAL | -- | 1,000 |
| | 425 - RESIDENTIAL | -- | -- |
| MINIMUM STREET FRONTAGE: | -- | -- | -- |
| MINIMUM SHORE FRONTAGE: | NONE (RESIDENTIAL) | -- | -- |
| | 100 FT - COMMERCIAL | -- | -- |
| MINIMUM SHORE SETBACK: | 25 FT | -- | -- |
| MINIMUM FRONT YARD: | -- | -- | 10 FT |
| MINIMUM SIDE YARD: | -- | -- | 10 FT |
| MINIMUM REAR YARD: | -- | -- | 10 FT |
| MAXIMUM BUILDING HEIGHT: | -- | MINIMUM 26 FT/ | 60 FT/ |
| | | 2 STORIES | 6 STORIES |
- TOTAL AREA OF PARCEL IS APPROXIMATELY 18.20 ACRES TO THE PROPOSED DIVISION LINE.
- BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNIQS, INC. IN JANUARY AND FEBRUARY OF 2022. TOPOGRAPHIC INFORMATION IS BASED UPON AN ORTHORECTIFIED AERIAL PHOTOGRAPHY TAKEN IN NOVEMBER 2019 AND UPDATED WITH PUBLICLY AVAILABLE LIDAR FLOWN IN 2020 FROM NOAA.
- PLAN REFERENCES:
 - A. "PLAN SHOWING A SURVEY OF LAND FOR DIAMOND INTERNATIONAL CORP. BIDDEFORD, MAINE," MADE BY DOW, COULOMBE & BROWN INCORPORATED ENGINEERS & SURVEYORS SACO, MAINE, DATED JANUARY 1973.
 - B. "PLAN OF DIAMOND MATCH PARK BIDDEFORD, MAINE" FOR GORRILL-PALMER MADE BY TITCOMB ASSOCIATES FALMOUTH MAINE, DATED APRIL 27, 2012.
 - C. "PLAN SHOWING A BOUNDARY SURVEY AND TOPHOGRAHIC SURVEY MADE FOR THE CITY OF BIDDEFORD" DATED APRIL 6, 2021 BY DOW & COULOMBE, INC.
 - D. "PLAN SHOWING LAND ON RIVER STREET - BIDDEFORD, MAINE" DATED OCTOBER 11, 1950 BY LIBBY & DOW ENGINEERS AND RECORDED AT THE YCRD IN PLAN BOOK 15, PAGE 36.
 - E. WAKEFIELD BROOK LOT, BELONGING TO THE ESTATE OF DOMINICUS CUTTS, DATED JULY 20, 1846 BY TRISTRIM JORDAN, JR. AND RECORDED AT THE YCRD IN PLAN BOOK 2, PAGE 46.
 - F. "LAND IN BIDDEFORD, ME," DATED JULY 29, 1925 BY E.W. CHAPMAN AND RECORDED AT THE YCRD IN PLAN BOOK 10, PAGE 9.
 - G. "PLAN SHOWING A BOUNDARY SURVEY OF LAND LOCATED AT 368 MAIN STREET BIDDEFORD, MAINE" DATED MAY 10, 2019 BY DOW & COULOMBE, INC. AND RECORDED AT THE YCRD IN PLAN BOOK 402, PAGE 3.
 - H. "PLAN OF LAND TO THE HEIRS OF WILLIAM D. SOONER, ESQ. SITUATED IN BIDDEFORD IN THE COUNTY OF YORK" DATED OCTOBER 6, 1958 BY G.W. LUQUES AND RECORDED AT THE YCRD IN PLAN BOOK 1, PAGE 47.
 - I. CROCKETT LOT IN HOLLIS BY LIBBY & DOW, ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 25, PAGE 28.
 - J. "PLAN SHOWING A PROPOSED SEWER EASEMENT BIDDEFORD, MAINE" DATED APRIL 6, 1964 BY LIBBY & DOW ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 38, PAGE 11.
 - K. "PLAN SHOWING A PROPOSED SEWER EASEMENT AND PUMPING STATION LOT BIDDEFORD, MAINE" DATED MARCH 24, 1964 BY LIBBY & DOW ENGR'S AND RECORDED AT THE YCRD IN PLAN BOOK 39, PAGE 40.
 - L. "PLAN SHOWING LAND IN KENNEBUNK, MAINE TO BE CONVEYED BY ROBINSON TO THE ROMAN CATHOLIC BISHOP OF PORTLAND" BY LIBBY & DOW ENGR'S DATED JANUARY 23, 1967 AND RECORDED AT THE YCRD IN PLAN BOOK 43, PAGE 20.
- "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY 1" BIDDEFORD YORK COUNTY FEDERAL AID PROJECT NO. BR-01-01(74) DATED JANUARY 1985, MAY 1985, BY RICHARD A. COLEMAN AND RECORDED AT THE YCRD IN BOOK 161, PAGE 16.
- "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE LYING UPON THE NORTH WESTERLY SIDE OF MAIN STREET IN BIDDEFORD, YORK CO., ME" BY G.W. LUQUES DATED APRIL 19, 1850 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 0010.
- "PLAN OF LAND OF E.H.C. HOOPER AND LAND OF HEIRS OF HON. P. HOOPER IN BIDDEFORD" BY G.W. LUQUES DATED JULY 14, 1859 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 43.
- "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE IN BIDDEFORD ON THE SOUTHWESTERLY SIDE OF A RESERVED STREET FROM MAIN STREET TOWARDS THE 'STEAM MILL'" BY G.W. LUQUES DATED OCTOBER 2, 1856 AND RECORDED AT THE YCRD IN PLAN BOOK 0001, PAGE 0048.
- PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802 NAD83, ELEVATIONS DEPICTED HEREON ARE NAVD83, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.
- BENCHMARK:
 - BM-1 SPIKE IN UTILITY POLE ELEVATION: 59.94' (NAVD88)
 - BM-2 NAIL IN UTILITY POLE ELEVATION: 60.98' (NAVD88)
 - BM-3 NAIL IN UTILITY POLE ELEVATION: 75.39' (NAVD88)
 - BM-4 NAIL IN UTILITY POLE ELEVATION: 55.60' (NAVD88)
- UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD C148-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
- THE LOCUS PROPERTY AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDDEFORD, MAINE, YORK COUNTY, COMMUNITY-PANEL NUMBER 230145 0003 B, HAVING AN EFFECTIVE DATE OF MAY 15, 1984. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE A8 & A11. AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED. A PORTION OF THE PARCEL ALSO FALLS WITHIN AN AREA IDENTIFIED AS ZONE B, AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD.
- A PORTION OF THE SHED UTILIZED BY GAMBOA & DYER IS OVER THE PROPERTY LINE ON THE SURVEYED PREMISES. NO RECORD WAS FOUND ALLOWING THIS USE.
- TREES SHOWN ON THIS PLAT ARE 4" OR LARGER AND LOCATED WITHIN 75' OF THE EDGE OF WATER.



LOT INFORMATION:

| MAP-LOT | OWNER (NOW OR FORMALLY) | DEED (BOOK-PAGE) | PROPERTY ADDRESS |
|-----------------|------------------------------------|--------------------|-------------------|
| 37-16 | CITY OF BIDDEFORD | 2482-220 | 432 MAIN STREET |
| 37-16-1 | CITY OF BIDDEFORD | 1619-477 | 20 HERRIGAN COURT |
| 37-21 | ROBERT E. DEMELLO | 17700-196 | 11 HERRIGAN COURT |
| 37-22 | ROBERT E. DEMELLO | 17191-396 | 10 HERRIGAN COURT |
| 37-23 | BRUCE A. HUBERT | 16187-870 | 8 HERRIGAN COURT |
| 37-29 | MEREDITH L. CRAIN | 14025-944 | 6 HARVEY STREET |
| 37-30 | BALDWIN, LLC | 18612-443 | 3 HARVEY STREET |
| 37-33 | 386 MAIN STREET, LLC | 16272-139 | 386 MAIN STREET |
| 37-33-1 | WILLIAM R. & CATHY T. LANGEVIN | 3580-212 | 382 MAIN STREET |
| 37-34 | ABILITY EQUIPMENT SALES | 16704-200 | 378 MAIN STREET |
| 37-35 | ABILITY PROPERTIES, LLC. | 17956-129 | 368 MAIN STREET |
| 40-5-1 | BOSTON & MAINE RAILROAD | 1757-20 & 3266-182 | OFF HAZEL STREET |
| 40-16 | SEAN O'KEEFE & REBECCA O'KEEFE | 17144-62 | 31 HOOPER STREET |
| 40-18 | MARK P. TIBBETTS | 13777-62 | 24 HOOPER STREET |
| 40-20 | KELLY T. WILMOT & DANIEL J. WILMOT | 12516-345 | 20 HOOPER STREET |
| 40-20-1 | DEBRA M. ARGETES | 16143-684 | 22 HOPPER STREET |
| 40-22 | DEANNA GAMBOA & JESSICA J. DYER | 18175-7 | 6 HOOPER STREET |
| 40-23 | 88 ELM STREET, LLC | 14739-651 | 8 ELM STREET |
| 40-24 (LOCUS) | PPF LAWRENCE, INC. | 15374-58 | 68 ELM STREET |
| 40-25 (LOCUS) | RSTBR, LLC | 12912-263 | 52 ELM STREET |
| 40-25-1 (LOCUS) | ONE DIAMOND DEVELOPMENT, LLC | 18913-96 | 1 DIAMOND STREET |
| 40-25-2 (LOCUS) | TOWN OF BIDDEFORD | 2158-491 | OFF MAIN STREET |
| 40-74 | UNION OIL COMPANY OF MAINE | 7465-84 | OFF MAIN STREET |



| REV. | BY | DATE | STATUS | ISSUED TO CLIENT FOR REVIEW |
|------|-----|------------|-----------------------------|-----------------------------|
| A | JIB | 05/12/2023 | ISSUED TO CLIENT FOR REVIEW | |

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQS, INC.

SEBAGO TECHNIQS

75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

EXISTING CONDITIONS PLAN

OF:

ONE DIAMOND STREET

1 DIAMOND STREET

BIDDEFORD, MAINE

FOR RECORD OWNER:

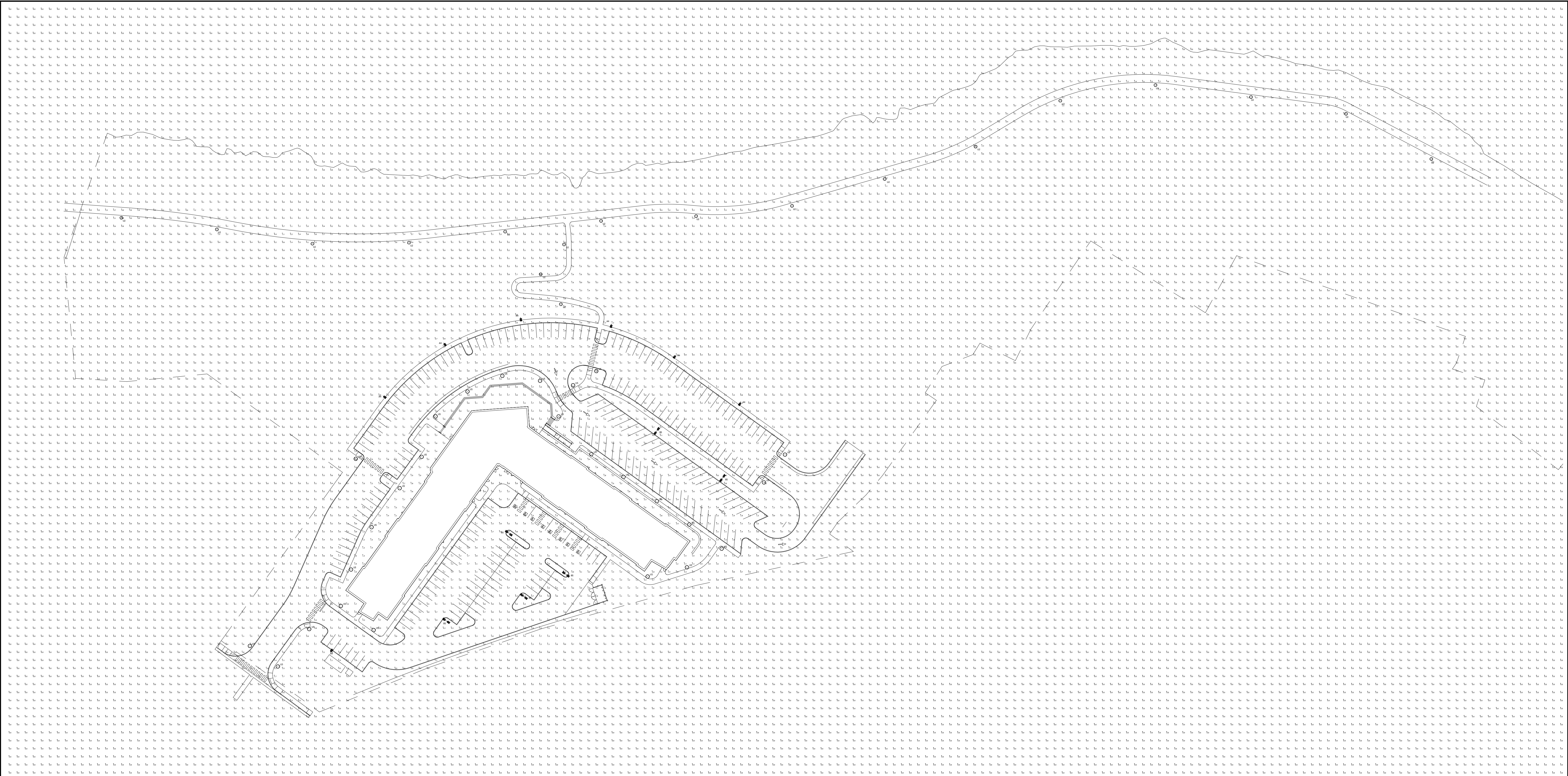
ONE DIAMOND DEVELOPMENT, LLC

2 LIVEWELL DRIVE, SUITE 201

KENNEBUNK, ME 04043

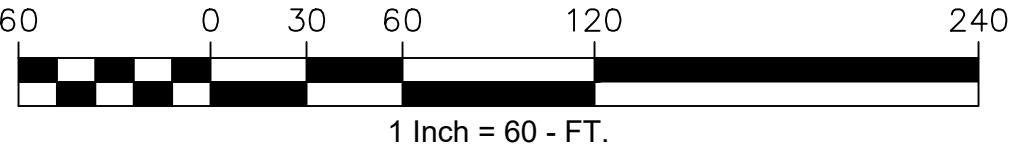
| | |
|----------|------------|
| DESIGNED | - |
| DRAWN | DCB / JMC |
| CHECKED | TSU/JIB |
| DATE | 04/22/2022 |
| SCALE | 1" = 60' |
| PROJECT | 18462 |

SHEET 1 OF 1



| Luminaire Schedule | | | | | | | |
|--------------------|-----|-------|-----------------|-------|-------------|------------|----------------------|
| Symbol | Qty | Label | Mounting Height | LLF | Lum. Lumens | Lum. Watts | Description |
| | 7 | A4 | 25' - 0" AFG | 0.900 | 19139 | 180 | VP-2-72L-180-4K7-4W |
| | 6 | B5 | 25' - 0" AFG | 0.900 | 18708 | 180 | VP-2-72L-180-3K7-5QW |
| | 18 | U2 | 15' - 0" AFG | 0.900 | 6839 | 82.3 | URB-18L-90-3K7-2 |
| | 26 | U5 | 15' - 0" AFG | 0.900 | 6208 | 90 | URB-18L-90-3K7-5QW |

| Calculation Summary | | | | | | | |
|---------------------|-------------|-------|------|-----|-----|---------|---------|
| Label | CalcType | Units | Avg | Max | Min | Avg/Min | Max/Min |
| Overall Area | Illuminance | Fc | 0.24 | 6.3 | 0.0 | N.A. | N.A. |
| Parking Area | Illuminance | Fc | 2.55 | 6.3 | 0.0 | N.A. | N.A. |
| Walking Path | Illuminance | Fc | 2.44 | 6.3 | 0.1 | 24.40 | 63.00 |



1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.

2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.

3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

ONE DIAMOND STREET
BIDDEFORD, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):

R1: 05/04/23
R2: 06/06/23
R3: 09/20/23
R4: 09/21/23

R5: 10/06/23
R6: 05/20/24
R7: 05/23/24
R8: 06/06/24

ON BY:

DHK

REV BY:

DHK

QUOTE:

N/A

DATE:

05/01/23

DATE:

06/06/24

DRAWING / DESIGN NO.:

A230656R8

CHK BY:

N/A

SCALE:

AS NOTED

Current

Page 901 of 904



Architecture • Engineering • Planning

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Portland, Maine 04101
1.877.700.7678
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NORTH AERIAL VIEW

| # | Description | Date |
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SITE PLAN REVIEW

06-05-2024

SHEET TITLE:

RENDERINGS

Original drawing is 36" x 48". DO NOT SCALE CONTENTS OF THIS DRAWING.
Sheet is printed in color.

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SMRT PROJECT #: 24026 DRAWN BY: SMRT

A701



SOUTHWEST AERIAL VIEW

| # | Description | Date |
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SITE PLAN REVIEW
06-05-2024

SHEET TITLE:
RENDERINGS

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NOT FOR CONSTRUCTION



PERSPECTIVE FROM EAST



PERSPECTIVE FROM SOUTHWEST



PERSPECTIVE FROM NORTH



PERSPECTIVE FROM NORTHEAST



PERSPECTIVE FROM SOUTH

| # | Description | Date |
|---|-------------|------|
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SITE PLAN REVIEW
06-05-2024

RENDERINGS

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