

City of Biddeford
Planning Board
August 16, 2023 6:00 PM City Hall
Council Chambers, & Zoom
<https://biddeford.zoom.us/j/94983531202?pwd=Q3ZyejcyUVpBaUVVMHduYXJhSzB4UT09>
Webinar ID 949 8353 1202; Passcode 223739

STATUS: Planning Board Meeting, Wednesday, August 16, 2023, 6:00 PM, Council Chambers & Zoom

- 1. PLEDGE OF ALLEGIANCE**
- 2. DECLARATION OF QUORUM/VOTING MEMBERS**
- 3. ADJUSTMENTS TO THE AGENDA**
- 4. PLANNER'S BUSINESS**
 - 4.A. Planner's Report
[Planners Report 8-16-2023.pdf](#)
[2023.84\) - Attest with attachment.pdf](#)
- 5. CONSENT AGENDA**
 - 5.A. Approval of Meeting Minutes from July 26, 2023
[PB Minutes 072623 Draft.pdf](#)
- 6. UNFINISHED BUSINESS**
 - 6.A. 2023.36 Continued Conversation on Contract Zone Information for 608 New County Road
[Wedding Bard DRAFT COA 8-16-23.pdf](#)
[1 - Zoning map with property marker copy.jpg](#)
[2 - Proposed barn and parking copy.jpg](#)
[3 - Monitor Barn.jpg](#)
[4 - Saco River overlay.jpg](#)
[6-20-23 Wedding Barn Draft Order PDF.pdf](#)
[2023-36 608-610 New County Road CONTRACT ZONE PUBLIC HEARING 1 PB memo 8-16-2023.pdf](#)
[2023-36 608 New County Road Contract Zone Council Transmittal Sheet PDF.pdf](#)
[City Council Determination Letter 6-27-2023.pdf](#)
[City Council.pdf](#)
[City of Biddeford Contract Zone Application.pdf](#)
[Draft Contract Zone Agreement 608-610 New County Road DRAFT 1 8-10-23.pdf](#)
[Executed PS.pdf](#)
- 7. NEW BUSINESS**
 - 7.A. 2023.29 Public Meeting 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.

[2023.29 One Diamond Master Plan and Phase 1 PRELIMINARY PLAN Planners Report 2 8-10-23.pdf](#)
[One Diamond Site Plan Application Materials 2023-06-14 18462.pdf](#)
[One Diamond - Full Plan Set to City of Biddeford 2023-06-14 18462_Reduced \(2\).pdf](#)
[2023-08-01_Diamond Match Phase 1 Preliminary Submittal - PW Comments.pdf](#)
[Response to Public Works Comments recieved 08-03-2023.pdf](#)
[Galbraith 08-10-23.pdf](#)
[One Diamond SLODA 2023-06-14 18462.pdf](#)

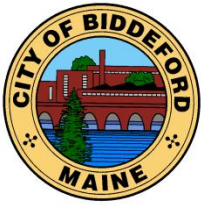
- 7.B. Public Hearing-Presentation by Greg Mitchell of the Planning & Economic Development Department of the proposed Inclusionary Zoning Ordinance.

[IZ Planning Board Memo DCMG 8-9-23.pdf](#)
[August 16 2023 Planning Board Transmittal Memo.pdf](#)
[IZ Ordinance Regulations with GAM edits based upon July 26 2023 Planning Board Comments Final REV DCMG .pdf](#)
[2023.25 Inclusionary Zoning Order.pdf](#)
[PPH 8-16-23.pdf](#)

8. OTHER BUSINESS

9. 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

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PLANNING BOARD MEMORANDUM

TO: Chair Patoine and Members of the Biddeford Planning Board

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

DATE: August 9, 2023

RE: **Agenda Item #4: Planner's Business**

MEETING DATE: August 16, 2023 at 6:00 PM

1. **Maine Freedom of Access Act (FOAA):**

The public's right to information about government activities lies at the heart of a democratic government. The Maine Freedom of Access Act ("FOAA") grants the people of this state a broad right of access to public records while protecting legitimate governmental interests and the privacy rights of individual citizens. The act also ensures the accountability of the government to the citizens of the state by requiring public access to the meetings of public bodies. Transparency and open decision-making are fundamental principles of the Maine Freedom of Access Act, and they are essential to ensuring continued trust and confidence in our government. Open government is good government and the state is committed to ensuring and protecting your "right to know." The City's Planning Board, being a regulatory arm of the City's development projects is also subject to the State's FOAA regulations. In researching this matter Planning Board Members are required to go through FOAA Training within 120 days of becoming active Board member. **City Staff has researched this matter and we can find no documentation that any of the Board members have undertaken this required training. Listed below is a link to the training and below that is a link to the FOAA training and Certification of Completion. Please make completing this training a priority and return your completed Certification form to Nan Whitten, Planning Department Office Manager.**

A. <https://www.maine.gov/foaa/faq/index.shtml>

B. <http://www.maine.gov/foaa/Training/CertificationofCompletion.pdf>

2. **Back Lot Ordinance Update:**

On July 18, 2023 the City Council discussed the Planning Board's recommended Back Lot Ordinance draft, and directed City Staff to make minor adjustments to the proposed Ordinance language. These amendments were made to ordinance language and on August 1, 2023 the City Council, again reviewed the modified language and unanimously passed the Ordinance as drafted. The Ordinance will officially go into effect 30 days from Council adoption. A copy of the adopted Ordinance is attached (Attachment #1).

Planning Board Meeting: August 16, 2023 at 6:00 PM
Agenda Item #4: Planner's Business – Memorandum

3. **Minor Frontage Reduction Ordinance:** At the July 18th City Council meeting there was a Committee of the Whole discussion item presented, relating to reducing frontage requirements from 100-ft to 90-ft, on lot splits in certain areas of the City, to allow increased housing stock. For example, if a property owner had a lot within the Suburban Residential (SR) zoning district, which has a minimum street frontage requirement of 100 feet this requirement could be reduced to 90 feet, or a specific percentage reduction, to enable them to create an additional lot, where each of the lots could be reduced to each having a 90 foot frontage. As envisioned, this would allow a property owners who have excess frontage within the district to create a second lot, providing each lot includes 90% of the required street frontage. At this meeting, the Council directed me to prepare draft language for review at their first meeting in September. This item has not yet been referred to the Planning Board, but I expect it will be at the September City Council meeting.
4. **Case # 2022.11 - 10, 20 & 30 Upper Falls Road / Traffic Movement Permit (TMP):** As the Board is aware, the 10-30 Upper Falls Road (UFR) development consisted of the construction of a 6-story building containing 55 residential units with a restaurant space on 10 Upper Falls Road, a 5-story, 20-unit residential building on 20 Upper Falls Road, 11 townhome units on 26 Upper Falls Road, and a partial demolition and redevelopment of the existing building located at 30 Upper Falls Road to accommodate a commercial use (potentially a brewery/taproom/restaurant). The project contained a list of Conditions of Approval (COA). One of the conditions read:

Prior to any ground disturbance/site work the following must be completed:

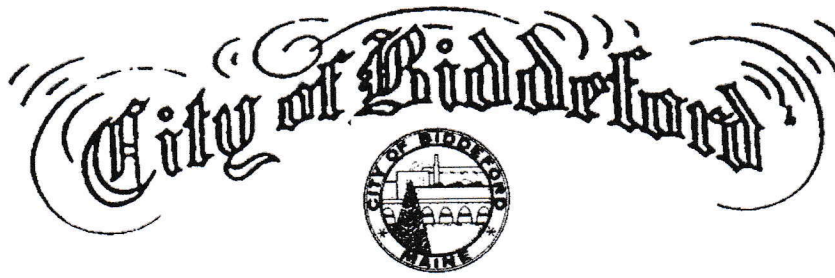
- a. *The applicant must provide a Maine DOT Traffic Movement Permit to the City.*

This project is experiencing a timing issue receiving a TMP, from MDOT, because of its association with the Elm Street Corridor Project. As such, the condition is unattainable until other elements of the TMP have been addressed with the subject development and other projects in the area that also require TMP's which are being reviewed by MDOT as a combined TMP for all of the projects. The developer (Tom Watson) is planning on beginning the construction of the 11 townhomes followed by the 20 unit apartments at 20 Upper Falls Road. **To enable the developer to begin construction Staff is seeking a modification to this condition of approval that would require the MDOT signed TMP to be submitted prior to the issuance of the Occupancy permits being issued for the 20 Upper Falls Road building.** This would allow the developer to begin and complete construction of the 13 condominium units and the 20 apartments at 20 UFR prior to the submittal of the required TMP.

5. **Site Walks – Tentative date 9-6-2023:** The Planning Office is in the process of scheduling a Site Walk of the recently approved True Storage self-storage facility (Case # 2023.10) located at 32-40 Main Street within the Pepperill Mill Campus. We are also looking to schedule the Main Street river wall reconstruction project Site Walk adjacent to the Main Street Bridge and the Pepperill Mill Campus. The City continues to work with Federal Emergency Management Act (FEMA) representatives to finalize the scope of work. The river wall replacement / reconstruction project requires Planning Board and Saco River Corridor Commission (SRCC) review and approval. Due to the complexity of the river wall FEMA funding Staff is unable to present the proposal in full detail until FEMA finalizes their determination. As such, Staff is trying to schedule both of these site visits, immediately prior to the September 6, 2023 Planning Board regular meeting, at 4:00pm. However, **Staff is seeking the Board's availability prior to finalizing these visits.**

Respectfully submitted,

David C.M. Galbraith
Deputy Director/City Planner



2023.84

IN BOARD OF CITY COUNCIL

BE IT ORDERED, that the attached Back Lot Ordinance, as written and attached, be adopted as Article VI, Performance Standards, Section 7A Back Lots (new section) as written and recommended for adoption by the Planning Board.

July 18, 2023

Motion: Councilor Belanger

Second: Councilor Mills

Councilor Lessard – motion to amend the ordinance to allow backlots in the RF zone.

Second: Councilor Mills

Vote on the Amendment:

3 yeas – Councilors Lessard, Mills and Grohman

4 nays – Councilors Belanger, Ortiz, Whiting and LaFountain.

Amendment fails.

Councilor Lessard - motion to amend the ordinance to strike #7 (from the Attachment 1) “the backlot is at least as wide at the site of the proposed dwelling as the frontage measurement required in the district.”

Second: Councilor Mills

Vote on the amendment: Unanimous in favor.

Councilor Belanger - Motion to amend 14.d. to add “if the existing lot is already paved”

Second: Councilor Grohman

Vote on the amendment: Unanimous in favor.

Vote on the Ordinance as amended: Unanimous in favor

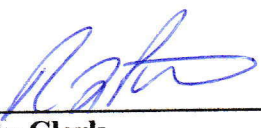
August 1, 2023

Motion: Councilor Mills

Second: Councilor Lessard

Vote: Unanimous in favor.

Motion passed.

Attest by: 
Robin Patterson, City Clerk

City of Biddeford

Re: Back Lot Ordinance: Planning Board Recommended Draft Ordinance – Second Reading

City Council Meeting: August 1, 2023

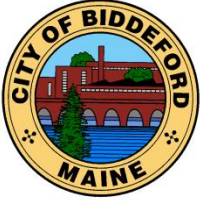
Attachment # 1

DRAFT BELOW:

- A. Back lots. One new back lot may be created from any lot of record that existed on (~~Ordinance adoption date~~) August 1, 2023 and conforms to the lot requirements of Table B Dimensional Requirements except for the lot frontage requirement, provided that:
1. A new back lot may only be created on residentially zoned properties identified as “growth areas” in the City’s Comprehensive Plan.
 2. Backlots are prohibited on residential lots in City’s Rural Farm (RF) and Coastal Residential (CR) Zoning Districts.
 3. Back lots are prohibited in previously approved subdivisions without subdivision amendment review and approval by the Planning Board. Projects / divisions of this nature need to adhere to all subdivision standards, dimensional regulations and stormwater management regulations.
 4. Lots utilizing the Back Lot Ordinance may not be further subdivided including the creation of additional “back lots”.
 5. Each will be limited to one single or one two-family dwelling.
 6. The back lot and front lot will conform to the minimum lot area and minimum lot area per dwelling unit required in the district.
 - ~~7. The back lot is at least as wide at the site of the proposed dwelling as the frontage measurement required in the district.~~
 7. The back lot has a deeded access to a publicly accepted street. This access may be obtained by:
 - a) A right-of-way / easement that is a minimum of 25 feet wide across the front lot that is deeded to the owner of the back lot; or
 - b) Extension of the back lot to the public street so that the back lot has at least 25 feet of frontage on the street. The creation of the back lot shall not make the front lot more nonconforming in street frontage or make the front lot nonconforming with respect to street frontage if it is conforming.
 - c) The 25 foot right-of-way (ROW) / easement area shall be designed to meet the following:
 - 1) There shall be a five (5) foot wide minimum driveway setback from the existing master lot to the existing structure.
 - 2) There shall be a five (5) foot wide minimum, driveway setback the length of the proposed driveway, along the abutting property line. This area shall remain vegetated.
 - 3) The proposed driveway shall be a minimum of twelve feet (12) in width, must remain unobstructed.
 - 4) The driveway width may be required to exceed the twelve foot (12’) width if necessary to accommodate passage of emergency vehicles. Driveway/s exceeding 150’ in length may

- be required to provide an emergency vehicle turn around. This determination and approval of access designs shall be made in writing by the Biddeford Fire Department.
- 5) For safety reasons, driveways may be required to meet “private road construction requirements”, Table 6-50, as determined by the City’s Code Enforcement Office, Planning Director and Fire Department.
 - 6) The Code Enforcement Office may require additional information / studies to be provided by the Applicant prior to the issuance of a building permit.
8. The back lot and the front lot may share the same driveway and driveway roadway entrance providing the following conditions are met:
- a) Proof of a recorded non-exclusive access easement, a minimum of twenty-five (25) feet in width, which will run with the land in perpetuity; the interior lot of record may only utilized as a single-family or two-family **Use** and shall meet all dimensional requirements within the zoning district in which they are located).
 - b) The access easement shall include provisions for snow removal, access maintenance, driveway replacement / reconstruction and maintenance responsibilities of each party of the lot division.
 - c) If 3 or more units are created, Subdivision review by the Staff Review Committee (SRC) may be required.
9. The driveway shall be maintained in a passable condition, free of potholes, ruts, debris, snow, and shall not cause damage to municipal vehicles nor hinder emergency vehicle access.
10. A turnaround area may be required, by the Biddeford Fire Chief, or their assignee, for the safe maneuvering of public safety vehicles. Written approval from the Department shall be submitted to the Code Enforcement Office with building permit application.
11. Street numbering shall be approved by the City's E-911 Addressing Officer prior to the issuance of any required permits are issued. A sign or mailbox clearly stating the assigned street number shall be posted at the street, prior to issuance of the required Building Permit.
12. If a public sewer line passes in the street in front of the lot from which the back lot will be created, the back lot shall be required to connect to the sewer, and be functional and operational, to the satisfaction of the City, prior to the issuance of a Certificate of Occupancy Permit being issued.
13. If a public water line passes in the street in front of the lot from which the back lot will be created, the back lot shall be required to connect to the public water, and be functional and operational, to the satisfaction of the City, prior to the issuance of a Certificate of Occupancy Permit being issued.

- B. Lot standards. The following apply to new lots created after ~~(insert Ordinance Passage Date)~~ August 1, 2023:
1. Narrow strips of land along a street with a depth of less than the minimum front yard requirement for the zoning district in which the lot is located shall not be counted in meeting the minimum street frontage requirement.
 2. Prior to issuance of a building permit, the Code Enforcement Officer, Director of Engineering or City Planner may require that a wetlands delineation, prepared by a State of Maine Professional Licensed Engineer, be submitted to verify that the proposed building lot and proposed structures are adequate for building construction and the septic system installation consists of upland areas. If an area of wetlands equal to or greater than Maine Department of Environmental Protection Natural Resource Protection Act (NERPA) thresholds for development review is proposed for alteration, a copy of the NRPA permit shall be submitted prior to issuance of a building permit.
- C. Existing interior lots of record without any road frontage as of (Ordinance passage date), shall be eligible for a building permit, notwithstanding the absence of street frontage, providing the lot has a dedicated right-of-way (ROW) / Easement, meeting the standards of this Ordinance, to a City accepted street.
- D. All driveways serving the master lot and back lot shall be paved if the existing lot is already paved.
- E. Multiple dwellings or uses on one lot.
1. Except as permitted under Subsection 2 below, no more than one single-family or two-family dwelling may be located on a lot, except in the case of multiunit residential projects that meet all other applicable sections of this chapter.
 2. A second single-family dwelling, or two-family dwelling in the same ownership as the first, may be located on a lot only if the street frontage requirement is met, and the placement of the buildings would allow division of the lot in conformance with the minimum lot and setbacks specified in Table B - Dimensional Requirements. An accessory dwelling unit (ADU) permitted under Article VI – Performance Standards, Section 78 Accessory Dwelling Units shall not be considered a single-family residence for purposes of this section.



CITY OF BIDDEFORD

Planning and Development Department

Planning Board Meeting Minutes

July 26, 2023

City Hall Council Chambers & Zoom

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
In Attendance: Larry Patoine (Chair), Susan Deschambault, Roch Angers, Sean Tarpey, Alexa Plotkin, Steve Beaudette (Alternate Member arrived at 7:03 PM)
Staff: Greg Mitchell, David Galbraith, Eric Freeman & Nan Whitten
3. Adjustments to the Agenda-None
4. Planners Business
Mr. Galbraith reminded Mr. Beaudette & Mr. Angers that they will be sworn in at the end of the meeting and we will collect their signed Codes of Ethics
5. Consent Agenda
MOTIONS: 6:06 PM
Plotkin-Motion-To approve the Meeting Minutes for June 21, 2023 as they have been presented.
Deschambault-Second-Motion passed unanimously
6. Unfinished Business-None
7. New Business
7.A. 2023.35 Review and discuss a proposed Sketch Plan for Steve Liautaud, Freddy LLC to have a Food Truck Court & Community Events. The property is located at 64 Alfred Street (Tax Map 38, Lot 361) in the MSRD 1 Zone.
 - Steve Liautaud-Owner of the property gave a history of the property and an over view of the project.

- Leah Schaffer talked about the proposed uses of the property: as a drop spot for Youthful Maine Pantry & a pocket park in addition to it being a Food Truck spot.
- Ms. Schaffer stated that there are plans to redo the mural but it is not part of this project.
- The project has received approval from the Historic Preservation Commission.
- The Waddle Fence was discussed as well as the fact that HOB & Friends of the Lot will look after the lot.
- The food truck will not be in operation at this site in the winter.
- There were no comments from the public.
- The Board stated that they are happy something is going on this lot.
- There will be no parking designated for customers of the food truck area but consumers can park in the downtown area and walk up.
- Some of the Board members are concerned about the temporary shed and fence not fitting into the downtown area. Also the visibility of the lot while coming down Pool Street.
- The Board is also concerned that Porta Pottys will make the site look like a construction site.
- No food trucks will be on the site overnight.
- Other Board members are looking forward to this coming to the city and creating a vibrancy. This is the most interesting thing on the property since the fire 25 years ago. It is off to a great start.

MOTIONS: 7:11 PM

Schaffer-Motion- to APPROVE the Preliminary Site Plan application for the proposal located at 64 Alfred Street (Tax Map 38, Lot 361), within the MSRD-1 zoning district, as presented.

Tarpey-Second Motion Passed 3-2 (Tarpey, Plotkin & Patoine in favor; Deschambault & Angers against)

7. B. 2023.36 Review & Discuss Contract Zone Request from the City Council for Bruce Avallone & Peter Valcourt to build a new single-story post and beam barn with dimensions of 44 x 72 feet.

The barn will be used both for the campground residents and also to host outside events as well as to host events like weddings during the summer and fall months. The property is located at 608 New County Road (Tax Map 6, Lot 5-32) in the RF Zone. This property is currently being used as a campground.

- Bruce Avallone & Peter Valcourt represented themselves.
- The property is a 30-acre campground on the river.
- There were no public comments.
- The barn needs to obtain Planning Board approval.
- The Board members would like to see the soils tests.
- The property is known as the Homestead Family Campground.
- There is concern that the comp plan was completed not too long ago and where this type of a project is not in our ordinance yet it will begin to tear up the comp plan.
- The Contract Zone portion was sent to Planning Board from the City Council where it received a favorable vote unanimously.
- This project needs both a Contract Zone Approval and Site Plan approval.
- Mr. Galbraith feels this project would have a better chance at success if both items were going through Planning Board/City Council simultaneously.
- It was determined that the applicants will come back to apply for site plan & contract zone in 60 days.

7. C. Review & Discuss Inclusionary Zoning in order to begin the ordinance specifics of this proposed new regulation.

- Greg Mitchell gave a presentation on the proposed Inclusionary Zoning Ordinance
- There were no public comments
- It was determined that Mr. Mitchell would appear at the meeting of August 16, 2023 to finalize what is being sent to City Council.

8. Other Business-None

9. Adjourn 8:45 PM

Planning Board Chair/Vice

Date

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

CONTRACT ZONE AGREEMENT # 22
Homestead the River
608-610 New County Road (PID# Map 6, Lot 35-2)
Wedding Barn - Event Center
DRAFT # 1 – Submittal Requirements & Draft Conditions of Approval

Draft # 1 Conditions of Approval (8-10-23):

1. Hours & Curfew:
 - a. Last call and last dance is scheduled for 10:00pm, with sound reduced at 10:15 pm
 - b. 10:30 pm curfew is mandatory with all sound completely off
 - c. 11:30 pm all guests who are not included in the onsite accommodations and vendors must have completed their tear down and vacated the property. If vendors need additional time for tear down, please inquire. There are options to add-on additional hours for clean up, but these must be prearranged.
 - d. No more than one (1) wedding / event may be held per day.
 - e. The required Site Plan application shall include a proposed schedule outlining the maximum number of events proposed during each calendar year per month.
2. Sound and Amplification Rules:
 - a. All volume levels must be respectful of the neighbors
 - b. For outside wedding ceremonies (Not previously discussed), amplification is allowed during the ceremony. After the ceremony all outside amplification is to be turned off.
 - c. If any doors to The Barn are open during the reception the volume level must be reduced so as not to disturb the neighborhood
 - d. Last call and last song is at 10:00 pm and amplification reduced at 10:15 pm
 - e. All amplification is off at 10:30 pm
3. Parking:
 - a. All vehicles shall be parked in the designated parking areas. Handicapped parking, in close proximity to the event barn entrance, shall be provided and designated as such.
 - b. The primary drive aisle servicing the site shall remain open at all times for the passage of emergency service vehicles.
 - c. In addition to required parking at individual campsites, there shall be adequate parking for all catering and bartending staff, employees servicing the event, and to accommodate the 200 guest proposed to attend the event.
 - d. No overnight parking unless approved by the onsite manager, and must be removed by 9:00 am the following day or risk being towed at owner's expense
 - e. There is absolutely no parking on public streets leading up to the subject property. Any vehicles parked off the property will be towed immediately at owner's expense
 - f. All vehicles must be parked within designated parking areas. The Applicants shall submit as part of their Site Plan Review application a fully dimensioned parking plan and parking and wayfinding signage.
4. Smoking, Dogs/Pets and Animals:
 - a. Smoking, to include e-cigs, are strictly forbidden in the facility and will result in the forfeiture of the full security deposit
 - b. There is a designated smoking area outside, and is the only location on the property designated as such. Please no smoking anywhere else on the property.
 - c. No dogs or pets allowed on our property. If a pet is brought to our facility, your event will conclude immediately, and your security deposit will be held for a deep cleaning
 - d. The venue manager needs to be informed of all registered service animals prior to the event
 - e. There will be no releasing of live animals (doves, etc.)

CONTRACT ZONE AGREEMENT # 22
Homestead the River
608-610 New County Road (PID# Map 6, Lot 35-2)
Wedding Barn - Event Center
DRAFT # 1 – Submittal Requirements & Draft Conditions of Approval

5. Candles, Fires, Fireworks, and Balloons:
 - a. The use of any flame is prohibited in all buildings throughout the site except for designated fire pits. Battery operated candles are permitted.
 - b. Campfires are allowed only in designated fire rings / pits.
 - c. No fireworks of any kind, with the exception of sparklers, are allowed. Sparklers must be used outdoors only.
 - d. Balloons are allowed as decorations, but must be removed at the end of the event and helium balloon releases are not allowed.

6. Refuse and Recycling:
 - a. All refuse and recycling shall be removed by a licensed waste hauler.
 - b. The site shall provide refuse and recycling containers and a screened enclosure which shall screen the refuse area from public view.
 - c. Removal of all waste and recycling is the responsibility of the property owners and waste shall be removed from the property a minimum of once weekly during the open season.

7. Miscellaneous:
 - a. Liquor / Beverages / Illegal Substances: All liquor must be served by an Insured Licensed Bartender for the duration of the event. The bar needs to close one (1) hour prior to the established the music ends (10:00pm).
 - b. Event photography: photography is allowed inside and outside the property. No boudoir or nude photography is permitted anywhere on the property.
 - c. The proposed event barn requires the installation of a sprinkler system as required by the City and / or the State Fire Marshall's Office.

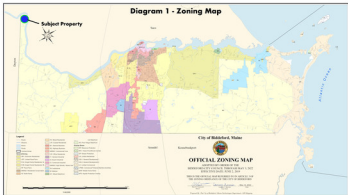




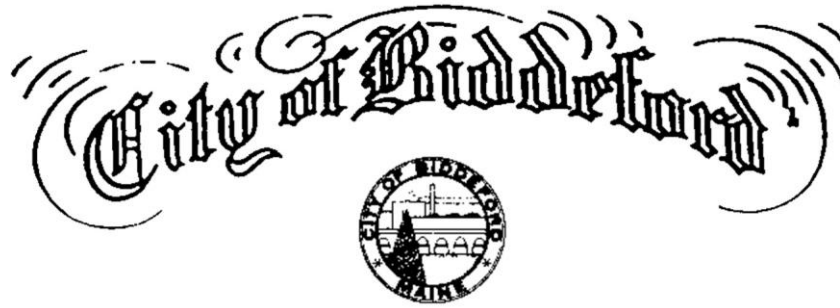
Diagram 3 - Proposed Barn Design



42' x 48' PINEDALE MONITOR BARN

Post & Beam 1 1/2 Story Monitor-Style Barn





PB Case # 2023.63

IN BOARD OF CITY COUNCIL... JUNE 20, 2023

BE IT ORDAINED by the City Council of Biddeford, Maine to forward the proposed Contract Zone request (CZ # 22) for 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2) for an Event Center / Wedding Barn.

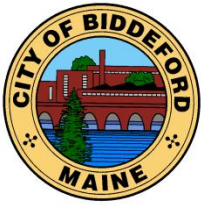
BE IT FURTHER ORDAINED by the City Council of Biddeford, Maine that Contract Zone #22, be forwarded to the Planning Board for review of the continued utilization of the property as a campground, the proposed event center / wedding barn Use, the development of the Contract Zone language, and specific Conditions of Approval for the proposed event center / wedding barn. If approved, by the City Council, after Planning Board review and recommendation, the Contract Zone will be considered an amendment to the Zoning Ordinance and the Official Zoning Map of the City of Biddeford.

BE IT ORDERED that the City Manager be authorized to sign and execute an Agreement between the City of Biddeford and the property owner to establish said Contract Zone #22.

June 20, 2023

Motion by

Attest by: _____
Robin Patterson, City Clerk



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 MEMORANDUM

TO: Chair Patoine and Members of the Biddeford Planning Board

EC: Bryce Avallone: bryce.avallone@gmail.com
Peter Valcourt: peter.valcourt@yahoo.com

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

DATE: August 10, 2023

RE: **2023.36 Contract Zone # 22 / Homestead By The River Campground / Bryce Avallone and Peter Valcourt / 608 New County Road (PID# Map 6, Lot 35-2) / Wedding Barn - Event Center / Preliminary Discussion.**

MEETING DATE: August 16, 2023 at 6:00 PM

1. INTRODUCTION:

This project was first discussed with the Planning Board on July 5, 2023. In late April 2023 the City's Code Office and Planning Department were contacted by business partners Bryce Avallone and Peter Valcourt who are in negotiations to purchase the "Homestead By The River" family campground, which is located at 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The subject property is 29.47-acres in area and is located within the Rural Farm (RF) zoning district and shoreland zoning overlay district. The subject property is currently being utilized as a campground and the applicants are seeking to construct a new 44' x 72' (3,168 sq. ft.) event barn for the use of the camping clients but also to be opened to the public for weddings, parties and similar "event center" type uses, during the summer and fall months. During the property's off-season the applicants would also be seeking approval for winter storage of recreational vehicles (RVs) within the proposed barn.

Article V, Establishment of Zones of the City's Land Use Ordinance (Zoning Ordinance), Table A - Table of Land Uses, does not include Event Centers, Wedding Barns, or similar uses as Permitted or Conditional Uses. The closest defined Use in Table A is "restaurants" which are an allowed in the Rural Farm (RF) zoning district as a Conditional Use. Therefore, the proposed Use is not allowed within any of the City's zoning districts nor have any specific performance standards for this type of Use been adopted. As such, the Applicants only have two (2) options to achieve their goal which are 1) Propose "Event Centers" / "Wedding Barns" to Article V Establishment of Zones, Table A "Table of Land Uses", which would require an Ordinance Amendment and the development of specific performance standards OR 2) Apply for a Contract Zone (CZ). The Applicants opted for the latter, and are seeking concept approval of a Contract Zone to allow the establishment of an event center / wedding barn at the subject location. It should be noted that the City's Table of Land Uses, does not list Event Centers, Wedding Barns, or similar Uses as being permitted in any of the City's zoning districts, nor does it include any specific performance standards for this type of Use.

Case # 2023.36: Contract Zone # 22 / Bryce Avallone and Peter Valcourt / 608 New County Road (PID# Map 6, Lot 35-2) / Wedding Barn - Event Center / Public Hearing
Planning Board Hearing date: August 16, 2023.

On June 20, 2023 the City Council reviewed the proposed Contract Zone and Staff memorandum (Agenda Item No: 15. Other Business 15a) and forwarded the item to the Planning Board for the development of Contract Zone language for the proposal and also review the associated development plans. At the end of the Planning Board review, the Board would be sending the draft Contract Zone language to the City Council who will have the ultimate approval on this action.

Applications for Contract Zones require a \$75 dollar non-refundable application fee, at this stage of the development, which has been collected. As the City Council has now forwarded the CZ request to the Planning Board, the Applicant has submitted the \$1,300. non-refundable processing fee regardless of if the project / Contract Zone receives City Council approval or not. Further, as required under Article V establishment of Zones, Section 9 H states "Any costs, including reasonable fees, incurred by the City, for drafting and enforcing the contract provisions shall be paid by the applicant whether or not the project/contract receives approval". The task assigned to the Planning Board from the City Council, is reviewing the plans / proposal "under the provisions of either subdivision or site review, whichever apply. These provisions may be modified to the extent warranted by the draft contract developed by the Board and the developer".

2. REVIEW PROCESS

Per City ordinance, this particular Application will require the following:

- A. Site Plan (Land Development Regulations, Article XI) review and approval by the Planning Board.
- B. Development of specific Contract Zone language and recommended Conditions of Approval (COA) which will ultimately be forwarded to the City Council for review and approval. It should be noted that regardless of the Planning Board's support of the proposal, or not, the Board needs to develop CZ language and recommended conditions of Approval (COA) in the event that the Council adopts the Contract Zone and COA.
- C. Article XIII Amendments, Section 2 Procedure on Amendments requires compliance of the following: If either the municipal officers or the Planning Board desire to propose any changes to this ordinance, or if a citizen petition as set forth herein is brought, the following procedure shall be followed:
 - 1) As soon as the amendment procedure is initiated by any of the above methods, the Board shall cause the City Clerk to give public notice of a public hearing on the proposed changes, which notice shall be made in a newspaper of general circulation in the City, and be published in one issue of such paper, at least 15 days prior to the date of hearing. The notice shall contain the time, date, and place of hearing, and sufficient detail about the proposed changes as to give adequate notice of their content and import. If the proposed changes are extensive, a brief summary of the changes, together with an indication that a full text is available at the City Clerk's office, shall be adequate notice, provided that in fact sufficient copies of the text are made available.
 - 2) The public hearing shall be held by the Planning Board.
 - 3) As soon as possible after such public hearing and in any event within 30 days, the Planning Board shall make a written recommendation, for or against the proposed changes to the municipal officers. (Emphasis added).
 - 4) The municipal officers (i.e.: City Council) shall not act on a proposed change until the recommendation of the Planning Board is before them. A proposed change which has been

Case # 2023.36: Contract Zone # 22 / Bryce Avallone and Peter Valcourt / 608 New County Road (PID# Map 6, Lot 35-2) / Wedding Barn - Event Center / Public Hearing
Planning Board Hearing date: August 16, 2023.

disapproved by the Planning Board may be enacted by a majority vote of the municipal officers.

- D. If approved, the proposed Contract Zone will require a Zoning Map Amendment identifying the property as Contract Zone #22. This will also require the update of Article XIII Amendments, Section 3 Contract and Conditional Zoning.
- E. The proposed use will require Site Plan approval by the Planning Board, which can be run concurrently with the Contract Zone development.
- F. Staff would recommend the Contract Zone include the adoption of plans and narratives that specify all activities proposed to take place on the property and the locations of each; limits hours of operation; mitigates negative impacts to surrounding property owners as it relates to traffic, noise, public safety and parking to name a few.

5. STAFF RECOMMENDATION:

1. This Contract Zone was forwarded to the Planning Board on June 20, 2023. The Planning Office was unable to provide the required fifteen (15) day public notice prior to the Planning Board meeting of July 5, 2023. Therefore, the discussion before the Board was not an official public hearing so the 30 day "clock", for developing the Contract Zone language had not started. The Planning Office will be providing public notice to abutters and posting required newspaper notifications for this item to be discussed at the July 19, 2023 Planning Board meeting. Although the 30 day "clock" has now started, this being the first public hearing on the matter, the Applicant at the June 20th meeting agreed to work with the Planning Board and City Staff on the development of the specific Contract Zone language and Conditions of Approval required for the Contract Zone and Site Plan approval concurrently.
2. As outlined above, the Application will also require Site Plan review and approval in addition to the Contract Zone. The applicant, as noted above, agreed to extend the 30 day Board development of the Contract Zone language so the projects may be run concurrently. The items are not required to run concurrently, however the Site Plan approval would include all of the specified Conditions of Approval (COA) within the Contract Zone in addition to any additional COA the Board desires to impose on the site plan approval. The Application requires approval of both the Contract Zone and Site Plan for the proposal to move forward with their project.
3. As proposed, there are no planned improvements within the portion of the property which is subject to the review and approval of the Saco River Corridor Commission (SRCC) the Site Plan should be review by the Commission who may provide recommendations to the Board.
4. Attached is a DRAFT copy of the Contract Zone Agreement, the proposed Contract Zone #22 map, and DRAFT Conditions of Approval (COA). At this time Staff is seeking feedback on the attached documents.

Respectfully submitted,

David C.M. Galbraith

David C.M. Galbraith
Deputy Director/City Planner

Case # 2023.36: Contract Zone # 22 / Bryce Avallone and Peter Valcourt / 608 New County Road (PID# Map 6, Lot 35-2) / Wedding Barn - Event Center / Public Hearing
Planning Board Hearing date: August 16, 2023.

Attachments – Provided to the Planning Board at their July 5, 2023 meeting:

1. Article V Establishment of Zones, Section 9 Contract and Conditional Zoning.
2. Article V Establishment of Zones, Table A “Table of Land Uses”.
3. Article VI - Performance Standards, Section 13 Campgrounds and tenting grounds.
4. City Council Transmission Memorandum of June 20, 2023.
5. City Council Determination Letter 6-27-2023
6. Contract Zone request submitted by Avallone and Valcourt including:
 - i. A two (2) page narrative, including aerial photo of property.
 - ii. Zoning Map with Subject property highlighted.
 - iii. Aerial photo illustrating proposed barn and parking areas.
 - iv. Image of 42’ x 48’ post and beam barn.
 - v. E. Diagram 4 – Saco River Corridor Commission (SRCC) review area.



City Council

Meeting Date: June 20, 2023

Meeting Time: 6:00pm

Agenda Item No: 15. Other Business

15a. Consideration of a new Contract Zone

Item Description: 608-610 New County Road – Contract Zone Request for an Event Center

Submitted by: David C.M. Galbraith, City Planner / Deputy Director of Planning and Development

Supporting Information/Documentation:

- A. Contract Zone request two page narrative, submitted by business partners Bryce Avallone and Peter Valcourt, including aerial photo of property.
- B. Zoning Map with Subject property highlighted.
- C. Aerial photo illustrating proposed barn and parking areas.
- D. Image of 42' x 48' post and beam barn.
- E. Diagram 4 – Saco River Corridor Commission (SRCC) review area.
- F. Article V Establishment of Zones, Section 9 Contract and Conditional Zoning.
- G. Article V Establishment of Zones, Table A "Table of Land Uses".

Key Terms:

N/A

Executive Summary:

The Applicants are seeking a Contract Zone, for a wedding barn / event center for the Homestead By The River family campground, which is located at 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The subject property is 29.47-acres in area and is located within the Rural Farm (RF) zoning district and shoreland zoning overlay district. The City's Table of Land Uses, does not list Event Centers, Wedding Barns, or similar Uses as being permitted in any of the City's zoning districts, nor does it include any specific performance standards for this type of Use.

Detailed Review:

In late April 2023 the City's Code Office and Planning Department were contacted by business partners Bryce Avallone and Peter Valcourt who are in negotiations to purchase the "Homestead By The River" family campground, which is located at 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The subject property is 29.47-acres in area and is located within the Rural Farm (RF) zoning district and shoreland zoning overlay district. The subject property is currently being utilized as a campground and the applicants are seeking to construct a new 44' x 72' (3,168 sq. ft.) event barn for the use of the camping clients but also to be opened to the public for weddings, parties and similar "event center" type uses, during the summer and fall months. During the property's off-season the applicants would also be seeking approval for winter storage of recreational vehicles (RVs) within the proposed barn.

Article V, Establishment of Zones of the City's Land Use Ordinance (Zoning Ordinance), Attachment 1: Table A - Table of Land Uses, does not include Event centers, Wedding Barns, or similar uses as Permitted or Conditional Uses. The closest defined Use in Table A is "restaurants" which are an allowed in the Rural Farm (RF) zoning district as a Conditional Use. Therefore, the proposed Use is not allowed within any of the City's zoning districts nor have any

specific performance standards for this type of Use been adopted. As such, the Applicants only have two (2) options to achieve their goal which are 1) Propose “Event Centers” / “Wedding Barns” to Article V Establishment of Zones, Table A “Table of Land Uses”, which would require an Ordinance Amendment and the development of specific performance standards OR 2) Apply for a Contract Zone (CZ).

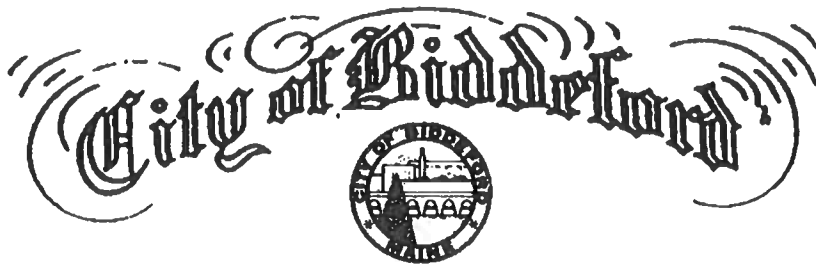
The Applicants opted for the latter, and are seeking concept approval of a Contract Zone to allow the establishment of an event center / wedding barn at the subject location. If the City Council is supportive of the proposed Contract Zone (CZ), the Applicant is requesting that the Council send a favorable recommendation of the proposed Use to the Planning Board for the development of Contract Zone language for the proposal and also review the associated development plans. At the end of the Planning Board review, if the Council refers the matter to the Board, would be sending the draft Contract Zone language and site plan to the City Council who will have the ultimate approval on this action.

Funding Source:

Applications for Contract Zones require a \$75 dollar non-refundable application fee, at this stage of the development, which has been collected. If / when the City Council agrees to forward the CZ request to the Planning Board, for Contract Zone language development and site plan review, then Planning would collect \$1,300. at that time for the Contract Zone, in addition to all fees associated with Site Plan application.

Staff Recommendation:

The recently adopted 2023 Comprehensive Plan does not specifically discuss event centers or wedding barn type uses within the document. The Comprehensive Plan does classify land located within the Rural Farm (RF) district as “limited growth” areas. If the City Council determines that the proposed Contract Zone has merit, and forwards the request to the Planning Board for review for the contract zone language drafting and review of the proposal, Staff would recommend the Contract Zone include the adoption of plans that specify all activities proposed to take place on the property, limits hours of operation, and mitigates negative impacts to surrounding property owners, traffic, noise, and parking to name a few.



VIA ELECTRONIC TRANSMITTAL

June 27, 2023

Bryce Avallone
Homestead by the River
608 New County Rd
Biddeford, ME 04005
Bryce.avallone@gmail.com

RE: Contract Zone Determination Letter

Dear Bryce,

The process for contract and conditional zoning applications is defined under Part III of Biddeford's Land Development Regulations, Sec. 9.F. – *Contract and Conditional Zoning*. This Article specifies that applications for contract and conditional zoning be initially reviewed by the Biddeford City Council. Once reviewed a letter of determination is sent to the applicant indicating whether it is advisable to continue with contract zone process.

On June 20, 2023 at its regular meeting the Biddeford City Council considered your contract zone request dated May 18, 2023 along with the supporting documentation for the proposed project at 608 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The City Planner indicates that the proposed new 44' x 72' (3,168 sq. ft.) wedding barn / event center for the Homestead by the River family campground is not allowed in the current RF zone. In order to proceed the applicant has the ability to propose an amendment to the Table of Land Uses or apply for a Contract Zone (CZ).

Based on the CZ application and the merits of the proposal, the City Council offers a favorable opinion of the project as recorded by a unanimous vote and recommends that you consider proceeding with the CZ process. Please be aware that the CZ application will require a public hearing along with technical and administrative review by the Planning Board. The Planning Board's recommendation(s) will come back to the City Council for final review and adoption as an amendment to the Zoning Ordinance and the Official Zoning Map of the City of Biddeford.

It is recommended that you meet with the city planner to ensure you fully understand the process before proceeding. The city planner is also your primary point of contact for the process.

On behalf of the Biddeford City Council, thank you for your proposal and good luck with your proposed project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Patterson', with a stylized flourish at the end.

Robin Patterson, City Clerk

cc: David Galbraith, City Planner
Greg Mitchell, Economic Development Director



City Council

Meeting Date: June 20, 2023

Meeting Time: 6:00pm

Agenda Item No: [match agenda item #]

Item Description: 608-610 New County Road – Contract Zone Request for an Event Center

Submitted by: David C.M. Galbraith, City Planner / Deputy Director of Planning and Development

Supporting Information/Documentation:

- A. Contract Zone request two page narrative, submitted by business partners Bryce Avallone and Peter Valcourt, including aerial photo of property.
- B. Zoning Map with Subject property highlighted.
- C. Aerial photo illustrating proposed barn and parking areas.
- D. Image of 42' x 48' post and beam barn.
- E. Diagram 4 – Saco River Corridor Commission (SRCC) review area.
- F. Article V Establishment of Zones, Section 9 Contract and Conditional Zoning.
- G. Article V Establishment of Zones, Table A "Table of Land Uses".

Key Terms:

N/A

Executive Summary:

The Applicants are seeking a Contract Zone, for a wedding barn / event center for the Homestead By The River family campground, which is located at 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The subject property is 29.47-acres in area and is located within the Rural Farm (RF) zoning district and shoreland zoning overlay district. The City's Table of Land Uses, does not list Event Centers, Wedding Barns, or similar Uses as being permitted in any of the City's zoning districts, nor does it include any specific performance standards for this type of Use.

Detailed Review:

In late April 2023 the City's Code Office and Planning Department were contacted by business partners Bryce Avallone and Peter Valcourt who are in negotiations to purchase the "Homestead By The River" family campground, which is located at 608-610 New County Road (Property ID# Map 6, Lot 35, Sub-lot 2). The subject property is 29.47-acres in area and is located within the Rural Farm (RF) zoning district and shoreland zoning overlay district. The subject property is currently being utilized as a campground and the applicants are seeking to construct a new 44' x 72' (3,168 sq. ft.) event barn for the use of the camping clients but also to be opened to the public for weddings, parties and similar "event center" type uses, during the summer and fall months. During the property's off-season the applicants would also be seeking approval for winter storage of recreational vehicles (RVs) within the proposed barn.

Article V, Establishment of Zones of the City's Land Use Ordinance (Zoning Ordinance), Attachment 1: Table A - Table of Land Uses, does not include Event centers, Wedding Barns, or similar uses as Permitted or Conditional Uses. The closest defined Use in Table A is "restaurants" which are an allowed in the Rural Farm (RF) zoning district as a Conditional Use. Therefore, the proposed Use is not allowed within any of the City's zoning districts nor have any specific performance standards for this type of Use been adopted. As such, the Applicants only have two (2) options

to achieve their goal which are 1) Propose “Event Centers” / “Wedding Barns” to Article V Establishment of Zones, Table A “Table of Land Uses”, which would require an Ordinance Amendment and the development of specific performance standards OR 2) Apply for a Contract Zone (CZ).

The Applicants opted for the latter, and are seeking concept approval of a Contract Zone to allow the establishment of an event center / wedding barn at the subject location. If the City Council is supportive of the proposed Contract Zone (CZ), the Applicant is requesting that the Council send a favorable recommendation of the proposed Use to the Planning Board for the development of Contract Zone language for the proposal and also review the associated development plans. At the end of the Planning Board review, if the Council refers the matter to the Board, would be sending the draft Contract Zone language and site plan to the City Council who will have the ultimate approval on this action.

Funding Source:

Applications for Contract Zones require a \$75 dollar non-refundable application fee, at this stage of the development, which has been collected. If / when the City Council agrees to forward the CZ request to the Planning Board, for Contract Zone language development and site plan review, then Planning would collect \$1,300. at that time for the Contract Zone, in addition to all fees associated with Site Plan application.

Staff Recommendation:

The recently adopted 2023 Comprehensive Plan does not specifically discuss event centers or wedding barn type uses within the document. The Comprehensive Plan does classify land located within the Rural Farm (RF) district as “limited growth” areas. If the City Council determines that the proposed Contract Zone has merit, and forwards the request to the Planning Board for review for the contract zone language drafting and review of the proposal, Staff would recommend the Contract Zone include the adoption of plans that specify all activities proposed to take place on the property, limits hours of operation, and mitigates negative impacts to surrounding property owners, traffic, noise, and parking to name a few.

City of Biddeford

Application for Contract Zone

Property Overview

The subject property is located at 608 New County Road in Biddeford. It is a 30-acre parcel on the Saco River that is currently run as a campground. The property is in the far northwestern corner of Biddeford abutting Dayton. Existing structures include a three-bedroom home with attached garage, a campground store, and a Civil War era animal barn.

The campground is open from May to early October each year, and has a combination of long-term and daily RV and tent sites. It currently holds events like barbeques and concerts onsite, but they are run outdoors.

Proposed Barn

Originally, we had considered moving events into the existing barn. However, the barn was built in the mid-1800's, and has been used as an animal barn for many years. Because we would have to invest in a commercial kitchen, a sprinkler system, air conditioning, and significant modifications for bathrooms, etc., it did not seem wise to attach all this new investment to such an old structure.

We are proposing building a new single-story post and beam barn with dimensions of 44 x 72 feet at the site of the existing horse-riding ring, which appears on the ariel view as a large rectangle of sand to the south of the existing home. It appears on Diagram 2 as a blue square.

The barn would be built on a concrete slab foundation, and would include three new bathrooms (one of which would be ADA-compliant), a commercial kitchen, and a bar. We would work with the planning and fire departments to ensure it meets all safety codes.

The barn would be used both for the campground residents and also to host outside events. Campground barbeques and concerts that are currently outdoors would be moved into the barn. In the off-season, the barn would be used for winter storage of RVs. The new barn would also be used to host events like weddings during the summer and fall months. It would accommodate 150 people, with a maximum of approximately 200 people.

This use seems like a good fit to support the campground and also host events. The barn fits in with the existing structures. There is also a similar venue right across the river in Saco.

Managing Potential Issues

This is a 30-acre property with only one neighbor, since it abuts the road on one side and the Saco River on two others. The property is only open for five months of the year. We plan to have a full-time onsite manager to oversee the campground and the barn activities. Noise will be managed by having music inside the barn, and implanting a 10PM curfew. We will

implement rules such as no open fires, no fireworks, no releasing of doves, etc. to minimize the impact of events on our neighbor and the campground residents.

Saco River Corridor

We have already contacted the Saco River Corridor commission when we were considering updating the existing barn. They sent us diagram #4, on which they shaded there are of oversight. The site of the new barn is more than 500 feet from the Saco River, and therefore is outside their jurisdiction.

About Us

Bryce Avallone and Peter Valcourt are business partners who have completed several successful businesses and real estate developments in Portland and southern Maine. We have experience with all phases of real estate development, and also on-going real estate leasing and maintenance. Our most recent project was the creation of a 5-unit subdivision where we built three treehouses and two hobbit houses for vacation rentals. You can see the quality of our work by viewing them at www.purposelylost.com.

Diagrams

- 1 – Biddeford Zoning map with the subject property highlighted.
- 2 – A Google Earth image of the campground with the proposed barn and parking areas highlighted.
- 3 – A screenshot of the monitor style barn we would like to build.
- 4 – The Saco River Corridor map that shows the barn outside of their 500-foot influence zone.

CONTRACT ZONE AGREEMENT # 22
Homestead the River
608-610 New County Road (PID# Map 6, Lot 35-2)
Wedding Barn - Event Center
DRAFT # 1 – Planning Board Review

AGREEMENT made as of ____ day of _____, 2023, by and between Bryce Avallone and Peter Valcourt DBA Homestead by the River, a Maine limited liability company (hereinafter called "Homestead") and THE CITY OF BIDDEFORD, a body politic and corporate located in Biddeford, Maine (hereinafter called "Biddeford").

WHEREAS, Homestead is under contract to purchase certain real estate (the "Property") situated at 608-610 New County Road in Biddeford, which property is currently designated as Tax Map 6, Lot 35-2, and contains approximately 29.47-acres and which Homestead desires to continue utilizing the property as a campground and construction of a new 44' x 72' (3,168 sq. ft.) event barn for the use of the camping clients but also to be opened to the public for weddings, parties and similar "event center" type uses, during the summer and fall months. During the property's off-season the applicants would also be seeking approval for winter storage of recreational vehicles (RVs) within the proposed barn.

WHEREAS, Homestead has applied for and obtained approval to re-zone the Property pursuant to the Contract Zoning provisions of the Zoning Ordinance of the City of Biddeford to create **Contract Zone 22**; and

WHEREAS, the parties are entering into this Agreement to provide written contractual evidence of the agreement of the parties and the terms and conditions of the Contract Zone.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth and in consideration of the granting of the zoning ordinance change, the parties agree as follows:

1. Development of the Property. Homestead agrees that it shall use its best efforts develop the Property in accordance with the following provisions and conditions:

A. Findings of Fact and Recommendations of the Biddeford Planning Board attached hereto as Exhibit A; and

B. Matters shown on "Site Plan – 608-610 New County Road, Biddeford, Maine", prepared by Acorn Engineering, LLC, of Portland Maine, attached hereto as Exhibit B;

Notwithstanding the provisions of City of Biddeford's Zoning Ordinance, as may be amended from time to time, Homestead, its successor and assigns, are hereby permitted to develop within Property the above described and referenced project consisting of the continued use of the property as an approved camp ground and the construction of a new 44' x 72' (3,168 sq. ft.) event barn (Exhibit B;) within the City's Rural Farm (RF) zoning district without regard to any conflicting lot area, dimensional, and density requirements otherwise applicable within said District.

2. Failure to Complete Development. In the event Homesteads hall fail to commence construction of the improvements within one (1) year of the date hereof or shall fail to substantially complete the construction within two (2) years of the date hereof, it is agreed that the terms of the Contract Zone shall expire and the Property shall revert to the then current

CONTRACT ZONE AGREEMENT # 22
Homestead the River
608-610 New County Road (PID# Map 6, Lot 35-2)
Wedding Barn - Event Center
DRAFT # 1 – Planning Board Review

zone the Property normally would have been in but for the granting of the Contract Zone change.

3. Construction and Effect; Recordation. This Agreement shall be construed in accordance with the laws of the State of Maine and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto. This Contract Zone Agreement shall be recorded in the York County Registry of Deeds within thirty (30) days after its approval by the City of Biddeford City Council.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed all as of the day and date above written.

Witness:

Homestead by the River, LLC

By: _____
Bryce Avallone
Its: President

By: _____
Peter Valcourt
Its: Vice President

CITY OF BIDDEFORD

By: _____
James Bennett
Its: City Manager

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

_____, 2023

Personally appeared the above named Bryce Avallone, President of Homestead by the River, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity, the free act and deed of said Homestead by the River, LLC.

Before me,

Notary Public/Attorney at Law

Print Name: _____

CONTRACT ZONE AGREEMENT # 22
Homestead the River
608-610 New County Road (PID# Map 6, Lot 35-2)
Wedding Barn - Event Center
DRAFT # 1 – Planning Board Review

STATE OF MAINE
COUNTY OF YORK, ss.

_____, 2023

Personally appeared the above named James Bennett, City Manager of the City of Biddeford, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said City of Biddeford.

Before me,

Notary Public/Attorney at Law

Print Name: _____

PURCHASE AND SALE AGREEMENT

("days" means business days unless otherwise noted, see paragraph 23)

September 30 202210/1/2022

Effective Date

Offer Date

Effective Date is defined in Paragraph 23 of this Agreement.

1. PARTIES: This Agreement is made between River Bend Reserve LLC ("Buyer") and Ruth P King and George H King ("Seller").

2. DESCRIPTION: Subject to the terms and conditions hereinafter set forth, Seller agrees to sell and Buyer agrees to buy ☐ all ☐ part of (if "part of" see para. 26 for explanation) the property situated in municipality of Biddeford, County of York, State of Maine, located at 608-610 New County Rd and described in deed(s) recorded at said County's Registry of Deeds Book(s) 16055, Page(s) 739-742.

3. FIXTURES: The Buyer and Seller agree that all fixtures, including but not limited to existing storm windows, screens, shades and/or blinds, shutters, curtain rods, built-in appliances, heating sources/systems including gas and/or kerosene-fired heaters and wood/pellet stoves, sump pump, electrical fixtures, hard-wired generators, landscaping, and _____ are included with the sale except for the following: _____
Seller represents that all mechanical components of fixtures will be operational at the time of closing except: None

4. PERSONAL PROPERTY: The following items of personal property as viewed on August 15 2022 are included with the sale at no additional cost, in "as is" condition with no warranties: None

5. PURCHASE PRICE/EARNEST MONEY: For such Deed and conveyance Buyer agrees to pay the total purchase price of \$ 2,000,000.00. Buyer ☐ has delivered; or ☒ will deliver to the Agency within 5 days of the Effective Date, a deposit of earnest money in the amount \$ 30,000.00. Buyer agrees that an additional deposit of earnest money in the amount of \$ 20,000.00 will be delivered July 15 2023. If Buyer fails to deliver the initial or additional deposit in compliance with the above terms Seller may terminate this Agreement. This right to terminate ends once Buyer has delivered said deposit(s). The remainder of the purchase price shall be paid by wire, certified, cashier's or trust account check upon delivery of the Deed.

This Purchase and Sale Agreement is subject to the following conditions:

6. ESCROW AGENT/ACCEPTANCE: Two Lights Settlement Service ("Agency") shall hold said earnest money and act as escrow agent until closing; this offer shall be valid until October 1 2022 (date) 5:00 ☐ AM ☒ PM; and, in the event of non-acceptance, this earnest money shall be returned promptly to Buyer.

7. TITLE AND CLOSING: A deed, conveying good and merchantable title in accordance with the Standards of Title adopted by the Maine Bar Association shall be delivered to Buyer and this transaction shall be closed and Buyer shall pay the balance due and execute all necessary papers on October 20 2023 (closing date) or before, if agreed in writing by both parties. If Seller is unable to convey in accordance with the provisions of this paragraph, then Seller shall have a reasonable time period, not to exceed 30 calendar days, from the time Seller is notified of the defect, unless otherwise agreed to in writing by both Buyer and Seller, to remedy the title. Seller hereby agrees to make a good-faith effort to cure any title defect during such period. If, at the later of the closing date set forth above or the expiration of such reasonable time period, Seller is unable to remedy the title, Buyer may close and accept the deed with the title defect or may terminate this Agreement in which case the parties shall be relieved of any further obligations hereunder and any earnest money shall be returned to the Buyer.

8. DEED: The property shall be conveyed by a Warranty Deed deed, and shall be free and clear of all encumbrances except covenants, conditions, easements and restrictions of record which do not materially and adversely affect the continued current use of the property.

Page 1 of 5

Buyer(s) Initials BCSeller(s) Initials CK RK

The Atlantic Real Estate Netw, 918 Forest Ave Portland, ME 04103
Jenna Segal

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Phone: (207)878-8800

Fax:

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9. **POSSESSION, OCCUPANCY, AND CONDITION:** Unless otherwise agreed in writing, possession and occupancy of premises, free of tenants and occupants, shall be given to Buyer immediately at closing. Said premises shall then be broom clean, free of all possessions and debris, and in substantially the same condition as at present, excepting reasonable use and wear. Buyer shall have the right to view the property within 24 hours prior to closing.

10. **RISK OF LOSS, DAMAGE, DESTRUCTION AND INSURANCE:** Prior to closing, risk of loss, damage, or destruction of premises shall be assumed solely by the Seller. Seller shall keep the premises insured against fire and other extended casualty risks prior to closing. If the premises are damaged or destroyed prior to closing, Buyer may either terminate this Agreement and be refunded the earnest money, or close this transaction and accept the premises "as-is" together with an assignment of the insurance proceeds relating thereto.

11. **FUEL/UTILITIES/PRORATIONS:** Buyer ☐ shall ☒ shall not pay Seller at closing for all fuel in any tanks remaining on the property calculated as of the closing date or such earlier date as required to comply with lender requirements, if any. The amount owed, if any, shall be determined using the most recently available cash price of the company that last delivered the fuel. Metered utilities such as electricity, water and sewer will be paid through the date of closing by Seller. The following items, where applicable, shall be prorated as of the date of closing: collected rent, association fees, (other) No Others. The day of closing is counted as a Seller day. Real estate taxes shall be prorated as of the date of closing (based on municipality's fiscal year). Seller is responsible for any unpaid taxes for prior years. If the amount of said taxes is not known at the time of closing, they shall be apportioned on the basis of the taxes assessed for the preceding year with a reapportionment as soon as the new tax rate and valuation can be ascertained, which latter provision shall survive closing. Buyer and Seller will each pay their transfer tax as required by State of Maine.

12. **DUE DILIGENCE:** Neither Seller nor Licensee makes any warranties regarding the condition, permitted use or value of Sellers' real or personal property, or any representations as to compliance with any federal, state or municipal codes, including, but not limited to, fire, life safety, electrical and plumbing. Buyer is encouraged to seek information from professionals regarding any specific issue or concern.

☐ Buyer's obligation to close under this Agreement is not subject to any due diligence investigations. Buyer is relying completely upon Buyer's own opinion as to the condition of the property.

☒ Buyer's obligation to close under this Agreement is subject to Buyer's satisfaction with the results of any due diligence investigations undertaken. Buyer shall have 7 days from the Effective Date of this Agreement to perform such due diligence investigations as Buyer deems necessary which may include, but are not limited to, any or all of the following: **(See Due diligence addendum)**

General Building	Square Footage	Zoning	Survey/MLI	Habitat Review/Waterfowl
Sewage Disposal	Code Conformance	Pests	Lead Paint	Shoreland Septic
Water Quality	Registered Farmland	Pool	Flood Plain	Energy Audit
Water Quantity	Environmental Scan	Insurance	Chimney	Lot Size/Acreage
Air Quality	Smoke/CO Detectors	Mold	Tax Status*	Arsenic Wood/Water (see par. 13)

All investigations will be done at Buyer's expense by persons chosen by Buyer in Buyer's sole discretion. Seller agrees to cooperate with Buyer and shall give Buyer and Buyer's agents and consultants reasonable access to the property and its systems and fixtures in order to undertake the above investigations. Buyer agrees to take reasonable steps to return the property to its pre-inspection condition. If the result of any investigation is unsatisfactory to Buyer in Buyer's sole discretion, Buyer may terminate this Agreement by notifying Seller in writing within the specified number of days, and any earnest money shall be returned to Buyer. If the result of any investigation is unsatisfactory to Buyer, and Buyer wishes to pursue remedies other than voiding the Agreement, Buyer must do so to full resolution within the time period set forth above; otherwise this contingency is waived. If Buyer does not notify Seller that an investigation is unsatisfactory within the time period set forth above, or if any investigation under this paragraph is not performed or completed during the period specified in this paragraph, this contingency and the right to conduct an investigation are waived by Buyer.

* If the property is enrolled in the Maine Tree Growth Tax program, Seller agrees to provide Buyer with the current Forest Management and Harvest Plan within 7 days. ☐ Yes ☐ No

13. **PROPERTY DISCLOSURE FORM:** Buyer acknowledges receipt of Property Disclosure Form and the information developed by the Maine Center for Disease Control and Prevention regarding arsenic in private water supplies and arsenic in treated wood.

14. FINANCING: Buyer's obligation to close:

Not Subject to Financing

☒ is not subject to a financing contingency. Buyer has provided Seller with acceptable proof of the funds.
☐ is not subject to a financing contingency. Buyer shall provide proof of the funds acceptable to Seller within _____ days. If such proof is unacceptable to Seller, Seller may terminate this Agreement no later than _____ days from receipt. If proof of funds is not provided within such time period, Seller may terminate this Agreement which right shall end once such proof is received, however Seller retains the agreed upon time period to terminate if such proof is unacceptable. If Seller terminates in either case, the earnest money shall be returned to Buyer.

☐ Buyer's ability to purchase ☐ is ☐ is not subject to the sale of another property. See addendum ☐ Yes ☐ No.

Subject to Financing

☐ Buyer's obligation to close is subject to financing as follows:

- a. Buyer's obligation to close is subject to Buyer obtaining a _____ loan of _____ % of the purchase price, at an interest rate not to exceed _____ % and amortized over a period of _____ years. Buyer is under a good faith obligation to seek and obtain financing on these terms. If such financing is not available to Buyer as of the closing date, Buyer is not obligated to close and may terminate this Agreement in which case the earnest money shall be returned to Buyer.
- b. Buyer to provide Seller with letter from lender showing that Buyer has made application for loan specified in (a) and, subject to verification of information, is qualified for the loan requested within _____ days from the Effective Date of the Agreement. If Buyer fails to provide Seller with such letter within said time period, Seller may terminate this Agreement and the earnest money shall be returned to Buyer. This right to terminate ends once Buyer's letter is received.
- c. Buyer hereby authorizes, instructs and directs its lender to communicate the status of the Buyer's loan application to Seller, Seller's licensee and Buyer's licensee.
- d. After (b) is met, if the lender notifies Buyer that it is unable or unwilling to provide said financing, Buyer is obligated to provide Seller with the written documentation of the loan denial within two days of receipt. After notifying Seller, Buyer shall have _____ days to provide Seller with a letter from another lender showing that Buyer has made application for loan specified in (a) and, subject to verification of information, is qualified for the loan requested. If Buyer fails to provide Seller with such letter within said time period, Seller may terminate this Agreement and the earnest money shall be returned to Buyer. This right to terminate ends once Buyer's letter is received.
- e. Buyer agrees to pay no more than _____ points. Seller agrees to pay up to \$ _____ toward Buyer's actual pre-pays, points and/or closing costs, but no more than allowable by Buyer's lender.
- f. Buyer's ability to obtain financing ☐ is ☐ is not subject to the sale of another property. See addendum ☐ Yes ☐ No.
- g. Buyer may choose to pay cash instead of obtaining financing. If so, Buyer shall notify Seller in writing including providing proof of funds and the Agreement shall no longer be subject to financing, and Seller's right to terminate pursuant to the provisions of this paragraph shall be void and Seller's obligations pursuant to 14e shall remain in full force and effect.

15. BROKERAGE DISCLOSURE: Buyer and Seller acknowledge they have been advised of the following relationships:

Peter Valcourt (014521) of Atlantic Real Estate (2712)
 Licensee MLS ID Agency MLS ID
 is a ☐ Seller Agent ☒ Buyer Agent ☐ Disc Dual Agent ☐ Transaction Broker
Matthew Freedman (010976) of EXP REALTY LLC (2742)
 Licensee MLS ID Agency MLS ID
 is a ☒ Seller Agent ☐ Buyer Agent ☐ Disc Dual Agent ☐ Transaction Broker

If this transaction involves Disclosed Dual Agency, the Buyer and Seller acknowledge the limited fiduciary duties of the agents and hereby consent to this arrangement. In addition, the Buyer and Seller acknowledge prior receipt and signing of a Disclosed Dual Agency Consent Agreement.

16. DEFAULT/RETURN OF EARNEST MONEY: Buyer's failure to fulfill any of Buyer's obligations hereunder shall constitute a default and Seller may employ all legal and equitable remedies, including without limitation, termination of this Agreement and forfeiture by Buyer of the earnest money. Seller's failure to fulfill any of Seller's obligations hereunder shall constitute a default and Buyer may employ all legal and equitable remedies, including without limitation, termination of this Agreement and return to Buyer of the earnest money. Agency acting as escrow agent has the option to require written releases from both parties prior to disbursing the earnest money to either Buyer or Seller. In the event that the Agency is made a party to any lawsuit by virtue of acting as escrow agent, Agency shall be entitled to recover reasonable attorney's fees and costs which shall be assessed as court costs in favor of the prevailing party.

17. MEDIATION: Earnest money or other disputes within the jurisdictional limit of small claims court will be handled in that forum. All other disputes or claims arising out of or relating to this Agreement or the property addressed in this Agreement (other than requests for injunctive relief) shall be submitted to mediation in accordance with generally accepted mediation practices. Buyer and Seller are bound to mediate in good faith and to each pay half of the mediation fees. If a party fails to submit a dispute or claim to mediation prior to initiating litigation (other than requests for injunctive relief), then that party will be liable for the other party's legal fees in any subsequent litigation regarding that same matter in which the party who failed to first submit the dispute or claim to mediation loses in that subsequent litigation. This clause shall survive the closing of the transaction.

18. **PRIOR STATEMENTS:** Any representations, statements and agreements are not valid unless contained herein. This Agreement completely expresses the obligations of the parties and may only be amended in writing, signed by both parties.

19. **HEIRS/ASSIGNS:** This Agreement shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns of the Seller and the assigns of the Buyer.

20. **COUNTERPARTS:** This Agreement may be signed on any number of identical counterparts with the same binding effect as if the signatures were on one instrument. Original or faxed or other electronically transmitted signatures are binding.

21. **SHORELAND ZONE SEPTIC SYSTEM:** Seller represents that the property ☐ does ☐ does not contain a septic system within the Shoreland Zone. If the property does contain a septic system located in the Shoreland Zone, Seller agrees to provide certification at closing indicating whether the system has/has not malfunctioned within 180 calendar days prior to closing.

22. **NOTICE:** Any notice, communication or document delivery requirements hereunder may be satisfied by providing the required notice, communication or documentation to or from the parties or their Licensee. Only withdrawals of offers and withdrawals of counteroffers will be effective upon communication, verbally or in writing.

23. **EFFECTIVE DATE/BUSINESS DAYS:** This Agreement is a binding contract when the last party signing has caused a paper or electronic copy of the fully executed agreement to be delivered to the other party which shall be the Effective Date. Licensee is authorized to fill in the Effective Date on Page 1 hereof. Except as expressly set forth to the contrary, the use of the term "days" in this Agreement, including all addenda made a part hereof, shall mean business days defined as excluding Saturdays, Sundays and any observed Maine State/Federal holidays. Deadlines in this Agreement, including all addenda, expressed as "within x days" shall be counted from the Effective Date, unless another starting date is expressly set forth, beginning with the first day after the Effective Date, or such other established starting date, and ending at 5:00 p.m. Eastern Time on the last day counted. Unless expressly stated to the contrary, deadlines in this Agreement, including all addenda, expressed as a specific date shall end at 5:00 p.m. Eastern Time on such date.

24. **CONFIDENTIALITY:** Buyer and Seller authorize the disclosure of the information herein to the real estate licensees, attorneys, lenders, appraisers, inspectors, investigators and others involved in the transaction necessary for the purpose of closing this transaction. Buyer and Seller authorize the lender and/or closing agent preparing the closing disclosure and/or settlement statement to release a copy of the closing disclosure and/or settlement statement to the parties and their licensees prior to, at and after the closing.

25. **ADDENDA:** Lead Paint - ☒ Yes ☐ No ; Other - ☒ Yes ☐ No Explain: see addendum 1

The Property Disclosure Form is not an addendum and not part of this Agreement.

26. **OTHER CONDITIONS:**

Once due Diligence is complete, and all other provisions of the contract are met, buyers agree to pay sellers \$75,000 as a penalty if they are unable to close on the agreed upon close date.

Sellers agree to pay buyers \$75,000 if they are unable to close on the agreed upon close date.

27. **GENERAL PROVISIONS:**

- a. A copy of this Agreement is to be received by all parties and, by signature, receipt of a copy is hereby acknowledged. If not fully understood, contact an attorney. This is a Maine contract and shall be construed according to the laws of Maine.
- b. Seller acknowledges that State of Maine law requires buyers of property owned by non-resident sellers to withhold a prepayment of capital gains tax unless a waiver has been obtained by Seller from the State of Maine Revenue Services.
- c. Buyer and Seller acknowledge that under Maine law payment of property taxes is the legal responsibility of the person who owns the property on April 1, even if the property is sold before payment is due. If any part of the taxes is not paid when due, the lien will be filed in the name of the owner as of April 1 which could have a negative impact on their credit rating. Buyer and Seller shall agree at closing on their respective obligations regarding actual payment of taxes after closing. Buyer and Seller should make sure they understand their obligations agreed to at closing and what may happen if taxes are not paid as agreed.
- d. Buyer acknowledges that Maine law requires continuing interest in the property and any back up offers to be communicated by the listing agent to the Seller.
- e. Whenever this Agreement provides for earnest money to be returned or released, agency acting as escrow agent must comply with the Maine Real Estate Commission rules which may require written notices or obtaining written releases from both parties.

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Buyer(s) Initials

Seller(s) Initials

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28. ELECTRONIC SIGNATURES: Pursuant to the Maine Uniform Electronic Transactions Act and Digital Signature Act, the parties authorize and agree to the use of electronic signatures as a method of signing/initialing this Agreement, including all addenda. The parties hereby agree that either party may sign electronically by utilizing an electronic signature service.

Buyer's Mailing address is 147 Pleasant Ave #1 Portland ME 04103

Bu 9/29/22
BUYER River Bend Reserve LLC DATE

BUYER DATE

BUYER DATE

BUYER DATE

Seller accepts the offer and agrees to deliver the above-described property at the price and upon the terms and conditions set forth and agrees to pay agency a commission for services as specified in the listing agreement.

Seller's Mailing address is _____

Ruth King October 1, 2022
SELLER Ruth P King DATE

George King October 1, 2022
SELLER George M King DATE

SELLER DATE

SELLER DATE

COUNTER-OFFER

Seller agrees to sell on the terms and conditions as detailed herein with the following changes and/or conditions:

The parties acknowledge that until signed by Buyer, Seller's signature constitutes only an offer to sell on the above terms and the offer will expire unless accepted by Buyer's signature with communication of such signature to Seller by (date) _____ (time) _____ ☐ AM ☐ PM.

SELLER DATE

SELLER DATE

SELLER DATE

SELLER DATE

The Buyer hereby accepts the counter offer set forth above.

BUYER DATE

BUYER DATE

BUYER DATE

BUYER DATE

EXTENSION

The closing date of this Agreement is extended until _____ DATE

SELLER DATE

SELLER DATE

SELLER DATE

SELLER DATE

BUYER DATE

BUYER DATE

BUYER DATE

BUYER DATE



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ADDENDUM 1 TO AGREEMENT

Addendum to contract dated September 28, 2022
 between Ruth P King, George H King (hereinafter "Seller")
 and River Bend Reserve LLC (hereinafter "Buyer")
 property located at 608-610 New County Road, Biddeford,

1. Seller to provide current campground map showing all existing sites, services for each, and list of which properties currently have leases for 2023.
2. Seller to provide a copy of the seasonal lease.
3. Seller to provide Buyer, during due diligence period, a personal information only walk through of structures to review HVAC systems.
4. Seller to provide one year of financials

Parties acknowledge Agency's advice to seek legal, tax and other professional advice as necessary in connection with sale/purchase of property

Buyer 9/29/22 ate
River Bend Reserve LLC

Buyer ate

Buyer ate

Buyer ate

Ruth King September 29, 2022
Seller ate
Ruth P King

George King September 29, 2022
Seller ate
George H King

Seller ate

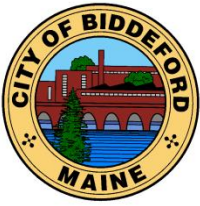
Seller ate



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King



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 10, 2023

RE: 2023.29 One Diamond Street Development / Master Plan Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Subdivision, Site Plan, and Shoreland Zoning Preliminary Plan review for the properties generally located at 1 Diamond Street.

MEETING DATE: August 16, 2023 at 6:00 PM

1. INTRODUCTION:

The Applicant, One Diamond Street Development, LLC and their authorized agent, Dan Riley of Sebago Technics, Inc. are seeking Planning Board Master Plan Review for 477 residential units and approximately 14,125 square feet of mixed use commercial space. The Project is being proposed in three (3) phases and the Applicant is seeking preliminary approval of Phase I of the development, in concurrence with the Master and Phasing Plan. Phase I consists 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 will connect all three Phases of the development. This application involves redevelopment of property at 1 Diamond Street, located within Business 1 (B1), High Density/Mixed Use (MSRD-3) and Waterfront Renaissance (WR) Districts. The development triggers Maine Site Law Review, for which the City of Biddeford has Municipal Capacity Authority.



2023 One Diamond Street - Master Development Plan

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.

This project previously came before the Planning Board on November 17, 2021 for “Preliminary Plan” review, but formal application plans were never submitted as the project was placed on hold, by the applicant. The delay was due to a number of reasons including the City’s need to write and adopt new Shoreland Zoning Amendments, in conjunction with the Saco River Corridor Commission (SRCC). For additional project history please see Item #2 “Project History” provided below. Due to the delay in submitting a formal development application, and the length of time since the Application has been before the Planning Board, a new Case Number (2023-29) has been assigned and the project is being reviewed as a “new application”, despite some elements, such as the JDA remaining in place.



One Diamond Street – Concept Development Plan – View from the North (City of Saco)

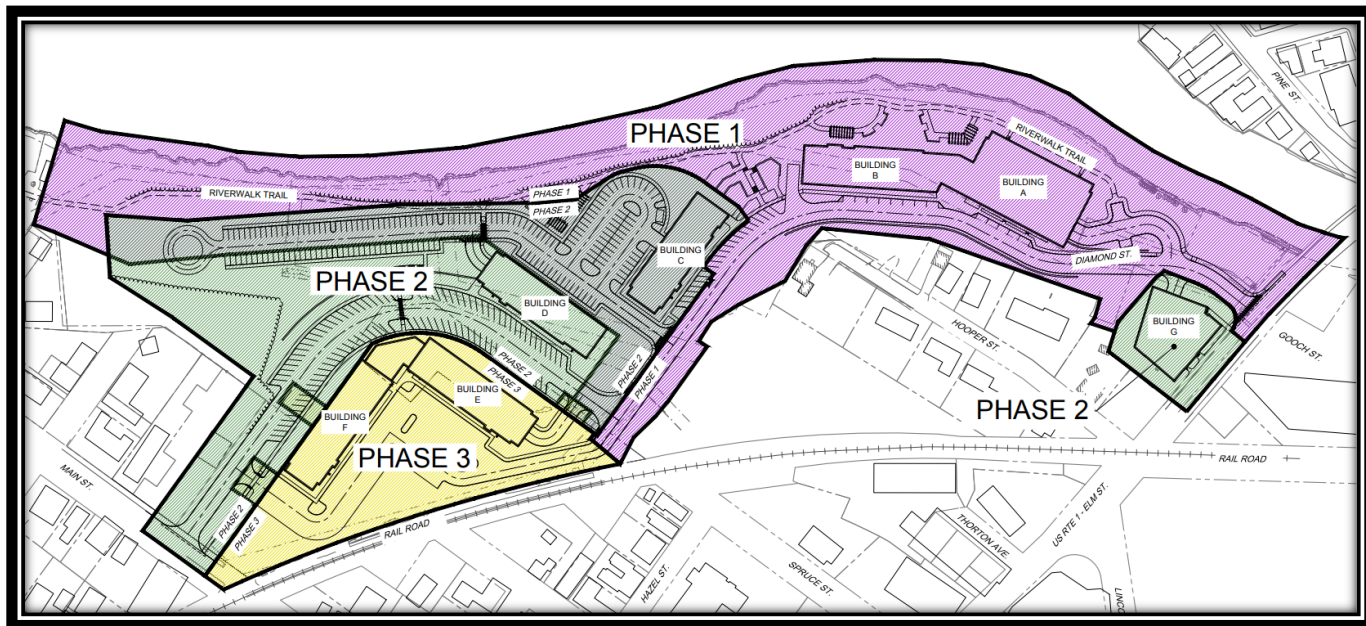
The One Diamond project team proposes to develop the 18+ Acre Downtown / Riverfront Property with 7 multi-story structures that would be constructed in three phases which are being designed as a single development as it relates to parking, traffic, utilities, design, etc. It would feature 477 market rate residential units and approximately 14,125 square feet of mixed use commercial (1 -2 restaurants). As proposed, 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).

At the Planning Board’s May 17, 2023 meeting the Board conducted a “Site Walk” of the property immediately prior to the regular Planning Board meeting.

2. **PHASING PLAN:** The proposed development is similar to the original Concept Master Plan presented in 2021 except for a few changes, such as the parking garage has been removed from the plans and parking is being provided with a combination of surface parking and understory parking. The project area and scope of the project has increased in size due to the Applicant purchasing additional abutting land. The site will be accesses by a private roadway, with public easements, from

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.

Elm Street at Diamond Street on the east, and connecting to Main Street on the west. The development plans is proposed to be constructed in three (3) phases, described below:



- A. Phase 1: Phase 1 of the development of buildings identified as “Building A” and “Building B” which will be connected structures placed upon the existing non-conforming foundation. These buildings are proposed to be a seven-story structure with the top six (6) floors containing a total of 146 residential units and the lowest floor being utilized for understory parking. This phase will include the construction of the primary private roadway up to Phase 2. An emergency vehicle parking / turn around space is being provided for each phase of the development.
- B. Phase 2: Phase 2 would include the construction of three (3) buildings which are identified on the Phasing Plan as buildings “C”, “D” and “G”.
 - a) *Building C: Building C is proposed to be a 65,925 square foot, five (5) story structure containing 67 residential units and understory parking.*
 - b) *Building D: Building D is a 72,000 square foot, five (5) story structure with the bottom floor containing 29 parking stalls and the five (5) above grade floors will be utilized for the creation of 77 residential units. Phase 2 will also include the completion of the main private drive aisle from the end of the Phase 1 roadway to Main Street.*
 - c) *Building G: Building G is 54,660 square foot, five-story structure with commercial space on the first floor and 36 residential units utilizing the top four floors. This development proposes to demolish the existing structure at this location in addition to the removal of the building, which currently contains Subway Sandwich Shop and Domino’s Pizza. This area will be revegetated and will include a River Walk path which connects to the 10-30 Upper Falls Road project.*

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
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View of the two (2) buildings at Diamond Street and Elm Street proposed for demo / redevelopment

- C. Phase 3: This phase of the development includes the construction of buildings “E” and “F” which are both five (5) story structures with understory parking. These 144,000 square foot buildings are identical and contain 154 residential units.

The Application includes three (3) commercial spaces, located in buildings A, G and between / connected to buildings E and F. These commercial uses are shown in gray on the Master Development Plan.

3. ITEMS OF SIGNIFICANT IMPORTANCE:

- A. **Brownfield’s Clean-up**: The subject development area includes an identified Brownfield’s Site, highlighted in red below, which requires clean-up / remediation.



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

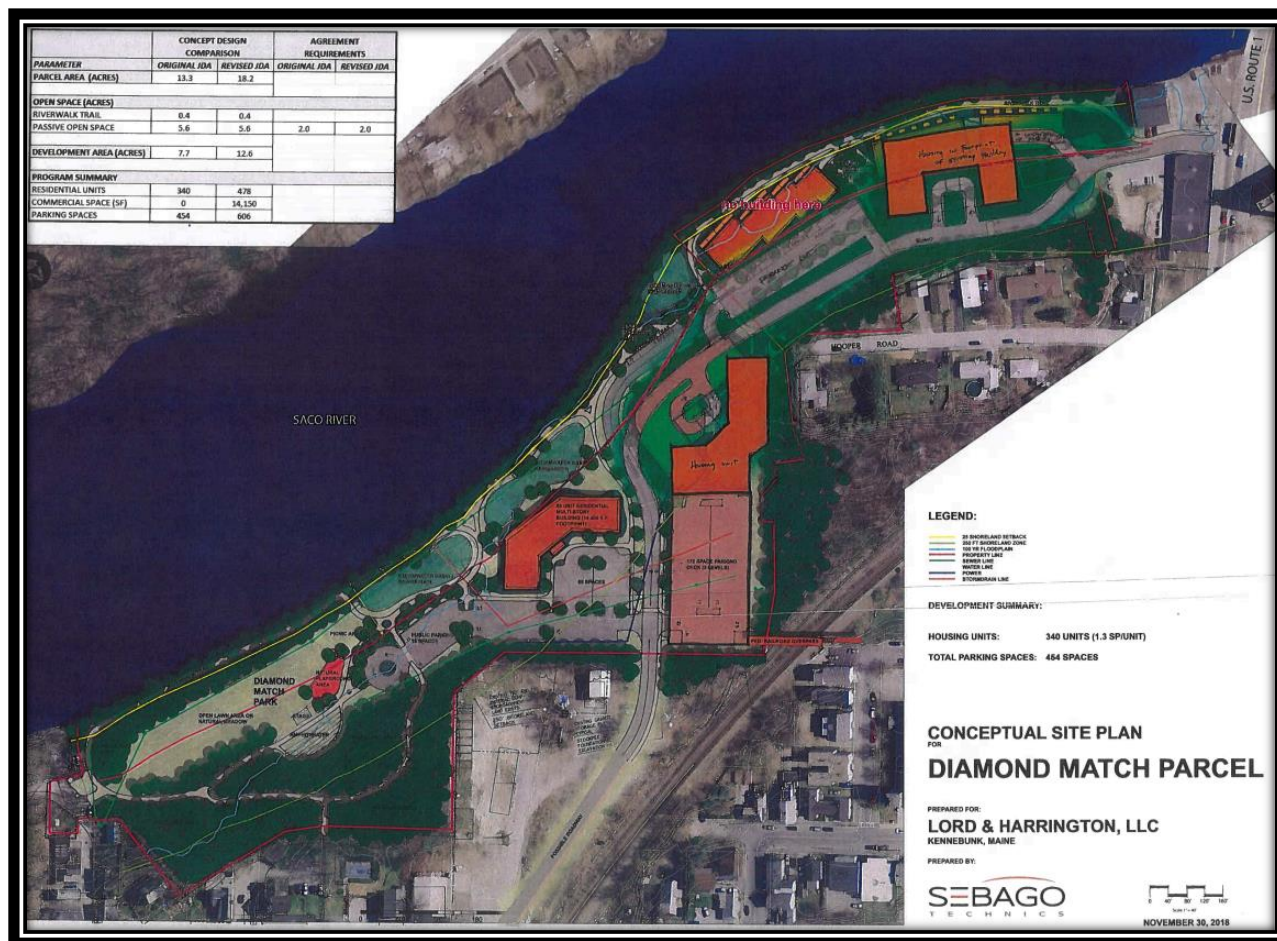
Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.

- B. 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 12 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.
- C. Sewer Easement / Issues: The subject property has a City owned existing sewer / easement that crosses project area which is being removed as part of this development proposal. For the past few months the Applicant has been meeting with Engineering and Public Works staff, on a bi-weekly basis, to make improvements to our existing drainage system and MS4 stormwater compliance.
- D. The Planning Department, with other municipal departments as needed, has also been hosting bi-weekly meetings with the Applicant's development team regarding the site development design, roadway and building placement, emergency service access (for each phase of the development), tree inventory, and adhering to the various Ordinance requirements and full compliance with the Shoreland Zone requirements.
- E. Traffic Movement Permit: The 1 Diamond development will require a Traffic Movement Permit (TMP) which is being coordinated with the TMP's for the 10-30 Upper Falls and Pearl Street projects. It should be noted that Phase 1, as proposed does not trigger the TMP as the peak hour traffic does not meet the TMP threshold.
- F. 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.

4. PROJECT HISTORY:

- A. April 20, 2021 – City Council Order 2021.32: The City Council reviewed the proposed Council Order 2021.32 to authorize the City Manager to enter into an Agreement for the Diamond Match Site, an a copy of the agreement, was included but the Order was tabled and an executive session was planned.
- B. May 4, 2021 – City Council Executive Session: Former Planning Director Mathew Eddy discussed the mixed use proposal of the "Diamond Match Development Site", as it was called at the time. The documents presented to the Council during the session were quite lengthy so have not been included as an attachment, but they can be made available to the City Council upon request. The original, "Conceptual Site Plan" presented to the City Council is shown below.

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.



Diamond Match “Conceptual Site Plan”, dated November 30, 2018

The outcome of the session authorized the City Manager and City Solicitor to negotiate a Joint Development Agreement (JDA) with the Applicant (Lord and Harrington (now One Diamond Development), under Council order 2021.41, which is discussed below.

- C. May 21, 2021 – Joint Development Agreement (JDA) “Outline”: An “Outline of JDA Terms between the City of Biddeford and Lord and Harrington, LLC.” was signed. This document was drafted as an outline for the terms that ultimately would be incorporated into the formal Joint Development Agreement (JDA) was signed by City Manager Bennett and Timothy Harrington (Lord and Harrington LLC) on December 9, 2021. The City Council authorized City Manager Bennett to execute the Outline under Council Order 2021.41 on May 4, 2021.
- D. November 17, 2021 – Planning Board Review “Master Plan”: Lord and Harrington and City Staff presented, at a Planning Board public hearing an introduction to the development Project. At this time the Application was assigned Case # 2021.51 for the Subdivision, Site Plan, and Shoreland Zoning Sketch Plan Review for Lord & Harrington, LLC located at 1 Diamond Street redevelopment (Tax Map 40, Lots 25-1, 25-2, and 74; Tax Map 37, Lot 35).

The Staff report presented to the Planning Board, provided an overview of the “Sketch Plan” which proposed “six buildings of 5-6 stories each, to be developed with a total of **496 residential units** (168 studio, 285 one-bedroom and 43 two-bedroom units), amenity space, and active and passive recreational

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 16, 2023.

spaces along the Saco River. The revised “Conceptual Master Plan”, now called One Diamond, presented to the Planning Board included additional land area and development. The plan presented to the Planning Board is below:



One Diamond Revised Master Development Plan, dated October 13, 2021

E. December 9, 2021- Formal Joint Development Agreement (JDA): The City and One Diamond Development, LLC entered into the formal Joint Development Agreement (JDA). The 16 page JDA was signed by City Manager Bennett and Timothy Harrington (One Diamond LLC). The JDA included specific terms / deadlines, most notably Article II which included a deadline for submittal for Site Plan and Subdivision review, before the Planning Board, within six (6) months from signing of the JDA (November 17, 2021). Article II further included a condition that Project construction begin within two (2) years of Final Planning Board approval and construction being “substantially complete” by December 31, 2024. The Joint Development Agreement (JDA) between the Applicant and the City remains in place but modifications to the agreement will need to be reviewed and approved by the City Council. There have been a number of issues contributing to the Project’s delays such as, amendments to the City’s Shoreland Zoning Ordinance (in consultation with Maine DEP & the Saco River Corridor Commission (SRCC), the Covid Pandemic, and additional property acquisition to increase the development area by over 4 acres. As such the Applicant will need to renegotiate some of the terms of the agreement as part of this application review process.

F. One Diamond – Additional Land Acquisitions:

1. Acquisition Date 1-31-2022: 378 Main Street (PID # Map 37 Lot 34).
2. Acquisition Date 1-31-2022: 52 Elm Street (PID # Map 40 Lot 25).
3. *Acquisition Date 1-31-2022: 368 Main Street (PID # Map 37 Lot 35) – Map Below
4. *Acquisition Date 1-31-2022: 376 Main Street (PID # Map 37 Lot 35-1)
5. *Acquisition Date 1-31-2022: 374 Main Street (PID # Map 37 Lot 35-3)

**Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.**

*Note Items 3, 4 and 5 were all purchased under a single purchase and sale agreement.

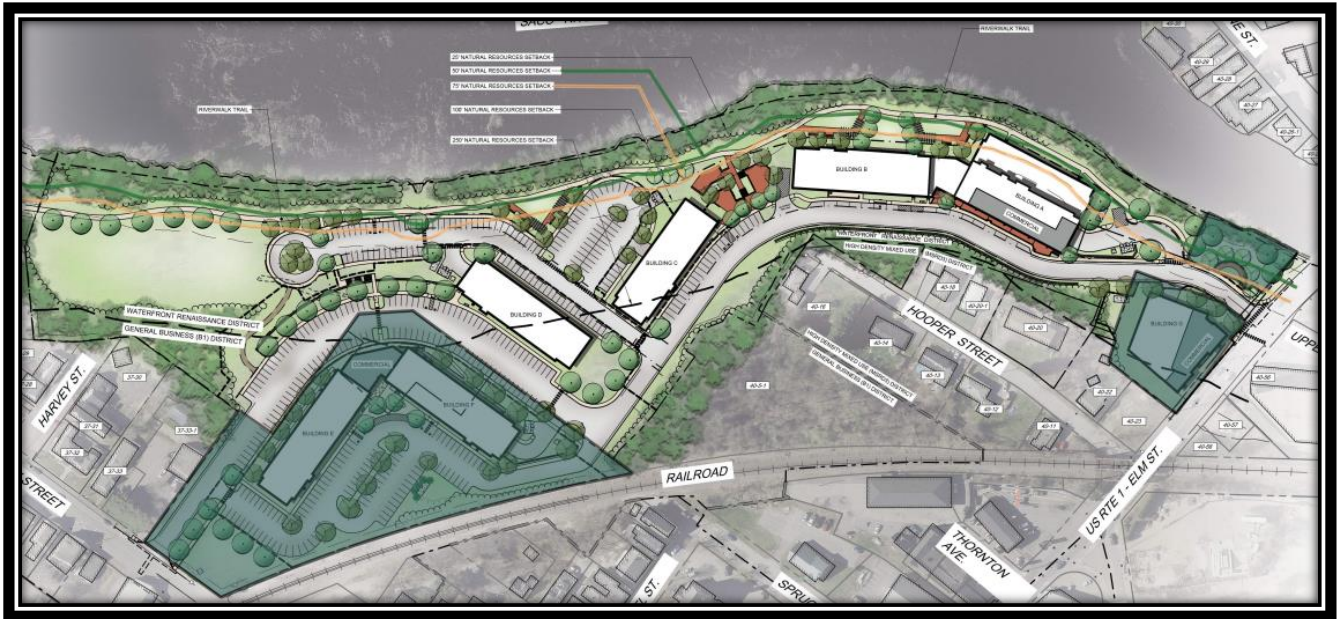
6. Acquisition Date 3-18-2022: 68 Elm Street (PID # Map 40 Lot 24) - Map Below
7. Acquisition Date (City Council Approved – Transfer Pending): (PID # Map 74) - Map Below: This property is approximately .51-acres in area (highlighted in red on the map below) and includes an identified Brownfield's Site, 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.



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

Below is a map that identifies, in dark pink, all of the seven (7) properties which One Diamond has acquired, post adoption of the signed Joint Development Agreement (JDA). The Applicant is seeking to include these acquired parcels that will increase the original “Conceptual site Plan” from 13.3-acres in area to 18.2-acres.

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.



Additional Lots Purchased by One Diamond – Illustrated in Dark Green

May 17, 2023 - Planning Board Review “Master Plan” (Revised): The Planning Board reviewed the proposed One Diamond Master Plan “concept / Sketch Plan” Review for **478 residential units** and approximately 14,125 square feet of mixed use commercial space. **This revised Master Plan incorporates the additional 4+ acres of development area and slightly less units (478 residential units) than the master plan that was reviewed by the Planning Board on November 21, 2021 (496 residential units).** The Project is also being proposed in three (3) phases and the Applicant is seeking approval of Phase I of the development, in concurrence with the amended Master and Phasing Plan.



Revised “Master Plan” presented to the Planning Board on May 17, 2023.

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
Planning Board Hearing date: August 16, 2023.

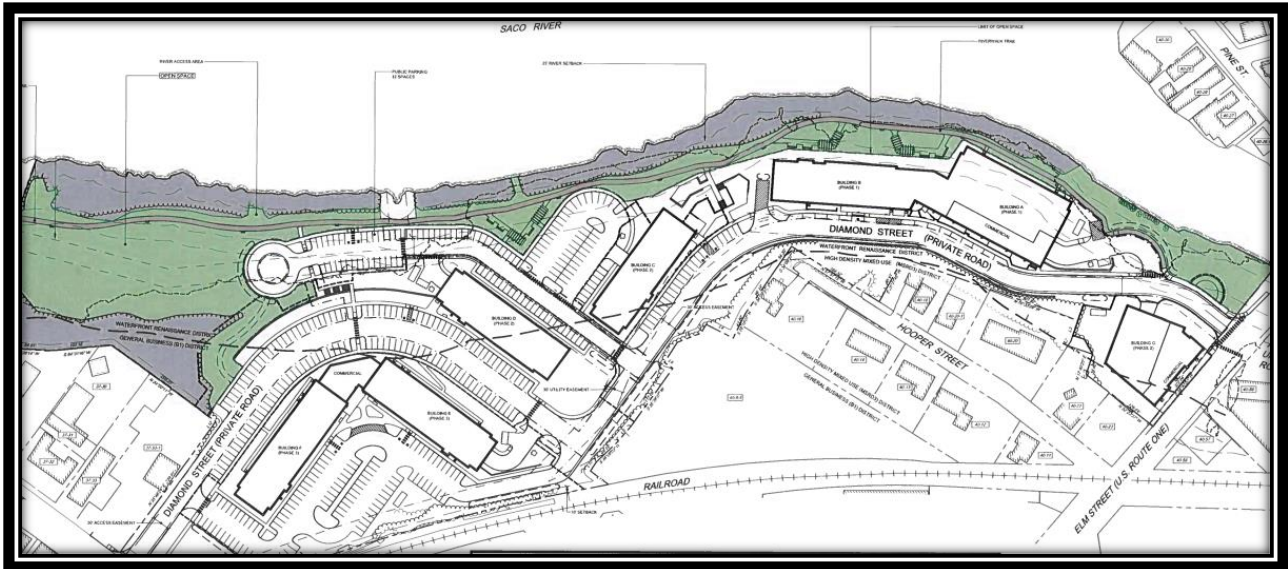
The plan above was discussed by the Board and the Applicant and it was determined that some of the parking at northwest of the site could be reduced in area to provide additional public open space, so the Applicant has amended the above plan to the below design:



Second Revised “Master Plan” presented to the Board on 5-17-23 - Reduced Parking

During the meeting the applicant discussed both of the above plans and it was determined that a reduction to the parking in the northwest lot would greatly enhance the openspace and that the Project should follow the second revised plan. It should be noted that the Applicant will be seeking a parking waiver from the Planning Board regarding the reduction of parking below the City’s parking standards by 10%. They are submitting supporting documentation for the requested waiver. As the above plan illustrates the inclusion of all of the land acquisitions listed in this memorandum and a full build out scenario. The signed JDA required the Applicant to provide “2 acres of passive public openspace”, however what constituted “public openspace”, was not specifically defined of what exactly constitutes the public openspace. The River Walk was called out as one requirement and the 2 acres a second requirement. As the Project area has expanded over time the Planning Department has been working on revising plans, while meeting the original JDA requirements. As such the Applicant submitted the below plan designated the open space, River Walk and public amenities (benches etc.).

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
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Proposed River Walk and Designated Openspace Plan

In addition to the above plan the Applicant has provided the below comparison from the original concept plan, in the JDA to the plans currently proposed. The plan above illustrates public openspace in light green and preserved vegetated areas in blue. The plans also include the below side by side comparison of the original plan and the plans as are being currently proposed. During Planning Board discussions the Board expressed some hesitancy to move the Project too far ahead of the Planning Board process, until the City Council weighed in on the expanded development plans as the original concept plans did not include the acquired properties and as the Project will need Council supported modifications to the Joint Development Agreement (draft attached) and the expanded development plans.

	CONCEPT DESIGN COMPARISON		AGREEMENT REQUIREMENTS	
PARAMETER	ORIGINAL JDA	REVISED JDA	ORIGINAL JDA	REVISED JDA
PARCEL AREA (ACRES)	13.3	18.2		
OPEN SPACE (ACRES)				
RIVERWALK TRAIL	0.4	0.4		
PASSIVE OPEN SPACE	5.6	5.6	2.0	2.0
DEVELOPMENT AREA (ACRES)	7.7	12.6		
PROGRAM SUMMARY				
RESIDENTIAL UNITS	340	478		
COMMERCIAL SPACE (SF)	0	14,150		
PARKING SPACES	454	606		

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
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The Joint Development Agreement (JDA) between the Applicant and the City remains in place but modifications to the agreement will need to be reviewed and approved by the City Council, following a recommendation from the Planning Board. There have been a number of issues contributing to the project’s delay and as such the Applicant will need to renegotiate some of the terms of the agreement as part of this application review process.

5. 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:	None requested at this time
18.	Waivers Granted:	N/A
22.	Other Non-City Permits Required:	
23.	LDR Attachment A: Fees Paid:	Yes
25.	Planning Board Review History:	11-17-21 Preliminary Plan

6. 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

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.

Planning Board Hearing date: August 16, 2023.

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 project, as discussed, would trigger the MDOT traffic movement permit (TMP) review process. The City has a third-party traffic consultant, to participate in the TMP process and provide input to the City. Required improvements need to be implemented upon TMP approval by the Maine DOT and the City. An approved development phasing plan has been proposed to allow flexibility regarding the timing when certain elements of the approval would need to be implemented.
- 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, are in the process of finalizing their tree preservation plan which is focusing on preserving the existing vegetation along the river.

7. 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.
- 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 recent Shoreland Zoning requirements.
- WAIVER REQUEST: No waivers are being sought at this time.

8. RECOMMENDATION:

The Project is being proposed in three (3) phases and the Applicant is seeking preliminary approval of Phase I of the development, in concurrence with the Master and Phasing Plan. Phase I consists 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 will connect all three Phases of the development. Phase 1 of the development of buildings identified as “Building A” and “Building B” which will be connected

Case # 2023.29: One Diamond Street Development / Master Plan “Preliminary Plan” Review for 477 residential units and approximately 14,125 square feet of mixed use commercial / Site Plan and Subdivision Review for the properties generally located at 1 Diamond Street.
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structures placed upon the existing non-conforming foundation. These buildings are proposed to be a seven-story structure with the top six (6) floors containing a total of 146 residential units and the lowest floor being utilized for understory parking. This phase will include the construction of the primary private roadway up to Phase 2. An emergency vehicle parking / turn around space is being provided for each phase of the development.

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. We continue to work with the Applicant and the City Council regarding the necessary modifications to the Joint Development Agreement (JDA) to accommodate the proposed expansion of the development area. 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 Phase I of the development, in concurrence with the submitted Master and Phasing Plan.

9. SAMPLE MOTIONS:

- A. Motion to Approve: I motion to APPROVE Case # 2023.29 for One Diamond Street Development, LLC. for the submitted Master and Phasing Plan and preliminary Plan of Phase I of the development. This application involves redevelopment of property 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 for One Diamond Street Development, LLC. for the submitted Master and Phasing Plan and preliminary Plan of Phase I of the development for the following reasons:
- 1)

2)

3)
- C. Motion to Table: I motion to TABLE Case # 2023.29 for One Diamond Street Development, LLC. for the submitted Master and Phasing Plan and preliminary Plan of Phase I of the development, for the following reasons:
- 1)

2)

3)

Respectfully submitted,

David C.M. Galbraith

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



Site Plan and Subdivision 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 2023

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June 14, 2023
18462

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

Site and Subdivision 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 and Subdivision Plan Application for Phase 1 of a new mixed-use development 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. Phase 1 and the master plan will be constructed in a manner that aligns with Biddeford's vision for the growing downtown area.

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 identify potential soil contamination associated with the historic uses. A Voluntary Response Action Program (VRAP) application is being prepared that will identify site cleanup standards to be integrated as part of the site redevelopment.

Phase 1 Site Development Program:

The overall project will be constructed in three phases as depicted in the Phasing Plan enclosed as part of the application. This current site plan application is for the Phase 1 project. The applications also include preliminary plans depicting a masterplan of the full buildout of all three phases for reference.

Improvements in Phase 1 include:

- Building AB, consisting of 135 residential units and 5,500 square feet of commercial space.
- Demolition and relocation of existing utilities running through the site will be necessary to accommodate site improvements. The two existing buildings near Elm Street will be removed in Phase 1.
- A private roadway identified as Diamond Street will run through the site from the west side of Elm Street to Main Street, with the entrance on Elm Street located at the current location of Diamond Street, directly opposite Upper Falls Road. Sidwalks will be constructed along the private road.
- A total of 138 surface level parking spaces and 95 understory parking spaces, Exceeding the minimum parking requirement as defined by the Land Use Ordinance for the Phase 1 project.
- A portion of the public sewer main will be removed and relocated around the Buildings A and B sites. 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. 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, but will be slightly raised to reduce flooding impacts compared to the existing condition.
- Water and underground utilities (power, telephone, and cable) will be extended from Elm Street through the project site.
- Other site amenities such as outdoor plazas, landscaping, and lighting are proposed.
- Construction of a 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. Twelve parking spaces have been allocated for public use to directly access the trail and open space.

Masterplan Site Development Program:

The full build out of the project's three (3) phases will ultimately include the construction of 478 residential units and 14,125 square feet of commercial space located within seven multi-story buildings.

Commercial space is proposed on the first floor of Buildings A, E/F, and G. The number of commercial units will be contingent on the selection of tenants and required fit up. Building locations and topographic relief across the subject site will allow for views facing north toward Saco River.

Two private roadways will connect Elm Street and Main Street. Cut through traffic will be minimized with the construction of a three-way stop at the intersection of the two roadways.

Parking to support the project development will be provided through a combination of on street parking along the private roadways, understory parking within six of the buildings, and surface parking lots. The project as proposed will meet or exceed the parking standards defined by the Land Use Ordinance for the Phase 1 project. Waivers of the parking standards are requested for the the Phase 2 and Phase 3 project. A waiver request is included in the application that summarizes all of the currently proposed parking and the waiver request for the Phase 2 and Phase 3 project. The waiver requires a reduction of up to 10% of the parking demand defined by the Ordinance and is supported by current Institute of Traffic Engineers (ITE) parking demand rates for mixed use developments in urban settings.

Public water and sewer are available to serve the proposed project, confirmation of utility capacity are included in the application package.

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.

Building AB is the first building to be developed and will utilize materials and architectural aesthetics that are referential to the buildings within the Mill District. Modern materials will be woven into the façade to balance the changing scale of the site in relation to its context and tie off the other buildings in the development. Building AB will act as the bridge between the One Diamond development and the downtown area of Biddeford, while the buildings on the other side of the site will create a similar connection to Main Street.

Copies of the preliminary building designs are 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 newly developed surfaces will be generally directed toward two subsurface chamber systems and an underdrained soil filter basin for management of runoff through filtration and biological uptake of nutrients and other pollutants.

Joint Development Agreement:

The current joint development agreement between the applicant and City is being revised to reflect the updated site size, current building program and anticipated construction schedule. The agreement will formalize commitments to be incorporated as part of the overall project including:

- Multi-use development with a minimum 30% of units held in fee ownership
- Public riverwalk trail and a minimum of 2 acres of passive open space available to the public
- A minimum of six parking spaces to be reserved for public use

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 and subdivision review based on the mix of residential (apartment and condominium) and commercial units. The number and type of commercial uses are undefined.
- Saco River Corridor Commission will review impacts along Saco River. The SRCC application has been submitted concurrently with the City Site and Subdivision Plan application.
- 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 culvert outlets and work adjacent to Saco River.
- U.S. Army Corps of Engineers review is required for fill placed in wetlands. Approximately 1,242 square feet of wetland fill is proposed.
- Traffic generated from Phase 1 of the project will not require a Maine DOT Traffic Movement Permit (TMP). A traffic memorandum summarizing the expected trip generation for the Phase 1 project is included in the application
- Traffic generated from the project masterplan’s future phases will exceed 100-peak hour trips necessitating Maine DOT TMP review of the project’s impact on the surrounding roadways. This application is being submitted to the Maine DOT concurrently with the Site and Subdivision application.

Schedule:

Site construction of Phase 1 is expected to commence in Spring 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.

Waivers:

The phase 1 project as currently presented meets the parking demand defined by the Land Use Ordinance, providing a surplus of 24 parking spaces in the first phase.

A waiver of the Parking Standards outlined in **Article VI §49(I)** as defined in **Table 6-49B** is requested for the Phase 2 and Phase 3 development. The Parking Memorandum included in Exhibit 16 of the application summarizes the project’s parking requirements, the waiver requested and the basis for that waiver based on the project scope, setting and Institute of Traffic Engineers (ITE) parking demand analysis for multi-family residential uses in urban settings.

The waiver requested for future phases is as follows:

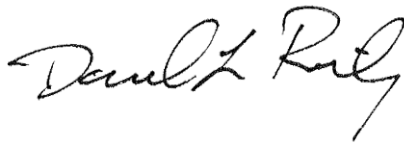
The applicant requests a waiver of up to 10% of the parking demand, as defined by ordinance, based on the cumulative total of building programs/uses proposed at the completion of Phase 2 and Phase 3.

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,

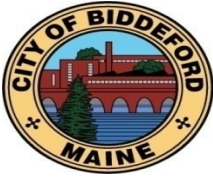
SEBAGO TECHNICS, INC.

A handwritten signature in black ink, appearing to read "Daniel L. Riley". The signature is fluid and cursive, with the first name "Daniel" and last name "Riley" clearly distinguishable.

Daniel L. Riley, P.E.
Vice President

Cc: One Diamond Development, LLC

CAB/DLR:
Enc.

**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: One Diamond Development, LLC
 Mailing Address: 2 Livewell Drive, Suite 201 Kennebunk, ME 04043
 Telephone: 207-467-3688
 Email: klord@thomasandlord.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 and 37 Lot: 25-1, 25-2, 24, 25, 34, 35, and 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 laydown 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): *varying topography

☒ 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:

Proposed development in phase one consists of 135 residential units and 5,500 SF of commercial space, in two new multi-level buildings. Phase one development also includes the construction of a riverwalk trail that will connect Elm Street to the Horrigan Court area. The trail and associated open space will be for public use.

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

Limits of Disturbance: 15 ± (x)acres ()s.f.

Net change in impervious cover: - 30,000 ± ()acres (x)s.f.

Is this project part of a larger project? ☒ (Yes) ☐ (No) **Phase one of three**

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:** Note; Project is within Waterfront Renaissance Zone - percent of residential lot coverage max = 55%

Percent of residential lot coverage (Max 20%): 33% in phase one , 46% in phases 2/3

Percent of structure expansion (Max 30%): N/A

☐ **If Subdivision Review, number of lots proposed:** 135 dwelling units in phase one

☐ **If a Private Way is proposed, number of lots served:** 135 dwelling units in phase one

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

Total new square feet footprint of structure: 42,000 SF ± in phase one

Total new square feet paving/parking: 120,000 SF ± in phase one

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:

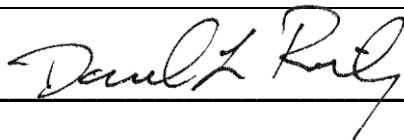
By signing this application, as the foresaid applicant or authorized agent:

- 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?: X(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 06-14-2023

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.

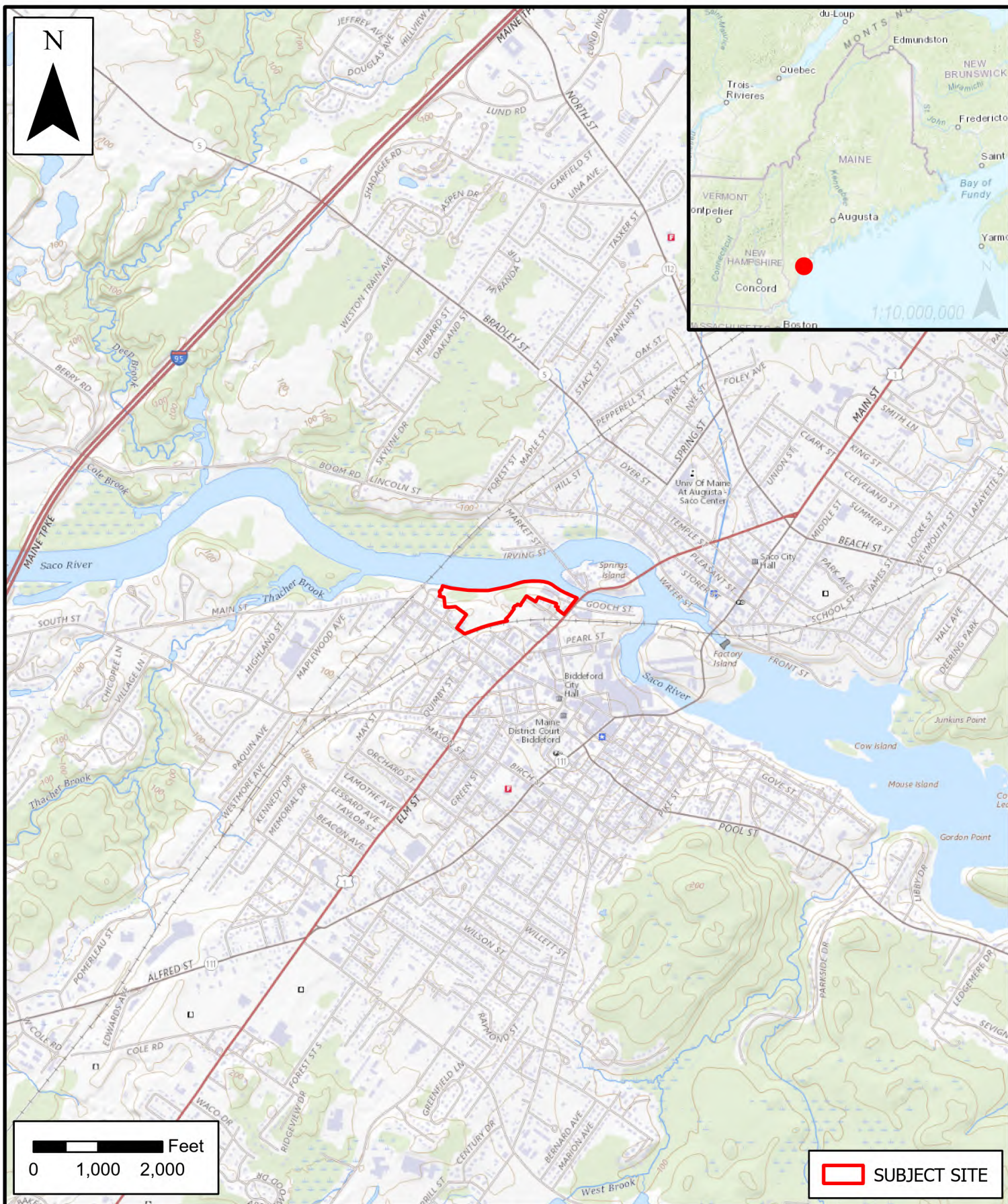
PLEASE TYPE OR PRINT NAME HERE



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

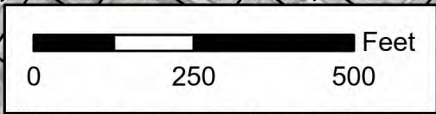
INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE

SCALE: 1:24,000

DATE: 3/14/2023

Exhibit 2

Tax Map and Abutter List



SEBAGO
TECHNICS

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

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.

ONE DIAMOND PROPERTIES

<u>Property</u>	<u>Tax Map / Lot</u>	<u>Right, Title & Interest</u>
1 Diamond Street	40 / 25-1	Book 18913, Page 96
Off Main St. (City)	40 / 25-2	Joint Development Agreement
Off Main St. (Union Oil)	40 / 74	P&S Agreement
52 Elm Street	40 / 25	Book 18941, Page 344
68 Elm Street	40 / 24	Book 18996, Page 930
368 – 376 Main St.	37 / 35 & 35-1	Book 18941, Page 668
378 Main Street	37 / 34	Book 18941, Page 666

1 DIAMOND ST.

NANCY E HAMMOND, REGISTER OF DEEDS
 E-RECORDED Bk 18913 PG 96
 Instr # 2021074361
 12/29/2021 12:19:41 PM
 Pages 5 YORK CO

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.

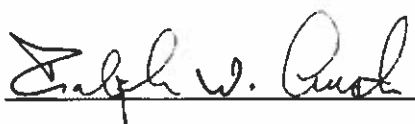
Also a certain other lot or parcel of land in said Biddeford and described in a deed from Gideon Tucker and Thomas M. Hayes to Joseph Hobson dated January 12, 1863, and recorded in said York County Registry of Deeds in Book 279, Page 192, as follows: land adjoining the western branch of Saco River, land 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.

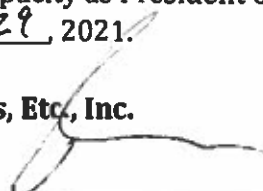
Four acres of land more or less, being all that portion of the twenty acre wood lot formerly owned by John Hooper which was not lived upon by Samuel F. Chase.

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: 

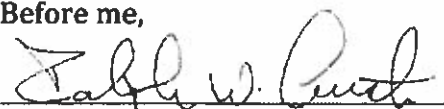
Brian T. Nestor
President

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~~

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

OFF MAIN ST.
(CITY PROPERTY)

JOINT DEVELOPMENT AGREEMENT

This Joint Development Agreement (the "Agreement") dated December 9, 2021 is executed by ONE DIAMOND DEVELOPMENT, LLC, the assignee of Lord & Harrington, LLC ("One Diamond") and the CITY OF BIDDEFORD ("City"). (One Diamond and the City are referred to individually as a "Party" and collectively as the "Parties.")

RECITALS

WHEREAS, One Diamond desires to develop a multi-unit, multi-building residential project with incidental commercial uses (the "Project") on property located at 1 Diamond Street, Biddeford, Maine (the "Diamond Property") and the adjacent Property owned by the City of Biddeford (Map 40, Lot 2, Block 25) (the "City Property"); and

WHEREAS, the City desires to create additional housing options in the City, including individually owned and rental units; and

WHEREAS, the City seeks to expand its RiverWalk pedestrian trail network and provide access to the RiverWalk through a portion of the Diamond Property and the City Property as well as provide passive open space for public recreational use on the Properties; and

WHEREAS, the City agrees to convey the City Property to One Diamond after One Diamond's satisfaction of the commitments contained herein; and

WHEREAS, the combined RiverWalk and the passive open space are expected to have a joint development value of \$900,000.00 - \$1,200,000.00;

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein and other consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

ARTICLE I

COMMITMENTS

1. One Diamond Commitments:

- a. One Diamond shall develop a multi-unit, multi-building residential project, with incidental commercial uses, on the Diamond Property and the City Property. The residential units shall be both ownership and rental units provided that at least 30% of the units shall be held in fee ownership.

- b. One Diamond shall construct a pedestrian pathway along the entire shoreline of the Saco River along the Diamond Property and the City Property that will connect with and become a part of the City's existing RiverWalk (the "RiverWalk Extension"). One Diamond agrees that it will construct the RiverWalk Extension pursuant to plans approved by the City as to location, dimension and design. The specifications, construction components, and details shall be substantially similar to the currently existing RiverWalk. Construction of the RiverWalk Extension shall be completed prior to the first occupancy permit being granted to One Diamond, or One Diamond shall provide a Bond in a form and amount acceptable to the City to ensure the completion of the RiverWalk Extension. After completion of the RiverWalk Extension, One Diamond shall grant an easement to the City for use of the RiverWalk Extension by members of the public. The City shall be responsible for maintenance of the RiverWalk Extension in the same manner as its maintenance of the existing RiverWalk.
- c. One Diamond shall develop and maintain in perpetuity a passive open space adjacent to the RiverWalk Extension (the "Open Space"). The Open Space shall be a minimum size of two (2) acres. One Diamond shall grant an easement to the City for the passive recreational use of the Open Space by members of the public. One Diamond also shall provide six (6) free public parking spaces adjacent to or in close proximity to the Open Space and RiverWalk Extension. Design of the Open Space and public parking shall be

in general accordance with the plans submitted by One Diamond to the City. After completion of construction, the Open Space and parking spaces shall be maintained by One Diamond.

d. At the closing of the City's transfer of the City Property to One Diamond (the "Closing"), One Diamond shall place the sum of \$1,000,000.00 into an interest bearing escrow account maintained by the City, said sum to be held in escrow as set forth below:

- (i) If One Diamond identifies a property acceptable to the City Council within one (1) year after the Closing, and submits, within an additional year, a redevelopment plan acceptable to the City Council to develop the property into a multi-unit residential and/or mixed use building, the City agrees that the \$1,000,000.00 plus accrued interest held in escrow will be paid to One Diamond.
- (ii) In the event that One Diamond does not identify a property acceptable to the City Council within one (1) year after the Closing, or if One Diamond fails to submit, within an additional year, a redevelopment plan acceptable to the City Council to develop said property into a multi-unit residential and/or mixed use building, One Diamond agrees that the \$1,000,000.00 plus accrued interest held in escrow will be paid to the City.

2. **City Commitments:**

- a. Upon One Diamond's completion of the undertakings set forth in Article I, Paragraph 1 above, the City shall convey to One Diamond, by a Municipal Release Deed, the City Property located adjacent to the Diamond Property, identified as Biddeford Tax Map 40, Lot 2, Block 25. The Parties agree that the City shall retain an easement on the City Property for any necessary stormwater/sewer maintenance and separation projects including, but not limited to, the installation of a combined sewer overflow tank, if required by the Department of Environmental Protection or other State agency, below the two (2) acre Open Space.
- b. The City will actively work with One Diamond, and assist as needed, during the permit and construction period.

3. **TIF District:**

The Parties agree that there will be no credit enhancement for the benefit of One Diamond in the development of the Project. However, the Parties further understand that the City will seek approval of a TIF District encompassing the City Property and the Diamond Property, with the proceeds from the TIF District to be used to advance affordable housing within the City of Biddeford.

ARTICLE II

TIME OF PERFORMANCE

One Diamond shall file site plan and subdivision review applications with the City Planning Board, any other City agencies, and the State of Maine within six (6) months of the date of execution of this Agreement. Failure to timely submit an application shall render this Agreement null and void at the City's sole discretion. Construction of the Project must begin within two (2) years of final Planning Board approval. Construction of the Project shall be substantially completed by December 31, 2024.

ARTICLE III

LIMIT OF LIABILITY

Notwithstanding any other provision of this Agreement, in no event shall the Parties or any of their Affiliates, by reason of any of their respective acts or omissions relating to the development, negotiation, design, financing, ownership, construction, operation or maintenance of the Project, or relation to any of their obligations under this Agreement, be liable whether in contract, tort, misrepresentation, warranty, negligence, strict liability, or otherwise for any special, indirect, or consequential damages arising out of or in connection with this Agreement, or the performance, non-performance or breach thereof.

ARTICLE IV

INDEMNIFICATION

Each Party shall indemnify, defend, and hold harmless the other Party and its agents, servants, officers, directors, employees and affiliates from and against any loss, cost, liability, claim, damage, expense (including, without limitation, all out-of-pocket expenses, reasonable attorneys' and paralegal fees, disbursements and costs), penalty or fine incurred in connection with any claim or cause of action arising from or in connection with any claim or cause of action arising from or in connection with the Project or this Agreement to the extent caused by the negligence, misrepresentation, fraud, fault or misconduct of the indemnifying Party or any of its affiliates.

ARTICLE V

MISCELLANEOUS

1. **Representations and Warranties:**

Each Party represents and warrants to the other that:

- a. it is duly qualified to do business and is in good standing in the State of Maine;

- b. it has full power and authority to execute, deliver and perform its obligations under this Agreement;
- c. the execution, delivery and performance of this Agreement has been duly and validly authorized by all necessary action by such Party; and
- d. the execution and delivery of this Agreement by such Party and the performance of the terms, covenants and conditions contained herein will not violate the charter, articles of incorporation or by-laws of such Party, or any order of a court or arbitrator, and will not conflict with and will not constitute a material breach of, or default under, the provisions of any material contract by which either Party is bound.

2. **Right to Require Performance:**

The failure of either Party at any time to require performance by the other Party of any provisions hereof shall in no way affect the right of such Party thereafter to enforce same. Nor shall waiver by either Party of any breach of any provisions hereof be taken or held to be a waiver of any succeeding breach of such provisions or as a waiver of any provision itself.

3. **Governing Law:**

This Agreement is and shall constitute a contract under and is to be construed in accordance with the laws of the State of Maine. Any dispute resulting in legal action and not resolved by arbitration, mediation, or such other method as may be mutually agreed to by the Parties shall be adjudicated within the jurisdiction of the State of Maine.

4. **Relationship of Parties:**

- a. This Agreement is not intended to supersede the authority granted by law to any regulatory board or agency of the City. Therefore, nothing in this Agreement shall be construed or implied to require the City Planning, Zoning or other regulatory boards or agencies (however designated) to approve the plans for any aspect of the Project or other action required under this Agreement.
- b. The Parties acknowledge that the obligations set further herein may be further described in other agreements and or deeds as agreed to by the Parties. The City and One Diamond agree to cooperate in good faith with regard to each and every aspect required for the completion of all construction and operations contemplated by this Agreement. The Parties

recognize, however, that the land use regulatory agencies of the City must perform their responsibilities in accordance with the law governing that performance and consequently are not obligated in any way by this Agreement. The City and One Diamond further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

- c. This Agreement shall not be interpreted or construed to independently create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent of representative of, or to otherwise bind, the other Party.

5. **Breach by One Diamond:**

- a. The City shall provide notice to One Diamond of a breach in writing, identifying the nature of the alleged breach and requested remedy. A breach shall be cured if remedied within thirty (30) days of receipt of the notice, or such other time as mutually agreed.

- b. If a breach is not cured as set forth above, the City may bring an action, in law or in equity, to enforce this Agreement as for damages, or both.
- c. If a breach is not cured as set forth above prior to the City's conveyance of the City Property to One Diamond, the City's obligation to convey the City Property shall be terminated.

6. **Breach by City:**

- a. One Diamond shall provide notice to the City of a material breach in writing, identifying the nature of the alleged breach and requested remedy. A material breach shall be cured if remedied within thirty (30) days of receipt of the notice, or such other time as mutually agreed.
- b. If a material breach is not cured as set forth above, One Diamond may bring an action, in law or in equity, to enforce this Agreement or for damages, or both.

7. **Integration:**

This Agreement, along with any exhibits, appendices, addenda, schedules, and amendments hereto, encompasses the entire agreement of the parties, and supersedes all previous understandings and agreements between the Parties,

whether oral or written. The Parties hereby acknowledge and represent, by affixing their hands and seals hereto, that the Parties have not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this Agreement, made by or on behalf of any other Party or any other person or entity whatsoever, prior to the execution of this Agreement. The Parties hereby waive all rights and remedies, at law or in equity, arising or which may arise as the result of a Party's reliance on such representation, assertion, guarantee, warranty, collateral contract or other assurance, provided that nothing herein contained shall be construed as a restriction or limitation of the Party's right to remedies associated with the gross negligence, willful misconduct or fraud of any person or party taking place prior to, or contemporaneously with, the execution of this Agreement.

8. **No Oral Modifications:**

This Agreement may not be changed or terminated orally. This Agreement and all the covenants, terms and provisions contained herein shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns. Except for an affiliated single purpose entity organized by L&H to construct and operate the Project, neither this Agreement nor any of the rights, interests or obligations under this Agreement may be assigned or delegated by any Party, without the prior written consent of the other Party. This Agreement is not intended to confer any rights or benefits to any entity other than to the City and to

One Diamond, its affiliate entity organized to construct and operate the Project, and its affiliates.

9. **Mutual Cooperation and Further Agreements:**

The Parties acknowledge that the obligations set further herein may be further described in other agreements as agreed to by the Parties. The City and One Diamond agree to cooperate in good faith with regard to each and every aspect required for the completion of all construction and operations contemplated by this Agreement. The Parties recognize, however, that the land use regulatory agencies of the City must perform their responsibilities in accordance with the law governing that performance and consequently are not obligated in any way by this Agreement. The City and One Diamond further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

10. **Notice:**

All notices required to be given to City or One Diamond under this Agreement shall be in writing and deemed given upon the earlier of actual receipt by personal

delivery or two (2) days after being mailed by U.S. Express, registered or certified mail, return receipt requested, or a reputable overnight courier as follows:

CITY: City of Biddeford
 c/o James A. Bennett, (or the then current) City Manager
 P.O. Box 566
 205 Main Street
 Biddeford, Maine 04005

With a copy to: City Attorney as designated in writing by the City

L&H: One Diamond Development, LLC
 2 Livewell Drive, Suite 201
 Kennebunk, ME 04043

With a copy to: One Diamond's attorney as designated in writing by L&H

11. Severability:

Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall

continue to be valid and binding upon the parties, who agree that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provisions.

12. Survival:

All express representations, warranties, indemnifications or limitations of liability made in or given in this Agreement shall survive the expiration or the termination of this Agreement for any reason.

13. Mediation/Arbitration:

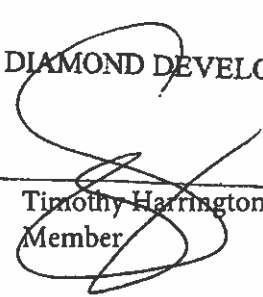
The Parties hereto agree that prior to filing litigation they will consider alternative dispute resolution techniques such as mediation and arbitration to resolve all claims, counterclaims, disputes and other matters in question between the Parties arising out of this Agreement.

IN WITNESS WHEREOF, the Parties hereto have set their hands and seals as of the day, month and year first above written.

Vakne Gordon

Witness

ONE DIAMOND DEVELOPMENT, LLC

By: 

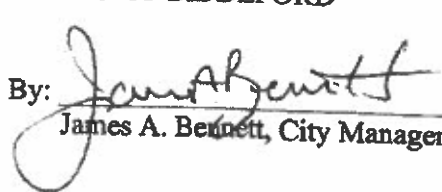
Name: Timothy Harrington

Title: Member



Witness

CITY OF BIDDEFORD

By: 

James A. Bennett, City Manager

OFF MAIN ST.
(UNION OIL CITY)

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. Marshall
 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: 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

Ralph W. Austin
 WITNESS

Richard J. Flaherty
 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,
Ralph W. Austin
 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

52 ELM ST.

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.

68 ELM ST.

DLN: 1002240189093

QUITCLAIM DEED

PFP Lawrence, Inc., a Massachusetts corporation, with a mailing address of 56 Kearney Road, Needham, MA

For consideration paid of **One Dollar (\$1.00)**

Grant to **One Diamond Development, LLC**, a Maine limited liability company, of **2 Livewell Drive, Suite 201, Kennebunk, Maine 04043**

With *quitclaim covenants*

the following described real property located at 68 Elm Street, City of Biddeford, York County, State of Maine

A certain lot or parcel of land with all buildings thereon situated in Biddeford in the County of York and State of Maine and bounded and described as follows: Beginning at River Street at the east corner of the heirs of the late William P. Hooper; thence running westerly by said Hooper land to land of the heirs of Samuel T. Merrill; thence southerly by said Merrill land to a stone wall; thence easterly by said stone wall and in a straight line from the east end thereof to said River Street to a point one hundred and twelve (112) feet distance from said Hooper corner; thence

Maine R.E. Transfer Tax Paid

Property Address: 68 Elm Street, Biddeford, Maine

northerly by said River Street to said Hooper corner and point of beginning.

Being the same premises described in a deed from Kathryn B. Mahaney to Annie T. Mahaney and recorded in York County Registry of Deeds in Book 996, Page 208 and dated March 1, 1943.

Also another certain lot or parcel of land beginning on the southerly side of River Street, so called, at its junction with Elm Street; thence westerly by said River Street about seventy six (76) feet to land of Alphonso M. Goodwin; thence in a southwesterly direction by land of said Alphonso M. Goodwin one hundred and sixty nine (169) feet, more or less, to land now or formerly of Samuel T. Merrill; thence in a southeasterly direction and at about right angles by the land of said Merrill seventy six (76) feet, more or less, to Elm Street; thence at about right angles in a northwesterly direction by said Elm Street one hundred and eighty (180) feet, more or less, to River Street and point of beginning.

For grantor's title, see deed of Alfred E. Pill, Robert E. Pill and Selig M. Friedberg dated February 15, 2008 and recorded with the York County Registry of Deeds in Book 15374, Page 0058-0060.

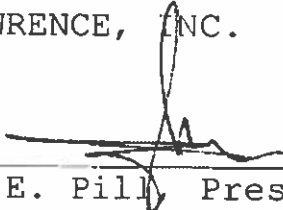
Meaning and intending to describe, as to both parcels, the property described in deeds recorded in the York County Registry of Deeds in Book 1984, Page 103 and Book 1984, Page 105.

(signature page attached)

Executed this 18 day of March, 2022.

PFP LAWRENCE, INC.

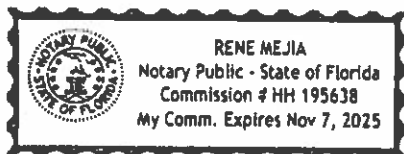
By:


Alfred E. Pill, President

STATE OF FLORIDA

Palm Beach, ss.

On this 18 day of March, 2022, before me, the undersigned notary public, personally appeared Alfred E. Pill, proved to me through satisfactory evidence of identification, which was (X) a driver's license and/or () _____, to be the person whose name is signed on the preceding or attached document; and acknowledged to me that he signed it voluntarily for its stated purpose.




Notary Public
My commission expires:

NANCY E HAMMOND, REGISTER OF DEEDS
 E-RECORDED **Bk 18941 PG 668**
 Instr # 2022006096
 01/31/2022 03:51:31 PM
 Pages 6 YORK CO

DLN: 1002240181791

QUITCLAIM DEED (With Covenant)

KNOW ALL MEN BY THESE PRESENTS

Maine R.E. Transfer Tax Paid

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

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

Ralph W. Quah

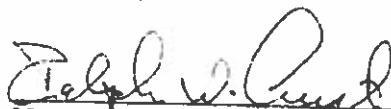
John Leclerc
By John Leclerc
Its: Member

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

378 MAIN ST.

NANCY E HAMMOND, REGISTER OF DEEDS
 E-RECORDED Bk 18941 PG 686
 Instr # 202205085
 01/31/2022 09:51:31 PM
 Pages 2 YORK CO

DIN: 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 Ladeda, 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: _____

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

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

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. Please see Section 8 for the confirmation of capacity from Maine Water.

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. Please see Section 8 for a confirmation of capacity letter from Maine Water.

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 Maine DEP 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. Please see Exhibit 8 for a confirmation of capacity letter from the City of Biddeford Wastewater Division. Capacity has been confirmed for all phases of the project.

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 proposed project will result in an unreasonable burden to the ability of the City to dispose of solid waste or sewage. Please see Exhibit 8 for a capacity request letter to the City of Biddeford Wastewater Division. The confirmation of capacity letter will be forwarded upon receipt.

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. There will be visual as well as physical access (kayak/canoe launch area) to the Saco River from this path. The proposed buildings have 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;

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. All buildings are designed to comply with the height limitation of the applicable zones.

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). No 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. We are working to coordinate this study with a state approved historic archaeologist. Please see Exhibit 11

Article VI - Performance Standards Section 6 Architectural standards

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 lots 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

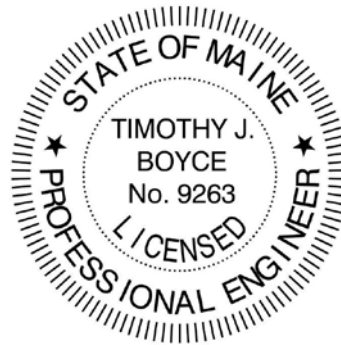
It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the final design and construction phases of the project.

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



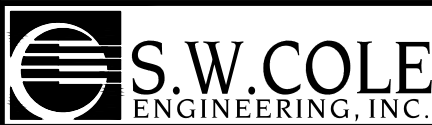
LEGEND:

 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.



BARRETT MADE			
EXPLORATION LOCATION PLAN			
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: 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): 58.8' +/- TOTAL DEPTH (FT): 31.6 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): 13 ft Soils appear saturated at 13 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	6-5-7-8		0.3 Surface; Topsoil = 4 inches thick Medium dense, brown gravelly SAND, some silt (Fill)		
			2D		2-4	24/10	2-2-3-3		2.0 Loose dark brown silty gravelly SAND, decayed wood and sawdust (Fill)		
55	5		3D		5-7	24/12	3-1-1-2		5.0 Loose, brown silty fine SAND (Fill)		
50	10		4D		10-12	24/24	WOH- 1/12-1		10.0 Very soft to stiff gray clayey SILT, trace fine SAND		
45	15		5D		15-17	24/12	1-6-5-4		16.0 Medium dense, brown fine to coarse SAND, trace silt		
40	20		6D		20-22	24/6	2-2-3-4		20.0 Loose, gray GRAVEL		
35											

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-1



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)	∇	
			5D		12.5-14.5	24/18	4-3-4-3		12.5 Loose, gray sandy SILT, some clay		
50											
	15		6D		15-17	24/18	3-2-7-8		15.0 Loose, gray fine SAND and SILT, some clay, trace gravel		
45											

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 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 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

BORING NO.: **B-6**
SHEET: 1 of 1
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

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 D = Split Spoon Sample Pen. = Penetration Length WOR = Weight of Rods S_v = Field Vane Shear Strength, kips/sq.ft.
▽ At Completion of Drilling U = Thin Walled Tube Sample Rec. = Recovery Length WOH = Weight of Hammer q_u = Unconfined Compressive Strength, kips/sq.ft.
▽ After Drilling R = Rock Core Sample bpf = Blows per Foot RQD = Rock Quality Designation Ø = Friction Angle (Estimated)
V = Field Vane Shear mpf = Minute per Foot PID = Photoionization Detector 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	▽	
			2D	×	2-4	24/12	5-10-10-5		2.0		
			3D	×	5-7	24/18	1-3-2-2		5.0		
			4D	×	10-10.4	5/5	50/5"		10.0		

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:	½" 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**

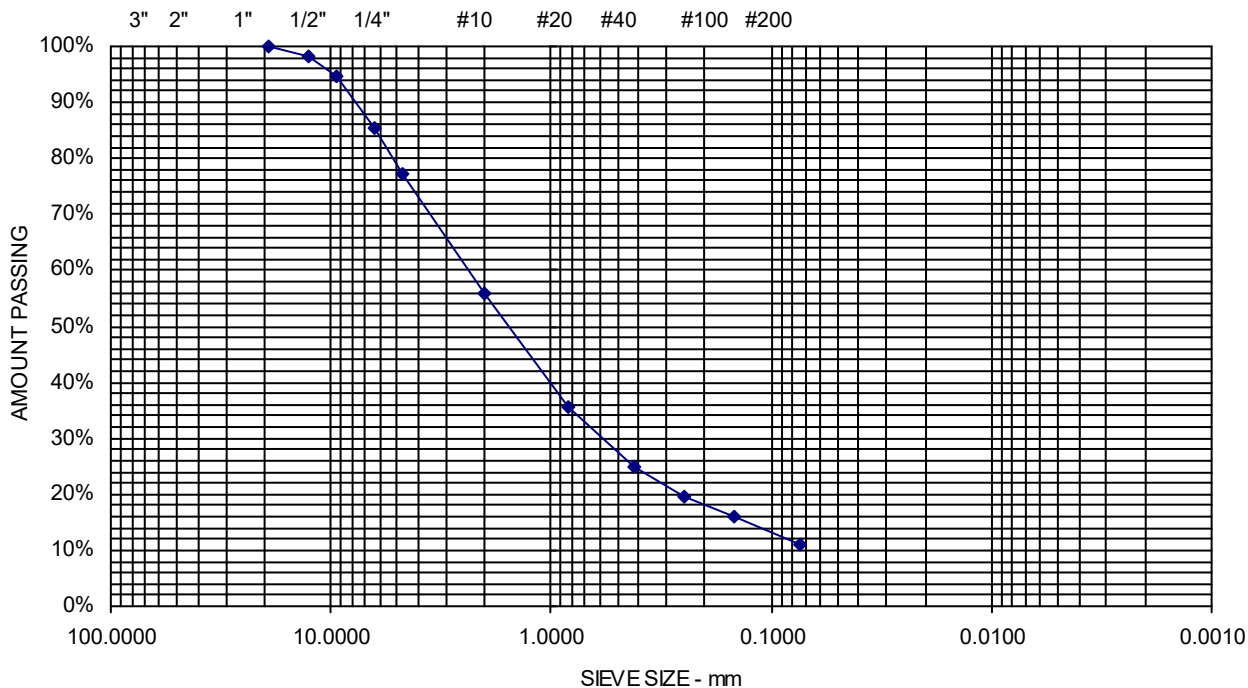
Lab ID **21426S**

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**

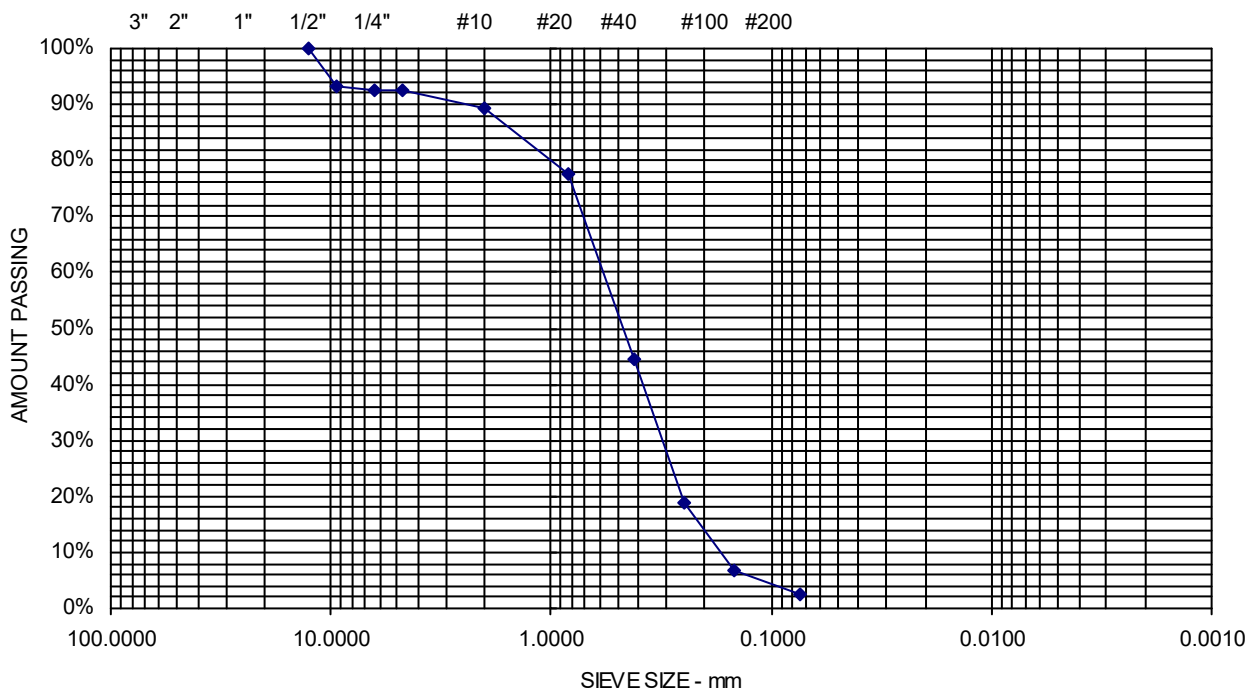
 Lab ID **21427S**

 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:

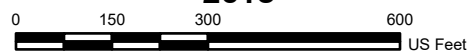
Sheet

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



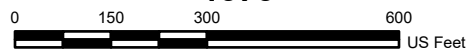
Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 2



S.W. COLE
ENGINEERING, INC.

HISTORICAL IMAGERY

1970



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 3



HISTORICAL IMAGERY
1956

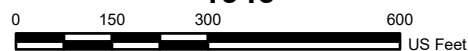
0 150 300 600
US Feet



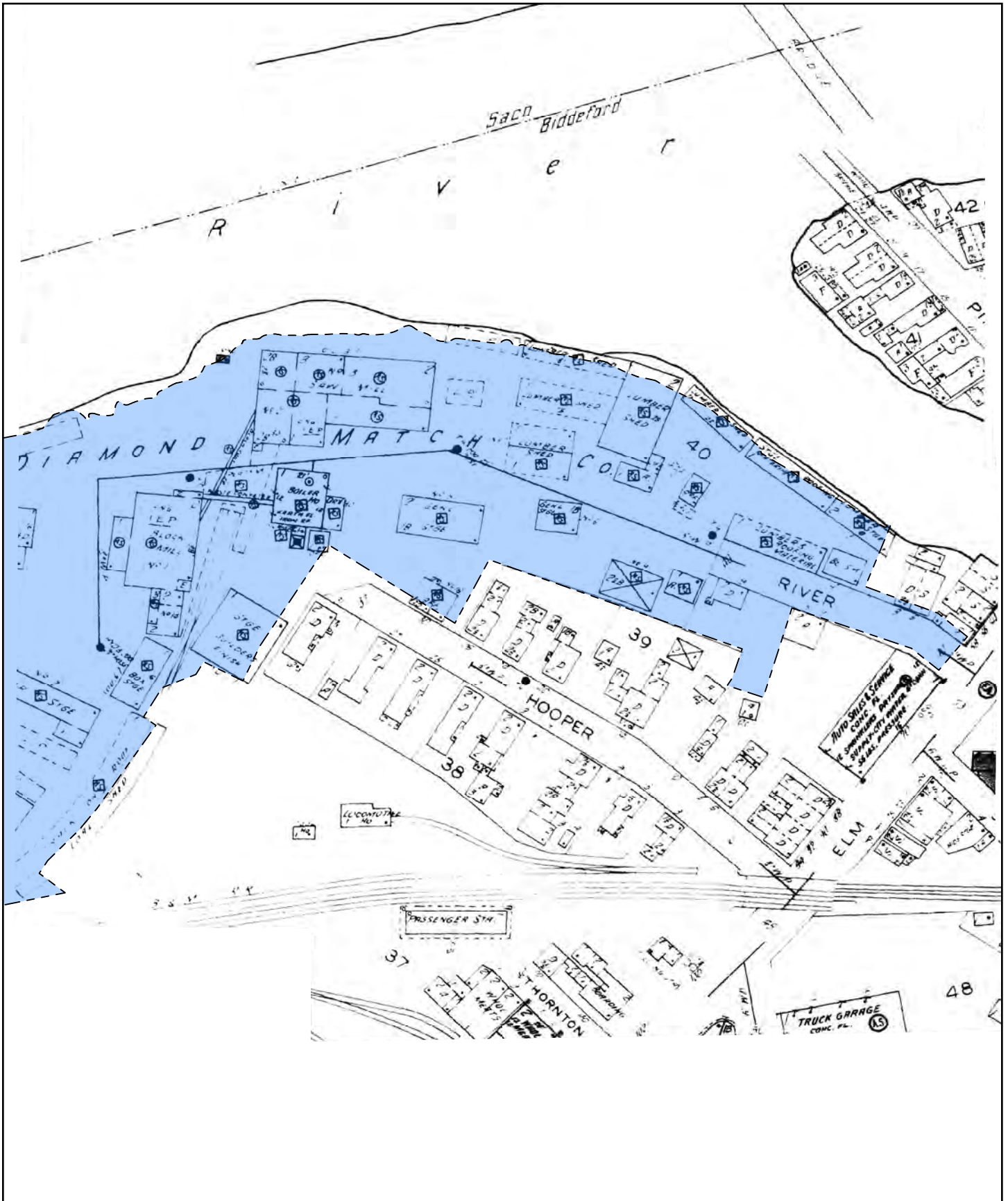
Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 4

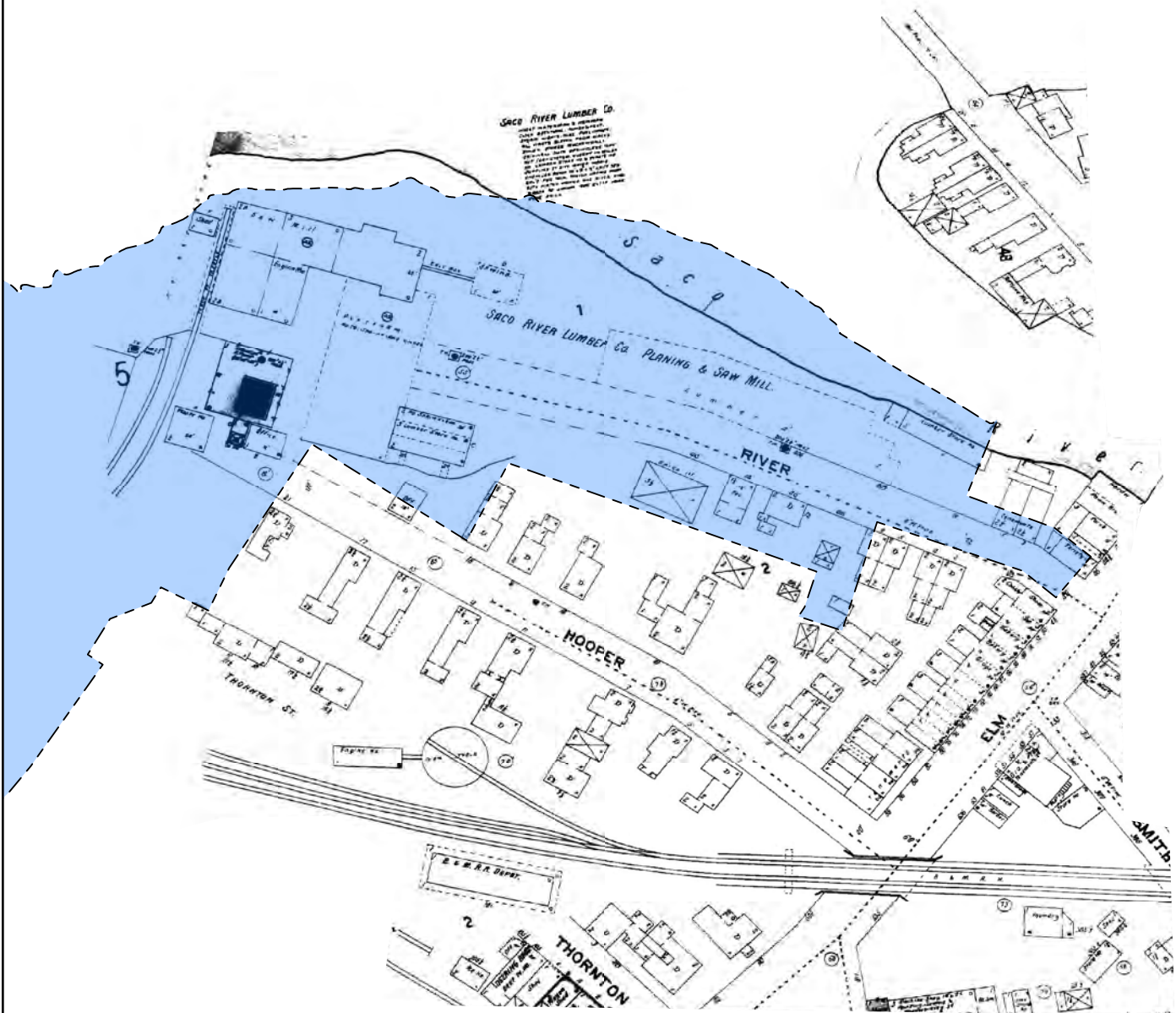


HISTORICAL IMAGERY
1940



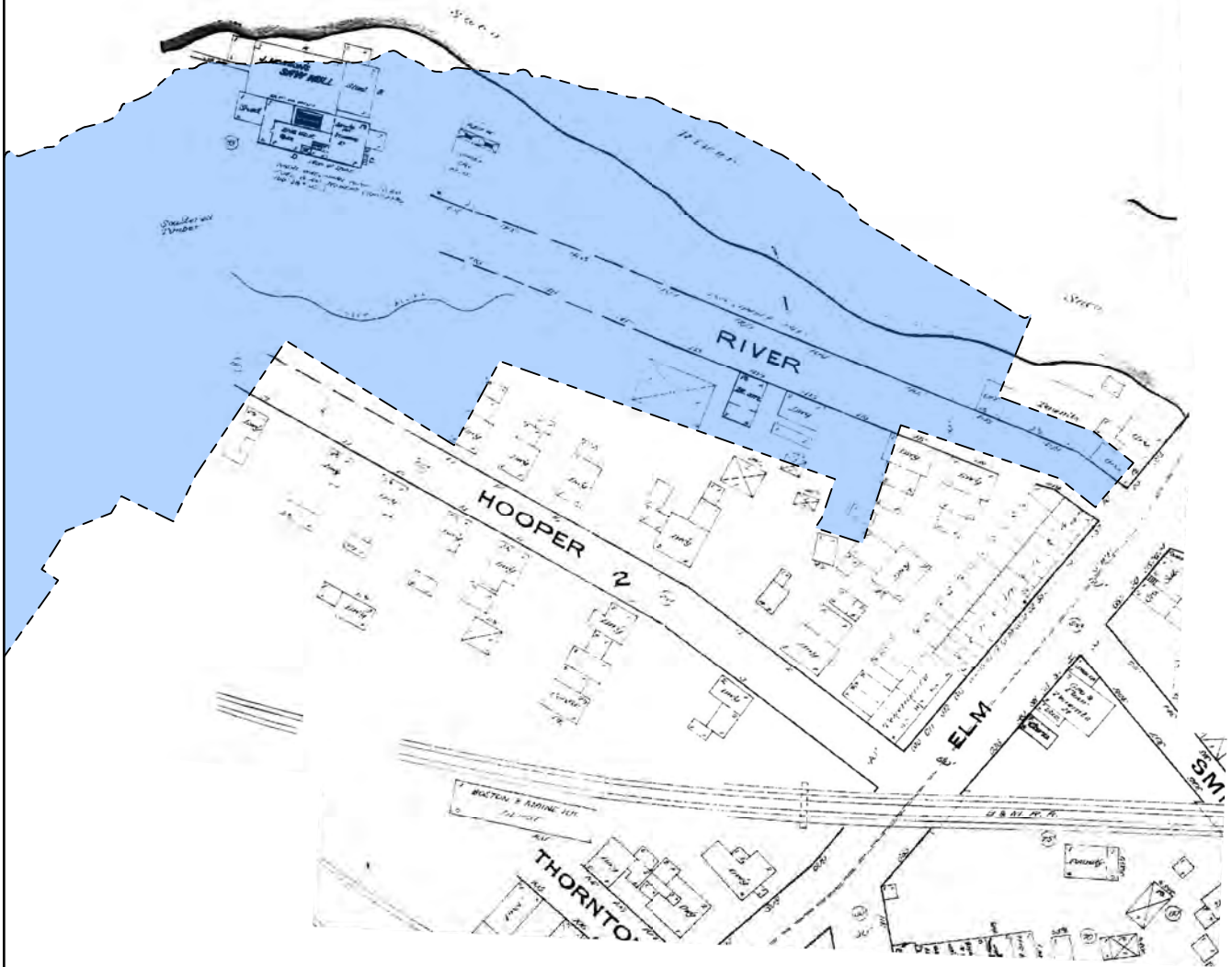
Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 5











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



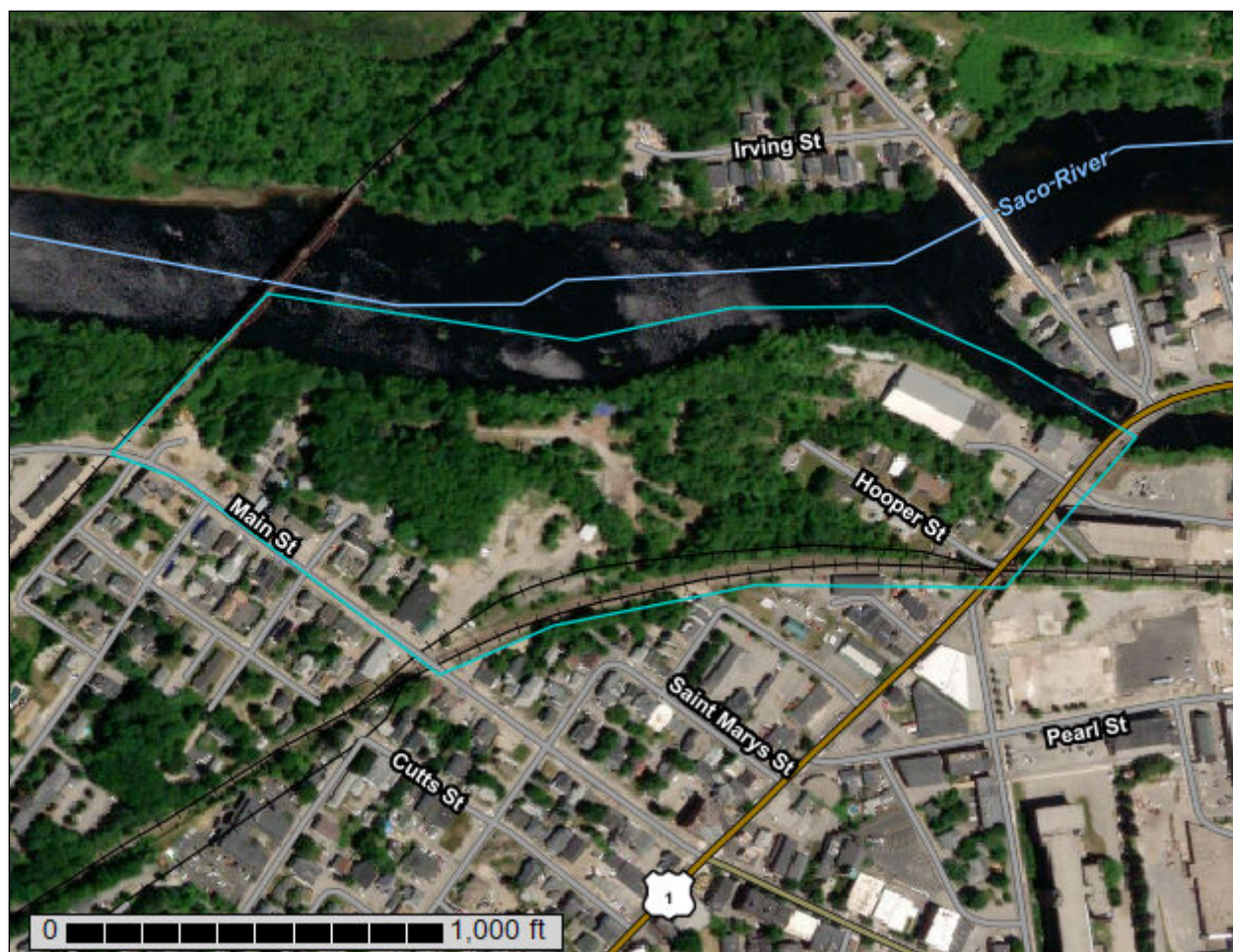
United States
Department of
Agriculture

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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Ur—Urban land.....	14
W—Water bodies.....	14
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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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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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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

A handwritten signature in black ink, appearing to read "Anna Biddle".

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. It is anticipated that Phase 1 of the project will utilize approximately 19,320 gpd of water. The applicant has received capacity confirmation from Maine Water and the City of Biddeford Wastewater Division. Please see this Exhibit for a copy of the confirmation of capacity letters.



June 9th, 2023

SEBAGO TECHNICS, INC.
ATTN: Tanner F. Goodine, E.I.
75 John Roberts Road, Suite 1A
South Portland, ME 04106

Re: Diamond Street Development Phase 1 – Saco Maine – Ability to Serve Determination

Greetings,

The Maine Water Company (MWC) has received your request for Ability to Serve Determination on behalf of your client, One Diamond Development LLC, for the above referenced project. The request indicates a plan for Phase 1 of the development that consists of 143 residential units with a combination of studio, one and two bedroom units with an overall estimated domestic demand presented as 19,320 gallons per day (gpd). The request also indicates a looped connection from Elm Street to Main Street. Based on the criteria presented, domestic water is available for your project. MWC does have adequate flows in the area from the existing 16-inch cast iron main on Elm Street and the 20-inch main on Main Street to serve a main extension for the proposed development. The static pressure in the area is approximately 55psi. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- The development will require a public main extension to serve the proposed development. An updated utility sheet will be required to show utility placement and separation, including any hydrants, services, valves, blow off assemblies and other waterline appurtenances.
- MWC will require inspection during installation of the new public main and service line connections at the expense of the developer. Additional plan approval, paperwork and fees associated with services and main extensions in this area will require proper coordination with MWC. Maine Water requires upfront payment for inspection and paperwork to be fully completed before any construction on waterworks materials.
- A phase 2 utility plan will need to be accepted, showing how Phase 1 will loop the main from Elm St to Main St.
- Allow up to 30 days for the MWC utility review process to be completed before any construction on waterworks materials will be approved.
- A hydrant flow test will need to be conducted and analyzed by the sprinkler designers to ensure adequate flows in the event of a fire. The analysis should consider a both phases before the final loop of the water main is complete.
- Proposed public or private fire hydrants must be accepted by the City of Saco and approved by the local fire authority.
- An easement for access and operation of all water service valves on this property must be signed, notarized and registered with the county registry before activation. MWC will draft and supply this document to be executed by the owner.

Should a Customer Agreement for service not be executed within one year of the date of this letter, MWC reserves the right to reevaluate its ability to serve this project.

All work must be completed in accordance with MWC Terms and Conditions as well as material specifications. All appropriate paperwork must be completed and deposit paid prior to the start of construction. Please forward all design plan revisions as the project develops to prevent construction delays. Water service will be provided in accordance with Maine Public Utility Commission rules. If you have any additional questions, please do not hesitate to contact our office at 1-800-287-1643 or by email at Marcus.Knipp@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Marcus Knipp, E.I.
Engineer



City of Biddeford, Maine

City of Biddeford

Public Works Department / Engineering Division/Wastewater Administration Division
P.O. Box 586, 205 Main Street, Suite 301
Biddeford, ME 04005
Phone: (207) 284-9118, Fax: (207) 571-0662

Letter of Wastewater Treatment Plant Capacity to Serve Proposed Mixed Use Development Off Diamond Street

Tanner Goodine
Sebago Technics, Inc.
75 John Roberts Road
Suite 1A
South Portland, Me 04106

June 6, 2023

Brief description of project: **Proposed Mixed Use Development Project off Diamond Street
Biddeford, Maine-** Currently Estimated new flows: **67,634 gpd.**

Determination

The applicant is proposing a mixed use development off Diamond Street. Based on an email received from Sebago Technics, Inc., dated May 23, 2023, it is currently projected that the proposed mixed use development will discharge 67,634 gallons per day of flow to the system.

The City of Biddeford Wastewater Department has reviewed the request to serve the above described project. It has been determined that at this time, once the flow reaches the wastewater treatment facility, the City has sufficient capacity to treat the estimated flows from the above described project. Changes to the project from that presented to this department may require a new review of the request for ability to serve. This determination will be effective for a period of one year from the date above.

Upon approval of the Planning Board, the applicant must make application for sewer service. Flow amounts for the project will be determined at the time application is made and may or may not be the amount stated above. The applicant will be required to pay all fees based on the flow amount calculated at the time application is made and prior to the issuance of any building permits and/or the issuance of a certificate of occupancy.

As a condition of approval, you will be required to remove any roof drains or Catch basins that are connected to the combined sewer system.

205 Main Street, Biddeford, ME 04005 P: 207.284.9313 F: 207.571.0678 www.biddefordmaine.org

*The City of Biddeford is an equal opportunity provider. To file a complaint, write to
Human Resource Director, 205 Main Street Biddeford, ME 04005, or call (207) 286-0593.*

Any food preparation activities will need to be discussed with the Fats, Oils and Grease (FOG) coordinator to determine if a permit may be required.

This Capacity to Serve Letter is intended only to indicate that the City of Biddeford Wastewater Treatment Facilities has the ability to handle and treat the flow from the above stated project once it is received at the treatment facility. Project design plans must be submitted to the City for review and comment. The Planning Department, Engineering Department or other persons from the Wastewater Department may require further studies, calculations or documentation to determine any actions that may need to be taken to address any impacts/capacity issues and/or any system upgrades that may be needed to address any impacts this project may have on the City's sewer collection and conveyance system(s) or its components.

Thomas Milligan, PE
City Engineer Emeritus
City of Biddeford Engineering Department
Tom.milligan@biddefordmaine.org
207-284-9118

CC: Jeff Demers, Public Works/Wastewater Director
Craig Chekan, City Engineer
Roby Fecteau, Code Enforcement
David Galbraith, City Planner
Alex Buechner, Wastewater Superintendent

Exhibit 9

Lighting



Date: May 2, 2023

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
Apr 17, 2023

Submittal Date
May 2, 2023



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
A3	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-3-UNV-A4-***
A3	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
A4	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-4W-UNV-A4-***
A4	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
A5	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-5QW-UNV-A4-***
A5	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
B5	BEACON PRODUCTS	VP-ST-2-72L-180-3K7-5QW-UNV-A4-***
	Item Note: 2@180DEG	
B5	BEACON PRODUCTS	RSSB25-50B-1-B3-***-VM2
U2	BEACON PRODUCTS	URB***-21/36L-80/3K7/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	URB***-26/48L-110/3K7/UNV/5W/ NRNW/PM/***
U5	BEACON PRODUCTS	AA-44/S/5/B/P/2CC/***
	Item Note: INITIAL ARM OFFERING	
U5	BEACON PRODUCTS	RSSB12-50B-OT-***

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: VP-ST-2-72L-180-3K7-3-UNV-A4-***	Type: A3
		Notes:	SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

MICROSTRIKE | STRIKE OPTICS



10-DAY QUICK SHIP PROGRAM



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™, wiSCAPE 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



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

INSTALLATION (CONTINUED)

- 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
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

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 qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)



currentlighting.com/beacon

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Rev 03/13/23

BEA_VIPERSPEC_R04

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Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET

Catalog Number:
VP-ST-2-72L-180-3K7-3-UNV-A4-***

Type:
A3

Notes:
SLA23-55190



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 ⁸ 5500 lumens 36L-55 ⁸ 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 ⁸ 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 ⁸ 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 Stnd. 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	Color 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 VG 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 ^{13,4} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{13,4} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4} WIR wiSCAPE® In-Fixture Module ^{3,4} WIRSC wiSCAPE® Module and Occupancy Sensor ^{3,4} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens ¹¹ BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ 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 ¹² 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 – BTS and BTSO are only available on Size 3 and Size 4

12 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



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Rev 03/13/23

BEA_VIPERSPEC_R04



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-3-UNV-A4-***

Notes:

Type:**A3**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

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
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

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	—	0.841	—
3000K	0.977	0.861	0.647
3500K	—	0.900	—
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	0.255		

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: VP-ST-2-72L-180-3K7-3-UNV-A4-***	Type: A3
		Notes:	SLA23-55190



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



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-3-UNV-A4-***

Type:**A3**

Notes:

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

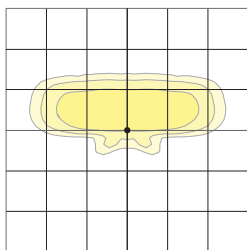
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CATALOG #: _____

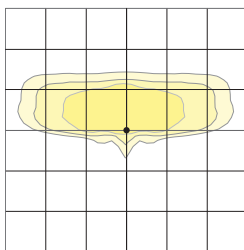
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

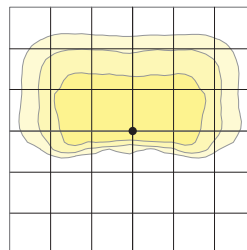
Type 2



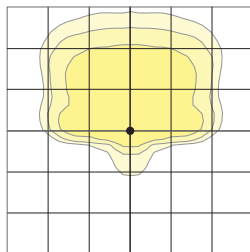
Type 3



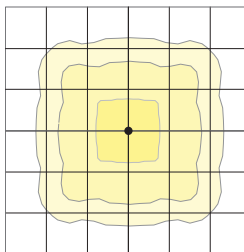
Type 4 Wide



Type 4F



Type 5QW





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

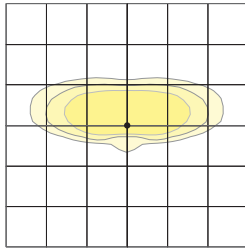
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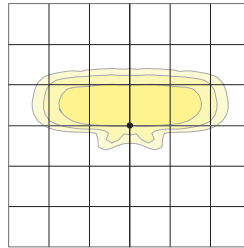
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

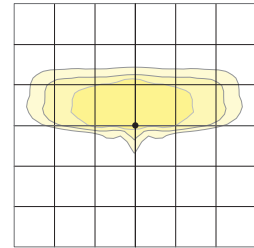
Type FR – Front Row/Auto Optic



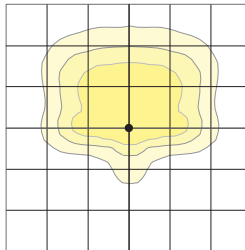
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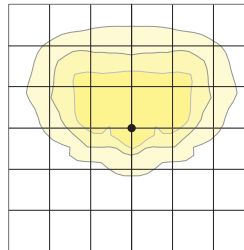
Type 3



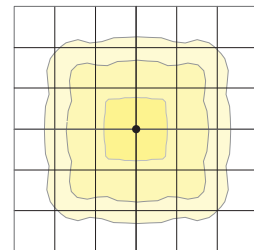
Type 4 Forward



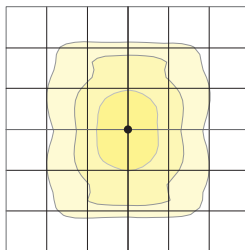
Type 4 Wide



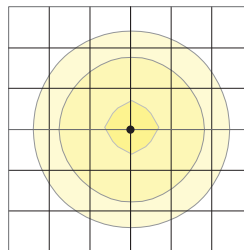
Type 5QM



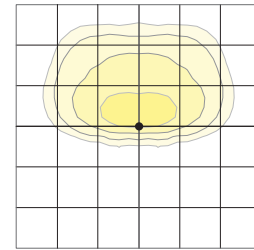
Type 5RW (rectangular)



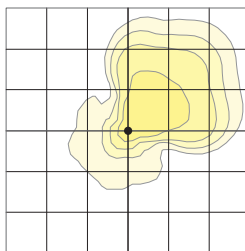
Type 5W (round wide)



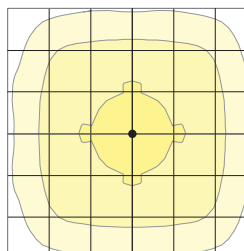
Type TC



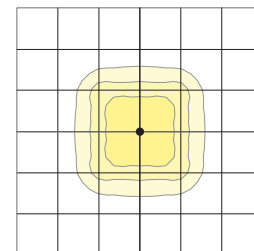
Type Corner



Type 5QW



Type 5QN





Job Name:
ONE DIAMOND STREET

Catalog Number:
VP-ST-2-72L-180-3K7-3-UNV-A4-***

Notes:

Type:

A3

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

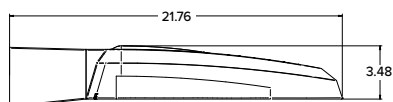
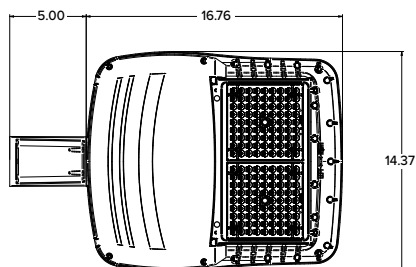
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

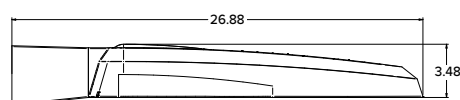
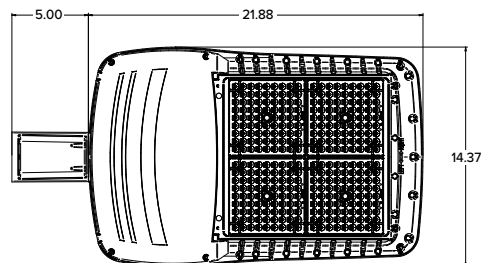
CATALOG #: _____

DIMENSIONS

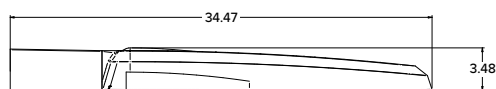
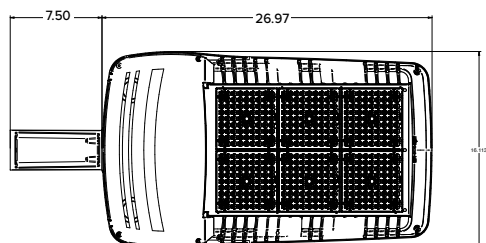
SIZE 1



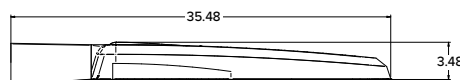
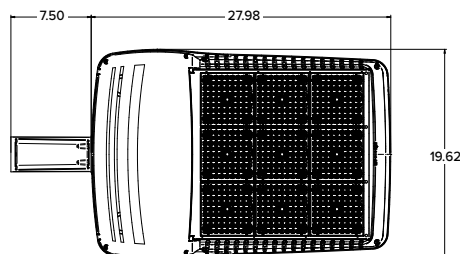
SIZE 2



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



VIPER Area/Site

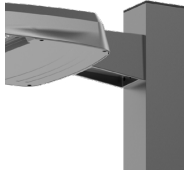
VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

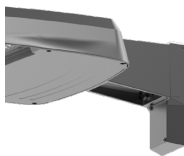
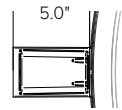
CATALOG #: _____

MOUNTING



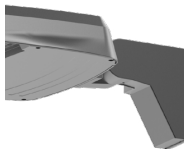
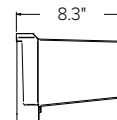
A-STRAIGHT ARM MOUNT

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)



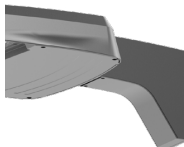
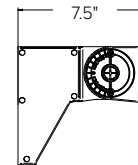
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



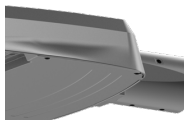
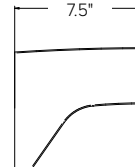
AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" 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.



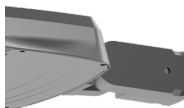
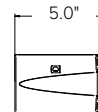
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



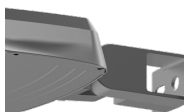
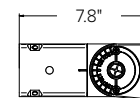
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



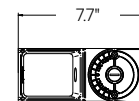
K-KNUCKLE

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.



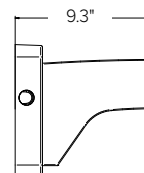
T-TRUNNION

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.





VIPER Area/Site

VIPER LUMINAIRE

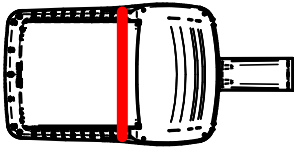
DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

ADDITIONAL INFORMATION (CONTINUED)

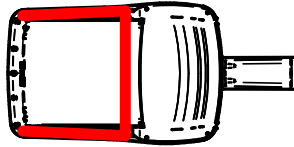
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
 Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

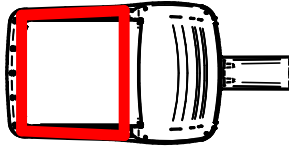
VPR2x HSS-90-B-xx



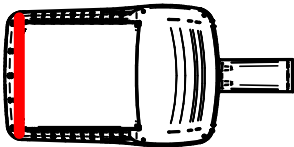
VPR2x HSS-270-BSS-xx



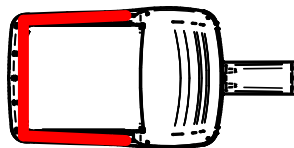
VPR2x HSS-360-xx



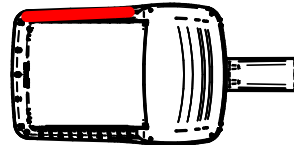
VPR2x HSS-90-F-xx



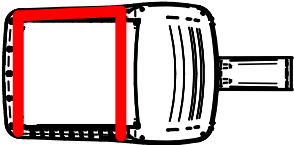
VPR2x HSS-270-FSS-xx



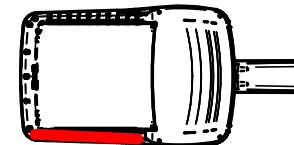
VPR2x HSS-90-S-xx



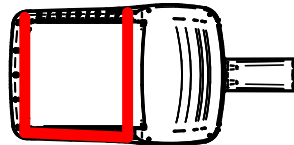
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-3-UNV-A4-***	Type: A3
	Job Name: ONE DIAMOND STREET	Notes:	SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION (CONTINUED)

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

Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-3-UNV-A4-***	Type: A3
	Job Name: ONE DIAMOND STREET	Notes:	SLA23-55190

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Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB25-50B-1-B3-***-VM2

Notes:

Type:

A3

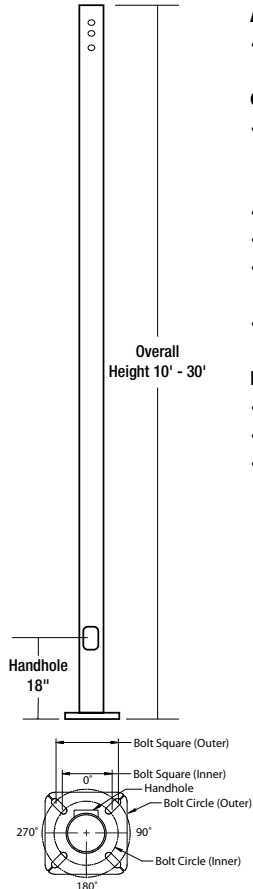
SLA23-55190



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

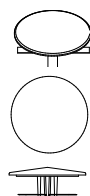
CONSTRUCTION

- 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

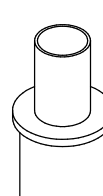
FINISH

- 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;

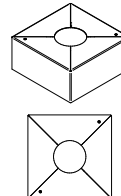
POLE CAP



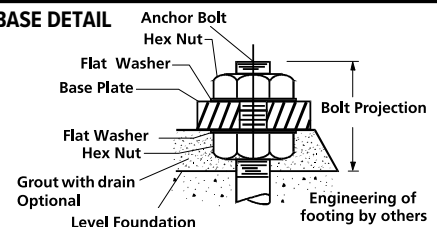
TENON



BASE COVER



BASE DETAIL



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B		-	25	-	40	-	A/B/C	-	2L	-	B2	-	Specify Std. 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		GFI ¹ 20 Amp GFCI Receptacle and Cover EHH ¹ Extra Handhole C05 ¹ .5" Coupling C07 ¹ .75" Coupling C20 ¹ 2" Coupling MPB ¹ 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

Denotes handhole location

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	Cruzer, "AM" arm
B3	2 bolt (2-1/2" spacing), Viper "A" arm
S2	2 bolt (3-1/2" spacing), Viper "AD" arm

Current

currentlighting.com/beacon

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Page 1 of 4

Rev 05/17/22

RSS_poles_beacon_R01

214

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: A3
		Notes:	SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

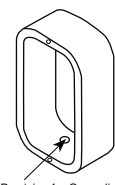
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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

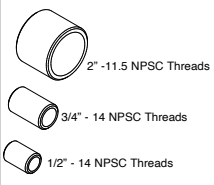
NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

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.

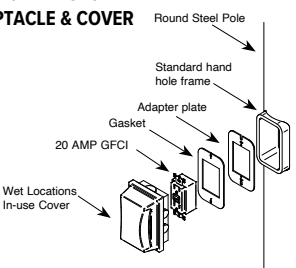
VM2SXX - VIBRATION DAMPER 2ND MODE



Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

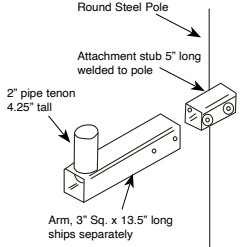
VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'

GFI - 20 AMP GFCI RECEPTACLE & COVER



Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

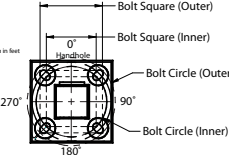
MPB - MID POLE BRACKET



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.



Handhole
Bolt Square (Outer)
Bolt Square (Inner)
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.



RSS-B-Series

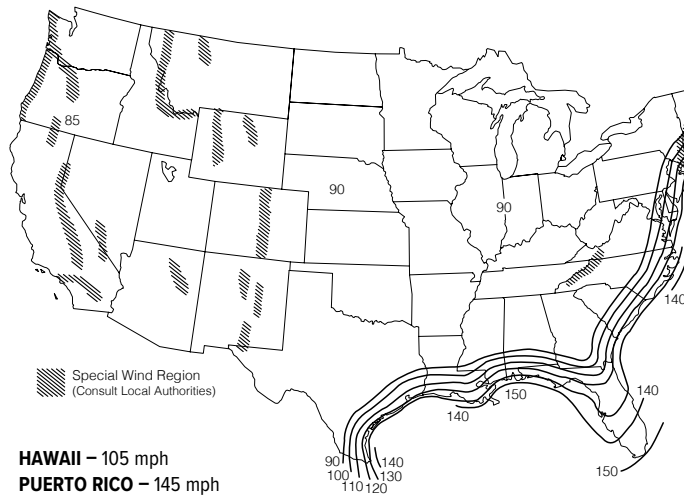
ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP

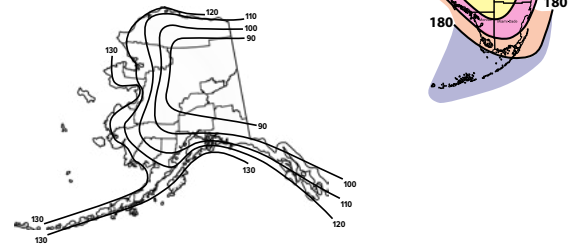


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FLORIDA REGION WIND MAP

- 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	9.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	7.0
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	4.0
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.8
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	15.2
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	12.0
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0
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	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: A3
		Notes:	SLA23-55190



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

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____

MICROSTRIKE | STRIKE OPTICS



10-DAY QUICK SHIP PROGRAM



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™, wiSCAPE 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



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

INSTALLATION (CONTINUED)

- 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
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

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 qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET

Catalog Number:
VP-ST-2-72L-180-3K7-4W-UNV-A4-***
Notes:

Type:
A4
SLA23-55190



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 Stnd. 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	Color 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 VG Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{12,7,8,9} 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 ^{13,4} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{13,4} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4} WIR wiSCAPE® In-Fixture Module ^{3,4} WIRSC wiSCAPE® Module and Occupancy Sensor ^{3,4} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens ¹¹ BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ 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 ¹² 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 – BTS and BTSO are only available on Size 3 and Size 4

¹² – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

Current

currentlighting.com/beacon

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Rev 03/13/23

BEA_VIPERSPEC_R04



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A4-***

Notes:

Type:**A4**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

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
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

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	—	0.841	—
3000K	0.977	0.861	0.647
3500K	—	0.900	—
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	0.255		

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: VP-ST-2-72L-180-3K7-4W-UNV-A4-*** Notes:	Type: A4 SLA23-55190
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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

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A4-***

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



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A4-***

Notes:

Type:**A4**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

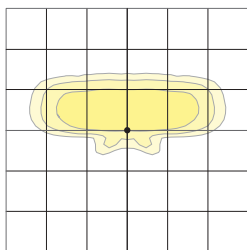
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CATALOG #: _____

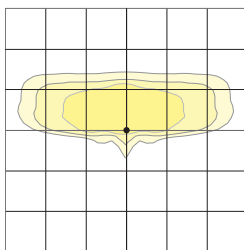
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

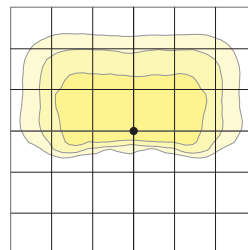
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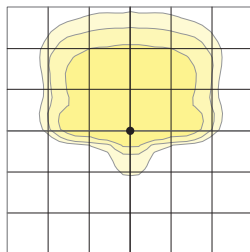
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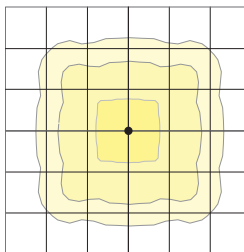
Type 4 Wide



Type 4F



Type 5QW



**VIPER Area/Site**

VIPER LUMINAIRE

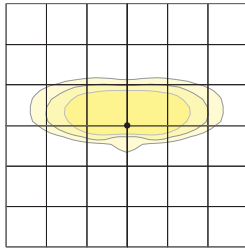
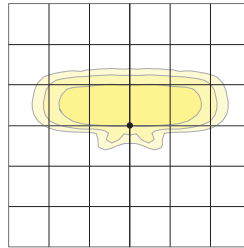
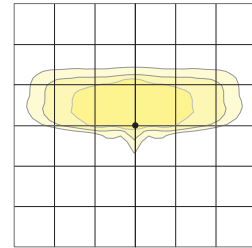
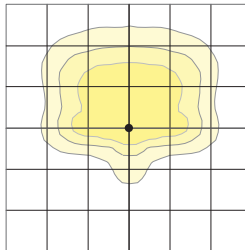
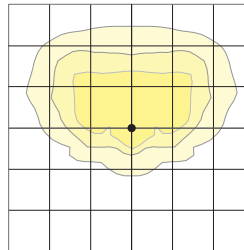
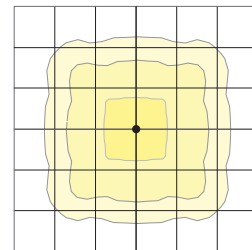
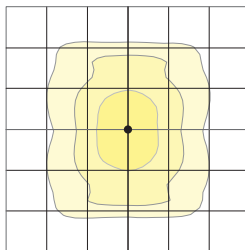
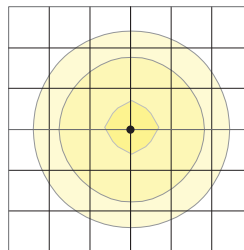
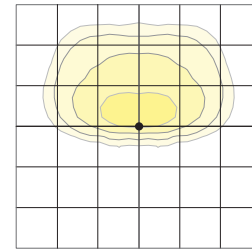
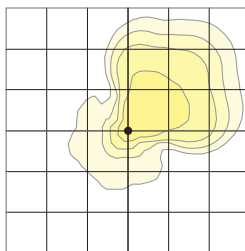
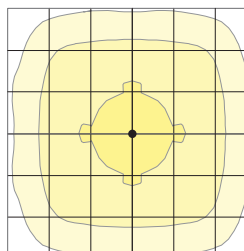
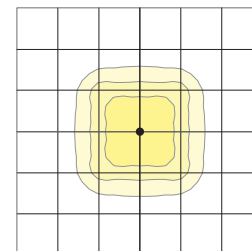
DATE: _____ LOCATION: _____

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**



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-4W-UNV-A4-

Notes:

Type:**A4**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

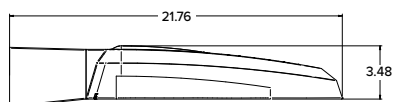
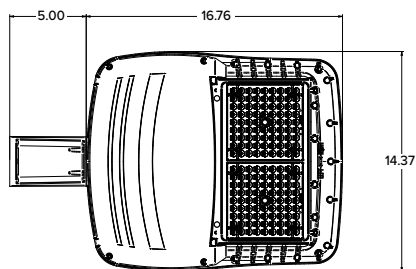
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

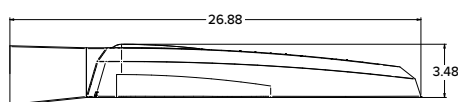
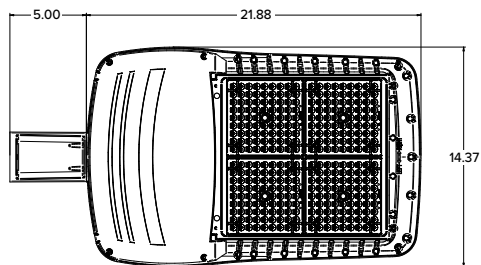
CATALOG #: _____

DIMENSIONS

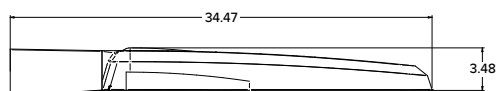
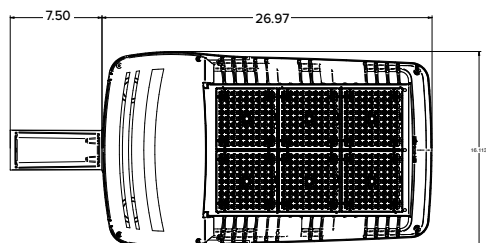
SIZE 1



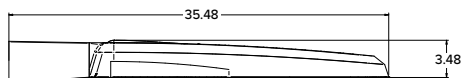
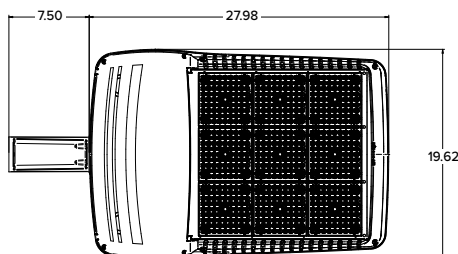
SIZE 2



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



VIPER Area/Site

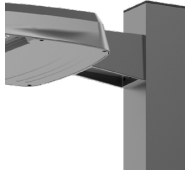
VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

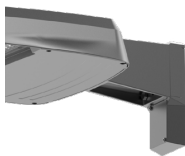
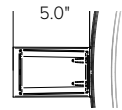
CATALOG #: _____

MOUNTING



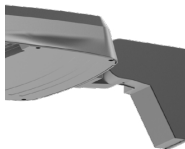
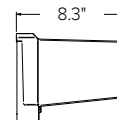
A-STRAIGHT ARM MOUNT

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)



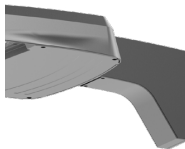
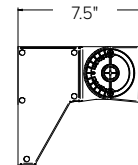
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



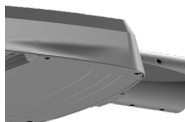
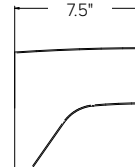
AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" 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.



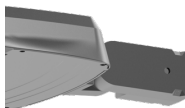
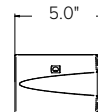
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



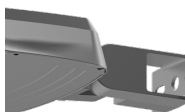
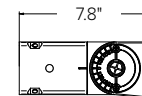
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



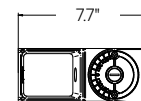
K-KNUCKLE

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.



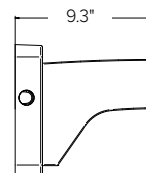
T-TRUNNION

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.





VIPER Area/Site

VIPER LUMINAIRE

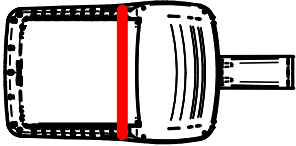
DATE: _____	LOCATION: _____
TYPE: _____	PROJECT: _____
CATALOG #: _____	

ADDITIONAL INFORMATION (CONTINUED)

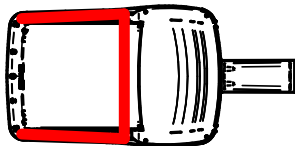
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
 Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

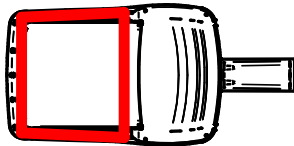
VPR2x HSS-90-B-xx



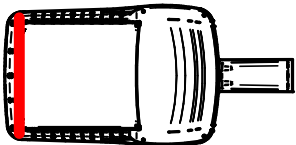
VPR2x HSS-270-BSS-xx



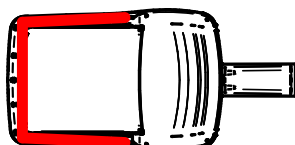
VPR2x HSS-360-xx



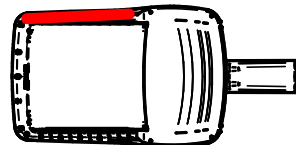
VPR2x HSS-90-F-xx



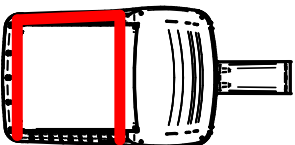
VPR2x HSS-270-FSS-xx



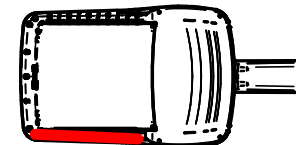
VPR2x HSS-90-S-xx



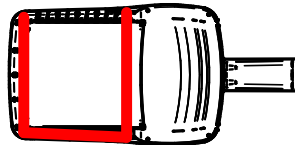
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-4W-UNV-A4-***	Type: A4
	Job Name: ONE DIAMOND STREET	Notes:	SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION (CONTINUED)

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

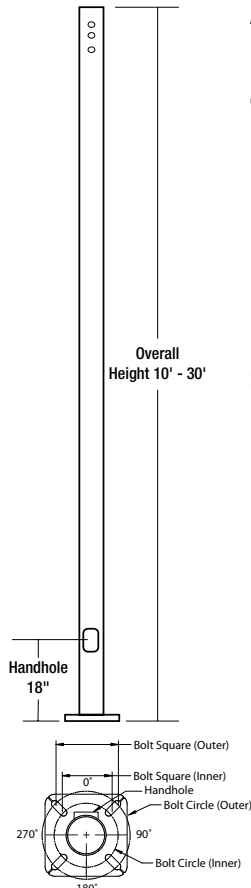
Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-4W-UNV-A4-*** Notes:	Type: A4 SLA23-55190
	Job Name: ONE DIAMOND STREET		
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RSS-B-Series

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

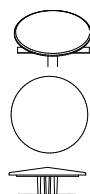
CONSTRUCTION

- 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

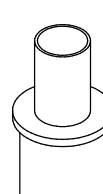
FINISH

- 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;

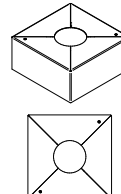
POLE CAP



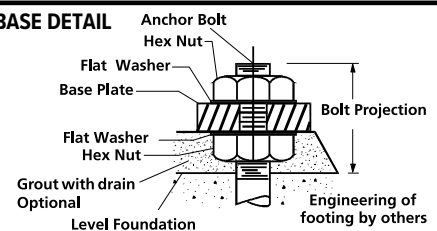
TENON



BASE COVER



BASE DETAIL



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B - 25 - 40 - A/B/C - 2L - B2 - Specify Std. 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 VG Verde Green Textured	GF1 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	
Color Option CC Custom Color							

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

Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB25-50B-1-B3-***-VM2

Notes:

Type:
A4

SLA23-55190



RSS-B-Series
ROUND STRAIGHT STEEL

DATE:

LOCATION:

TYPE:

PROJECT:

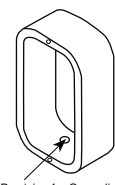
CATALOG #:

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

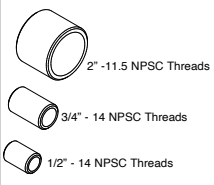
NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



Provision for Grounding

C05 - C07 - C20 - COUPLING



2" - 11.5 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.

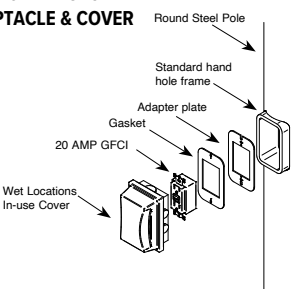
VM2SXX - VIBRATION DAMPER 2ND MODE



VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'

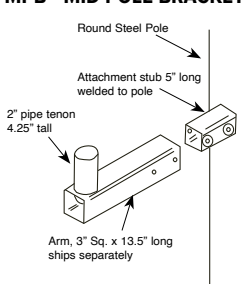
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER



Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

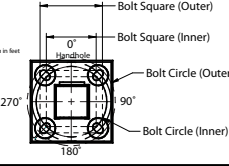
MPB - MID POLE BRACKET



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)
Bolt Circle (Outer)
Bolt Circle (Inner)
Handhole
0°
90°
180°
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.

Current

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Submitted On: May 2, 2023

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RSS-B-Series

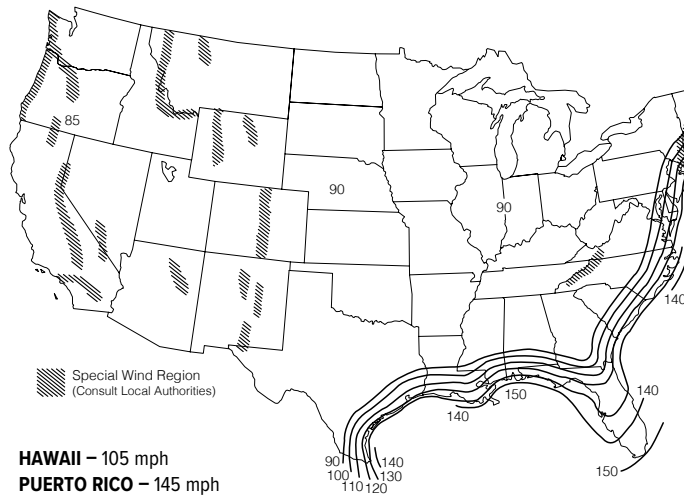
ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP

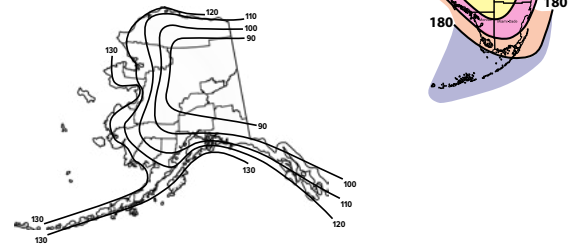


*PRINTED WITH PERMISSION FROM ASCE

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	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: A4
		Notes:	SLA23-55190



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

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____

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™, wiSCAPE 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



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

INSTALLATION (CONTINUED)

- 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)

10-DAY QUICK SHIP PROGRAM



MICROSTRIKE | STRIKE OPTICS



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
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

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 qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET

Catalog Number:
VP-ST-2-72L-180-3K7-5QW-UNV-A4-***

Type:
A5

Notes:
SLA23-55190



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 ⁸ 5500 lumens 36L-55 ⁸ 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 ⁸ 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 ⁸ 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	Color 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 VG 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 ^{13,4} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{13,4} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4} WIR wiSCAPE® In-Fixture Module ^{3,4} WIRSC wiSCAPE® Module and Occupancy Sensor ^{3,4} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens ¹¹ BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ 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 ¹² 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 – BTS and BTSO are only available on Size 3 and Size 4

12 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



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BEA_VIPERSPEC_R04



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-***

Notes:

Type:**A5**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

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
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

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	—	0.841	—
3000K	0.977	0.861	0.647
3500K	—	0.900	—
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	0.255		

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: VP-ST-2-72L-180-3K7-5QW-UNV-A4-*** Notes:	Type: A5 SLA23-55190
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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



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-

Notes:

Type:

A5

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

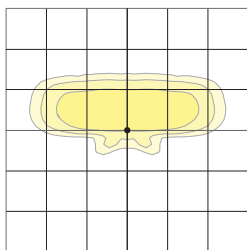
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CATALOG #: _____

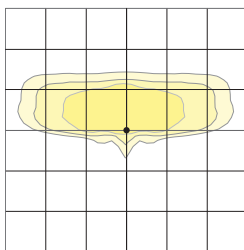
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

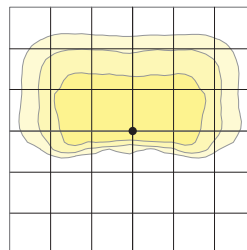
Type 2



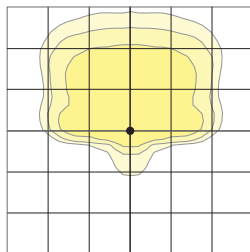
Type 3



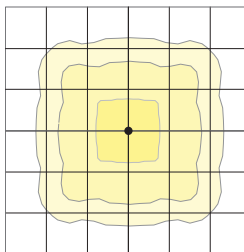
Type 4 Wide



Type 4F



Type 5QW





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

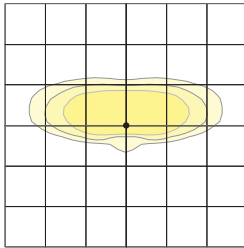
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CATALOG #: _____

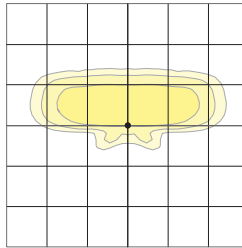
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

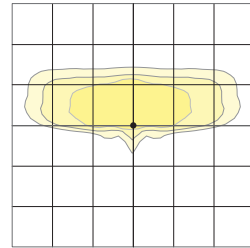
Type FR – Front Row/Auto Optic



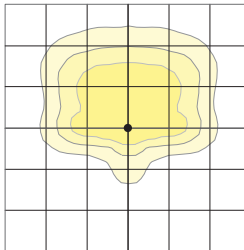
Type 2



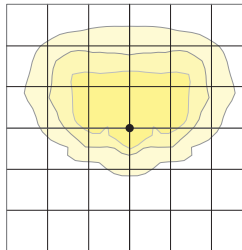
Type 3



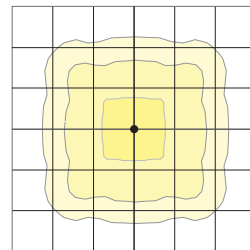
Type 4 Forward



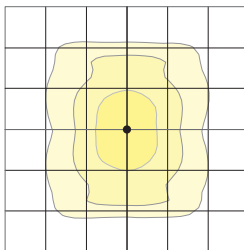
Type 4 Wide



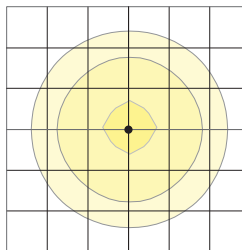
Type 5QM



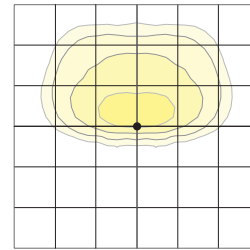
Type 5RW (rectangular)



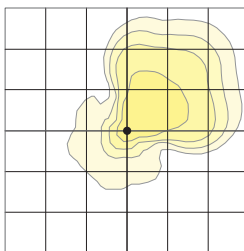
Type 5W (round wide)



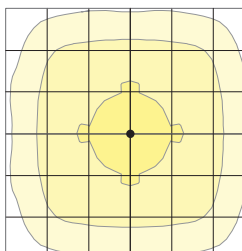
Type TC



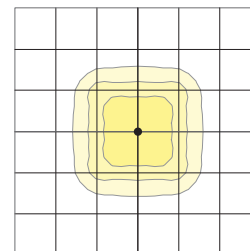
Type Corner



Type 5QW



Type 5QN





Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-

Notes:

Type:**A5**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

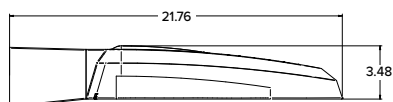
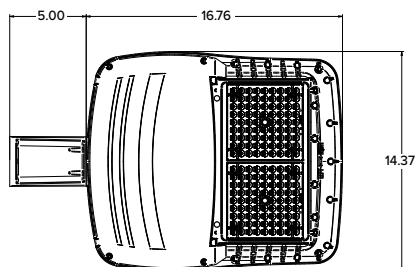
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

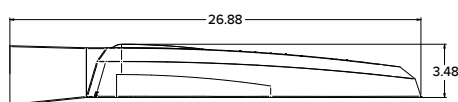
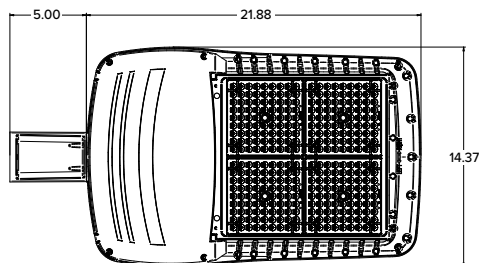
CATALOG #: _____

DIMENSIONS

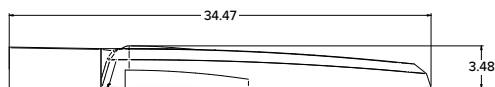
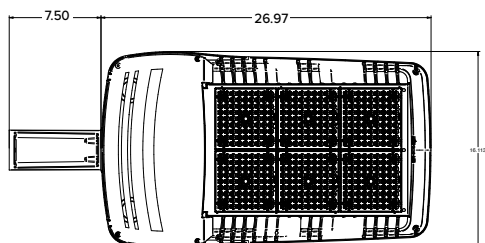
SIZE 1



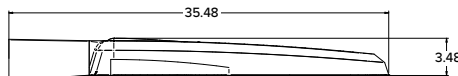
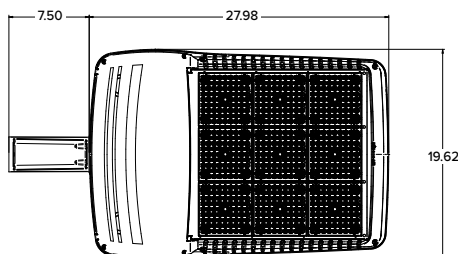
SIZE 2



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



VIPER Area/Site

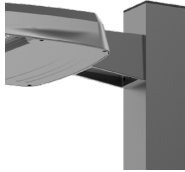
VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

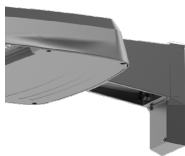
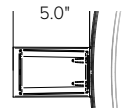
CATALOG #: _____

MOUNTING



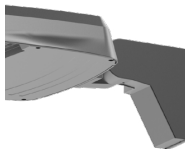
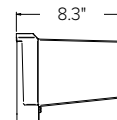
A-STRAIGHT ARM MOUNT

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)



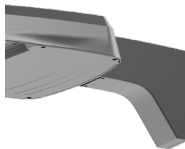
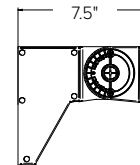
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



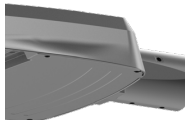
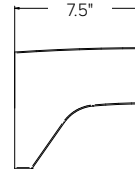
AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" 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.



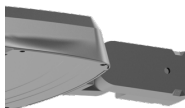
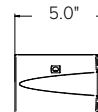
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



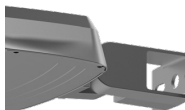
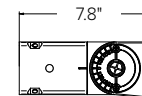
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



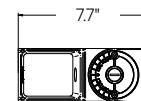
K-KNUCKLE

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.



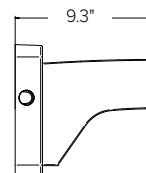
T-TRUNNION

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.





VIPER Area/Site

VIPER LUMINAIRE

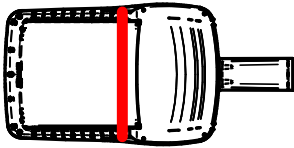
DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

ADDITIONAL INFORMATION (CONTINUED)

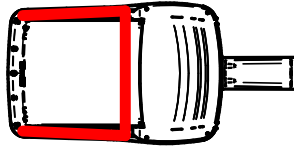
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
 Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

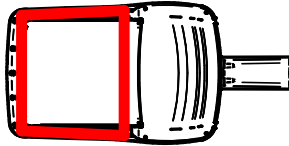
VPR2x HSS-90-B-xx



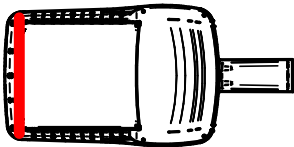
VPR2x HSS-270-BSS-xx



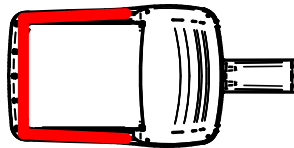
VPR2x HSS-360-xx



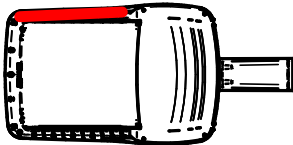
VPR2x HSS-90-F-xx



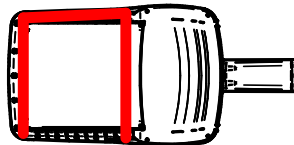
VPR2x HSS-270-FSS-xx



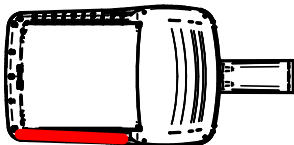
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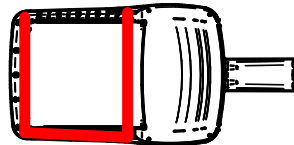
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-5QW-UNV-A4-***	Type: A5
	Job Name: ONE DIAMOND STREET	Notes:	SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION (CONTINUED)

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

Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-5QW-UNV-A4- *** Notes:	Type: A5 SLA23-55190
	Job Name: ONE DIAMOND STREET		

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Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB25-50B-1-B3-***-VM2

Notes:

Type:

A5

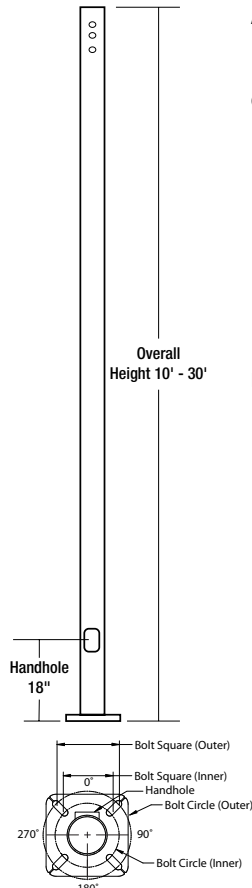
SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

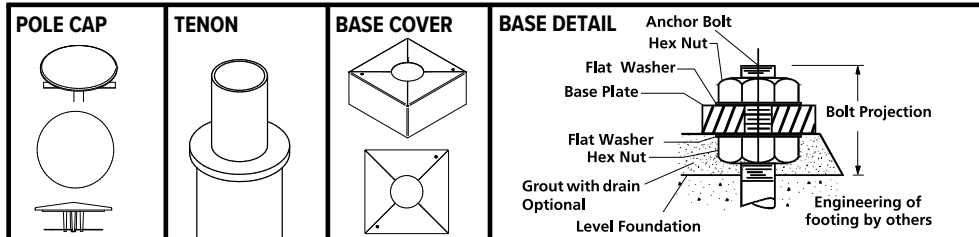
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

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

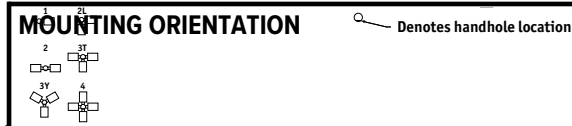
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;



ORDERING INFORMATION

ORDERING EXAMPLE:

RSS -B - 25 - 40 - A/B/C - 2L - B2 - Specify Std. 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	GFI ¹ 20 Amp GFCI Receptacle and Cover EHH ¹ Extra Handhole C05 ¹ .5" Coupling C07 ¹ .75" Coupling C20 ¹ 2" Coupling MPB ¹ Mid-pole Luminaire Bracket VM2 2nd mode vibration damper LAB Less Anchor Bolts UL UL Certified RBC Round Base Cover	
						Color Option CC Custom Color	



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

Current

currentlighting.com/beacon

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Rev 05/17/22

RSS_poles_beacon_R01

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Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: A5
		Notes:	SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

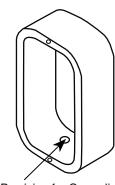
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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

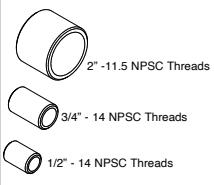
NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

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.

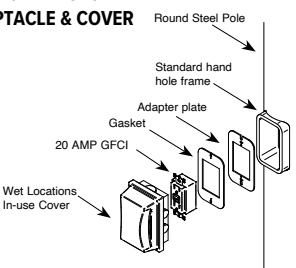
VM2SXX - VIBRATION DAMPER 2ND MODE



Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

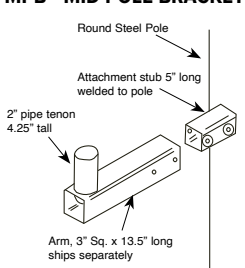
VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'

GFI - 20 AMP GFCI RECEPTACLE & COVER



Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

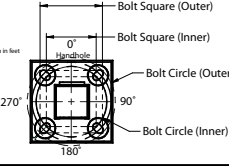
MPB - MID POLE BRACKET



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.



RSS-B-Series

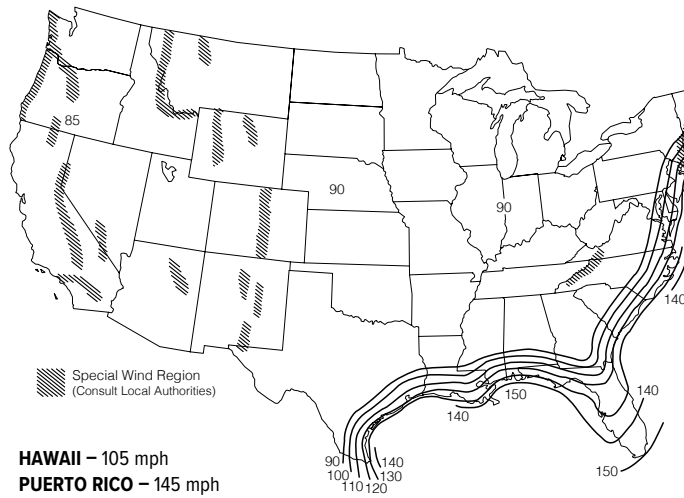
ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP

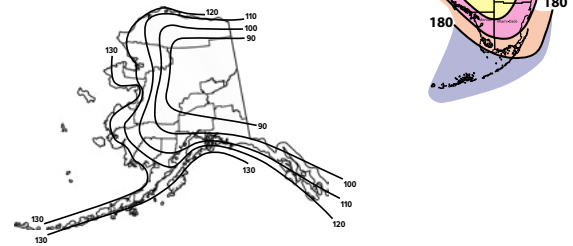


*PRINTED WITH PERMISSION FROM ASCE

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	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: A5
		Notes:	SLA23-55190



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

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____

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™, wiSCAPE 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



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

INSTALLATION (CONTINUED)

- 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)

10-DAY QUICK SHIP PROGRAM



MICROSTRIKE | STRIKE OPTICS



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
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

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 qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Submitted by Swaney Lighting



Job Name:
ONE DIAMOND STREET

Catalog Number:
VP-ST-2-72L-180-3K7-5QW-UNV-A4-***
Notes: 2@180DEG

Type:
B5
SLA23-55190



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 ⁸ 5500 lumens 36L-55 ⁸ 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 ⁸ 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 ⁸ 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 Stnd. 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	Color 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 VG T Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{12,7,8,9} 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 ^{13,4} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{13,4} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4} WIR wiSCAPE® In-Fixture Module ^{3,4} WIRSC wiSCAPE® Module and Occupancy Sensor ^{3,4} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens ¹¹ BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹ 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 ¹² 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 – BTS and BTSO are only available on Size 3 and Size 4

12 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.



currentlighting.com/beacon

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Rev 03/13/23
BEA_VIPERSPEC_R04



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-***

Notes: 2@180DEG

Type:**B5**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

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
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

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	—	0.841	—
3000K	0.977	0.861	0.647
3500K	—	0.900	—
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	0.255		

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: VP-ST-2-72L-180-3K7-5QW-UNV-A4- *** Notes: 2@180DEG	Type: B5 SLA23-55190
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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

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-***

Notes: 2@180DEG

Type:**B5**

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



Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-

Notes: 2@180DEG

Type:

B5

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

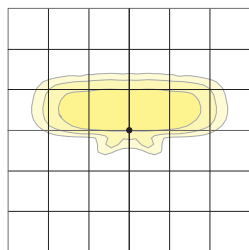
TYPE: _____ PROJECT: _____

CATALOG #: _____

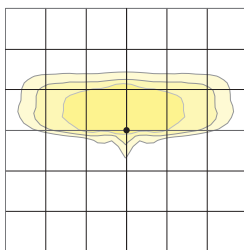
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

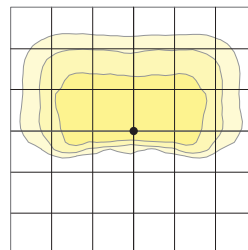
Type 2



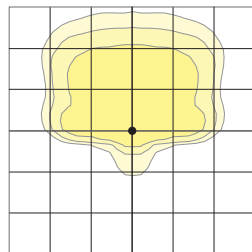
Type 3



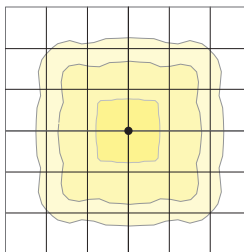
Type 4 Wide



Type 4F



Type 5QW





VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

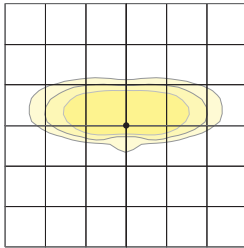
TYPE: _____ PROJECT: _____

CATALOG #: _____

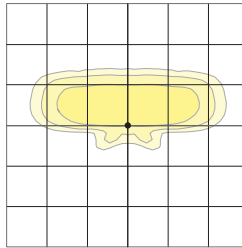
OPTIC STRIKE PHOTOMETRY

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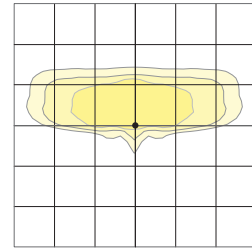
Type FR – Front Row/Auto Optic



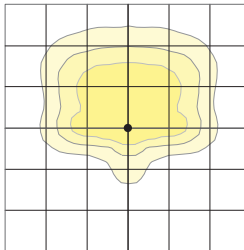
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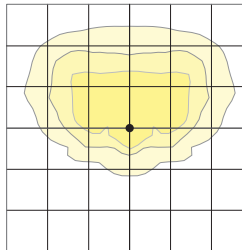
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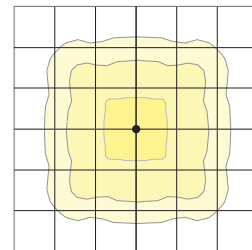
Type 4 Forward



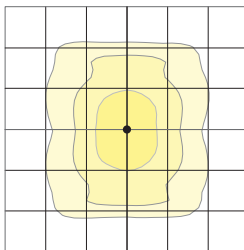
Type 4 Wide



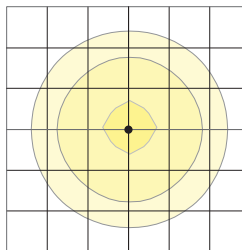
Type 5QM



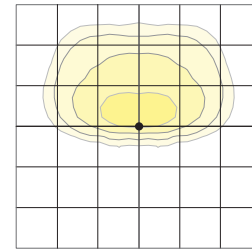
Type 5RW (rectangular)



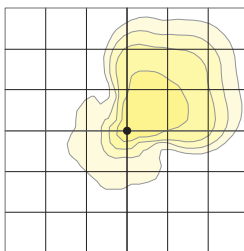
Type 5W (round wide)



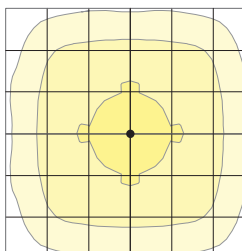
Type TC



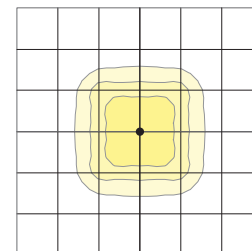
Type Corner



Type 5QW



Type 5QN





Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-

Notes: 2@180DEG

Type:

B5

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VIPER Area/Site

VIPER LUMINAIRE

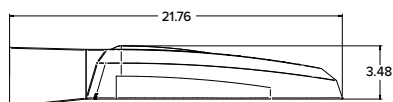
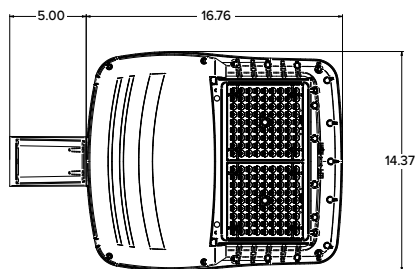
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

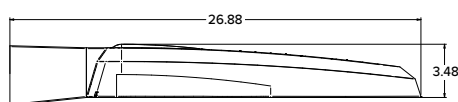
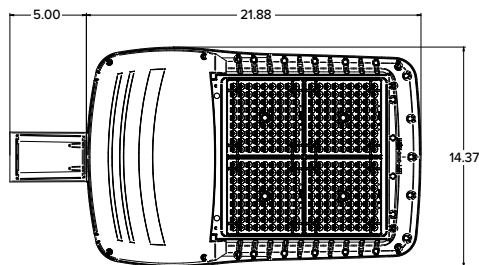
CATALOG #: _____

DIMENSIONS

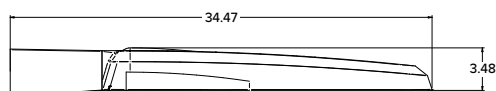
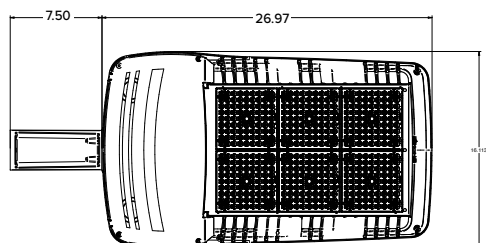
SIZE 1



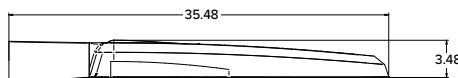
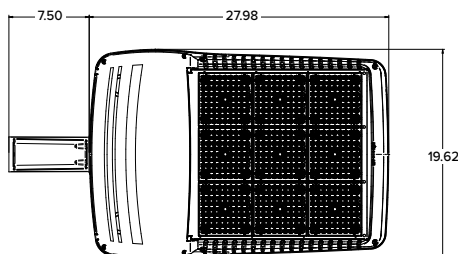
SIZE 2



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



VIPER Area/Site

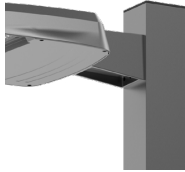
VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

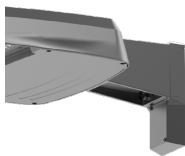
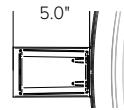
CATALOG #: _____

MOUNTING



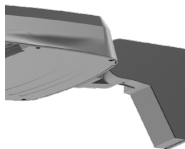
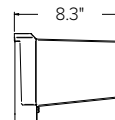
A-STRAIGHT ARM MOUNT

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)



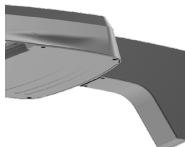
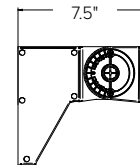
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



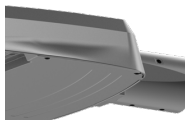
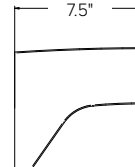
AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" 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.



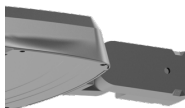
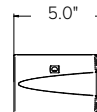
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



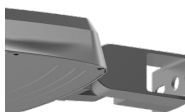
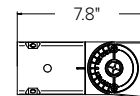
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



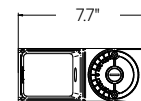
K-KNUCKLE

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.



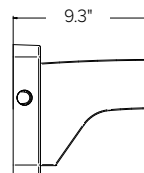
T-TRUNNION

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.





Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-

Notes: 2@180DEG

Type:

B5

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

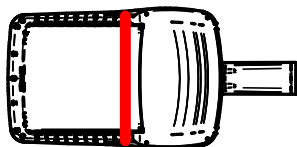
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

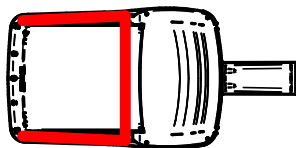
HSS has a depth of 5" for all Viper sizes

Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

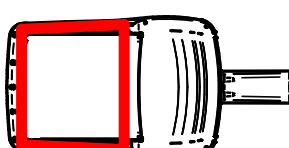
VPR2x HSS-90-B-xx



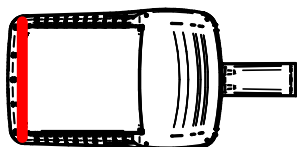
VPR2x HSS-270-BSS-xx



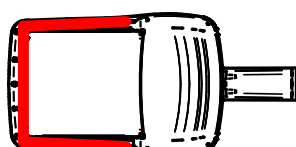
VPR2x HSS-360-xx



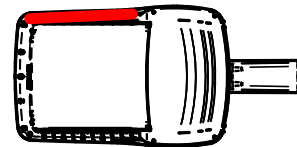
VPR2x HSS-90-F-xx



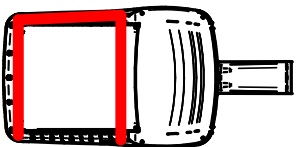
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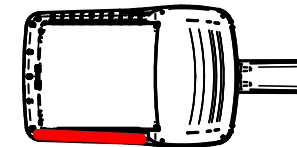
VPR2x HSS-90-S-xx



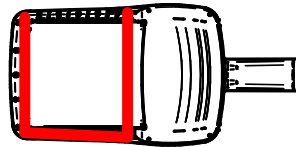
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx





Job Name:
ONE DIAMOND STREET

Catalog Number:

VP-ST-2-72L-180-3K7-5QW-UNV-A4-***

Notes: 2@180DEG

Type:**B5**

SLA23-55190



VIPER Area/Site

VIPER LUMINAIRE

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ADDITIONAL INFORMATION (CONTINUED)

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

Submitted by Swaney Lighting		Catalog Number: VP-ST-2-72L-180-3K7-5QW-UNV-A4- *** Notes: 2@180DEG	Type: B5 SLA23-55190
	Job Name: ONE DIAMOND STREET		

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Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB25-50B-1-B3-***-VM2

Notes:

Type:

B5

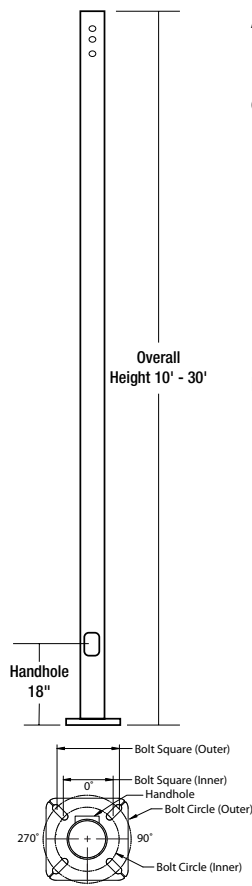
SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

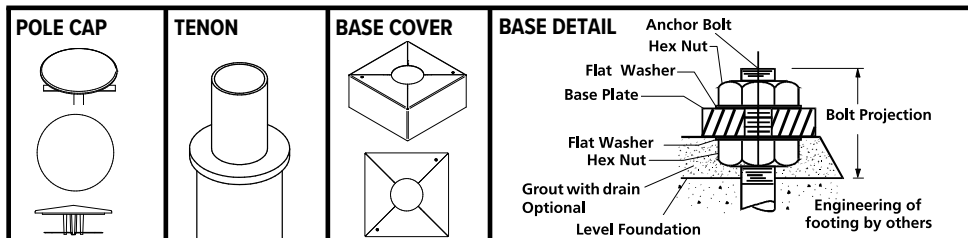
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

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 Std. 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

2L

2

3T

3Y

4

Denotes handhole location

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

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: B5
		Notes:	SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

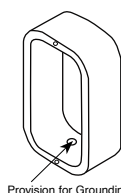
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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.

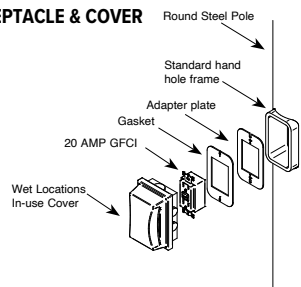
VM2SXX - VIBRATION DAMPER 2ND MODE



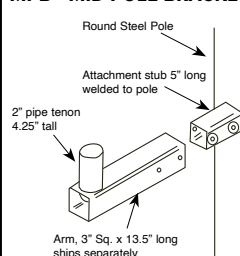
VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'

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

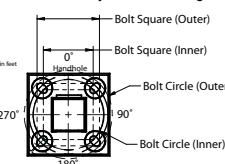


MPB - MID POLE BRACKET



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.



RSS-B-Series

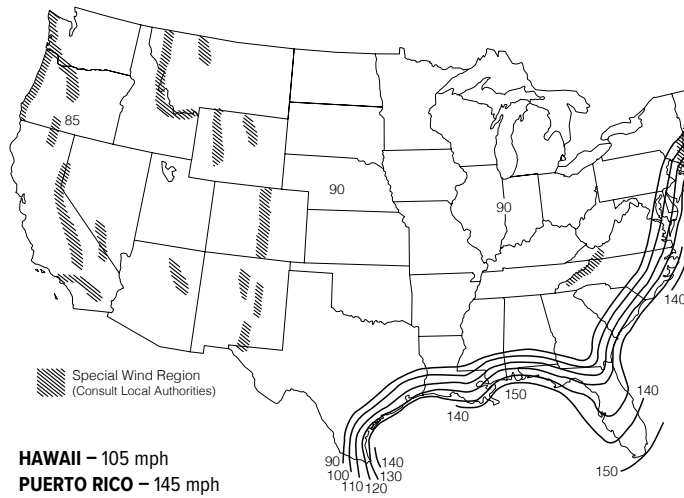
ROUND STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ASCE7-05 WIND MAP



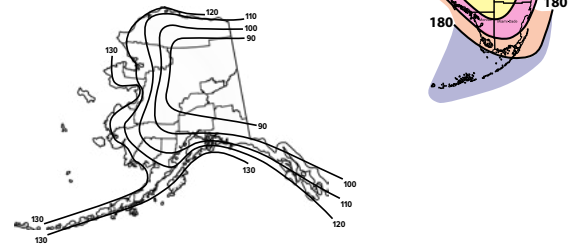
HAWAII – 105 mph
PUERTO RICO – 145 mph

*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	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	Catalog Number: RSSB25-50B-1-B3-***-VM2	Type: B5
		Notes:	SLA23-55190



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

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

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

- DesignLights Consortium (DLC) qualified, consult DLC website for more details: <http://www.designlights.org/QPL>
- 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	3,300–11,600
Wattage Range	55–136
Efficacy Range (LPW)	61–87

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: URB***-21/36L-80/3K7/UNV/2/NNRW/ PM/*** Notes:	Type: U2 SLA23-55190
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URBAN SERIES

URBAN LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: URB-CAP-21-36L-80-5K7-UNV-4-NNRW-BLT

CATALOG #

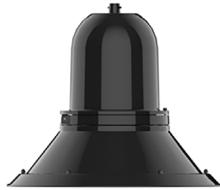
Model	Lens Option	Engine-Watts	CCT/CRI ⁶	Voltage	Optics ²	Electrical Options
URB Urban	***-21 (specify) CAP-21 21" Capitol MRDS-21 21" Miramar deep shade MAR-21 21" Maritas CAP-26 26" Capitol MRSS-26 26" Miramar shallow shade MRDS-26 26" Miramar deep shade MAR-26 26" Maritas	24L-27 27W, LED array 24L-55 55W, LED array 36L-80 85W, LED array 48L-110 110W, LED array ¹ 60L-136 136W, LED array ¹	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	UNV 120-277V 347 347V 480 480V	FR Type I 2 Type II 3 Type III 4 Type IV 4W Type IV wide 5R Type V rectangular 5QM Type V square medium 5W Type V round wide BC Backshield (available for FR, 2, 3, 4, 4W Optics)	PCU Button Photocell, Universal

Control Options	Mounting Style	Style	Sensor Option	Specify Stnd. finish
GENI-XX Energeni ⁴	PM Pendant mount SM Side mount YM Yoke mount	NNRW No rings 3RNR Three rings	MOB Motion sensor 33% or 50% dimming ^{5,7}	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

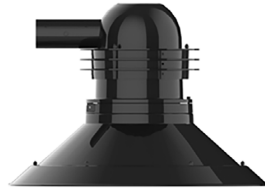
- Notes:
- 26" only
 - To rotate optics left or right 90 degrees, specify L or R after the optical distribution example: 4L
 - Not available with other control or sensor options
 - When ordering Energeni, specify the routine setting code (Example GENI-04). See Energeni brochure and Energeni instructions for setting table and options. Not available with sensor options
 - Specify time delay; dimming level and mounting height
 - This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available on our website.
 - Only available on 24L and 36L configurations

**URBAN SERIES**

URBAN LUMINAIRE



URB/MADS-21/PM/NRNV



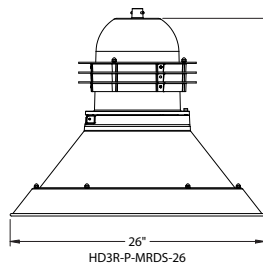
URB/MRSS-26/SM/3RNV



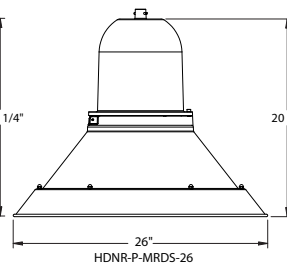
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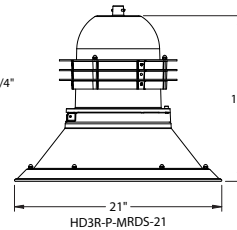
URB/CAP-26/YM/3RNV



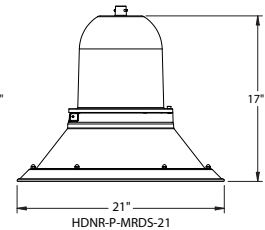
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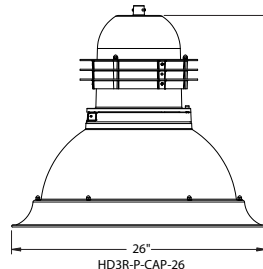
HDNR-P-MRDS-26



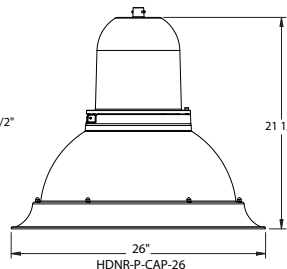
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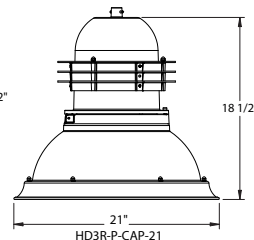
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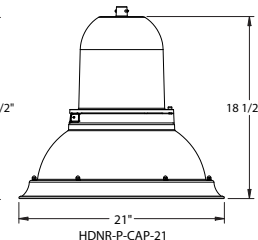
HD3R-P-CAP-26



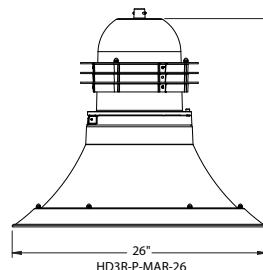
HDNR-P-CAP-26



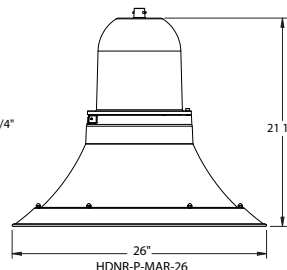
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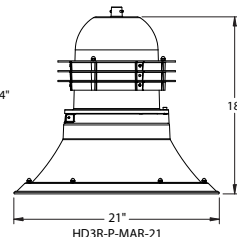
HDNR-P-CAP-21



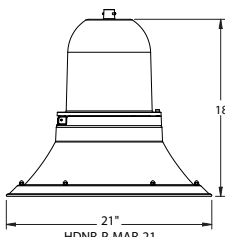
HD3R-P-MAR-26



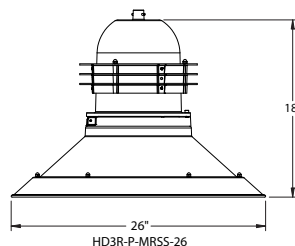
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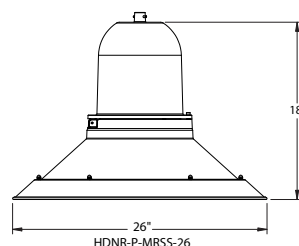
HD3R-P-MAR-21



HDNR-P-MAR-21



HD3R-P-MRSS-26



HDNR-P-MRSS-26

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: URB***-21/36L-80/3K7/UNV/2/NRNV/ PM/*** Notes:	Type: U2 SLA23-55190
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URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS

# of LEDs	DRIVE CURRENT (mA)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
24	350mA	27W	FR	3871	138	1	0	0	3990	143	1	0	0	3667	131	0	0	0
			2	3750	134	2	0	0	3838	137	1	0	1	3528	126	1	0	1
			3	3638	130	1	0	1	3750	134	1	0	1	3446	123	1	0	1
			4	3680	131	0	0	1	3794	135	0	0	1	3486	129	0	0	1
			4W	3612	129	1	0	1	3723	133	1	0	1	3422	122	1	0	1
			5QM	3750	134	2	0	0	3866	138	2	0	0	3553	127	2	0	0
			5R	3763	134	2	0	2	3879	139	2	0	2	3565	127	2	0	2
			5W	3556	127	2	0	1	3666	131	3	0	1	3369	120	2	0	1
24	700mA	55W	FR	6451	113	1	0	1	6650	117	1	0	1	6112	107	1	0	1
			2	6251	110	3	0	1	6397	112	1	0	2	5879	103	1	0	1
			3	6063	106	1	0	2	6250	110	1	0	2	5744	101	1	0	2
			4	6133	108	1	0	2	6323	111	1	0	2	5811	102	1	0	2
			4W	6020	106	1	0	2	6206	109	1	0	2	5703	100	1	0	2
			5QM	6251	110	3	0	1	6444	113	3	0	1	5922	104	2	0	1
			5R	6272	110	3	0	3	6466	113	3	0	3	5942	104	3	0	3
			5W	6926	104	3	0	1	6110	107	3	0	1	5615	99	3	0	1
36	700mA	85W	FR	9672	113	1	0	1	9970	117	1	0	1	9173	107	1	0	1
			2	9303	109	1	0	2	9591	112	1	0	2	8823	103	1	0	2
			3	9089	107	1	0	2	9370	110	1	0	2	8621	101	1	0	2
			4	9195	108	1	0	2	9479	111	1	0	2	8721	102	1	0	2
			4W	9025	106	1	0	2	9304	109	1	0	2	8559	100	1	0	2
			5QM	9371	110	3	0	1	9661	113	3	0	1	8888	104	3	0	1
			5R	9403	110	3	0	3	9694	114	3	0	3	8918	105	3	0	3
			5W	8885	105	3	0	2	9160	108	4	0	2	8427	100	3	0	2
48*	700mA	110W*	FR	12895	116	1	0	1	13294	120	1	0	1	12230	110	1	0	1
			2	12404	112	2	0	2	12788	115	2	0	2	11765	106	2	0	2
			3	12119	109	1	0	3	12494	113	1	0	3	11494	104	1	0	2
			4	12260	110	1	0	3	12639	114	1	0	3	11628	105	1	0	3
			4W	12033	108	2	0	3	12405	112	2	0	3	11413	103	2	0	2
			5QM	12494	113	3	0	2	12881	116	3	0	2	11850	107	3	0	2
			5R	12537	113	3	0	3	12925	116	4	0	4	11891	107	3	0	3
			5W	11847	107	4	0	2	12213	110	4	0	2	11236	101	4	0	2
60*	700mA	136W*	FR	16119	117	1	0	2	16618	121	2	0	2	15288	112	1	0	2
			2	15505	113	2	0	2	15985	117	2	0	2	14706	107	2	0	2
			3	15149	111	2	0	3	15617	114	2	0	3	14368	105	2	0	3
			4	15324	112	1	0	3	15798	115	1	0	3	14534	106	1	0	3
			4W	15041	110	2	0	3	15506	113	2	0	3	14266	104	2	0	3
			5QM	15618	114	4	0	2	16101	118	4	0	2	14813	108	3	0	2
			5R	15671	114	4	0	4	16156	118	4	0	4	14864	108	4	0	4
			5W	14809	108	4	0	2	15267	111	4	0	2	14046	103	4	0	2

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

ELECTRICAL DATA

# OF LEDS	Number of Drivers	Drive Current (mA)	Input Voltage (V)	System Power (Watts)	Oper. Current (Amps)
24	1	350mA	120	27	0.27
			277		0.12
			347		0.09
			480		0.07
24	2	700 mA	120	55	0.55
			277		0.24
			347		0.19
			480		0.14
36	1	700 mA	120	80	0.80
			277		0.35
			347		0.28
			480		0.20
48	1	700 mA	120	110	1.1
			277		0.43
			347		0.38
			480		0.28
60	1	700 mA	120	136	1.4
			277		0.59
			347		0.47
			480		0.34

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0° C	32° F	1.02
10° C	50° F	1.01
20° C	68° F	1.00
25° C	77° F	1.00
30° C	86° F	0.98
40° C	104° F	0.98

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

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	*TM-21-11 L90 60,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.95	0.86	>470,000

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.

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: URB***-21/36L-80/3K7/UNV/2/NRNV/ PM/*** Notes:	Type: U2 SLA23-55190
	Job Name: ONE DIAMOND STREET		

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AA-44 Strut

ARMS

DATE: LOCATION:

TYPE: PROJECT:

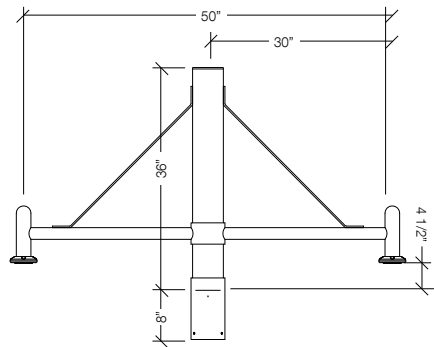
CATALOG #:

Sample AA-44 S 4 B P BBT

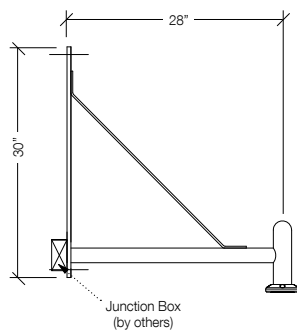
Ordering / / / / /

A B C D E F

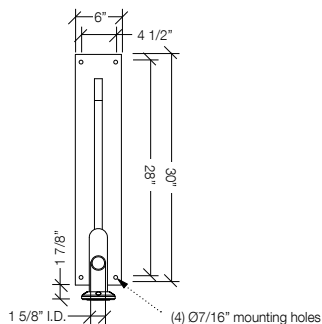
DETAILS



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	Notes: INITIAL ARM OFFERING	SLA23-55190

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Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB12-50B-OT-***

Notes:

Type:

U2

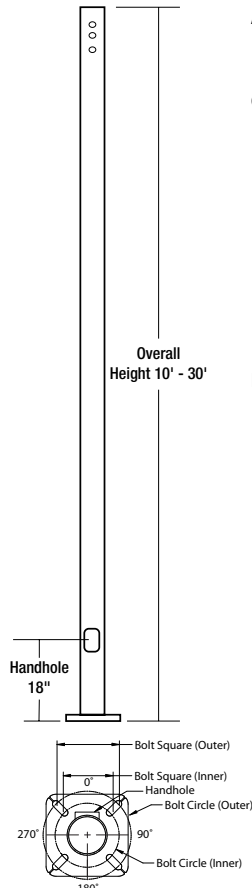
SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

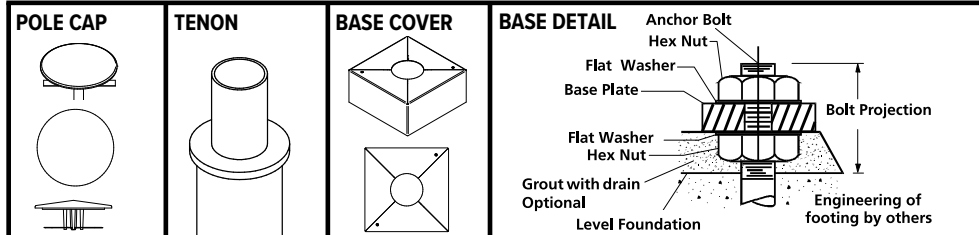
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

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 Std. 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		GFI ¹ 20 Amp GFCI Receptacle and Cover EHH ¹ Extra Handhole C05 ¹ .5" Coupling C07 ¹ .75" Coupling C20 ¹ 2" Coupling MPB ¹ 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 TA TB TC Denotes handhole location														
Color Option CC Custom Color														

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	Catalog Number: RSSB12-50B-OT-***	Type: U2
		Notes:	SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

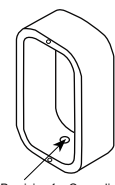
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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

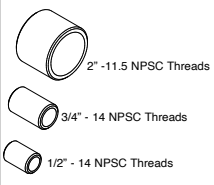
NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



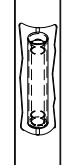
Provision for Grounding

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.

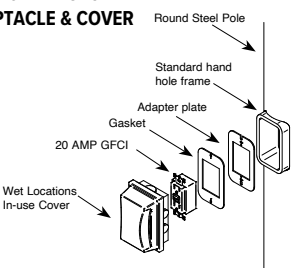
VM2SXX - VIBRATION DAMPER 2ND MODE



VM2S08 - 8'
VM2S12 - 12'
VM2S16 - 16'
VM2S20 - 20'
VM2S24 - 24'

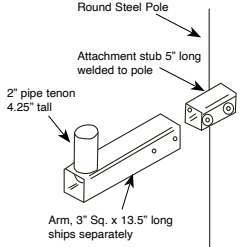
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI - 20 AMP GFCI RECEPTACLE & COVER



Round Steel Pole
Standard hand hole frame
Adapter plate
Gasket
20 AMP GFCI
Wet Locations In-use Cover

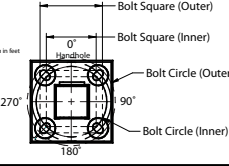
MPB - MID POLE BRACKET



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.



RSS-B-Series

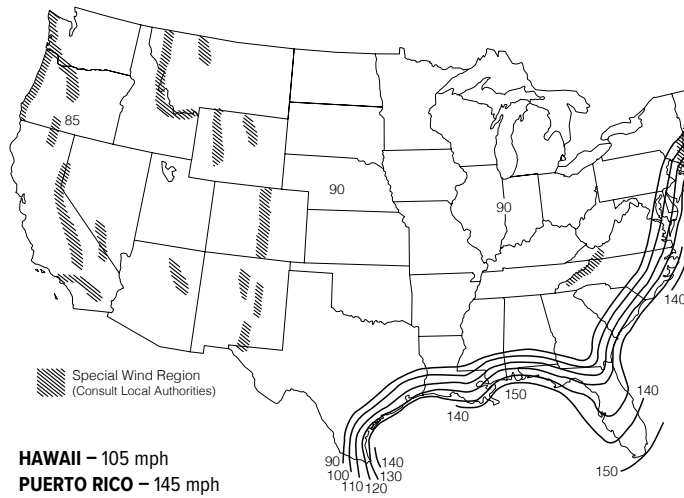
ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP



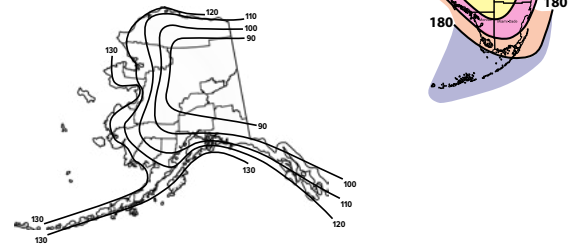
HAWAII – 105 mph
PUERTO RICO – 145 mph

*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	25.0	23.6	20.8
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	Catalog Number: RSSB12-50B-OT-***	Type: U2
		Notes:	SLA23-55190



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

- DesignLights Consortium (DLC) qualified, consult DLC website for more details: <http://www.designlights.org/QPL>
- 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	3,300–11,600
Wattage Range	55–136
Efficacy Range (LPW)	61–87

Submitted by Swaney Lighting	Job Name: ONE DIAMOND STREET	Catalog Number: URB***-26/48L-110/3K7/UNV/5W/ NRNW/PM/*** Notes:	Type: U5 SLA23-55190
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URBAN SERIES

URBAN LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: URB-CAP-21-36L-80-5K7-UNV-4-NRNW-BLT

CATALOG #

Model	Lens Option	Engine-Watts	CCT/CRI ⁶	Voltage	Optics ²	Electrical Options
URB Urban	***-26 (specify) 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	24L-27 27W, LED array 24L-55 55W, LED array 36L-80 85W, LED array 48L-110 110W, LED array ¹ 60L-136 136W, LED array ¹	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	UNV 120-277V 347 347V 480 480V	FR Type I 2 Type II 3 Type III 4 Type IV 4W Type IV wide 5R Type V rectangular 5QM Type V square medium 5W Type V round wide BC Backshield (available for FR, 2, 3, 4, 4W Optics)	PCU Button Photocell, Universal

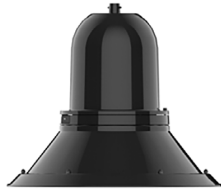
Control Options	Mounting Style	Style	Sensor Option	Specify Stnd. finish
GENI-XX Energeni ⁴	PM Pendant mount SM Side mount YM Yoke mount	NRNW No rings 3NRW Three rings	MOB Motion sensor 33% or 50% dimming ^{3,5,7}	Finish BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS 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

Notes:

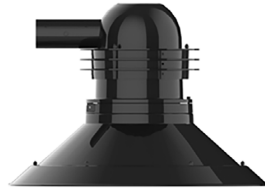
- 1 26" only
- 2 To rotate optics left or right 90 degrees, specify L or R after the optical distribution example: 4L
- 3 Not available with other control or sensor options
- 4 When ordering Energeni, specify the routine setting code (Example GENI-04). See Energeni brochure and Energeni instructions for setting table and options. Not available with sensor options
- 5 Specify time delay, dimming level and mounting height
- 6 This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available on our website.
- 7 Only available on 24L and 36L configurations

**URBAN SERIES**

URBAN LUMINAIRE



URB/MADS-21/PM/NRNW



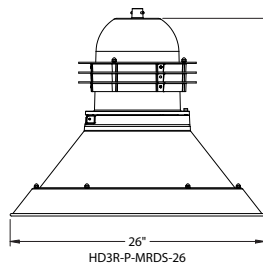
URB/MRSS-26/SM/3RNW



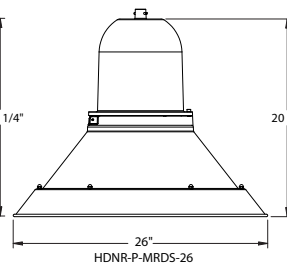
URB/MAR-21/YM/NRNW



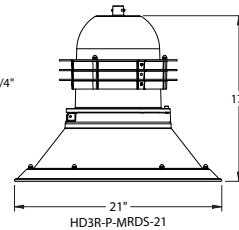
URB/CAP-26/YM/3RNW



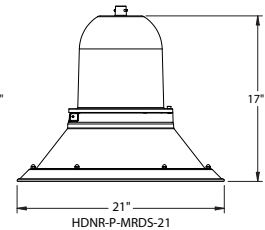
HD3R-P-MRDS-26



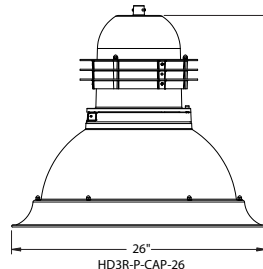
HDNR-P-MRDS-26



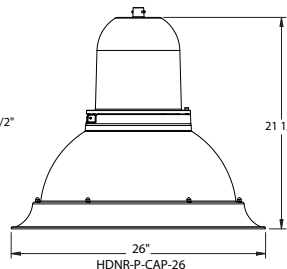
HD3R-P-MRDS-21



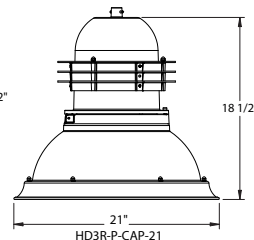
HDNR-P-MRDS-21



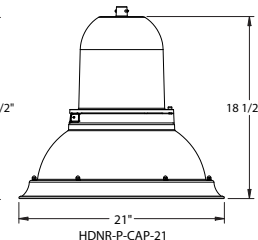
HD3R-P-CAP-26



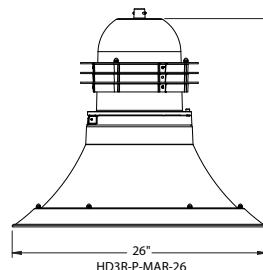
HDNR-P-CAP-26



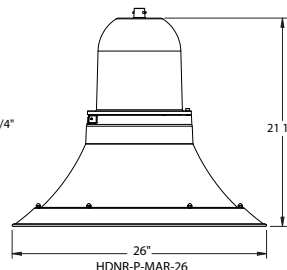
HD3R-P-CAP-21



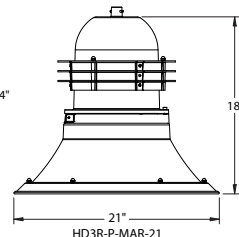
HDNR-P-CAP-21



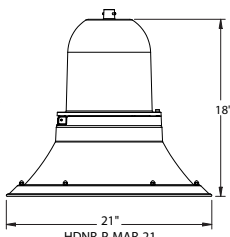
HD3R-P-MAR-26



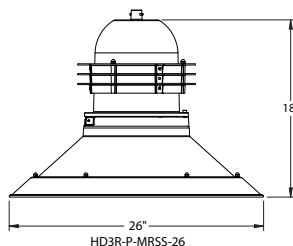
HDNR-P-MAR-26



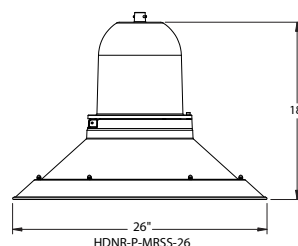
HD3R-P-MAR-21



HDNR-P-MAR-21



HD3R-P-MRSS-26



HDNR-P-MRSS-26

Submitted by Swaney Lighting		Catalog Number: URB***-26/48L-110/3K7/UNV/5W/ NRNW/PM/***	Type: U5
	Job Name: ONE DIAMOND STREET		
		Notes:	SLA23-55190



URBAN SERIES

URBAN LUMINAIRE

DELIVERED LUMENS

# of LEDs	DRIVE CURRENT (mA)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
24	350mA	27W	FR	3871	138	1	0	0	3990	143	1	0	0	3667	131	0	0	0
			2	3750	134	2	0	0	3838	137	1	0	1	3528	126	1	0	1
			3	3638	130	1	0	1	3750	134	1	0	1	3446	123	1	0	1
			4	3680	131	0	0	1	3794	135	0	0	1	3486	129	0	0	1
			4W	3612	129	1	0	1	3723	133	1	0	1	3422	122	1	0	1
			5QM	3750	134	2	0	0	3866	138	2	0	0	3553	127	2	0	0
			5R	3763	134	2	0	2	3879	139	2	0	2	3565	127	2	0	2
			5W	3556	127	2	0	1	3666	131	3	0	1	3369	120	2	0	1
24	700mA	55W	FR	6451	113	1	0	1	6650	117	1	0	1	6112	107	1	0	1
			2	6251	110	3	0	1	6397	112	1	0	2	5879	103	1	0	1
			3	6063	106	1	0	2	6250	110	1	0	2	5744	101	1	0	2
			4	6133	108	1	0	2	6323	111	1	0	2	5811	102	1	0	2
			4W	6020	106	1	0	2	6206	109	1	0	2	5703	100	1	0	2
			5QM	6251	110	3	0	1	6444	113	3	0	1	5922	104	2	0	1
			5R	6272	110	3	0	3	6466	113	3	0	3	5942	104	3	0	3
			5W	6926	104	3	0	1	6110	107	3	0	1	5615	99	3	0	1
36	700mA	85W	FR	9672	113	1	0	1	9970	117	1	0	1	9173	107	1	0	1
			2	9303	109	1	0	2	9591	112	1	0	2	8823	103	1	0	2
			3	9089	107	1	0	2	9370	110	1	0	2	8621	101	1	0	2
			4	9195	108	1	0	2	9479	111	1	0	2	8721	102	1	0	2
			4W	9025	106	1	0	2	9304	109	1	0	2	8559	100	1	0	2
			5QM	9371	110	3	0	1	9661	113	3	0	1	8888	104	3	0	1
			5R	9403	110	3	0	3	9694	114	3	0	3	8918	105	3	0	3
			5W	8885	105	3	0	2	9160	108	4	0	2	8427	100	3	0	2
48*	700mA	110W*	FR	12895	116	1	0	1	13294	120	1	0	1	12230	110	1	0	1
			2	12404	112	2	0	2	12788	115	2	0	2	11765	106	2	0	2
			3	12119	109	1	0	3	12494	113	1	0	3	11494	104	1	0	2
			4	12260	110	1	0	3	12639	114	1	0	3	11628	105	1	0	3
			4W	12033	108	2	0	3	12405	112	2	0	3	11413	103	2	0	2
			5QM	12494	113	3	0	2	12881	116	3	0	2	11850	107	3	0	2
			5R	12537	113	3	0	3	12925	116	4	0	4	11891	107	3	0	3
			5W	11847	107	4	0	2	12213	110	4	0	2	11236	101	4	0	2
60*	700mA	136W*	FR	16119	117	1	0	2	16618	121	2	0	2	15288	112	1	0	2
			2	15505	113	2	0	2	15985	117	2	0	2	14706	107	2	0	2
			3	15149	111	2	0	3	15617	114	2	0	3	14368	105	2	0	3
			4	15324	112	1	0	3	15798	115	1	0	3	14534	106	1	0	3
			4W	15041	110	2	0	3	15506	113	2	0	3	14266	104	2	0	3
			5QM	15618	114	4	0	2	16101	118	4	0	2	14813	108	3	0	2
			5R	15671	114	4	0	4	16156	118	4	0	4	14864	108	4	0	4
			5W	14809	108	4	0	2	15267	111	4	0	2	14046	103	4	0	2

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

ELECTRICAL DATA

# OF LEDS	Number of Drivers	Drive Current (mA)	Input Voltage (V)	System Power (Watts)	Oper. Current (Amps)
24	1	350mA	120	27	0.27
			277		0.12
			347		0.09
			480		0.07
24	2	700 mA	120	55	0.55
			277		0.24
			347		0.19
			480		0.14
36	1	700 mA	120	80	0.80
			277		0.35
			347		0.28
			480		0.20
48	1	700 mA	120	110	1.1
			277		0.43
			347		0.38
			480		0.28
60	1	700 mA	120	136	1.4
			277		0.59
			347		0.47
			480		0.34

**LUMINAIRE
AMBIENT
TEMPERATURE
FACTOR (LATF)**

Ambient Temperature		Lumen Multiplier
0° C	32° F	1.02
10° C	50° F	1.01
20° C	68° F	1.00
25° C	77° F	1.00
30° C	86° F	0.98
40° C	104° F	0.98

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

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	*TM-21-11 L90 60,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.95	0.86	>470,000

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.

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: URB***-26/48L-110/3K7/UNV/5W/ NRNW/PM/*** Notes:	Type: U5 SLA23-55190
	Job Name: ONE DIAMOND STREET		

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AA-44 Strut

ARMS

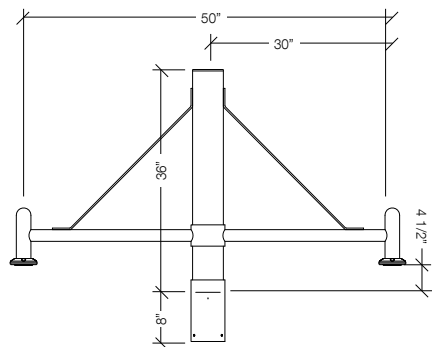
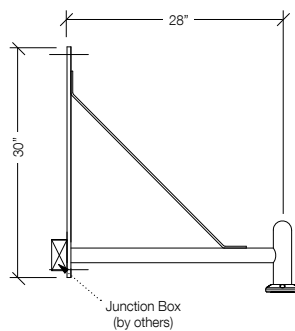
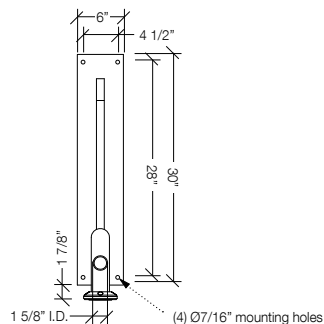
DATE: _____ LOCATION: _____

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	4.22	4.22
		weight	-	15	20	22	20	25	27	25	30
	Ø5"	EPA	-	2.67	3.61	3.61	3.06	4.08	4.08	4.55	4.55
		weight	-	18	23	25	23	28	30	28	33
	Ø6"	EPA	-	2.82	3.76	3.76	3.21	4.23	4.23	4.70	4.70
		weight	-	21	26	28	26	31	33	31	36

Submitted by Swaney Lighting		Catalog Number:	Type:
	Job Name: ONE DIAMOND STREET	AA-44/S/5/B/P/2CC/*** Notes: INITIAL ARM OFFERING	U5 SLA23-55190

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Job Name:
ONE DIAMOND STREET

Catalog Number:
RSSB12-50B-OT-***

Notes:

Type:

U5

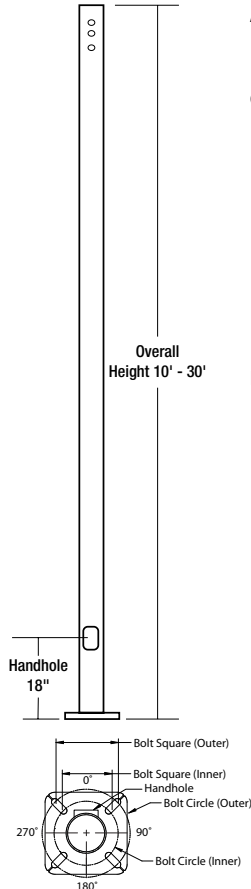
SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
TYPE: _____ PROJECT: _____
CATALOG #: _____



APPLICATIONS

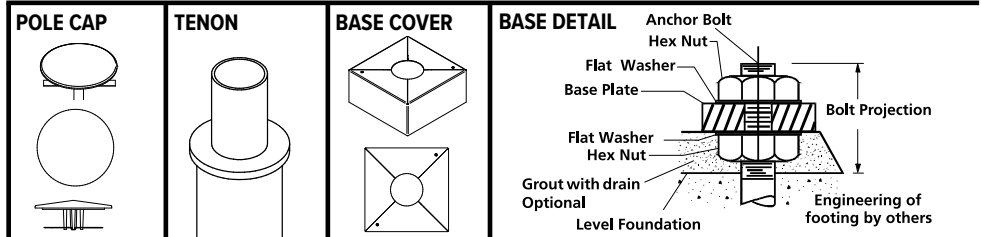
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

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 Std. 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		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			
MOUNTING ORIENTATION 1 2 3Y 4 2L 3T TA TB TC Denotes handhole location																Color Option		CC Custom Color	

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

Catalog Number:
RSSB12-50B-OT-***

Notes:

Type:
U5

SLA23-55190



RSS-B-Series
ROUND STRAIGHT STEEL

DATE:

LOCATION:

TYPE:

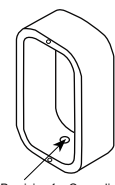
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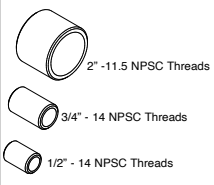
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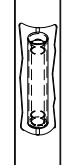
ORDERING INFORMATION Cont.

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.

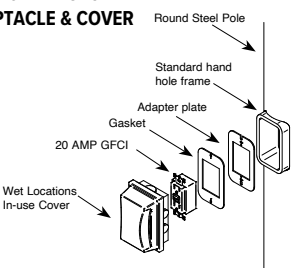
EHH - EXTRA HANDHOLE

Provision for Grounding

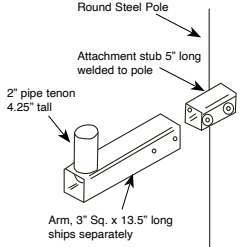
C05 - C07 - C20 - COUPLING

2" - 11.5 NPS Threads
3/4" - 14 NPS Threads
1/2" - 14 NPS Threads

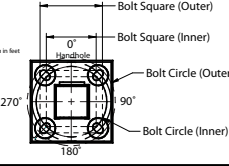
VM2 - VIBRATION DAMPER 2ND MODE

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.



RSS-B-Series

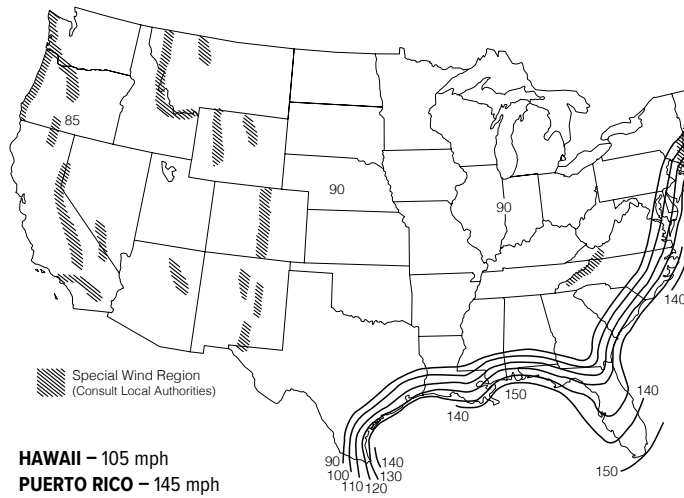
ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ASCE7-05 WIND MAP



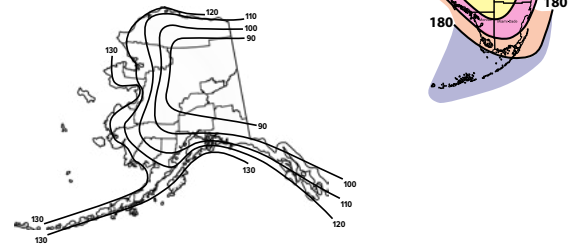
HAWAII – 105 mph
PUERTO RICO – 145 mph

*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	15.2
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	12.0
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0
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	Catalog Number: RSSB12-50B-OT-***	Type: U5
		Notes:	SLA23-55190



RSS-B-Series

ROUND STRAIGHT STEEL

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

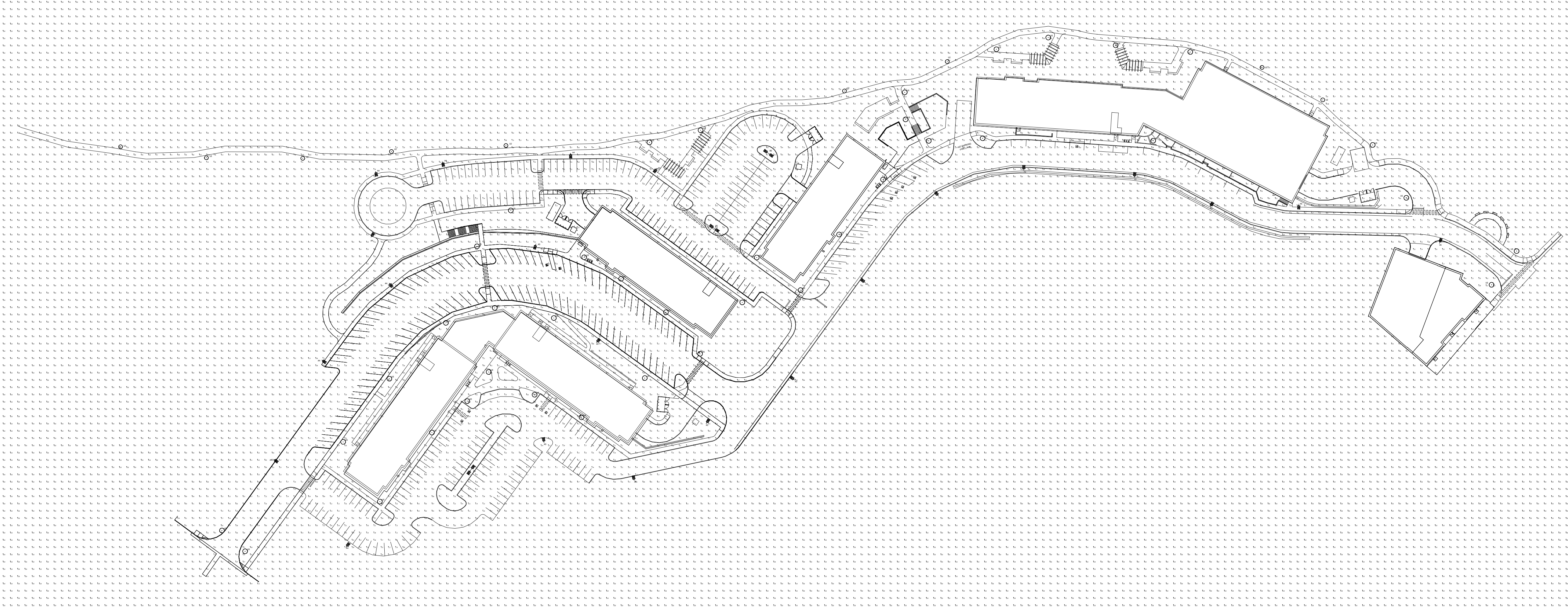
NOTES

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>

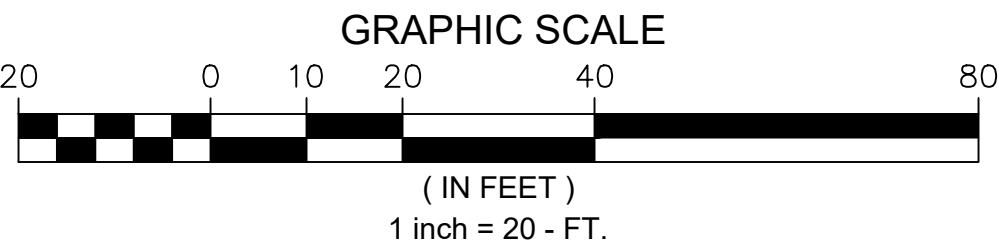
- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in 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.



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	6	A3	25' - 0" AFG	0.900	19544	180	VP-2-72L-180-3K7-3
	11	A4	25' - 0" AFG	0.900	19139	180	VP-2-72L-180-3K7-4W
	5	A5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	3	B5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	9	U2	12' - 0" AFG	0.900	8823	80	URB-XXXX-21-36L-80-3K7-2-U
	40	U5	12' - 0" AFG	0.900	11043	110	URB-XXXX-26-48L-110-3K7-T5W-U

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.51	16.0	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.85	5.7	0.2	9.25	28.50
Walking Path	Illuminance	Fc	2.86	11.3	0.0	N.A.	N.A.



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

Current

DN BY:
DHK

REV BY:
DHK

QUOTE:
N/A

DATE:
05/01/23

DATE:
06/06/23

DRAWING / DESIGN NO.:
A230656R2

CHK BY:
N/A

SCALE:
AS NOTED

290

Exhibit 10

Traffic

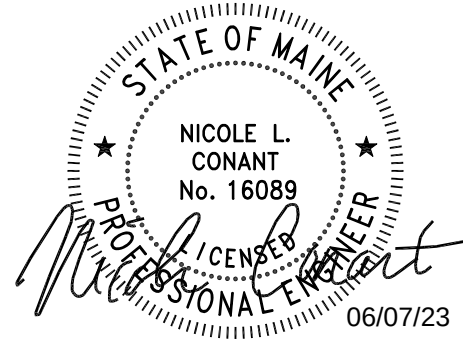
Exhibit 10 Traffic

Please see this Exhibit for the Traffic Impact Assessment was completed for Phase 1 of the proposed project.

Memorandum

18462

To: Dan Riley, P.E., Sebago Technics
From: Nikki Conant, P.E., Sebago Technics
Griffin Steinman, EI, Sebago Technics
Date: June 7, 2023



Subject: Traffic Impact Assessment, One Diamond Development - Phase 1, Biddeford

Introduction

The purpose of this memorandum is to provide a Traffic Impact Assessment (TIA) for the first phase of a proposed multi-use redevelopment located off Diamond Street in Biddeford, Maine. The development is planned in phases with Phase 1 to consist of one building (building A+B on the Site Plan by Sebago Technics) with 135 multifamily residential units and 5,500 square feet (SF) of commercial/retail space. The development replaces existing uses located on land identified by the City of Biddeford as Map and Lot Numbers 40-24, 40-25, and 40-25-1.

Access to the site for Phase 1 is proposed via Diamond Street to Elm Street (Route 1). The existing accesses to both Diamond Street and Elm Street from parcel 40-25 are proposed to be closed as this land is planned to be redeveloped into green space with benches.

This memorandum details the calculated trip generation for the development, anticipated future permitting needs, and evaluates sight distance at Diamond 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 uses:

- Lot 40-24: Approximately 9,000 SF electrical supply store.
- Lot 40-25: Approximately 6,000 SF of multi-use space with 3,000 SF of high-turnover restaurant space on the bottom floor and 3,000 SF of office space and education space on the top floor.
- Lot 40-25-1: Approximately 27,900 SF building that previously encompassed industrial and environmental safety products.

As such, the land use codes (LUCs) were utilized on the following basis for the existing parcel uses:

- 150 – Warehousing – 27,900 SF
- 180 – Specialty Trade Contractor – 9,000 SF
- 932 – High-Turnover Sit-Down Restaurant – 3,000 SF
- 712 – Small Office Building – 3,000 SF

For the safety product sales, it was assumed given the building size that most of this space was storage with a small retail component. As such, to be conservative LUC 150 – Warehousing was utilized as ITE defines this LUC as being “primarily devoted to the storage of materials, but it may also include office and maintenance areas.”

For the electrical supply building, 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 150</i>		<i>LUC 180</i>		<i>LUC 932</i>		<i>LUC 712</i>	
	<i>Average Rate</i>	<i>Trips</i>	<i>Average Rate</i>	<i>Trips</i>	<i>Average Rate</i>	<i>Trips</i>	<i>Average Rate</i>	<i>Trips</i>
AM Peak Hour – Adj. Street	0.17	5	1.66	15	9.57	29	1.67	5
AM Peak Hour – Generator	0.21	6	1.98	18	13.68	41	2.61	8
PM Peak Hour – Adj. Street	0.18	5	1.93	17	9.05	27	2.16	6
PM Peak Hour – Generator	0.23	6	2.18	20	16.35	49	3.15	9
Saturday Peak Hour	-	-	-	-	11.19	34	-	-

As demonstrated in Table 1, the existing Phase 1 parcels are estimated to generate a total of 73 trips, 84 trips, and 34 trips during the AM, PM, and Saturday peak hour periods. As such, these trips are grandfathered to the parcels for determining the need for state traffic permitting.

Proposed

The proposed development within Phase 1 includes:

- Building A+B: Multi-Family Housing – 135 residential units (6 floors)
- Building A+B: Commercial/Retail Space – 5,500 SF

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.”

Table 2 – Phase 1 ITE Trip Generation
Land Use Code 221 – Multifamily Housing (Mid-Rise)
135 Dwelling Units

<i>Time Period</i>	<i>Fitted Curve Equation or Average Rate</i>	<i>Trips</i>	<i>Entering</i>	<i>Exiting</i>
Weekday	4.54	614	307 (50%)	307 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	$T = 0.44(X) - 11.61$	48	11 (23%)	37 (77%)
AM Peak Hour – Generator	$T = 0.32(X) + 5.84$	49	13 (26%)	36 (74%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	$T = 0.39(X) + 0.34$	53	32 (61%)	21 (39%)
PM Peak Hour – Generator	$T = 0.32(X) + 15.57$	59	35 (60%)	24 (40%)
Saturday Peak Hour	$\ln(T) = 1.00 \ln(X) - 0.91$	54	28 (51%)	26 (49%)

To estimate the retail/commercial component, LUC 822 – Strip Retail Plaza (<40k) was utilized based on 5,500 SF, as shown in Table 3.

Table 3 – Phase 1 ITE Trip Generation
Land Use Code 822 – Strip Retail Plaza (<40k)
5,500 SF

<i>Time Period</i>	<i>Fitted Curve Equation or Average Rate</i>	<i>Trips</i>	<i>Entering</i>	<i>Exiting</i>
Weekday	54.45	300	150 (50%)	150 (50%)
AM Peak Hour – Adjacent Street (7 – 9 AM)	2.36	13	8 (60%)	5 (40%)
AM Peak Hour – Generator	7.60	42	21 (50%)	21 (50%)
PM Peak Hour – Adjacent Street (4 – 6 PM)	$\ln(T) = 0.71 \ln(X) + 2.72$	51	25 (50%)	26 (50%)
PM Peak Hour – Generator	13.24	73	39 (54%)	34 (46%)
Saturday Peak Hour	6.57	36	18 (51%)	18 (49%)

Trip generation for the Phase 1 portion of the redevelopment with credit given from the existing parcels is shown in Table 4.

Table 4 – Phase 1 Trip Generation Comparison

<i>Time Period</i>	<i>P.1 Existing (Credit)</i>	<i>LUC 221</i>	<i>LUC 822</i>	<i>Total (New Trips)</i>
AM Peak Hour – Adj Street	-54	48	13	7
AM Peak Hour – Generator	-73	49	42	18
PM Peak Hour – Adj Street	-55	53	51	49
PM Peak Hour – Generator	-84	59	73	48
Saturday Peak Hour	-34	54	36	56

Phase 1 of the redevelopment is expected to generate 91 trips, 132 trips, and 90 trips during the AM, PM, and Saturday peak hours, respectively. After applying the reduction for the grandfathered trips, the redevelopment is estimated to generate 18 new trips, 48 trips, and 56 trips during the AM, PM, and Saturday peak hour periods of the generator, respectively. Given this level of trip generation, a Traffic Movement Permit (TMP) is not required from the Maine Department of Transportation (MaineDOT) as Phase 1 trip generation does not exceed the 100-trip threshold during a peak hour period.

It should be noted that trip generation for Phase 2 of the Master Plan will surpass the 100-trip threshold, thus requiring a TMP. Sebago is currently compiling the Sections 1 – 6 of the application for the Master Plan for submittal to the City and MaineDOT. Based on trip generation for the Master Plan, the project is anticipated to submit for a 200+ trip level permit.

Additionally, given Phase 1 is only providing access to Elm Street, it is anticipated that no additional traffic analysis will be required at this time. The Applicant commissioned a portion of the traffic study efforts along the Elm Street corridor. Additional analysis will be provided, as requested by MaineDOT, as a part of the TMP process and as future phases and connection to Main Street are reviewed.

Sight Distance Analysis

Sight distance was reviewed in the field on January 6, 2022 for the existing connection of Diamond Street to Elm 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 5.

Table 5 – 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'

Elm 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 350 feet and exceeded 500 feet to the right. As such, sight distance on Elm Street exceeds the required minimum for a 25 MPH roadway.

It should also be noted that Phase 1 is proposing to eliminate the existing accesses to parcel 40-25 by reconstructing sidewalk along the Elm Street and Diamond Street frontage. As noted previously, the existing use on the parcel will be demolished to provide additional green space with benches.

Conclusion

Sebago Technics, Inc. has completed the traffic impact assessment for the One Diamond Phase 1 Multi-Use Redevelopment in Biddeford, Maine and provides the following conclusions:

- Phase 1 of the One Diamond redevelopment proposes to remove the existing warehousing building, restaurant space, office space, and specialty contractor space on site. The proposed new uses consist of 135 dwelling units and 5,500 SF of general retail space in building A+B. The Master Plan intends to bring additional buildings of residential and commercial in future Phases 2 and 3.
- The Phase 1 redevelopment is calculated to generate 18 new trips, 48 trips, and 56 trips during the AM, PM, and Saturday peak hour periods of the generator, respectively after taking credit for the existing parcel uses. As such, a TMP is not required by the MaineDOT for Phase 1. The Master Plan requires a TMP with the development of Phase 2. Sebago Technics is in the process of compiling the Sections 1 – 6 for the Master Plan for a 200+ trip level permit.
- The Phase 1 redevelopment is currently providing access to Elm Street via Diamond Street. The Applicant previously commissioned a portion of the traffic study along Elm Street. As such, no additional traffic analysis is anticipated as a part of Phase 1.
- Sight distance from the existing connection of Diamond Street to Elm Street exceeds the City of Biddeford requirements. The project also proposed to close the existing access to parcel 40-25. It is important to note that no landscaping, signage, or other features shall be located within the sight triangle of the proposed driveway.

Exhibit 11

Agency Letters



April 27, 2023
18462

Mr. John Perry
Environmental Coordinator
Maine Department of Inland Fisheries
41 State House Station
Augusta, Maine 04333

ifwenvironmentalreview@maine.gov

Re: One Diamond Street Development
Proposed Mixed-Use Development
1 Diamond St Biddeford, Maine
Tax Map 40, Lots 25-1, 25-2, 24, 25 & 74, and Tax Map 37, Lots 34 & 35

Dear John:

On behalf of our client, Sebago Technics respectfully requests a site review for the proposed phased mixed-use development located at One Diamond Street in the City of Biddeford. The lots are identified on Biddeford Tax Map 40 as Lots 25-1, 25-2, 24, 25, and 74, and on Tax Map 37 as Lots 34 and 35. One Diamond Development, LLC proposes uses consisting of approximately 480 residential units and commercial space in seven new multi-story buildings. As part of the site review for permitting and design, we request MDFIW review regarding known locations of Endangered, Threatened, and Special Concern species, designated Essential and Significant Wildlife habitats, and fisheries habitats in the vicinity of the site as identified on the attached Location Map. I have also included a copy of the sketch and conceptual phasing plans.

If you have any questions, please do not hesitate to contact me at snichols@sebagotechnics.com or (207) 200-2120. I look forward to hearing from you.

Sincerely,

SEBAGO TECHNICS, INC.

A handwritten signature in black ink that reads "Stefanie Nichols".

Stefanie Nichols
Permitting Specialist/Project Coordinator

enc.



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>

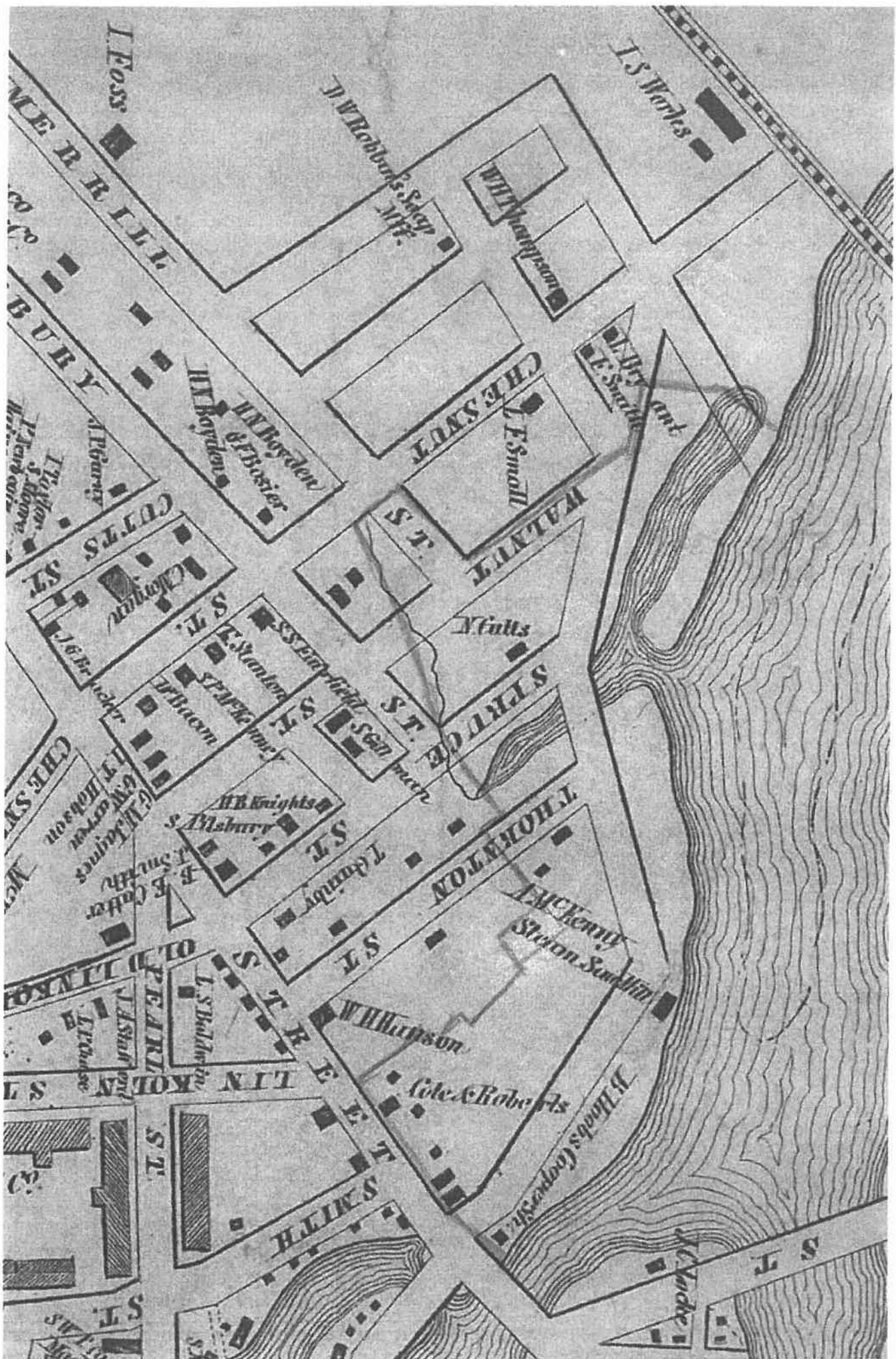
If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov.

No architectural or prehistoric archaeological resources will be affected by this undertaking.

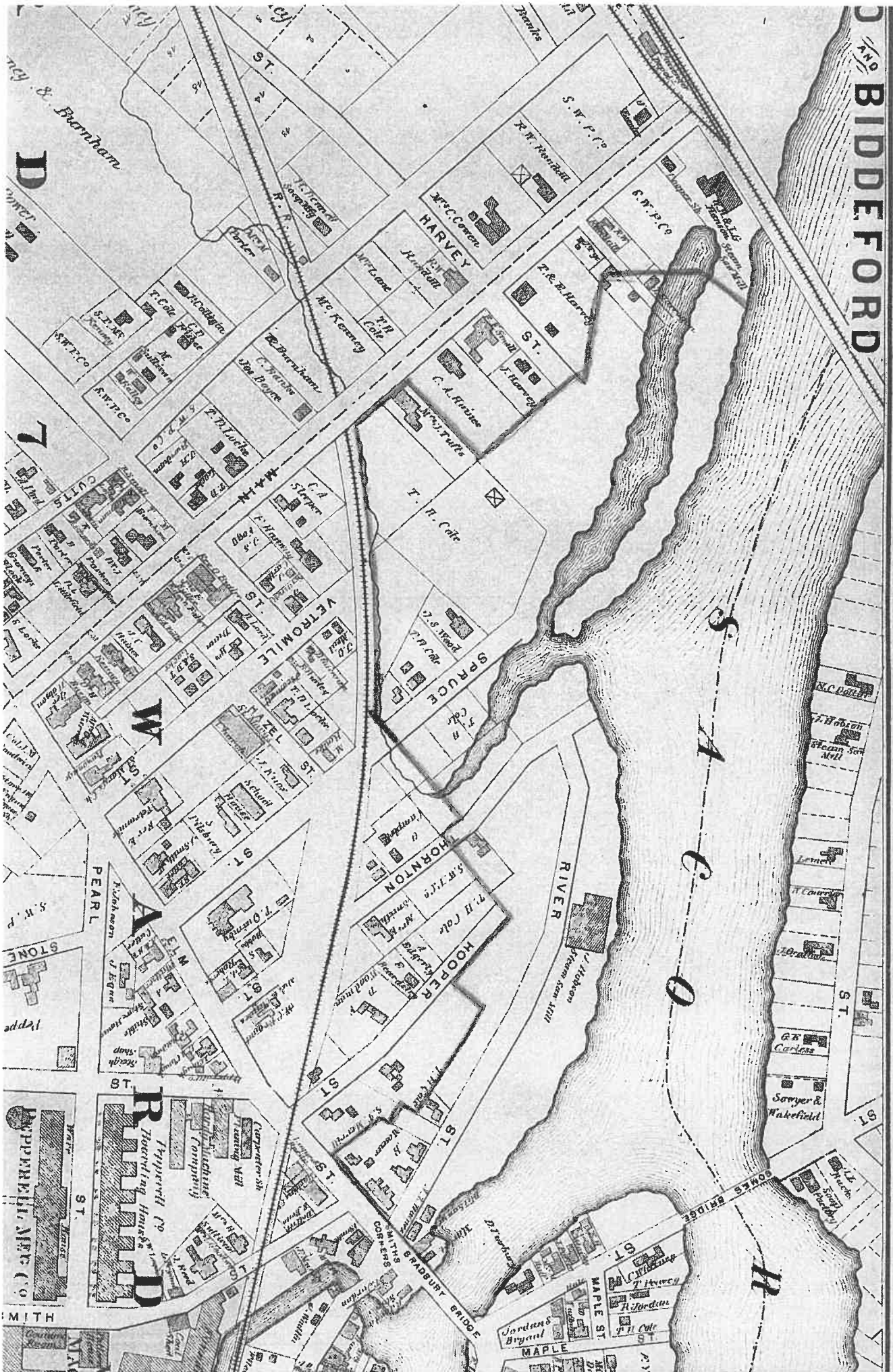
If you have any questions regarding consultation, please contact Megan M. Rideout of this office at, megan.m.rideout@maine.gov.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer



285-23 Apr. 27
1872





JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

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						
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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)	
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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

For

**ONE DIAMOND
BIDDEFORD, MAINE**

Prepared for:

One Diamond Development, LLC.
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Kennebunk, ME 04043

Prepared by:

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June 2023

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Appendices

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Appendix 2A:	Hydrologic Modeling– Existing Conditions (HydroCAD)Summary
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Appendix 3:	Inspection, Maintenance, and Housekeeping Plan
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 Report has been prepared to present analyses performed to address the potential impacts associated project due to proposed modifications in 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 Phase 1 and the overall project build-out scope (Phases 2 and 3).

2. Existing Conditions

The approximate 18.2-acre project site consists of partially developed land located at the former Diamond Match site that 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, 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 the catch basin in Diamond Street that combines with the existing 12" sewer main that runs through the site. The Saco River Basin occupies approximately 1,700 square miles of southwestern Maine and western New Hampshire. 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 67-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 is redirected north through the project, reduces to a 42-inch diameter pipe, and discharges into the river at a lower elevation than the 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

One Diamond proposed mixed-use development will consist of both residential units and commercial space, in seven new multi-level buildings to be constructed in three phases. Two private roadways will be constructed for access to each of the seven buildings. This roadway system extends throughout the entire site, connecting both Main Street and Elm Street. A river walkway will be constructed for public use along the Saco River on the northern edge of the property. Recreational open space will also be constructed in a variety of different locations along the riverwalk trail.

Phase One Development

Proposed site improvements for phase one will result in approximately 5.00 acres of impervious area and 3.20 acres of landscaped area. MDEP Site Location of Development Act (Site Law) stormwater standards apply to the project given that site improvements in Phase 1 will exceed three acres. Phase One site improvements include:

- The construction of a 28'-30' travel way heading westerly from Elm Street with parking spaces, equating to a total of 2.20 acres of impervious area.

- Two multi-story buildings, equating to 0.95 acres of impervious area.
- Several sidewalks and pedestrian pathways along the proposed road, roughly equating to 0.50 acres of impervious area.
- A riverwalk path with amenities, equating to 0.50 acres of impervious area.
- Vegetated and landscaped areas, including landscaped islands within parking and roadway areas, equating to 6.3 acres of landscaped area. This includes grassed areas as well as areas seeded with conservation mix and designated not to be mowed more than twice per year.
- Construction of a subsurface sand filter #1 (SSSF-1) and an underdrain soil filter (UDSF-1).
- Construction of a closed drainage system that will pick up flow from the offsite area. Where the system outlets at the river, the invert elevation will be at the approximate 50-year floodplain so that tailwater conditions are minimized.

Phase 1 Development Summary	
Impervious Area	4.2 acres
Landscaped Area	6.3 acres
Total Developed Area	10.5 acres

Phase one development will result in a tree-clearing area of approximately 4.8 acres. Several areas are proposed to be seeded with a conservation mix and designated to not be mowed twice per year to return site grading areas to the existing condition. These areas amount to approximately 1.8 acres, bringing the phase one limit of disturbance to roughly 10 acres. Additionally, land areas within the majority of the 25-foot setback of the Saco River are to be completely preserved and vegetation protected. Developed areas in Phases 2 and 3 that will be temporarily impacted in Phase 1 for drainage purposes are proposed to be seeded with conservation mix and designated not to be mowed twice per year until the proposed development occurs.

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 220 of those trees. Therefore, 29 percent of the trees with diameters larger than 4 inches are being removed within the 75-foot setback, meeting the Waterfront Renaissance District standard.

The catch basin in Diamond Street that combines with the sewer flow is proposed to be converted to a solid manhole cover. This will separate the on-site stormwater runoff and the sewer. The flow is proposed to be redirected towards the Saco River and into the existing 15-inch outfall pipe underneath Elm Street.

Masterplan Development

The overall project will result in approximately 15.50 acres of redeveloped land, including 9.70 acres of impervious surfaces and 6.00 acres of landscaped area.

Masterplan Development Summary	
Impervious Area	9.70 acres
Landscaped Area*	6.00 acres
Total Developed Area	15.70 acres

*Note: Landscaped areas include areas designated to be seeded with conservation mix and not to be mowed more than twice per year.

Existing drainage patterns are not expected to be significantly altered in Phase 1 and the masterplan development given that site runoff will continue to drain directly toward the river via stretches of sheet, shallow concentrated, and channelized flow. The stormwater management plan includes treatment measures that will provide pollutant removal or treatment, and mitigate the increased frequency and duration of channel erosive flows due to runoff from smaller storms and potential temperature impacts, per the standards outlined in Chapter 500 of the MDEP. Stormwater best management practices (BMPs) to be constructed for stormwater treatment and detention of runoff attributed to the project include two subsurface sand filters and one underdrain soil filter. Phase 1 will include the construction of one of the subsurface sand filters (SSSF-1) and the underdrain soil filter (UDSF-1). As some of the project amenities are general in nature, an impervious area of 0.2 acres is assumed to be tributary to UDSF-1. Phase 2 will include the construction of the second subsurface sand filter (SSSF-2) which will also manage runoff from Phase 3.

Development of all three phases will result in a total tree-clearing area of approximately 7.5 acres, leaving approximately 2.5 acres of trees or undeveloped land onsite.

Phase 1 and the overall site masterplan development are designed in a manner to minimize the effects of flooding along the Saco River. A majority of the riverwalk trail will be above the 100-year base flood elevation. Also, the parking area to the north that extends along the river and within the floodplain will be constructed above the base flood elevation. One storm drain outlet point at the river will be elevated to the approximate 50-year base flood elevation to further minimize tailwater conditions during normal flow.

5. Existing Conditions Model

The pre-development watershed plan consists of five subcatchments labeled 1S, thru 5S in the HydroCAD model. Four locations were identified as Points of Analysis (POA) for comparing peak runoff rates, with all four of the POAs being inlets to the Saco River. The overall drainage area included in the model is equal to 93.1 acres.

POA-1: 1S is identified as the northwestern fourth of the site and the subcatchment tributary to POA-1. The total tributary area that 1S contributes is approximately 7.5 acres. Stormwater runoff in this subcatchment drains to the north and into the Saco River.

POA-2: Watersheds 2S and 5S are both tributary to POA-2, with an overall runoff area of approximately 76.94 acres. 2S represents the middle of the site, between 1S and 3S. The total tributary area that 2S contributes is 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 to the south of the site that drains into the box culvert, represented by 5P. The box culvert is then relayed to a 42" outfall pipe that directly discharges into the Saco River, represented by 5P. 5P then eventually drains to a culvert where the outfall pipe converts to a 42" outfall pipe that directly discharges to the Saco River, which is represented by 52P. The total tributary area that 5S contributes is approximately 76 acres.

POA-3: 3S is identified as the northeastern fourth of the site and the subcatchment tributary to POA-3. Stormwater runoff from subcatchment 3S drains directly to the Saco River. The total tributary area that 3S contributes is approximately 7.8 acres. Stormwater runoff in this subcatchment drains to the north and into the Saco River. POA-3 receives overflow drainage from the existing catch basin in Elm Street, represented as 4P. However, as this catch basin is primarily tributary to POA-4, it is not included in the overall tributary area of POA-3.

POA-4: POA-4 represents the 15" outfall pipe that drains to the Saco River underneath Elm Street. 4S is tributary to POA-4 and represents the residential area at Hooper Street. The total tributary area that 4S contributes is approximately 1.8 acres. Stormwater runoff from 4S drains into catch basin 4P and then outlets via the 15" culvert into the Saco River.

6. Proposed Conditions Model

The post-development watershed plan consists of forty subcatchments. These subcatchment areas represent the areas from the existing condition that have been altered as a result of the proposed development. Points of Analyses 1-4 are unchanged from the pre-development model. The overall drainage area of the model remains equal to the pre-development model at 93.1 acres. Off-site landscape and impervious areas have been renamed in the post-development conditions model as "Offsite Landscape" and "Unconnected Impervious", respectively.

POA-1: Subcatchments 1.1S, 1.2S, 1.3S, 1.4S, and 1.5S are tributary to POA-1 in the post-development condition. These areas represent the pre-development subcatchment 1S as a result of the proposed development, as well as any off-site areas included in 1S that were unchanged in the post-development. Subcatchment 1.1S represents the stormwater discharge that directly drains to the Saco River, north of the proposed riverwalk. 1.2S represents the area that drains to a small swale (1.2R) that directly discharges into the Saco River. 1.3S represents a portion of the developed area south of the riverwalk and west of the proposed end of Phase 1 parking, as well as off-site development areas. 1.3S drains to a shallow depression and into a 12" culvert, represented by 1.3P, which then discharges stormwater runoff into 1.2R. 1.4S represents the remainder of the off-site development from pre-development subcatchment 1S that directly drains to the Saco River. 1.5S represents the lawn area to the south of the riverwalk that is tributary to the proposed underdrained soil filter (1.5P). Overall, the area tributary to POA-1 in the post-development condition is equal to 5.9 acres.

POA-2: Subcatchments 2.1S thru 2.28S and 5.1S are tributary to POA-2. POA-2 is the discharge point for two proposed BMPs: SSSF-1, represented by 2.201P, and SSSF-2, represented by 2.111P. Subcatchment 2.1S represents the area north of the proposed riverwalk that drains directly to the Saco River. Subcatchments 2.2S thru 2.10S and 2.27S are tributary to 2.201P. 2.201P discharges to POA-2 via a proposed 36" culvert outfall into the Saco River. The overall

area tributary to 2.201P is equal to 3.9 acres. Subcatchments 2.11S thru 2.23S are tributary to 2.111P. Discharge from 2.111P leaves the sand filter via a 36" and eventually connects to the proposed 60" outfall pipe that discharges to the Saco River, represented by 2.241P. The overall area tributary to 2.111P is equal to 6.0 acres. Subcatchment 2.25S is tributary to 2.25P. 2.25P also eventually connects to the 60" outfall pipe that discharges to the Saco River. The overall area tributary to 2.25P is equal to 0.5 acres. Subcatchment 5.1S represents the off-site drainage area south of the project parcel. The subcatchment area has been reduced as a portion of the off-site drainage area will be captured by the proposed onsite drainage system. The overall area tributary to POA-2 is equal to 80.3 acres.

POA-3: Subcatchment 3.1S represents the remaining area of 3S due to the redirection of onsite drainage as a result of the proposed development. Subcatchment 3.1S directly drains to the Saco River and has an overall tributary area of 2.7 acres. A portion of overflow drainage from the existing catch basin in Elm Street represented as 4.1P in the post-development model, drains to POA-3. However, this catch basin is primarily tributary to POA-4, so this is not included in the tributary area of POA-3.

POA-4. Subcatchments 4.1S, 4.2S, 4.3S, 4.4S, and 4.5S are tributary to POA-4. The overall tributary area of POA-4 increased from the pre-development area to the post-development area due to the redirection of onsite drainage characteristics. Subcatchment 4.1S represents the residential area on Hooper Street and drains to the existing catch basin on Elm Street, labeled as 4.1P. This subcatchment is unaltered between the pre-development and post-development conditions, however, the outfall pipe is intercepted by a proposed drainage structure, labeled as 4.11P. Subcatchments 4.2S, 4.3S, 4.4S, and 4.5S eventually drain to 4.11P and connect with the existing 15" outfall pipe and discharge to POA-4. Overall, the area tributary to POA-4 is equal to 4.2 acres.

7. Stormwater Management

Basic Standard - Chapter 500, Section 4(B)

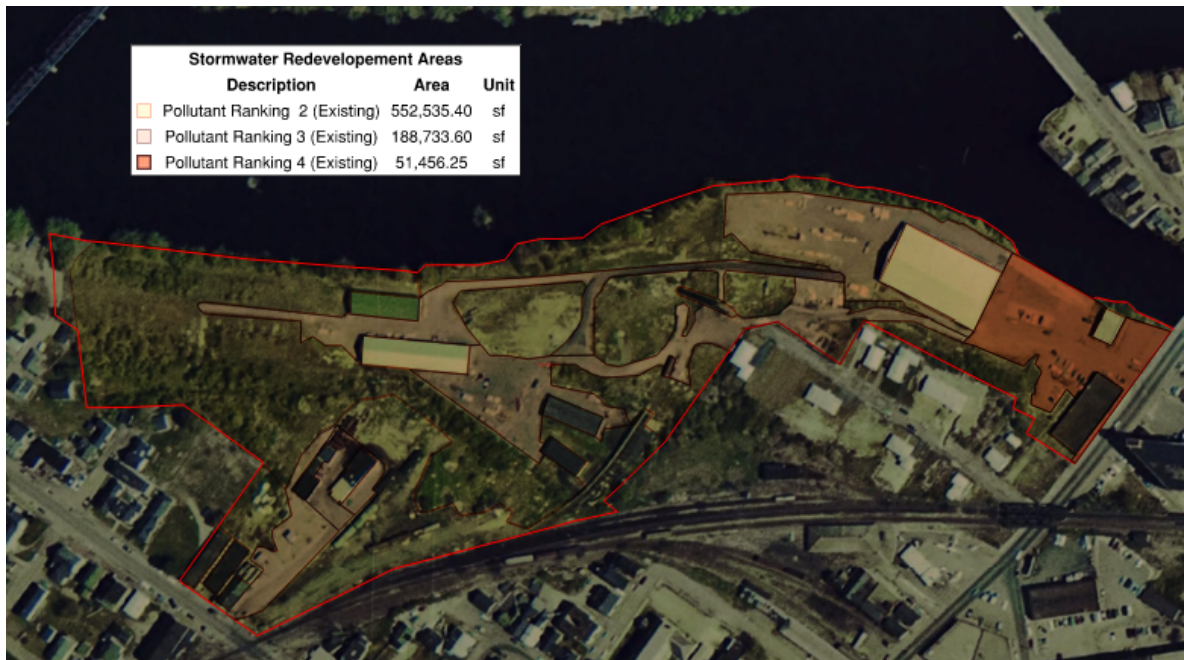
Since the project will disturb more than one (1) acre of land area, MDEP Basic Standards apply, requiring that grading or other construction activities on the site do not impede or otherwise alter drainage ways to have an unreasonable adverse impact. We have avoided adverse impacts by providing an Erosion & 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.

This project’s stormwater management system meets the redevelopment treatment level standards defined in MDEP’s Chapter 500, Section 4(C) – 2(d). 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. A minor amount of undeveloped land, as determined by the Department on a case-by-case basis, may be included within the perimeter of 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 get an overall proposed impact rating for both the existing condition and the proposed condition. Then, to find the ranked impact change due to redevelopment, the existing impact rating is divided by the total redevelopment acres and subtracted from the proposed impact rating divided by the total redevelopment acres. If the ranked impact rating is 0.0 or less (for a Site Law project), 50 percent of the developed area must be treated.



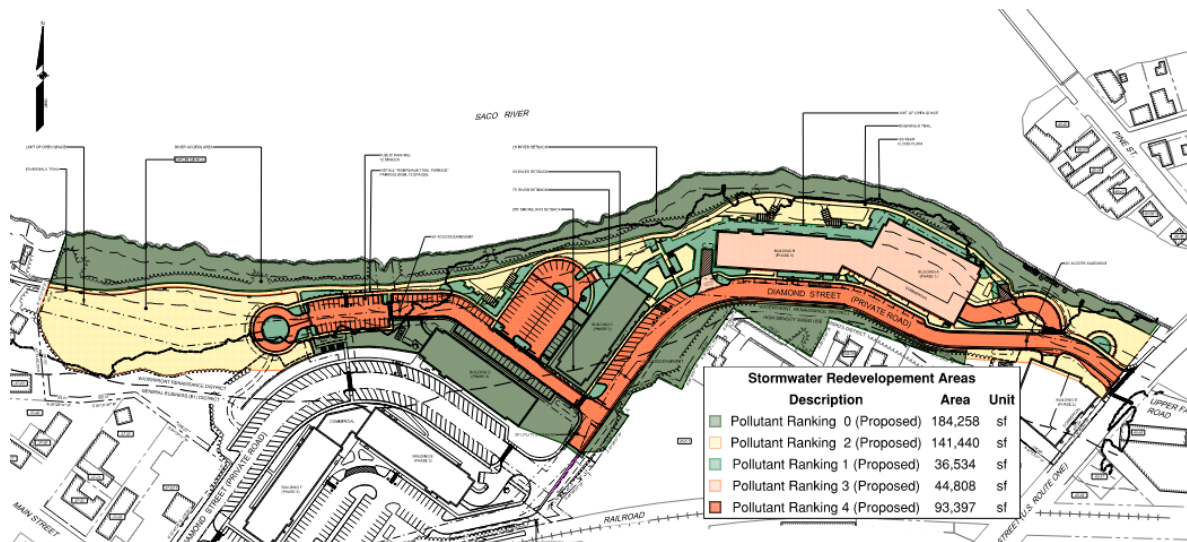
Historic Aerial of Project Site From 1970 – Pollutant Rankings

Phase One Development

The first phase of the project will be constructed largely within the footprint of the development that existed around 1970. See the above historic aerial for reference. Construction in Phase 1 results in an overall redevelopment rating difference of -0.82. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

Existing Impact Rating =	28.5
Proposed Impact Rating =	19.0
Existing Impact Rating per Acre of Development =	2.48
Proposed Impact Rating per Acre of Development =	1.65
Redevelopment Rating Difference=	-0.82

Treatment of runoff from 51% of developed surfaces in Phase One will be provided with the construction of one Subsurface Sand Filter #1 (SSSF-1) and one underdrain soil filter (UDSF-1), thus generally meeting minimum requirements.



Phase One – Pollutant Rankings

Masterplan Development

The masterplan development results in an overall redevelopment rating difference of -0.19. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

Existing Impact Rating =	43.1
Proposed Impact Rating =	39.6
Existing Impact Rating per Acre of Development =	2.37
Proposed Impact Rating per Acre of Development =	2.18
Redevelopment Rating Difference =	-0.19

The total masterplan buildout proposes treatment of runoff from 66.4% of all developed surfaces and 77.9% of the total impervious area via the two subsurface chamber systems and one underdrained soil filter. Runoff from Phase One is proposed to be treated by SSSF-1 and UDSF-1, while Phases 2 and 3 are proposed to be treated by SSSF-2.



Project Masterplan – Pollutant Rankings

To mitigate the changes in hydrologic patterns due to the development of this project, two subsurface sand filters and one underdrain soil filter have been implemented into the stormwater management infrastructure. Filtration BMPs are very effective at removing a wide range of pollutants through the use of organic soil filter media. Subsurface sand filters are designed to store and discharge the stormwater at an attenuated rate to reduce the thermal impacts downstream of the system. The stormwater rises in the chambers and is filtered vertically out of the open bottom, through the filter, and to the storage and treatment area of the adjacent chambers, sand filter, and underdrain. Underdrained soil filters capture runoff and pass it through a soil media consisting of silty sand and organic matter mixture to remove a wide range of pollutants. Once through the soil media, the runoff is collected in a perforated underdrain pipe system and discharged downstream. BMP sizing and treatment calculations are provided in Appendix 1.

Flooding Standard - Chapter 500, Section 4(F)

MDEP flooding standards must be met for a project resulting in three acres or more of impervious area (structure). The Flooding Standard requires a project's stormwater management system to detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-, 10-, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. The project is located within the direct watershed of a major river segment, the Saco River, and the project is eligible for a waiver from the Flooding Standard as defined in MDEP's Chapter 500, section 4(F)-3(a). To support this project being applicable for a waiver from the flooding standard, a demonstration of the project conveying stormwater exclusively in sheet flow, in a manmade open channel, or a piped system directly into the Saco River is provided.

Stormwater runoff is being managed, stored, and treated in two subsurface sand filters and one underdrain soil filter. One subsurface sand filter will manage runoff from Phase One and a small

portion of Areas in Phase 2, and a second system will manage runoff from the remainder of Phase Two and Phase 3. All systems in which the stormwater runoff will flow are designed to have adequate capacity and stability to receive both the project's runoff and any ancillary off-site runoff passing through the system. The subsurface sand filter designated to provide treatment for Phases 2 and 3 has been sized to include a 10% increase in impervious area from what is shown on the Masterplan as a precautionary measure for future development and project scope changes. As stated previously, UDSF-1 has been sized to accommodate an additional 0.2 acres of impervious area in place of vegetated area as a precautionary measure for future development or change in scope. 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

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	11.9	8.7
	10-year	20.1	14.4
	25-year	26.8	18.7
POA-2	2-year	90.8	87.8
	10-year	145.8	141.2
	25-year	190.2	185.2
POA-3	2-year	10.4	7.2
	10-year	16.6	14.9
	25-year	22.0	22.4
POA-4	2-year	4.8	7.4*
	10-year	4.9	9.1*
	25-year	5.0	9.3*

*Note: Flows increased in the post-development condition from the pre-development condition.

The HydroCAD Data output sheets from this analysis are appended 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, and 3, are less than the peak runoff rates in the pre-development condition.

Peak runoff rates in the post-development condition at Points of Analysis 4 (POA-4) are above pre-development runoff rates for the 2-, 10-, and 25-year storm events. The area tributary to POA-4 increased from 1.8 acres in the pre-development condition to 4.2 acres in the post-development condition, with an approximate increase in 1.3 acres of impervious. The change in elevation from Elm Street to the entrance of Building AB, which makes it infeasible to drain the area west of Elm Street in a westerly direction toward the chamber system as it would lower the pipe elevation draining to SSSF-1 and cause the system to be inundated with tailwater from the Saco River. Furthermore, there are two structures in the existing condition that outlet directly to the Saco River through the existing stone wall. The outlet pipes of these structures would likely have to increase in size in order to provide available capacity, and this work would impact the existing wall.

Flow directed toward POA-3 is expected to remain generally unchanged between Phase One and the masterplan development given the majority of the development within this watershed occurs in Phase 1.

Since the entire project site is located within Saco River's watershed, all three phases are applicable for a waiver from the flooding standard, as defined in MDEP's Chapter 500, section

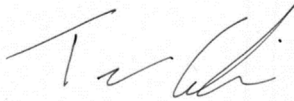
4(F)-3(a). All stormwater runoff from the project site during phase one will be conveyed exclusively in sheet flow, through a manmade open channel, or piped directly into the Saco River.

8. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. Stormwater BMPs in Phase 1 are proposed to provide treatment to 51% of the developed area of Phase 1 development. Proposed treatment in the masterplan development will be provided for 77.9% of the impervious area and 66.4% of the developed area. Runoff discharging from the site will be at or below pre-development conditions for the 2-, 10-, and 25-year storm events at POA-1, POA-2, and POA-3. 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/CAB



Craig Burgess, PE
Senior Project Manager

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	38,300	0	3,995	0	660	4,655	0	NO	0	0	0	
1.2S	10,620	0	900	0	710	1,610	0	NO	0	0	0	
1.3S	92,760	0	3,230	0	31,710	34,940	0	NO	0	0	0	
1.4S	89,910	0	0	0	0	0	0	NO	0	0	0	
1.5S	25,830	0	7,000	0	18,830	25,830	0	YES	7,000	18,830	25,830	UDSF-1
2.1S	24,955	0	4,800	0	6,295	11,095	0	NO	0	0	0	
2.2S	42,420	0	35,160	0	7,260	42,420	0	YES	35,160	7,260	42,420	SSSF-1
2.3S	9,410	0	8,400	0	1,010	9,410	0	YES	8,400	1,010	9,410	SSSF-1
2.4S	13,540	0	5,200	0	8,340	13,540	0	YES	5,200	8,340	13,540	SSSF-1
2.5S	9,390	0	7,970	0	1,420	9,390	0	YES	7,970	1,420	9,390	SSSF-1
2.6S	12,260	0	9,510	0	2,750	12,260	0	YES	9,510	2,750	12,260	SSSF-1
2.7S	20,620	0	16,430	0	4,190	20,620	0	YES	16,430	4,190	20,620	SSSF-1
2.8S	18,160	0	18,160	0	0	18,160	0	YES	18,160	0	18,160	SSSF-1
2.9S	9,575	0	8,625	0	950	9,575	0	YES	8,625	950	9,575	SSSF-1
2.10S	23,610	0	23,610	0	0	23,610	0	YES	23,610	0	23,610	SSSF-1
2.11S	26,360	0	24,400	0	1,960	26,360	0	YES	24,400	1,960	26,360	SSSF-2
2.12S	2,890	0	2,680	0	210	2,890	0	YES	2,680	210	2,890	SSSF-2
2.13S	3,940	0	2,655	0	1,285	3,940	0	YES	2,655	1,285	3,940	SSSF-2
2.14S	15,405	0	11,170	0	4,235	15,405	0	YES	11,170	4,235	15,405	SSSF-2
2.15S	21,310	0	18,040	0	3,270	21,310	0	YES	18,040	3,270	21,310	SSSF-2
2.16S	7,400	0	330	0	7,070	7,400	0	NO	0	0	0	
2.17S	28,720	0	22,720	0	6,000	28,720	0	YES	22,720	6,000	28,720	SSSF-2
2.18S	44,650	0	30,900	0	5,980	36,880	0	YES	30,900	5,980	36,880	SSSF-2
2.19S	23,020	0	3,960	0	2,760	6,720	0	YES	3,960	2,760	6,720	SSSF-2
2.20S	24,760	0	24,760	0	0	24,760	0	YES	24,760	0	24,760	SSSF-2
2.21S	35,205	0	25,280	0	4,425	29,705	0	YES	25,280	4,425	29,705	SSSF-2
2.22S	23,750	0	8,820	0	8,780	17,600	0	YES	8,820	8,780	17,600	SSSF-2
2.23S	11,470	0	4,900	0	3,480	8,380	0	YES	4,900	3,480	8,380	SSSF-2
2.24S	29,285	0	22,935	0	6,350	29,285	0	NO	0	0	0	
2.25S	8,300	0	5,700	0	2,600	8,300	0	NO	0	0	0	
2.26S	10,020	0	1,370	0	8,650	10,020	0	NO	0	0	0	
2.27S	133,910	0	0	0	0	0	0	NO	0	0	0	
2.28S	12,430	0	0	0	0	0	0	NO	0	0	0	
3.1S	117,010	0	18,370	0	37,820	56,190	0	NO	0	0	0	
4.1S	77,940	0	0	0	0	0	0	NO	0	0	0	
4.2S	47,770	0	0	0	1,500	1,500	0	NO	0	0	0	
4.3S	15,560	0	0	0	6,090	6,090	0	NO	0	0	0	
4.4S	32,320	0	29,035	0	3,285	32,320	0	NO	0	0	0	
4.5S	9,990	0	0	0	3,030	3,030	0	NO	0	0	0	
5S	2,850,215	0	0	0	0	0	0	NO	0	0	0	
TOTAL (S.F.)	4,054,990	0	411,015	0	202,905	613,920	0		320,350	87,135	407,485	

4.65806

TOTAL NEW IMPERVIOUS AREA (S.F.)	411,015	TOTAL DEVELOPED AREA (S.F.)	613,920
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	320,350	TOTAL AREA RECEIVING TREATMENT (S.F.)	407,485
% OF IMPERVIOUS AREA RECEIVING TREATMENT	77.9%	% OF AREA RECEIVING TREATMENT	66.4%

SEBAGO TECHNICS, INC.

75 John Roberts Road Suite 4A

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Tel. (207) 200-2100

JOB

18462-One Diamond

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SEBAGO TECHNICS, INC.

75 John Roberts Road Suite 4A

South Portland, Maine 04106

Tel. (207) 200-2100

JOB

18462-One Diamond

SHEET NO.

2

OF

3

CALCULATED BY

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DATE

6/7/2023

FILE NAME

PRINT DATE

6/7/2023

UNDERDRAINED SOIL FILTER									
Task:	Calculate water quality volume per MDEP chapter 500 regulations								
References	1. Maine DEP Chapter 500, Section 4.C.(3)(b)								
	a. "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"								
	2. Maine DEP Best Management Practices Stormwater Manual, Section 7.1								
	a. "surface should represent 5% of impervious area and 2% of landscaped area"								
Tributary to Underdrained Filter		UDSF-1							
Landscaped Area	18,830.00	SF							
Impervious Area	7,000.00	SF							
Minimum Surface Area									
Required	(2% X Landscaped + 5% X Impervious)								
Total Landscaped Area	18,830.00	SF	Area	376.6	SF				
Total Impervious Area	7,000.00	SF	Area	350.0	SF				
Required Minimum Surface Area				726.6	SF				
Provided Surface Area				1,220.0	SF				
Treatment Volume									
Required	(0.4" X Landscaped + 1.0" X Impervious)								
Landscaped Area	18,830.00	SF	Volume	627.7					
Impervious Area	7,000.00	SF	Volume	583.3					
Treatment Volume Required				1,211.0	CF	0.028	AF		
Provided Treatment Volume				1,515.0	CF	57.00-58.00			
Sediment Pre-Treatment									
Per Reference 2, Chapter 7.1		"Pretreatment devices shall be provided to minimize discharge of sediment to the soil filter"							
Annual Sediment Load:		55 cubic feet per acre per year of sanded area							
Area to be sanded:		7,000.00	SF						
Sediment Volume		9	CF						
Provided		100	CF	6	Inch Deep Forebay	with area of	200	sf	

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South Portland, Maine 04106

Tel. (207) 200-2100

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SHEET NO. 3 OF 3

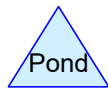
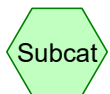
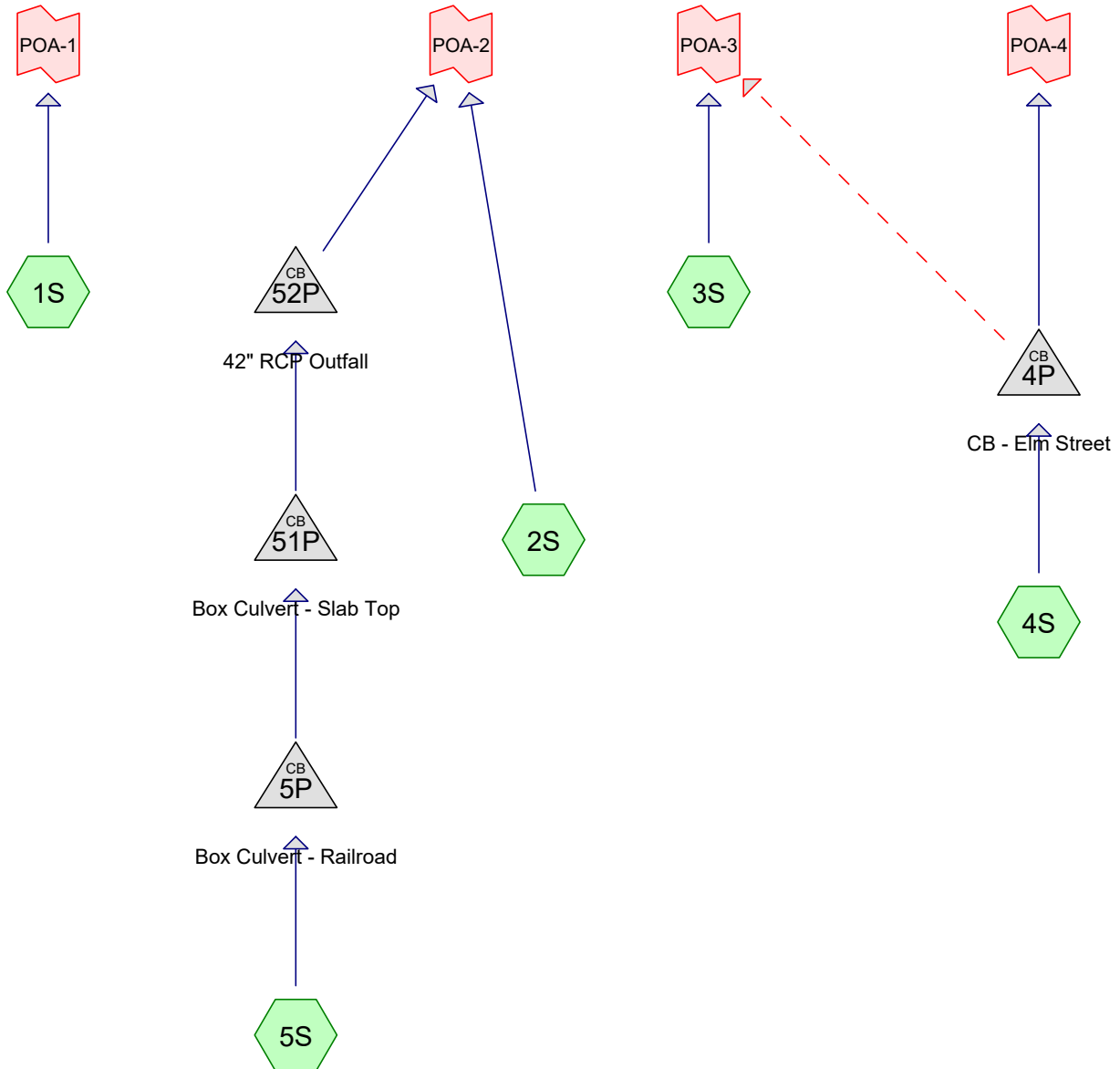
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Appendix 2A

Existing Conditions HydroCAD Summary



Routing Diagram for 18462 PRE

Prepared by {enter your company name here}, Printed 6/8/2023
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18462 PRE*Type III 24-hr 2-YR Rainfall=3.30"*

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Page 2

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=2.09"
 Flow Length=462' Tc=21.9 min CN=88 Runoff=11.9 cfs 1.308 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=2.17"
 Flow Length=900' Tc=44.7 min CN=89 Runoff=11.7 cfs 1.794 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=2.17"
 Flow Length=245' Tc=38.4 min CN=89 Runoff=10.0 cfs 1.415 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=2.54"
 Flow Length=550' Tc=7.3 min CN=93 Runoff=4.9 cfs 0.379 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=2.45"
 Flow Length=4,504' Tc=52.6 min CN=92 Runoff=79.4 cfs 13.461 af

Pond 4P: CB - Elm Street Peak Elev=58.02' Inflow=4.9 cfs 0.379 af
 Primary=4.8 cfs 0.379 af Secondary=0.1 cfs 0.000 af Outflow=4.9 cfs 0.379 af

Pond 5P: Box Culvert - Railroad Peak Elev=62.17' Inflow=79.4 cfs 13.461 af
 60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=79.4 cfs 13.461 af

Pond 51P: Box Culvert - Slab Top Peak Elev=53.57' Inflow=79.4 cfs 13.461 af
 60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=79.4 cfs 13.461 af

Pond 52P: 42" RCP Outfall Peak Elev=51.08' Inflow=79.4 cfs 13.461 af
 42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=79.4 cfs 13.461 af

Link POA-1: Inflow=11.9 cfs 1.308 af
 Primary=11.9 cfs 1.308 af

Link POA-2: Inflow=90.8 cfs 15.255 af
 Primary=90.8 cfs 15.255 af

Link POA-3: Inflow=10.0 cfs 1.415 af
 Primary=10.0 cfs 1.415 af

Link POA-4: Inflow=4.8 cfs 0.379 af
 Primary=4.8 cfs 0.379 af

Total Runoff Area = 93.1 ac Runoff Volume = 18.357 af Average Runoff Depth = 2.37"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

18462 PRE*Type III 24-hr 10-YR Rainfall=4.90"*

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Page 3

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=3.57"
 Flow Length=462' Tc=21.9 min CN=88 Runoff=20.1 cfs 2.239 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=3.68"
 Flow Length=900' Tc=44.7 min CN=89 Runoff=19.5 cfs 3.035 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=3.68"
 Flow Length=245' Tc=38.4 min CN=89 Runoff=16.6 cfs 2.394 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=4.10"
 Flow Length=550' Tc=7.3 min CN=93 Runoff=7.7 cfs 0.611 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=3.99"
 Flow Length=4,504' Tc=52.6 min CN=92 Runoff=126.9 cfs 21.970 af

Pond 4P: CB - Elm Street Peak Elev=58.22' Inflow=7.7 cfs 0.611 af
 Primary=4.9 cfs 0.584 af Secondary=2.8 cfs 0.027 af Outflow=7.7 cfs 0.611 af

Pond 5P: Box Culvert - Railroad Peak Elev=63.24' Inflow=126.9 cfs 21.970 af
 60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 ' /' Outflow=126.9 cfs 21.970 af

Pond 51P: Box Culvert - Slab Top Peak Elev=56.76' Inflow=126.9 cfs 21.970 af
 60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 ' /' Outflow=126.9 cfs 21.970 af

Pond 52P: 42" RCP Outfall Peak Elev=55.65' Inflow=126.9 cfs 21.970 af
 42.0" Round Culvert n=0.011 L=178.0' S=0.0118 ' /' Outflow=126.9 cfs 21.970 af

Link POA-1: Inflow=20.1 cfs 2.239 af
 Primary=20.1 cfs 2.239 af

Link POA-2: Inflow=145.8 cfs 25.005 af
 Primary=145.8 cfs 25.005 af

Link POA-3: Inflow=16.6 cfs 2.421 af
 Primary=16.6 cfs 2.421 af

Link POA-4: Inflow=4.9 cfs 0.584 af
 Primary=4.9 cfs 0.584 af

Total Runoff Area = 93.1 ac Runoff Volume = 30.249 af Average Runoff Depth = 3.90"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

Summary for Subcatchment 1S:

Runoff = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	88	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			

Summary for Subcatchment 2S:

Runoff = 25.8 cfs @ 12.57 hrs, Volume= 4.069 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	89	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			

Summary for Subcatchment 3S:

Runoff = 22.0 cfs @ 12.50 hrs, Volume= 3.210 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	89	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			

Summary for Subcatchment 4S:

Runoff = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	93	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			

Summary for Subcatchment 5S:

Runoff = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	92	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			

Summary for Pond 4P: CB - Elm Street

[58] Hint: Peaked 0.06' above defined flood level

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af
 Secondary = 5.1 cfs @ 12.10 hrs, Volume= 0.063 af

Routing by Dyn-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' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 5.0 cfs @ 4.04 fps)

Secondary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.31' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 5.0 cfs @ 1.61 fps)

Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.88' @ 12.70 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=162.5 cfs @ 12.68 hrs HW=64.83' TW=62.70' (Dynamic Tailwater)

↑**1=Culvert** (Outlet Controls 162.5 cfs @ 7.80 fps)

Summary for Pond 51P: Box Culvert - Slab Top

[58] Hint: Peaked 7.09' above defined flood level

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.74' @ 12.69 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=62.70' TW=60.86' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 163.3 cfs @ 6.53 fps)

Summary for Pond 52P: 42" RCP Outfall

[58] Hint: Peaked 3.12' above defined flood level

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.86' @ 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=165.1 cfs @ 12.68 hrs HW=60.86' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 165.1 cfs @ 17.16 fps)

Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 4.82" for 25-YR event
Inflow = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af
Primary = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 5.22" for 25-YR event
Inflow = 190.2 cfs @ 12.68 hrs, Volume= 33.054 af
Primary = 190.2 cfs @ 12.68 hrs, Volume= 33.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 5.03" for 25-YR event
Inflow = 22.0 cfs @ 12.50 hrs, Volume= 3.273 af
Primary = 22.0 cfs @ 12.50 hrs, Volume= 3.273 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

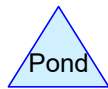
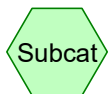
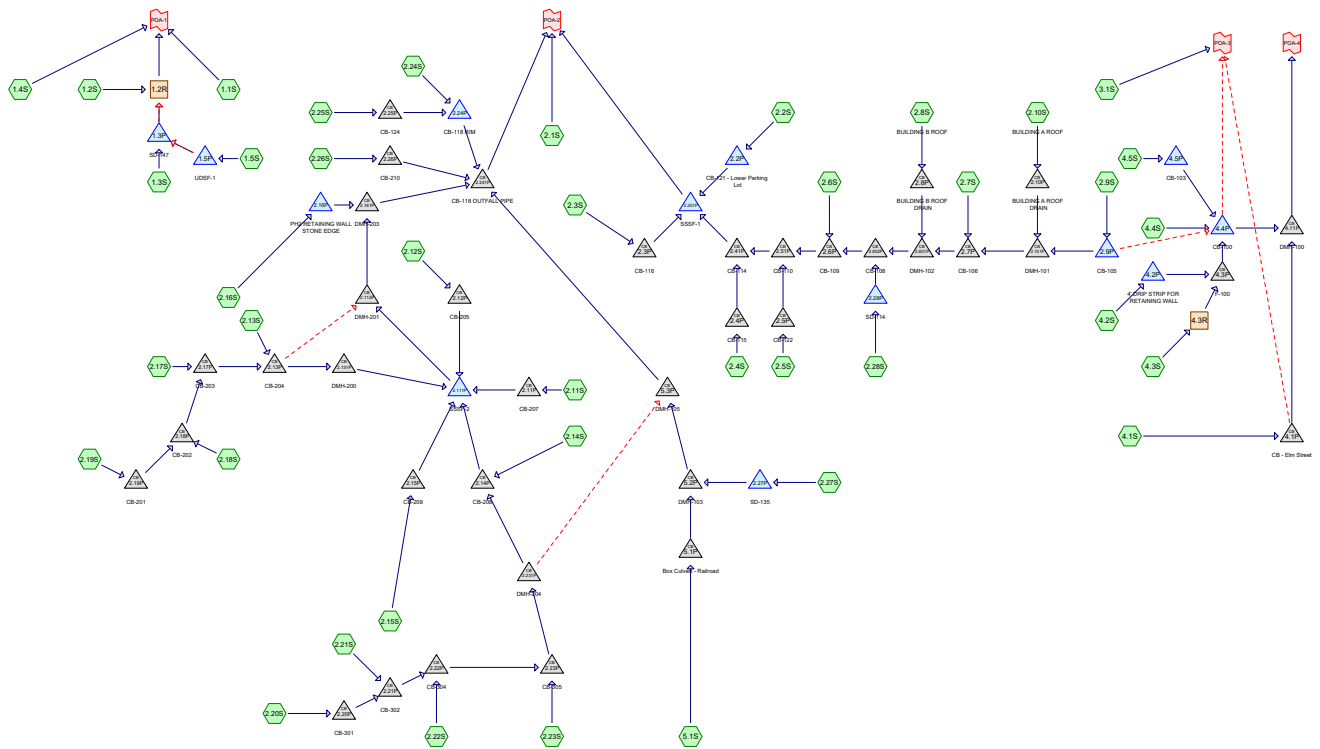
Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.96" for 25-YR event
Inflow = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af
Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Appendix 2B

Proposed Conditions HydroCAD Summary



Routing Diagram for 18462 POST

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18462 POST*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-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S:	Runoff Area=38,300 sf 10.43% Impervious Runoff Depth=1.69" Flow Length=110' Slope=0.0350 '/' Tc=18.2 min CN=83 Runoff=1.2 cfs 0.124 af
Subcatchment1.2S:	Runoff Area=10,620 sf 8.47% Impervious Runoff Depth=1.69" Tc=6.0 min CN=83 Runoff=0.5 cfs 0.034 af
Subcatchment1.3S:	Runoff Area=92,760 sf 9.52% Impervious Runoff Depth=1.69" Flow Length=370' Tc=16.3 min CN=83 Runoff=3.1 cfs 0.300 af
Subcatchment1.4S:	Runoff Area=89,910 sf 49.95% Impervious Runoff Depth=2.54" Flow Length=425' Tc=7.7 min CN=93 Runoff=5.6 cfs 0.437 af
Subcatchment1.5S:	Runoff Area=25,830 sf 27.10% Impervious Runoff Depth=1.84" Flow Length=150' Slope=0.0300 '/' Tc=11.3 min CN=85 Runoff=1.1 cfs 0.091 af
Subcatchment2.10S: BUILDING A ROOF	Runoff Area=23,610 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=1.7 cfs 0.139 af
Subcatchment2.11S:	Runoff Area=26,360 sf 92.56% Impervious Runoff Depth=2.96" Tc=6.0 min CN=97 Runoff=1.9 cfs 0.149 af
Subcatchment2.12S:	Runoff Area=2,890 sf 92.73% Impervious Runoff Depth=2.96" Tc=6.0 min CN=97 Runoff=0.2 cfs 0.016 af
Subcatchment2.13S:	Runoff Area=3,940 sf 67.39% Impervious Runoff Depth=2.45" Tc=6.0 min CN=92 Runoff=0.3 cfs 0.018 af
Subcatchment2.14S:	Runoff Area=15,405 sf 72.51% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=1.0 cfs 0.075 af
Subcatchment2.15S:	Runoff Area=21,310 sf 84.66% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=1.5 cfs 0.112 af
Subcatchment2.16S:	Runoff Area=7,400 sf 4.46% Impervious Runoff Depth=1.55" Tc=6.0 min CN=81 Runoff=0.3 cfs 0.022 af
Subcatchment2.17S:	Runoff Area=28,720 sf 79.11% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=2.0 cfs 0.145 af
Subcatchment2.18S:	Runoff Area=44,650 sf 69.74% Impervious Runoff Depth=2.54" Flow Length=190' Tc=7.0 min CN=93 Runoff=2.9 cfs 0.217 af
Subcatchment2.19S:	Runoff Area=23,020 sf 42.79% Impervious Runoff Depth=2.45" Flow Length=150' Slope=0.0200 '/' Tc=13.3 min CN=92 Runoff=1.2 cfs 0.108 af
Subcatchment2.1S:	Runoff Area=24,955 sf 19.23% Impervious Runoff Depth=1.77" Flow Length=118' Tc=9.5 min CN=84 Runoff=1.1 cfs 0.084 af

18462 POST*Type III 24-hr 2-YR Rainfall=3.30"*

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Subcatchment2.20S:	Runoff Area=24,760 sf 100.00% Impervious Runoff Depth=3.07" Flow Length=245' Slope=0.0200 '/' Tc=13.9 min CN=98 Runoff=1.4 cfs 0.145 af
Subcatchment2.21S:	Runoff Area=35,205 sf 87.43% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=2.5 cfs 0.192 af
Subcatchment2.22S:	Runoff Area=23,750 sf 63.03% Impervious Runoff Depth=2.35" Tc=6.0 min CN=91 Runoff=1.5 cfs 0.107 af
Subcatchment2.23S:	Runoff Area=11,470 sf 69.66% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=0.8 cfs 0.056 af
Subcatchment2.24S:	Runoff Area=29,285 sf 78.32% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=2.0 cfs 0.148 af
Subcatchment2.25S:	Runoff Area=8,300 sf 68.67% Impervious Runoff Depth=2.45" Tc=6.0 min CN=92 Runoff=0.5 cfs 0.039 af
Subcatchment2.26S:	Runoff Area=10,020 sf 13.67% Impervious Runoff Depth=1.62" Tc=6.0 min CN=82 Runoff=0.4 cfs 0.031 af
Subcatchment2.27S:	Runoff Area=133,910 sf 25.29% Impervious Runoff Depth=1.92" Flow Length=350' Tc=39.1 min UI Adjusted CN=86 Runoff=3.5 cfs 0.492 af
Subcatchment2.28S:	Runoff Area=12,430 sf 0.00% Impervious Runoff Depth=1.41" Tc=6.0 min CN=79 Runoff=0.5 cfs 0.034 af
Subcatchment2.2S:	Runoff Area=42,420 sf 82.89% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=3.0 cfs 0.223 af
Subcatchment2.3S:	Runoff Area=9,410 sf 89.27% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=0.7 cfs 0.051 af
Subcatchment2.4S:	Runoff Area=13,540 sf 38.40% Impervious Runoff Depth=2.00" Tc=6.0 min CN=87 Runoff=0.7 cfs 0.052 af
Subcatchment2.5S:	Runoff Area=9,390 sf 84.88% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=0.7 cfs 0.049 af
Subcatchment2.6S:	Runoff Area=12,260 sf 77.57% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=0.8 cfs 0.062 af
Subcatchment2.7S:	Runoff Area=20,620 sf 79.68% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=1.4 cfs 0.104 af
Subcatchment2.8S: BUILDING B ROOF	Runoff Area=18,160 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=1.3 cfs 0.107 af
Subcatchment2.9S:	Runoff Area=9,575 sf 90.08% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=0.7 cfs 0.052 af

18462 POST*Type III 24-hr 2-YR Rainfall=3.30"*

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Subcatchment3.1S:	Runoff Area=117,010 sf 22.08% Impervious Runoff Depth=1.84" Flow Length=120' Tc=9.7 min CN=85 Runoff=5.1 cfs 0.413 af
Subcatchment4.1S:	Runoff Area=77,940 sf 44.86% Impervious Runoff Depth=2.54" Flow Length=550' Tc=7.3 min CN=93 Runoff=4.9 cfs 0.379 af
Subcatchment4.2S:	Runoff Area=47,770 sf 25.14% Impervious Runoff Depth=1.84" Flow Length=80' Tc=14.2 min UI Adjusted CN=85 Runoff=1.8 cfs 0.168 af
Subcatchment4.3S:	Runoff Area=15,560 sf 1.22% Impervious Runoff Depth=1.48" Tc=6.0 min CN=80 Runoff=0.6 cfs 0.044 af
Subcatchment4.4S:	Runoff Area=32,320 sf 89.84% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=2.3 cfs 0.176 af
Subcatchment4.5S:	Runoff Area=9,990 sf 69.67% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=0.7 cfs 0.049 af
Subcatchment5.1S:	Runoff Area=2,850,215 sf 62.98% Impervious Runoff Depth=2.45" Flow Length=4,504' Tc=52.6 min CN=92 Runoff=78.6 cfs 13.336 af
Reach 1.2R:	Avg. Flow Depth=0.18' Max Vel=1.61 fps Inflow=3.3 cfs 0.426 af n=0.050 L=75.0' S=0.0333 '/' Capacity=73.0 cfs Outflow=3.3 cfs 0.426 af
Reach 4.3R:	Avg. Flow Depth=0.10' Max Vel=2.73 fps Inflow=0.6 cfs 0.044 af n=0.022 L=110.0' S=0.0432 '/' Capacity=50.0 cfs Outflow=0.6 cfs 0.044 af
Pond 1.3P: SD-147	Peak Elev=54.06' Storage=396 cf Inflow=3.2 cfs 0.391 af Primary=3.0 cfs 0.391 af Secondary=0.0 cfs 0.000 af Outflow=3.0 cfs 0.391 af
Pond 1.5P: UDSF-1	Peak Elev=57.76' Storage=1,858 cf Inflow=1.1 cfs 0.091 af Primary=0.1 cfs 0.091 af Secondary=0.0 cfs 0.000 af Outflow=0.1 cfs 0.091 af
Pond 2.101P: DMH-101	Peak Elev=62.66' Inflow=1.9 cfs 0.153 af 18.0" Round Culvert n=0.013 L=178.0' S=0.0051 '/' Outflow=1.9 cfs 0.153 af
Pond 2.10P: BUILDING A ROOF DRAIN	Peak Elev=66.72' Inflow=1.7 cfs 0.139 af 12.0" Round Culvert n=0.013 L=58.0' S=0.0317 '/' Outflow=1.7 cfs 0.139 af
Pond 2.111P: SSSF-2	Peak Elev=63.61' Storage=20,254 cf Inflow=15.2 cfs 1.326 af Outflow=3.7 cfs 1.326 af
Pond 2.112P: DMH-201	Peak Elev=59.41' Inflow=3.7 cfs 1.337 af 36.0" Round Culvert n=0.013 L=87.0' S=0.0184 '/' Outflow=3.7 cfs 1.337 af
Pond 2.11P: CB-207	Peak Elev=62.90' Inflow=1.9 cfs 0.149 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0140 '/' Outflow=1.9 cfs 0.149 af
Pond 2.12P: CB-205	Peak Elev=62.45' Inflow=0.2 cfs 0.016 af 12.0" Round Culvert n=0.013 L=12.0' S=0.0225 '/' Outflow=0.2 cfs 0.016 af

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Pond 2.131P: DMH-200Peak Elev=63.48' Inflow=5.1 cfs 0.477 af
18.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=5.1 cfs 0.477 af**Pond 2.13P: CB-204**Peak Elev=63.81' Inflow=6.0 cfs 0.488 af
Primary=5.1 cfs 0.477 af Secondary=0.9 cfs 0.011 af Outflow=6.0 cfs 0.488 af**Pond 2.14P: CB-208**Peak Elev=63.35' Inflow=6.5 cfs 0.572 af
24.0" Round Culvert n=0.013 L=4.0' S=0.0150 '/' Outflow=6.5 cfs 0.572 af**Pond 2.15P: CB-209**Peak Elev=62.99' Inflow=1.5 cfs 0.112 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0103 '/' Outflow=1.5 cfs 0.112 af**Pond 2.161P: DMH-203**Peak Elev=57.72' Inflow=3.8 cfs 1.356 af
36.0" Round Culvert n=0.013 L=100.0' S=0.0120 '/' Outflow=3.8 cfs 1.356 af**Pond 2.16P: PH2 RETAININGWALL STONE**Peak Elev=69.59' Storage=251 cf Inflow=0.3 cfs 0.022 af
8.0" Round Culvert n=0.013 L=10.0' S=0.0330 '/' Outflow=0.2 cfs 0.019 af**Pond 2.17P: CB-203**Peak Elev=65.97' Inflow=5.7 cfs 0.470 af
18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=5.7 cfs 0.470 af**Pond 2.18P: CB-202**Peak Elev=67.18' Inflow=3.8 cfs 0.325 af
18.0" Round Culvert n=0.013 L=130.0' S=0.0104 '/' Outflow=3.8 cfs 0.325 af**Pond 2.19P: CB-201**Peak Elev=70.65' Inflow=1.2 cfs 0.108 af
12.0" Round Culvert n=0.013 L=340.0' S=0.0107 '/' Outflow=1.2 cfs 0.108 af**Pond 2.201P: SSSF-1**Peak Elev=58.72' Storage=13,229 cf Inflow=10.0 cfs 0.834 af
Outflow=2.6 cfs 0.834 af**Pond 2.20P: CB-301**Peak Elev=70.94' Inflow=1.4 cfs 0.145 af
12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=1.4 cfs 0.145 af**Pond 2.21P: CB-302**Peak Elev=69.90' Inflow=3.6 cfs 0.337 af
18.0" Round Culvert n=0.013 L=260.0' S=0.0106 '/' Outflow=3.6 cfs 0.337 af**Pond 2.22P: CB-304**Peak Elev=67.32' Inflow=5.1 cfs 0.444 af
18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=5.1 cfs 0.444 af**Pond 2.231P: DMH-204**Peak Elev=63.59' Inflow=5.8 cfs 0.500 af
Primary=5.5 cfs 0.497 af Secondary=0.3 cfs 0.003 af Outflow=5.8 cfs 0.500 af**Pond 2.23P: CB-305**Peak Elev=64.71' Inflow=5.8 cfs 0.500 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0217 '/' Outflow=5.8 cfs 0.500 af**Pond 2.241P: CB-118 OUTFALLPIPE**Peak Elev=53.10' Inflow=85.7 cfs 15.405 af
60.0" Round Culvert n=0.013 L=57.0' S=0.0046 '/' Outflow=85.7 cfs 15.405 af**Pond 2.24P: CB-118 RIM**Peak Elev=61.07' Storage=889 cf Inflow=2.5 cfs 0.187 af
Outflow=1.6 cfs 0.187 af

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Pond 2.25P: CB-124

Peak Elev=57.26' Inflow=0.5 cfs 0.039 af
 12.0" Round Culvert n=0.013 L=245.0' S=0.0058 '/ Outflow=0.5 cfs 0.039 af

Pond 2.26P: CB-210

Peak Elev=56.92' Inflow=0.4 cfs 0.031 af
 12.0" Round Culvert n=0.013 L=150.0' S=0.0103 '/ Outflow=0.4 cfs 0.031 af

Pond 2.27P: SD-135

Peak Elev=58.65' Storage=419 cf Inflow=3.5 cfs 0.492 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0120 '/ Outflow=3.4 cfs 0.492 af

Pond 2.28P: SD-114

Peak Elev=68.38' Storage=20 cf Inflow=0.5 cfs 0.034 af
 12.0" Round Culvert n=0.013 L=17.0' S=0.0294 '/ Outflow=0.5 cfs 0.034 af

Pond 2.2P: CB-121 - Lower Parking Lot

Peak Elev=61.20' Storage=438 cf Inflow=3.0 cfs 0.223 af
 Outflow=2.1 cfs 0.223 af

Pond 2.3P: CB-116

Peak Elev=58.09' Inflow=0.7 cfs 0.051 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0116 '/ Outflow=0.7 cfs 0.051 af

Pond 2.41P: CB-114

Peak Elev=58.60' Inflow=7.3 cfs 0.560 af
 24.0" Round Culvert n=0.013 L=15.0' S=0.0193 '/ Outflow=7.3 cfs 0.560 af

Pond 2.4P: CB-115

Peak Elev=58.07' Inflow=0.7 cfs 0.052 af
 12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/ Outflow=0.7 cfs 0.052 af

Pond 2.51P: CB-110

Peak Elev=59.46' Inflow=6.6 cfs 0.508 af
 24.0" Round Culvert n=0.013 L=85.0' S=0.0109 '/ Outflow=6.6 cfs 0.508 af

Pond 2.5P: CB-122

Peak Elev=62.21' Inflow=0.7 cfs 0.049 af
 12.0" Round Culvert n=0.013 L=55.0' S=0.0153 '/ Outflow=0.7 cfs 0.049 af

Pond 2.6P: CB-109

Peak Elev=59.88' Inflow=5.9 cfs 0.459 af
 24.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=5.9 cfs 0.459 af

Pond 2.7P: CB-106

Peak Elev=61.97' Inflow=3.3 cfs 0.257 af
 18.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/ Outflow=3.3 cfs 0.257 af

Pond 2.801P: DMH-102

Peak Elev=61.77' Inflow=4.7 cfs 0.363 af
 18.0" Round Culvert n=0.013 L=140.0' S=0.0057 '/ Outflow=4.7 cfs 0.363 af

Pond 2.802P: CB-108

Peak Elev=61.03' Inflow=5.1 cfs 0.397 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0066 '/ Outflow=5.1 cfs 0.397 af

Pond 2.8P: BUILDING B ROOF DRAIN

Peak Elev=67.61' Inflow=1.3 cfs 0.107 af
 12.0" Round Culvert n=0.013 L=60.0' S=0.0207 '/ Outflow=1.3 cfs 0.107 af

Pond 2.9P: CB-105

Peak Elev=66.39' Storage=4 cf Inflow=0.7 cfs 0.052 af
 Primary=0.2 cfs 0.014 af Secondary=0.5 cfs 0.038 af Outflow=0.7 cfs 0.052 af

Pond 4.11P: DMH-100

Peak Elev=59.14' Inflow=7.4 cfs 0.803 af
 15.0" Round Culvert n=0.025 L=118.0' S=0.0094 '/ Outflow=7.4 cfs 0.803 af

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Pond 4.1P: CB - Elm Street

Peak Elev=56.34' Inflow=4.9 cfs 0.379 af
Primary=4.9 cfs 0.379 af Secondary=0.0 cfs 0.000 af Outflow=4.9 cfs 0.379 af

Pond 4.2P: 4' DRIP STRIP FOR RETAINING

Peak Elev=62.26' Storage=1,120 cf Inflow=1.8 cfs 0.168 af
8.0" Round Culvert n=0.013 L=140.0' S=0.0429 '/' Outflow=1.4 cfs 0.163 af

Pond 4.3P: F-100

Peak Elev=55.97' Inflow=1.7 cfs 0.207 af
15.0" Round Culvert n=0.013 L=105.0' S=0.0186 '/' Outflow=1.7 cfs 0.207 af

Pond 4.4P: CB-100

Peak Elev=58.15' Storage=620 cf Inflow=4.8 cfs 0.470 af
Primary=2.5 cfs 0.424 af Secondary=2.1 cfs 0.046 af Outflow=4.6 cfs 0.470 af

Pond 4.5P: CB-103

Peak Elev=57.39' Storage=10 cf Inflow=0.7 cfs 0.049 af
Outflow=0.7 cfs 0.049 af

Pond 5.1P: Box Culvert - Railroad

Peak Elev=62.15' Inflow=78.6 cfs 13.336 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=78.6 cfs 13.336 af

Pond 5.2P: DMH-103

Peak Elev=54.80' Inflow=81.9 cfs 13.828 af
60.0" Round Culvert n=0.013 L=75.0' S=0.0041 '/' Outflow=81.9 cfs 13.828 af

Pond 5.3P: DMH-105

Peak Elev=54.15' Inflow=81.9 cfs 13.831 af
60.0" Round Culvert n=0.013 L=355.0' S=0.0040 '/' Outflow=81.9 cfs 13.831 af

Link POA-1:

Inflow=8.7 cfs 0.987 af
Primary=8.7 cfs 0.987 af

Link POA-2:

Inflow=87.8 cfs 16.323 af
Primary=87.8 cfs 16.323 af

Link POA-3:

Inflow=7.2 cfs 0.458 af
Primary=7.2 cfs 0.458 af

Link POA-4:

Inflow=7.4 cfs 0.803 af
Primary=7.4 cfs 0.803 af

Total Runoff Area = 93.1 ac Runoff Volume = 18.580 af Average Runoff Depth = 2.40"
41.48% Pervious = 38.6 ac 58.52% Impervious = 54.5 ac

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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-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S:	Runoff Area=38,300 sf 10.43% Impervious Runoff Depth=3.08" Flow Length=110' Slope=0.0350 '/' Tc=18.2 min CN=83 Runoff=2.2 cfs 0.226 af
Subcatchment1.2S:	Runoff Area=10,620 sf 8.47% Impervious Runoff Depth=3.08" Tc=6.0 min CN=83 Runoff=0.9 cfs 0.063 af
Subcatchment1.3S:	Runoff Area=92,760 sf 9.52% Impervious Runoff Depth=3.08" Flow Length=370' Tc=16.3 min CN=83 Runoff=5.6 cfs 0.547 af
Subcatchment1.4S:	Runoff Area=89,910 sf 49.95% Impervious Runoff Depth=4.10" Flow Length=425' Tc=7.7 min CN=93 Runoff=8.8 cfs 0.705 af
Subcatchment1.5S:	Runoff Area=25,830 sf 27.10% Impervious Runoff Depth=3.28" Flow Length=150' Slope=0.0300 '/' Tc=11.3 min CN=85 Runoff=1.9 cfs 0.162 af
Subcatchment2.10S: BUILDING A ROOF	Runoff Area=23,610 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=2.6 cfs 0.211 af
Subcatchment2.11S:	Runoff Area=26,360 sf 92.56% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=2.9 cfs 0.229 af
Subcatchment2.12S:	Runoff Area=2,890 sf 92.73% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=0.3 cfs 0.025 af
Subcatchment2.13S:	Runoff Area=3,940 sf 67.39% Impervious Runoff Depth=3.99" Tc=6.0 min CN=92 Runoff=0.4 cfs 0.030 af
Subcatchment2.14S:	Runoff Area=15,405 sf 72.51% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.6 cfs 0.121 af
Subcatchment2.15S:	Runoff Area=21,310 sf 84.66% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=2.3 cfs 0.176 af
Subcatchment2.16S:	Runoff Area=7,400 sf 4.46% Impervious Runoff Depth=2.90" Tc=6.0 min CN=81 Runoff=0.6 cfs 0.041 af
Subcatchment2.17S:	Runoff Area=28,720 sf 79.11% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=3.0 cfs 0.231 af
Subcatchment2.18S:	Runoff Area=44,650 sf 69.74% Impervious Runoff Depth=4.10" Flow Length=190' Tc=7.0 min CN=93 Runoff=4.5 cfs 0.350 af
Subcatchment2.19S:	Runoff Area=23,020 sf 42.79% Impervious Runoff Depth=3.99" Flow Length=150' Slope=0.0200 '/' Tc=13.3 min CN=92 Runoff=1.9 cfs 0.176 af
Subcatchment2.1S:	Runoff Area=24,955 sf 19.23% Impervious Runoff Depth=3.18" Flow Length=118' Tc=9.5 min CN=84 Runoff=1.9 cfs 0.152 af

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Subcatchment2.20S:	Runoff Area=24,760 sf 100.00% Impervious Runoff Depth=4.66" Flow Length=245' Slope=0.0200 '/' Tc=13.9 min CN=98 Runoff=2.1 cfs 0.221 af
Subcatchment2.21S:	Runoff Area=35,205 sf 87.43% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=3.8 cfs 0.299 af
Subcatchment2.22S:	Runoff Area=23,750 sf 63.03% Impervious Runoff Depth=3.89" Tc=6.0 min CN=91 Runoff=2.4 cfs 0.177 af
Subcatchment2.23S:	Runoff Area=11,470 sf 69.66% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.2 cfs 0.090 af
Subcatchment2.24S:	Runoff Area=29,285 sf 78.32% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=3.1 cfs 0.236 af
Subcatchment2.25S:	Runoff Area=8,300 sf 68.67% Impervious Runoff Depth=3.99" Tc=6.0 min CN=92 Runoff=0.8 cfs 0.063 af
Subcatchment2.26S:	Runoff Area=10,020 sf 13.67% Impervious Runoff Depth=2.99" Tc=6.0 min CN=82 Runoff=0.8 cfs 0.057 af
Subcatchment2.27S:	Runoff Area=133,910 sf 25.29% Impervious Runoff Depth=3.37" Flow Length=350' Tc=39.1 min UI Adjusted CN=86 Runoff=6.0 cfs 0.864 af
Subcatchment2.28S:	Runoff Area=12,430 sf 0.00% Impervious Runoff Depth=2.72" Tc=6.0 min CN=79 Runoff=0.9 cfs 0.065 af
Subcatchment2.2S:	Runoff Area=42,420 sf 82.89% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=4.5 cfs 0.351 af
Subcatchment2.3S:	Runoff Area=9,410 sf 89.27% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=1.0 cfs 0.080 af
Subcatchment2.4S:	Runoff Area=13,540 sf 38.40% Impervious Runoff Depth=3.47" Tc=6.0 min CN=87 Runoff=1.2 cfs 0.090 af
Subcatchment2.5S:	Runoff Area=9,390 sf 84.88% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=1.0 cfs 0.078 af
Subcatchment2.6S:	Runoff Area=12,260 sf 77.57% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=1.3 cfs 0.099 af
Subcatchment2.7S:	Runoff Area=20,620 sf 79.68% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=2.2 cfs 0.166 af
Subcatchment2.8S: BUILDING B ROOF	Runoff Area=18,160 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=2.0 cfs 0.162 af
Subcatchment2.9S:	Runoff Area=9,575 sf 90.08% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=1.0 cfs 0.081 af

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Subcatchment3.1S:	Runoff Area=117,010 sf 22.08% Impervious Runoff Depth=3.28" Flow Length=120' Tc=9.7 min CN=85 Runoff=9.0 cfs 0.733 af
Subcatchment4.1S:	Runoff Area=77,940 sf 44.86% Impervious Runoff Depth=4.10" Flow Length=550' Tc=7.3 min CN=93 Runoff=7.7 cfs 0.611 af
Subcatchment4.2S:	Runoff Area=47,770 sf 25.14% Impervious Runoff Depth=3.28" Flow Length=80' Tc=14.2 min UI Adjusted CN=85 Runoff=3.2 cfs 0.299 af
Subcatchment4.3S:	Runoff Area=15,560 sf 1.22% Impervious Runoff Depth=2.81" Tc=6.0 min CN=80 Runoff=1.2 cfs 0.084 af
Subcatchment4.4S:	Runoff Area=32,320 sf 89.84% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=3.5 cfs 0.274 af
Subcatchment4.5S:	Runoff Area=9,990 sf 69.67% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.0 cfs 0.078 af
Subcatchment5.1S:	Runoff Area=2,850,215 sf 62.98% Impervious Runoff Depth=3.99" Flow Length=4,504' Tc=52.6 min CN=92 Runoff=125.7 cfs 21.765 af
Reach 1.2R:	Avg. Flow Depth=0.24' Max Vel=1.91 fps Inflow=5.4 cfs 0.772 af n=0.050 L=75.0' S=0.0333 '/' Capacity=73.0 cfs Outflow=5.4 cfs 0.772 af
Reach 4.3R:	Avg. Flow Depth=0.14' Max Vel=3.40 fps Inflow=1.2 cfs 0.084 af n=0.022 L=110.0' S=0.0432 '/' Capacity=50.0 cfs Outflow=1.2 cfs 0.084 af
Pond 1.3P: SD-147	Peak Elev=54.55' Storage=1,442 cf Inflow=5.9 cfs 0.709 af Primary=5.0 cfs 0.708 af Secondary=0.1 cfs 0.001 af Outflow=5.0 cfs 0.709 af
Pond 1.5P: UDSF-1	Peak Elev=58.10' Storage=2,470 cf Inflow=1.9 cfs 0.162 af Primary=1.0 cfs 0.162 af Secondary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.162 af
Pond 2.101P: DMH-101	Peak Elev=62.84' Inflow=2.9 cfs 0.233 af 18.0" Round Culvert n=0.013 L=178.0' S=0.0051 '/' Outflow=2.9 cfs 0.233 af
Pond 2.10P: BUILDING A ROOF DRAIN	Peak Elev=66.97' Inflow=2.6 cfs 0.211 af 12.0" Round Culvert n=0.013 L=58.0' S=0.0317 '/' Outflow=2.6 cfs 0.211 af
Pond 2.111P: SSSF-2	Peak Elev=64.13' Storage=24,074 cf Inflow=21.6 cfs 2.064 af Outflow=11.8 cfs 2.064 af
Pond 2.112P: DMH-201	Peak Elev=60.16' Inflow=12.5 cfs 2.107 af 36.0" Round Culvert n=0.013 L=87.0' S=0.0184 '/' Outflow=12.5 cfs 2.107 af
Pond 2.11P: CB-207	Peak Elev=63.21' Inflow=2.9 cfs 0.229 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0140 '/' Outflow=2.9 cfs 0.229 af
Pond 2.12P: CB-205	Peak Elev=62.51' Inflow=0.3 cfs 0.025 af 12.0" Round Culvert n=0.013 L=12.0' S=0.0225 '/' Outflow=0.3 cfs 0.025 af

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Pond 2.131P: DMH-200

Peak Elev=63.85' Inflow=6.8 cfs 0.744 af
 18.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=6.8 cfs 0.744 af

Pond 2.13P: CB-204

Peak Elev=64.18' Inflow=9.4 cfs 0.787 af
 Primary=6.8 cfs 0.744 af Secondary=2.6 cfs 0.043 af Outflow=9.4 cfs 0.787 af

Pond 2.14P: CB-208

Peak Elev=63.70' Inflow=9.3 cfs 0.889 af
 24.0" Round Culvert n=0.013 L=4.0' S=0.0150 '/' Outflow=9.3 cfs 0.889 af

Pond 2.15P: CB-209

Peak Elev=63.32' Inflow=2.3 cfs 0.176 af
 12.0" Round Culvert n=0.013 L=30.0' S=0.0103 '/' Outflow=2.3 cfs 0.176 af

Pond 2.161P: DMH-203

Peak Elev=58.49' Inflow=12.9 cfs 2.145 af
 36.0" Round Culvert n=0.013 L=100.0' S=0.0120 '/' Outflow=12.9 cfs 2.145 af

Pond 2.16P: PH2 RETAININGWALL STONE

Peak Elev=69.74' Storage=316 cf Inflow=0.6 cfs 0.041 af
 8.0" Round Culvert n=0.013 L=10.0' S=0.0330 '/' Outflow=0.5 cfs 0.038 af

Pond 2.17P: CB-203

Peak Elev=67.04' Inflow=9.0 cfs 0.757 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=9.0 cfs 0.757 af

Pond 2.18P: CB-202

Peak Elev=67.66' Inflow=6.1 cfs 0.526 af
 18.0" Round Culvert n=0.013 L=130.0' S=0.0104 '/' Outflow=6.1 cfs 0.526 af

Pond 2.19P: CB-201

Peak Elev=70.89' Inflow=1.9 cfs 0.176 af
 12.0" Round Culvert n=0.013 L=340.0' S=0.0107 '/' Outflow=1.9 cfs 0.176 af

Pond 2.201P: SSSF-1

Peak Elev=59.11' Storage=15,314 cf Inflow=14.8 cfs 1.322 af
 Outflow=9.7 cfs 1.322 af

Pond 2.20P: CB-301

Peak Elev=71.21' Inflow=2.1 cfs 0.221 af
 12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=2.1 cfs 0.221 af

Pond 2.21P: CB-302

Peak Elev=70.26' Inflow=5.5 cfs 0.519 af
 18.0" Round Culvert n=0.013 L=260.0' S=0.0106 '/' Outflow=5.5 cfs 0.519 af

Pond 2.22P: CB-304

Peak Elev=68.11' Inflow=7.8 cfs 0.696 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=7.8 cfs 0.696 af

Pond 2.231P: DMH-204

Peak Elev=63.86' Inflow=9.0 cfs 0.786 af
 Primary=7.7 cfs 0.768 af Secondary=1.3 cfs 0.018 af Outflow=9.0 cfs 0.786 af

Pond 2.23P: CB-305

Peak Elev=65.08' Inflow=9.0 cfs 0.786 af
 24.0" Round Culvert n=0.013 L=40.0' S=0.0217 '/' Outflow=9.0 cfs 0.786 af

Pond 2.241P: CB-118 OUTFALLPIPE

Peak Elev=54.81' Inflow=137.6 cfs 25.148 af
 60.0" Round Culvert n=0.013 L=57.0' S=0.0046 '/' Outflow=137.6 cfs 25.148 af

Pond 2.24P: CB-118 RIM

Peak Elev=61.17' Storage=1,714 cf Inflow=3.9 cfs 0.299 af
 Outflow=2.0 cfs 0.299 af

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Pond 2.25P: CB-124

Peak Elev=57.39' Inflow=0.8 cfs 0.063 af
 12.0" Round Culvert n=0.013 L=245.0' S=0.0058 '/ Outflow=0.8 cfs 0.063 af

Pond 2.26P: CB-210

Peak Elev=57.07' Inflow=0.8 cfs 0.057 af
 12.0" Round Culvert n=0.013 L=150.0' S=0.0103 '/ Outflow=0.8 cfs 0.057 af

Pond 2.27P: SD-135

Peak Elev=59.42' Storage=1,691 cf Inflow=6.0 cfs 0.864 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0120 '/ Outflow=5.3 cfs 0.864 af

Pond 2.28P: SD-114

Peak Elev=68.56' Storage=40 cf Inflow=0.9 cfs 0.065 af
 12.0" Round Culvert n=0.013 L=17.0' S=0.0294 '/ Outflow=0.9 cfs 0.065 af

Pond 2.2P: CB-121 - Lower Parking Lot

Peak Elev=61.34' Storage=1,208 cf Inflow=4.5 cfs 0.351 af
 Outflow=2.6 cfs 0.351 af

Pond 2.3P: CB-116

Peak Elev=58.20' Inflow=1.0 cfs 0.080 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0116 '/ Outflow=1.0 cfs 0.080 af

Pond 2.41P: CB-114

Peak Elev=59.03' Inflow=11.5 cfs 0.892 af
 24.0" Round Culvert n=0.013 L=15.0' S=0.0193 '/ Outflow=11.5 cfs 0.892 af

Pond 2.4P: CB-115

Peak Elev=58.24' Inflow=1.2 cfs 0.090 af
 12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/ Outflow=1.2 cfs 0.090 af

Pond 2.51P: CB-110

Peak Elev=59.80' Inflow=10.2 cfs 0.802 af
 24.0" Round Culvert n=0.013 L=85.0' S=0.0109 '/ Outflow=10.2 cfs 0.802 af

Pond 2.5P: CB-122

Peak Elev=62.32' Inflow=1.0 cfs 0.078 af
 12.0" Round Culvert n=0.013 L=55.0' S=0.0153 '/ Outflow=1.0 cfs 0.078 af

Pond 2.6P: CB-109

Peak Elev=60.26' Inflow=9.2 cfs 0.724 af
 24.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=9.2 cfs 0.724 af

Pond 2.7P: CB-106

Peak Elev=62.27' Inflow=5.1 cfs 0.399 af
 18.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/ Outflow=5.1 cfs 0.399 af

Pond 2.801P: DMH-102

Peak Elev=62.18' Inflow=7.1 cfs 0.561 af
 18.0" Round Culvert n=0.013 L=140.0' S=0.0057 '/ Outflow=7.1 cfs 0.561 af

Pond 2.802P: CB-108

Peak Elev=61.84' Inflow=7.9 cfs 0.625 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0066 '/ Outflow=7.9 cfs 0.625 af

Pond 2.8P: BUILDING B ROOF DRAIN

Peak Elev=67.79' Inflow=2.0 cfs 0.162 af
 12.0" Round Culvert n=0.013 L=60.0' S=0.0207 '/ Outflow=2.0 cfs 0.162 af

Pond 2.9P: CB-105

Peak Elev=66.40' Storage=5 cf Inflow=1.0 cfs 0.081 af
 Primary=0.3 cfs 0.022 af Secondary=0.8 cfs 0.059 af Outflow=1.0 cfs 0.081 af

Pond 4.11P: DMH-100

Peak Elev=62.59' Inflow=9.1 cfs 1.248 af
 15.0" Round Culvert n=0.025 L=118.0' S=0.0094 '/ Outflow=9.1 cfs 1.248 af

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Pond 4.1P: CB - Elm Street

Peak Elev=58.14' Inflow=7.7 cfs 0.611 af

Primary=6.3 cfs 0.602 af Secondary=1.4 cfs 0.009 af Outflow=7.7 cfs 0.611 af

Pond 4.2P: 4' DRIP STRIP FOR RETAINING

Peak Elev=63.25' Storage=1,987 cf Inflow=3.2 cfs 0.299 af

8.0" Round Culvert n=0.013 L=140.0' S=0.0429 '/' Outflow=2.2 cfs 0.294 af

Pond 4.3P: F-100

Peak Elev=56.21' Inflow=2.7 cfs 0.378 af

15.0" Round Culvert n=0.013 L=105.0' S=0.0186 '/' Outflow=2.7 cfs 0.378 af

Pond 4.4P: CB-100

Peak Elev=58.25' Storage=912 cf Inflow=7.7 cfs 0.789 af

Primary=2.8 cfs 0.646 af Secondary=4.7 cfs 0.143 af Outflow=7.5 cfs 0.789 af

Pond 4.5P: CB-103

Peak Elev=57.42' Storage=17 cf Inflow=1.0 cfs 0.078 af

Outflow=1.0 cfs 0.078 af

Pond 5.1P: Box Culvert - Railroad

Peak Elev=63.21' Inflow=125.7 cfs 21.765 af

60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=125.7 cfs 21.765 af

Pond 5.2P: DMH-103

Peak Elev=56.39' Inflow=131.0 cfs 22.629 af

60.0" Round Culvert n=0.013 L=75.0' S=0.0041 '/' Outflow=131.0 cfs 22.629 af

Pond 5.3P: DMH-105

Peak Elev=55.92' Inflow=131.0 cfs 22.647 af

60.0" Round Culvert n=0.013 L=355.0' S=0.0040 '/' Outflow=131.0 cfs 22.647 af

Link POA-1:

Inflow=14.4 cfs 1.703 af

Primary=14.4 cfs 1.703 af

Link POA-2:

Inflow=141.2 cfs 26.622 af

Primary=141.2 cfs 26.622 af

Link POA-3:

Inflow=14.9 cfs 0.885 af

Primary=14.9 cfs 0.885 af

Link POA-4:

Inflow=9.1 cfs 1.248 af

Primary=9.1 cfs 1.248 af

Total Runoff Area = 93.1 ac Runoff Volume = 30.467 af Average Runoff Depth = 3.93"
41.48% Pervious = 38.6 ac 58.52% Impervious = 54.5 ac

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.1S:

Runoff = 3.1 cfs @ 12.24 hrs, Volume= 0.313 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	3,995	98	Sidewalks, HSG D
	660	80	>75% Grass cover, Good, HSG D
	8,550	78	Meadow, non-grazed, HSG D
	25,095	83	Woods, Poor, HSG D
	38,300	83	Weighted Average
	34,305		89.57% Pervious Area
	3,995		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	110	0.0350	0.10		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.30"

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.2S:

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	900	98	Sidewalks, HSG D
	710	80	>75% Grass cover, Good, HSG D
	5,380	83	Woods, Poor, HSG D
*	390	89	Offsite Landscape, Poor, HSG D
	3,240	78	Meadow, non-grazed, HSG D
	10,620	83	Weighted Average
	9,720		91.53% Pervious Area
	900		8.47% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.3S:

Runoff = 7.8 cfs @ 12.22 hrs, Volume= 0.759 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
31,710	80	>75% Grass cover, Good, HSG D
8,830	98	Unconnected pavement, HSG D
52,220	83	Woods, Poor, HSG D
92,760	83	Weighted Average
83,930		90.48% Pervious Area
8,830		9.52% Impervious Area
8,830		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	120	0.0100	0.14		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
1.6	250	0.0300	2.60		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
16.3	370	Total			

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.4S:

Runoff = 11.4 cfs @ 12.11 hrs, Volume= 0.925 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
1,020	78	Meadow, non-grazed, HSG D
* 35,270	89	Offsite Landscape, Poor, HSG D
44,910	98	Unconnected pavement, HSG D
8,710	83	Woods, Poor, HSG D
89,910	93	Weighted Average
45,000		50.05% Pervious Area
44,910		49.95% Impervious Area
44,910		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	70	0.0500	0.23		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.6	160	0.1000	4.74		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
0.7	120	0.0200	2.87		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
1.4	75	0.0300	0.87		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
7.7	425	Total			

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Summary for Subcatchment 1.5S:

Runoff = 2.6 cfs @ 12.15 hrs, Volume= 0.222 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
18,830	80	>75% Grass cover, Good, HSG D
* 7,000	98	Assumed Impervious, HSG D
25,830	85	Weighted Average
18,830		72.90% Pervious Area
7,000		27.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	150	0.0300	0.22		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"

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Summary for Subcatchment 2.10S: BUILDING A ROOF

Runoff = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
23,610	98	Roofs, HSG D
23,610		100.00% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.11S:

Runoff = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af, Depth= 5.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,810	98	Paved parking, HSG D
*	1,710	98	Sidewalks, HSG D
	14,880	98	Roofs, HSG D
	1,960	80	>75% Grass cover, Good, HSG D
	26,360	97	Weighted Average
	1,960		7.44% Pervious Area
	24,400		92.56% Impervious Area

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

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Summary for Subcatchment 2.12S:

Runoff = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 5.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	2,060	98	Paved parking, HSG D
*	620	98	Sidewalks, HSG D
	210	80	>75% Grass cover, Good, HSG D
	2,890	97	Weighted Average
	210		7.27% Pervious Area
	2,680		92.73% Impervious Area

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

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Summary for Subcatchment 2.13S:

Runoff = 0.5 cfs @ 12.08 hrs, Volume= 0.040 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	1,635	98	Paved parking, HSG D
*	1,020	98	Sidewalks, HSG D
	1,285	80	>75% Grass cover, Good, HSG D
	3,940	92	Weighted Average
	1,285		32.61% Pervious Area
	2,655		67.39% Impervious Area

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

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Summary for Subcatchment 2.14S:

Runoff = 2.1 cfs @ 12.08 hrs, Volume= 0.159 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	9,150	98	Paved parking, HSG D
*	2,020	98	Sidewalks, HSG D
	4,235	80	>75% Grass cover, Good, HSG D
	15,405	93	Weighted Average
	4,235		27.49% Pervious Area
	11,170		72.51% Impervious Area

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

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Summary for Subcatchment 2.15S:

Runoff = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	2,800	98	Paved parking, HSG D
*	300	98	Sidewalks, HSG D
	3,270	80	>75% Grass cover, Good, HSG D
	14,940	98	Roofs, HSG D
	21,310	95	Weighted Average
	3,270		15.34% Pervious Area
	18,040		84.66% Impervious Area

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

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Summary for Subcatchment 2.16S:

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	330	98	Sidewalks, HSG D
	7,070	80	>75% Grass cover, Good, HSG D
	7,400	81	Weighted Average
	7,070		95.54% Pervious Area
	330		4.46% Impervious Area

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

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Summary for Subcatchment 2.17S:

Runoff = 3.9 cfs @ 12.08 hrs, Volume= 0.302 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	18,690	98	Paved parking, HSG D
*	4,030	98	Sidewalks, HSG D
	6,000	80	>75% Grass cover, Good, HSG D
	28,720	94	Weighted Average
	6,000		20.89% Pervious Area
	22,720		79.11% Impervious Area

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

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Summary for Subcatchment 2.18S:

Runoff = 5.8 cfs @ 12.10 hrs, Volume= 0.460 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
10,130	98	Paved parking, HSG D
* 1,840	98	Sidewalks, HSG D
18,930	98	Roofs, HSG D
5,980	80	>75% Grass cover, Good, HSG D
240	98	Unconnected pavement, HSG D
7,530	83	Woods, Poor, HSG D
44,650	93	Weighted Average
13,510		30.26% Pervious Area
31,140		69.74% Impervious Area
240		0.77% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	60	0.0200	0.16		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.6	130	0.0300	3.52		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
7.0	190	Total			

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.19S:

Runoff = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,890	98	Paved parking, HSG D
*	70	98	Sidewalks, HSG D
	2,760	80	>75% Grass cover, Good, HSG D
	5,890	98	Unconnected pavement, HSG D
*	10,410	89	Offsite Landscape, Poor, HSG D
	23,020	92	Weighted Average
	13,170		57.21% Pervious Area
	9,850		42.79% Impervious Area
	5,890		59.80% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	150	0.0200	0.19		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"

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Summary for Subcatchment 2.1S:

Runoff = 2.6 cfs @ 12.13 hrs, Volume= 0.209 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	4,800	98	Sidewalks, HSG D
	6,295	80	>75% Grass cover, Good, HSG D
	3,385	78	Meadow, non-grazed, HSG D
	10,475	83	Woods, Poor, HSG D
	24,955	84	Weighted Average
	20,155		80.77% Pervious Area
	4,800		19.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	65	0.0100	0.12		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.1	8	0.0150	2.49		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
0.4	45	0.1500	1.94		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
9.5	118	Total			

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Summary for Subcatchment 2.20S:

Runoff = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
9,780	98	Paved parking, HSG D
14,980	98	Roofs, HSG D
24,760	98	Weighted Average
24,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	150	0.0200	0.19		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.5	70	0.0200	2.12		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
0.1	25	0.0200	2.87		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
13.9	245	Total			

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Summary for Subcatchment 2.21S:

Runoff = 4.9 cfs @ 12.08 hrs, Volume= 0.386 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description		
*	21,375	98	Paved parking, HSG D		
	3,905	98	Sidewalks, HSG D		
	4,425	80	>75% Grass cover, Good, HSG D		
	5,500	98	Unconnected pavement, HSG D		
	35,205	96	Weighted Average		
	4,425		12.57% Pervious Area		
	30,780		87.43% Impervious Area		
	5,500		17.87% Unconnected		
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, A-B

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.22S:

Runoff = 3.1 cfs @ 12.08 hrs, Volume= 0.234 af, Depth= 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description		
*	7,040	98	Paved parking, HSG D		
	1,780	98	Sidewalks, HSG D		
	8,780	80	>75% Grass cover, Good, HSG D		
	6,150	98	Unconnected pavement, HSG D		
	23,750	91	Weighted Average		
	8,780		36.97% Pervious Area		
	14,970		63.03% Impervious Area		
	6,150		41.08% Unconnected		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry, DIRECT ENTRY

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Summary for Subcatchment 2.23S:

Runoff = 1.5 cfs @ 12.08 hrs, Volume= 0.118 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	4,040	98	Paved parking, HSG D
*	860	98	Sidewalks, HSG D
	3,480	80	>75% Grass cover, Good, HSG D
	3,090	98	Unconnected pavement, HSG D
	11,470	93	Weighted Average
	3,480		30.34% Pervious Area
	7,990		69.66% Impervious Area
	3,090		38.67% Unconnected

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.24S:

Runoff = 4.0 cfs @ 12.08 hrs, Volume= 0.308 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	17,430	98	Paved parking, HSG D
*	5,505	98	Sidewalks, HSG D
	6,350	80	>75% Grass cover, Good, HSG D
	29,285	94	Weighted Average
	6,350		21.68% Pervious Area
	22,935		78.32% Impervious Area

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

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Summary for Subcatchment 2.25S:

Runoff = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,860	98	Paved parking, HSG D
*	1,840	98	Sidewalks, HSG D
	2,600	80	>75% Grass cover, Good, HSG D
	8,300	92	Weighted Average
	2,600		31.33% Pervious Area
	5,700		68.67% Impervious Area

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

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Summary for Subcatchment 2.26S:

Runoff = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	8,650	80	>75% Grass cover, Good, HSG D
*	1,370	98	Sidewalks, HSG D
	10,020	82	Weighted Average
	8,650		86.33% Pervious Area
	1,370		13.67% Impervious Area

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

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Summary for Subcatchment 2.27S:

Runoff = 8.1 cfs @ 12.52 hrs, Volume= 1.178 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Adj	Description
77,240	83		Woods, Poor, HSG D
* 22,810	89		Offsite Landscape, Poor, HSG D
33,860	98		Unconnected pavement, HSG D
133,910	88	86	Weighted Average, UI Adjusted
100,050			74.71% Pervious Area
33,860			25.29% Impervious Area
33,860			100.00% Unconnected

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
1.3	165	0.1700	2.06		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
39.1	350	Total			

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Summary for Subcatchment 2.28S:

Runoff = 1.3 cfs @ 12.09 hrs, Volume= 0.092 af, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
10,530	78	Meadow, non-grazed, HSG D
* 1,100	89	Offsite Landscape, Poor, HSG D
800	83	Woods, Poor, HSG D
12,430	79	Weighted Average
12,430		100.00% Pervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.2S:

Runoff = 5.8 cfs @ 12.08 hrs, Volume= 0.455 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	19,090	98	Paved parking, HSG D
*	2,385	98	Sidewalks, HSG D
	13,685	98	Roofs, HSG D
	7,260	80	>75% Grass cover, Good, HSG D
	42,420	95	Weighted Average
	7,260		17.11% Pervious Area
	35,160		82.89% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.3S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,305	98	Paved parking, HSG D
*	1,095	98	Sidewalks, HSG D
	1,010	80	>75% Grass cover, Good, HSG D
	9,410	96	Weighted Average
	1,010		10.73% Pervious Area
	8,400		89.27% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.4S:

Runoff = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,690	98	Paved parking, HSG D
*	1,510	98	Sidewalks, HSG D
	8,340	80	>75% Grass cover, Good, HSG D
	13,540	87	Weighted Average
	8,340		61.60% Pervious Area
	5,200		38.40% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.5S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,450	98	Paved parking, HSG D
*	520	98	Sidewalks, HSG D
	1,420	80	>75% Grass cover, Good, HSG D
	9,390	95	Weighted Average
	1,420		15.12% Pervious Area
	7,970		84.88% Impervious Area

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

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Summary for Subcatchment 2.6S:

Runoff = 1.7 cfs @ 12.08 hrs, Volume= 0.129 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	8,420	98	Paved parking, HSG D
*	1,090	98	Sidewalks, HSG D
	2,750	80	>75% Grass cover, Good, HSG D
	12,260	94	Weighted Average
	2,750		22.43% Pervious Area
	9,510		77.57% Impervious Area

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

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Summary for Subcatchment 2.7S:

Runoff = 2.8 cfs @ 12.08 hrs, Volume= 0.217 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	13,000	98	Paved parking, HSG D
*	3,430	98	Sidewalks, HSG D
	4,190	80	>75% Grass cover, Good, HSG D
	20,620	94	Weighted Average
	4,190		20.32% Pervious Area
	16,430		79.68% Impervious Area

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

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Summary for Subcatchment 2.8S: BUILDING B ROOF

Runoff = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
18,160	98	Roofs, HSG D
18,160		100.00% Impervious Area

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

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Summary for Subcatchment 2.9S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	6,050	98	Paved parking, HSG D
*	2,575	98	Sidewalks, HSG D
	950	80	>75% Grass cover, Good, HSG D
	9,575	96	Weighted Average
	950		9.92% Pervious Area
	8,625		90.08% Impervious Area

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

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Summary for Subcatchment 3.1S:

Runoff = 12.2 cfs @ 12.13 hrs, Volume= 1.005 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	1,705	98	Paved parking, HSG D
*	16,665	98	Sidewalks, HSG D
	37,820	80	>75% Grass cover, Good, HSG D
	17,285	78	Meadow, non-grazed, HSG D
*	2,150	89	Offsite Landscape, Poor, HSG D
	7,460	98	Roofs, HSG D
	33,925	83	Woods, Poor, HSG D
	117,010	85	Weighted Average
	91,180		77.92% Pervious Area
	25,830		22.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	65	0.0100	0.12		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.1	8	0.0150	2.49		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
0.3	17	0.0150	0.86		Shallow Concentrated Flow, C-D
					Short Grass Pasture Kv= 7.0 fps
0.3	30	0.1500	1.94		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
9.7	120	Total			

Summary for Subcatchment 4.1S:

Runoff = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
34,960	98	Unconnected pavement, HSG D
* 42,980	89	Offsite Landscape, Poor, HSG D
77,940	93	Weighted Average
42,980		55.14% Pervious Area
34,960		44.86% Impervious Area
34,960		100.00% Unconnected

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			

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Summary for Subcatchment 4.2S:

Runoff = 4.4 cfs @ 12.19 hrs, Volume= 0.410 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Adj	Description
1,500	80		>75% Grass cover, Good, HSG D
16,750	83		Woods, Poor, HSG D
* 8,000	89		Offsite Landscape, Poor, HSG D
12,010	98		Unconnected pavement, HSG D
9,510	78		Meadow, non-grazed, HSG D
47,770	87	85	Weighted Average, UI Adjusted
35,760			74.86% Pervious Area
12,010			25.14% Impervious Area
12,010			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	60	0.0200	0.07		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.30"
0.1	20	0.3300	4.02		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
14.2	80	Total			

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 4.3S:

Runoff = 1.7 cfs @ 12.09 hrs, Volume= 0.118 af, Depth= 3.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
6,090	80	>75% Grass cover, Good, HSG D
5,000	78	Meadow, non-grazed, HSG D
4,280	83	Woods, Poor, HSG D
190	98	Unconnected pavement, HSG D
15,560	80	Weighted Average
15,370		98.78% Pervious Area
190		1.22% Impervious Area
190		100.00% Unconnected

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

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Summary for Subcatchment 4.4S:

Runoff = 4.5 cfs @ 12.08 hrs, Volume= 0.354 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	12,070	98	Paved parking, HSG D
*	2,585	98	Sidewalks, HSG D
	14,380	98	Roofs, HSG D
	3,285	80	>75% Grass cover, Good, HSG D
	32,320	96	Weighted Average
	3,285		10.16% Pervious Area
	29,035		89.84% Impervious Area

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

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Summary for Subcatchment 4.5S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	6,630	98	Paved parking, HSG D
*	330	98	Sidewalks, HSG D
	3,030	80	>75% Grass cover, Good, HSG D
	9,990	93	Weighted Average
	3,030		30.33% Pervious Area
	6,960		69.67% Impervious Area

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

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Summary for Subcatchment 5.1S:

Runoff = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
2,761,635	92	1/8 acre lots, 65% imp, HSG D
88,580	83	Woods, Poor, HSG D
2,850,215	92	Weighted Average
1,055,152		37.02% Pervious Area
1,795,063		62.98% 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			

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Summary for Reach 1.2R:

[81] Warning: Exceeded Pond 1.3P by 0.50' @ 5.64 hrs

Inflow Area = 3.0 ac, 12.95% Impervious, Inflow Depth = 4.32" for 25-YR event
Inflow = 8.0 cfs @ 12.35 hrs, Volume= 1.068 af
Outflow = 8.0 cfs @ 12.36 hrs, Volume= 1.068 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.19 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 0.46 fps, Avg. Travel Time= 2.7 min

Peak Storage= 275 cf @ 12.35 hrs

Average Depth at Peak Storage= 0.30'

Bank-Full Depth= 1.00' Flow Area= 17.0 sf, Capacity= 73.0 cfs

10.00' x 1.00' deep channel, n= 0.050 Scattered brush, heavy weeds

Side Slope Z-value= 7.0 ' ' Top Width= 24.00'

Length= 75.0' Slope= 0.0333 ' '

Inlet Invert= 53.50', Outlet Invert= 51.00'



Summary for Reach 4.3R:

Inflow Area = 0.4 ac, 1.22% Impervious, Inflow Depth = 3.96" for 25-YR event
Inflow = 1.7 cfs @ 12.09 hrs, Volume= 0.118 af
Outflow = 1.6 cfs @ 12.10 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.79 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 1.7 min

Peak Storage= 48 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 50.0 cfs

2.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 110.0' Slope= 0.0432 '/'
Inlet Invert= 63.00', Outlet Invert= 58.25'



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Summary for Pond 1.3P: SD-147

[79] Warning: Submerged Pond 1.5P Primary device # 1 INLET by 0.64'

Inflow Area = 2.7 ac, 13.35% Impervious, Inflow Depth = 4.32" for 25-YR event
 Inflow = 9.3 cfs @ 12.23 hrs, Volume= 0.981 af
 Outflow = 7.6 cfs @ 12.36 hrs, Volume= 0.981 af, Atten= 18%, Lag= 7.6 min
 Primary = 5.9 cfs @ 12.36 hrs, Volume= 0.937 af
 Secondary = 1.7 cfs @ 12.36 hrs, Volume= 0.044 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 54.87' @ 12.36 hrs Surf.Area= 4,923 sf Storage= 2,785 cf

Plug-Flow detention time= 3.3 min calculated for 0.981 af (100% of inflow)
 Center-of-Mass det. time= 3.3 min (854.1 - 850.8)

Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	3,445 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	50	0	0
54.00	650	350	350
55.00	5,540	3,095	3,445

Device	Routing	Invert	Outlet Devices
#1	Primary	53.00'	15.0" Round Culvert L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.00' / 52.80' S= 0.0057 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	54.50'	3.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.9 cfs @ 12.36 hrs HW=54.87' (Free Discharge)↑ **1=Culvert** (Barrel Controls 5.9 cfs @ 4.79 fps)**Secondary OutFlow** Max=1.7 cfs @ 12.36 hrs HW=54.87' (Free Discharge)↑ **2=Broad-Crested Rectangular Weir** (Weir Controls 1.7 cfs @ 1.54 fps)

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Summary for Pond 1.5P: UDSF-1

Inflow Area = 0.6 ac, 27.10% Impervious, Inflow Depth = 4.49" for 25-YR event
 Inflow = 2.6 cfs @ 12.15 hrs, Volume= 0.222 af
 Outflow = 1.6 cfs @ 12.31 hrs, Volume= 0.222 af, Atten= 37%, Lag= 9.5 min
 Primary = 1.6 cfs @ 12.31 hrs, Volume= 0.222 af
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 58.31' @ 12.31 hrs Surf.Area= 2,009 sf Storage= 2,874 cf

Plug-Flow detention time= 170.7 min calculated for 0.222 af (100% of inflow)
 Center-of-Mass det. time= 170.3 min (974.7 - 804.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	54.32'	5,258 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.32	1,220	0.0	0	0
54.33	1,220	40.0	5	5
55.49	1,220	40.0	566	571
55.50	1,220	10.0	1	572
56.99	1,220	10.0	182	754
57.00	1,220	100.0	12	766
58.00	1,810	100.0	1,515	2,281
59.00	2,450	100.0	2,130	4,411
59.33	2,680	100.0	846	5,258

Device	Routing	Invert	Outlet Devices
#1	Primary	54.23'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.23' / 53.00' S= 0.0246 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	54.33'	6.0" Round 6" UD Header L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.33' / 54.33' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	54.32'	2.410 in/hr Filtration to UD over Surface area
#4	Device 1	58.00'	1.8" x 1.8" Horiz. CB-126 Rim X 5.00 columns X 5 rows C= 0.600 Limited to weir flow at low heads
#5	Secondary	58.33'	5.0' long x 2.0' breadth Emergency Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=1.6 cfs @ 12.31 hrs HW=58.31' (Free Discharge)

- ↑ 1=Culvert (Passes 1.6 cfs of 7.2 cfs potential flow)
- ↑ 2=6" UD Header (Passes 0.1 cfs of 1.8 cfs potential flow)
- ↑ 3=Filtration to UD (Exfiltration Controls 0.1 cfs)
- ↑ 4=CB-126 Rim (Orifice Controls 1.5 cfs @ 2.68 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=54.32' (Free Discharge)

- ↑ 5=Emergency Spillway (Controls 0.0 cfs)

Summary for Pond 2.101P: DMH-101

[79] Warning: Submerged Pond 2.9P Primary device # 1 INLET by 0.23'

Inflow Area = 0.8 ac, 97.14% Impervious, Inflow Depth = 4.69" for 25-YR event
 Inflow = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af
 Outflow = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.98' @ 12.08 hrs

Flood Elev= 71.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.95'	18.0" Round Culvert L= 178.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.95' / 61.05' S= 0.0051 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.6 cfs @ 12.08 hrs HW=62.98' (Free Discharge)

↑1=Culvert (Barrel Controls 3.6 cfs @ 3.99 fps)

Summary for Pond 2.10P: BUILDING A ROOF DRAIN

Inflow Area = 0.5 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
 Inflow = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af
 Outflow = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.26' @ 12.08 hrs

Flood Elev= 71.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	12.0" Round Culvert L= 58.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.00' / 64.16' S= 0.0317 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.3 cfs @ 12.08 hrs HW=67.26' (Free Discharge)

↑1=Culvert (Inlet Controls 3.3 cfs @ 4.19 fps)

Summary for Pond 2.111P: SSSF-2

[93] Warning: Storage range exceeded by 1.56'
 [81] Warning: Exceeded Pond 2.11P by 3.30' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.12P by 3.80' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.131P by 2.46' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.14P by 2.67' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.15P by 3.19' @ 12.19 hrs

Inflow Area = 6.0 ac, 76.93% Impervious, Inflow Depth = 5.29" for 25-YR event
 Inflow = 26.1 cfs @ 12.09 hrs, Volume= 2.648 af
 Outflow = 22.2 cfs @ 12.19 hrs, Volume= 2.657 af, Atten= 15%, Lag= 6.3 min
 Primary = 22.2 cfs @ 12.19 hrs, Volume= 2.657 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 66.39' @ 12.19 hrs Surf.Area= 12,767 sf Storage= 27,741 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 88.8 min (856.6 - 767.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	61.33'	10,912 cf	49.00'W x 252.82'L x 3.50'H Field A 43,358 cf Overall - 16,079 cf Embedded = 27,279 cf x 40.0% Voids
#2A	61.83'	16,079 cf	ADS_StormTech SC-740 +Cap x 350 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 350 Chambers in 10 Rows
#3B	61.33'	383 cf	6.25'W x 60.58'L x 3.50'H Field B 1,325 cf Overall - 368 cf Embedded = 958 cf x 40.0% Voids
#4B	61.83'	368 cf	ADS_StormTech SC-740 +Cap x 8 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
27,741 cf			Total Available Storage

Storage Group A created with Chamber Wizard
 Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	58.90'	36.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.90' / 58.70' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	59.00'	6.0" Round 6" UD HEADER L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 59.00' / 59.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	61.33'	4.000 in/hr FILTRATION TO UD over Surface area
#4	Device 1	63.33'	6.0' 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
#5	Device 4	61.84'	24.0" Round 24" overflow

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L= 5.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.84' / 61.84' S= 0.0000 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=21.4 cfs @ 12.19 hrs HW=66.19' (Free Discharge)

- ↑ 1=Culvert (Passes 21.4 cfs of 64.7 cfs potential flow)
- ↑ 2=6" UD HEADER (Passes 1.2 cfs of 2.5 cfs potential flow)
- ↑ 3=FILTRATION TO UD (Exfiltration Controls 1.2 cfs)
- ↑ 4=Broad-Crested Rectangular Weir (Passes 20.2 cfs of 96.4 cfs potential flow)
- ↑ 5=24" overflow (Inlet Controls 20.2 cfs @ 6.43 fps)

Pond 2.111P: SSSF-2 - Chamber Wizard Field A**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

35 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 250.82' Row Length +12.0" End Stone x 2 = 252.82' Base Length

10 Rows x 51.0" Wide + 6.0" Spacing x 9 + 12.0" Side Stone x 2 = 49.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

350 Chambers x 45.9 cf = 16,079.0 cf Chamber Storage

43,358.1 cf Field - 16,079.0 cf Chambers = 27,279.1 cf Stone x 40.0% Voids = 10,911.6 cf Stone Storage

Chamber Storage + Stone Storage = 26,990.6 cf = 0.620 af

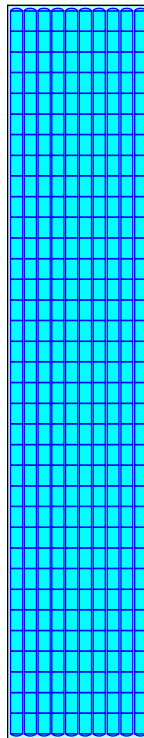
Overall Storage Efficiency = 62.3%

Overall System Size = 252.82' x 49.00' x 3.50'

350 Chambers

1,605.9 cy Field

1,010.3 cy Stone



Pond 2.111P: SSSF-2 - Chamber Wizard Field B**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58'
Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

8 Chambers x 45.9 cf = 367.5 cf Chamber Storage

1,325.1 cf Field - 367.5 cf Chambers = 957.6 cf Stone x 40.0% Voids = 383.0 cf Stone Storage

Chamber Storage + Stone Storage = 750.6 cf = 0.017 af

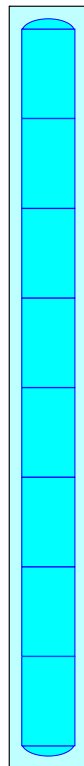
Overall Storage Efficiency = 56.6%

Overall System Size = 60.58' x 6.25' x 3.50'

8 Chambers

49.1 cy Field

35.5 cy Stone



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Summary for Pond 2.112P: DMH-201

[79] Warning: Submerged Pond 2.111P Primary device # 1 INLET by 2.01'

Inflow Area = 6.0 ac, 76.93% Impervious, Inflow Depth = 5.48" for 25-YR event
Inflow = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af
Outflow = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af, Atten= 0%, Lag= 0.0 min
Primary = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.94' @ 12.19 hrs

Flood Elev= 72.85'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.60'	36.0" Round Culvert L= 87.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.60' / 57.00' S= 0.0184 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=23.6 cfs @ 12.19 hrs HW=60.89' (Free Discharge)

↑1=Culvert (Inlet Controls 23.6 cfs @ 4.07 fps)

Summary for Pond 2.11P: CB-207

Inflow Area = 0.6 ac, 92.56% Impervious, Inflow Depth = 5.84" for 25-YR event
 Inflow = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af
 Outflow = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af

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= 66.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	12.0" Round Culvert L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 61.93' S= 0.0140 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.7 cfs @ 12.08 hrs HW=63.49' (Free Discharge)

↑1=Culvert (Barrel Controls 3.7 cfs @ 4.65 fps)

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Summary for Pond 2.12P: CB-205

Inflow Area = 0.1 ac, 92.73% Impervious, Inflow Depth = 5.84" for 25-YR event
 Inflow = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af
 Outflow = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.55' @ 12.08 hrs

Flood Elev= 72.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.20'	12.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.20' / 61.93' S= 0.0225 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=62.55' (Free Discharge)

↑1=Culvert (Inlet Controls 0.4 cfs @ 1.60 fps)

Summary for Pond 2.131P: DMH-200

[79] Warning: Submerged Pond 2.13P Primary device # 1 INLET by 1.71'

Inflow Area = 2.3 ac, 66.15% Impervious, Inflow Depth = 4.95" for 25-YR event
 Inflow = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af
 Outflow = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.11' @ 12.10 hrs

Flood Elev= 72.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	18.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.96' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.10 hrs HW=64.11' (Free Discharge)

↑**1=Culvert** (Inlet Controls 7.8 cfs @ 4.43 fps)

Summary for Pond 2.13P: CB-204

[79] Warning: Submerged Pond 2.17P Primary device # 1 OUTLET by 2.00'

Inflow Area = 2.3 ac, 66.15% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 12.1 cfs @ 12.10 hrs, Volume= 1.033 af
 Outflow = 12.1 cfs @ 12.10 hrs, Volume= 1.033 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af
 Secondary = 4.3 cfs @ 12.10 hrs, Volume= 0.082 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.50' @ 12.10 hrs

Flood Elev= 72.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.40'	18.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.40' / 62.30' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	63.33'	18.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.33' / 62.60' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.10 hrs HW=64.50' (Free Discharge)

↑1=Culvert (Inlet Controls 7.8 cfs @ 4.42 fps)

Secondary OutFlow Max=4.3 cfs @ 12.10 hrs HW=64.50' (Free Discharge)

↑2=Culvert (Inlet Controls 4.3 cfs @ 2.91 fps)

Summary for Pond 2.14P: CB-208

[79] Warning: Submerged Pond 2.231P Primary device # 1 INLET by 1.53'

Inflow Area = 2.5 ac, 81.08% Impervious, Inflow Depth = 5.40" for 25-YR event
 Inflow = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af
 Outflow = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.96' @ 12.09 hrs

Flood Elev= 66.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.90'	24.0" Round Culvert L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.90' / 61.84' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.3 cfs @ 12.09 hrs HW=63.96' (Free Discharge)

↑**1=Culvert** (Barrel Controls 11.3 cfs @ 4.37 fps)

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Summary for Pond 2.15P: CB-209

Inflow Area = 0.5 ac, 84.66% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af
 Outflow = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.69' @ 12.08 hrs

Flood Elev= 65.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.24'	12.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.24' / 61.93' S= 0.0103 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=63.69' (Free Discharge)

↑1=Culvert (Inlet Controls 2.9 cfs @ 3.71 fps)

Summary for Pond 2.161P: DMH-203

[79] Warning: Submerged Pond 2.112P Primary device # 1 INLET by 0.65'

Inflow Area = 6.2 ac, 74.93% Impervious, Inflow Depth = 5.43" for 25-YR event
 Inflow = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af
 Outflow = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af, Atten= 0%, Lag= 0.0 min
 Primary = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.28' @ 12.19 hrs

Flood Elev= 72.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.90'	36.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.90' / 55.70' S= 0.0120 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=24.2 cfs @ 12.19 hrs HW=59.23' (Free Discharge)

↑**1=Culvert** (Inlet Controls 24.2 cfs @ 4.11 fps)

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Summary for Pond 2.16P: PH2 RETAINING WALL STONE EDGE

Inflow Area = 0.2 ac, 4.46% Impervious, Inflow Depth = 4.07" for 25-YR event
 Inflow = 0.8 cfs @ 12.09 hrs, Volume= 0.058 af
 Outflow = 0.7 cfs @ 12.13 hrs, Volume= 0.054 af, Atten= 13%, Lag= 2.7 min
 Primary = 0.7 cfs @ 12.13 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 69.84' @ 12.13 hrs Surf.Area= 1,050 sf Storage= 358 cf
 Flood Elev= 72.33' Surf.Area= 1,050 sf Storage= 1,271 cf

Plug-Flow detention time= 60.1 min calculated for 0.054 af (94% of inflow)
 Center-of-Mass det. time= 29.1 min (839.3 - 810.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	68.99'	1,271 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	1,050	0.0	0	0
69.00	1,050	40.0	4	4
71.99	1,050	40.0	1,256	1,260
72.00	1,050	100.0	11	1,271

Device	Routing	Invert	Outlet Devices
#1	Primary	69.33'	8.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.33' / 69.00' S= 0.0330 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.7 cfs @ 12.13 hrs HW=69.84' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.7 cfs @ 2.44 fps)

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Summary for Pond 2.17P: CB-203

[81] Warning: Exceeded Pond 2.18P by 0.06' @ 12.09 hrs

Inflow Area = 2.2 ac, 66.10% Impervious, Inflow Depth = 5.39" for 25-YR event
Inflow = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af
Outflow = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af, Atten= 0%, Lag= 0.0 min
Primary = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.24' @ 12.10 hrs

Flood Elev= 71.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.50'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.50' / 62.50' S= 0.0133 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=11.6 cfs @ 12.10 hrs HW=68.24' (Free Discharge)

↑1=Culvert (Inlet Controls 11.6 cfs @ 6.57 fps)

Summary for Pond 2.18P: CB-202

[79] Warning: Submerged Pond 2.19P Primary device # 1 OUTLET by 1.86'

Inflow Area = 1.6 ac, 60.57% Impervious, Inflow Depth = 5.34" for 25-YR event
 Inflow = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af
 Outflow = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.21' @ 12.11 hrs

Flood Elev= 73.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	18.0" Round Culvert L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 64.75' S= 0.0104 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.11 hrs HW=68.21' (Free Discharge)

↑1=Culvert (Inlet Controls 7.8 cfs @ 4.43 fps)

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Summary for Pond 2.19P: CB-201

Inflow Area = 0.5 ac, 42.79% Impervious, Inflow Depth = 5.27" for 25-YR event
Inflow = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af
Outflow = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 71.16' @ 12.18 hrs

Flood Elev= 74.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	70.00'	12.0" Round Culvert L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.00' / 66.35' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.18 hrs HW=71.16' (Free Discharge)

↑1=Culvert (Inlet Controls 2.4 cfs @ 3.09 fps)

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Summary for Pond 2.201P: SSSF-1

[79] Warning: Submerged Pond 2.2P Primary device # 1 INLET by 1.85'

[81] Warning: Exceeded Pond 2.3P by 1.26' @ 12.17 hrs

[81] Warning: Exceeded Pond 2.41P by 1.02' @ 12.63 hrs

Inflow Area = 3.9 ac, 77.63% Impervious, Inflow Depth = 5.26" for 25-YR event
 Inflow = 18.7 cfs @ 12.09 hrs, Volume= 1.723 af
 Outflow = 15.4 cfs @ 12.15 hrs, Volume= 1.723 af, Atten= 18%, Lag= 3.7 min
 Primary = 15.4 cfs @ 12.15 hrs, Volume= 1.723 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 59.43' @ 12.15 hrs Surf.Area= 8,542 sf Storage= 16,628 cf

Plug-Flow detention time= 91.4 min calculated for 1.723 af (100% of inflow)

Center-of-Mass det. time= 91.4 min (855.6 - 764.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.50'	7,549 cf	58.50'W x 146.02'L x 3.50'H Field A 29,897 cf Overall - 11,026 cf Embedded = 18,871 cf x 40.0% Voids
#2A	57.00'	11,026 cf	ADS_StormTech SC-740 +Cap x 240 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 240 Chambers in 12 Rows
18,574 cf			Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.26'	36.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.26' / 53.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	54.33'	4.0" Round 4" UD HEADER L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.33' / 54.33' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#3	Device 2	56.50'	4.000 in/hr FILTRATION TO UD over Surface area
#4	Device 1	58.50'	6.0' long x 0.5' breadth RECTANGULAR WEIR PANEL Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Device 4	57.00'	24.0" Round 24" OVERFLOW CULVERT L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.00' / 56.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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Primary OutFlow Max=15.4 cfs @ 12.15 hrs HW=59.43' (Free Discharge)

- ↑ 1=Culvert (Passes 15.4 cfs of 62.3 cfs potential flow)
- ↑ 2=4" UD HEADER (Passes 0.8 cfs of 0.9 cfs potential flow)
- ↑ 3=FILTRATION TO UD (Exfiltration Controls 0.8 cfs)
- ↑ 4=RECTANGULAR WEIR PANEL (Passes 14.6 cfs of 17.9 cfs potential flow)
- ↑ 5=24" OVERFLOW CULVERT (Inlet Controls 14.6 cfs @ 4.65 fps)

Pond 2.201P: SSSF-1 - Chamber Wizard Field A**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

20 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 144.02' Row Length +12.0" End Stone x 2 = 146.02' Base Length

12 Rows x 51.0" Wide + 6.0" Spacing x 11 + 12.0" Side Stone x 2 = 58.50' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

240 Chambers x 45.9 cf = 11,025.6 cf Chamber Storage

29,896.9 cf Field - 11,025.6 cf Chambers = 18,871.3 cf Stone x 40.0% Voids = 7,548.5 cf Stone Storage

Chamber Storage + Stone Storage = 18,574.1 cf = 0.426 af

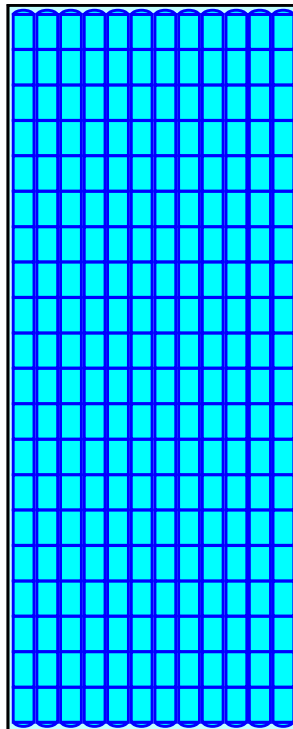
Overall Storage Efficiency = 62.1%

Overall System Size = 146.02' x 58.50' x 3.50'

240 Chambers

1,107.3 cy Field

698.9 cy Stone



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Summary for Pond 2.20P: CB-301

Inflow Area = 0.6 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
 Inflow = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af
 Outflow = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 71.53' @ 12.18 hrs

Flood Elev= 74.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	70.20'	12.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.20' / 69.80' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.7 cfs @ 12.18 hrs HW=71.53' (Free Discharge)

↑1=Culvert (Inlet Controls 2.7 cfs @ 3.46 fps)

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Summary for Pond 2.21P: CB-302

[79] Warning: Submerged Pond 2.20P Primary device # 1 INLET by 0.48'

Inflow Area = 1.4 ac, 92.62% Impervious, Inflow Depth = 5.82" for 25-YR event
 Inflow = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af
 Outflow = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.68' @ 12.10 hrs

Flood Elev= 74.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.85'	18.0" Round Culvert L= 260.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.85' / 66.10' S= 0.0106 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.0 cfs @ 12.10 hrs HW=70.68' (Free Discharge)

↑1=Culvert (Inlet Controls 7.0 cfs @ 3.95 fps)

Summary for Pond 2.22P: CB-304

[79] Warning: Submerged Pond 2.21P Primary device # 1 INLET by 0.14'

Inflow Area = 1.9 ac, 84.23% Impervious, Inflow Depth = 5.63" for 25-YR event
 Inflow = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af
 Outflow = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.99' @ 12.09 hrs

Flood Elev= 73.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 64.00' S= 0.0133 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.0 cfs @ 12.09 hrs HW=68.99' (Free Discharge)

↑1=Culvert (Inlet Controls 10.0 cfs @ 5.69 fps)

Summary for Pond 2.231P: DMH-204

[79] Warning: Submerged Pond 2.23P Primary device # 1 INLET by 0.55'

Inflow Area = 2.2 ac, 82.47% Impervious, Inflow Depth = 5.60" for 25-YR event
 Inflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af
 Outflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.3 cfs @ 12.09 hrs, Volume= 0.983 af
 Secondary = 2.3 cfs @ 12.09 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.05' @ 12.09 hrs

Flood Elev= 67.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.43'	24.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.43' / 62.00' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.33'	24.0" Round Culvert L= 160.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.33' / 52.65' S= 0.0668 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.3 cfs @ 12.09 hrs HW=64.05' (Free Discharge)↑**1=Culvert** (Inlet Controls 9.3 cfs @ 3.42 fps)**Secondary OutFlow** Max=2.3 cfs @ 12.09 hrs HW=64.05' (Free Discharge)↑**2=Culvert** (Inlet Controls 2.3 cfs @ 2.27 fps)

Summary for Pond 2.23P: CB-305

[79] Warning: Submerged Pond 2.22P Primary device # 1 OUTLET by 1.43'

Inflow Area = 2.2 ac, 82.47% Impervious, Inflow Depth = 5.60" for 25-YR event
 Inflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af
 Outflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.43' @ 12.09 hrs

Flood Elev= 68.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 62.63' S= 0.0217 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.6 cfs @ 12.09 hrs HW=65.43' (Free Discharge)

↑1=Culvert (Inlet Controls 11.6 cfs @ 3.73 fps)

Summary for Pond 2.241P: CB-118 OUTFALL PIPE

[79] Warning: Submerged Pond 2.161P Primary device # 1 INLET by 0.21'

[81] Warning: Exceeded Pond 2.26P by 0.35' @ 12.68 hrs

[79] Warning: Submerged Pond 5.3P Primary device # 1 INLET by 6.77'

Inflow Area = 75.8 ac, 62.43% Impervious, Inflow Depth = 5.26" for 25-YR event
 Inflow = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af
 Outflow = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af, Atten= 0%, Lag= 0.0 min
 Primary = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.11' @ 12.68 hrs

Flood Elev= 60.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.82'	60.0" Round Culvert L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.82' / 48.56' S= 0.0046 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=179.5 cfs @ 12.68 hrs HW=57.10' (Free Discharge)

↑1=Culvert (Inlet Controls 179.5 cfs @ 9.14 fps)

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Summary for Pond 2.24P: CB-118 RIM

[81] Warning: Exceeded Pond 2.25P by 4.09' @ 12.56 hrs

Inflow Area = 0.9 ac, 76.19% Impervious, Inflow Depth = 5.44" for 25-YR event
 Inflow = 5.1 cfs @ 12.08 hrs, Volume= 0.391 af
 Outflow = 2.3 cfs @ 12.25 hrs, Volume= 0.391 af, Atten= 54%, Lag= 9.9 min
 Primary = 2.3 cfs @ 12.25 hrs, Volume= 0.391 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 61.26' @ 12.25 hrs Surf.Area= 9,536 sf Storage= 2,506 cf

Plug-Flow detention time= 8.5 min calculated for 0.391 af (100% of inflow)
 Center-of-Mass det. time= 8.5 min (778.0 - 769.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.90'	12,230 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.90	100	0	0
61.00	7,000	355	355
62.00	16,750	11,875	12,230

Device	Routing	Invert	Outlet Devices
#1	Primary	60.90'	1.8" x 1.8" Horiz. CB-1234 X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.3 cfs @ 12.25 hrs HW=61.26' (Free Discharge)
 ↑1=CB-1234 (Orifice Controls 2.3 cfs @ 2.89 fps)

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Summary for Pond 2.25P: CB-124

Inflow Area = 0.2 ac, 68.67% Impervious, Inflow Depth = 5.27" for 25-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

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.48' @ 12.08 hrs

Flood Elev= 60.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.85'	12.0" Round Culvert L= 245.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.85' / 55.44' S= 0.0058 '/' 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=57.48' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.13 fps)

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Summary for Pond 2.26P: CB-210

Inflow Area = 0.2 ac, 13.67% Impervious, Inflow Depth = 4.17" for 25-YR event
 Inflow = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af
 Outflow = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.18' @ 12.09 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.55'	12.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.55' / 55.00' S= 0.0103 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.09 hrs HW=57.18' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.13 fps)

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Summary for Pond 2.27P: SD-135

Inflow Area = 3.1 ac, 25.29% Impervious, Inflow Depth = 4.60" for 25-YR event
 Inflow = 8.1 cfs @ 12.52 hrs, Volume= 1.178 af
 Outflow = 6.4 cfs @ 12.77 hrs, Volume= 1.178 af, Atten= 21%, Lag= 14.9 min
 Primary = 6.4 cfs @ 12.77 hrs, Volume= 1.178 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 59.99' @ 12.77 hrs Surf.Area= 4,651 sf Storage= 3,775 cf

Plug-Flow detention time= 3.7 min calculated for 1.178 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (830.9 - 827.2)

Volume	Invert	Avail.Storage	Storage Description
#1	57.50'	3,843 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.50	10	0	0
58.00	200	53	53
59.00	1,340	770	823
60.00	4,700	3,020	3,843

Device	Routing	Invert	Outlet Devices
#1	Primary	57.50'	15.0" Round Culvert L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.50' / 56.90' S= 0.0120 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.4 cfs @ 12.77 hrs HW=59.99' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 6.4 cfs @ 5.18 fps)

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Summary for Pond 2.28P: SD-114

Inflow Area = 0.3 ac, 0.00% Impervious, Inflow Depth = 3.86" for 25-YR event
 Inflow = 1.3 cfs @ 12.09 hrs, Volume= 0.092 af
 Outflow = 1.3 cfs @ 12.10 hrs, Volume= 0.092 af, Atten= 2%, Lag= 0.9 min
 Primary = 1.3 cfs @ 12.10 hrs, Volume= 0.092 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.68' @ 12.10 hrs Surf.Area= 160 sf Storage= 58 cf

Flood Elev= 71.50' Surf.Area= 1,700 sf Storage= 1,915 cf

Plug-Flow detention time= 0.9 min calculated for 0.092 af (100% of inflow)

Center-of-Mass det. time= 0.9 min (816.2 - 815.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	1,915 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.00	10	0	0
69.00	230	120	120
70.00	830	530	650
71.00	1,700	1,265	1,915

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	12.0" Round Culvert L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.50' S= 0.0294 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.10 hrs HW=68.68' (Free Discharge)↑ **1=Culvert** (Inlet Controls 1.3 cfs @ 2.22 fps)

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Summary for Pond 2.2P: CB-121 - Lower Parking Lot

Inflow Area = 1.0 ac, 82.89% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 5.8 cfs @ 12.08 hrs, Volume= 0.455 af
 Outflow = 2.9 cfs @ 12.23 hrs, Volume= 0.455 af, Atten= 51%, Lag= 8.7 min
 Primary = 2.9 cfs @ 12.23 hrs, Volume= 0.455 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 61.44' @ 12.23 hrs Surf.Area= 8,935 sf Storage= 2,028 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 3.1 min (766.0 - 762.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	57.00'	15,425 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	50	0.0	0	0
58.00	50	0.0	0	0
59.00	50	0.0	0	0
60.00	50	0.0	0	0
60.90	50	0.0	0	0
61.00	200	100.0	13	13
62.00	20,000	100.0	10,100	10,113
62.25	22,500	100.0	5,313	15,425

Device	Routing	Invert	Outlet Devices
#1	Primary	57.58'	12.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.58' / 57.10' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	60.90'	1.8" x 1.8" Horiz. CB-19 Rim X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.9 cfs @ 12.23 hrs HW=61.44' (Free Discharge)

↑ **1=Culvert** (Passes 2.9 cfs of 5.3 cfs potential flow)

↑ **2=CB-19 Rim** (Orifice Controls 2.9 cfs @ 3.54 fps)

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Summary for Pond 2.3P: CB-116

Inflow Area = 0.2 ac, 89.27% Impervious, Inflow Depth = 5.73" for 25-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

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.28' @ 12.08 hrs

Flood Elev= 62.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.68'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.68' / 57.10' S= 0.0116 '/ 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=58.28' (Free Discharge)

↑1=Culvert (Inlet Controls 1.3 cfs @ 2.64 fps)

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Summary for Pond 2.41P: CB-114

[81] Warning: Exceeded Pond 2.4P by 1.01' @ 12.09 hrs

[79] Warning: Submerged Pond 2.51P Primary device # 1 INLET by 1.05'

Inflow Area = 2.7 ac, 74.85% Impervious, Inflow Depth = 5.09" for 25-YR event
 Inflow = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af
 Outflow = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af, Atten= 0%, Lag= 0.0 min
 Primary = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.38' @ 12.09 hrs

Flood Elev= 64.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.30'	24.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.30' / 57.01' S= 0.0193 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.8 cfs @ 12.09 hrs HW=59.38' (Free Discharge)↑**1=Culvert** (Barrel Controls 14.8 cfs @ 5.63 fps)

Summary for Pond 2.4P: CB-115

Inflow Area = 0.3 ac, 38.40% Impervious, Inflow Depth = 4.71" for 25-YR event
 Inflow = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af
 Outflow = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.37' @ 12.09 hrs

Flood Elev= 64.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.60'	12.0" Round Culvert L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.60' / 57.40' S= 0.0111 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.09 hrs HW=58.37' (Free Discharge)

↑1=Culvert (Barrel Controls 1.7 cfs @ 3.55 fps)

Summary for Pond 2.51P: CB-110

[79] Warning: Submerged Pond 2.6P Primary device # 1 INLET by 1.47'

Inflow Area = 2.4 ac, 79.50% Impervious, Inflow Depth = 5.14" for 25-YR event
 Inflow = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af
 Outflow = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af, Atten= 0%, Lag= 0.0 min
 Primary = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.08' @ 12.09 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.33'	24.0" Round Culvert L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 58.33' / 57.40' S= 0.0109 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.1 cfs @ 12.09 hrs HW=60.08' (Free Discharge)

↑1=Culvert (Inlet Controls 13.1 cfs @ 4.51 fps)

Summary for Pond 2.5P: CB-122

Inflow Area = 0.2 ac, 84.88% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af
 Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.40' @ 12.08 hrs

Flood Elev= 66.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.80'	12.0" Round Culvert L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.80' / 60.96' S= 0.0153 '/ 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=62.40' (Free Discharge)

↑1=Culvert (Inlet Controls 1.3 cfs @ 2.63 fps)

Summary for Pond 2.6P: CB-109

[79] Warning: Submerged Pond 2.802P Primary device # 1 INLET by 0.86'

Inflow Area = 2.2 ac, 78.98% Impervious, Inflow Depth = 5.10" for 25-YR event
 Inflow = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af
 Outflow = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af

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= 66.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.61'	24.0" Round Culvert L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 58.61' / 58.43' S= 0.0051 ' / S= 0.0051 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.9 cfs @ 12.09 hrs HW=60.56' (Free Discharge)

↑**1=Culvert** (Barrel Controls 11.9 cfs @ 4.83 fps)

Summary for Pond 2.7P: CB-106

[79] Warning: Submerged Pond 2.101P Primary device # 1 INLET by 0.57'

Inflow Area = 1.2 ac, 90.45% Impervious, Inflow Depth = 5.00" for 25-YR event
 Inflow = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af
 Outflow = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.52' @ 12.08 hrs

Flood Elev= 69.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.95'	18.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.95' / 60.70' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.4 cfs @ 12.08 hrs HW=62.52' (Free Discharge)

↑**1=Culvert** (Barrel Controls 6.4 cfs @ 4.33 fps)

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Summary for Pond 2.801P: DMH-102

[81] Warning: Exceeded Pond 2.7P by 0.41' @ 12.08 hrs

Inflow Area = 1.7 ac, 92.86% Impervious, Inflow Depth = 5.24" for 25-YR event
Inflow = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af
Outflow = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af, Atten= 0%, Lag= 0.0 min
Primary = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.93' @ 12.08 hrs

Flood Elev= 70.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.60'	18.0" Round Culvert L= 140.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.60' / 59.80' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=9.0 cfs @ 12.08 hrs HW=62.92' (Free Discharge)

↑1=Culvert (Barrel Controls 9.0 cfs @ 5.07 fps)

Summary for Pond 2.802P: CB-108

[79] Warning: Submerged Pond 2.801P Primary device # 1 INLET by 2.16'

Inflow Area = 1.9 ac, 79.18% Impervious, Inflow Depth = 5.04" for 25-YR event
 Inflow = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af
 Outflow = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.77' @ 12.09 hrs

Flood Elev= 71.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.70'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.70' / 58.71' S= 0.0066 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.2 cfs @ 12.09 hrs HW=62.76' (Free Discharge)

↑**1=Culvert** (Inlet Controls 10.2 cfs @ 5.78 fps)

Summary for Pond 2.8P: BUILDING B ROOF DRAIN

Inflow Area = 0.4 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
 Inflow = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af
 Outflow = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.94' @ 12.08 hrs

Flood Elev= 70.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.76' S= 0.0207 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.08 hrs HW=67.94' (Free Discharge)

↑1=Culvert (Inlet Controls 2.5 cfs @ 3.30 fps)

Summary for Pond 2.9P: CB-105

Inflow Area = 0.2 ac, 90.08% Impervious, Inflow Depth = 5.73" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af
 Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.4 cfs @ 12.08 hrs, Volume= 0.028 af
 Secondary = 1.0 cfs @ 12.08 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 66.41' @ 12.08 hrs Surf.Area= 126 sf Storage= 6 cf

Flood Elev= 67.50' Surf.Area= 1,050 sf Storage= 525 cf

Plug-Flow detention time= 0.1 min calculated for 0.105 af (100% of inflow)

Center-of-Mass det. time= 0.1 min (757.6 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	66.35'	3,563 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.35	100	0	0
67.00	400	163	163
68.00	1,700	1,050	1,213
69.00	3,000	2,350	3,563

Device	Routing	Invert	Outlet Devices
#1	Primary	62.75'	12.0" Round Culvert L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.75' / 62.05' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.35'	1.8" x 1.8" Horiz. CB-2 RIM X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads
#3	Secondary	66.35'	30.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=66.41' (Free Discharge)

↑ **1=Culvert** (Passes 0.4 cfs of 4.6 cfs potential flow)

↑ **2=CB-2 RIM** (Weir Controls 0.4 cfs @ 0.78 fps)

Secondary OutFlow Max=1.0 cfs @ 12.08 hrs HW=66.41' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 1.0 cfs @ 0.56 fps)

Summary for Pond 4.11P: DMH-100

[58] Hint: Peaked 5.19' above defined flood level

[81] Warning: Exceeded Pond 4.1P by 4.93' @ 12.11 hrs

[81] Warning: Exceeded Pond 4.4P by 4.86' @ 12.11 hrs

Inflow Area = 4.2 ac, 45.30% Impervious, Inflow Depth = 4.51" for 25-YR event
 Inflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af
 Outflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.19' @ 12.11 hrs

Flood Elev= 58.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.24'	15.0" Round Culvert L= 118.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.24' / 51.13' S= 0.0094 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=9.3 cfs @ 12.11 hrs HW=63.19' (Free Discharge)

↑1=Culvert (Barrel Controls 9.3 cfs @ 7.59 fps)

Summary for Pond 4.1P: CB - Elm Street

Inflow Area = 1.8 ac, 44.86% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.4 cfs @ 12.10 hrs, Volume= 0.767 af
 Secondary = 3.6 cfs @ 12.10 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.25' @ 12.10 hrs

Flood Elev= 58.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	53.27'	15.0" Round Culvert L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.27' / 52.24' S= 0.0094 ' S= 0.0094 ' 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=6.4 cfs @ 12.10 hrs HW=58.25' (Free Discharge)

↑1=Culvert (Barrel Controls 6.4 cfs @ 5.19 fps)

Secondary OutFlow Max=3.6 cfs @ 12.10 hrs HW=58.25' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 3.6 cfs @ 1.43 fps)

Summary for Pond 4.2P: 4' DRIP STRIP FOR RETAINING WALL

Inflow Area = 1.1 ac, 25.14% Impervious, Inflow Depth = 4.49" for 25-YR event
 Inflow = 4.4 cfs @ 12.19 hrs, Volume= 0.410 af
 Outflow = 2.7 cfs @ 12.39 hrs, Volume= 0.405 af, Atten= 39%, Lag= 12.1 min
 Primary = 2.7 cfs @ 12.39 hrs, Volume= 0.405 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 64.24' @ 12.39 hrs Surf.Area= 2,200 sf Storage= 2,859 cf
 Flood Elev= 65.25' Surf.Area= 2,200 sf Storage= 4,092 cf

Plug-Flow detention time= 29.3 min calculated for 0.405 af (99% of inflow)
 Center-of-Mass det. time= 21.2 min (828.2 - 807.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	60.99'	4,092 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	2,200	0.0	0	0
61.00	2,200	40.0	9	9
64.99	2,200	40.0	3,511	3,520
65.00	2,200	100.0	22	3,542
65.25	2,200	100.0	550	4,092

Device	Routing	Invert	Outlet Devices
#1	Primary	61.25'	8.0" Round Culvert L= 140.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.25' / 55.25' S= 0.0429 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.7 cfs @ 12.39 hrs HW=64.24' (Free Discharge)
 ↑**1=Culvert** (Barrel Controls 2.7 cfs @ 7.70 fps)

Summary for Pond 4.3P: F-100

[79] Warning: Submerged Pond 4.2P Primary device # 1 OUTLET by 1.17'

Inflow Area = 1.5 ac, 19.26% Impervious, Inflow Depth = 4.32" for 25-YR event
 Inflow = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af
 Outflow = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 56.42' @ 12.13 hrs

Flood Elev= 58.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	55.25'	15.0" Round Culvert L= 105.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.25' / 53.30' S= 0.0186 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.5 cfs @ 12.13 hrs HW=56.42' (Free Discharge)

↑**1=Culvert** (Inlet Controls 3.5 cfs @ 2.90 fps)

Summary for Pond 4.4P: CB-100

[81] Warning: Exceeded Pond 4.3P by 2.52' @ 6.59 hrs

[81] Warning: Exceeded Pond 4.5P by 0.89' @ 12.13 hrs

Inflow Area = 2.4 ac, 45.62% Impervious, Inflow Depth = 5.23" for 25-YR event
 Inflow = 10.0 cfs @ 12.09 hrs, Volume= 1.056 af
 Outflow = 9.8 cfs @ 12.11 hrs, Volume= 1.056 af, Atten= 3%, Lag= 1.3 min
 Primary = 2.9 cfs @ 12.11 hrs, Volume= 0.817 af
 Secondary = 6.8 cfs @ 12.11 hrs, Volume= 0.240 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 58.32' @ 12.11 hrs Surf.Area= 3,142 sf Storage= 1,102 cf

Plug-Flow detention time= 2.1 min calculated for 1.056 af (100% of inflow)
 Center-of-Mass det. time= 2.1 min (794.5 - 792.4)

Volume	Invert	Avail.Storage	Storage Description
#1	57.75'	1,603 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.75	20	0.0	0	0
58.00	1,600	100.0	203	203
58.50	4,000	100.0	1,400	1,603

Device	Routing	Invert	Outlet Devices
#1	Primary	53.20'	12.0" Round Culvert L= 110.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.20' / 52.63' S= 0.0052 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	57.75'	1.8" x 1.8" Horiz. Orifice/Grate X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads
#3	Secondary	58.00'	15.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.9 cfs @ 12.11 hrs HW=58.32' (Free Discharge)

↑1=Culvert (Passes 2.9 cfs of 5.9 cfs potential flow)

↑2=Orifice/Grate (Orifice Controls 2.9 cfs @ 3.64 fps)

Secondary OutFlow Max=6.8 cfs @ 12.11 hrs HW=58.32' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 6.8 cfs @ 1.41 fps)

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Summary for Pond 4.5P: CB-103

Inflow Area = 0.2 ac, 69.67% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af
 Outflow = 1.3 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.4 min
 Primary = 1.3 cfs @ 12.09 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 57.44' @ 12.09 hrs Surf.Area= 343 sf Storage= 24 cf

Plug-Flow detention time= 0.2 min calculated for 0.103 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (772.3 - 772.1)

Volume	Invert	Avail.Storage	Storage Description
#1	57.30'	2,449 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.30	10	0.0	0	0
58.00	1,700	100.0	599	599
59.00	2,000	100.0	1,850	2,449

Device	Routing	Invert	Outlet Devices
#1	Primary	53.68'	12.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.68' / 53.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	57.30'	1.8" x 1.8" Horiz. Orifice/Grate X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.3 cfs @ 12.09 hrs HW=57.44' (Free Discharge)

↑ **1=Culvert** (Passes 1.3 cfs of 5.4 cfs potential flow)
 ↑ **2=Orifice/Grate** (Weir Controls 1.3 cfs @ 1.21 fps)

Summary for Pond 5.1P: Box Culvert - Railroad

Inflow Area = 65.4 ac, 62.98% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af
 Outflow = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af, Atten= 0%, Lag= 0.0 min
 Primary = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af

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 ' / S= 0.0222 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.00 sf

Primary OutFlow Max=163.6 cfs @ 12.68 hrs HW=63.97' (Free Discharge)

↑1=Culvert (Inlet Controls 163.6 cfs @ 6.96 fps)

Summary for Pond 5.2P: DMH-103

[79] Warning: Submerged Pond 2.27P Primary device # 1 INLET by 0.83'

[79] Warning: Submerged Pond 5.1P Primary device # 1 OUTLET by 7.68'

Inflow Area = 68.5 ac, 61.29% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af
 Outflow = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af, Atten= 0%, Lag= 0.0 min
 Primary = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.33' @ 12.68 hrs

Flood Elev= 67.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.65'	60.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.65' / 50.34' S= 0.0041 ' / S= 0.0041 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=169.9 cfs @ 12.68 hrs HW=58.33' (Free Discharge)

↑1=Culvert (Inlet Controls 169.9 cfs @ 8.65 fps)

Summary for Pond 5.3P: DMH-105

[79] Warning: Submerged Pond 2.231P Secondary device # 2 OUTLET by 5.37'

[79] Warning: Submerged Pond 5.2P Primary device # 1 INLET by 7.37'

Inflow Area = 68.5 ac, 61.29% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af
 Outflow = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af, Atten= 0%, Lag= 0.0 min
 Primary = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.02' @ 12.68 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.34'	60.0" Round Culvert L= 355.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.34' / 48.92' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=169.9 cfs @ 12.68 hrs HW=58.02' (Free Discharge)

↑1=Culvert (Inlet Controls 169.9 cfs @ 8.65 fps)

Summary for Link POA-1:

Inflow Area = 5.9 ac, 25.50% Impervious, Inflow Depth = 4.68" for 25-YR event
Inflow = 18.7 cfs @ 12.12 hrs, Volume= 2.307 af
Primary = 18.7 cfs @ 12.12 hrs, Volume= 2.307 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

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Summary for Link POA-2:

Inflow Area = 80.3 ac, 62.86% Impervious, Inflow Depth = 5.25" for 25-YR event
Inflow = 185.2 cfs @ 12.62 hrs, Volume= 35.128 af
Primary = 185.2 cfs @ 12.62 hrs, Volume= 35.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-3:

Inflow Area = 2.7 ac, 22.08% Impervious, Inflow Depth = 5.72" for 25-YR event
Inflow = 22.4 cfs @ 12.12 hrs, Volume= 1.280 af
Primary = 22.4 cfs @ 12.12 hrs, Volume= 1.280 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-4:

Inflow Area = 4.2 ac, 45.30% Impervious, Inflow Depth = 4.51" for 25-YR event
Inflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af
Primary = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Appendix 3

Inspection, Maintenance and Housekeeping Plan



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
One Diamond Street
Biddeford, Maine

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. Subsurface Sand Filter

- Inspect the site monthly for the first few months after construction. Then inspections can occur on an annual basis, preferably after rain events when clogging will be obvious.
- Make any repairs necessary to ensure the measure is operating properly.
- Regular maintenance is necessary to remove surface sediment, trash, debris, and leaf litter.
- Outlets and chambers need to be cleaned/repared when drawdown times in the filter exceeds 36 hours.
- In certain cases, layers of sand may need to be replaced every 3 to 5 years.

F. Underdrained Soil Filter

- Debris and sediment buildup should be removed from forebay and basin as needed.
- Any bare areas or erosion rills should be repaired with new filter media, seeded and mulched.
- Sediment and plant debris should be removed from the pretreatment structure at least annually.
- Fertilization of the filter area should be avoided unless absolutely necessary to establish vegetation.
- Harvesting and pruning of excessive growth should be done occasionally.

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 in 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
Diamond Street
Biddeford, Maine**

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for 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 Biddeford 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)		
Additional Notes/Observations:			

Subsurface Sand Filter

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:	
BMP Element	Suggested Maintenance	Observations	Inspection Notes/Recommended Action
Pretreatment			
	Sediment Depth/Removal (Annually)		
Outlet Control Structure			
	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe			
	Ground Stabilized (>1" rain, Annually)		
Subsurface Chambers			
	Sediment Depth/Removal (Annually)		
Additional Notes/Observations:			

Underdrain Soil Filter

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:	
BMP Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Outlet Control Structure	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe	Ground Stabilized (>1" rain, Annually)		
Emergency Spillway	Review for signs of erosion (Twice Annually)		
	Review for signs of discharge (>1" rain, twice annually)		
Embankments	Review for signs of erosion (Twice Annually)		
Filter Bed	Trim overgrown vegetation with string trimmer (annually)		
	Review basin for evidence of vehicular traffic or storage of snow within footprint (annually)		
	Confirm pond drains in 24-48 hours for water quality volume (annually)		
Additional Notes/Observations:			

Appendix 4

Subsurface Investigations & FEMA Flood Map



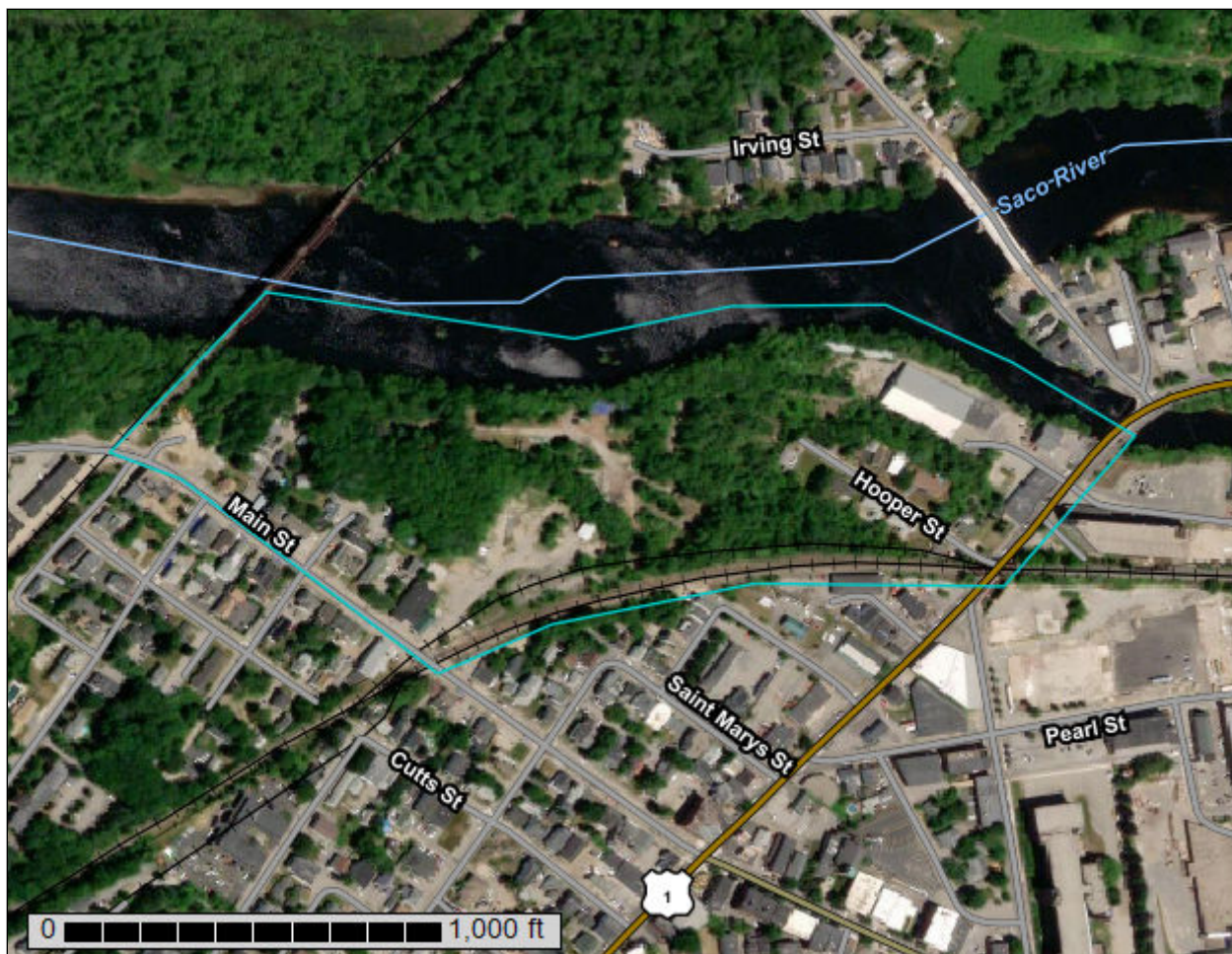
United States
Department of
Agriculture

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.

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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

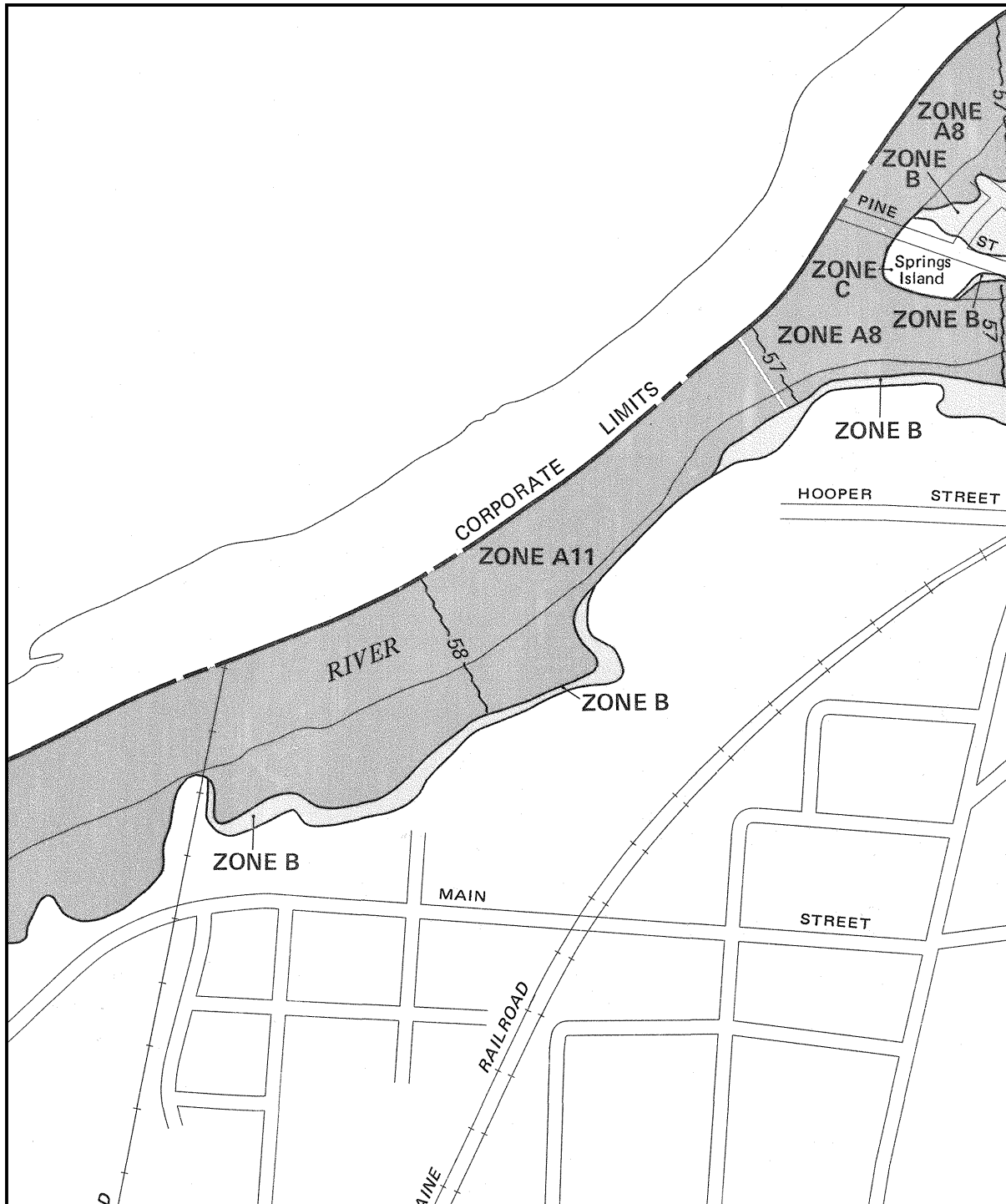
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APPROXIMATE SCALE

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

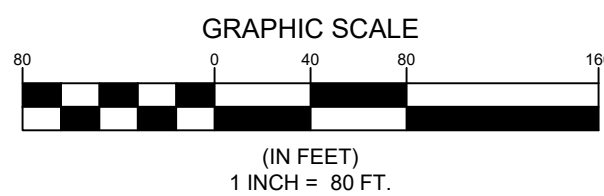
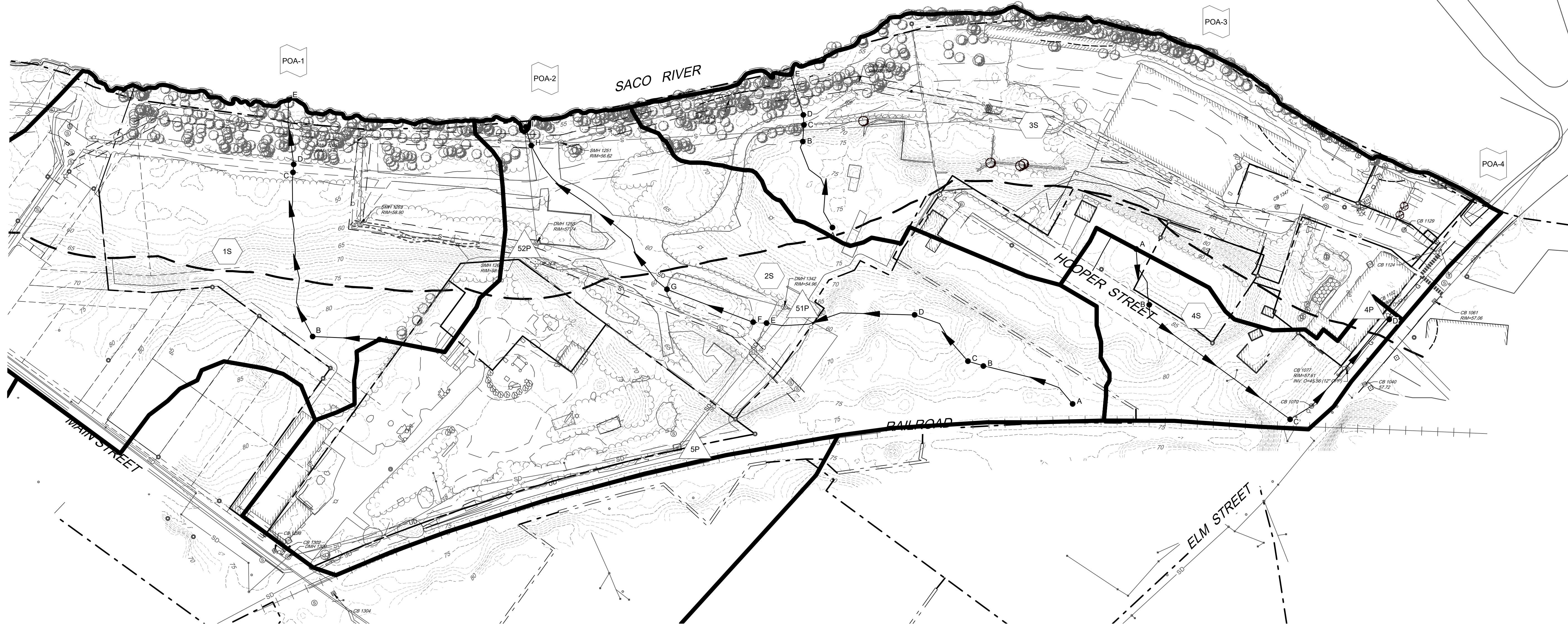
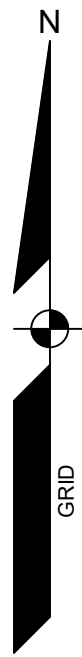


Federal Emergency Management Agency

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

Appendix 5

Stormwater Management Plans



EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
A — B TIME OF CONCENTRATION
○ REACH
○ SUBCATCHMENT LABEL
1S REACH
POA-1 POINT OF ANALYSIS
1P STORMWATER TREATMENT/DETENTION POND
HSG # SOILS BOUNDARY
HSG #

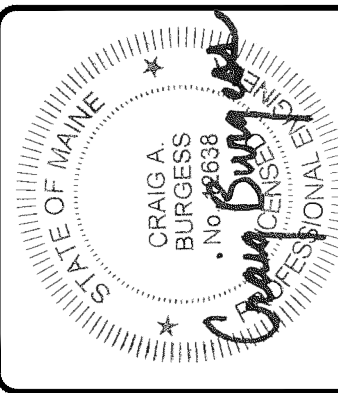
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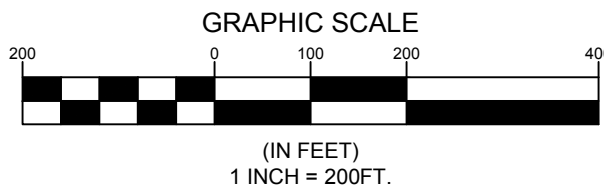
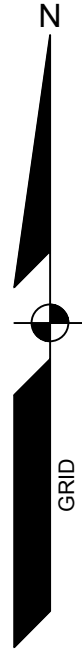
- ON-SITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY ON FEBRUARY 16, 2022. THE ON-SITE SOILS WERE IDENTIFIED AS U (URBAN LAND). A HYDROLOGIC SOIL GROUP (HSG) WAS NOT SPECIFIED FROM THE 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.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 80'
PROJECT	18462

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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





EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- REACH
- SUBCATCHMENT LABEL
- REACH
- POINT OF ANALYSIS
- STORMWATER TREATMENT/DETENTION POND
- SOILS #
- SOILS #

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 U (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.
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- TO PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 200'
PROJECT	18462

OFF-SITE WATERSHED PLAN
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICALS
WWW.SEAGOTECHNICALS.COM
75 JAMES STREET
SOUTH PORTLAND, ME 04106
TEL: 207-260-2100

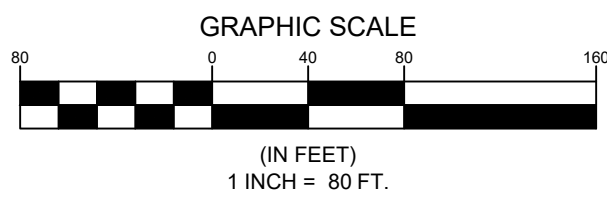
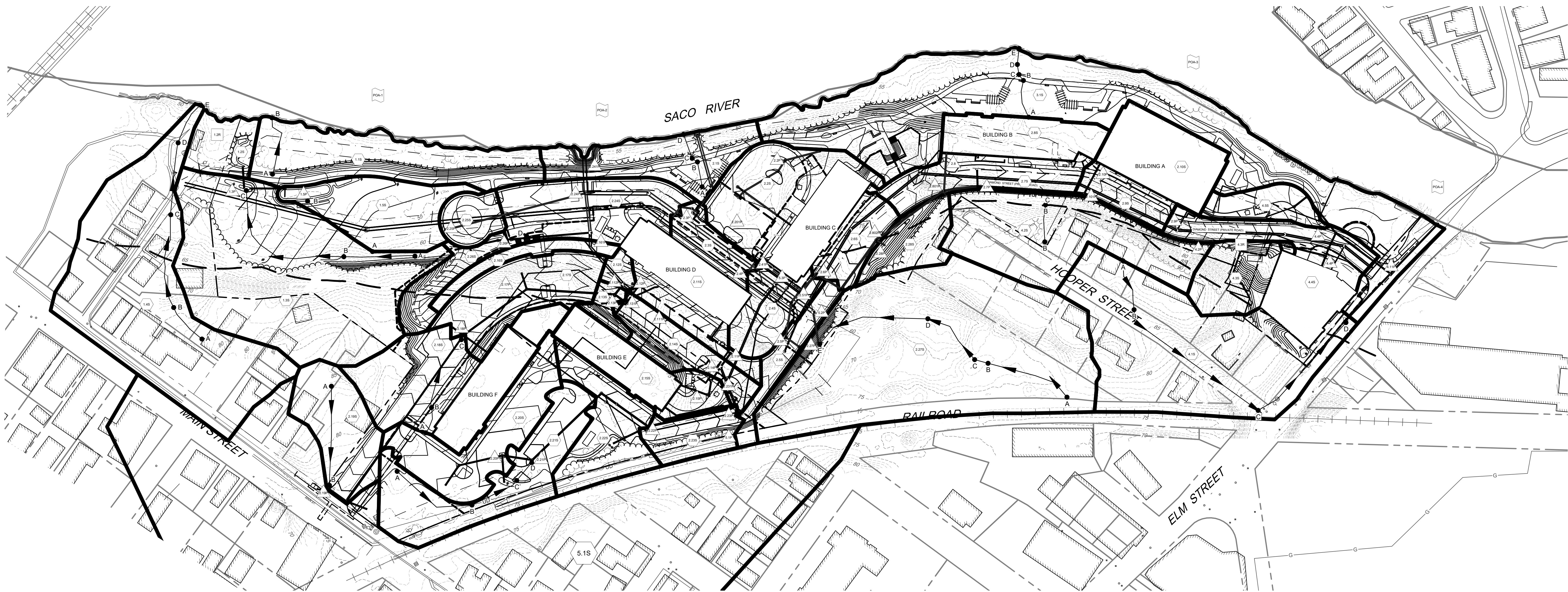
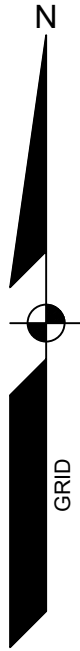
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SAGO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICALS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.



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F:\Projects\18462\18462\DWG\Design\18462 SWP POST.dwg 6/20/23 4:55 PM J. JANNER, E. GOODINE



PROPOSED CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- REACH
- SUBCATCHMENT LABEL
- REACH
- POINT OF ANALYSIS
- STORMWATER TREATMENT/DETENTION POND
- HSG #
- 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 U (URBAN LAND). A HYDROLOGIC SOIL GROUP (HSG) WAS NOT SPECIFIED FROM THE WEB SOIL SURVEY. A HSG OF D 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. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.
 3. TO PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 80'
PROJECT	18462

SHEET 3 OF 3

PROPOSED CONDITIONS WATERSHED PLAN

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICALS
WWW.SEBAGOTECHNICALS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel: 207-262-2100

REV.	BY:	DATE:	STATUS:
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
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B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICALS, INC. ANY ALTERATIONS AUTHORIZED BY OTHER PERSONS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.

CRAIG A. BURGESS, PE 12638



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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 methods of erosion control.

Exhibit 14

Environmental Review

Exhibit 14 Environmental Review

The proposed development area was previously developed: as a match factory with sawmill and 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 has been contracted to complete a Phase 2 assessment and VRAP submission process for the project area. 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.

No waiver is require or requested for the Phase 1 project.

Based on the factors and analysis presented above, the applicant requires a waiver of the Parking standards for future phases 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 at the completion of Phase 2 and Phase 3.

Memorandum

18462

To: File 18462 One Diamond Development

From: Daniel Riley, P.E., Sebago Technics

Date: June 12, 2023

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 is planned to meet 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 parking waiver requests for Phase 2 and Phase 3 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	20	1	20			No Waiver
1-BR	81	1	81			
2-BR	34	2	68			
SUBTOTAL RESIDENTIAL			169	187		
COMMERCIAL (SF)	5,500	1 PER 300 SF	19	19		
PUBLIC*			6	12		
VISITOR*		5% OF RESIDENTIAL	9	9		
TOTAL (PHASE 1)			203	227	+24	
PHASE TWO						
STUDIO	28	1	28			Waiver Requested
1-BR	121	1	121			
2-BR	40	2	80			
SUBTOTAL RESIDENTIAL			229	192		
COMMERCIAL (SF)	4,850	1 PER 300 SF	16	16		
PUBLIC			0	0		
VISITOR		5% OF RESIDENTIAL	11	11		
TOTAL (PHASE 2)			256	219	-37	
CUMULATIVE (PHASE 1+2)			459	446	-13	
PHASE THREE						
STUDIO	38	1	38			Waiver Requested
1-BR	96	1	96			
2-BR	20	2	40			
TOTAL RESIDENTIAL			174	138		
COMMERCIAL (SF)	3,800	1 PER 300 SF	13	13		
VISITOR		5% OF RESIDENTIAL	9	9		
TOTAL			196	160	-36	
CUMULATIVE (PHASE 1+2+3)			655	606	-49	

As demonstrated in Table 2, the Phase 1 project meets the ordinance-defined parking demand, providing a net parking supply of 24 spaces above the ordinance requirements, and no waiver is requested.

As the build-out of the project through Phases 2 and 3 waivers are requested for the cumulative parking demand. Table 3 below summarized the full building parking required by ordinance and the proposed parking supply for each of the currently proposed phases.

**Table 3 Parking Summary
Masterplan**

PROJECT TOTAL MASTERPLAN					
USE	UNITS/RATE	SPACES REQUIRED	SPACES PROPOSED	NET	WAIVER REQUEST
RESIDENTIAL	478	572	517		Waiver Requested
COMMERCIAL (SF)	14,150	48	48		
PUBLIC		6	12		
VISITOR		29	29		
TOTAL		655	606	-49 (-7% of total demand) (-8% of residential demand)	
PERCENT REDUCTION OF REQUIRED VS. PROPOSED PARKING WAIVER REQUEST					10%

Early concepts of the project presented plans that met the ordinance-defined parking demand. A review by the Planning Staff, Planning Board, and Applicant identified a desire to reduce parking in areas along the riverfront to provide additional open space opportunities within the development. In response, the applicant has eliminated approximately 50 spaces from the Phase 1 surface parking area along the river, necessitating a waiver of the parking standards when future phases are developed.

To provide flexibility in the building program, the applicant requests a waiver of up to 10% of the parking demand, as defined by ordinance, based on the cumulative total of building program/uses proposed at the completion of Phase 2 and Phase 3.

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
- The proposed mixed uses in the development provide shared parking opportunities
- Post-pandemic changes in parking and working environments
- Recent analysis published by the Institute of Traffic Engineers for parking demand related to mixed-use 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	20	1	20	20	0.75	15	
1-BR	81	1	81	81	0.75	60.75	
2-BR	34	2	68	68	0.75	51	
TOTAL RESIDENTIAL			169	169		127	187
COMMERCIAL	5,500	0.0033	18			18	19
PUBLIC*	6	1	6			6	12
VISITOR*		0.05	8			6	9
SUBTOTAL (PHASE 1)			202			157	227
PHASE TWO							
STUDIO	28	1	28	28	0.75	21	
1-BR	121	1	121	121	0.75	90.75	
2-BR	40	2	80	80	0.75	60	
TOTAL RESIDENTIAL			229	229		172	192
COMMERCIAL	4850	0.0033	16			16	16
PUBLIC	1		0			0	0
VISITOR*		0.05	11			9	11
SUBTOTAL (PHASE 2)			257			197	219
CUMULATIVE SUBTOTAL(PHASE 1+2)			458			354	446
PHASE THREE							
STUDIO	38	1	38	38	0.75	28.5	
1-BR	96	1	96	96	0.75	72	
2-BR	20	2	40	40	0.75	30	
TOTAL RESIDENTIAL			174	174		131	138
COMMERCIAL	3,800	0.0033	13			13	13
PUBLIC	1		0			0	0
VISITOR*		0.05	9			7	9
SUBTOTAL (PHASE 3)			195			150	160
CUMULATIVE SUBTOTAL (PHASE 1+2+3)			654			504	606

**Table 6 Parking Demand
Ordinance vs ITE at
Full Buildout**

MASTERPLAN					
USE	UNITS	SPACES REQUIRED (ORDINANCE)	TOTAL BEDROOMS	TOTAL REQUIRED (ITE)	PROPOSED PARKING
RESIDENTIAL	478 units	572	572	429	517
COMMERCIAL	14,15 sf	47		47	48
PUBLIC		6		6	12
VISITOR*		29		21	29
TOTAL		654		504	606

The ITE parking demand calculation confirms that the project's proposed parking is sufficient to meet the demand for mixed-use 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 at the completion of Phase 2 and Phase 3.

ONE DIAMOND

ELM STREET BIDDEFORD, MAINE

APPLICANT:
**ONE DIAMOND
DEVELOPMENT, LLC**
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

**ENGINEER/SURVEYOR/
LANDSCAPE ARCHITECT:**

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

PROJECT ARCHITECT:

SMRT
75 WASHINGTON STREET, SUITE 3A
PORTLAND, ME 04101

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 18941696
ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 35 18941698
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25-1 18913096
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 24 189906300
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25 18941344
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 74 746594
CITY OF BIDDEFORD MAP 40, LOT 25-2 2158491

- 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.

- 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/ 2 STORIES	60 FT/ 6 STORIES

MAXIMUM LOT COVERAGE: 55%
* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.

- TOTAL AREA OF PARCEL IS APPROXIMATELY 18.20 ACRES TO THE PROPOSED DIVISION LINE.

- ASSIGNED PLANNING BOARD MEMBER:

- CURRENT ZONING: GENERAL BUSINESS (B1) DISTRICT, HIGH DENSITY MIXED USE (MSRD3) DISTRICT

- SHORELAND ZONING: WATERFRONT RENAISSANCE (WR) DISTRICT

- EXISTING USE: PARTIALLY DEVELOPED LAND LOCATED AT THE FORMER DIAMOND MATCH SITE. EXISTING TODAY ARE REMNANTS OF THE FORMER MANUFACTURING BUILDINGS, AS WELL AS NEWER BUILDINGS THAT SUPPORT COMMERCIAL USES. PORTIONS OF THE SITE HAVE ALSO UTILIZED BY THE CITY OF BIDDEFORD AS PAVED/GRAVEL ACCESS ROADS AND LAYDOWN AREAS.

- PROPOSED USE:

PHASE 1: PROPOSED DEVELOPMENT IN PHASE 1 CONSISTS OF 135 RESIDENTIAL UNITS AND 5,500 SF OF COMMERCIAL SPACE, IN TWO NEW MULTILEVEL BUILDINGS. A PRIVATE ROAD WILL EXTEND FROM THE WEST SIDE OF ELM STREET, WITH THE ENTRY BEING LOCATED AT THE CURRENT LOCATION OF DIAMOND STREET. A TOTAL OF 208 PARKING SPACES IS ANTICIPATED TO MEET LOCAL PARKING STANDARDS. PHASE 1 DEVELOPMENT ALSO INCLUDES THE CONSTRUCTION OF A RIVERWALK TRAIL THAT WILL CONNECT ELM STREET TO THE HORRIGAN COURT AREA. THE TRAIL AND ASSOCIATED OPEN SPACE WILL BE FOR PUBLIC USE.

OVERALL SITE: MULTIPLE DEVELOPMENT CONSISTING OF A TOTAL OF 476 RESIDENTIAL UNITS AND 14,125 SQUARE FEET OF COMMERCIAL SPACE, IN SEVEN NEW MULTILEVEL BUILDINGS. TWO PRIVATE ROADWAYS WILL CONNECT ELM STREET AND MAIN STREET. A TOTAL OF 606 PARKING SPACES IS ANTICIPATED. A RIVER WALKWAY AND RECREATIONAL OPEN SPACE WILL ALSO BE CONSTRUCTED FOR PUBLIC USE.

- REQUIRED WAIVER/ VARIANCES: PARKING, PART III, ARTICLE VI, SECTION 49, SUBPARAGRAPHS C.3.(K)(2) AND C.3.(K)(4)

- DRAINAGE WATERSHED: SACO RIVER

- WITHIN THE MS4 URBANIZED AREA: YES

- NATURAL RESOURCES LOCATED ON-SITE OF ADJACENT TO PROPERTY: YES - SACO RIVER

- WITHIN THE 100-YEAR FLOOD ZONE: YES - ZONE A11 AND ZONE 8

- PUBLIC ROAD PROPOSED: NO - ONSITE ROADS TO REMAIN PRIVATE

- PRIVATE ROAD PROPOSED: YES

- PUBLIC SEWER CONNECTION: YES

PHASE 1: 21,300 GPD PER MAINE SUBSURFACE WASTEWATER RULES
OVERALL: 67,634 GPD PER MAINE SUBSURFACE WASTEWATER RULES

- PUBLIC DRAIN CONNECTION: YES

- LIMITS OF DISTURBANCE: PHASE 1: ± 10 ACRES MASTER PLAN: ± 15 ACRES

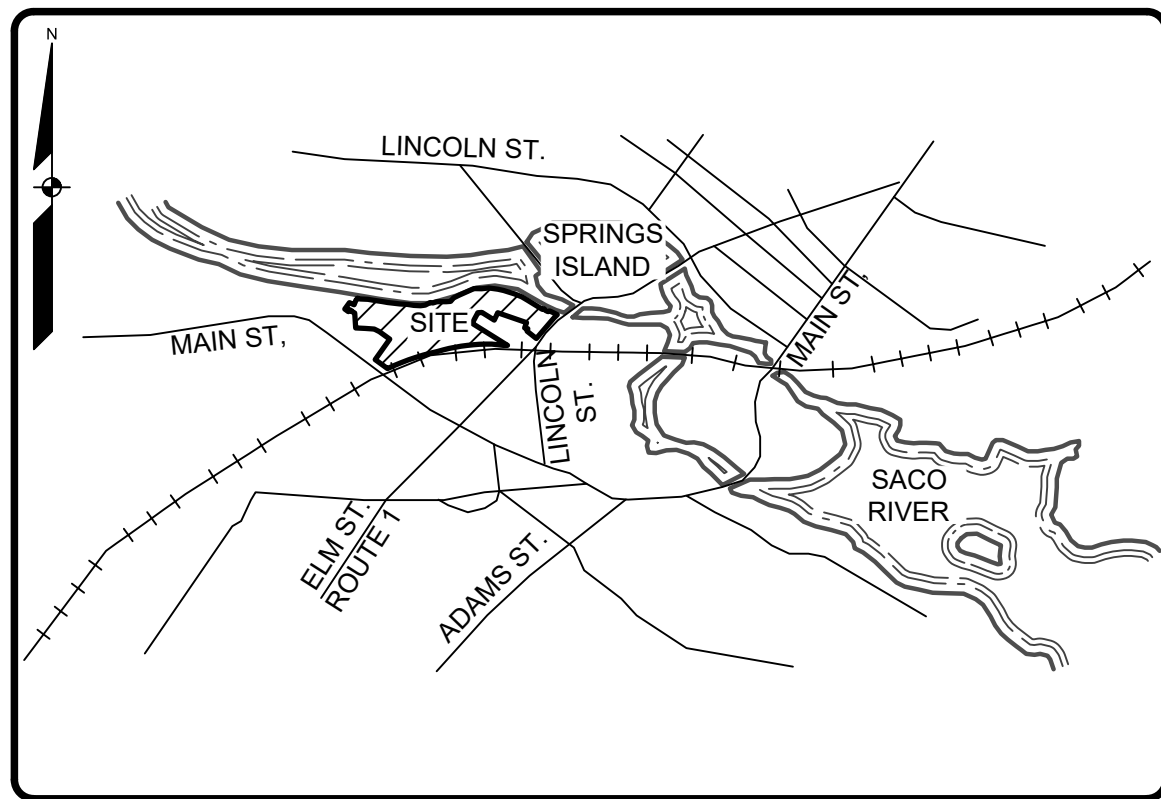
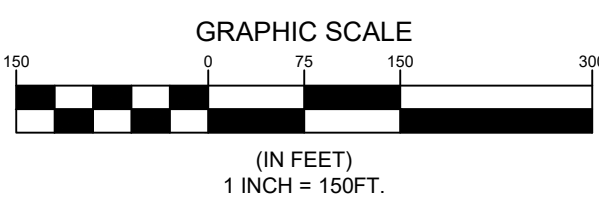
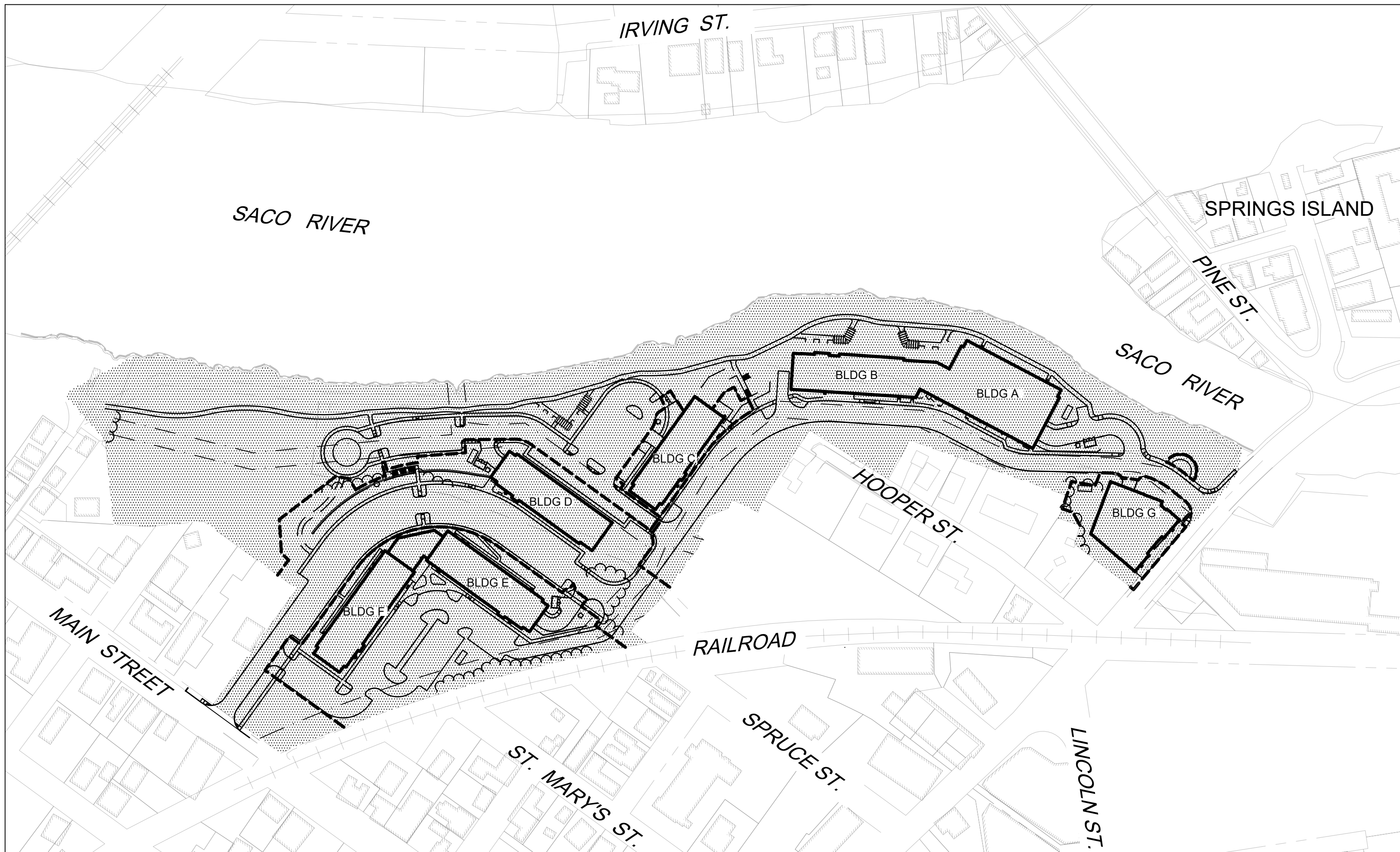
- PERVIOUS LAND COVER (EXISTING): ± 590,000 SF
PERVIOUS LAND COVER (PROPOSED): PHASE 1: ± 275,000 SF MASTER PLAN: ± 370,000 SF

- IMPERVIOUS LAND COVER (EXISTING): ± 215,000 SF
IMPERVIOUS LAND COVER (PROPOSED): PHASE 1: ± 185,000 SF MASTER PLAN: ± 430,000 SF

- BUILDING ROOF SQUARE FOOTAGE (EXISTING): ± 46,000 SF
BUILDING ROOF SQUARE FOOTAGE (PROPOSED): ± 116,000 SF

- ESTIMATED CUT/FILL EARTHWORK VOLUMES (OVERALL SITE): CUT: ± 22,500 CY, FILL: ± 31,000 CY

- ESTIMATED CUT/FILL EARTHWORK VOLUMES (INSIDE A8 & A11 FLOOD ZONE): CUT: ± 0 CY, FILL: ± 12,000 CY



LOCATION MAP

NOT FOR
CONSTRUCTION



SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES AND LEGEND
3	OVERALL SITE PLAN
4	PHASING PLAN
5	DRAWING INDEX SHEET
6	DEMOLITION PLAN - 1
7	DEMOLITION PLAN - 2
8	VEGETATION REMOVAL PLAN
9	SITE PLAN - PHASE 1 - AREA 1A
10	SITE PLAN - PHASE 1 - AREA 1B
11	SITE PLAN - PHASE 1 - AREA 1C
12	SITE PLAN - RIVERWALK TRAIL
13	SITE PLAN - PHASE 2 - AREA 2A
14	SITE PLAN - PHASE 2 - AREA 2B AND PHASE 3
15	SITE PLAN - PHASE 2 - AREA 2C (BUILDING G)
16	OVERALL GRADING PLAN
17	GRADING PLAN - PHASE 1 - AREA 1A
18	GRADING PLAN - PHASE 1 - AREA 1B
19	GRADING PLAN - PHASE 1 - AREA 1C
20	GRADING PLAN - RIVERWALK TRAIL
21	GRADING PLAN - PHASE 2 - AREA 2A
22	GRADING PLAN - PHASE 2 - AREA 2B
23	GRADING PLAN - PHASE 2 - AREA 2C (BUILDING G)
24	PROFILE - PHASE 1 - AREA 1A
25	PROFILE - PHASE 1 - AREA 1B
26	PROFILE - PHASE 2 - AREA 2
27	OVERALL UTILITY PLAN
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29	UTILITY PLAN - PHASE 1 - AREA 1B
30	UTILITY PLAN - PHASE 1 - AREA 1C
31	UTILITY PLAN - PHASE 2 - AREA 2A
32	UTILITY PLAN - PHASE 2 - AREA 2B
33	UTILITY PLAN - PHASE 2 - AREA 2C (BUILDING G)
34	PIPE AND STRUCTURE DATA TABLES
35	LANDSCAPE PLAN - PHASE 1 - AREA 1A
36	LANDSCAPE PLAN - PHASE 1 - AREA 1B
37	LANDSCAPE PLAN - PHASE 1 - AREA 1C
38	LANDSCAPE PLAN - RIVERWALK TRAIL
39	LANDSCAPE PLAN - PHASE 2 - AREA 2A
40	LANDSCAPE PLAN - PHASE 2 - AREA 2B
41	LANDSCAPE PLAN - PHASE 2 - AREA 2C (BUILDING G)
42	BMP CONSTRUCTION PLAN
43	EROSION CONTROL NOTES
44	DETAILS - 1
45	DETAILS - 2
46	DETAILS - 3
47	DETAILS - 4
48	DETAILS - 5
49	DETAILS - 6
50	DETAILS - 7
51	DETAILS - 8
1 OF 3	EXISTING CONDITIONS STORMWATER PLAN
2 OF 3	OFF-SITE WATERSHED PLAN
3 OF 3	PROPOSED CONDITIONS STORMWATER PLAN
1 OF 1	EXISTING CONDITIONS PLAN
	PHOTOMETRIC PLAN

SHEET LIST - ARCHITECTURAL

SHEET NUMBER	SHEET TITLE
AB.G002	UNIT MATRIX
AB.AE100	AB PARKING FLOOR PLAN
AB.AE101	AB FIRST FLOOR PLAN
AB.AE102	AB SECOND FLOOR PLAN
AB.AE103	AB THIRD FLOOR PLAN
AB.AE104	AB FOURTH FLOOR PLAN
AB.AE105	AB FIFTH FLOOR PLAN
AB.AE106	AB SIXTH FLOOR PLAN
AB.AE201	EXTERIOR ELEVATIONS
AB.AE202	EXTERIOR ELEVATIONS
AB.AE203	EXTERIOR ELEVATIONS
AB.AE204	EXTERIOR ELEVATIONS
AB.AE.301	BUILDING SECTIONS
AB.AE700	RENDERINGS
AB.AE701	RENDERINGS
AB.AE702	RENDERINGS
AB.AE703	RENDERINGS
C.AE100	C PARKING & FIRST FLOOR
C.AE201	EXTERIOR ELEVATIONS
C.AE202	EXTERIOR ELEVATIONS
D.AE100	D PARKING & FIRST FLOOR
D.AE201	EXTERIOR ELEVATIONS
D.AE202	EXTERIOR ELEVATIONS
EF.AE100	EF PARKING FLOOR PLAN
EF.AE101	EF FIRST FLOOR PLAN
EF.AE201	EXTERIOR ELEVATIONS
EF.AE202	EXTERIOR ELEVATIONS
G.AE100	G FIRST FLOOR PLAN
G.AE101	G SECOND FLOOR PLAN
G.AE201	EXTERIOR ELEVATIONS
G.AE202	EXTERIOR ELEVATIONS

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 150'
PROJECT	18462

SHEET 1 OF 51

LEGEND

EXISTING	PROPOSED
PROPERTY LINE R.O.W.	
ABUTTER LINE R.O.W.	
DEED LINE R.O.W.	
THE LINE	
SETBACK	
EASEMENT - UTILITY	
EASEMENT - OPEN SPACE	
EASEMENT - ACCESS	
BUFFER	
FLOODPLAIN	
FLOODWAY	
CENTERLINE	
MONUMENT	
IRON PIPE/ROD	
DRILL HOLE	
C1/L1	
C1/L1	
CURVELINE NO.	
SOLS	
ZONE LINE ON PL.	
REMARKS DESCRIPTION WITH ELEVATION	BENCHMARK
TP-1	
MW-1	
BORING	
BUILDING	
DECK/STEPS/ OVERHANG	
EDGE WETLAND	
WETLANDS	
UPLANDS	
STREAM	
LEDGE	
EDGE PAVEMENT	
PAVEMENT SAWCUT	
EDGE CONCRETE	
PAVEMENT PAINT	
EDGE GRAVEL	
CURB LINE	
EDGE OF WATER	
TRAILLINE	
-120.00 -118.00	-120.00
CONTOURS	
SPOT GRADE	
X 120.00	
CHAIN LINK FENCE	
BARB WIRE FENCE	
STOCKPILE FENCE	
GRAVEL RAIL	
STONE WALL	
RETAINING WALL	
DECIDUOUS TREE	
CONIFEROUS TREE	
MULCH LINE	
BOLLARD	
SIGN	
RAILROAD	
GAS	
GAS GATE VALVE	
GAS METER	
GAS MANHOLE	
WATER	
WATER GATE VALVE	
WATER SHUT OFF	
HYDRANT	
WATER MANHOLE	
WELL	
SANITARY SEWER	
FORCE MAIN	
SANITARY MANHOLE	
STORM DRAIN	
UNDER DRAIN	
DRAINAGE MANHOLE	
CATCH BASIN	
OVERHEAD UTILITY	
UNDERGROUND UTILITY	
TRANSFORMER PAD	
ELECTRICAL MANHOLE	
ELECTRIC METER	
HVAC UNIT	
TELEPHONE MANHOLE	
LIGHT POLE	
UTILITY POLE	
GUY WIRE	
DRAINAGE DITCH	
EROSION CONTROL	
BLANKET	
FILTER BARRIER	
RIPRAP	
CHECK DAM	
INLET PROTECTION	
BOULDER	
EASEMENT - ACCESS AREA	
EASEMENT - OPEN AREA	
PHASE 1 AREA	
PHASE 2 AREA	
PHASE 3 AREA	

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 18996930
ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25 18941344
UNION OIL CO. OF MAINE MAP 40, LOT 74 746584
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 (MSD3), AND GENERAL BUSINESS (B1) DISTRICTS.
- SPACE AND BULK CRITERIA FOR DISTRICTS ARE AS FOLLOWS: (AREA IS IN SQUARE FEET)
WATERFRONT MSD3 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.
- TOTAL AREA OF PARCEL IS APPROXIMATELY 16.20 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 FLIGHT 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 SACS, 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 TOPOGRAPHIC 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, 1950 BY LIBBY & DOW ENGINEERS AND RECORDED AT THE YCRD IN PLAN BOOK 15, PAGE 38.
E. WAKEFIELD BROOK LOT, BELONGING TO THE ESTATE OF DOMINICUS CUTTS, DATED JULY 20, 1846 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 9.
G. "PLAN SHOWING A BOUNDARY SURVEY OF LAND LOCATED AT 368 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. LIQUES 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 "Y" BIDEFORD YORK COUNTY FEDERAL AID PROJECT NO. 18041-01747" 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. LIQUES DATED APRIL 19, 1859 AND RECORDED AT THE YCRD IN PLAN BOOK 001, PAGE 0010.
O. "PLAN OF LAND OF E.H.C. HOOPER AND LAND OF HEIRS OF HON. P. HOOPER IN BIDEFORD" BY G.W. LIQUES DATED JULY 14, 1859 AND RECORDED AT THE YCRD IN PLAN BOOK 001, PAGE 43.
P. "PLAN OF LAND OF E.H.C. HOOPER AND THOMAS H. COLE IN BIDEFORD ON THE SOUTH WESTERLY SIDE OF A RESERVED STREET FROM MAIN STREET TOWARDS THE 'STEAM MILLS' BY G.W. LIQUES DATED OCTOBER 2, 1859 AND RECORDED AT THE YCRD IN PLAN BOOK 001, PAGE 0048.
- PLAN ORIENTATION IS GRID NORTH. MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802NAD83, 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: 60.88' (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 B, 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 WETLAND DELINEATION WAS PERFORMED ON THE PROJECT SITE IN AUGUST 2022 BY ANNA BIDDLE, CERTIFIED SOIL SCIENTIST OF SEBAGO TECHNICS, INC. AND LOCATED USING A TRIMBLE GPS BACKPACK UNIT CAPABLE OF SUBMETER ACCURACY. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS.
- 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.

- 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. DAMAGE TO EXISTING SEWER INFRASTRUCTURE SHALL BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE.
- 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 USG PUBLIC WORKS SYSTEMS.
- CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MERSA 300A.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 CONDITIONS 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, HOLIDAYS AND VACATIONS. 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.

DISTRICT	TOTAL AREA (SF)	UNSATURABLE AREA (SF)	DEVELOPABLE AREA (SF)	MINIMUM DENSITY	AVAILABLE UNITS	PROPOSED UNITS (PHASE 1)	PROPOSED UNITS (MASTER PLAN)
WM DISTRICT	263,426	215,109	215,109	425 SF/LOT	502	195	314
B1 DISTRICT	263,427	66,596	206,921	1,000 SF/LOT	206	0	194
MERSO-DISTRICT	13,795	720	13,066	N/A	N/A	0	10
SITE TOTAL	665,657	372,424	435,035		708	195	478

DISTRICT	TOTAL AREA (SF)	UNSATURABLE AREA (SF)	DEVELOPABLE AREA (SF)	MINIMUM DENSITY	AVAILABLE UNITS	PROPOSED UNITS (PHASE 1)	PROPOSED UNITS (MASTER PLAN)
WM DISTRICT	263,426	215,109	215,109	425 SF/LOT	502	195	314
B1 DISTRICT	263,427	66,596	206,921	1,000 SF/LOT	206	0	194
MERSO-DISTRICT	13,795	720	13,066	N/A	N/A	0	10
SITE TOTAL	665,657	372,424	435,035		708	195	478

NUMBER OF RES. UNITS/COMM. AREA	REQUIRED PARKING RATE	TOTAL PARKING REQUIRED	PROPOSED PARKING
PHASE ONE			
STUDIO	20	1	20
3-BR	81	1	81
2-BR	34	2	68
TOTAL RESIDENTIAL			169
COMMERCIAL	5,500 SF	1 PER 300 SF	19
PUBLIC			6
VISITOR*		5% OF RESIDENTIAL	9
TOTAL (PHASE 1)			203
PHASE TWO			
STUDIO	28	1	28
1-BR	121	1	121
2-BR	40	2	80
TOTAL RESIDENTIAL			229
COMMERCIAL	4,850 SF	1 PER 300 SF	16
PUBLIC			0
VISITOR		5% OF RESIDENTIAL	11
TOTAL (PHASE 2)			256
CUMULATIVE (PHASE 1+2)			459
PHASE THREE			
STUDIO	38	1	38
1-BR	96	1	96
2-BR	20	2	40
TOTAL RESIDENTIAL			174
COMMERCIAL	3,800 SF	1 PER 300 SF	13
PUBLIC			0
VISITOR		5% OF RESIDENTIAL	8
TOTAL			295
CUMULATIVE (PHASE 1+2+3)			655
MASTERPLAN			
RESIDENTIAL			572
COMMERCIAL			48
PUBLIC			6
VISITOR			26
TOTAL			655
TOTAL NUMBER OF ADA DESIGNATED SPOTS			
			25

- *PUBLIC PARKING REQUIRED BY JDA WITH CITY
- *5% PER PART III, ARTICLE XI, SECTION 5, SUBPARAGRAPH 3 C OF CITY OF BIDEFORD LAND DEVELOPMENT REGULATIONS

PROPOSED IMPERVIOUS COVERAGE WITHIN 250' SETBACK	
PHASE 1	
TOTAL PROPOSED IMPERVIOUS AREA	175,000 SF
% IMPERVIOUS COVERAGE	33%
PHASES 2 & 3	
TOTAL PROPOSED IMPERVIOUS AREA	70,000 SF
% IMPERVIOUS COVERAGE	13%
OVERALL SITE	
TOTAL PROPOSED IMPERVIOUS AREA	245,000 SF
TOTAL AREA WITHIN 250'	525,000 SF
TOTAL % IMPERVIOUS COVERAGE	47%
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 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 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 PROVIDED 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 N-12 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/C111-11.21 (LATEST REVISION). PIPE SHALL BE CEMENT-LINED AWWA/C104-14 WITH LINING TWICE THE THICKNESS SPECIFIED, AND COATED TWICE WITH A BITUMINOUS SLAT COATING. PROVIDE THURST BLOCKS AT ALL WATER SERVICE BENDS.
- COORDINATE FOUNDATION UNDERDRAN 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 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 BY 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 DEMOLITION 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
 - SEWER:
 - BIDEFORD ENGINEERING DEPARTMENT, PUBLIC WORKS
 - CRAGG CHEKAN, CITY ENGINEER (207) 571-0635
 - WATER:
 - MAINE WATER COMPANY
 - MARCUS KNIPP, ENGINEER (207) 284-6943

GRADING & EROSION NOTES

- SIDE SLOPES SHALL NOT BE STEEPER THAN 3:1 (H:V) EXCEPT AS OTHERWISE IDENTIFIED ON THIS PLAN. ALL SIDE SLOPES 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.

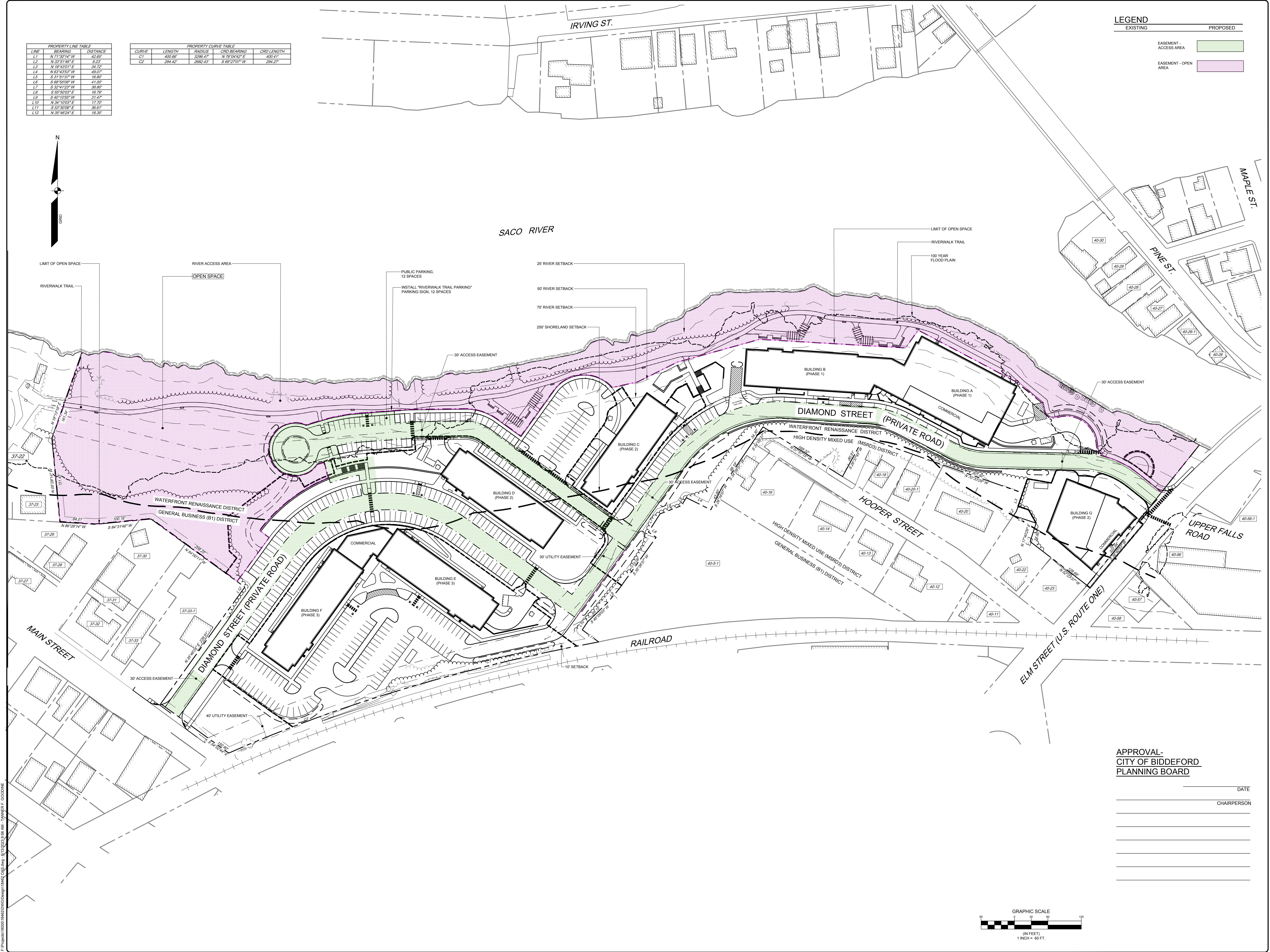
CONSTRUCTION PLAN

- 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 SEEDDED. PLANTING AREAS SHALL RECEIVE 12" ROLLED 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.



PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 71°30'14" W	42.65'
L2	N 33°51'46" E	9.23'
L3	N 10°40'01" E	34.72'
L4	N 63°43'53" W	49.07'
L5	S 31°51'32" W	16.80'
L6	S 60°50'08" W	41.00'
L7	S 52°41'23" W	36.80'
L8	S 55°50'03" E	16.75'
L9	S 40°10'55" W	31.47'
L10	N 24°10'03" E	17.70'
L11	S 53°30'06" E	36.61'
L12	N 35°46'24" E	16.30'

PROPERTY CURVE TABLE			
CURVE	LENGTH	RADIUS	CRD BEARING
C1	400.66'	3296.47'	N 76°04'42" E
C2	294.42'	2682.43'	S 69°27'07" W
			CRD LENGTH 400.41'

LEGEND	
EXISTING	PROPOSED
EASEMENT - ACCESS AREA	
EASEMENT - OPEN AREA	

NOT FOR CONSTRUCTION

CRAIG A. BURGESS, PE 12638

STATE OF MAINE

CRAIG A. BURGESS

Professional Engineer

06/28/2023

E	CAB 08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB 06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB 04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB 04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB 03/28/2023	FOR JDA AGREEMENT

REV: BY: DATE: STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQS, INC. ANY ALTERATIONS AUTHORIZED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQS, INC.

SEBAGO TECHNIQS

WWW.SEAGOTECHNIQS.COM

75 S. Main St., Suite 201
South Portland, ME 04106
Tel: 207-267-2100

OVERALL SITE PLAN

OF: ONE DIAMOND

FOR: BIDDEFORD, MAINE

FOR: ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201
KENNESBUNK, ME 04043

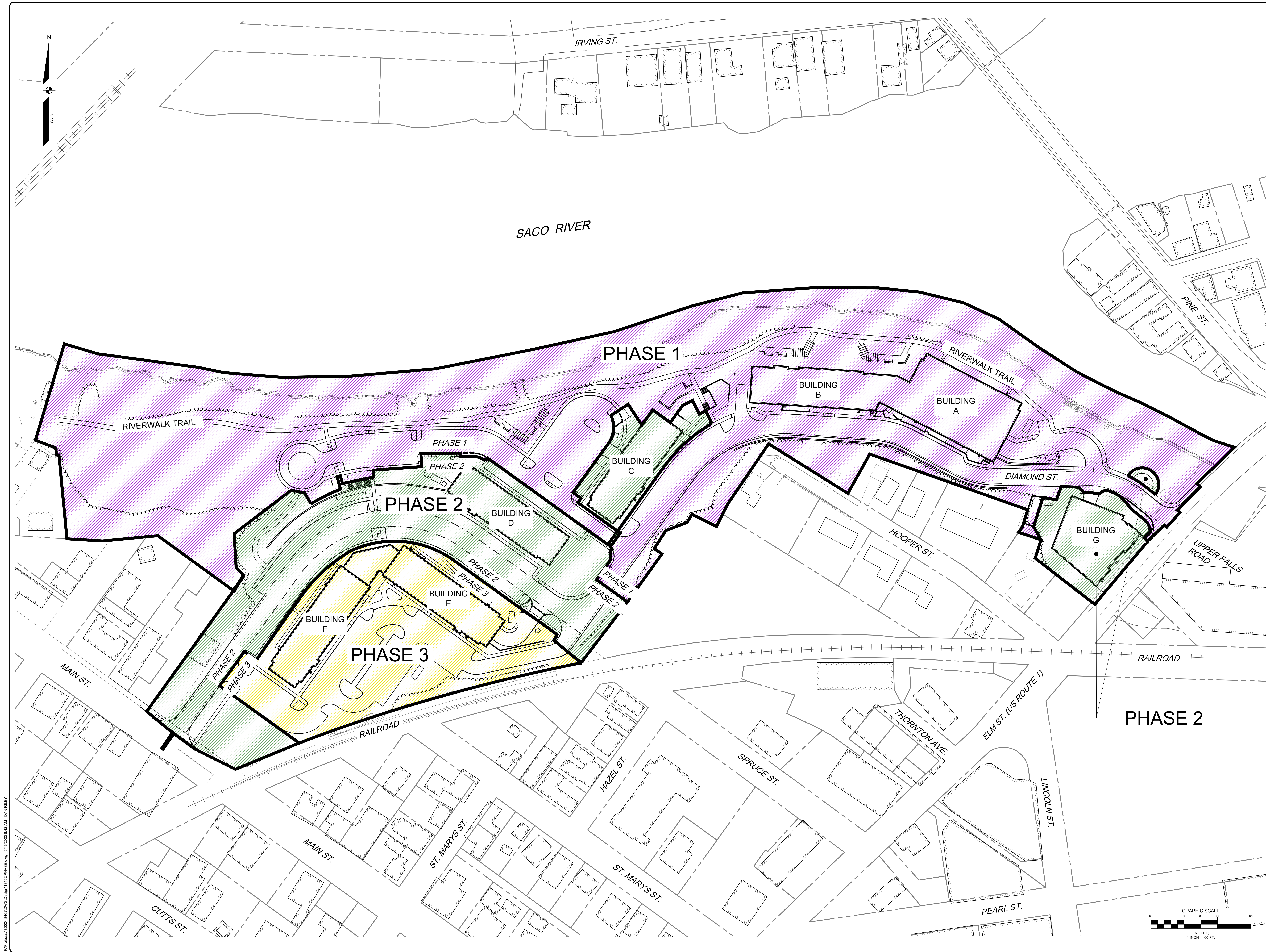
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 60'
PROJECT	18462

APPROVAL-
CITY OF BIDDEFORD
PLANNING BOARD

DATE

CHAIRPERSON

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18462 PHASE.dwg TAB 4 PHASING PLAN

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 60'
PROJECT	18462

PHASING PLAN
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LINWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel. 207-200-2100

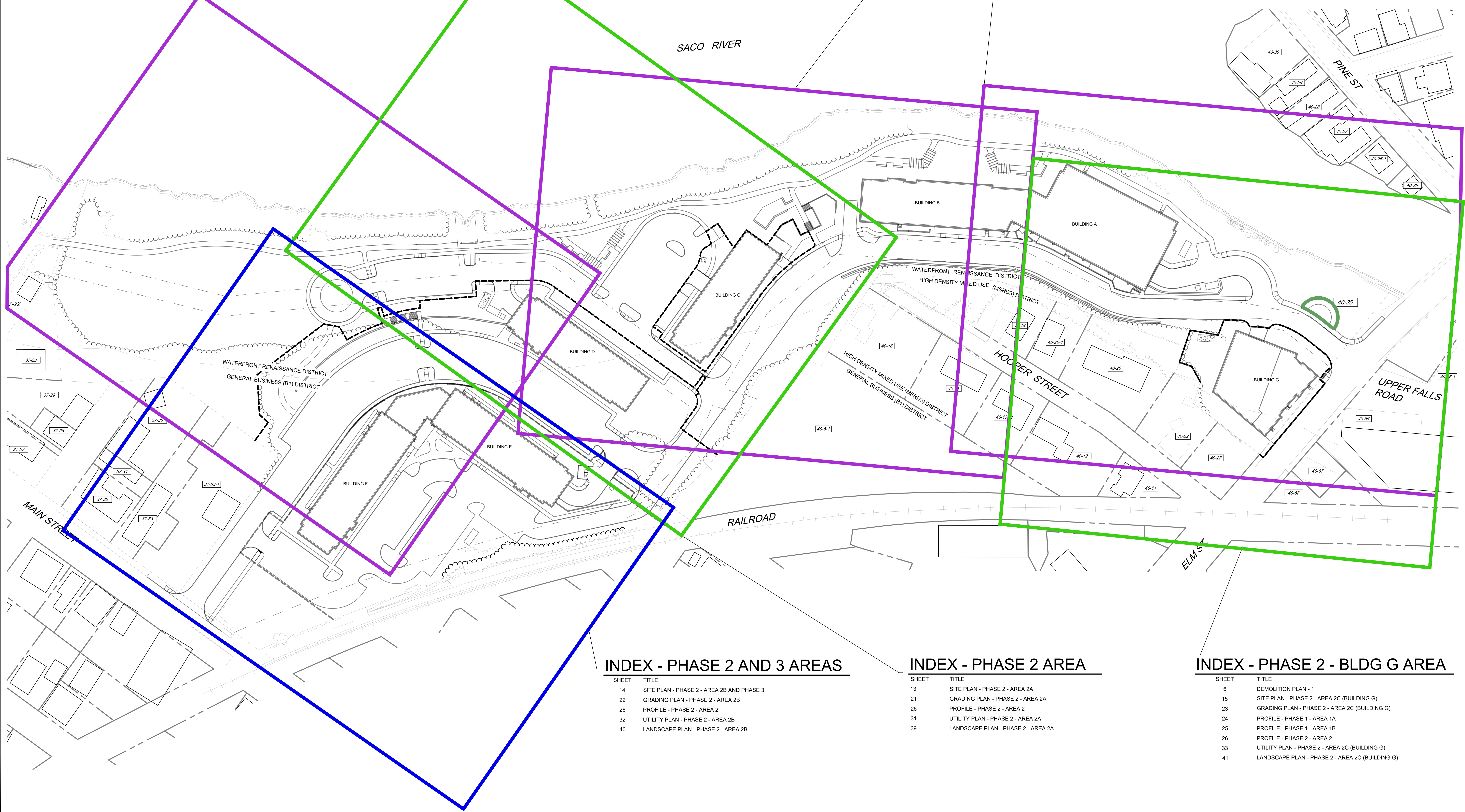
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B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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NOT FOR
CONSTRUCTION

STATE OF MAINE
CRAIG A. BURGESS, PE 12638
CRAIG A. BURGESS
06/28/2023

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INDEX - PHASE 1 AREA

SHEET	TITLE
6	DEMOLITION PLAN - 1
7	DEMOLITION PLAN - 2
9	SITE PLAN - PHASE 1 - AREA 1A
10	SITE PLAN - PHASE 1 - AREA 1B
17	GRADING PLAN - PHASE 1 - AREA 1A
18	GRADING PLAN - PHASE 1 - AREA 1B
19	GRADING PLAN - PHASE 1 - AREA 1C
24	PROFILE - PHASE 1 - AREA 1A
25	PROFILE - PHASE 1 - AREA 1B
26	PROFILE - PHASE 2 - AREA 2
28	UTILITY PLAN - PHASE 1 - AREA 1A
29	UTILITY PLAN - PHASE 1 - AREA 1B
30	UTILITY PLAN - PHASE 1 - AREA 1C
35	LANDSCAPE PLAN - PHASE 1 - AREA 1A
36	LANDSCAPE PLAN - PHASE 1 - AREA 1B
37	LANDSCAPE PLAN - PHASE 1 - AREA 1C

INDEX - PHASE 2 AND 3 AREAS

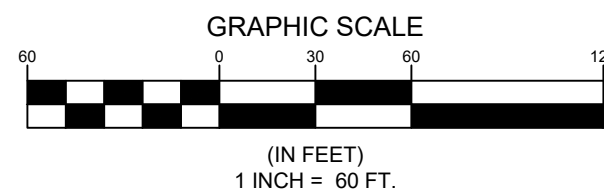
SHEET	TITLE
14	SITE PLAN - PHASE 2 - AREA 2B AND PHASE 3
22	GRADING PLAN - PHASE 2 - AREA 2B
26	PROFILE - PHASE 2 - AREA 2
32	UTILITY PLAN - PHASE 2 - AREA 2B
40	LANDSCAPE PLAN - PHASE 2 - AREA 2B

INDEX - PHASE 2 AREA

SHEET	TITLE
13	SITE PLAN - PHASE 2 - AREA 2A
21	GRADING PLAN - PHASE 2 - AREA 2A
26	PROFILE - PHASE 2 - AREA 2
31	UTILITY PLAN - PHASE 2 - AREA 2A
39	LANDSCAPE PLAN - PHASE 2 - AREA 2A

INDEX - PHASE 2 - BLDG G AREA

SHEET	TITLE
6	DEMOLITION PLAN - 1
15	SITE PLAN - PHASE 2 - AREA 2C (BUILDING G)
23	GRADING PLAN - PHASE 2 - AREA 2C (BUILDING G)
24	PROFILE - PHASE 1 - AREA 1A
25	PROFILE - PHASE 1 - AREA 1B
26	PROFILE - PHASE 2 - AREA 2
33	UTILITY PLAN - PHASE 2 - AREA 2C (BUILDING G)
41	LANDSCAPE PLAN - PHASE 2 - AREA 2C (BUILDING G)



18462 KEY MAP.dwg, TAB:5 DRAWING INDEX SHEET

DRAWING INDEX SHEET

OF:
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 60'
PROJECT	18462

SHEET 5 OF 51

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel: 207-260-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
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A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

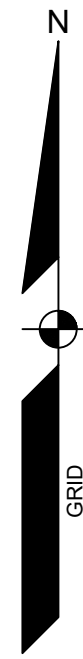
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ORAGA A. BURGESS, PE 12638



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CONSTRUCTION

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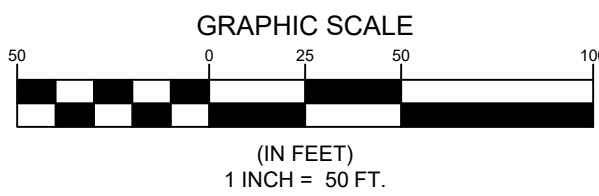


NOTES

- SEE NOTES AND LEGEND SHEET 2 FOR UTILITY DEMOLITION NOTES.

DEMOLITION KEY

- SAWCUT PAVEMENT
- REMOVE ASPHALT PAVEMENT
- REMOVE GRAVEL
- REMOVE OLD FOUNDATION
- REMOVE EXISTING BUILDING
- REMOVE EXISTING FENCE
- PROTECT EXISTING HYDRANT
- REMOVE & REPLACE STOP SIGN
- RELOCATE FLASHING BEACON
- REMOVE RETAINING WALL
- REMOVE MEP EQUIPMENT
- PROTECT EXISTING MANHOLE
- REMOVE STORM DRAIN
- REMOVE SEWER PIPE
- REMOVE SEWER MANHOLE
- REMOVE UTILITY POLE
- REMOVE OVERHEAD UTILITIES
- REMOVE EXISTING VEGETATION
- REMOVE RIPRAP
- REMOVE WOOD PLANK RAMPS
- REMOVE EXISTING LIGHT POLE
- REMOVE EXISTING WATER LINE
- ABANDON SEWER PIPE IN PLACE
- CAP SEWER PIPE
- REMOVE HYDRANT



18462 DEMO.dwg 18462 DEMO PLAN - 1

DESIGNED TFG	
DRAWN DAB	
CHECKED CAB	
DATE 04/12/2023	
SCALE 1" = 50'	
PROJECT 18462	

DEMOLITION PLAN - 1
OF
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Judds Rd
South Portland, ME 04106
Tel: 207-260-2100

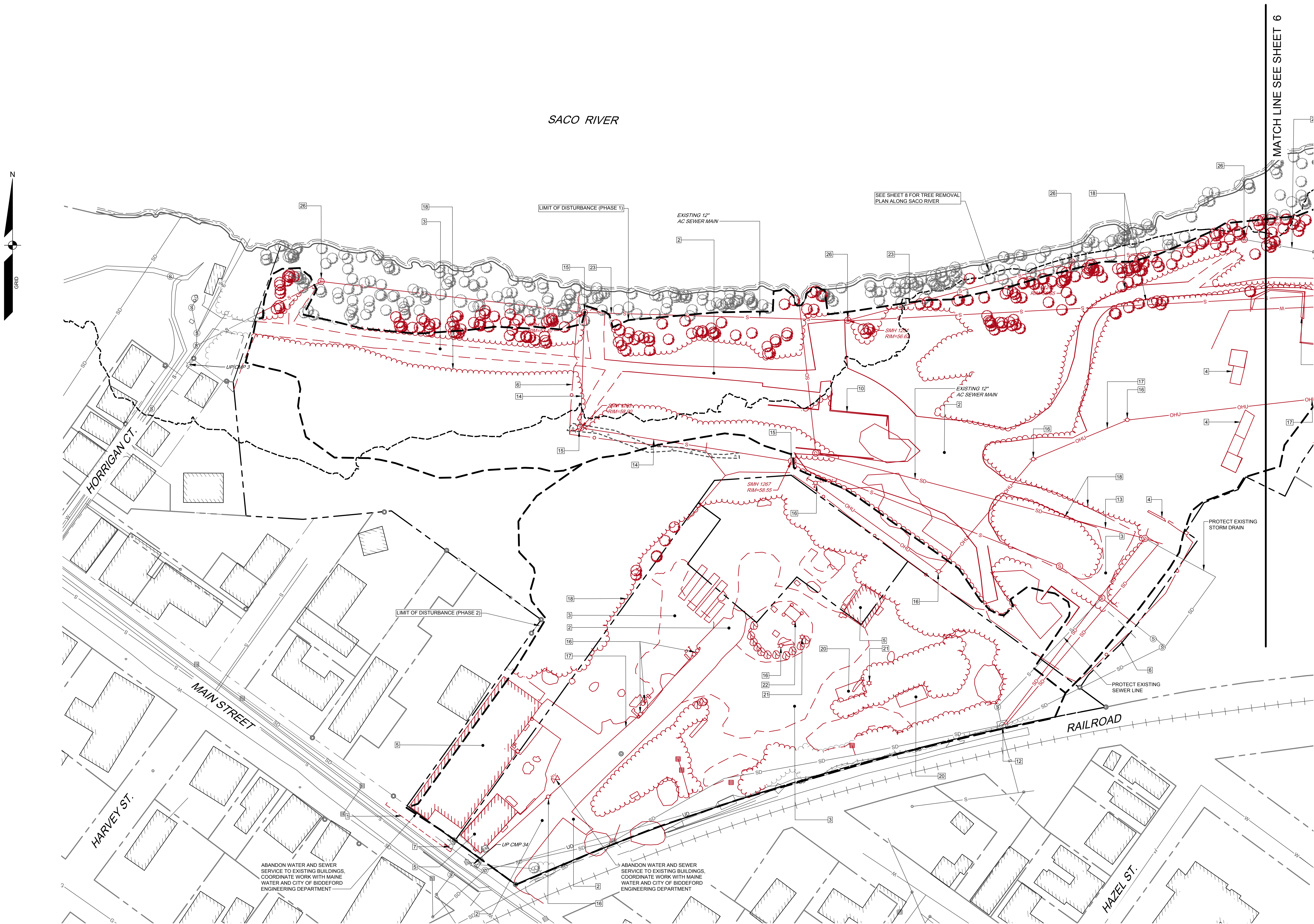
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
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A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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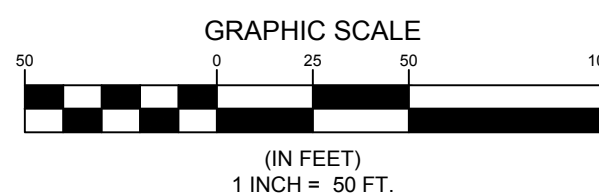


NOTES

1. SEE NOTES AND LEGEND SHEET 2 FOR UTILITY DEMOLITION NOTES.

DEMOLITION KEY

1. SAWCUT PAVEMENT
2. REMOVE ASPHALT PAVEMENT
3. REMOVE GRAVEL
4. REMOVE OLD FOUNDATION
5. REMOVE EXISTING BUILDING
6. REMOVE EXISTING FENCE
7. PROTECT EXISTING HYDRANT
8. REMOVE & REPLACE STOP SIGN
9. RELOCATE FLASHING BEACON
10. REMOVE RETAINING WALL
11. REMOVE MEP EQUIPMENT
12. PROTECT EXISTING MANHOLE
13. REMOVE STORM DRAIN
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 WATER LINE
23. ABANDON SEWER PIPE IN PLACE
24. CAP SEWER PIPE
25. REMOVE HYDRANT
26. ABANDON SEWER MANHOLE IN PLACE, LOWER RM TO EXISTING GRADE



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04/12/2023

SCALE

1" = 50'

PROJECT

18462

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DATE

04/12/2023

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CHECKED

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DATE

04/12/2023

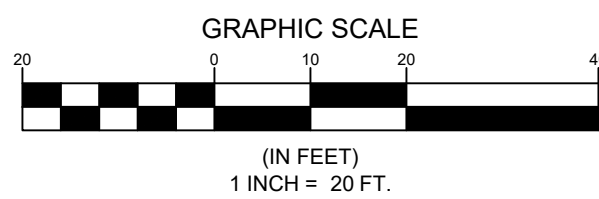
SCALE

1" = 50'

PROJECT

18462

DESIGNED



TREE REMOVAL	
TOTAL NUMBER OF TREES WITHIN 75' SETBACK	750
NUMBER OF TREES REMOVED WITHIN 75' SETBACK	220
% REMOVED	29%
MAXIMUM ALLOWABLE TREE REMOVAL WITHIN 75' SETBACK IN WATERFRONT RENAISSANCE DISTRICT	40%

- ## NOTES
1. ALL TREES DEPICTED ON THIS PLAN ARE GREATER THAN 4" DIAMETER AND WERE FIELD SURVEYED IN MARCH OF 2023 BY SEBAGO TECHNICS.
 2. REFER TO DEMOLITION PLANS FOR ALL EXISTING SITE ELEMENTS AND UTILITIES TO BE REMOVED AS PART OF PROJECT.

VEGETATION REMOVAL PLAN

OF: **ONE DIAMOND**
ELM STREET
BIDDEFORD, MAINE

FOR: **ONE DIAMOND DEVELOPMENT, LLC**
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 8 OF 51

E	CAB	08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
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A	CAB	03/28/2023	FOR JDA AGREEMENT

South Portland, ME 04106
Suite 4A
Tel. 207-202-2100
Fax 207-202-2101

SEBAGO
TECHNICS

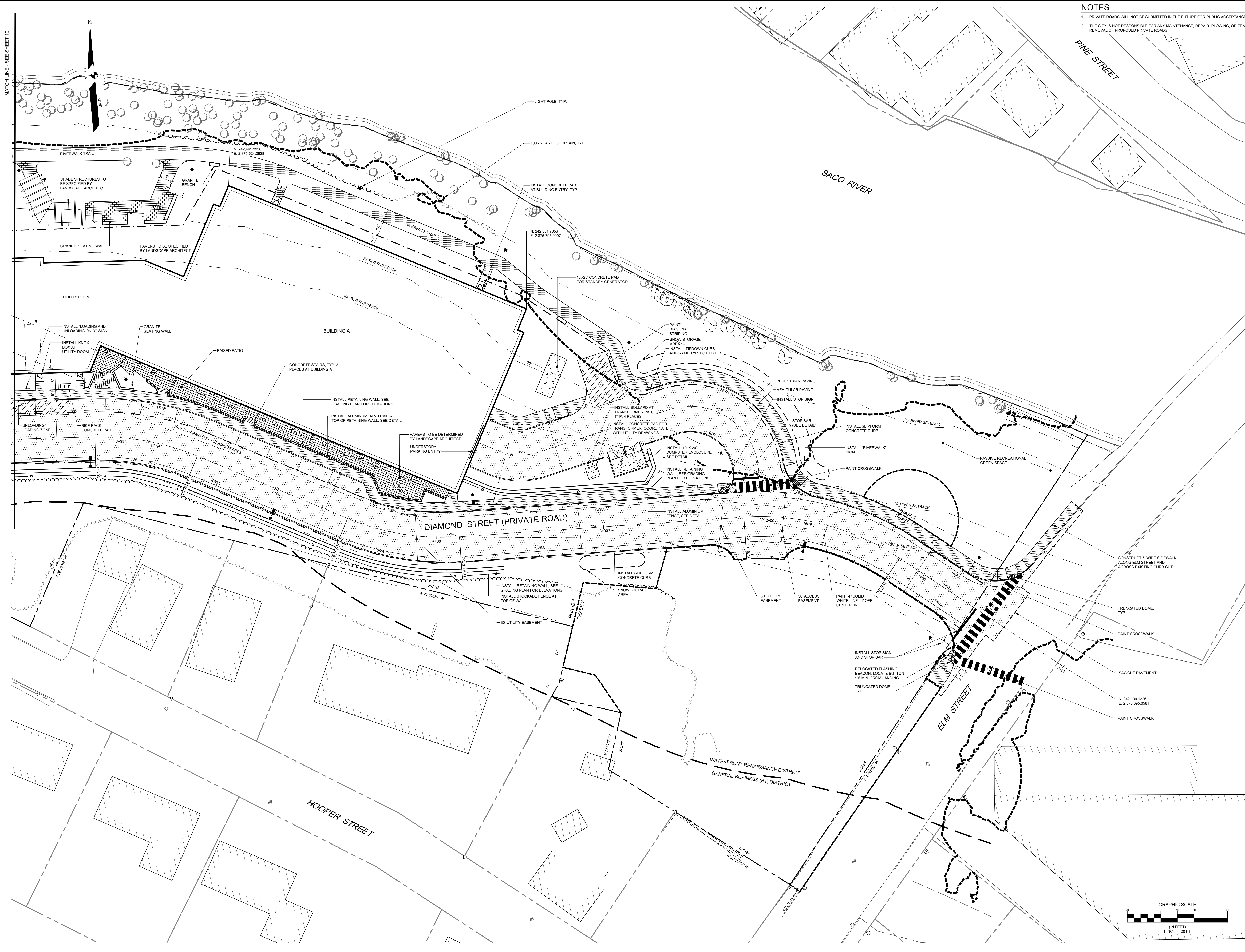
WWW.SEBAGOTECHNICS.COM

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

NOT FOR CONSTRUCTION

STATE OF MAINE
CRAIG A. BURGESS
JAN 2008
MAINE
CRAY BURGESS
06/09/2012

F:\Projects\18462\18462\DWG\Design\18462_S-PT1.dwg 06/2023 4:43 PM TANNER E. GOODINE



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.

NOT FOR CONSTRUCTION

CRAIG A. BURGESS, PE 12638
06/26/2023

E	CAB	06/14/2023	ISSUED TO CITY OF BIDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	REISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

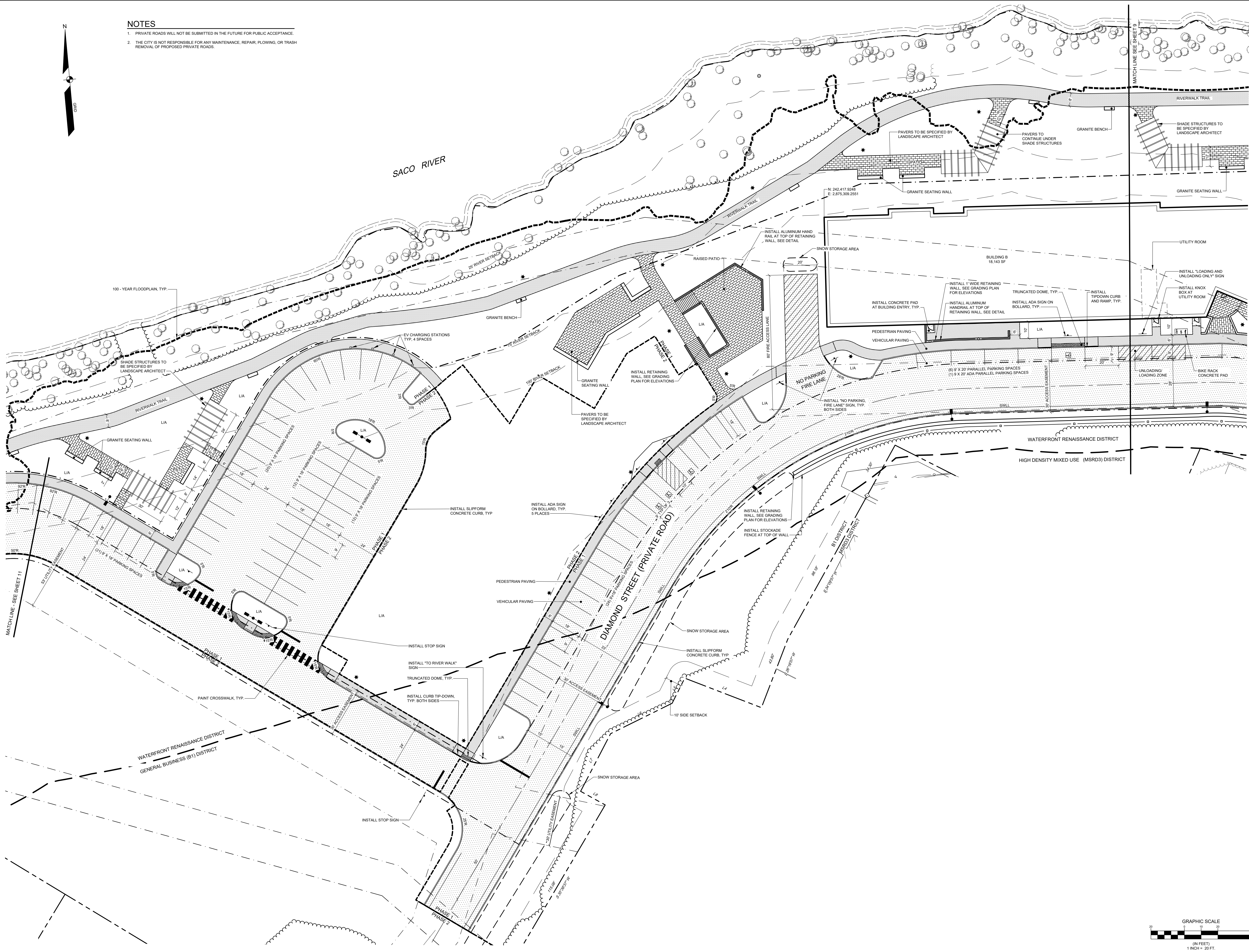
SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Sullivan Rd
South Portland, ME 04106
Tel: 207-267-2100

SITE PLAN - PHASE 1 - AREA 1A
OF:
ONE DIAMOND
ELM STREET
BIDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNESBUNK, ME 04043

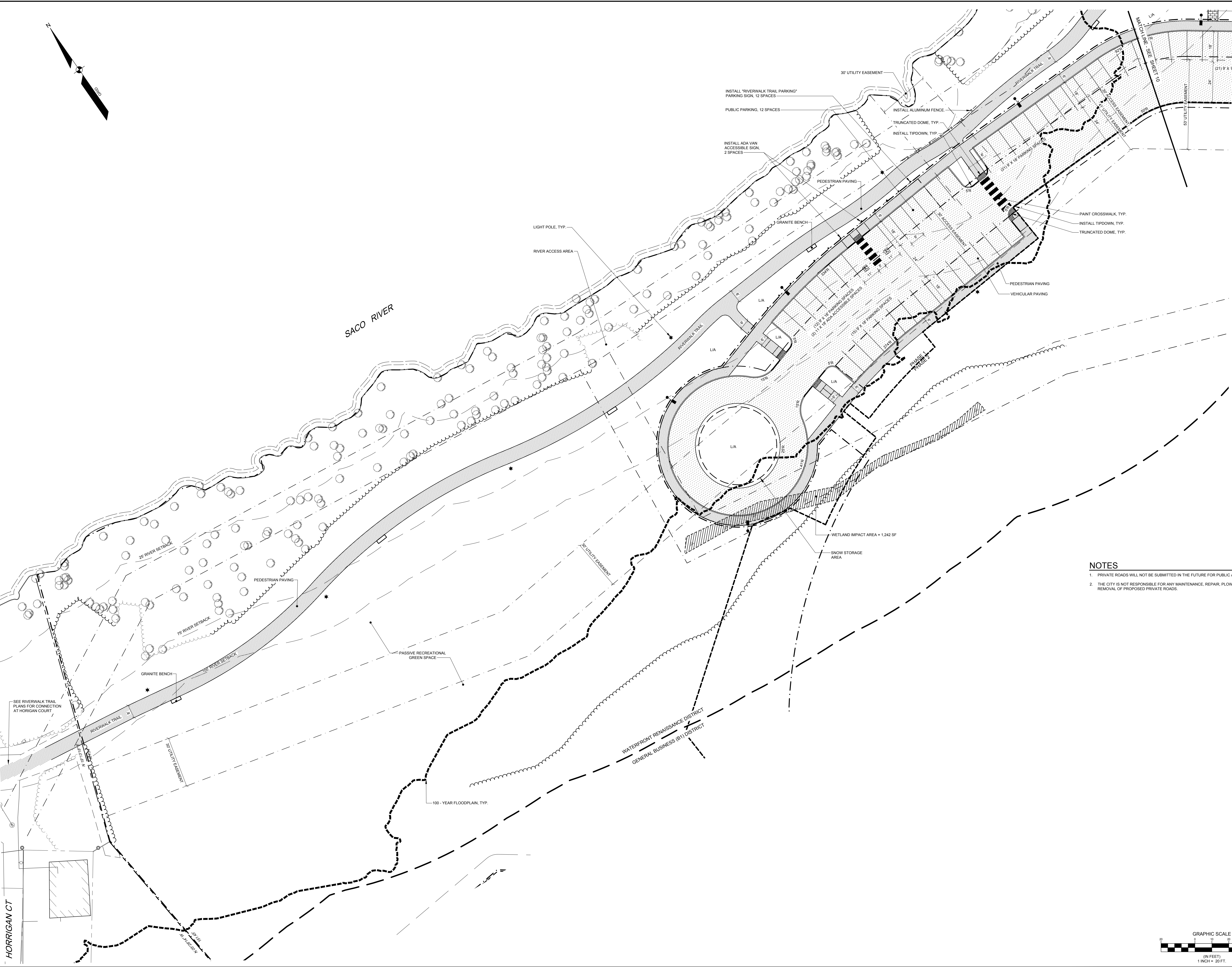
DESIGNED	TFC
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 9 OF 51

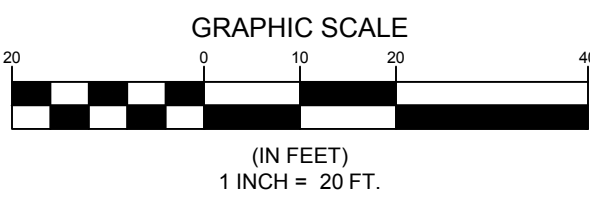
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- NOTES
- PRIVATE ROADS WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
 - THE CITY IS NOT RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.



DESIGNED		TFG
DRAWN		DAB
CHECKED		CAB
DATE		04/12/2023
SCALE		1" = 20'
PROJECT		18462

SITE PLAN - PHASE 1 - AREA 1C
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 ELMWELL DRIVE, SUITE 201
KENNESBURY, ME 04043

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Middlesex Rd
South Portland, ME 04106
Tel: 207-269-2100

E	CAB	08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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.

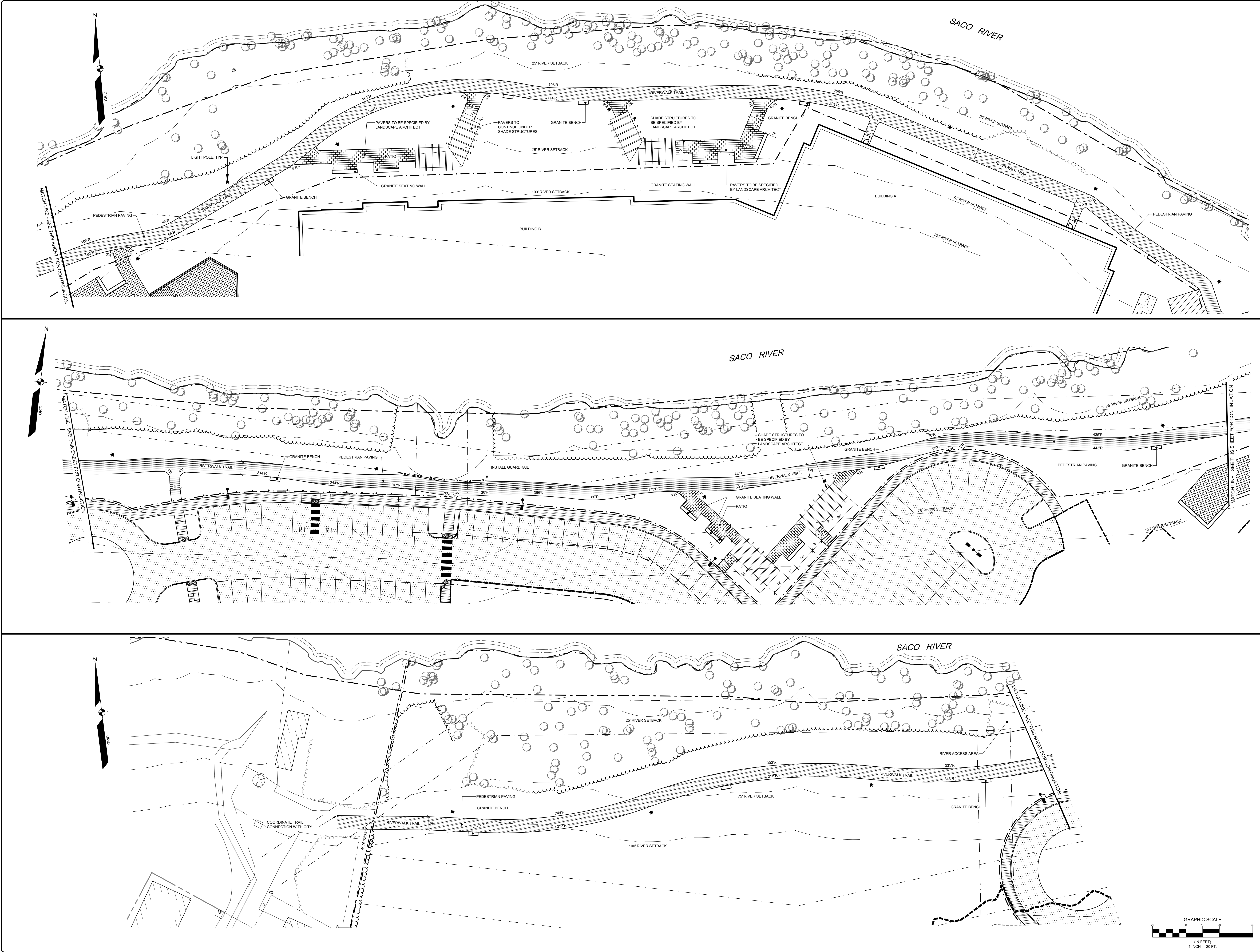
NOT FOR
CONSTRUCTION

CRAIG A. BURGESS, PE 12638

CRAIG A. BURGESS
PE 12638
CRAIG A. BURGESS
PE 12638

06/28/2023

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18462 S RIVERWALK.dwg, TAB SITE PLAN - RIVERWALK TRAIL

SITE PLAN - RIVERWALK TRAIL	
OF:	
ONE DIAMOND	
ELM STREET	
FOR	
ONE DIAMOND DEVELOPMENT, LLC	
2 LIMEWELL DRIVE, SUITE 201	
KENNEBUNK, ME 04043	
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462
SHEET 12 OF 51	

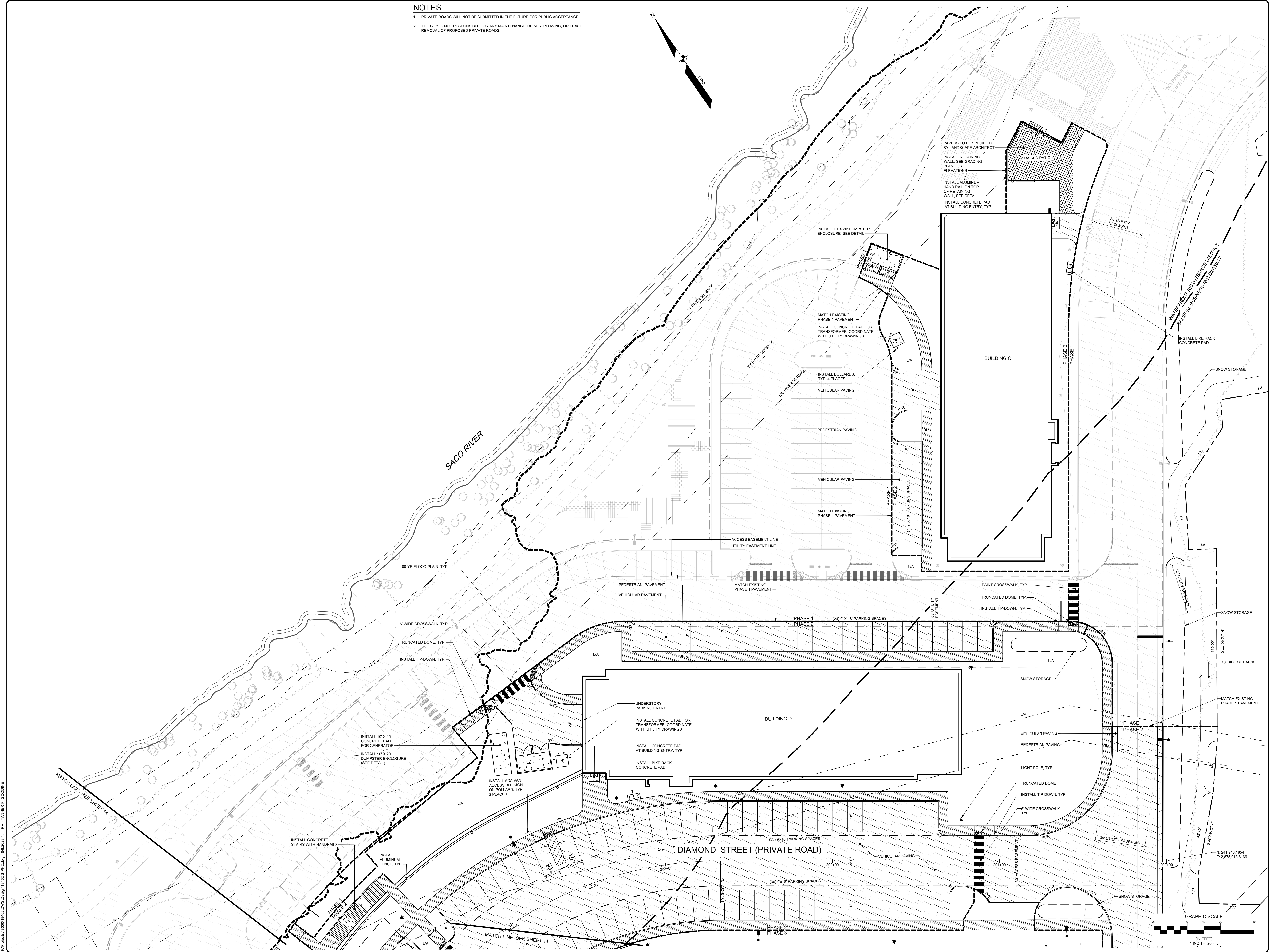
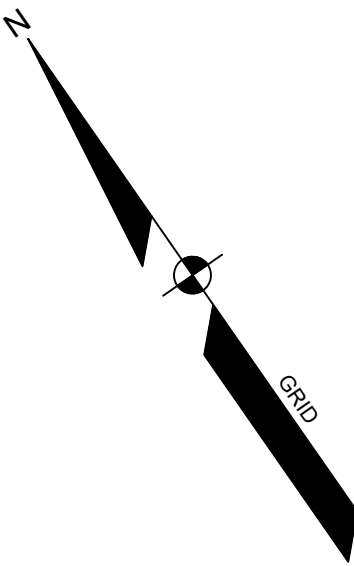
SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 S. Main Rd.
South Portland, ME 04106
Tel: 207-262-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED BY OTHER PERSONS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.			

NOT FOR CONSTRUCTION	
CRAIG A. BURGESS, PE 12638	
STATE OF MAINE	
CRAIG A. BURGESS	
06/28/2023	

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.



NOT FOR CONSTRUCTION

CRAIG A. BURGESS, PE 12638

STATE OF MAINE

CRAIG A. BURGESS

06/28/2023

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

SEBAGO TECHNICS

WWW.SEAGOTECHNICS.COM

75 Sullivan Rd
South Portland, ME 04106
Tel: 207-269-2100

SITE PLAN - PHASE 2 - AREA 2A

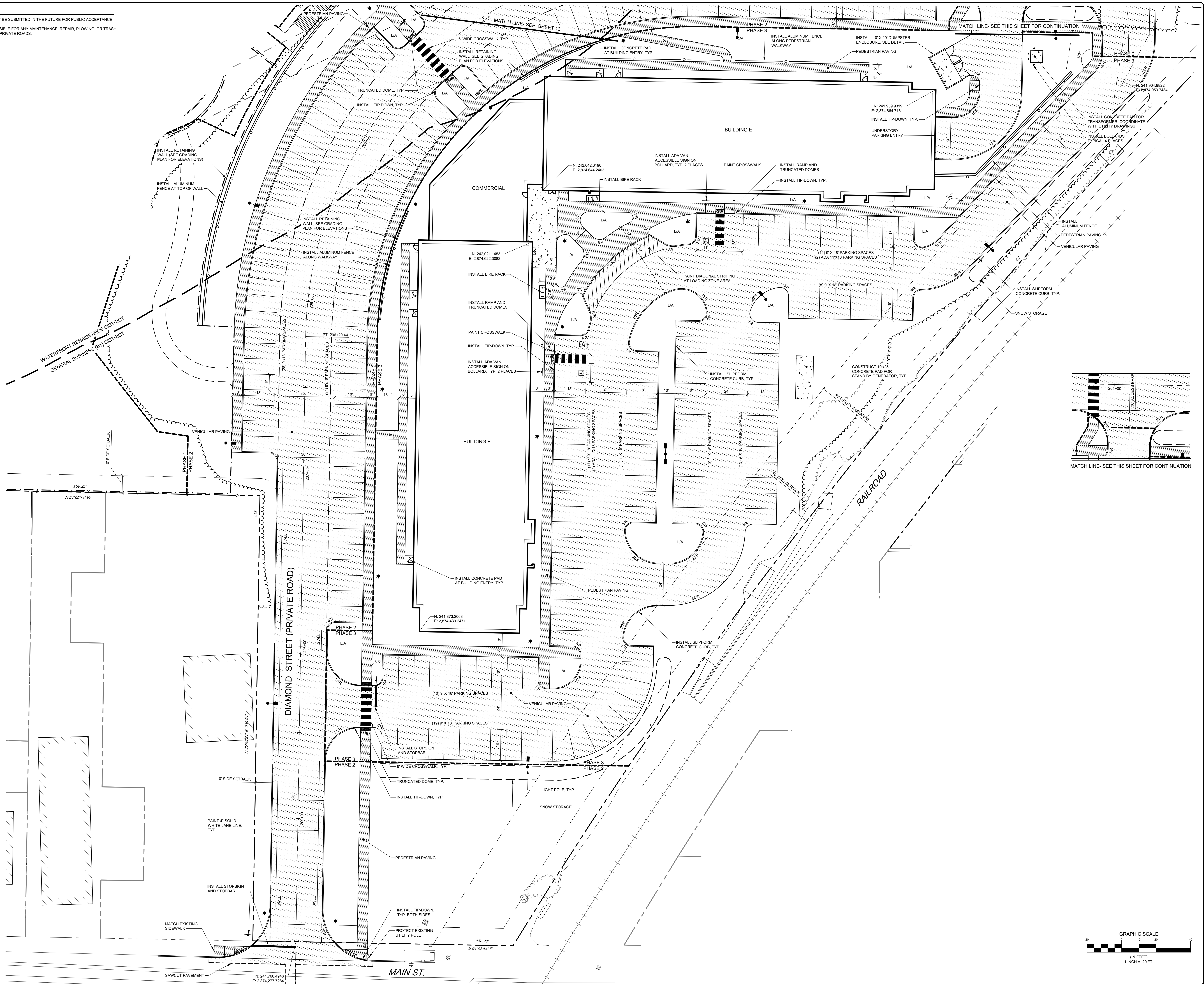
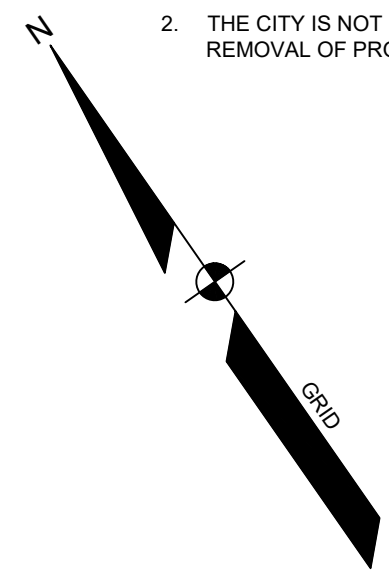
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 13 OF 51

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.



18462 S-PH2.dwg, TAB:14 SITE PLAN - PHASE 2 - 2 & PHASE 3

SITE PLAN - PHASE 2 - AREA 2B AND PHASE 3

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNERBUNK ME 04043

TECHNICS
SEBAGO

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

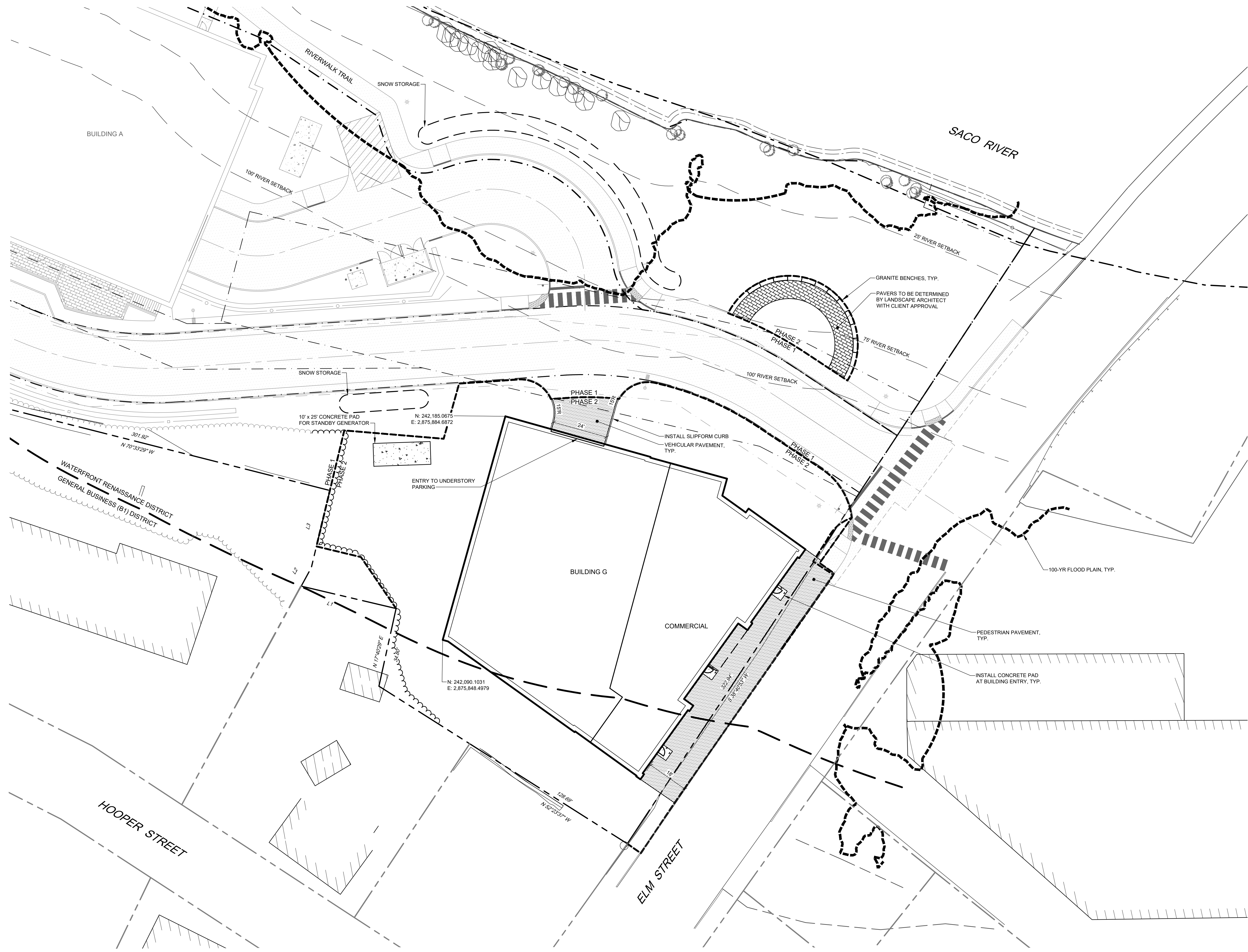
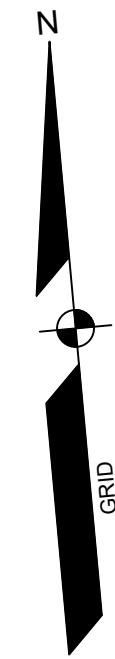
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REV.	DT.	DATE.	STATUS.
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.			

CRAIG A. BURGESS, PE 12638

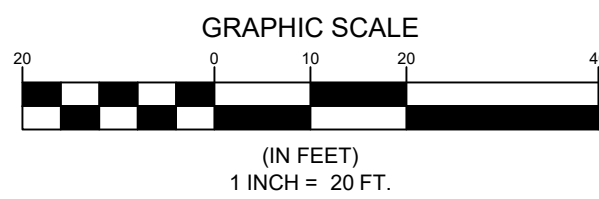


NOT FOR
CONSTRUCTION



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.



18462 S-PKG.dwg: 18462 SITE PLAN - PHASE 2 - AREA 2C (BUILDING G)

SITE PLAN - PHASE 2 - AREA 2C (BUILDING G)

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 15 OF 51

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 J. J. Morrill Rd.
South Portland, ME 04106
Tel: 207-269-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

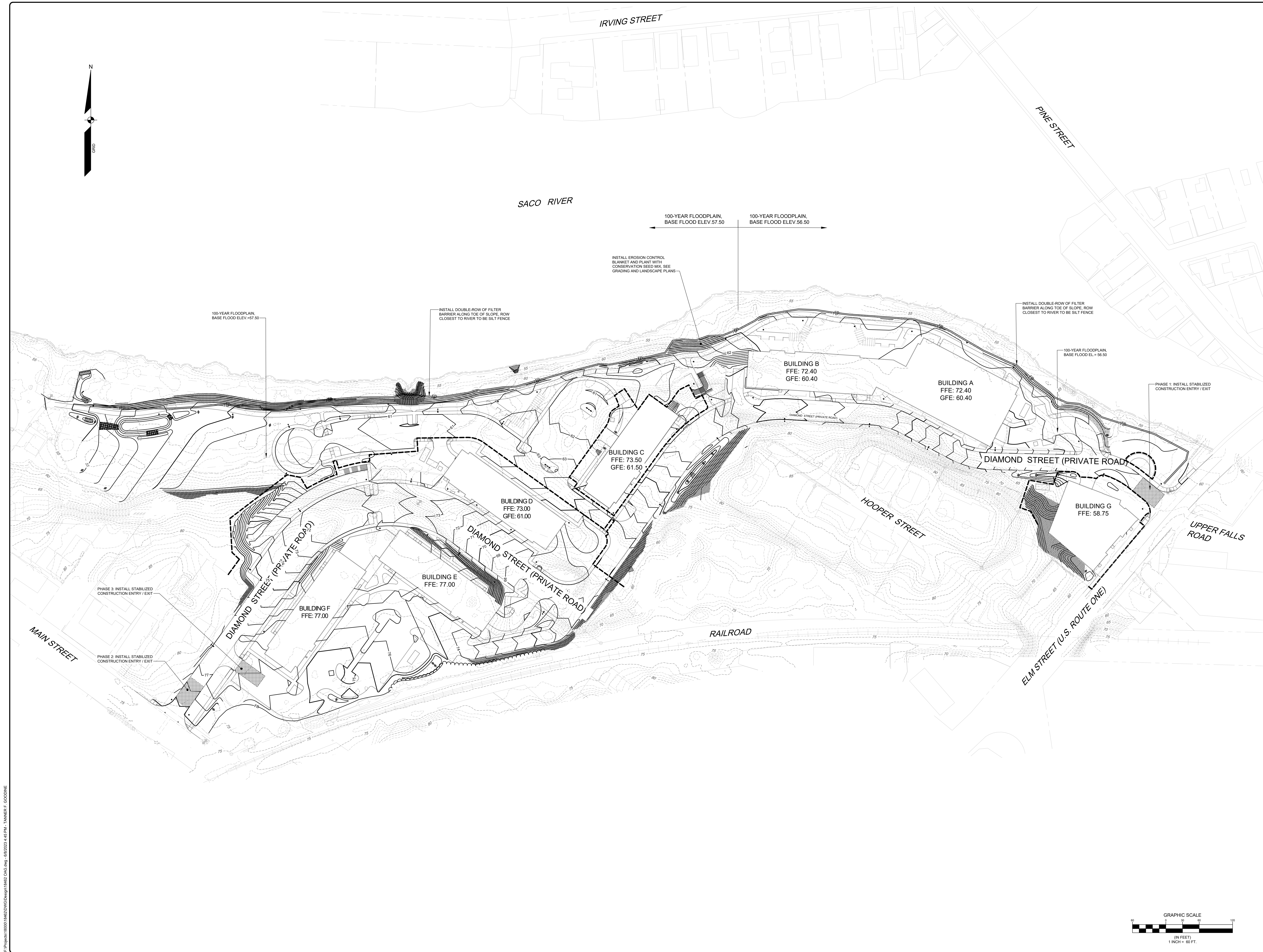
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

CRAIG A. BURGESS, PE 12638



NOT FOR
CONSTRUCTION

F:\Projects\18462\18462-01\DWG\18462-01.dwg 6/8/2023 4:45 PM - TANNER F. COODINE



18462-01.dwg, THE OVERALL GRADING PLAN

OVERALL GRADING PLAN	
OF:	
ONE DIAMOND	
ELM STREET	
BIDDEFORD, MAINE	
FOR:	
ONE DIAMOND DEVELOPMENT, LLC	
2 LIMEWELL DRIVE, SUITE 201	
KENNESBUNK, ME 04043	
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 60'
PROJECT	18462

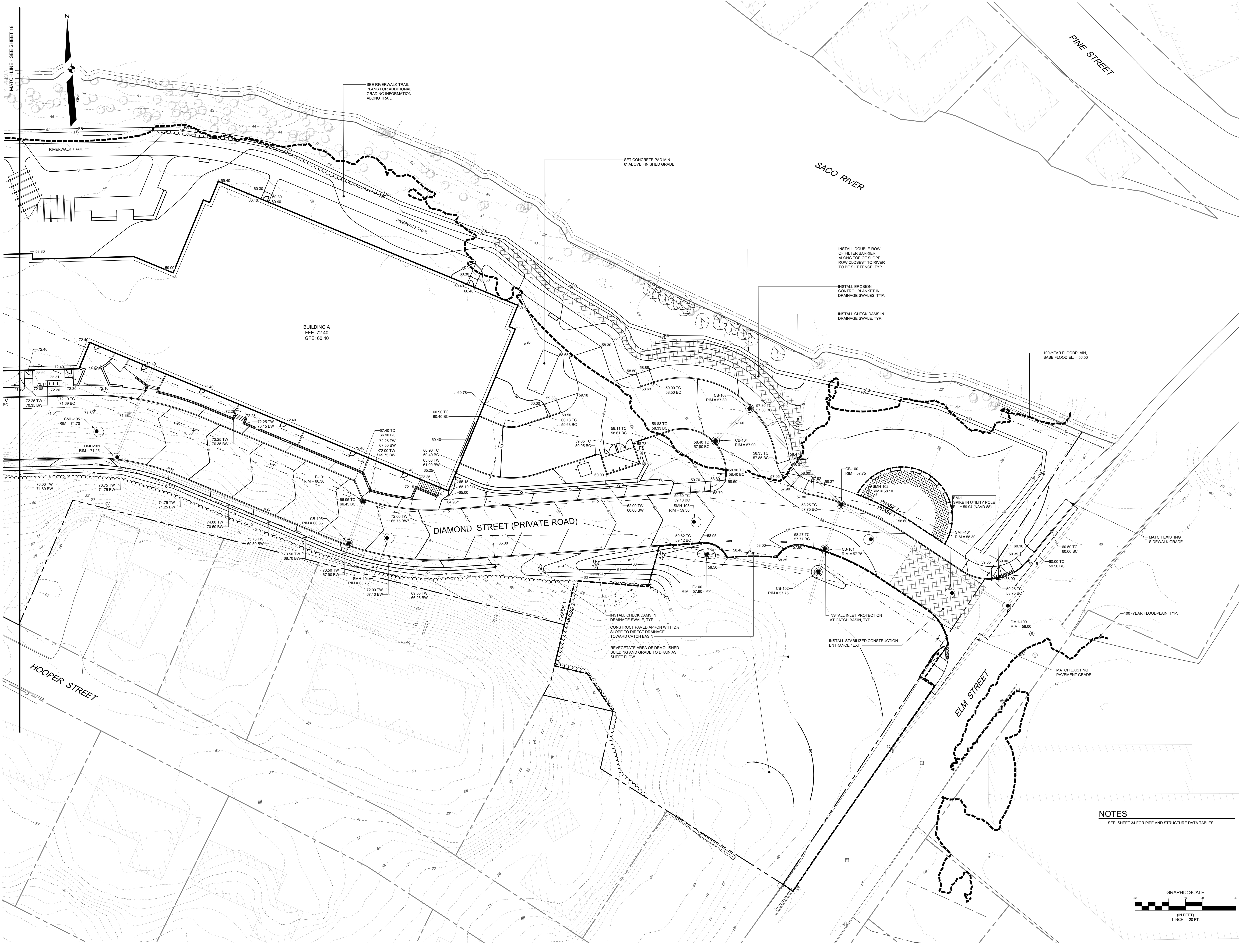
SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 Sullivan Rd
Sullivan, MA 01968
South Portland, ME 04106
Tel: 207-269-2100

E	CAB	08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:
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.			

CRAIG A. BURGESS, PE 12638

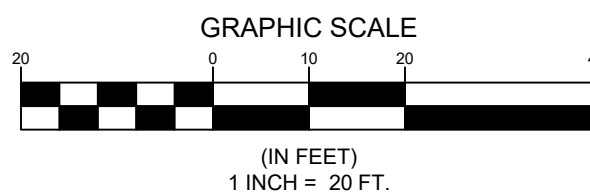
NOT FOR CONSTRUCTION

STATE OF MAINE
CRAIG A. BURGESS
PE 12638
CRAIG A. BURGESS
06/08/2023



NOTES

1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.



DESIGNED TFG

DRAWN DAB

CHECKED CAB

DATE 04/12/2023

SCALE 1" = 20'

PROJECT 18462

GRADING PLAN - PHASE 1 - AREA 1A
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNESBURY, ME 04043

SHEET 17 OF 51

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 Sullivan Rd
South Portland, ME 04106
Tel: 207-262-2100

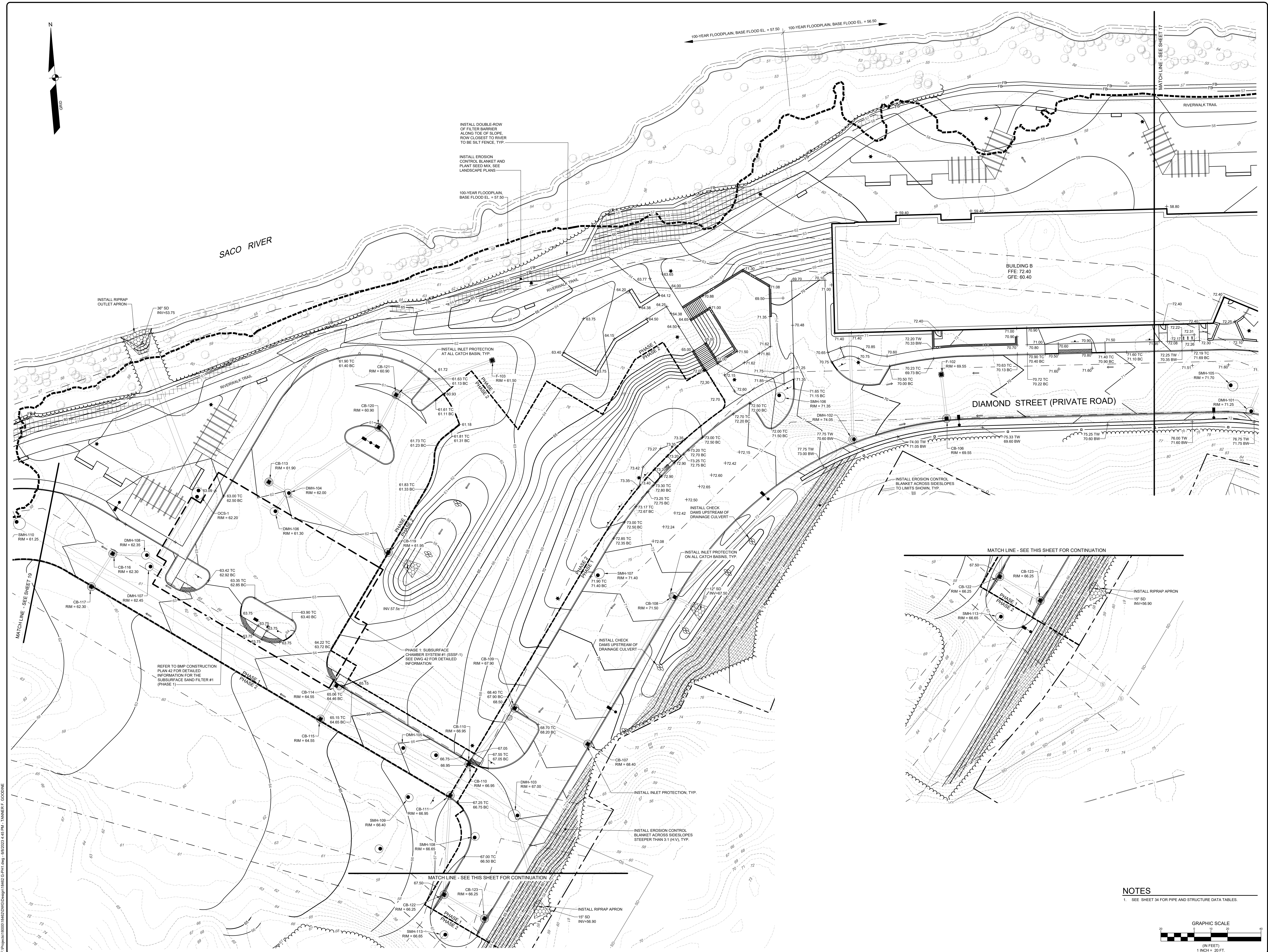
E	CAB	08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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.

CRAIG A. BURGESS, PE 12838



NOT FOR
CONSTRUCTION



GRADING PLAN - PHASE 1 - AREA 1B

OF: **ONE DIAMOND**

EDM STREET

BIRMINGHAM, ALABAMA

FOR: **ONE DIAMOND DEVELOPMENT, LLC**

2 LIVEWELL DRIVE, SUITE 201

KENNESBURK, MD 20403

DESIGNED	TFG	
DRAWN	DAB	
CHECKED	CAB	
DATE	04/12/2023	
SCALE	1" = 20'	
PROJECT	18462	

SEBAGO

T E C H N I C S

WWW.SEBAGOTECHNICS.COM

75 John Roberts Rd.
South Portland, ME 04106
Tel: 207-292-0100

THIS PLAN SHALL NOT BE USED 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.

REV: BY: DATE: STATUS:

A. CAB 03/28/2023 FOR IDA AGREEMENT

B. CAB 04/12/2023 ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN

C. CAB 04/12/2023 ISSUED TO SACKO RIVER CORRIDOR COMMISSION

D. CAB 06/07/2023 ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW

E. CAB 06/14/2023

NOT FOR CONSTRUCTION

STATE OF MAINE

CRAIG A. BURGESS

Professional Engineer

06/08/2023

CRAIG A. BURGESS, PE 12638



NOT FOR
CONSTRUCTION

CRAIG A. BURGESS, PE 12638



E	06/14/2023	ISSUED TO CITY OF BIDEFORD FOR SITE PLAN REVIEW
D	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	06/19/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
B	04/19/2023	RE-ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	04/12/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
F	03/28/2023	FOR LDA AGREEMENT
CAB		
REV BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SBAGG TECHNICS INC. ANY ALTERATIONS.

REV:	BY:	DATE:	STATUS:
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THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, ADDITIONS, OR DELETIONS TO THIS PLAN SHALL BE MADE BY A WRITTEN ORDER FROM SEBAGO TECHNICS, INC.

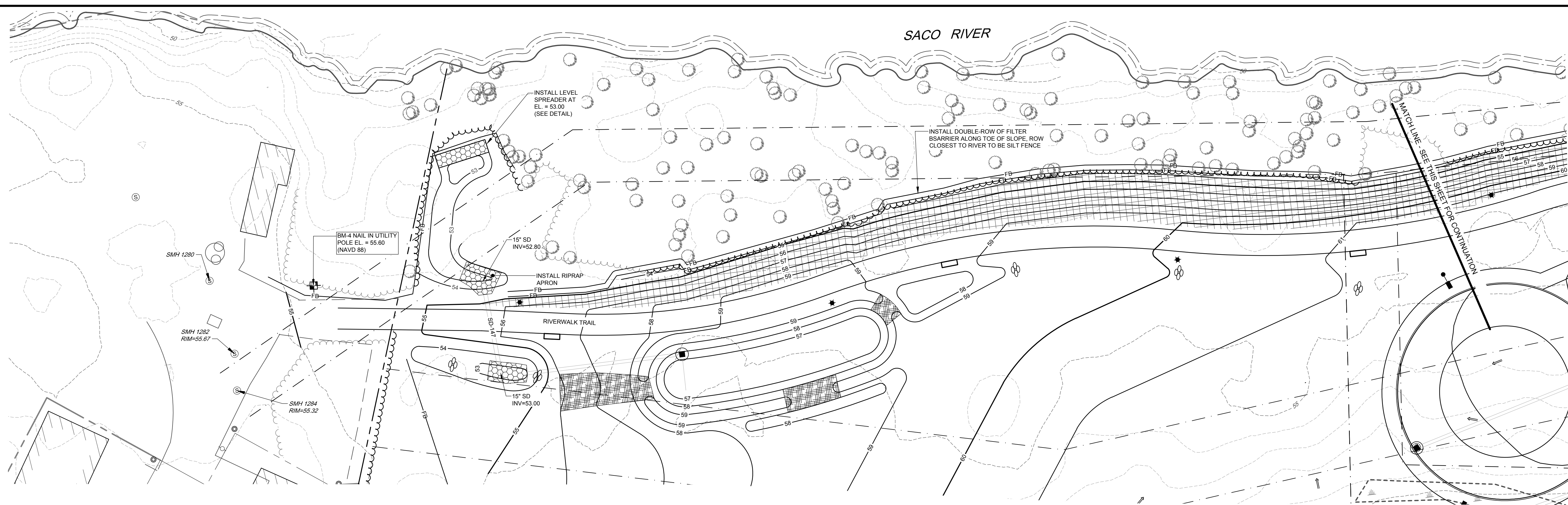
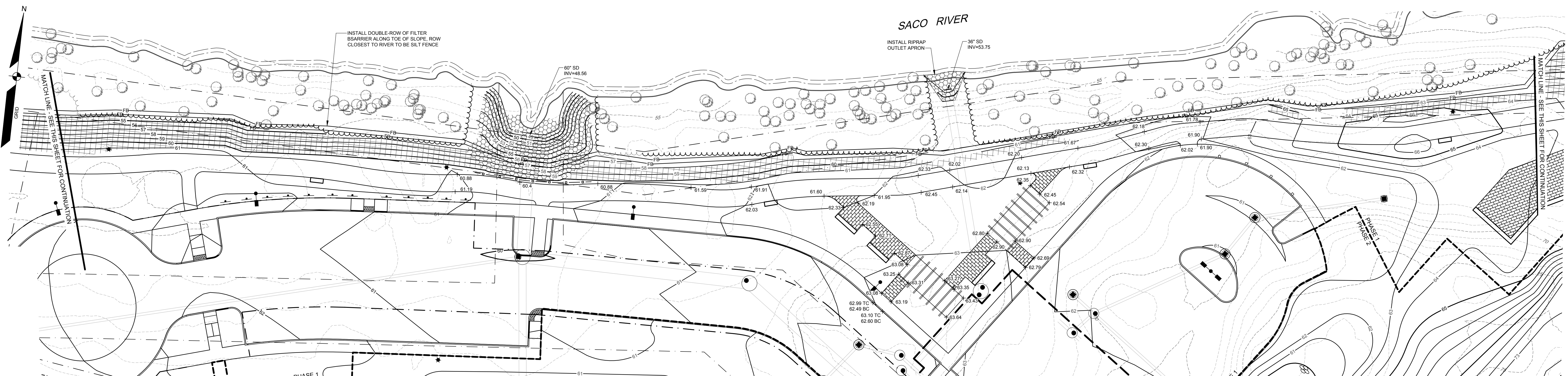


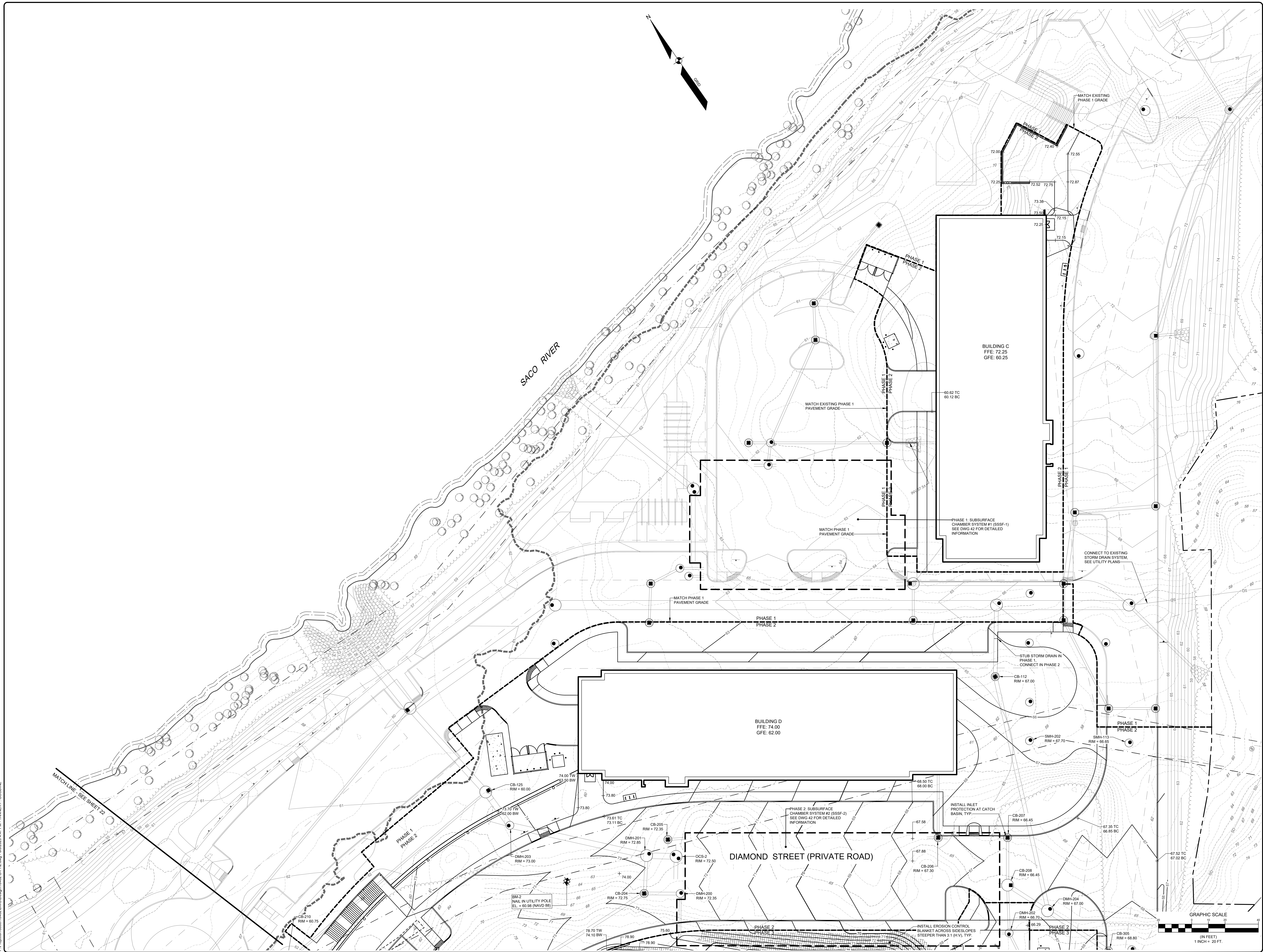
OF:
ONE DIAMOND
HELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 19 OF 51





18462 G-PH2.dwg, TAB:21 GRADING PLAN - PHASE 2 - AREA 2A

PR

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CH

D

DE

GRADING PLAN - PHASE 2 - AREA 2A

OF:
ONE DIAMOND

T		D	ELM STREET BIDDEFORD, MAINE
D		D	
D		C	

FOR: ONE DIAMOND DE

2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

GRADING PLAN - PHASE 2 - AREA 2A
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC

2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICS
1000 W. SEBAGOTECHNICS.COM

75 John Roberts Rd.
Suite 4A

South Portland, ME 04106
Tel. 207-200-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
REV:	CAB	03/28/2023	FOR JDA AGREEMENT
BY:		DATE:	STATUS:

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.

CRAIG A. BURGESS, PE 12638

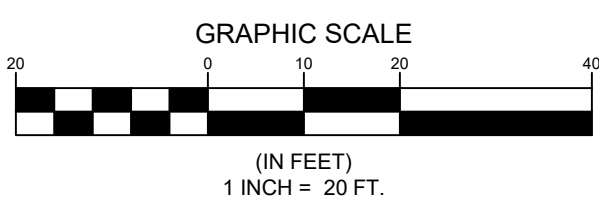
OF M

CRAIG A. BURGESS
No. 19638

Gregory Dwyer

06/08/2023

NOT FOR
CONSTRUCTION



SHEET22OF 51

GRADING FOR:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND

SEBAG
C H N I
WWW.SEBAGOTECHNICS
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel: 207-200-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SAGO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV BY:		DATE:	STATUS:

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E	CAB	06/14/2023	ISSUED		
D	CAB	06/07/2023	ISSUED		
C	CAB	04/19/2023	RE-ISSU		
B	CAB	04/12/2023	ISSUED		
A	CAB	03/28/2023	FOR JDA		
REV:	BY:	DATE:	STATUS:		

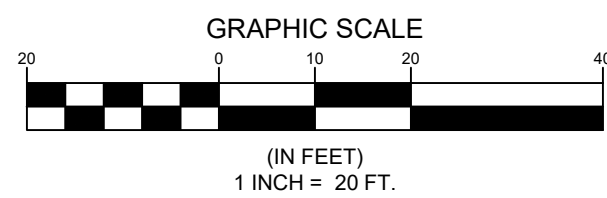
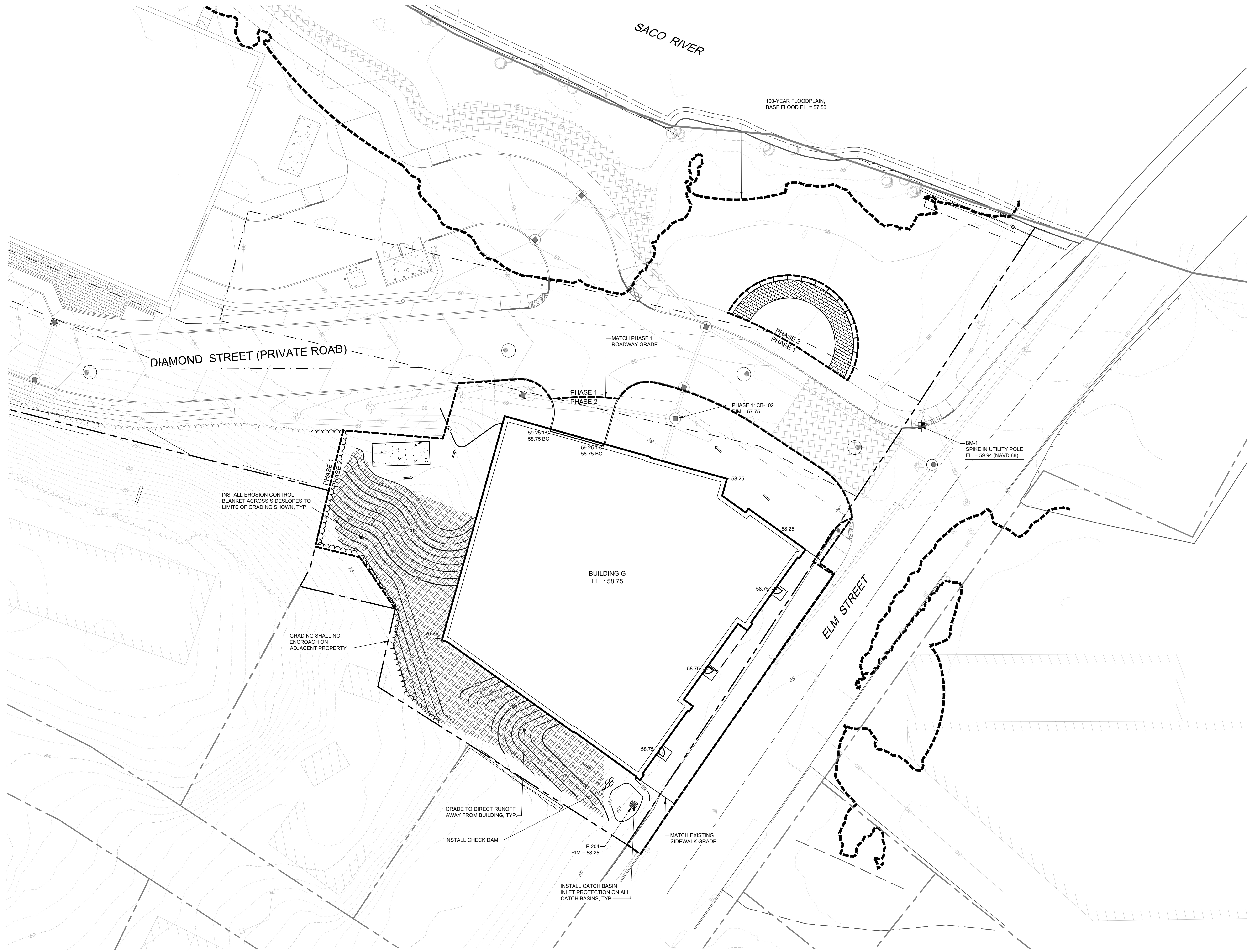
BIDDEFORD FOR SITE
ER CORRIDOR COMM
DF BIDDEFORD FOR SKET
BIDDEFORD FOR SKET
T

10

STATE OF MICHIGAN
CRAIG A. BURGESS
No. 08633
*
Craig Burgess
PROFESSIONAL

NO
CONSTR

F:\Projects\180601\18462\DWG\Design\18462-G-P12.dwg - 06/2023 4:47 PM - TANNER E. GOODINE



18462-G-P12.dwg: TAB 23: GRADING PLAN - PHASE 2 - AREA 2C (BUILDING G)

DESIGNED OF: ONE DIAMOND
DRAWN BY: ELM STREET
CHECKED BY: BIDDEFORD, MAINE
DATE: 04/12/2023
SCALE: 1" = 20'
PROJECT: 18462

FOR: ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SHEET 23 OF 51

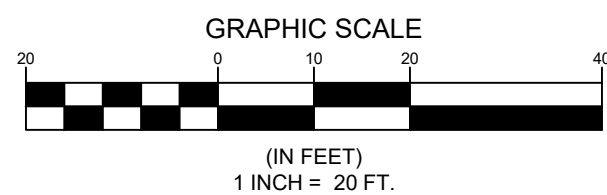
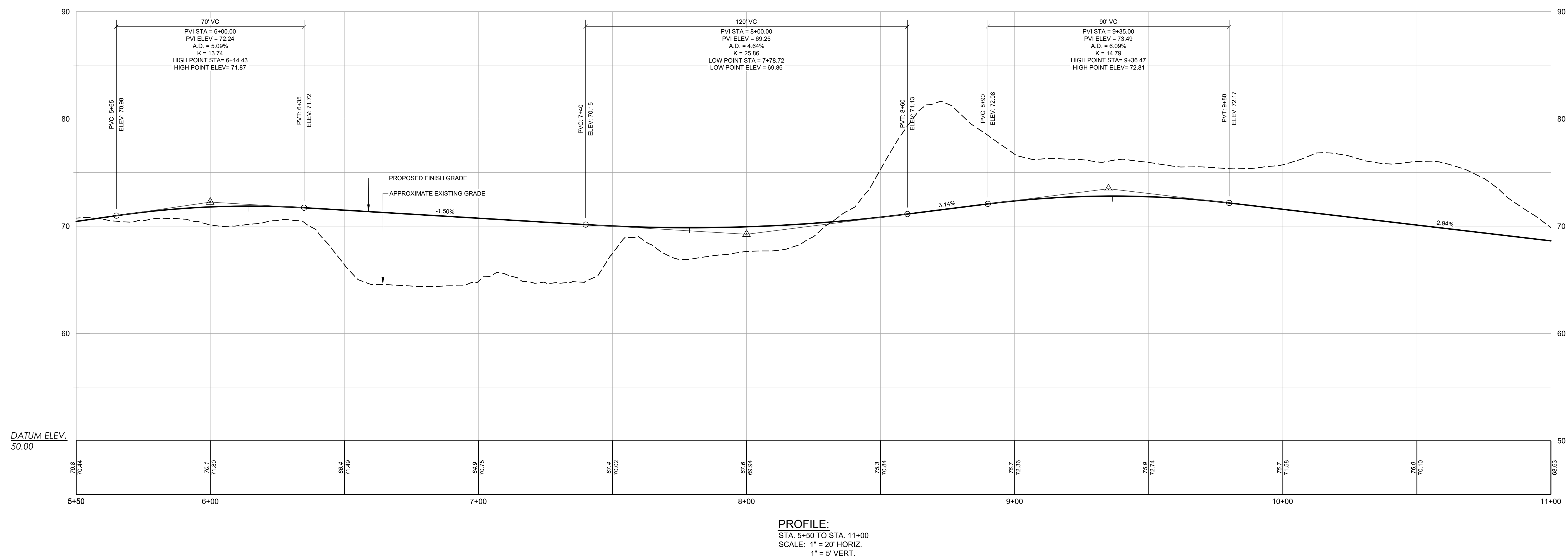
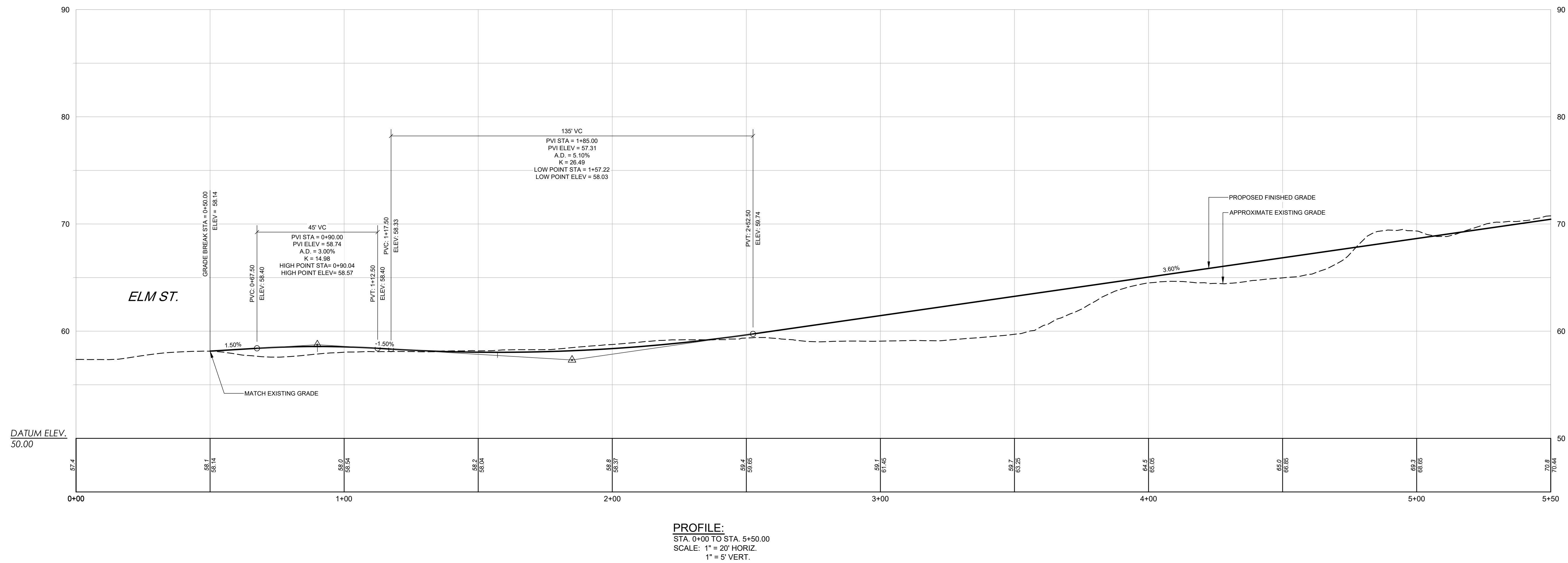
SEBAGO
TECHNICALS
WWW.SEAGOTECHNICALS.COM
75 J. K. BROWN RD.
SOUTH PORTLAND, ME 04106
TEL: 207-269-2100

REV.	BY:	DATE:	STATUS:
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICALS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.

CRAIG A. BURGESS, PE 12638
STATE OF MAINE
CRAIG A. BURGESS
No. 12638
CRAIG A. BURGESS
06/28/2023

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 UTILITY PLANS FOR UTILITY LOCATIONS AND DEPTHS.

PROJECT: 1 - AREA 1
 OF: ONE
 ELM STREET
 BIDDEFORD
 FOR: ONE
 2 LIVES
 KENNEDY

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

PROFILE - PHASE 1 - AREA 1A
 OF:
 ONE DIAMOND
 ELM STREET
 BIDDEFORD, MAINE
 FOR:
 ONE DIAMOND DEVELOPMENT, LLC
 2 LIVEWELL DRIVE, SUITE 201

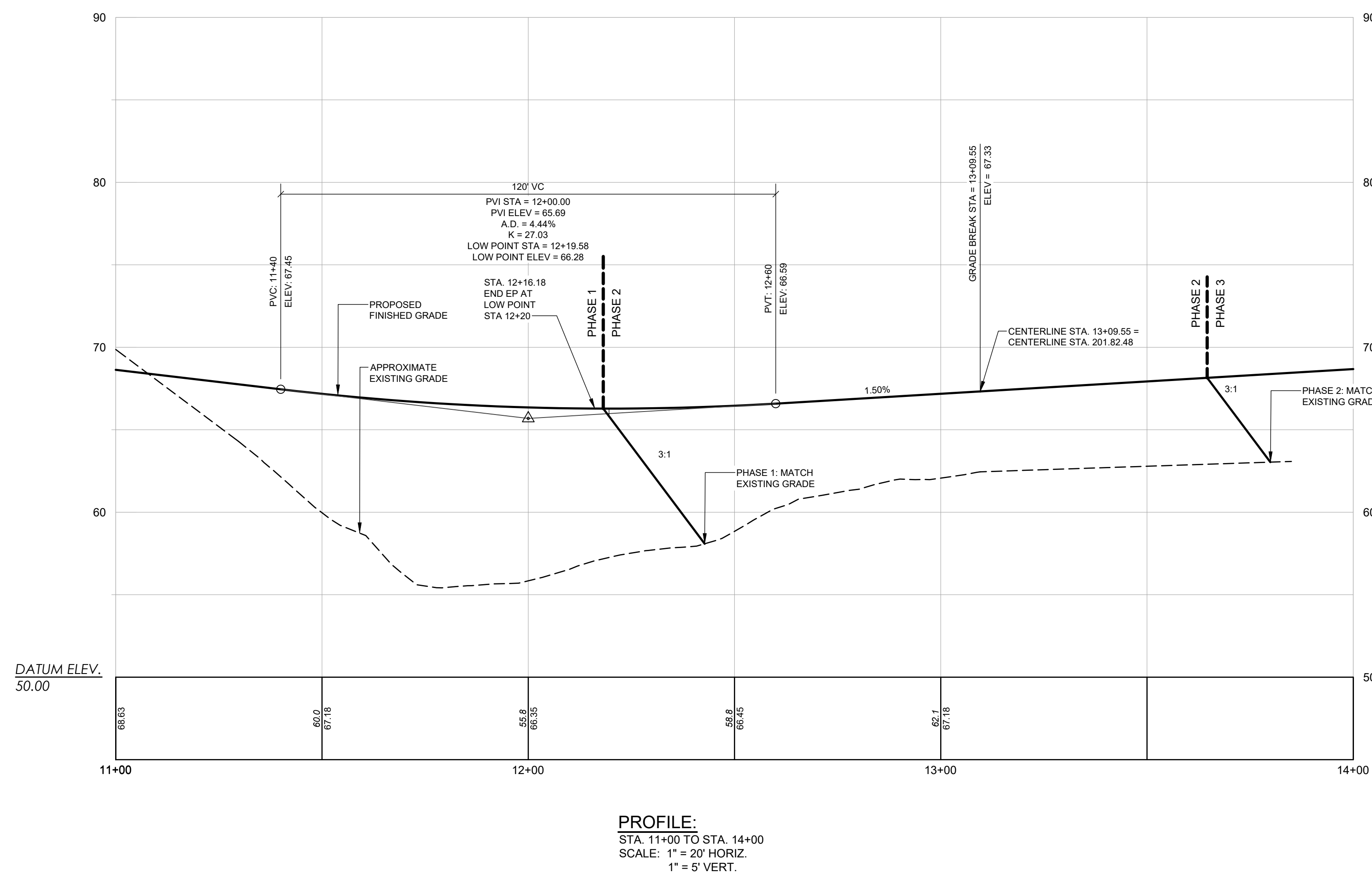
SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

REV: BY: DATE: STATUS:

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

CRAIG A. BURGESS, PE 12638

NOT FOR
CONSTRUCTION

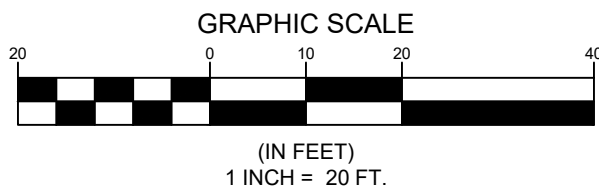


- ## NOTES
1. PRIVATE ROADS WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
 2. THE CITY IS NOT RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
 3. SEE UTILITY PLANS FOR UTILITY LOCATIONS AND DEPTHS.

E	CBI	06/14/2023	ISSUED TO CITY OF BIDDFORD FOR SITE PLAN REVIEW
D	CBI	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CBI	05/22/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
B	CBI	04/12/2023	ISSUED TO CITY OF BIDDFORD FOR SKETCH PLAN
A	CBI	03/28/2023	ISSUED TO CITY OF BIDDFORD FOR SKETCH PLAN
REV:	BY:	DATE:	STATUS:

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
South Portland, ME 04106
Tel. 207-203-2100

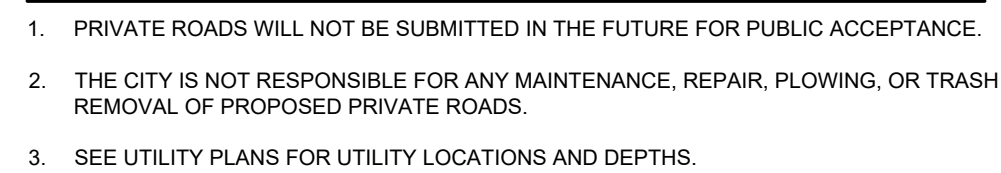
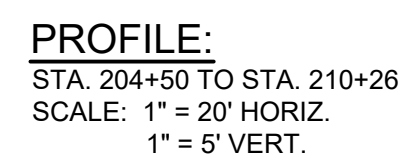
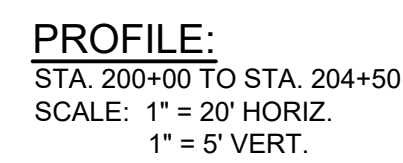
PROFILE - PHASE 1 - AREA 1B	
OF:	ONE DIAMOND
FOR:	ONE DIAMOND DEVELOPMENT, LLC
BRIDGEOFORD, MAINE JANUARY 15, 2013 KENNEBUNK, ME 04043	
DESIGNED	TGF
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 2'
PROJECT	19462



CRAIG A. BURGESS, PE 12638



06/08/2023



PROFILE - PHASE 2 - AREA 2

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DRIVE
2 LIVEWELL DRIVE, SUITE 201
KENNESAW, NE 68140

PROFILE - PHASE 2 - AREA 2
OF: ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR: ONE DIAMOND DEVELOPMENT, LLC

SEBAGO
TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106

E	CAB	06/14/2020
D	CAB	06/07/2020
C	CAB	04/19/2020
B	CAB	04/12/2020
A	CAB	03/28/2020
REV:	BY:	DATE:

B	CAB	04/12/2021
A	CAB	03/28/2021
REV:	BY:	DATE:

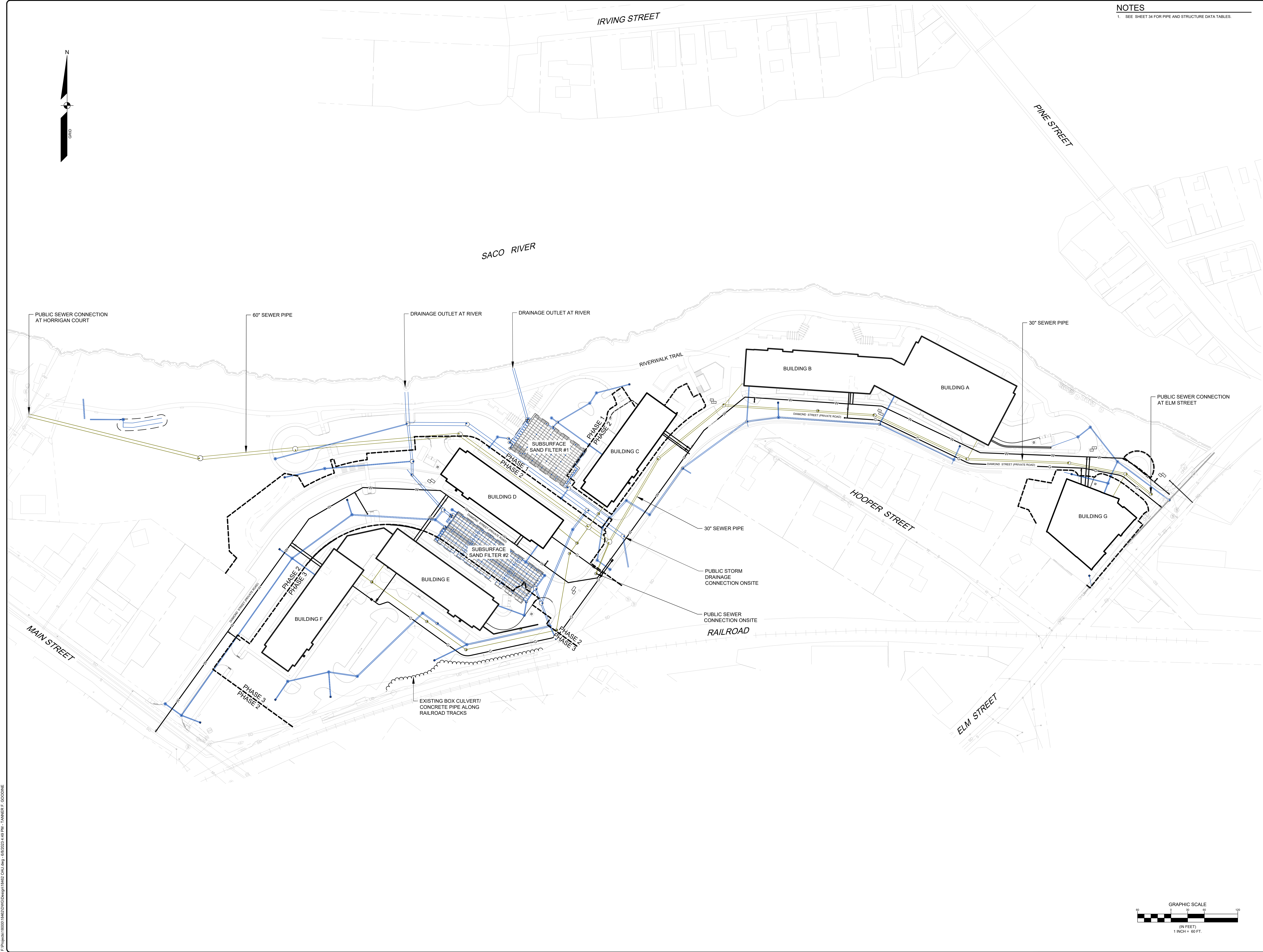
THIS PLAN SHALL NOT BE REVISIONED

E	CAB	06/14/2023	ISSUED TO CITY OF BIDEFORD FOR SITE PLAN REVIEW
D	CAB	04/19/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/10/2023	RE-ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV:	DATE:	STATUS:	

[illegible]

10

NOT FOR
CONSTRUCTION



NOTES

1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.

NOT FOR CONSTRUCTION

CRAIG A. BURGESS, PE 12638

STATE OF MAINE
CRAIG A. BURGESS
PE 12638
06/26/2023

E	CAB	08/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHINCS, INC. ANY ALTERATIONS AUTHORIZED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHINCS, INC.

SEBAGO TECHINCS

WWW.SEAGOTECHINCS.COM

75 S. BROAD ST.
SOUTH PORTLAND, ME 04106
TEL: 207-266-2100

OVERALL UTILITY PLAN

OF:

ONE DIAMOND

ELM STREET

BIDDEFORD, MAINE

FOR:

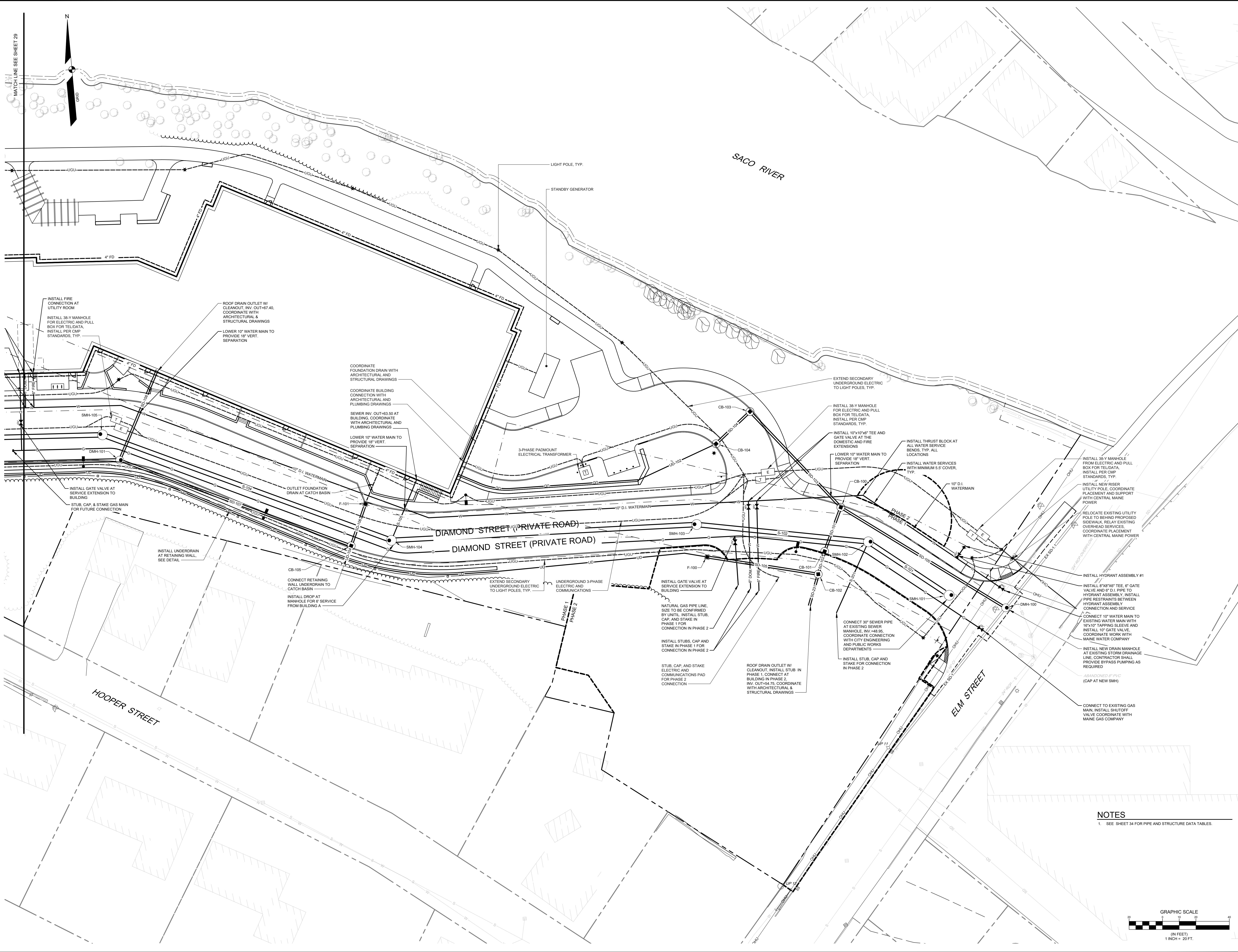
ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201

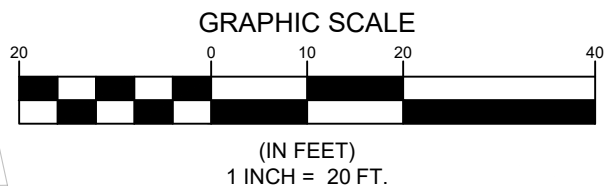
KENNEBUNK, ME 04043

DESIGNED	TFC
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 60'
PROJECT	18462

SHEET27OF 51



NOTES
1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.



UTILITY PLAN - PHASE 1 - AREA 1A	
OF:	
ONE DIAMOND	
ELM STREET	
BIDDEFORD, MAINE	
FOR:	
ONE DIAMOND DEVELOPMENT, LLC	
2 LIMEWELL DRIVE, SUITE 201	
KENNEBUNK, ME 04043	
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462
SHEET 28 OF 51	

SEBAGO

TECHNICS

WWW.SEBAGOTECHNICS.COM

75 Middlesex Rd.

South Portland, ME 04106

Tel. 207-262-2100

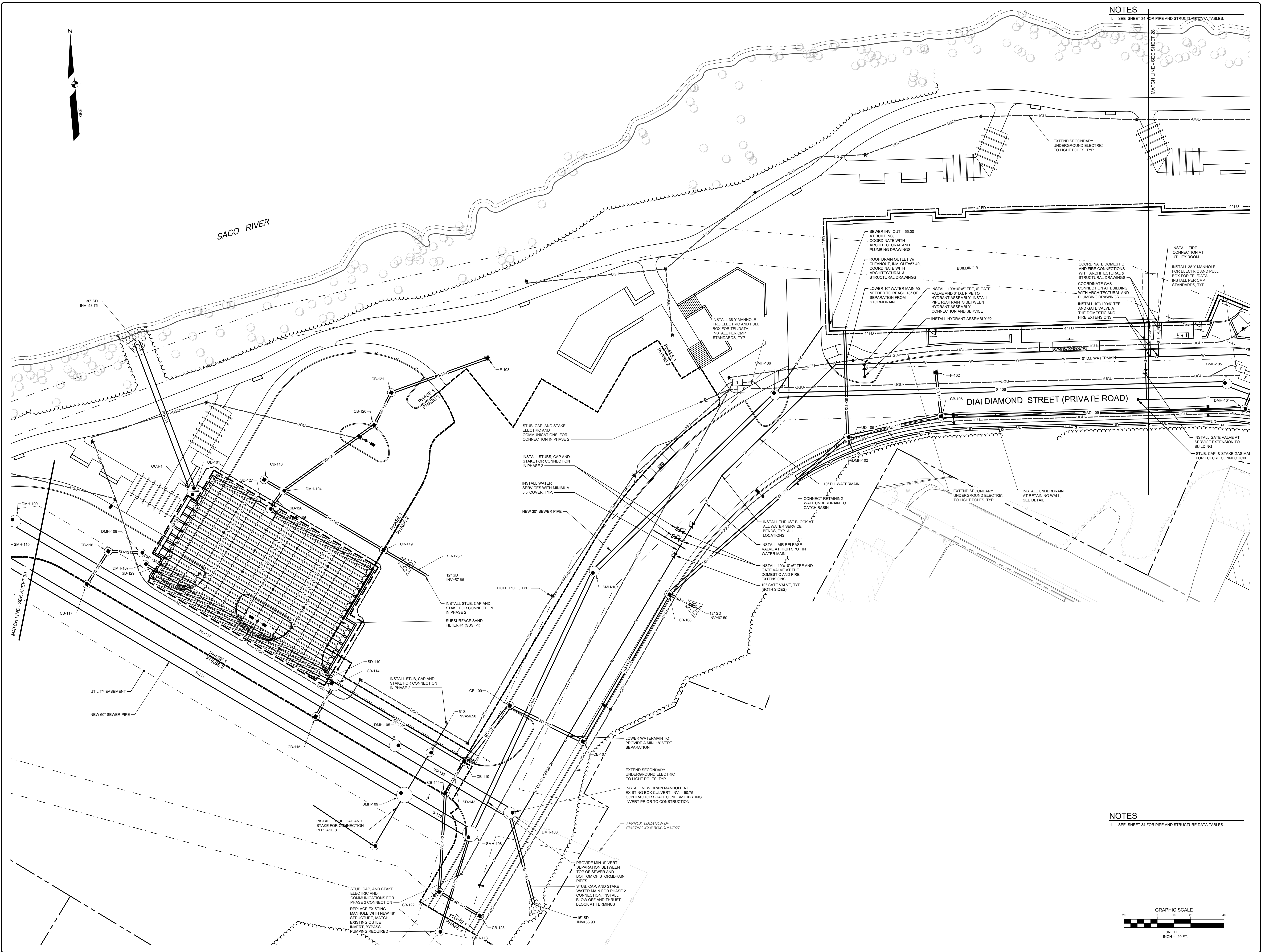
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW	STATUS:
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION	
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN	
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN	
A	CAB	03/28/2023	FOR JDA AGREEMENT	
REV.	BY:	DATE:		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED BY OTHER PERSONNEL SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.				

NOT FOR CONSTRUCTION

CRAIG A. BURGESS, PE 12638

CRAIG A. BURGESS

06/28/2023



NOTES

1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.

LATCH LINE

NOT FOR
CONSTRUCTION

STATE OF MAINE
CRAIG A. BURGESS
No. 0638
PROFESSIONAL
Craig Burgess

E	06/14/2023	ISSUED TO CITY OF BIDEFORD FOR SITE PLAN REVIEW
D	06/07/2023	ISSUED TO SAGO RIVER CORRIDOR COMMISSION
C	04/19/2023	RE-ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
B	04/12/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	03/28/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	03/28/2023	FOR JDA AGREEMENT
REVIEW BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MOVED WITHOUT WRITTEN PERMISSION FROM LEGATO TECHNIQS, INC. ANY ALTERATIONS,

[illegible]

SEBAGO
TECHNICS

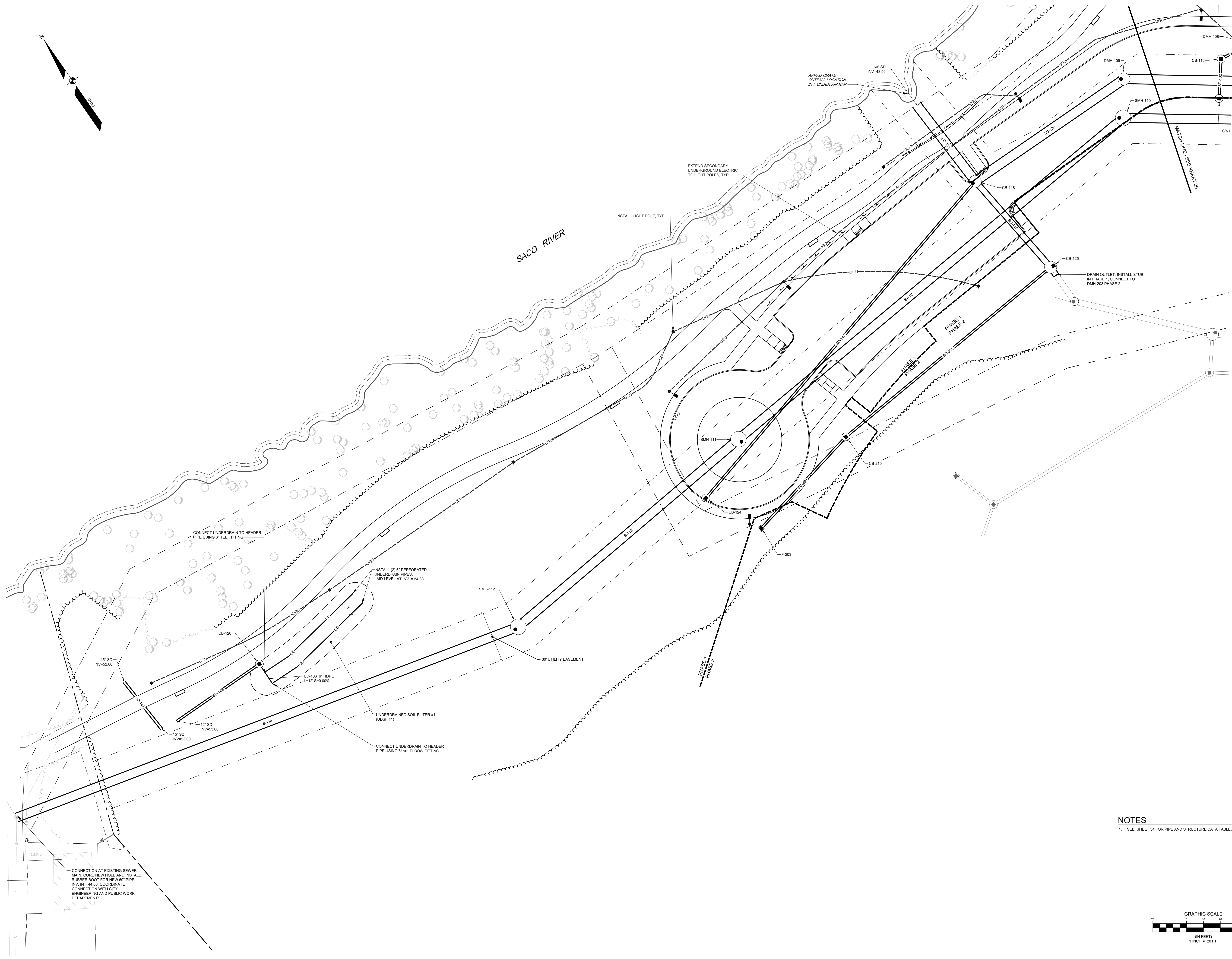
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106

ONE DIAMOND
101 WEST STREET
ROCHESTER, MAINE
05860

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

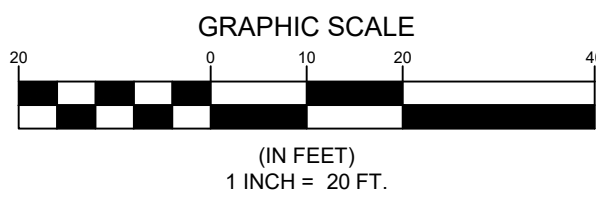
SHEET 29 OF 51

F:\Projects\18462\18462\DWG\Design\18462-1\PH1.dwg 08/20/2023 4:49 PM TANNER E. GOODINE



NOTES

1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.



18462-1\PH1.dwg 18462\DWG\Design\18462-1\PH1.dwg 08/20/2023 4:49 PM TANNER E. GOODINE

UTILITY PLAN - PHASE 1 - AREA 1C
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIVENWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

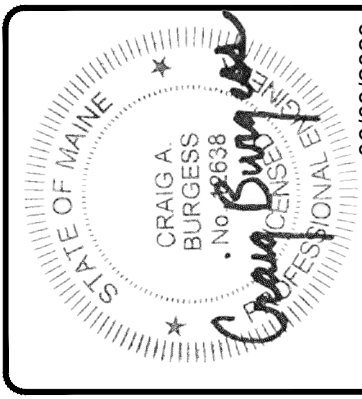
SHEET 30 OF 51

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Jackson Rd.
South Portland, ME 04106
Tel: 207-269-2100

REV.	BY:	DATE:	STATUS:
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

ORAGA A. BURGESS, PE 12638

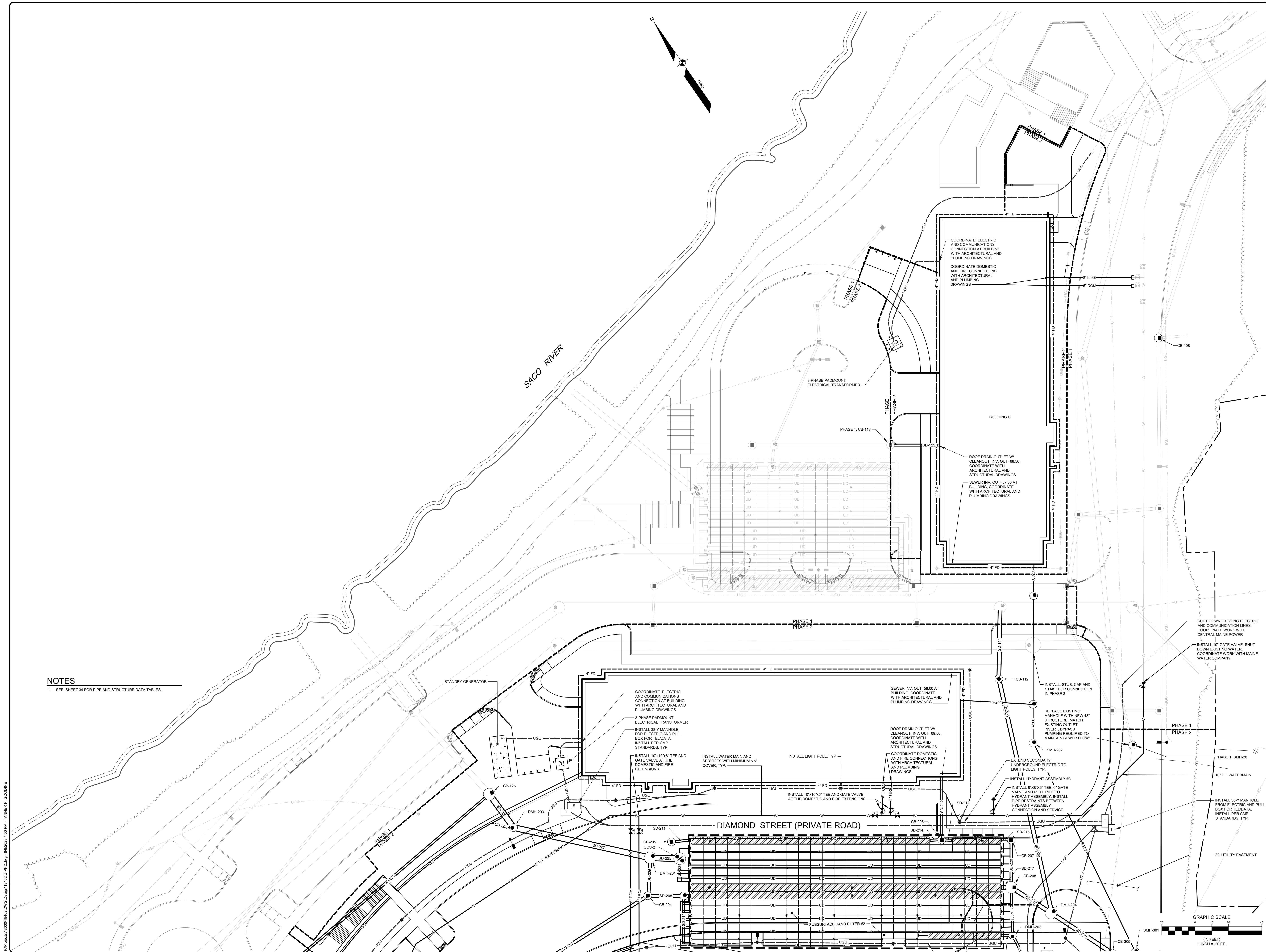


NOT FOR
CONSTRUCTION

F:\Projects\18000\18462\DWG\Design\18462-1\U2192.dwg, 6/8/2023 4:39 PM, TANNER E. GOODINE

NOTES

- SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.



18462-1\U2192.dwg, 18462-1\U2192.dwg\Design\18462-1\U2192.dwg, 6/8/2023 4:39 PM, TANNER E. GOODINE

UTILITY PLAN - PHASE 2 - AREA 2A
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 31 OF 51

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel: 207-260-2100

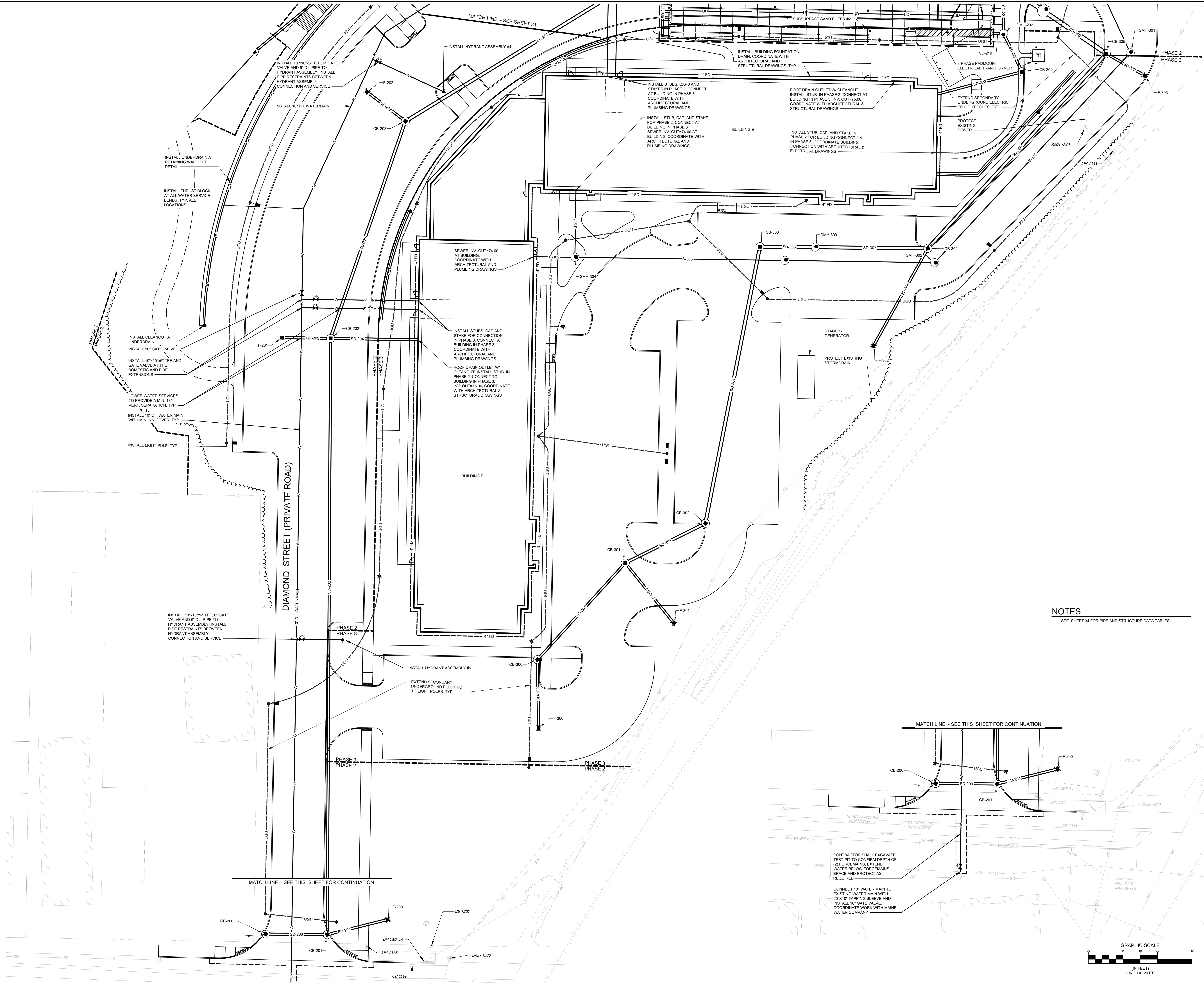
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS
APPROVED BY OTHER PERSONS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

CRAIG A. BURGESS, PE 12638



NOT FOR
CONSTRUCTION



NOTES
1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.

NOT FOR CONSTRUCTION

STATE OF MAINE
CRAIG A. BURGESS
PE 12638
06/28/2023

CRAIG A. BURGESS
PE 12638
06/28/2023

E	CAB	06/14/2023	ISSUED TO CITY OF BIDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACS RIVERS CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

REV. BY: DATE: STATUS:

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

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM

75 J. Sullivan Rd.
South Portland, ME 04106
Tel: 207-260-2100

UTILITY PLAN - PHASE 2 - AREA 2B

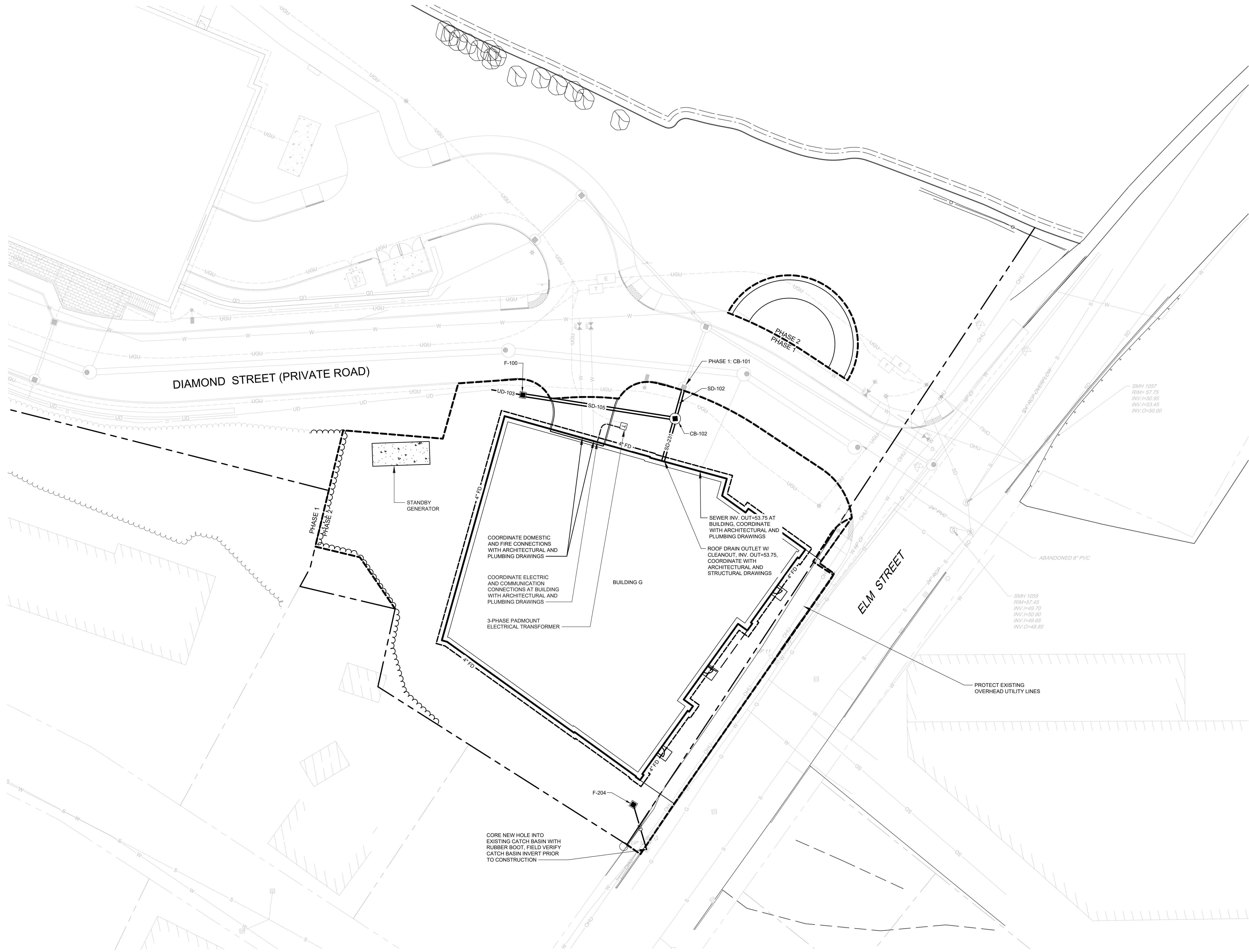
OF:
ONE DIAMOND
ELM STREET
BIDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

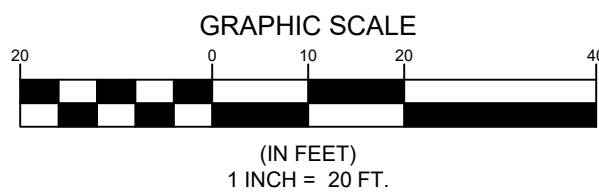
SHEET 32 OF 51

541



NOTES

1. SEE SHEET 34 FOR PIPE AND STRUCTURE DATA TABLES.



UTILITY PLAN - PHASE 2 - AREA 2C (BUILDING G)

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 33 OF 51

SEBAGO
TECHNICALS
WWW.SEBOGOTECHNICALS.COM
75 J. K. BROWN RD.
SOUTH PORTLAND, ME 04106
TEL: 207-269-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICALS, INC. ANY ALTERATIONS
ADJUSTED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.

CRAIG A. BURGESS, PE 12638



NOT FOR
CONSTRUCTION

STORM DRAIN STRUCTURE DATA				
STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
CB-100	57.75	53.30 (SD-103) 53.30 (SD-101)	53.20 (SD-100)	48" DIA.
CB-101	57.75	53.90 (SD-102)	53.80 (SD-101)	48" DIA.
CB-102	57.75	54.50 (SD-231) 54.20 (SD-105)	54.10 (SD-102)	48" DIA.
CB-103	57.30	53.78 (SD-104)	53.68 (SD-103)	48" DIA.
CB-104	57.90	55.00 (UD-102)	53.90 (SD-104)	48" DIA.
CB-105	66.35	62.85 (SD-106) 63.25 (UD-104)	62.75 (SD-107)	48" DIA.
CB-106	69.55	65.05 (SD-110) 61.05 (SD-109)	60.95 (SD-111)	48" DIA.
CB-107	58.40	59.20 (SD-115)	58.95 (SD-116)	48" DIA.
CB-108	71.50	67.50 (SD-114) 59.80 (SD-113)	59.70 (SD-115)	48" DIA.
CB-109	67.90	58.71 (SD-116)	58.61 (SD-117)	48" DIA.
CB-110	66.95	60.50 (SD-143) 58.43 (SD-117)	58.33 (SD-118)	48" DIA.
CB-111	66.95	60.96 (SD-142)	60.86 (SD-143)	48" DIA.
CB-112	67.00	60.50 (SD-229)	56.35 (SD-144)	48" DIA.
CB-113	61.90		57.50 (SD-124)	48" DIA.
CB-114	64.55	57.40 (SD-118) 59.00 (SD-145)	57.30 (SD-119)	72" DIA.
CB-115	64.55	60.00 (SD-145)	48" DIA.	
CB-116	62.30	58.55 (SD-132)	57.55 (SD-131)	48" DIA.
CB-117	62.30		58.70 (SD-132)	48" DIA.
CB-118	60.00	48.82 (SD-138) 55.44 (SD-140) 53.44 (SD-146)	48.82 (SD-139)	72" DIA.
CB-119	61.95	57.58 (SD-125)	58.30 (SD-123)	48" DIA.
CB-120	60.90	57.51 (SD-121)	57.51 (SD-122)	48" DIA.
CB-121	60.90	57.60 (SD-120)	57.60 (SD-121)	48" DIA.
CB-122	66.25	61.90 (SD-141)	61.80 (SD-142)	48" DIA.
CB-123	66.25		62.28 (SD-141)	48" DIA.
CB-124	60.50		56.85 (SD-140)	48" DIA.
CB-125	60.00	54.10 (SD-228) 55.00 (SD-230)	54.00 (SD-146)	72" DIA.

STORM DRAIN STRUCTURE DATA				
STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
CB-126	58.00		54.23 (SD-148) 54.33 (UD-106)	48" DIA.
CB-200	74.50		70.90 (SD-200)	48" DIA.
CB-201	74.50	70.10 (SD-200) 70.80 (SD-201)	70.00 (SD-202)	48" DIA.
CB-202	74.20	68.35 (SD-202) 67.75 (SD-203) 67.75 (SD-204)	66.10 (SD-205)	48" DIA.
CB-203	71.75	64.75 (SD-205) 66.20 (SD-206)	64.50 (SD-207)	48" DIA.
CB-204	72.75	62.20 (SD-207)	62.10 (SD-208) 63.33 (SD-226)	48" DIA.
CB-205	72.35		62.20 (SD-211)	48" DIA.
CB-206	67.30	62.50 (SD-212)	61.93 (SD-213) 61.93 (SD-214)	48" DIA.
CB-207	66.45	63.37 (SD-220)	62.00 (SD-215)	48" DIA.
CB-208	66.45	62.00 (SD-216) 63.37 (SD-221)	61.90 (SD-217) 63.37 (SD-220)	72" DIA.
CB-209	65.80	62.48 (SD-223)	62.24 (SD-222)	48" DIA.
CB-210	60.75	56.65 (SD-236)	56.55 (SD-230)	48" DIA.
CB-300	75.85	71.50 (SD-300)	71.40 (SD-301)	48" DIA.
CB-301	73.90	70.30 (SD-301) 70.30 (SD-302)	70.20 (SD-303)	48" DIA.
CB-302	74.35	69.35 (SD-303)	68.85 (SD-304)	48" DIA.
CB-303	75.25	67.20 (SD-304)	67.10 (SD-305)	48" DIA.
CB-304	73.15	66.10 (SD-307) 69.25 (SD-306)	66.00 (SD-308)	48" DIA.
CB-305	68.80	64.00 (SD-308) 64.50 (SD-309)	63.50 (SD-310)	48" DIA.
DMH-100	58.00	52.24 (EX SD-1) 52.63 (SD-100)	52.24 (EX SD-1.1)	48" DIA.
DMH-101	71.25	62.05 (SD-107) 67.12 (SD-108)	61.95 (SD-109)	48" DIA.
DMH-102	74.05	60.70 (SD-111) 65.76 (SD-112)	60.60 (SD-113) 66.10 (UD-105)	48" DIA.
DMH-103	67.00	58.90 (SD-135)	50.85 (SD-136)	72" DIA.
DMH-104	62.00	57.17 (SD-123) 57.11 (SD-124) 57.17 (SD-122)	57.17 (SD-126)	48" DIA.
DMH-105	66.00	50.34 (SD-136) 55.35 (SD-144)	50.34 (SD-137)	72" DIA.
DMH-106	61.30	57.11 (SD-126)	57.11 (SD-128) 57.11 (SD-127)	48" DIA.
DMH-107	62.45		57.20 (SD-129)	48" DIA.

STORM DRAIN STRUCTURE DATA				
STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
DMH-108	62.35	57.30 (SD-131)	57.30 (SD-130)	48" DIA.
DMH-109	61.50	49.28 (SD-137)	49.28 (SD-138)	72" DIA.
DMH-200	72.35	62.00 (SD-208) 63.33 (SD-210)	62.00 (SD-209)	48" DIA.
DMH-201	72.85	62.60 (SD-226) 58.70 (SD-225)	58.60 (SD-227)	72" DIA.
DMH-202	66.70	62.10 (SD-222)	62.00 (SD-219) 63.37 (SD-221)	48" DIA.
DMH-203	73.00	57.00 (SD-227) 69.00 (UD-202)	55.00 (SD-228)	48" DIA.
DMH-204	67.00	62.63 (SD-310)	62.43 (SD-216) 63.33 (SD-229)	72" DIA.
DMH-300	74.65	66.78 (SD-305)	66.78 (SD-307)	48" DIA.
F-100	57.90	55.25 (UD-103)	54.80 (SD-105)	24"X24"
F-101	66.30		62.96 (SD-106)	24"X24"
F-102	69.55		65.50 (SD-110)	24"X24"
F-103	61.50		58.50 (SD-120)	24"X24"
F-200	74.00		72.00 (SD-201)	24"X24"
F-201	74.20		68.25 (SD-203)	24"X24"
F-202	71.75		66.70 (SD-206)	24"X24"
F-203	61.00		57.40 (SD-236)	24"X24"
F-204	58.25		62.96 (SD-106)	24"X24"
F-300	75.75		72.15 (SD-300)	24"X24"
F-301	73.62		70.60 (SD-302)	24" F-Basin
F-302	73.20		70.00 (SD-306)	24" F-Basin
F-303	68.80		65.00 (SD-309)	24" F-Basin
OCS-1	62.20	54.33 (UD-101) 57.13 (SD-133)	54.24 (SD-134)	72" DIA.
OCS-2	72.50	61.84 (SD-224) 59.00 (UD-201)	58.90 (SD-225)	72" DIA.

SANITARY SEWER STRUCTURE DATA				
STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
SMH-101	58.30		48.95 (S-101)	60"
SMH-102	58.10	48.76 (S-101) 49.51 (S-201)	48.76 (S-102)	60"
SMH-103	59.30	48.47 (S-102)	48.47 (S-103)	60"
SMH-104	65.75	47.96 (S-103) 61.00 (S-105)	47.96 (S-104)	60"
SMH-105	71.70	47.49 (S-104)	47.49 (S-106)	60"
SMH-106	71.35	46.70 (S-106) 61.00 (S-108)	46.70 (S-107)	60"
SMH-107	71.40	46.30 (S-107)	46.30 (S-109)	60"
SMH-108	66.65	45.98 (S-109) 46.98 (S-115)	45.98 (S-110)	96"
SMH-109	66.40	45.89 (S-110) 57.69 (S-204) 47.00 (S-203)	45.89 (S-111)	96"
SMH-110	61.25	45.36 (S-111)	45.40 (S-112)	96"
SMH-111	62.75	44.91 (S-112)	44.91 (S-113)	96"
SMH-112	61.20	44.58 (S-113)	44.58 (S-114)	96"
SMH-113	66.65		50.69 (S-115)	48"
SMH-201	65.80	58.40 (S-206)	58.40 (S-204)	48"
SMH-202	67.70	58.96 (S-207)	58.86 (S-206)	48"
SMH-203	66.25	56.30 (S-202)	48.00 (S-203)	48"
SMH-301	68.80	56.23 (S-305)	62.00 (S-207)	48"
SMH-302	73.50	66.00 (S-304)	62.10 (S-305)	48"
SMH-303	75.05	70.00 (S-303)	67.66 (S-304)	48"
SMH-304	77.50	72.22 (S-302) 72.22 (S-301)	72.12 (S-303)	48"

SANITARY SEWER PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
S-101	30"	53'	0.36%
S-102	30"	98'	0.30%
S-103	30"	178'	0.29%
S-104	30"	179'	0.26%
S-105	6"	37'	5.42%
S-106	30"	266'	0.30%
S-107	30"	146'	0.27%
S-108	6"	48'	10.48%
S-109	30"	168'	0.19%
S-110	60"	38'	0.24%
S-111	60"	277'	0.19%
S-112	60"	289'	0.17%
S-113	60"	163'	0.20%
S-114	60"	314'	0.16%
S-115	12"	56'	6.64%
S-201	6"	44'	7.36%
S-202	6"	17'	1.18%
S-203	6"	24'	4.23%
S-204	8"	30'	2.40%
S-205	6"	44'	1.83%
S-206	8"	19'	2.42%
S-207	6"	136'	2.24%
S-301	6"	37'	2.11%
S-302	6"	22'	3.55%
S-303	6"	116'	1.80%
S-304	6"	83'	2.01%
S-305	6"	162'	3.62%

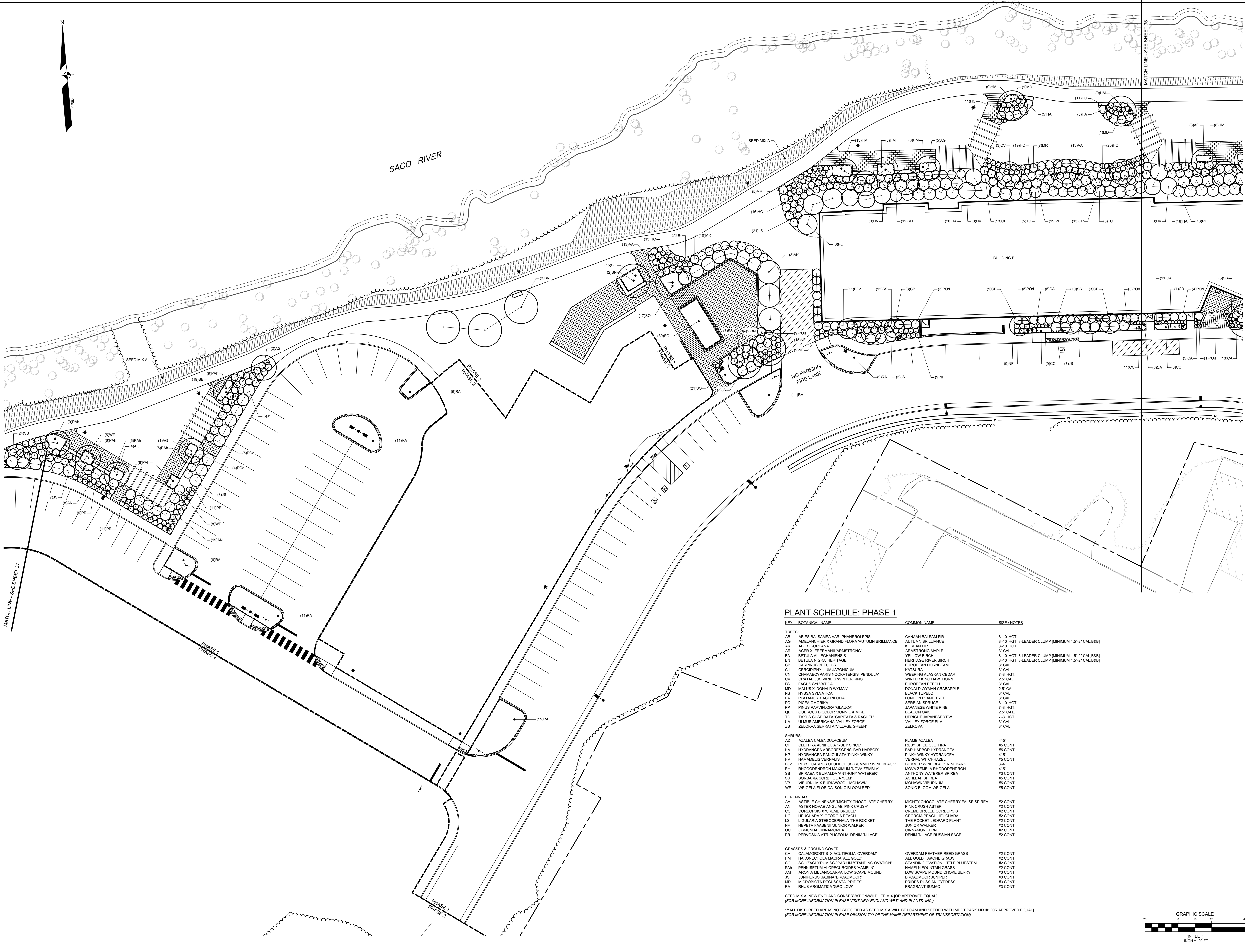
STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
EX SD-1	15"	106'	0.96%
EX SD-1.1	15"	116'	0.96%
SD-100	12"	112'	0.51%
SD-101	12"	24'	2.07%
SD-102	12"	10'	1.97%
SD-103	12"	75'	0.51%
SD-104	12"	24'	0.50%
SD-105	12"	64'	0.93%
SD-106	12"	22'	0.49%
SD-107	12"	144'	0.49%
SD-108	12"	56'	0.50%
SD-109	18"	178'	0.51%
SD-110	12"	24'	1.91%
SD-111	18"	54'	0.47%
SD-112	12"	62'	2.00%
SD-113	18"	139'	0.58%
SD-114	12"	16'	3.21%
SD-115	18"	88'	0.51%
SD-116	18"	45'	0.53%
SD-117	24"	39'	0.44%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-118	24"	83'	1.09%
SD-119	24"	7'	2.37%
SD-120	12"	58'	1.55%
SD-121	12"	16'	0.50%
SD-122	12"	63'	0.54%
SD-123	12"	66'	1.71%
SD-124	12"	9'	4.27%
SD-125	12"	16'	1.02%
SD-125.1	12"	11'	1.02%
SD-126	12"	10'	0.63%
SD-127	15"	6'	0.00%
SD-128	15"	3'	0.00%
SD-129	12"	7'	1.42%
SD-130	12"	12'	1.61%
SD-131	12"	16'	1.59%
SD-132	12"	20'	0.77%
SD-133	24"	40'	0.00%
SD-134	36"	93'	0.53%
SD-135	15"	54'	1.12%
SD-136	60"	73'	0.42%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-137	60"	259'	0.41%
SD-138	60"	101'	0.46%
SD-139	60"	54'	0.48%
SD-140	12"	241'	0.59%
SD-141	12"	24'	1.49%
SD-142	12"	55'	1.52%
SD-143	12"	18'	2.00%
SD-144	24"	38'	2.63%
SD-145	12"	17'	5.84%
SD-146	36"	62'	0.91%
SD-147	15"	36'	0.56%
SD-148	12"	57'	2.14%
SD-200	12"	32'	2.53%
SD-201	12"	33'	3.63%
SD-202	12"	341'	1.07%
SD-203	12"	24'	2.08%
SD-204	12"	49'	2.05%
SD-205	15"	129'	1.05%
SD-206	12"	24'	2.08%
SD-207	18"	146'	1.58%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-208	18"	18'	0.56%
SD-209	18"	2'	2.04%
SD-210	12"	27'	0.00%
SD-211	12"	9'	2.86%
SD-212	12"	36'	2.51%
SD-213	12"	4'	0.00%
SD-214	12"	5'	0.00%
SD-215	12"	4'	1.84%
SD-216	24"	22'	1.91%
SD-217	24"	3'	2.15%
SD-219	12"	5'	1.48%
SD-220	15"	24'	0.00%
SD-221	12"	24'	0.00%
SD-222	12"	21'	0.68%
SD-223	12"	49'	4.29%
SD-224	24"	11'	0.00%
SD-225	36"	12'	1.71%
SD-226	18"	18'	4.10%
SD-227	36"	79'	2.02%
SD-228	36"	20'	4.54%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-229	24"	139'	2.04%
SD-230	12"	152'	1.02%
SD-231	12"	17'	4.30%
SD-236	12"	71'	1.06%
SD-300	12"	37'	1.78%
SD-301	12"	72'	1.54%
SD-302	12"	42'	0.72%
SD-303	15"	48'	1.78%
SD-304	18"	159'	1.04%
SD-305	18"	28'	1.15%
SD-306	12"	62'	1.22%
SD-307	18"	61'	1.11%
SD-308	18"	149'	1.34%
SD-309	12"	22'	2.30%
SD-310	24"	39'	2.23%
UD-101	6"	2'	0.00%
UD-102	6"	50'	6.03%
UD-103	8"	13'	4.00%
UD-104	4"	7'	3.84%
UD-105	8"	8'	1.32%



NOT FOR CONSTRUCTION

Henry A. Hess, RJA 4841
Civil Engineering
State of Maine

LANDSCAPE PLAN - PHASE 1 - AREA 1B

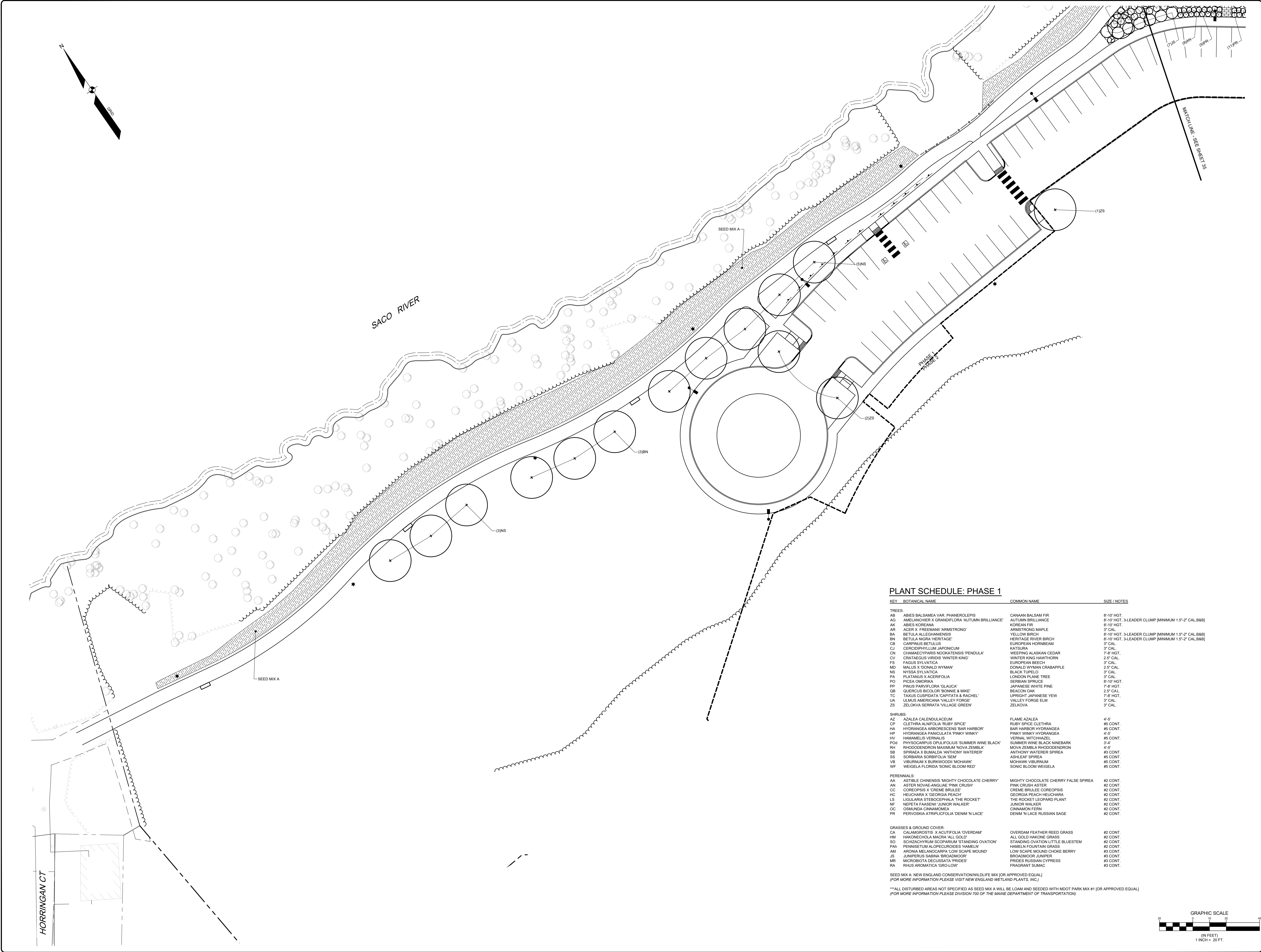
DESIGNED TFG
DRAWN DAB
CHECKED CAB
DATE 04/12/2023
SCALE 1" = 20'
PROJECT 18462

SHEET 36 OF 51

SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 S. Main Rd.
South Portland, ME 04106
Tel: 207-260-2100

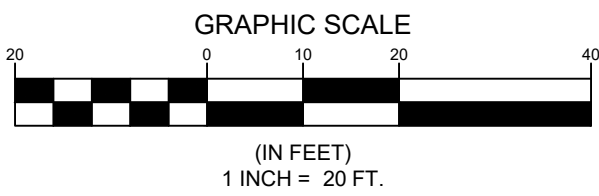
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043



PLANT SCHEDULE: PHASE 1

KEY	BOTANICAL NAME	COMMON NAME	SIZE / NOTES
TREES:			
AB	ABIES BALSAEVA VAR. PHANEROLEPIS	CANAAN BALSAM FIR	8'-10' HGT.
AG	AMELIA NCHER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE	8'-10' HGT, 3-LEADER CLUMP (MINIMUM 1.5"-2" CAL B&B)
AK	ABIES KOREANA	KOREAN FIR	8'-10' HGT.
AR	ACER X FREEMANNI 'ARMSTRONG'	ARMSTRONG MAPLE	3" CAL
BA	BETULA ALLEGHANIENSIS	YELLOW BIRCH	8'-10' HGT, 3-LEADER CLUMP (MINIMUM 1.5"-2" CAL B&B)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8'-10' HGT, 3-LEADER CLUMP (MINIMUM 1.5"-2" CAL B&B)
CB	CARPINUS BETULUS	EUROPEAN HORNBEAM	3" CAL
CJ	CERCIDIPHYLLUM JAPONICUM	KATSURA	3" CAL
CN	CHAMAECYPARIS NOOKATENSIS 'PENDULA'	WEEPING ALASKAN CEDAR	7'-8' HGT.
CV	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN	2.5" CAL
FS	FAGUS SYLVATICA	EUROPEAN BEECH	3" CAL
MD	MALUS X 'DONALD WYMAN'	DONALD WYMAN CRABAPPLE	2.5" CAL
NS	NYSSA SYLVATICA	BLACK TUPELO	3" CAL
PA	PLATANUS X ACERIFOLIA	LONDON PLANE TREE	3" CAL
PO	PICEA OMORICA	SERBIAN SPRUCE	8'-10' HGT.
PP	PINUS PARVIFLORA 'GLAUCOA'	JAPANESE WHITE PINE	7'-8' HGT.
QB	QUERCUS BICOLOR 'BONNIE & MIKE'	BEACON OAK	2.5" CAL
TC	TAXUS CUSPIDATA 'CAPTATA & RACHEL'	UPRIGHT JAPANESE YEW	7'-8' HGT.
UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	3" CAL
ZS	ZELKOYA SERRATA 'VILLAGE GREEN'	ZELKOYA	3" CAL
SHRUBS:			
AZ	AZALEA CALENDULACEUM	FLAME AZALEA	4'-5'
CP	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE CLETHRA	#5 CONT.
HA	HYDRANGEA ARBORESCENS 'BAR HARBOR'	BAR HARBOR HYDRANGEA	#5 CONT.
HP	HYDRANGEA PANCULATA 'PINKY WINKY'	PINKY WINKY HYDRANGEA	4'-5'
HV	HAMAMELIS VERNALIS	VERNAL WITCH-HAZEL	#5 CONT.
PO4	PHYDOCARPUS OPULIFOLIUS 'SUMMER WINE BLACK'	SUMMER WINE BLACK NINEBARK	3'-4'
RH	RHOXODENDRON MAXIMUM 'NOVA EMBLEA'	NOVA EMBLEA RHODODENDRON	4'-5'
SB	SPIRAEA X BIMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	#3 CONT.
SE	SORBARIA SORBIFOLIA 'SEM'	ASHLEAF SPIREA	#3 CONT.
VB	VIBURNUM X BURKWOODII 'MOHAWK'	MOHAWK VIBURNUM	#5 CONT.
WF	WEIGELA FLORIDA 'SONIC BLOOM RED'	SONIC BLOOM WEIGELA	#5 CONT.
PERENNIALS:			
AA	ASTILE CHINENSIS 'MIGHTY CHOCOLATE CHERRY'	MIGHTY CHOCOLATE CHERRY FALSE SPIREA	#2 CONT.
AN	ASTER NOVAE-ANGLIAE 'PINK CRUSH'	PINK CRUSH ASTER	#2 CONT.
CC	COREOPSIS X 'CREME BRULEE'	CREME BRULEE COREOPSIS	#2 CONT.
HC	HEUCHARA X 'GEORGIA PEACH'	GEORGIA PEACH HEUCHARA	#2 CONT.
LS	LIQUILARIA STEREOCEPHALA 'THE ROCKET'	THE ROCKET LEOPARD PLANT	#2 CONT.
NF	NEPETA FAASANI 'JUNIOR WALKER'	JUNIOR WALKER	#2 CONT.
OC	OSLUNDA CINNAMOMEA	CINNAMON FERN	#2 CONT.
PR	PERVOXIA ATRIPICIFOLIA 'DENIM 'N LACE'	DENIM 'N LACE RUSSIAN SAGE	#2 CONT.
GRASSES & GROUND COVER:			
CA	CAULAMGROSTIS X ACUTIFOLIA 'OVERDAM'	OVERDAM FEATHER REED GRASS	#2 CONT.
HM	HAKONECHOLA MACRA 'ALL GOLD'	ALL GOLD HAKONE GRASS	#2 CONT.
SD	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	STANDING OVATION LITTLE BLUESTEM	#2 CONT.
PNB	PENNISETUM ALPICOLOIDES 'HAMELIY'	HAMELIY FOUNTAIN GRASS	#2 CONT.
AM	ARONIA MELANOCARPA 'LOW SCAPE MOUND'	LOW SCAPE MOUND CHOKO BERRY	#3 CONT.
JS	JUNIPERUS SABINA 'BROADMOOR'	BROADMOOR JUNIPER	#3 CONT.
MR	MICROBIOTA DECUSSATA 'PRIDES'	PRIDES RUSSIAN CYPRESS	#3 CONT.
RA	RHUS AROMATICA 'GRO-LOW'	FRAGRANT SUMAC	#3 CONT.

SEED MIX A: NEW ENGLAND CONSERVATION/WILDLIFE MIX [OR APPROVED EQUAL]
(FOR MORE INFORMATION PLEASE VISIT NEW ENGLAND WETLAND PLANTS, INC.)
***ALL DISTURBED AREAS NOT SPECIFIED AS SEED MIX A WILL BE LOAM AND SEEDED WITH MDOOT PARK MIX #1 [OR APPROVED EQUAL]
(FOR MORE INFORMATION PLEASE DIVISION 700 OF THE MAINE DEPARTMENT OF TRANSPORTATION)



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LANDSCAPE PLAN - PHASE 1 - AREA 1C

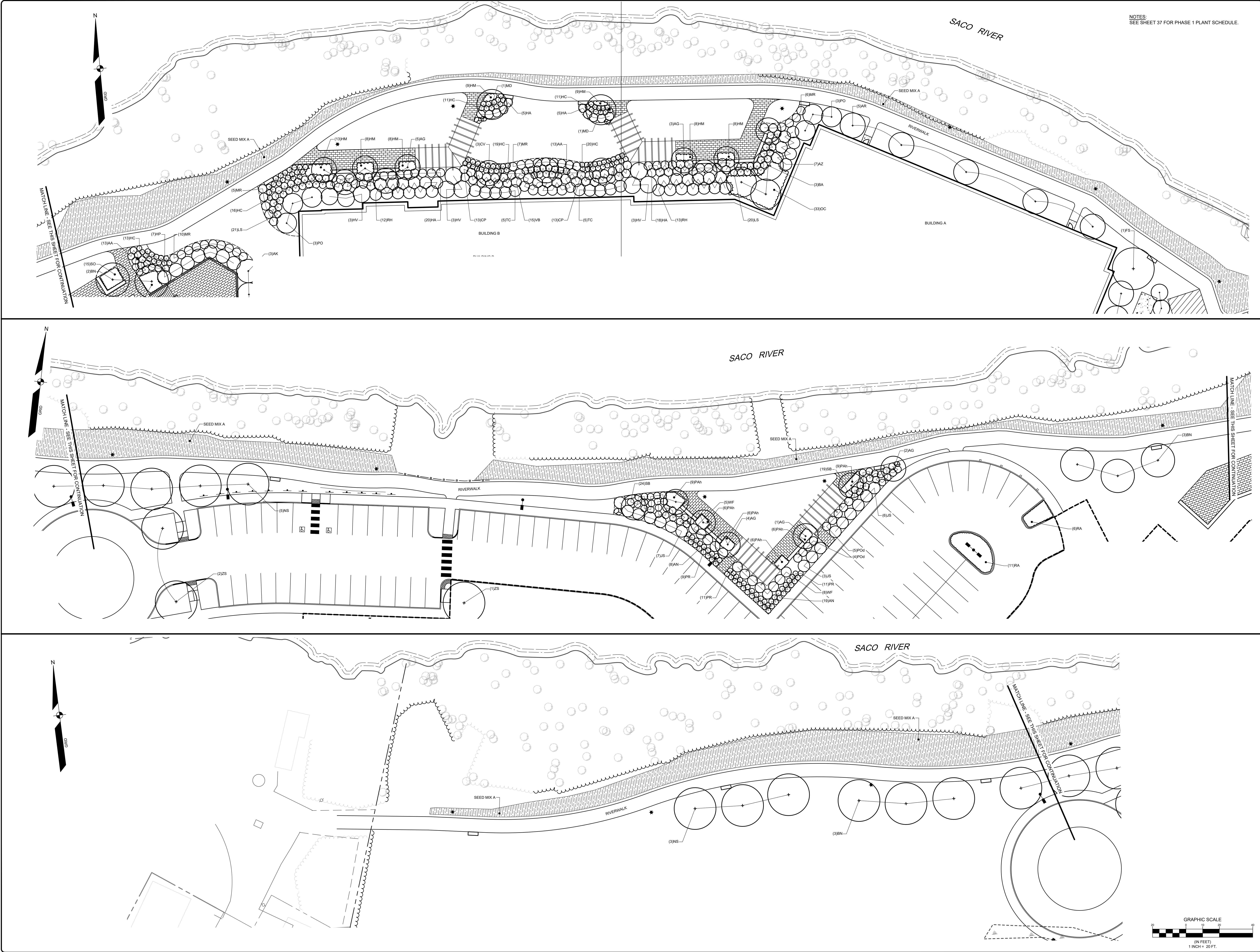
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET37 OF 51

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NOTES:
SEE SHEET 37 FOR PHASE 1 PLANT SCHEDULE.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

LANDSCAPE PLAN - RIVERWALK TRAIL
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIVERWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 J. Sullivan Rd.
South Portland, ME 04106
Tel. 207-269-2100

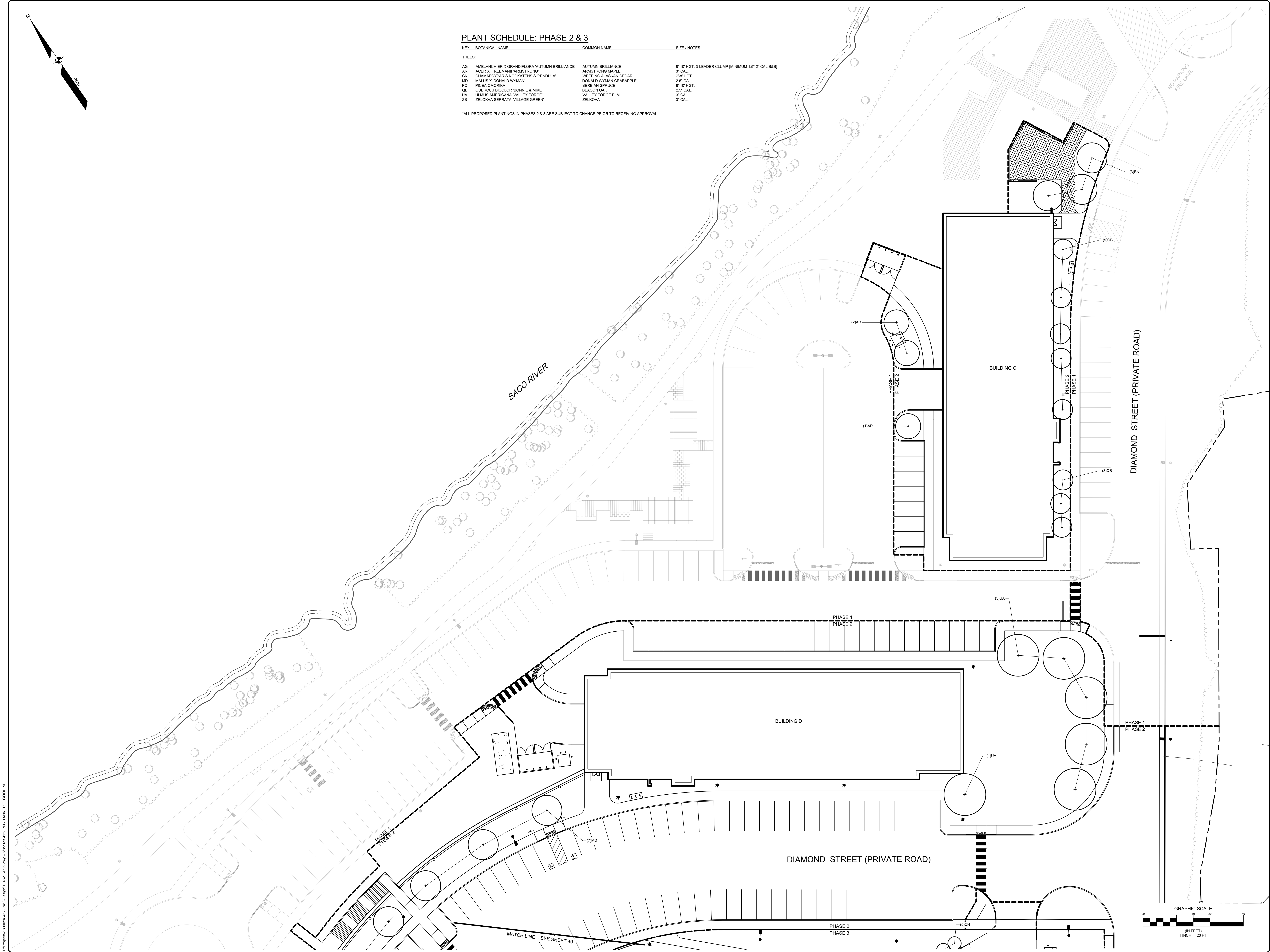
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D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS
APPROVED BY OTHER AGENCIES SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.



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PLANT SCHEDULE: PHASE 2 & 3

KEY	BOTANICAL NAME	COMMON NAME	SIZE / NOTES
TREES:			
AG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE	8'-10' HGT, 3 LEADER CLUMP (MINIMUM 1.5" 2" CAL.B&B)
AR	ACER X FREEMANI 'ARMSTRONG'	ARMSTRONG MAPLE	3" CAL.
CN	CHAMAECYPARIS NODKATENSIS 'PENDULA'	WEeping ALASKAN CEDAR	7'-8' HGT.
ND	MALUS X DONALD WYMAN	DONALD WYMAN CRABAPPLE	2.5" CAL.
PO	PICEA OMORICA	SERBIAN SPRUCE	8'-10' HGT.
OB	QUERCUS BICOLOR 'BONNIE & MIKE'	BEACON OAK	2.5" CAL.
UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	3" CAL.
ZS	ZELKOVA SERRATA 'VILLAGE GREEN'	ZELKOVA	3" CAL.

*ALL PROPOSED PLANTINGS IN PHASES 2 & 3 ARE SUBJECT TO CHANGE PRIOR TO RECEIVING APPROVAL.

LANDSCAPE PLAN - PHASE 2 - AREA 2A
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

SHEET 39 OF 51

SEBAGO
TECHNICS
WWW.SEAGOTECHNICS.COM
75 Jackson Rd.
South Portland, ME 04106
Tel: 207-269-2100

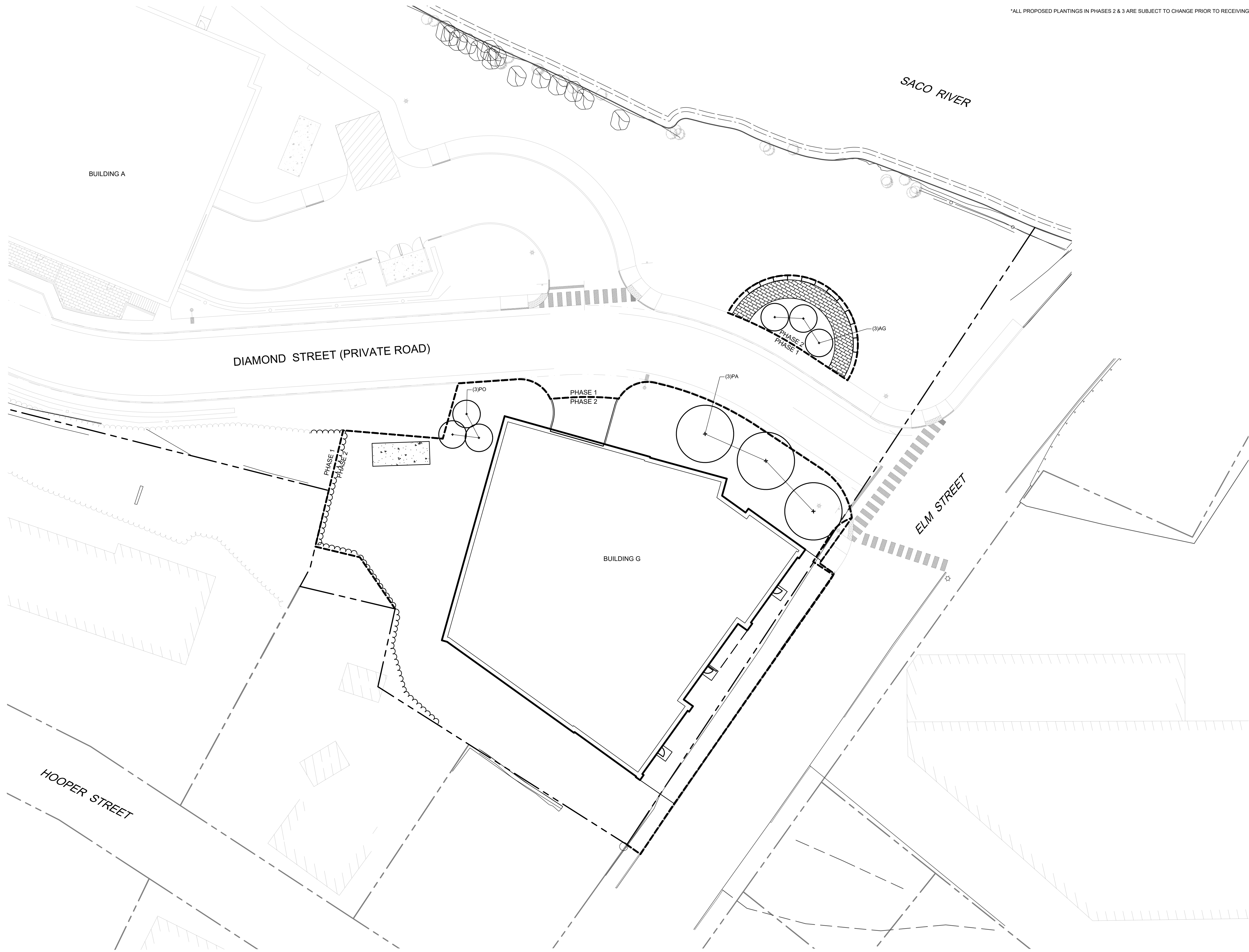
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE CLIENT'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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HENRY A. HESS, RUA 4841
06/12/2023

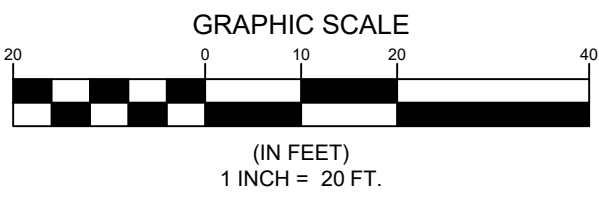
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PLANT SCHEDULE: PHASE 2 & 3

KEY	BOTANICAL NAME	COMMON NAME	SIZE / NOTES
TREES:			
AG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE	8'-10' HGT, 3-LEADER CLUMP (MINIMUM 1.5\"/>
AR	ALDER X FREEMANNI 'ARMSTRONG'	ARMSTRONG MAPLE	3\"/>
CN	CHAMAECYPARIS NODKATENSIS 'PENDULA'	WEeping ALASKIAN CEDAR	7-8' HGT,
MD	MALUS X 'DONALD WYMAN'	DONALD WYMAN CRABAPPLE	2.5\"/>
PO	PICEA OMORICA	SERBIAN SPRUCE	8-10' HGT,
QB	QUERCUS BICOLOR 'BONNIE & MIKE'	BEACON OAK	2.5\"/>
UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	3\"/>
ZS	ZELKOVIA SERRATA 'VILLAGE GREEN'	ZELKOVA	3\"/>

*ALL PROPOSED PLANTINGS IN PHASES 2 & 3 ARE SUBJECT TO CHANGE PRIOR TO RECEIVING APPROVAL.



18462-L-PRG.dwg: TAB#41 LANDSCAPE PLAN - PHASE 2 - AREA 2C (BUILDING G)

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 20'
PROJECT	18462

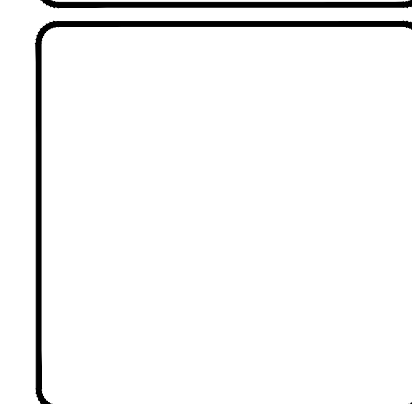
LANDSCAPE PLAN - PHASE 2 - AREA 2C (BUILDING G)
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICS

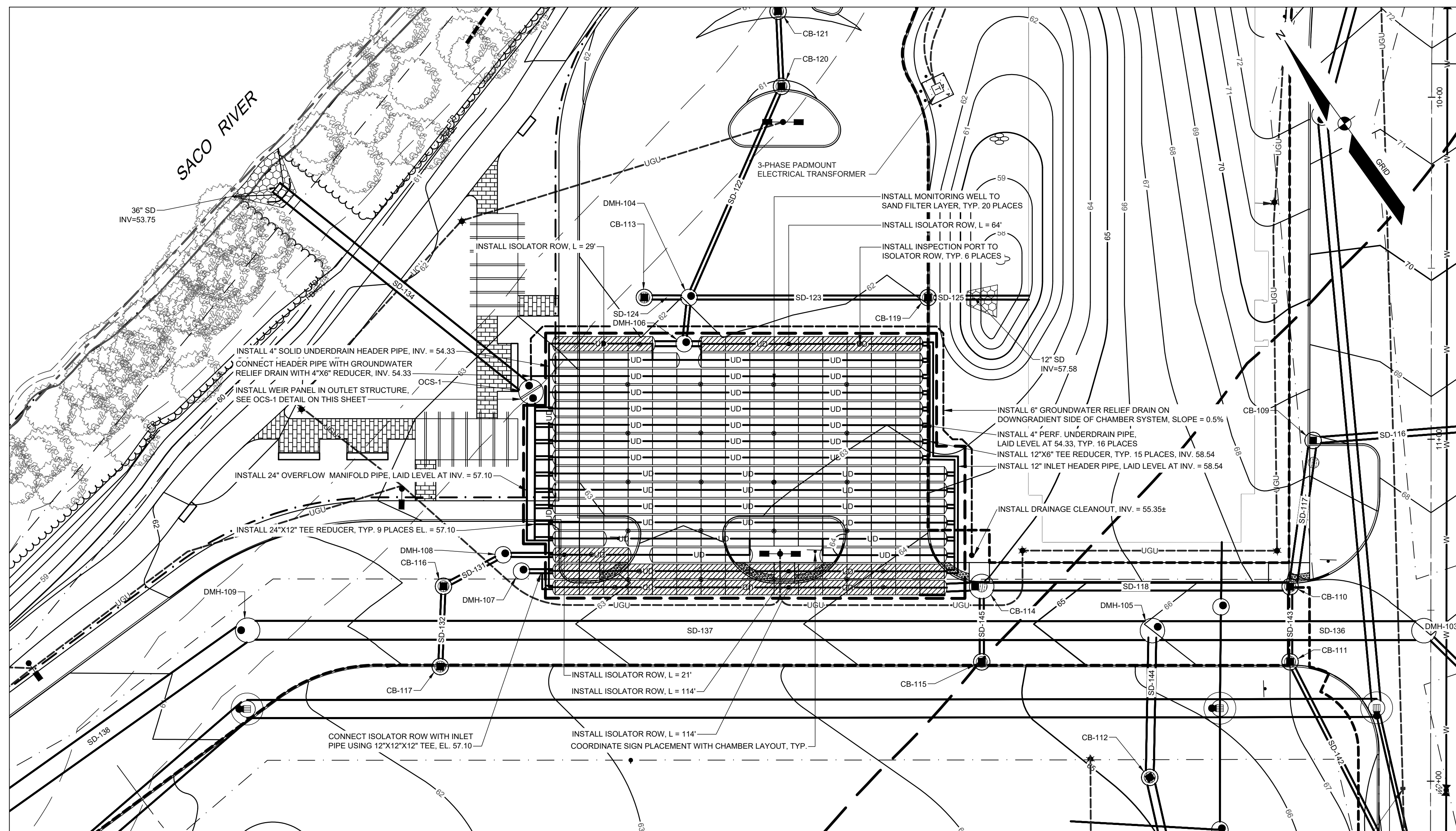
WWW.SEBAGOTECHNICS.COM
75 Jackson Rd.
South Portland, ME 04106
Tel: 207-269-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

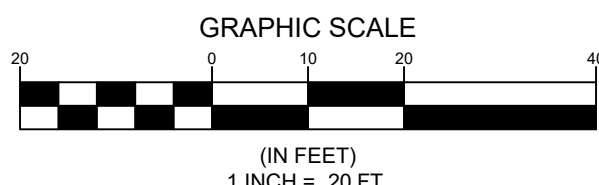
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.



NOT FOR
CONSTRUCTION



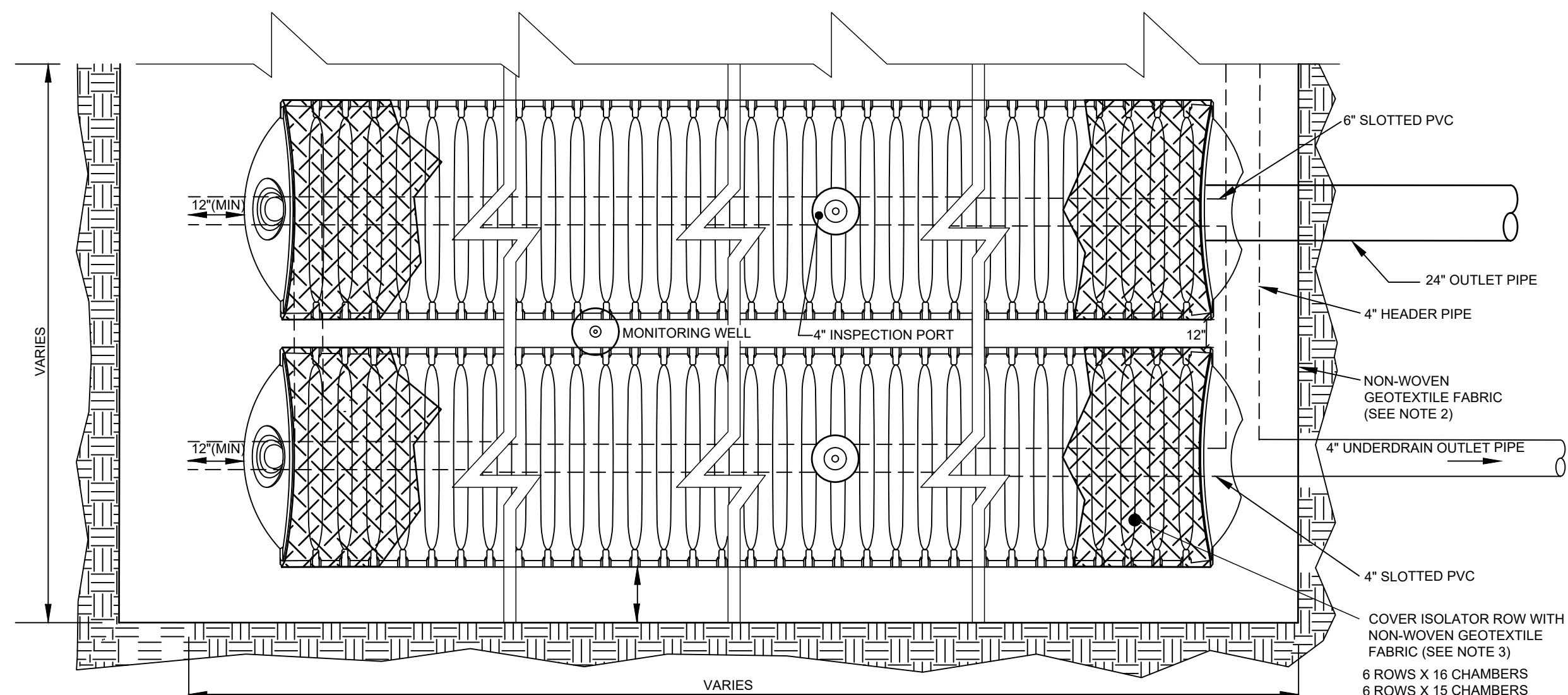
SUBSURFACE SAND FILTER #1 (SSSF-1): PHASE 1



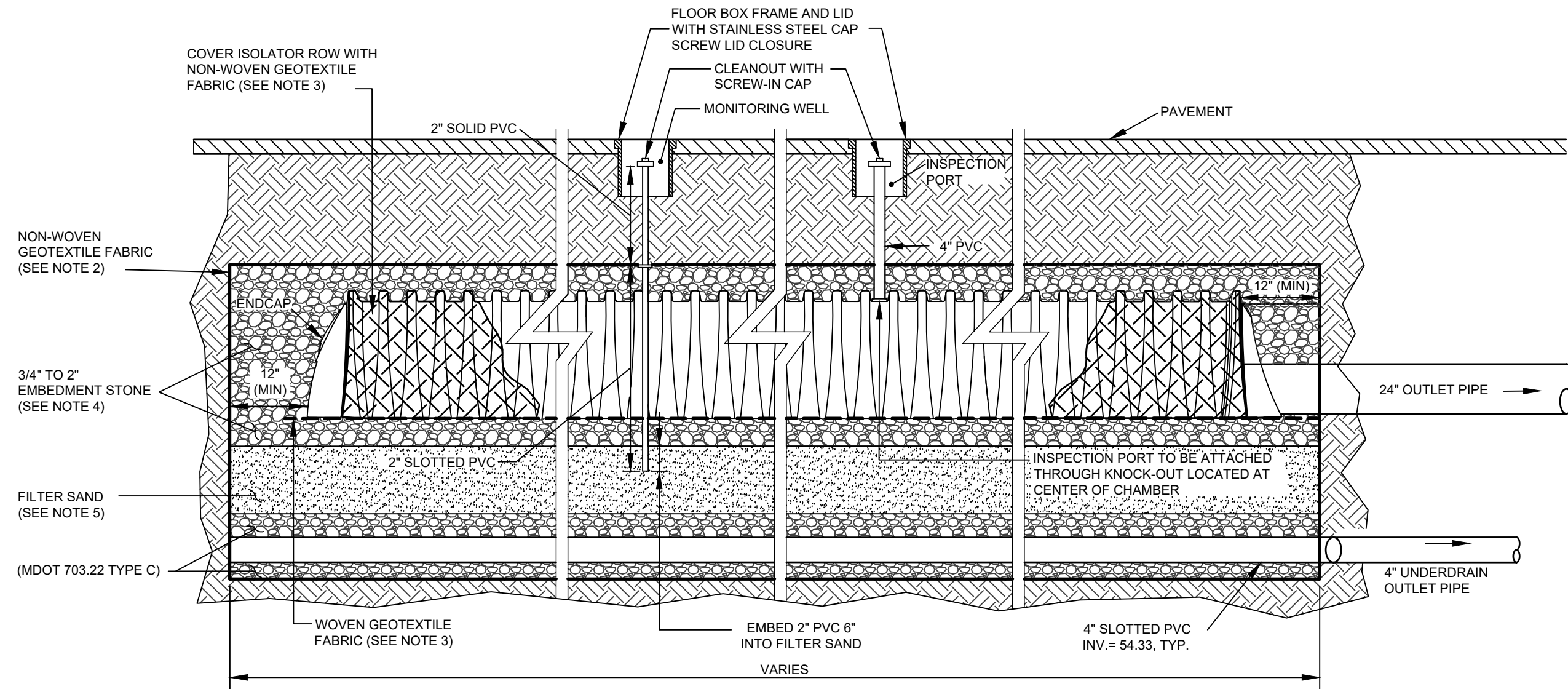
STORM DRAIN STRUCTURE DATA				
STRUCTURE	RIM	INV. IN.	INV. OUT.	DIAM.
CB-09	67.90	58.71 (SD-116)	58.61 (SD-117)	48" DIA.
CB-10	66.95	60.55 (SD-143) 58.43 (SD-117)	58.33 (SD-118)	48" DIA.
CB-111	66.95	60.96 (SD-142)	60.86 (SD-143)	48" DIA.
CB-112	67.00	60.50 (SD-229)	56.35 (SD-144)	48" DIA.
CB-113	61.90	57.40 (SD-145)	57.30 (SD-124)	48" DIA.
CB-114	64.55	57.00 (SD-118) 59.00 (SD-145)	57.30 (SD-119)	72" DIA.
CB-115	64.55		60.00 (SD-145)	48" DIA.
CB-116	62.30	58.55 (SD-132)	57.65 (SD-131)	48" DIA.
CB-117	62.30		58.70 (SD-132)	48" DIA.
CB-119	61.55	57.58 (SD-125)	58.30 (SD-123)	48" DIA.
CB-120	60.90	57.51 (SD-121)	57.51 (SD-122)	48" DIA.
CB-121	60.90	57.60 (SD-120)	57.60 (SD-121)	48" DIA.
DMH-03	67.00	56.90 (SD-135)	50.65 (SD-136)	72" DIA.
DMH-104	62.00	57.17 (SD-123) 57.17 (SD-142) 57.17 (SD-134)	57.17 (SD-126)	48" DIA.
DMH-105	66.00	55.34 (SD-136) 55.35 (SD-144)	50.34 (SD-137)	72" DIA.
DMH-106	61.30	57.11 (SD-126)	57.11 (SD-128) 57.11 (SD-127)	48" DIA.
DMH-107	62.45		57.20 (SD-129)	48" DIA.
DMH-108	62.35	57.30 (SD-131)	57.30 (SD-130)	48" DIA.
DMH-109	61.50	49.28 (SD-137)	49.28 (SD-138)	72" DIA.
F-103	61.50		58.60 (SD-120)	24"X24"
OC5-1	62.20	54.33 (SD-101) 57.13 (SD-133)	54.24 (SD-134)	72" DIA.

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-116	16"	45'	0.53%
SD-117	24"	39'	0.44%
SD-118	24"	85'	1.09%
SD-119	24"	7'	2.37%
SD-120	12"	58'	1.55%
SD-121	12"	18'	0.50%
SD-122	12"	63'	0.54%
SD-123	12"	66'	1.71%
SD-124	12"	9'	4.27%
SD-125	12"	11'	1.02%
SD-126	12"	10'	0.63%
SD-127	15"	6'	0.00%
SD-128	15"	3'	0.00%
SD-129	12"	7'	1.42%
SD-130	12"	12'	1.61%
SD-131	12"	16'	1.59%
SD-132	12"	20'	0.77%
SD-133	24"	40'	0.00%
SD-134	36"	93'	0.53%
SD-135	15"	54'	1.12%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-136	60"	73'	0.42%
SD-137	60"	259'	0.41%
SD-138	60"	101'	0.46%
SD-142	12"	55'	1.52%
SD-143	12"	18'	2.00%
SD-144	24"	38'	2.63%
SD-145	12"	17'	5.84%
SD-229	24"	139'	2.04%
UD-101	6"	2'	0.00%



SUBSURFACE SAND FILTER - PLAN VIEW
NOT TO SCALE



SUBSURFACE SAND FILTER - ELEVATION VIEW
NOT TO SCALE

SUBSURFACE SAND FILTER NOTES:

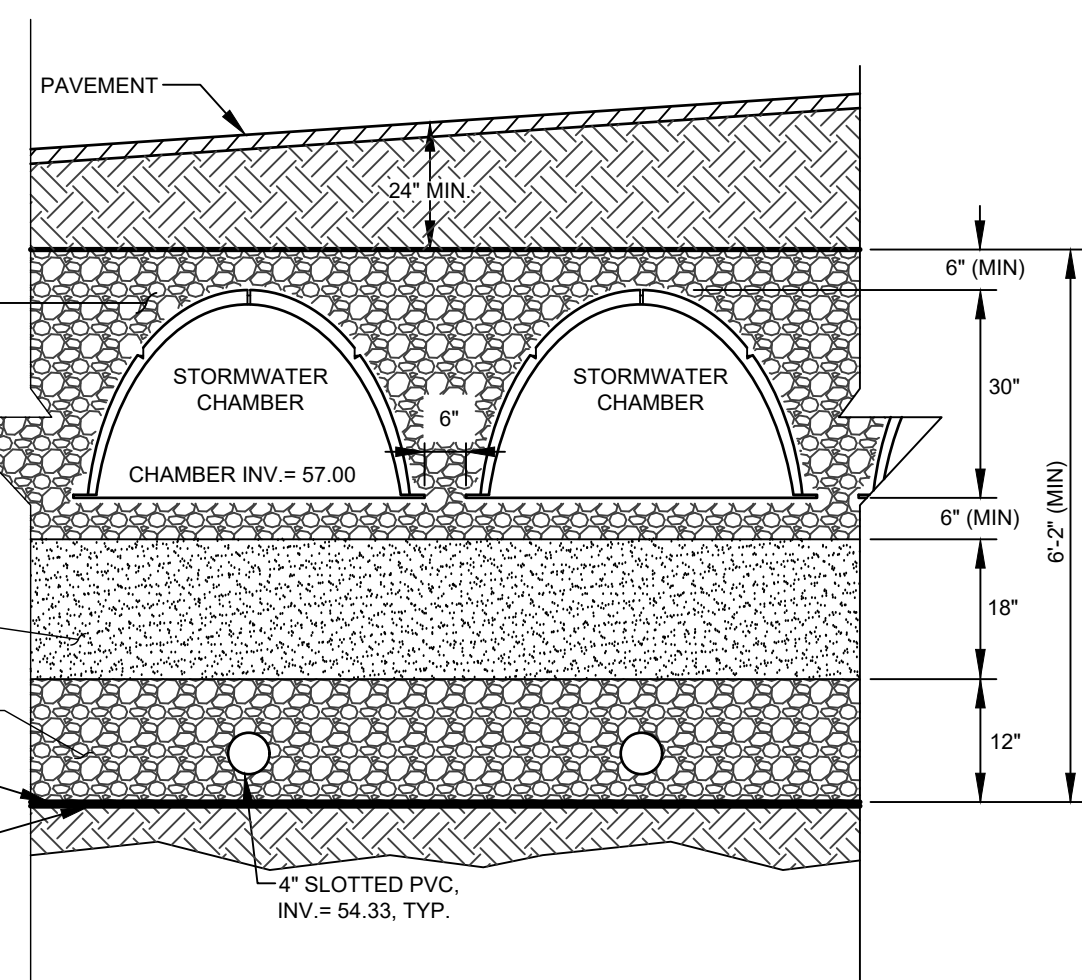
1. THE STORMWATER CHAMBER SHALL BE A STORMTRENCH SC-740 OR EQUIVALENT SUBSURFACE STORAGE CHAMBER APPROVED BY THE ENGINEER.
2. THE ENTIRE SUBSURFACE SYSTEM, INCLUDING THE CRUSHED STONE STORAGE VOLUME, THE SAND FILTER MEDIA AND UNDERDRAIN FILTERS, SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC (MIRAFIB 160N OR EQUIVALENT).
3. TWO STRIPS OF WOVEN GEOTEXTILE (MIRAFIB FV 404) SHALL BE INSTALLED BETWEEN THE BOTTOM OF THE ISOLATOR ROW CHAMBER AND THE STORMWATER CHAMBER. THIS FABRIC TRAPS SEDIMENTS AND PREVENTS THE UNDERDRAIN FILTERS FROM BEING DISPLACED BY THE STONE. THE FABRIC SHALL BE 24 INCHES WIDE, 24 LB PER SQUARE YARD, 2.0 MIL THICK, 100 PERCENT POLYESTER, 12828 CLASS 2 GEOTEXTILE (MIRAFIB 160N OR EQUIVALENT) SHALL BE DRAPED OVER THE ENTIRE LENGTH OF THE CHAMBERS. THIS FABRIC WILL ALSO TRAP SEDIMENTS AND PROVIDE SEPARATION BETWEEN THE CHAMBERS.
4. THE EMBEDED STONE SURROUNDING THE CHAMBERS SHALL BE A WASHED, ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 INCH AND 2 INCH. THE MINIMUM 6 INCH LAYER OF STONE THAT ACTS AS THE FOUNDATION BELOW THE CHAMBERS SHALL BE COMPACTED TO ACHIEVE A 95% STANDARD PROCTOR DENSITY.
5. THE SAND FILTER MEDIA SHALL BE A UNIFORM, FINE, FREE OF STONES LARGER THAN 2 INCHES, STURDY, AND NON-FLAT. THE MATERIAL SHALL MEET THE SPECIFICATIONS FOR MEDIUM AGGREGATE SAND (MDOT #703 071). HOWEVER, THIS AGGREGATE SAND SHALL BE MIXED WITH 2% CHELATE FINE FILL (MDOT #703 072) AND 10% PAVEMENT #200 SIEVE. THE LOAM USED IN THIS MIXTURE SHALL HAVE LESS THAN 2% CLAY CONTENT. THIS 18 INCH LAYER OF SAND FILTRATION MEDIA SHALL BE PLACED TO ACHIEVE A LEVEL OF COMPACTION BETWEEN 92% AND 94% STANDARD PROCTOR DENSITY.
6. THE CONTRACTOR SHALL PERFORM PERMEABILITY TESTS FOR THE SAND FILTER MEDIA TO ENSURE A STORMWATER RELEASE TIME RANGING BETWEEN 24 AND 48 HOURS.

CONSTRUCTION OVERSIGHT NOTES FOR SUBSURFACE SAND FILER:

1. INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE PROPOSED SUBSURFACE CHAMBERS AND ITS FILTER COURSE MATERIAL TO BE BUILT ON THE SITE. INSPECTIONS SHALL CONSIST OF AN APPROPRIATE NUMBER OF VISITS TO THE SITE TO INSPECT THE INSTALLATION OF THE SUBGRADE, FILTER BED MATERIAL, PLACEMENT, INSTALLATION OF EMBEDMENT STONE, ISOLATOR ROW AND CHAMBER, SURROUNDING STONE, FABRIC PAVEMENT AND STORMWATER OVERFLOW BYPASS CONSTRUCTION FROM INITIAL GROUND DISTURBANCE TO BACKFILL OVER CHAMBERS.
2. CONTRACTOR TO ENSURE THE ISOLATOR ROWS ARE INSTALLED UNDER THE SUPERVISION OF THE MANUFACTURER'S REPRESENTATIVE.

	SUBSURFACE SAND FILTER (SSF-2)
CHAMBER INV.	57.00
CHAMBER OUTLET PIPE INV.	57.10
UNDERDRAIN INV.	54.33
WQV. ELEV.	58.50

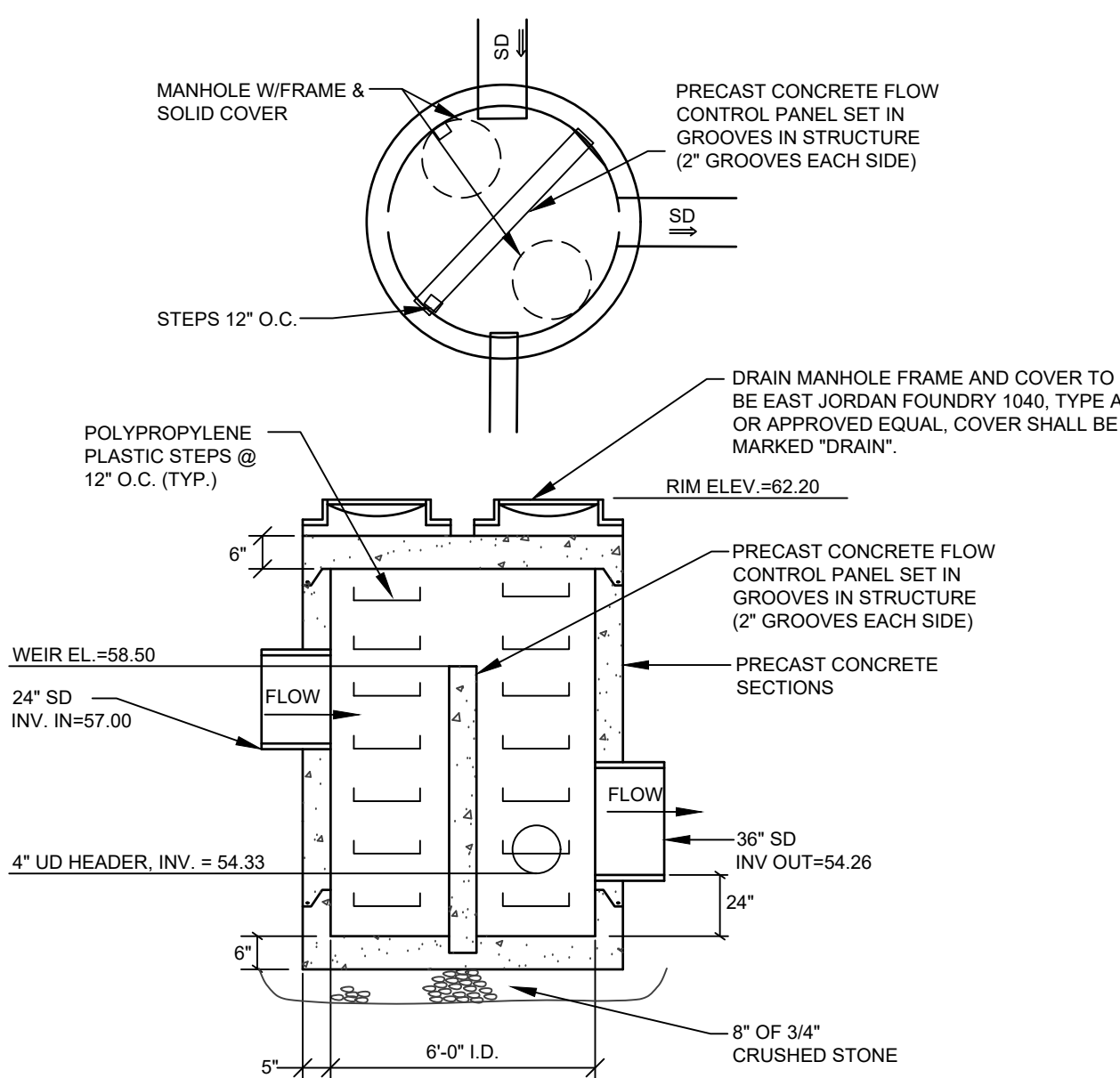
SUBSURFACE SAND FILTER - NOTES



SUBSURFACE SAND FILTER SECTION

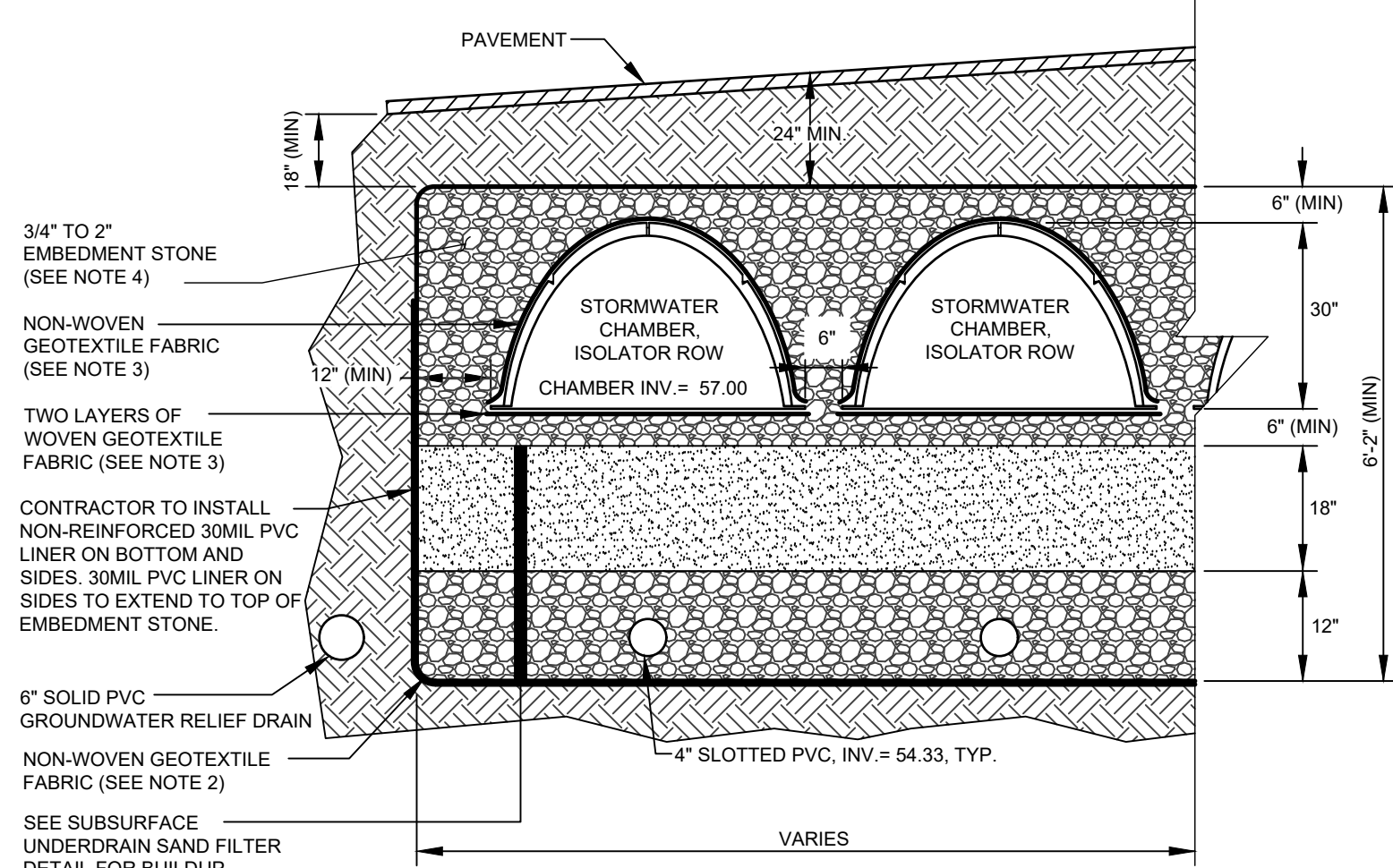
SUBSURFACE SAND FILTER - TYPICAL SECTION

NOT TO SCALE

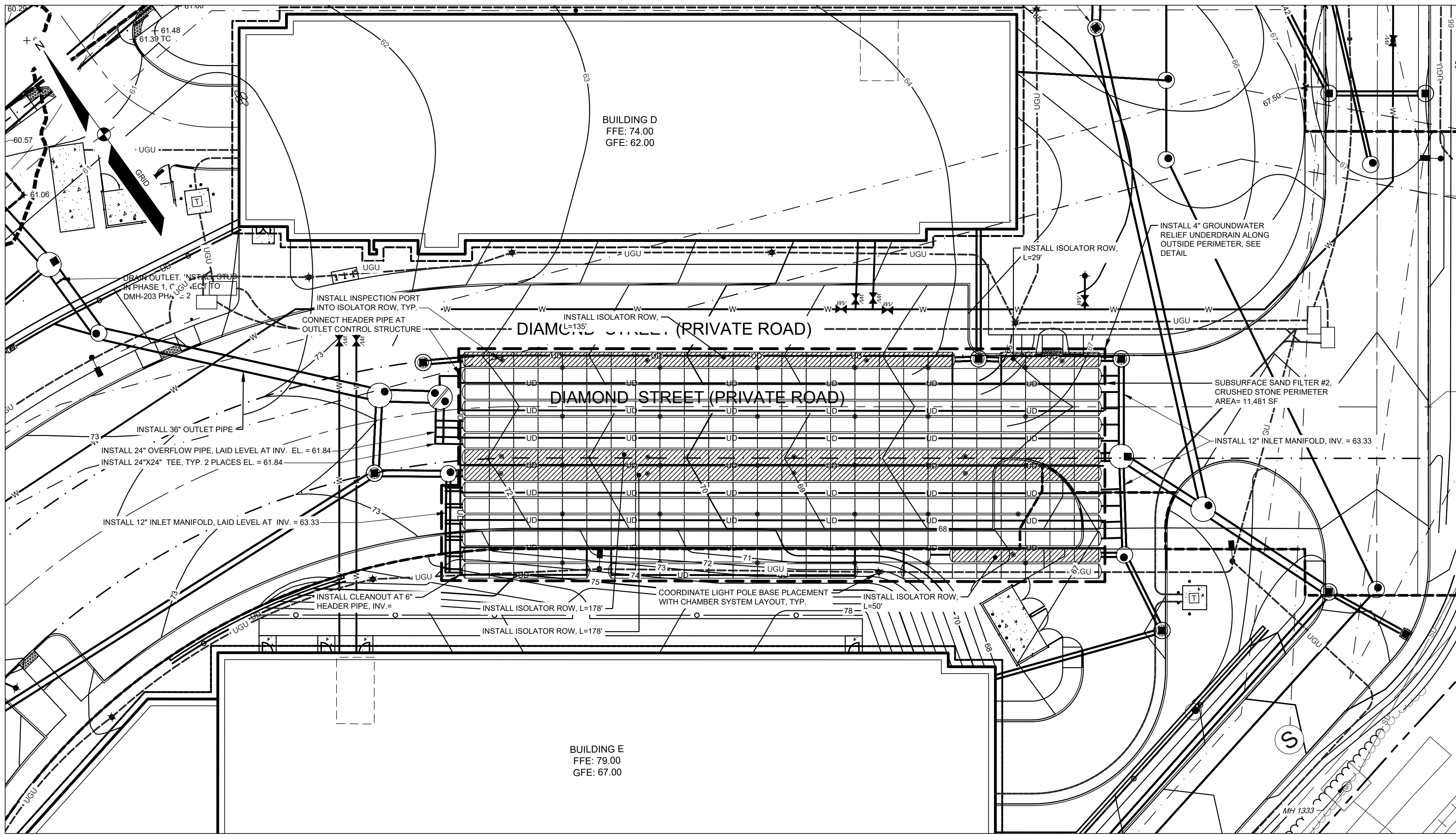


- NOTES:**
1. SUBMIT SHOP DRAWINGS FOR OWNER/ENGINEER APPROVAL.
2. STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.

OUTLET CONTROL STRUCTURE (OCS-1)
NOT TO SCALE

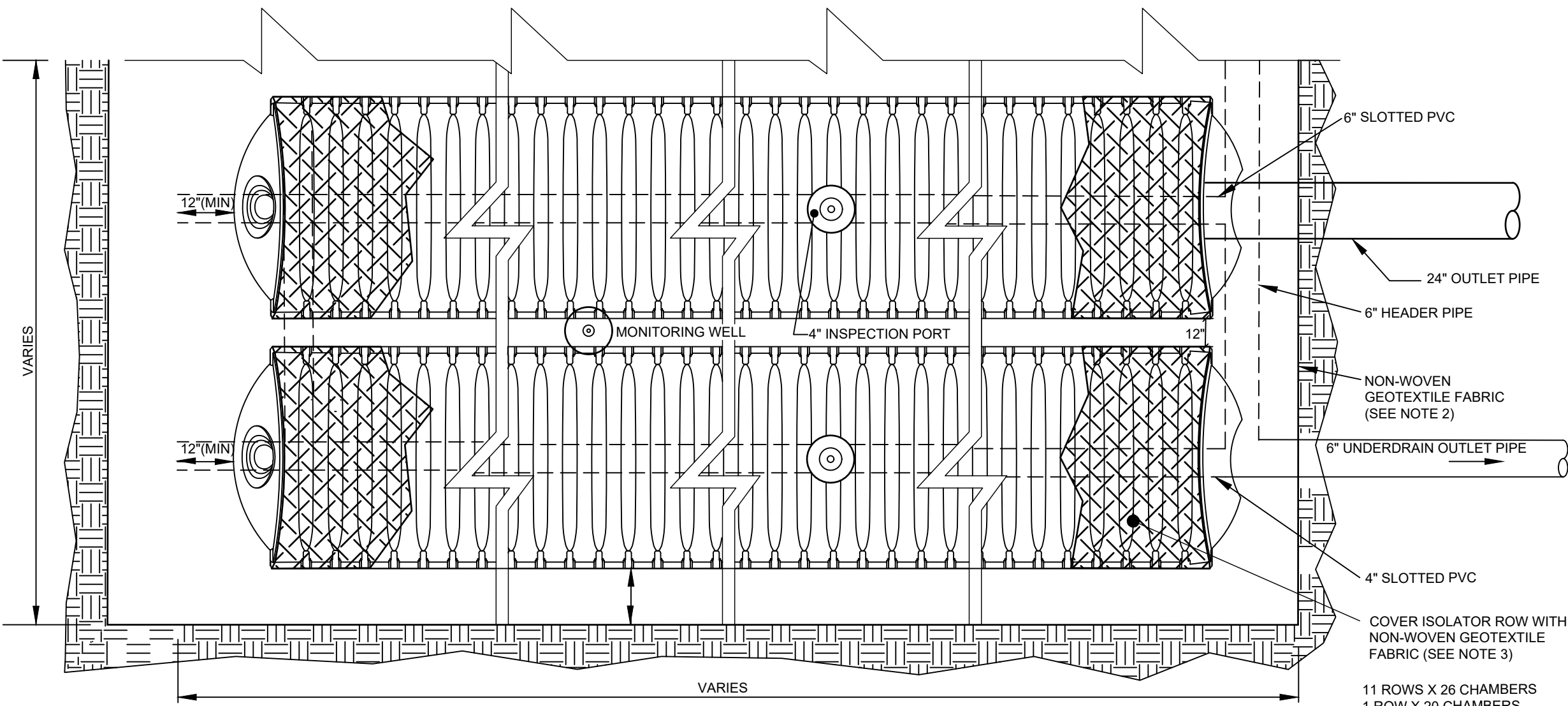


SUBSURFACE UNDERDRAINED
SAND FILTER ISOLATOR ROW
NOT TO SCALE

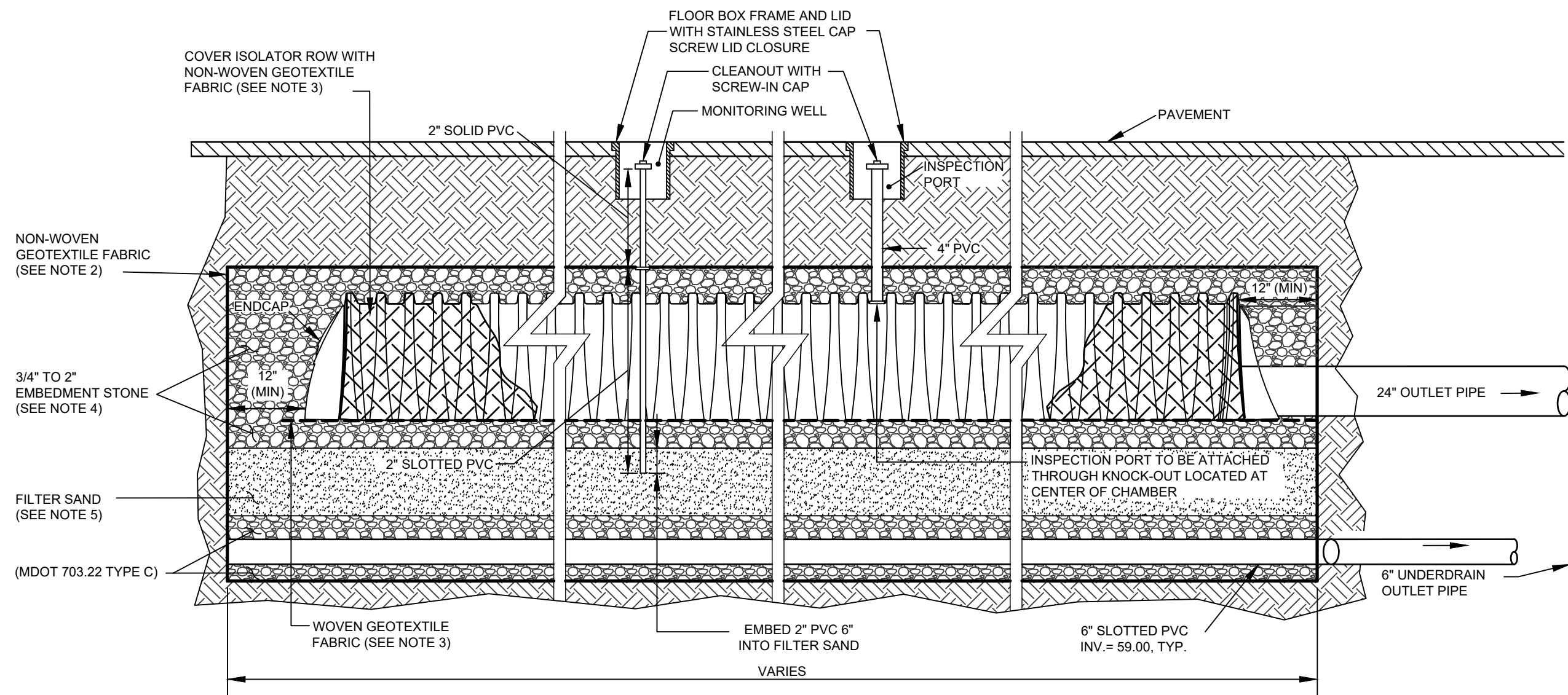


SUBSURFACE SAND FILTER #2 (SSSF-2): PHASE 2

1" = 20'



SUBSURFACE SAND FILTER - PLAN VIEW
NOT TO SCALE



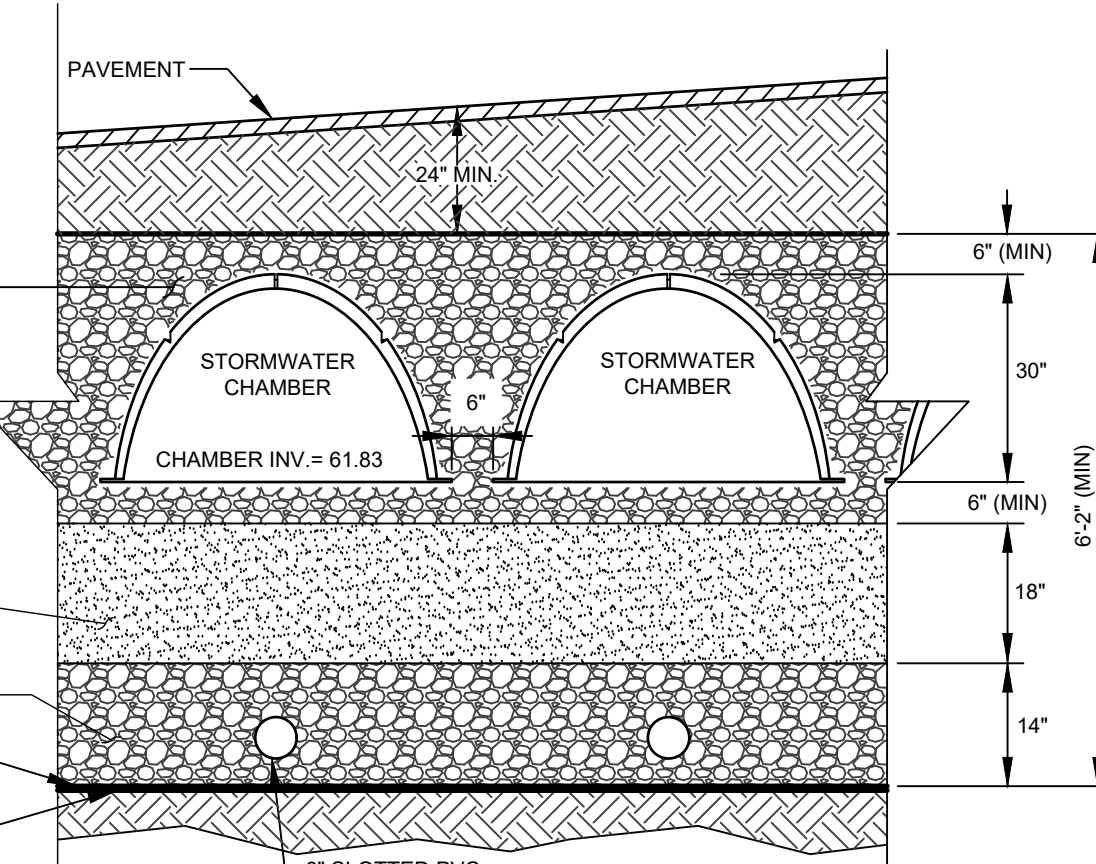
SUBSURFACE SAND FILTER - ELEVATION VIEW
NOT TO SCALE

- SUBSURFACE SAND FILTER NOTES:**
- THE STORMWATER CHAMBER SHALL BE A STORMTECH SC-740 OR EQUIVALENT SUBSURFACE STORAGE CHAMBER APPROVED BY THE ENGINEER.
 - THE ENTIRE SUBSURFACE SYSTEM, INCLUDING THE CRUSHED STONE STORAGE VOLUME, THE FILTER MEDIA, AND UNDERDRAIN MATERIALS, SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC (MIRAFI 160N OR EQUIVALENT).
 - TWO STRIPS OF WOVEN GEOTEXTILE (MIRAFI FW 404) SHALL BE INSTALLED BETWEEN THE BOTTOM OF THE ISOLATOR ROW CHAMBER AND ITS STONE FOUNDATION. THIS FABRIC TRANS SEDIMENTS AND PROTECTS THE UNDERLYING CRUSHED STONE. A SECOND STRIP OF NON-WOVEN AASHTO M288 CLASS 2 GEOTEXTILE (MIRAFI 160N OR EQUIVALENT) SHALL BE DRAPED OVER THE ENTIRE LENGTH OF THE CHAMBERS. THIS FABRIC WILL ALSO TRAP SEDIMENTS AND PROVIDE SEPARATION BETWEEN THE CHAMBERS AND SURROUNDING STONE.
 - THE EMBEDMENT STONE SURROUNDING THE CHAMBERS SHALL BE A WASHED, ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 INCH AND 2 INCH. THE BOTTOM 6 INCH LAYER OF STONE THAT ACTS AS THE FOUNDATION BELOW THE CHAMBERS SHALL BE COMPACTED TO ACHIEVE A 95% STANDARD PROCTOR DENSITY.
 - THE SAND FILTER MATERIAL SHALL BE A UNIFORM MIX, FREE OF STONES LARGER THAN 2 INCHES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS. THE MATERIAL SHALL MEET THE SPECIFICATIONS FOR MDOT AGGREGATE SAND (MDOT #703.01). HOWEVER, THIS AGGREGATE SAND SHALL BE MIXED WITH LOAM TO ACHIEVE A MATERIAL WITH BETWEEN 8% AND 10% PASSING THE #200 SIEVE. THE LOAM USED IN THIS MIXTURE SHALL HAVE LESS THAN 2% CLAY CONTENT. THIS 18 INCH LAYER OF SAND FILTRATION MEDIA SHALL BE PLACED TO ACHIEVE A LEVEL OF COMPACTION BETWEEN 92% AND 95% STANDARD PROCTOR DENSITY.
 - THE CONTRACTOR SHALL PERFORM PERMEABILITY TESTS FOR THE SAND FILTER MATERIAL TO ENSURE A STORMWATER RELEASE TIME RANGING BETWEEN 24 AND 48 HOURS.

SUBSURFACE SAND FILTER - NOTES

SUBSURFACE SAND FILTER TABLE	
SUBSURFACE SAND FILTER (SSSF-2)	
CHAMBER INV.	61.83
CHAMBER OUTLET PIPE INV.	61.84
UNDERDRAIN INV.	59.00
WOV. ELEV.	63.33

- CONSTRUCTION OVERSIGHT NOTES FOR SUBSURFACE SAND FILTER:**
- INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE PROPOSED SUBSURFACE CHAMBERS AND ITS FILTER COURSE MATERIAL TO BE BUILT ON THE SITE. INSPECTIONS SHALL CONSIST OF AN APPROPRIATE NUMBER OF VISITS TO THE SITE TO INSPECT THE INSTALLATION OF THE SUBGRADE, FILTER BED MATERIAL PLACEMENT, INSTALLATION OF EMBEDMENT STONE, ISOLATOR ROW AND CHAMBER, SURROUNDING STONE, FABRIC PLACEMENT AND STORMWATER OVERFLOW BYPASS CONSTRUCTION FROM INITIAL GROUND DISTURBANCE TO BACKFILL OVER CHAMBERS.
 - CONTRACTOR TO ENSURE THE ISOLATOR ROWS ARE INSTALLED UNDER THE SUPERVISION OF THE MANUFACTURER'S REPRESENTATIVE.

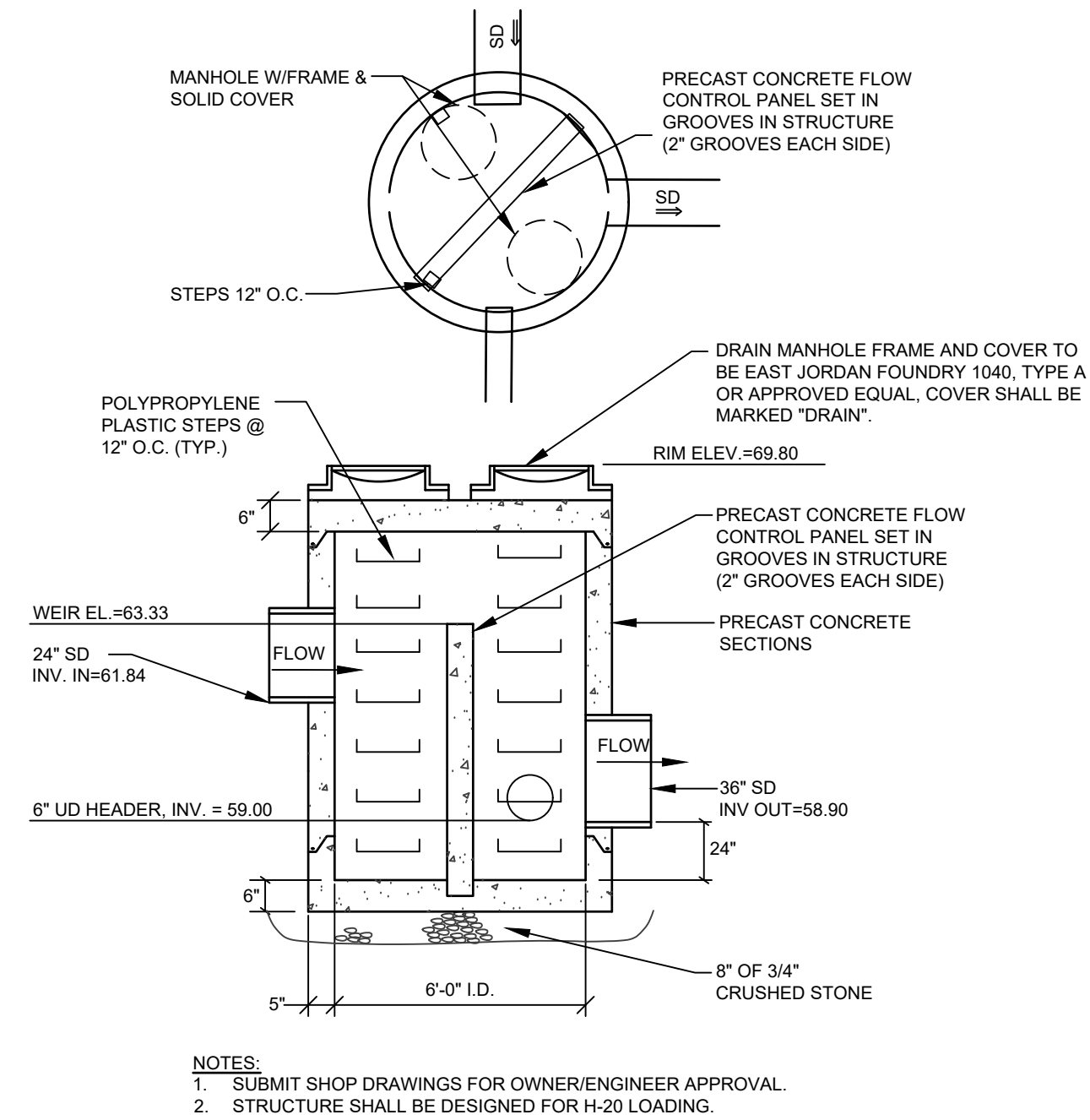


SUBSURFACE SAND FILTER - TYPICAL SECTION
NOT TO SCALE

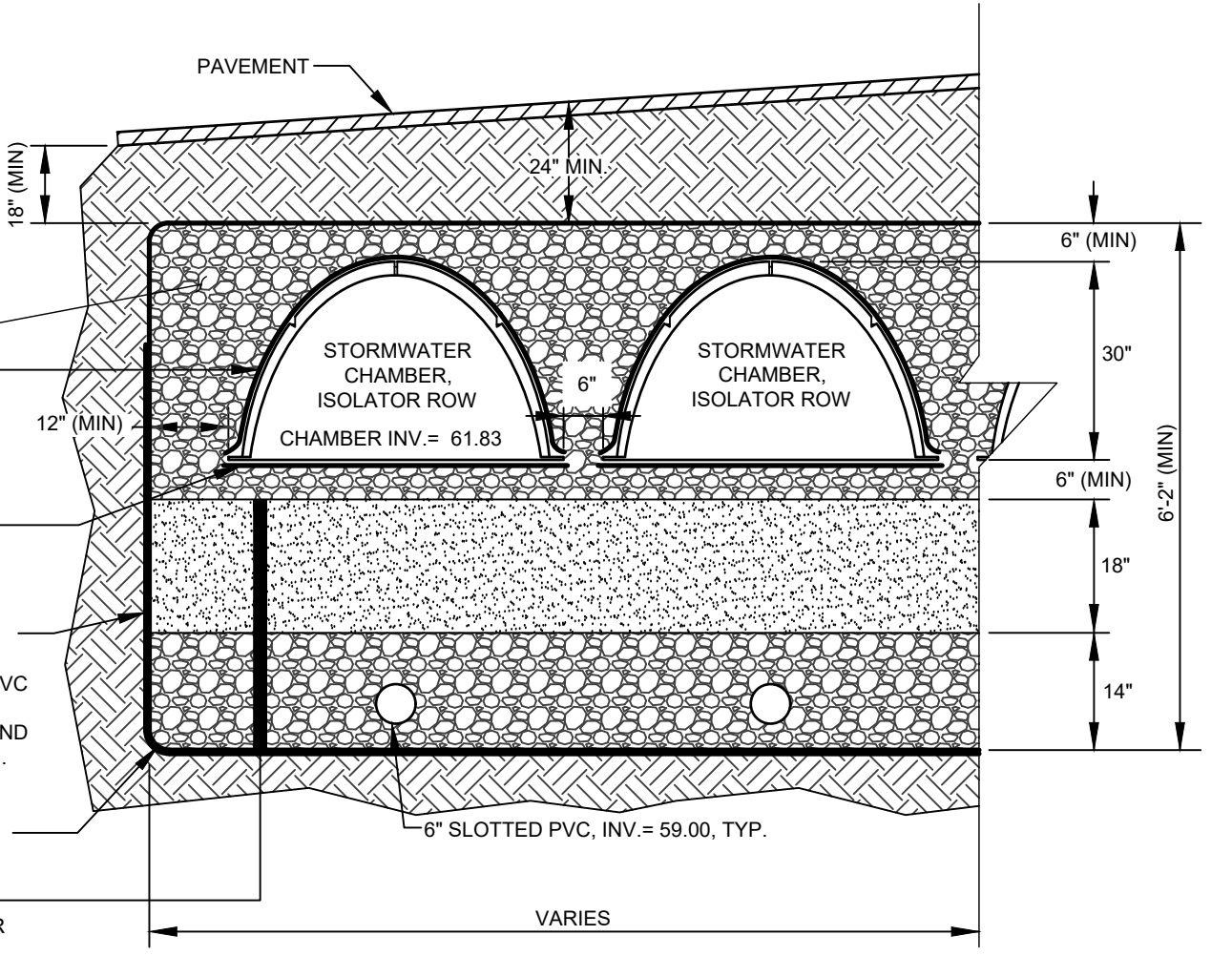
STORM DRAIN STRUCTURE DATA				
STRUCTURE	RIM	INV. IN	INV. OUT	DIAM.
CB-112	67.00	60.50 (SD-229)	56.35 (SD-144)	48" DIA.
CB-122	66.25	61.90 (SD-141)	61.80 (SD-142)	48" DIA.
CB-123	66.25		62.28 (SD-141)	48" DIA.
CB-125	60.00	54.10 (SD-228)	54.00 (SD-146)	72" DIA.
CB-204	72.75	62.20 (SD-207)	62.10 (SD-208)	48" DIA.
CB-205	72.35		62.20 (SD-211)	48" DIA.
CB-206	67.30	62.50 (SD-212)	61.93 (SD-213)	48" DIA.
CB-207	66.45	63.37 (SD-220)	62.00 (SD-215)	48" DIA.
CB-208	66.45	62.00 (SD-216)	61.90 (SD-217)	72" DIA.
CB-209	65.80	62.48 (SD-223)	62.24 (SD-222)	48" DIA.
CB-305	68.80	64.00 (SD-308)	63.50 (SD-310)	48" DIA.
DMH-200	72.35	62.00 (SD-208)	62.00 (SD-209)	48" DIA.
DMH-201	72.85	62.60 (SD-226)	58.60 (SD-227)	72" DIA.
DMH-202	66.70	62.10 (SD-222)	62.00 (SD-219)	48" DIA.
DMH-203	73.00	57.00 (SD-227)	55.00 (SD-228)	48" DIA.
DMH-204	67.00	62.63 (SD-310)	62.43 (SD-216)	72" DIA.
F-303	68.80		65.00 (SD-309)	24" F-Basin
OCS-2	72.50	61.84 (SD-224)	58.90 (SD-225)	72" DIA.

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-141	12"	24'	1.49%
SD-142	12"	55'	1.52%
SD-144	24"	38'	2.63%
SD-146	36"	62'	0.91%
SD-207	18"	146'	1.58%
SD-208	18"	18'	0.96%
SD-209	18"	2'	2.04%
SD-210	12"	27'	0.00%
SD-211	12"	9'	2.86%
SD-212	12"	38'	2.51%
SD-213	12"	4'	0.00%
SD-214	12"	5'	0.00%
SD-215	12"	4'	1.84%
SD-216	24"	22'	1.91%
SD-219	12"	5'	1.48%
SD-220	15"	24'	0.00%
SD-221	12"	24'	0.00%
SD-222	12"	21'	0.68%
SD-223	12"	49'	4.29%
SD-224	24"	11'	0.00%

STORM DRAIN PIPE DATA			
NAME	SIZE	LENGTH	SLOPE
SD-225	36"	12'	1.71%
SD-226	18"	18'	4.10%
SD-227	36"	79'	2.02%
SD-228	36"	20'	4.54%
SD-229	24"	139'	2.04%
SD-230	12"	152'	1.02%
SD-308	18"	149'	1.34%
SD-309	12"	22'	2.30%
SD-310	24"	39'	2.23%
UD-201	6"	3'	0.00%
UD-202	8"	11'	4.37%



OUTLET CONTROL STRUCTURE (OCS-2)
NOT TO SCALE



SUBSURFACE UNDERDRAINED SAND FILTER ISOLATOR ROW
NOT TO SCALE

NOT FOR CONSTRUCTION

CRAGA A. BURGESS, PE 12638

06/28/2023

ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW

ISSUED TO SACD RIVER CORRIDOR COMMISSION

RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN

ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN

FOR JDA AGREEMENT

STATUS:

DATE:

REV. BY:

DESIGNED

TFG

DRAWN

DAB

CHECKED

CAB

DATE

04/12/2023

SCALE

AS NOTED

PROJECT

18462

SHEET 43 OF 51

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 ACTUAL 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, VEGETATION, 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 100 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 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 5% 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 INTO 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 I 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 WETLANDS. INSTALL PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRING-TIED AND THESE BRINDS MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETERIORATION OF THE BINDINGS. 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 TRENCING 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 TRENCING 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.

INLET PROTECTION INLET PROTECTION:

STORM DRAIN 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 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 SEEDING. 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 EXPOSED ON CLAY OR SILTY SOILS OR COARSE 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	0.05 LBS/1,000 S.F. (2 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. LINE AND FERTILIZER MAY BE APPLIED SIMLTANEOUSLY 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) 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 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR WILL STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
- 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 SOIL WITH MULCH - BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SLOPE BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1,000 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.
- 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 1,000 SQUARE FEET. LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1,000 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 SLOPE BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1,000 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 AVOID 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 PROCEDURES TO MINIMIZE EXPOSURE OF WASTE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL 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, 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. 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, DEREGENTS, 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 (ENGINE, 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;
- SOAPS, SOLVENTS, OR CHEMICALS USED IN VEHICLE AND EQUIPMENT WASHING; AND
- 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 UNDER TAKEN 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 DENUEED UNTIL THE SUBGRADE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED. SEEDING AND ANCHORING IS REQUIRED AT A RATE OF 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.

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 LOCATED WITHIN 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 RAIN.

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 SILL FENCES.

4. MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENUEED 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 THOUGH 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 THOUGH 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 20 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 8% 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

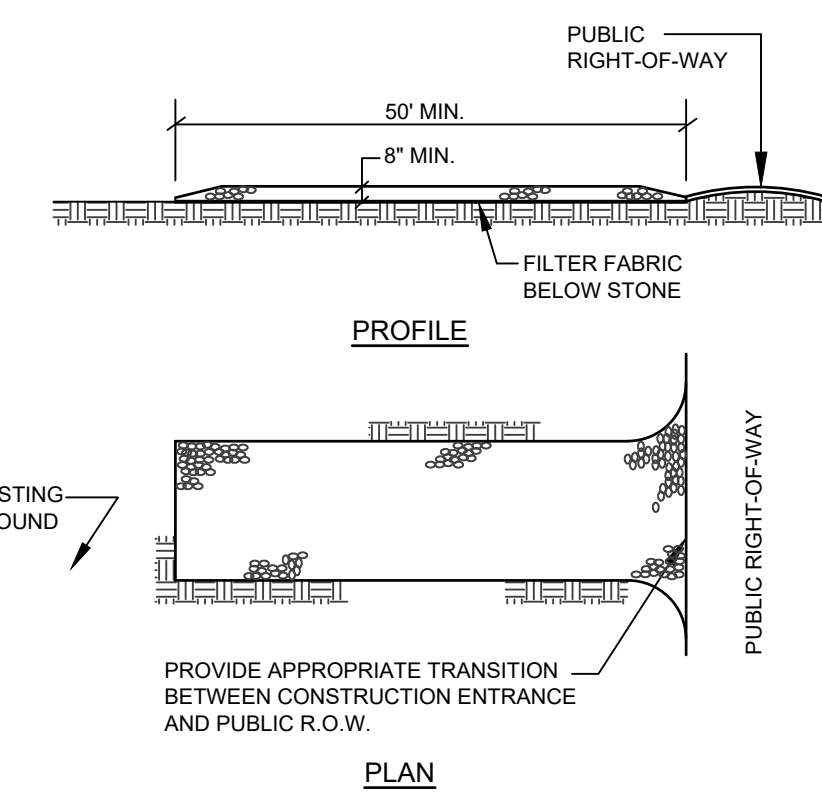
BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER 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 WITHIN THE SPRING. SEED TYPE SHALL BE WINTER RYE. 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 NEEDED TO INSURE THEIR CONTINUOUS FUNCTIONING. 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 AND REPAIR ANY DAMAGES AND/OR UNESTABLISHED SPOTS.

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, MARCH 2018 OR 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 TECHNICS, 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, SMM'S, GPS, HYDRANTS, ETC., IN CONJUNCTION WITH DESIGN AND/OR AS-BUILT PLANS SUPPLIED TO SEBAGO TECHNICS, INC. BY OTHERS. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, OR LOTS, 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.

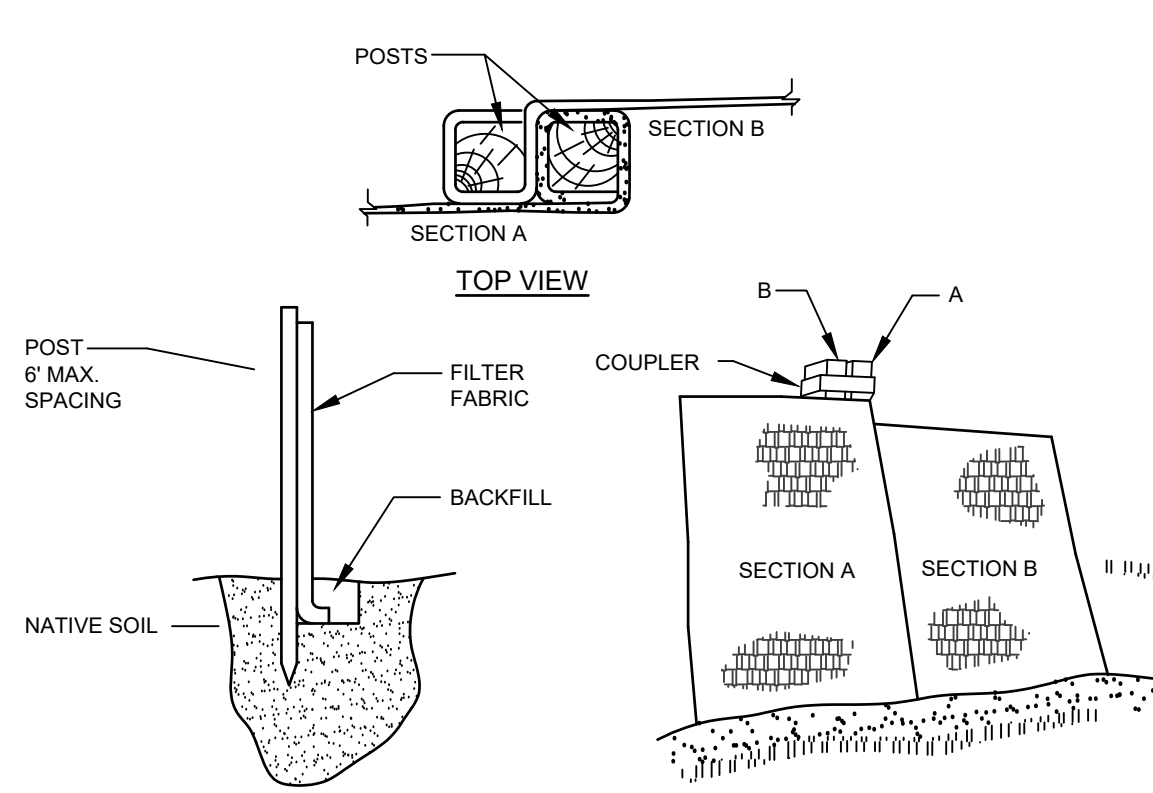


NOTES:

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

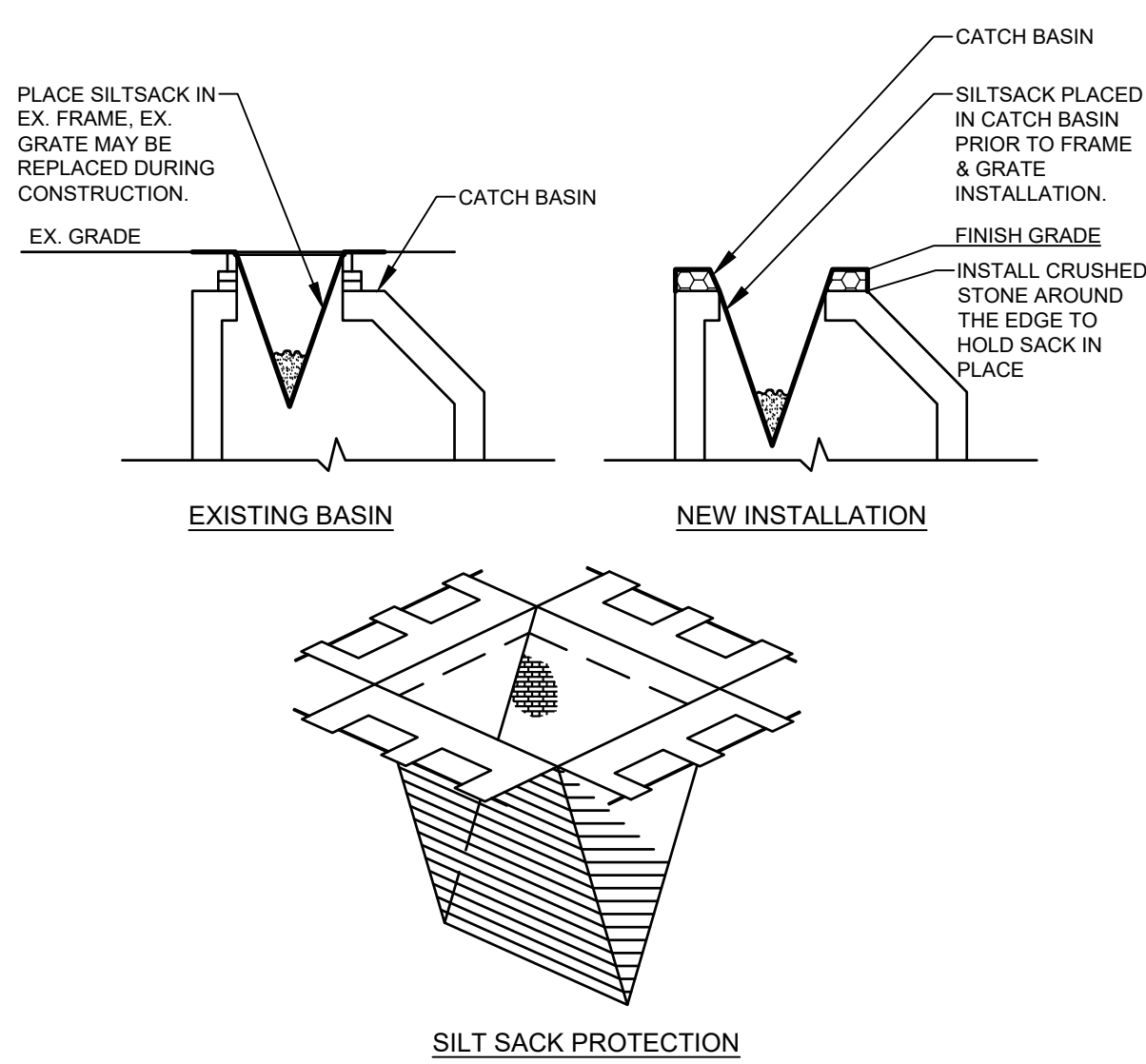


INSTALLATION NOTES:

1. EXCAVATE A 6" X 1' TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPTION DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

FILTER BARRIER

NOT TO SCALE

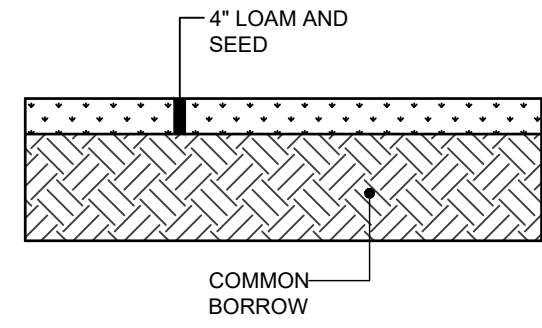


NOTES:

1. PRIOR TO FINAL GRADING AND PAVING OPERATIONS BEGIN A CATCH BASIN INSERT (SUCH AS A SILT SACK OR A DANDY BAG, ETC.) MUST BE INSTALLED IN EACH BASIN PER MANUFACTURERS INSTRUCTIONS. HAY BALES SHOULD BE REMOVED ONCE INSERTS ARE INSTALLED.

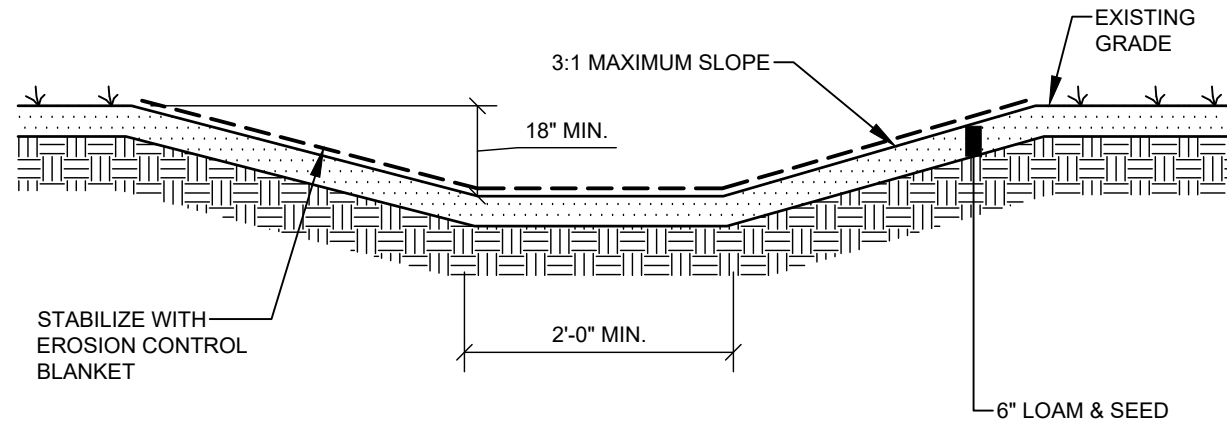
CATCH BASIN PROTECTION DETAIL (FOR PAVED AREAS)

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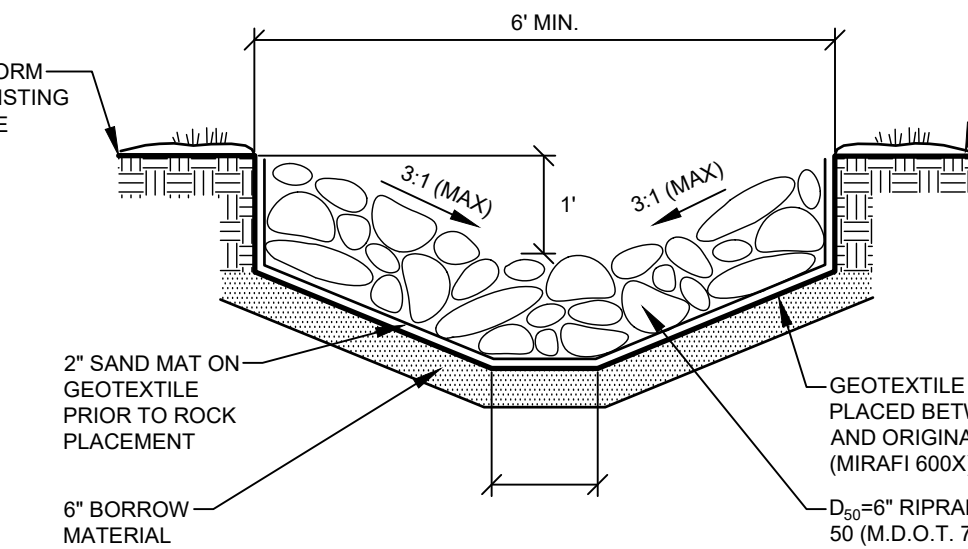
LOAM AND SEED SECTION

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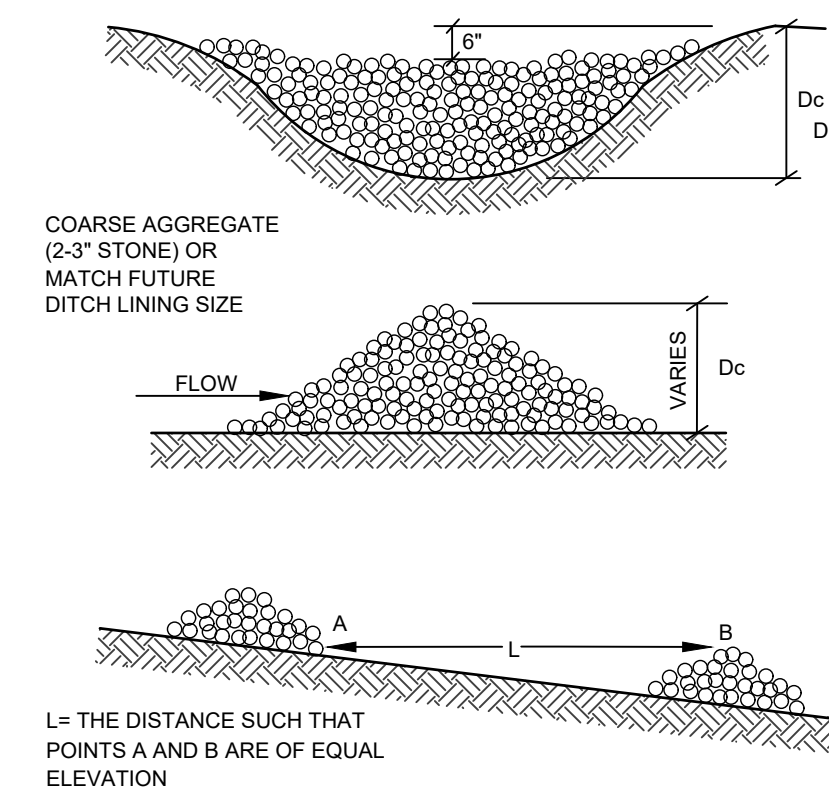
VEGETATED SWALE

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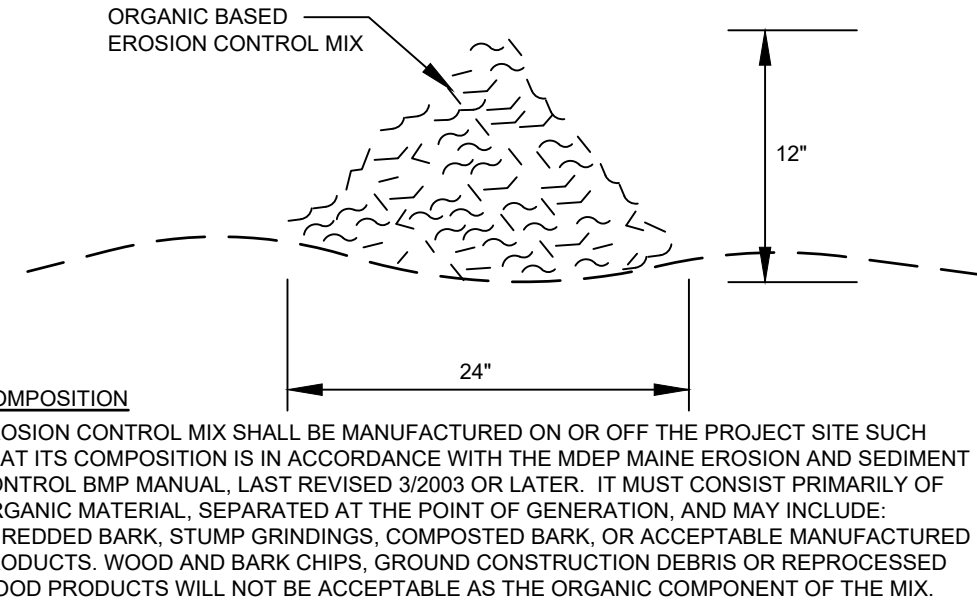
RIPRAP SWALE

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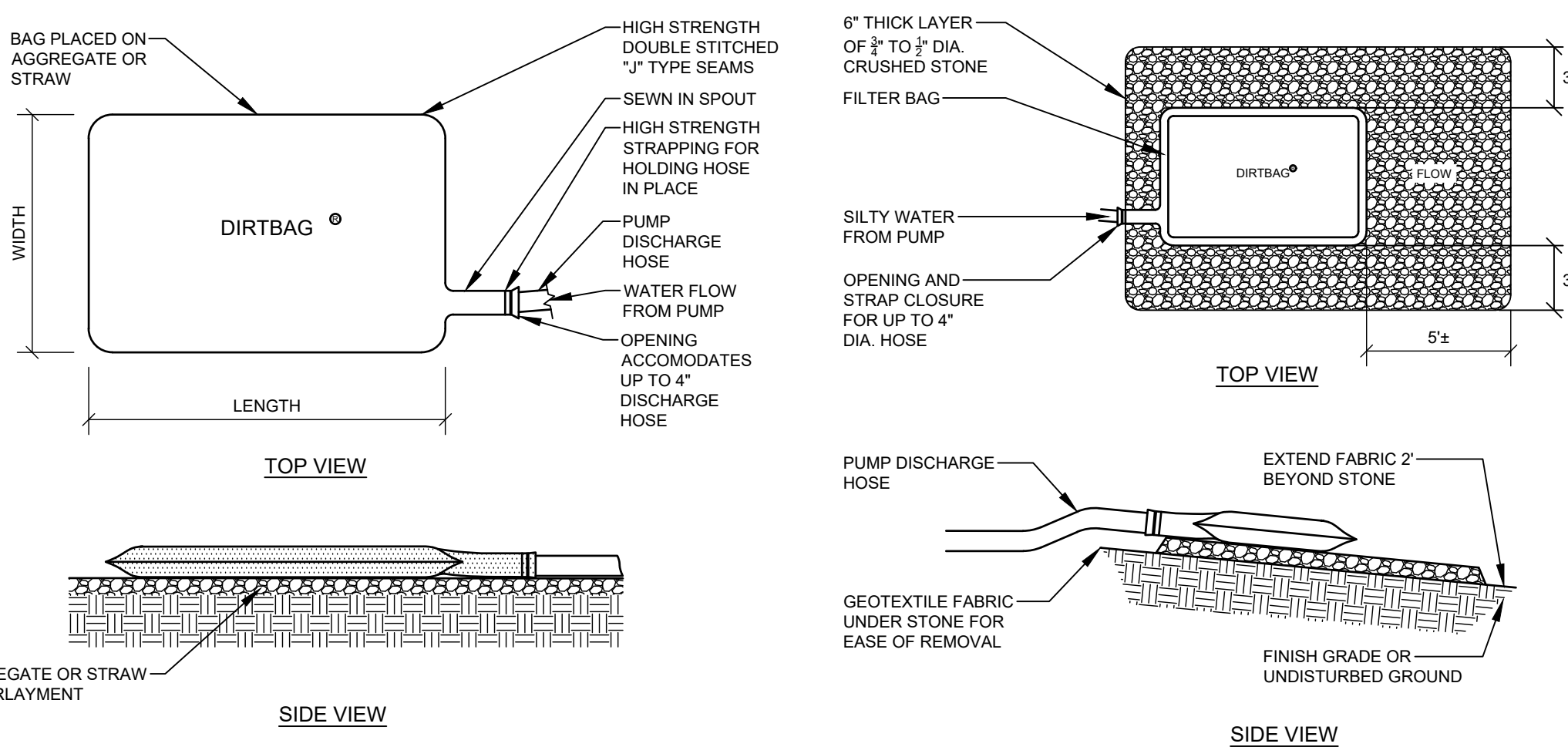
STONE CHECK DAM

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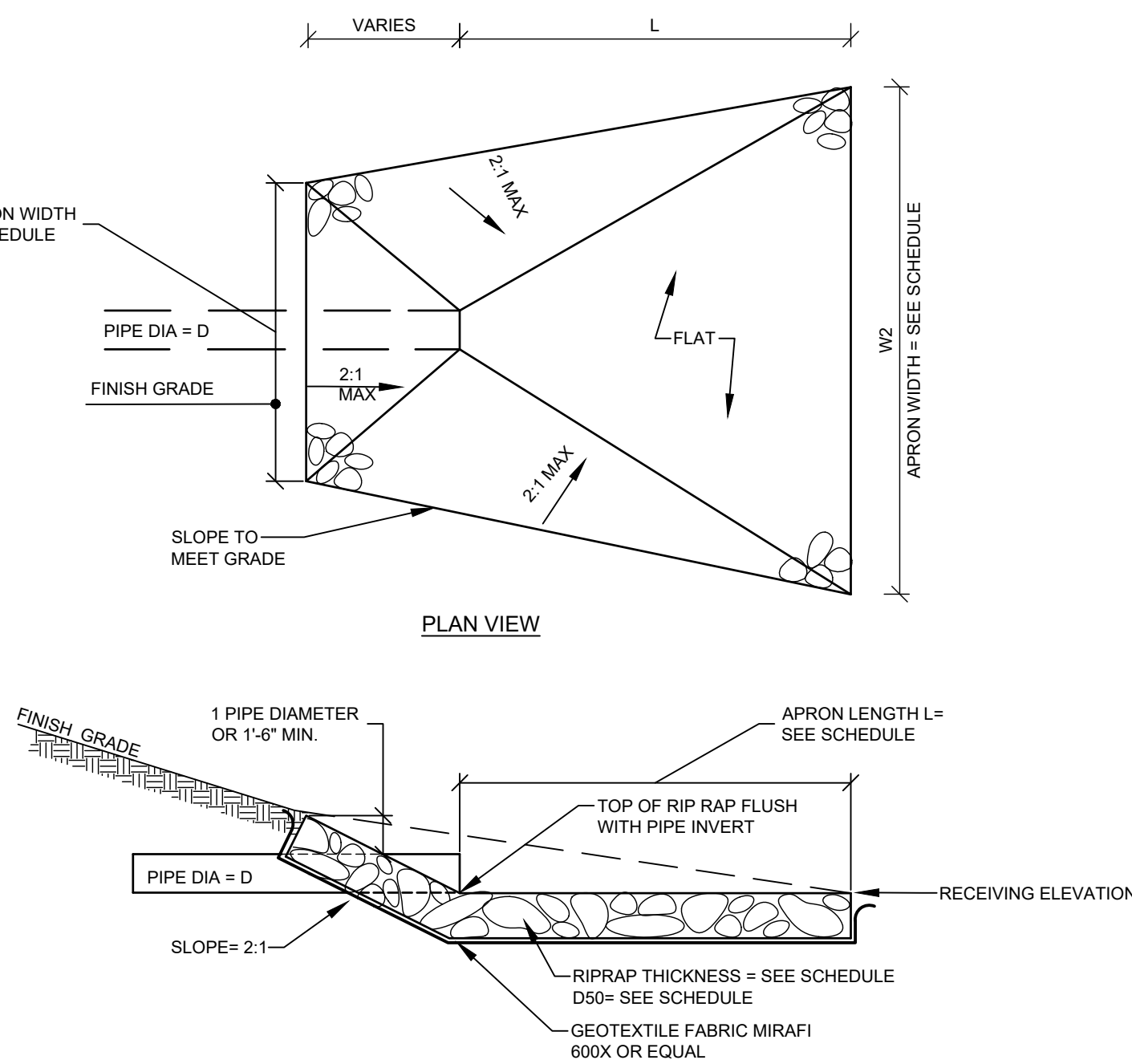
EROSION CONTROL MIX BERM

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DIRTBAG PUMPED SILT CONTROL SYSTEM

NOT TO SCALE



NOTES:

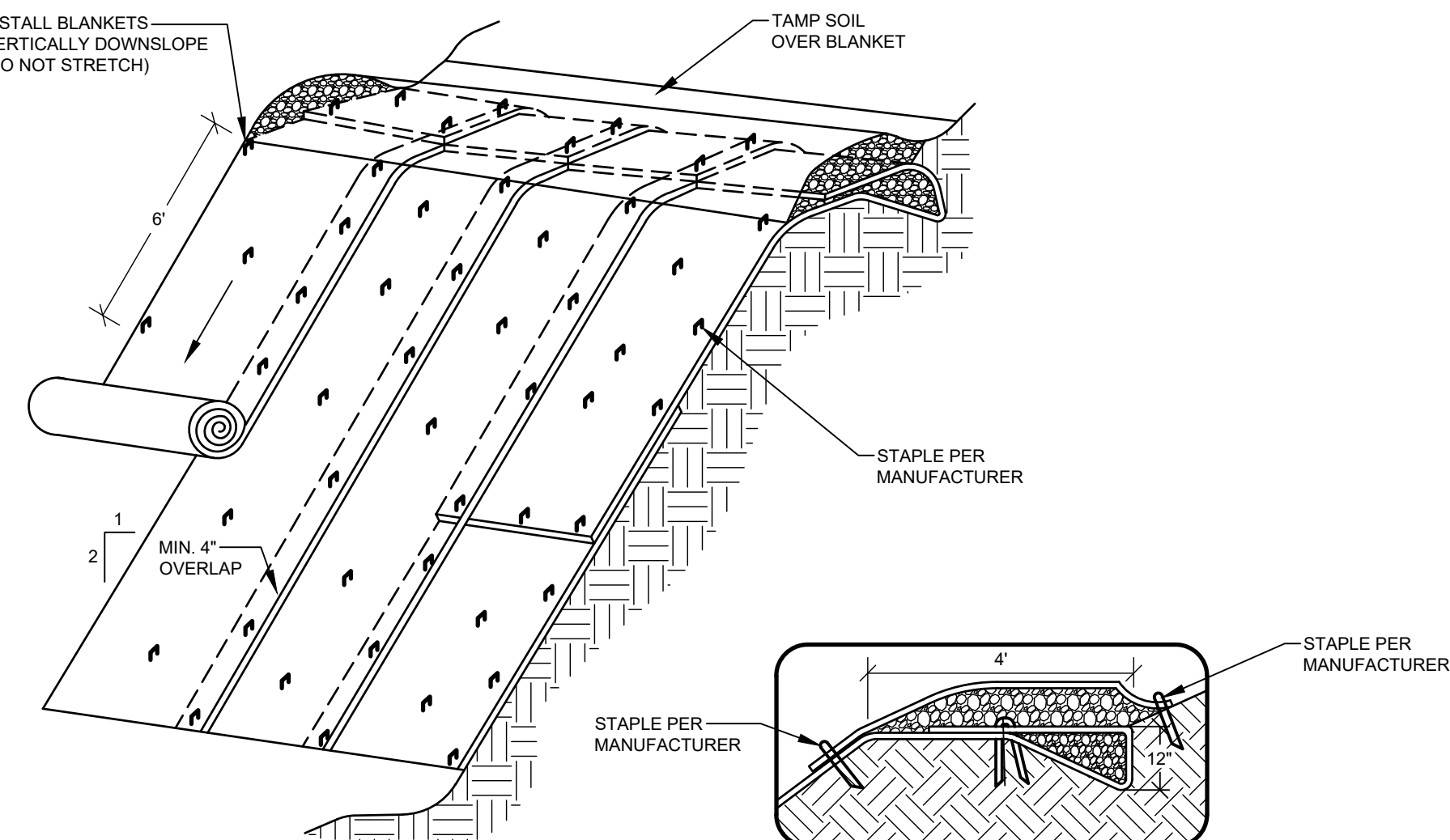
1. RIPRAP TO BE PROCESSED ANGULAR ROCK.
2. RIPRAP GRADATION SHALL BE A WELL GRADED MIX FROM ABOUT 1.5 TIMES D SIZE TO 25 PERCENT OF THE D SIZE.
3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12" ONTO THE GEOTEXTILE.
4. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH, UNIFORMLY SLOPED SURFACE.

TYPICAL RIPRAP APRON SCHEDULE

CULVERT DIAMETER - D (IN.)	APRON LENGTH - L (FT.)	WIDTH - W1 (FT.)	WIDTH - W2 (FT.)	RIPRAP D50 (IN.)	RIPRAP THICKNESS (IN.)
12	8	3	9	6	14
15	10	4	12	6	14
18	13	5	15	7	16
24	18	6	20	8	18
36	29	9	32	11	25
42	33	11	37	12	27
48	39	12	43	16	36

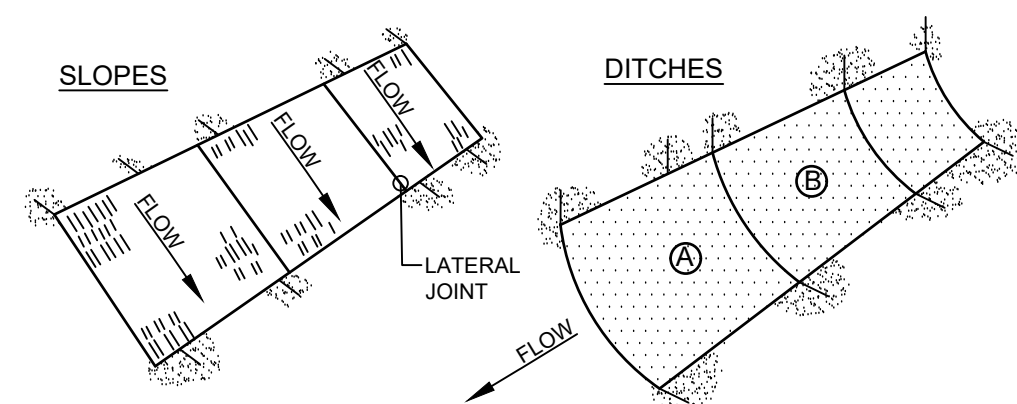
RIPRAP APRON

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 THE TAMPED SOIL 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.



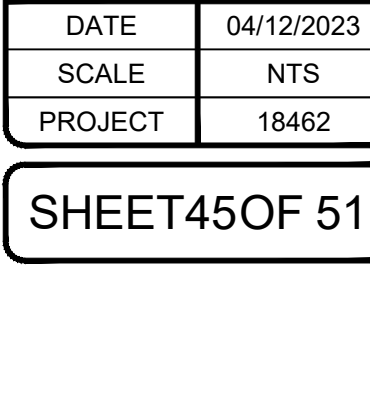
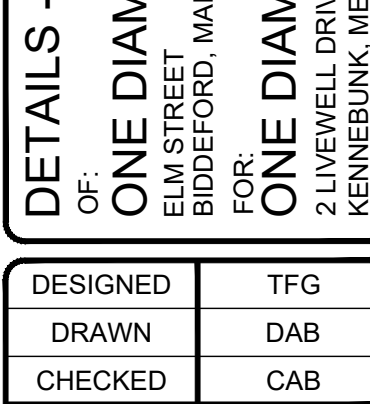
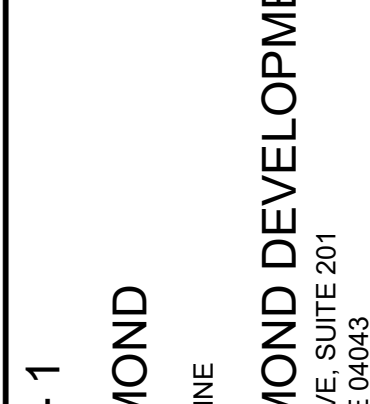
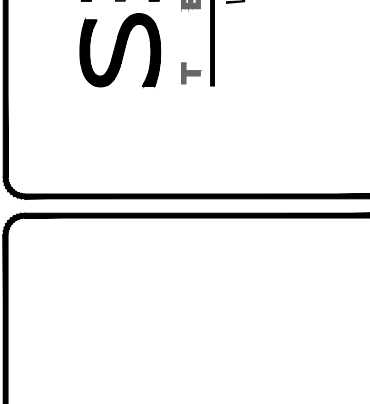
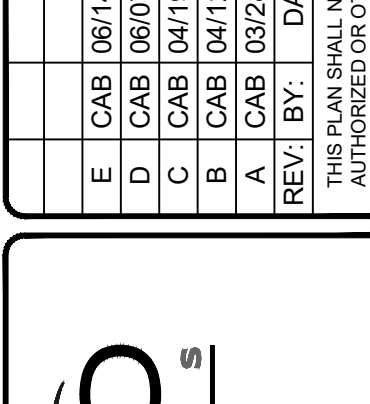
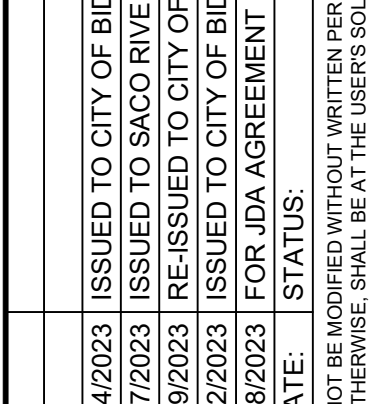
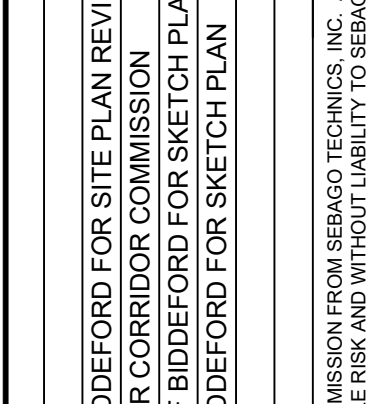
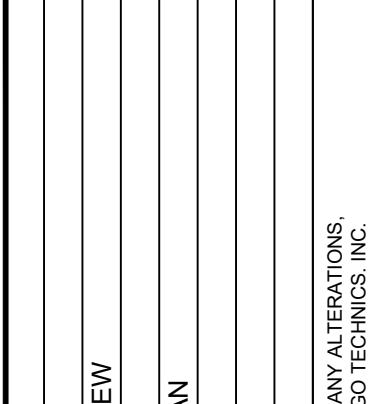
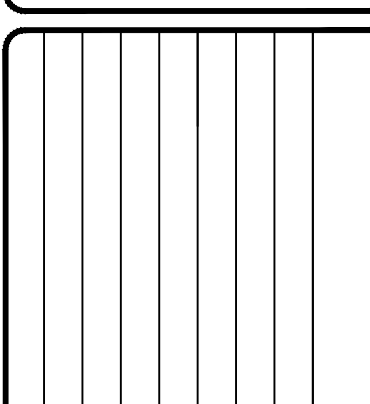
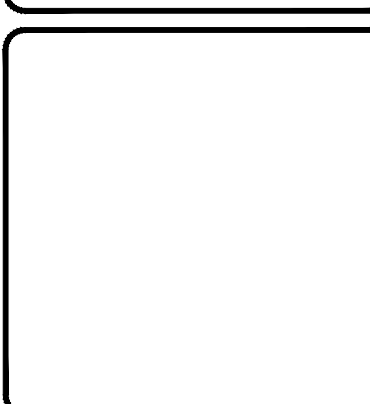
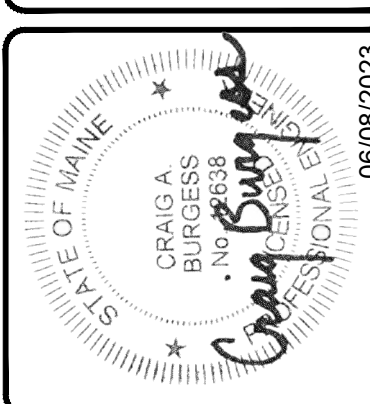
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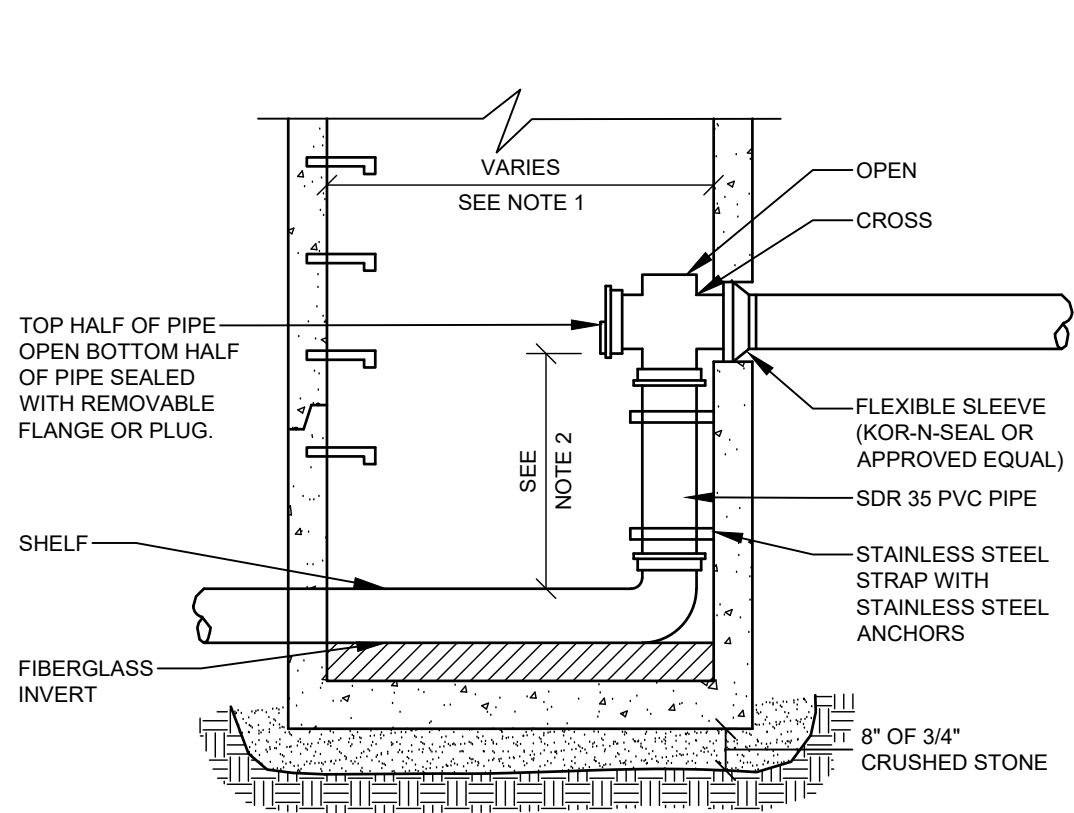
1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER.
5. WIRE STAPLES TO BE MIN OF #11 WIRE 6" LONG AND 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 150 OR APPROVED EQUIVALENT.

EROSION CONTROL BLANKET

NOT TO SCALE

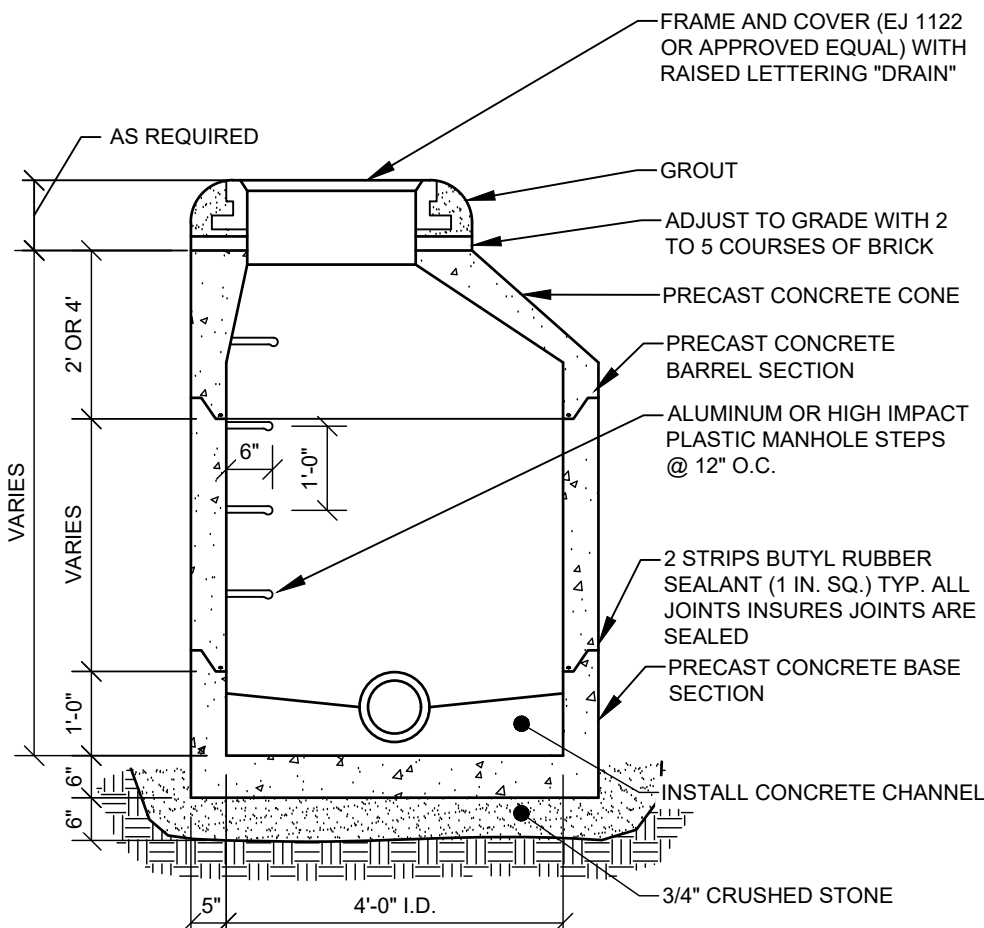
NOT FOR CONSTRUCTION





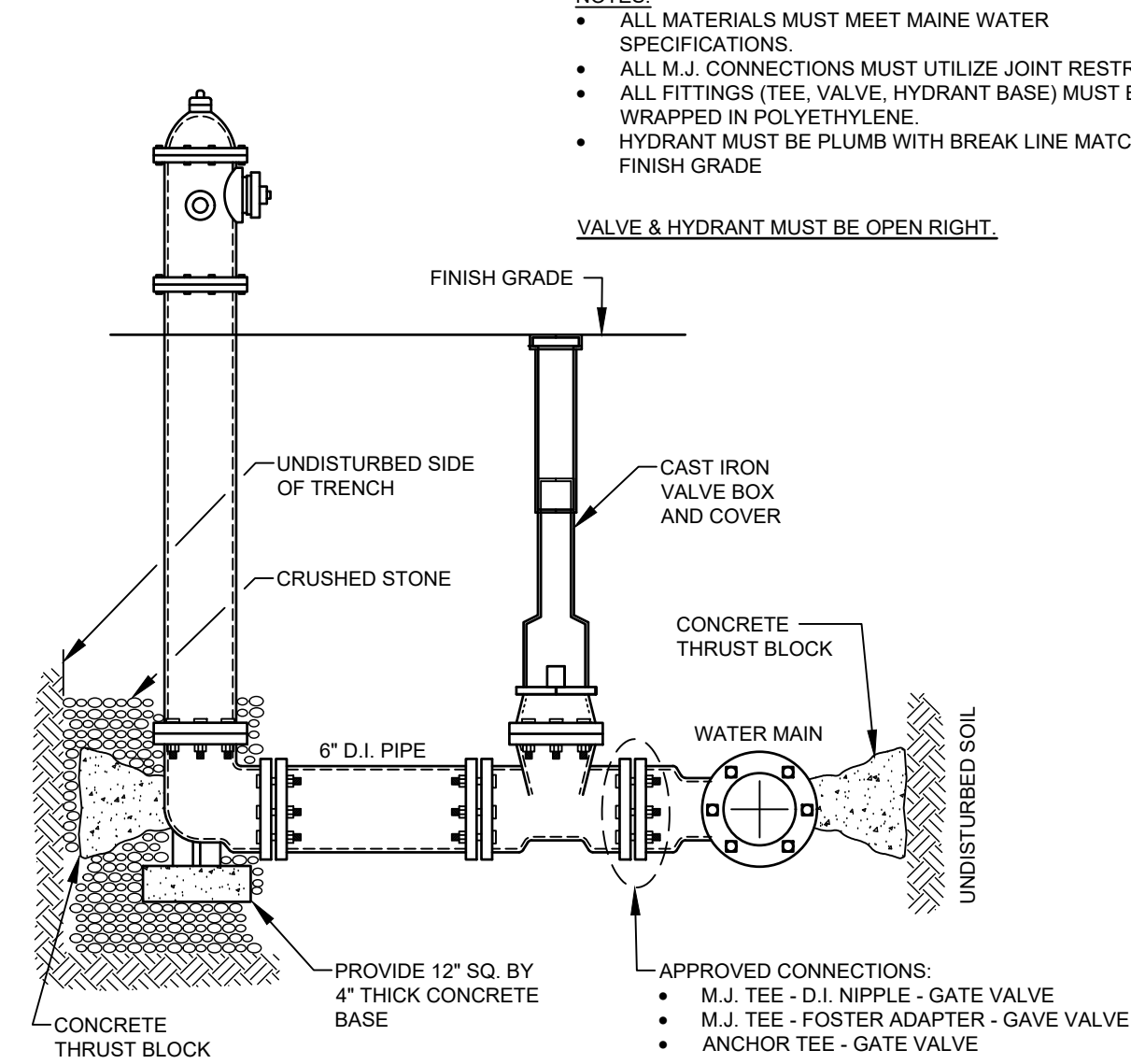
- NOTES:
1. USE 4" I.D. M.H. WITH 8" OR SMALLER PIPE USED 5" I.D. M.H. WITH 10" OR LARGER PIPE.
 2. MINIMUM HEIGHT OF CURB IS 2'-0".
 3. SEE PRECAST MANHOLE SECTION FOR TYPICAL MANHOLE INFORMATION, INCLUDING NOTES.
 4. PROVIDE DROP PIPE FOR ALL INVERT DIFFERENTIALS GREATER THAN TWO (2) FEET.
 5. CUT OFF TOP 1/3 OF PIPE PLUG.
 6. INSTALL PVC TEE AND PLUG FACING UP AT INSIDE DROP INSTALLATION AT MANHOLE.

PRECAST DROP MANHOLE
NOT TO SCALE

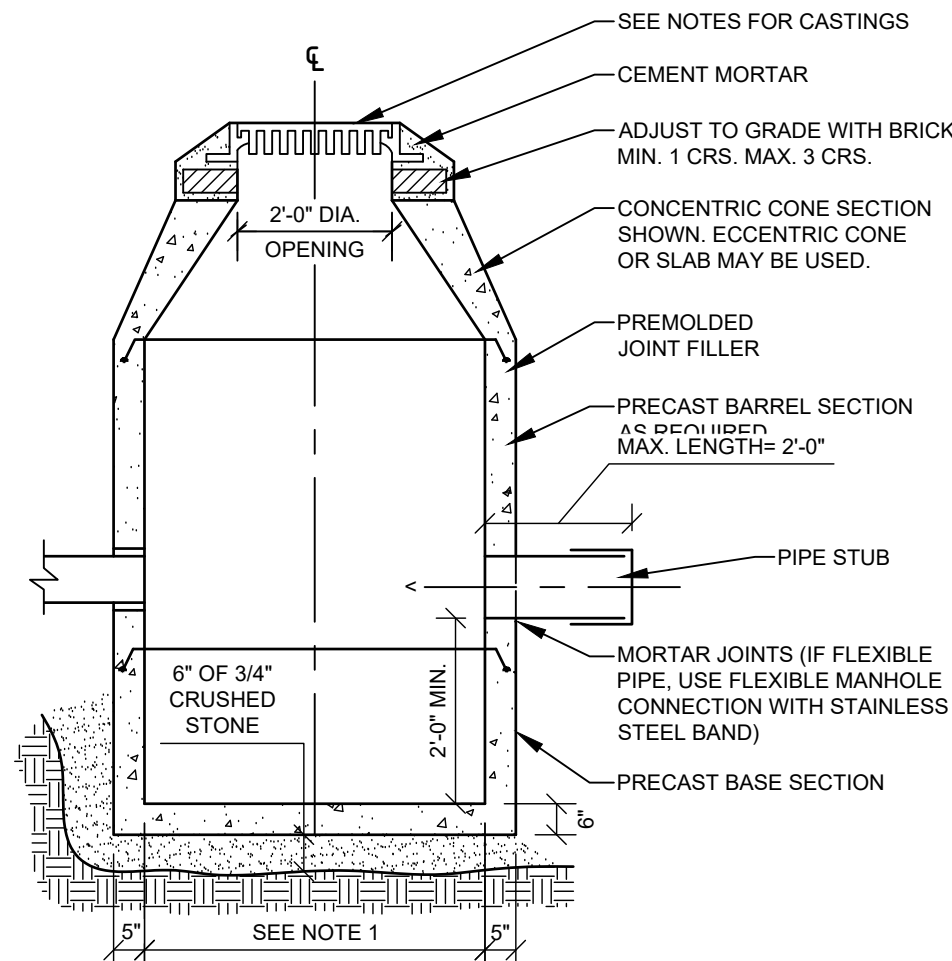


- NOTES:
1. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
 2. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
 3. PIPE CONNECTIONS SHALL BE WATERTIGHT. FLEXIBLE BOOT CONNECTORS.

PRECAST MANHOLE
NOT TO SCALE

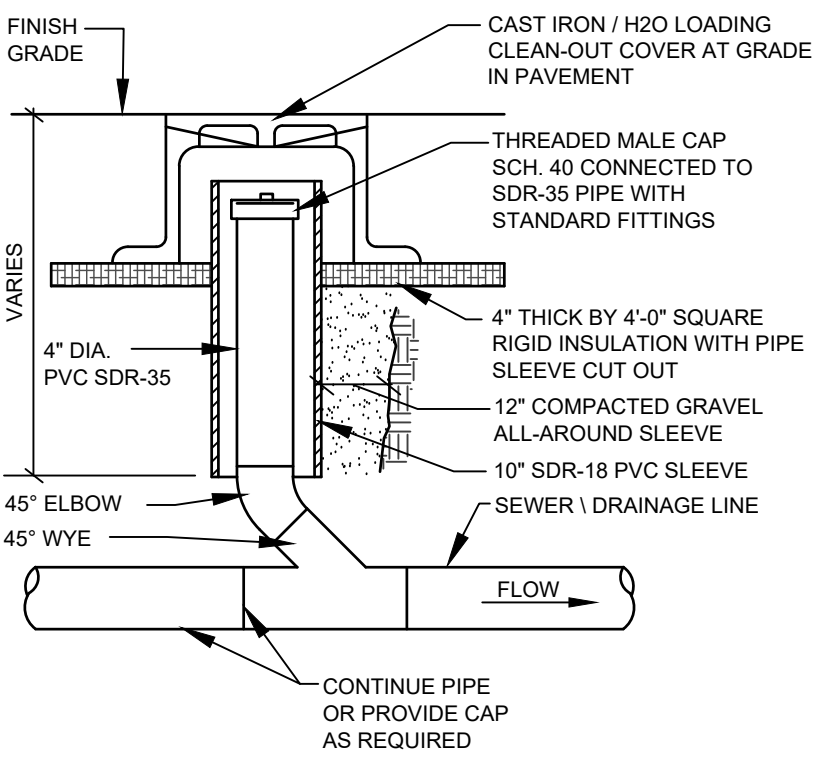


HYDRANT INSTALLATION
NOT TO SCALE

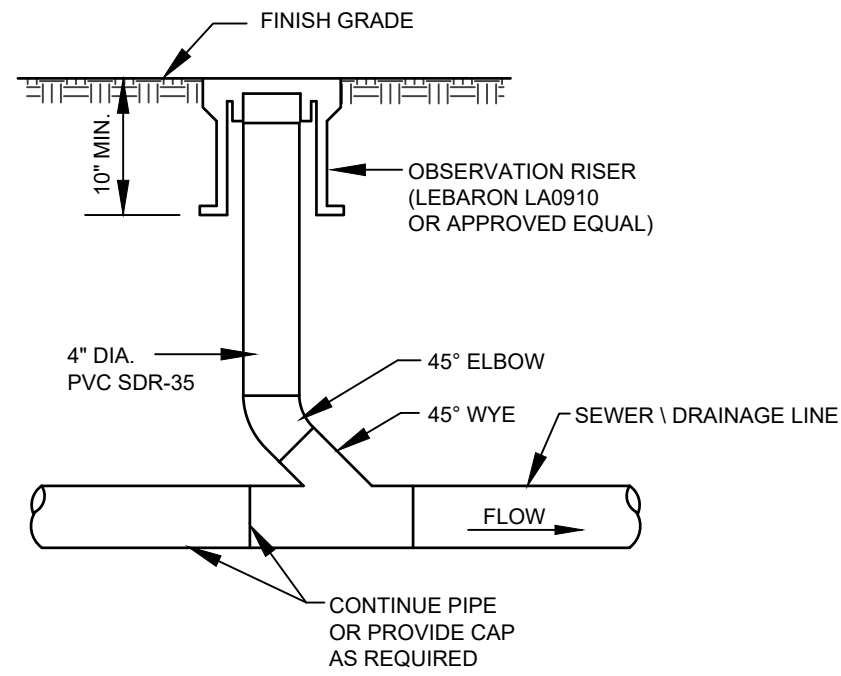


- NOTES:
1. 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
 2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
 3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
 4. CATCH BASIN FRAME AND GRADE TO BE EJ 5520MS, OR APPROVED EQUAL.

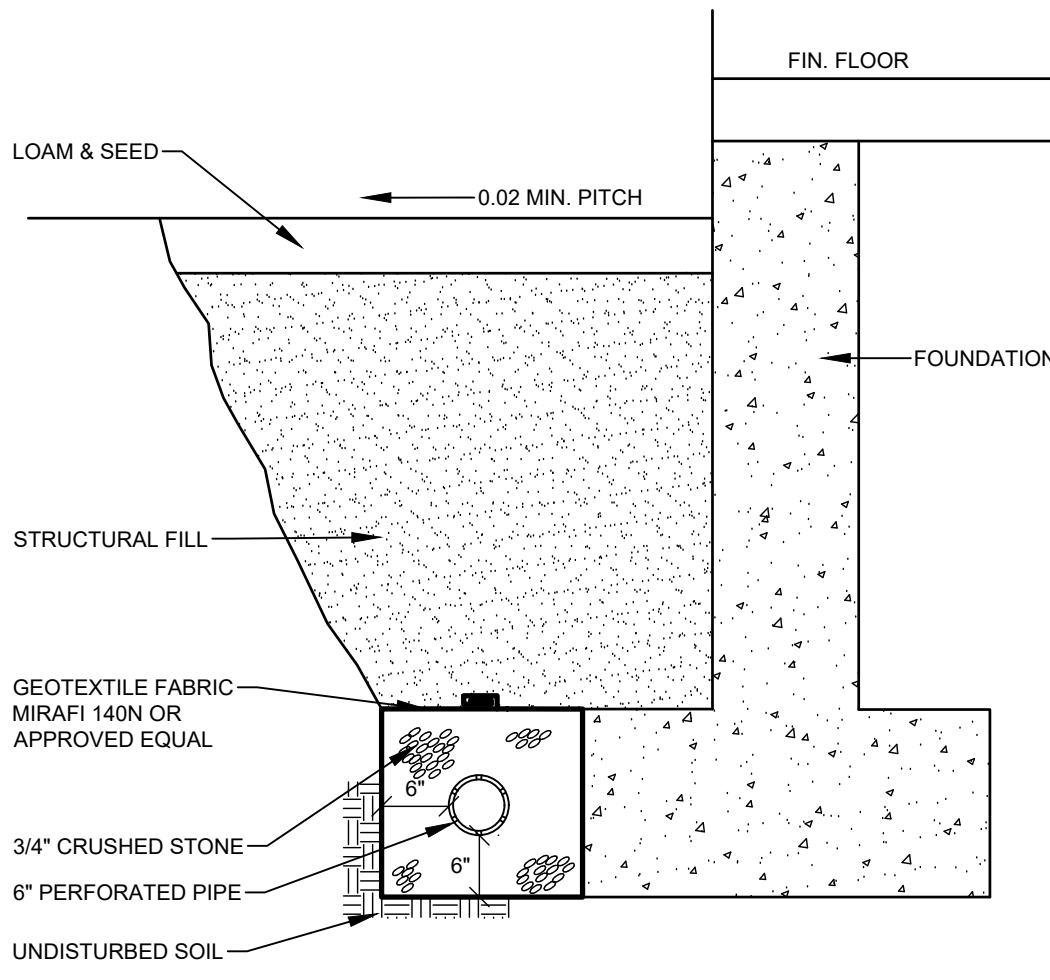
CATCH BASIN
NOT TO SCALE



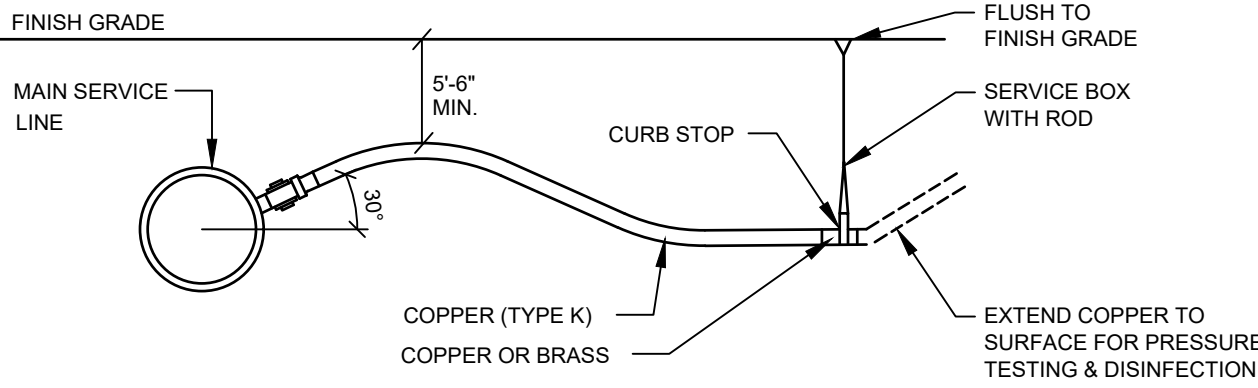
CLEAN-OUT IN
PAVEMENT AREAS
NOT TO SCALE



CLEAN-OUT IN
GRASSED AREAS
NOT TO SCALE

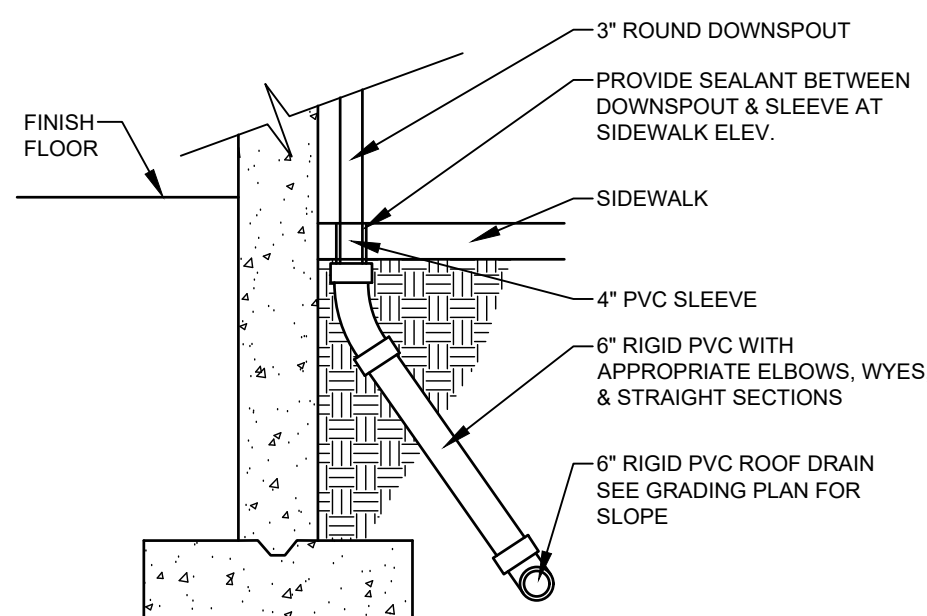


FOUNDATION DRAIN SECTION
NOT TO SCALE

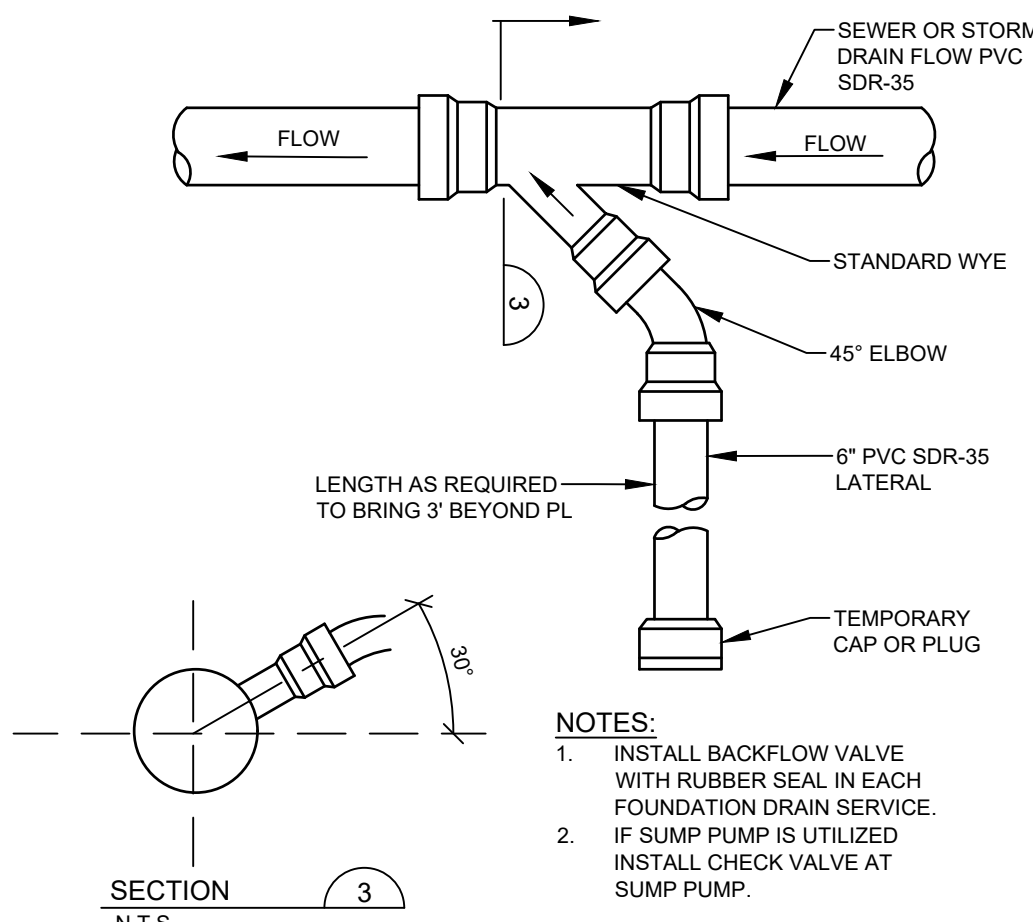


- NOTE:
1. INSTALL PER BATH WATER DISTRICT STANDARDS.

CHLORINATION TAP
NOT TO SCALE

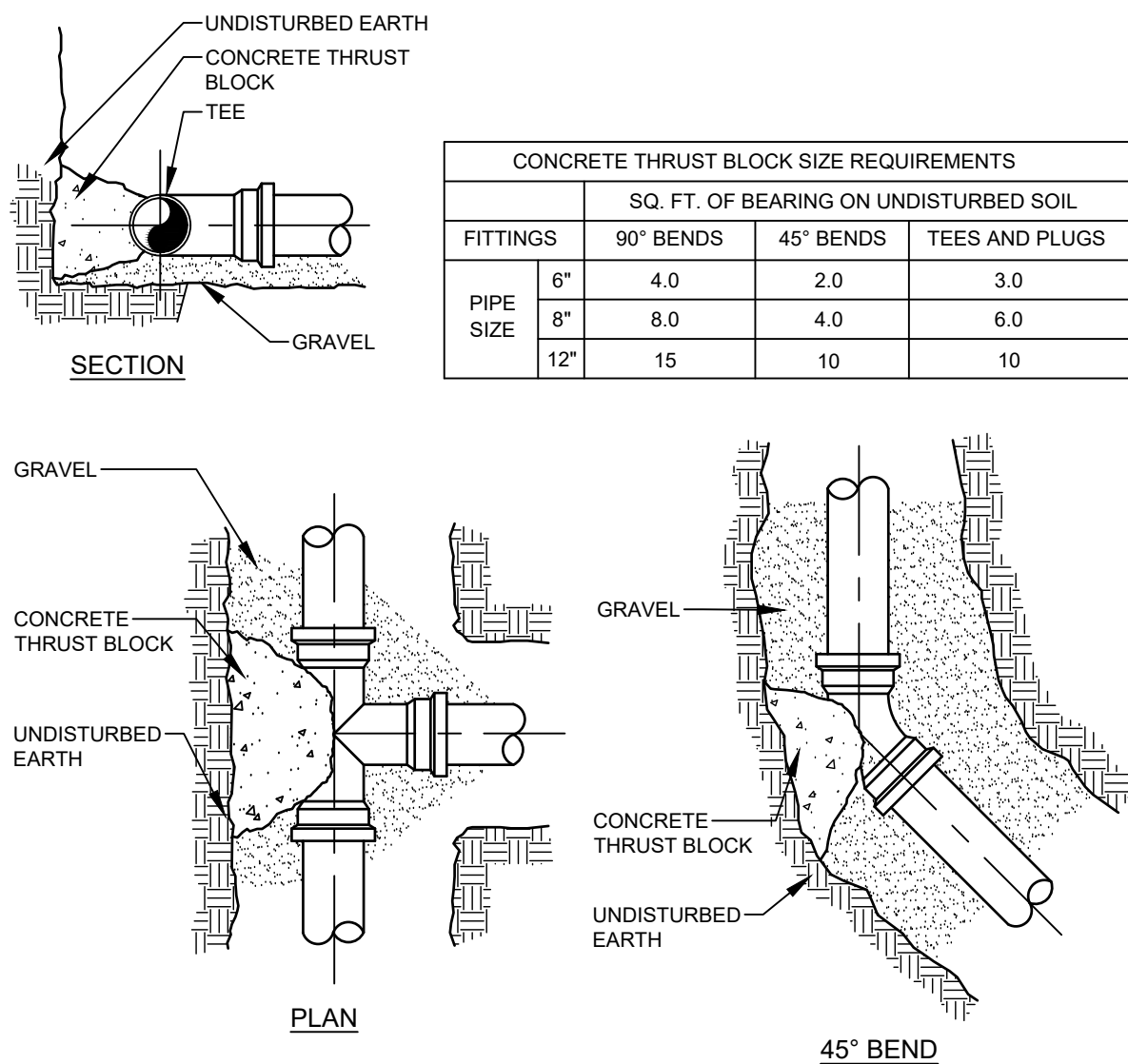


ROOF DRAIN CONNECTOR
NOT TO SCALE

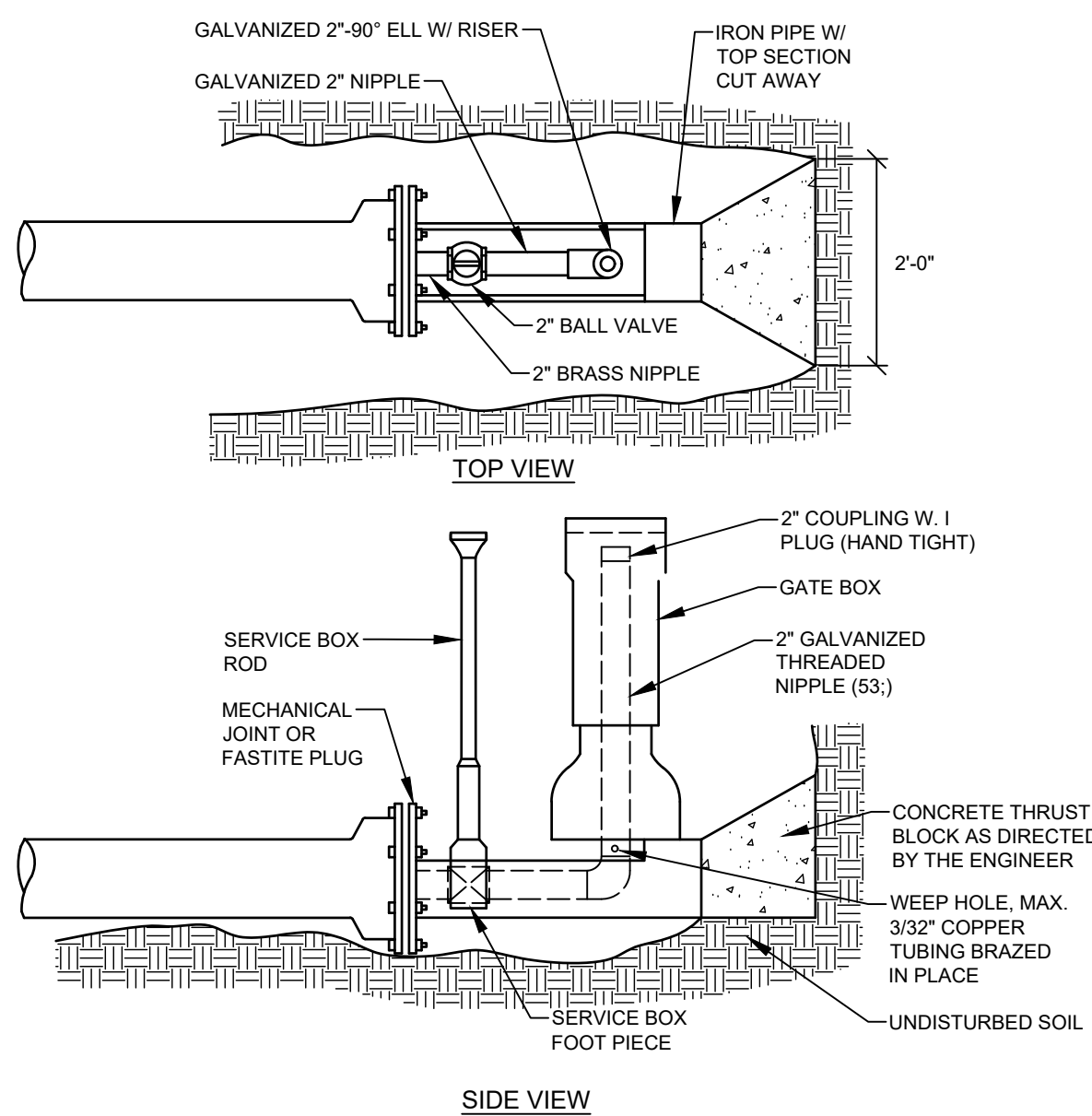


- NOTES:
1. INSTALL BACKFLOW VALVE WITH RUBBER SEAL IN EACH FOUNDATION DRAIN SERVICE.
 2. IF SUMP PUMP IS UTILIZED, INSTALL CHECK VALVE AT SUMP PUMP.

SEWER / FOUNDATION DRAIN
SERVICE CONNECTION
NOT TO SCALE

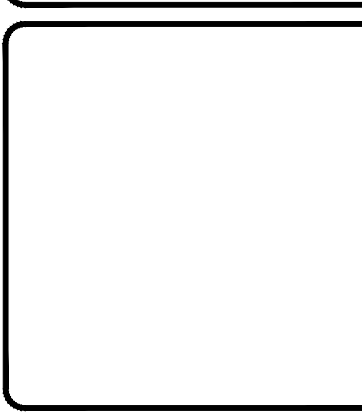


TEE & BEND DETAIL
NOT TO SCALE



STANDARD 2" BLOW-OFF
NOT TO SCALE

NOT FOR
CONSTRUCTION



REV.	BY	DATE	STATUS
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACS RIVERS CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

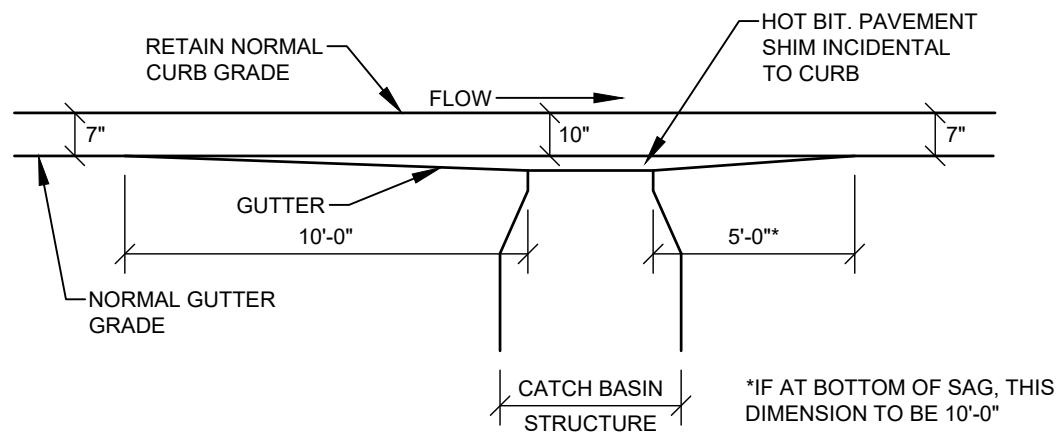
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQUES, INC. ANY ALTERATIONS, ADDITIONS OR DELETIONS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQUES, INC.



DESIGNED - 2
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

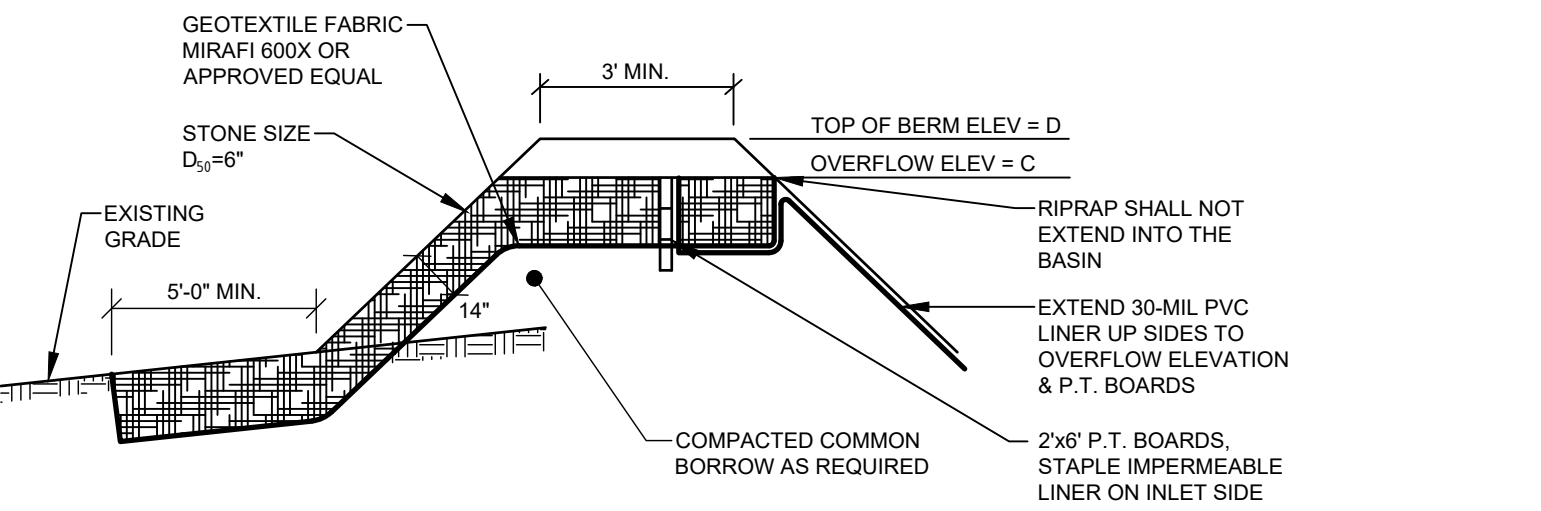
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	NTS
PROJECT	18462

SHEET 46 OF 51

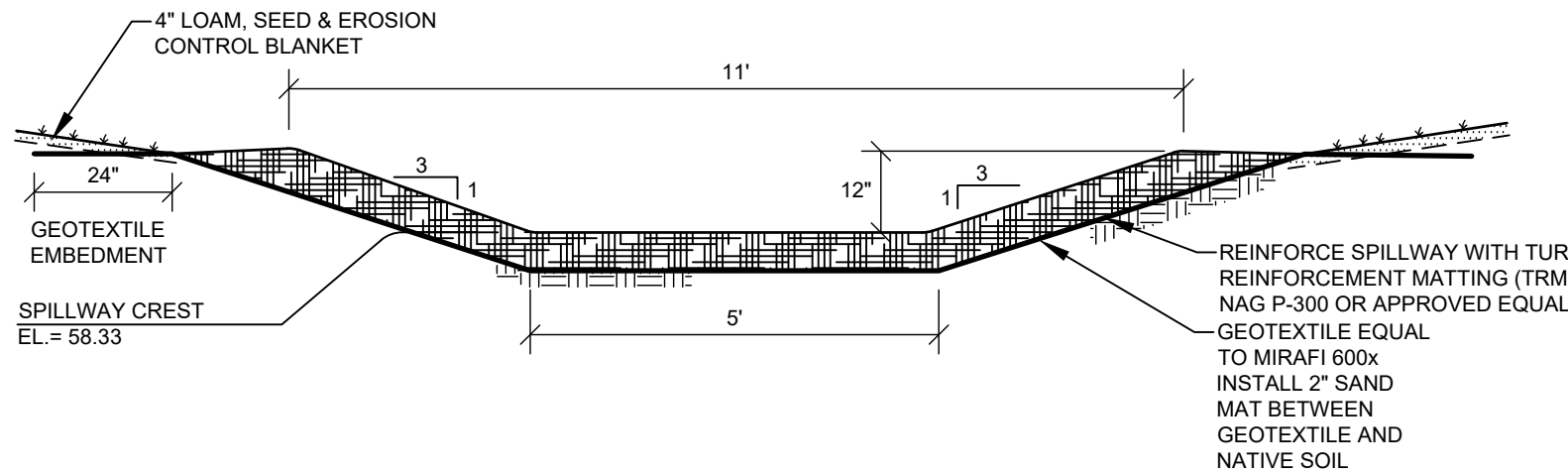


NOTES:
CATCH BASIN GRATES SHALL BE DEPRESSED 2" BELOW THE NORMAL GUTTER GRADE UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT. DIMENSIONS ARE INTENDED TO BE NOMINAL.

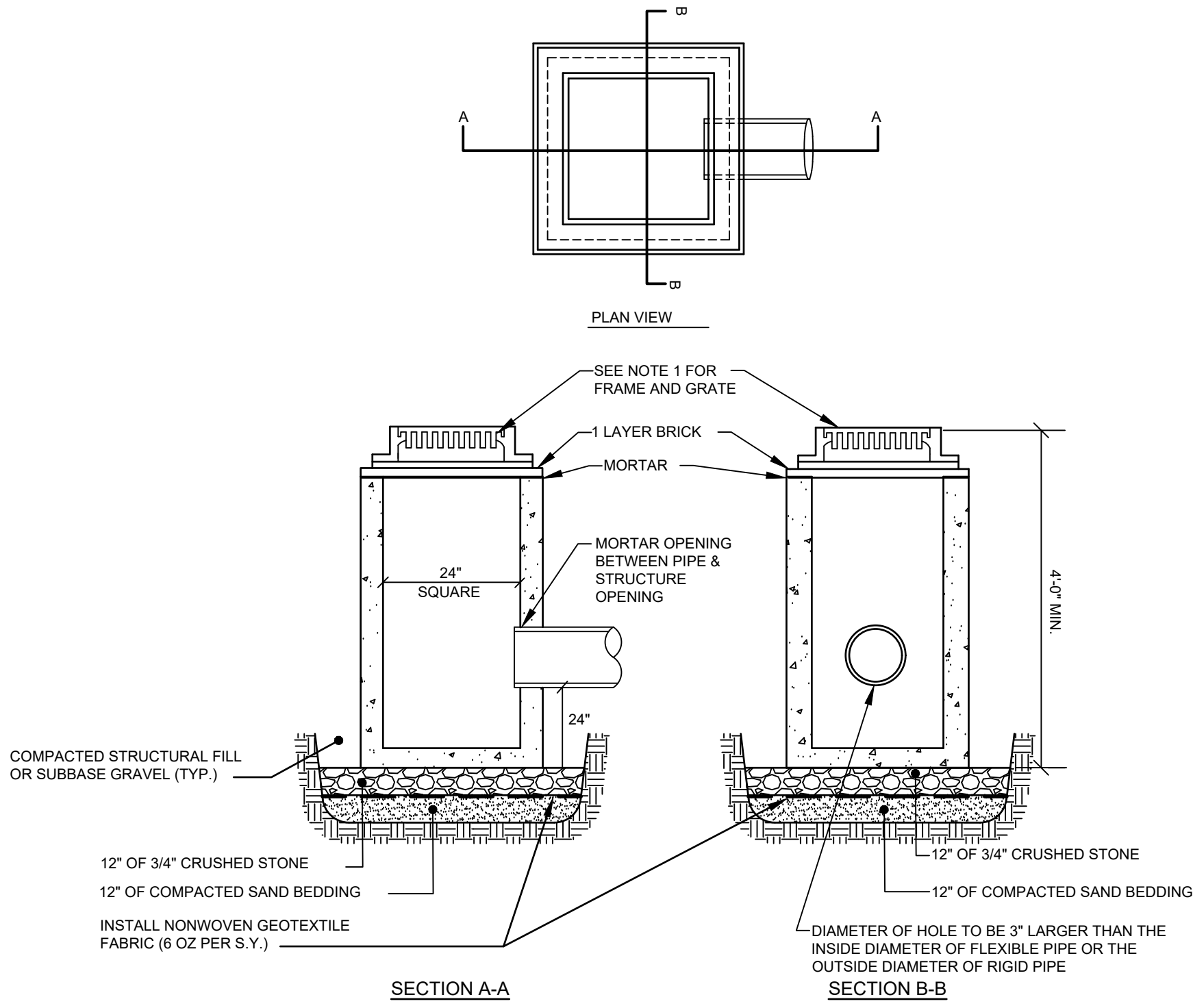
GUTTER GRADE TRANSITION AT CATCH BASIN
NOT TO SCALE



EMERGENCY OVERFLOW
SPILLWAY LONGITUDINAL SECTION
NOT TO SCALE

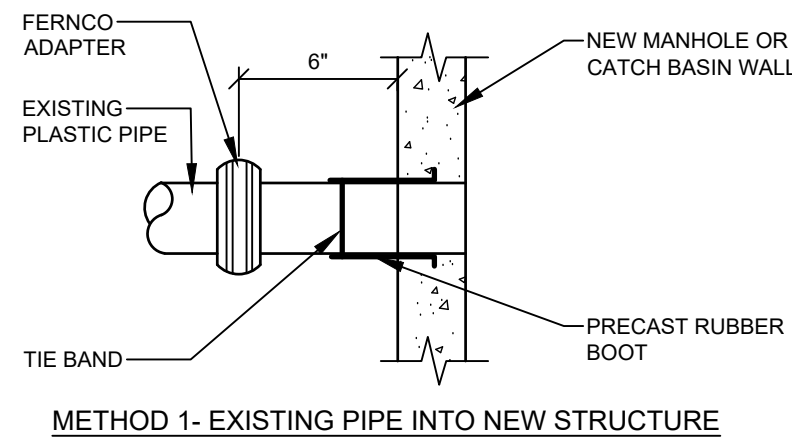


EMERGENCY SPILLWAY CROSS-SECTION
NOT TO SCALE

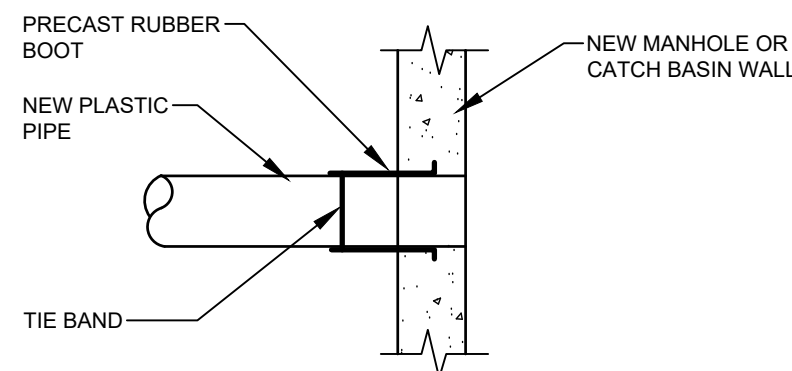


NOTES:
1. FRAME SHALL BE FOR 24" SQUARE GRATE-LEBARON TYPE "F" SQUARE FRAME (LF 245) 4 FLANGE EAST JORDAN M6201 OR APPROVED EQUAL.
2. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.

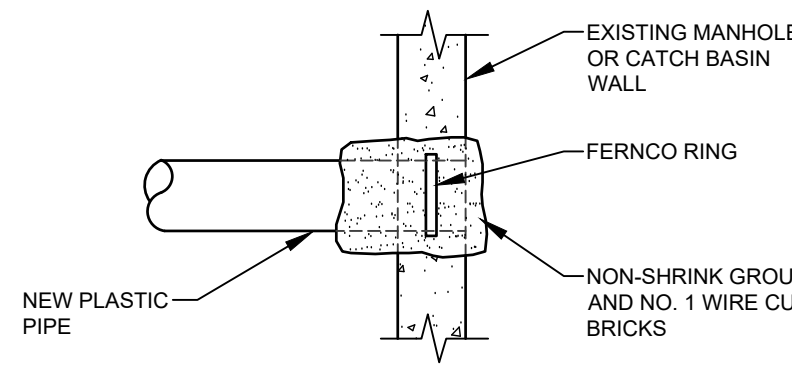
TYPE "F" CATCH BASIN
NOT TO SCALE



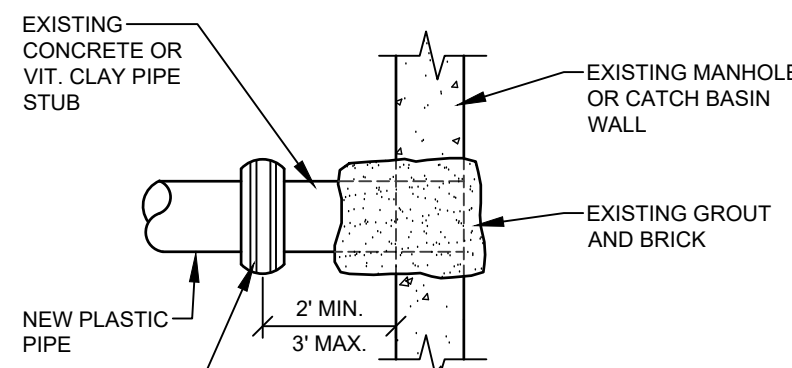
METHOD 1- EXISTING PIPE INTO NEW STRUCTURE



METHOD 2- NEW CONSTRUCTION

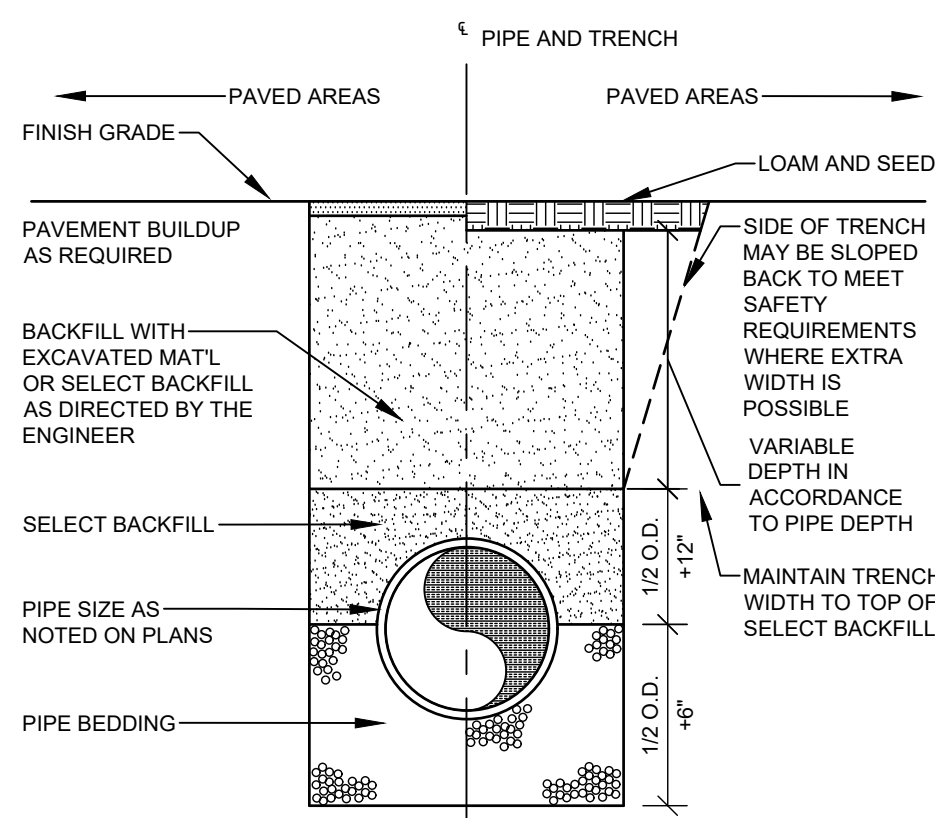


METHOD 3- NEW PIPE INTO EXISTING STRUCTURE



METHOD 4- NEW PIPE INTO EXISTING STUB

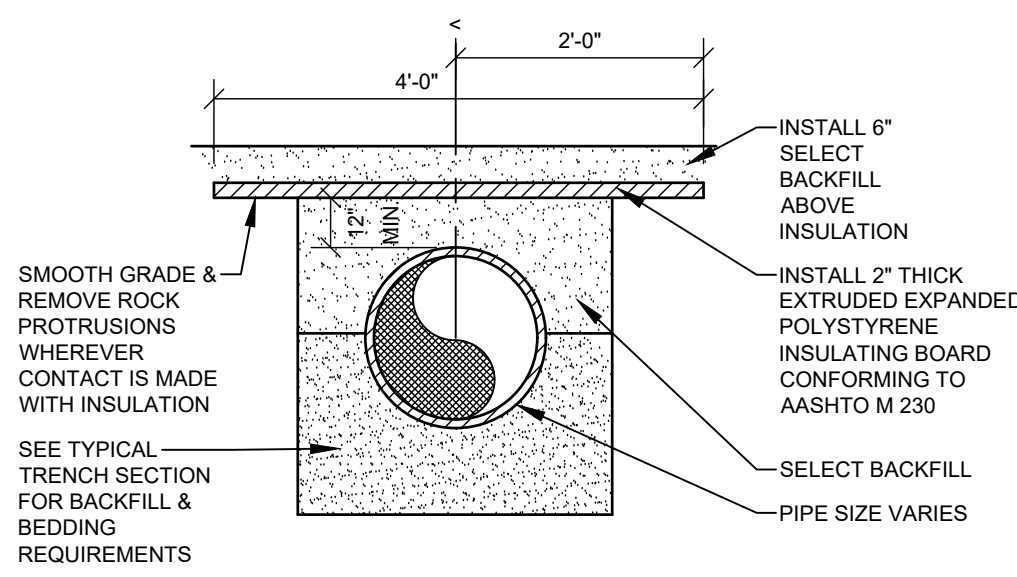
PLASTIC PIPE CONNECTIONS
NOT TO SCALE



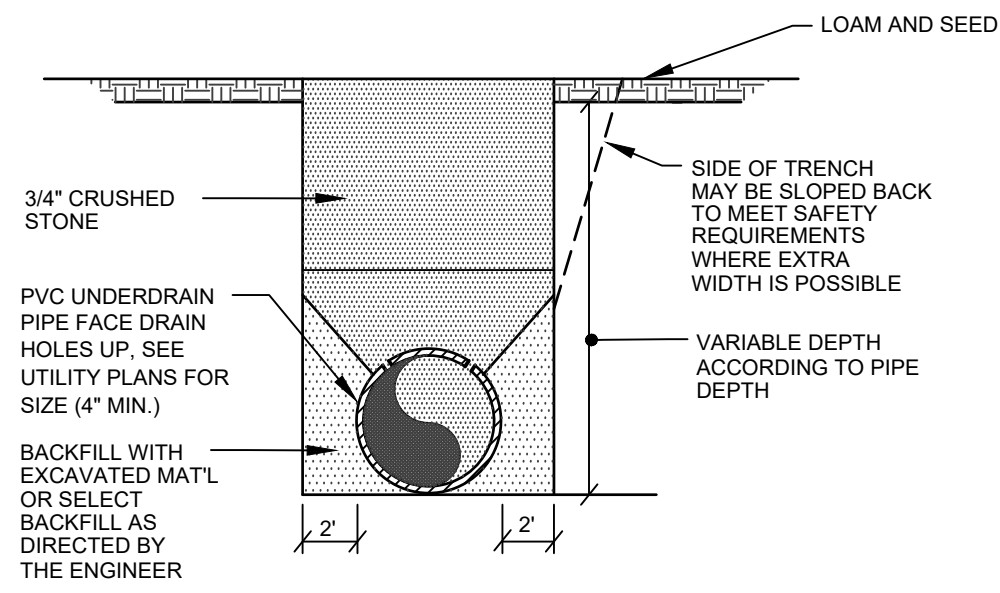
PIPE TYPE	PIPE BEDDING MATERIAL	SELECT BACKFILL
CORRUGATED METAL DUCTILE IRON REINFORCED CONCRETE	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC-SDR 35 HDPE	MDOT 703.13 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL OR MDOT 703.13 3/4" CRUSHED STONE
PERFORATED PVC-SDR 35 HDPE	MDOT 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.

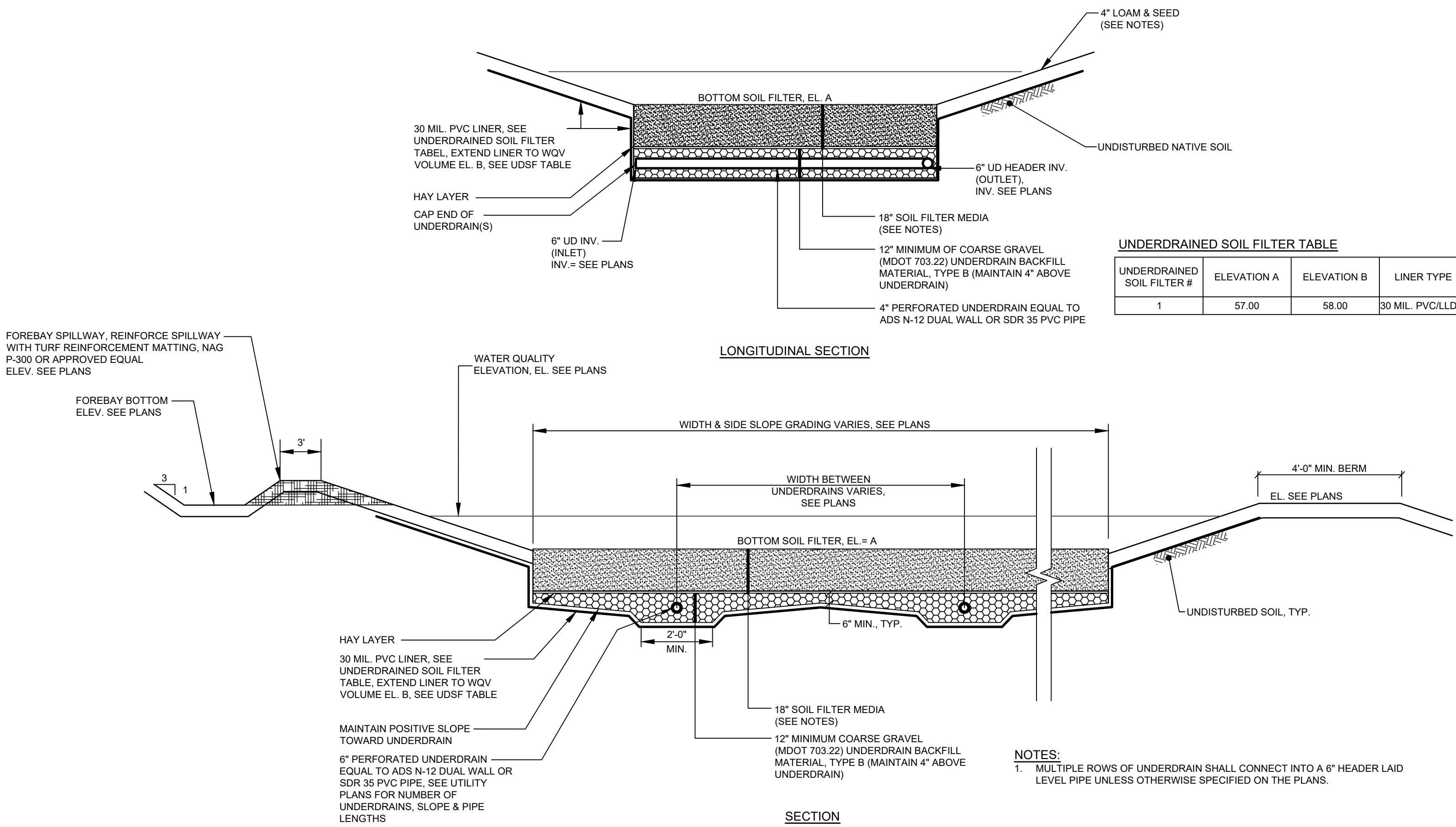
TRENCH SECTION
NOT TO SCALE



PIPE INSULATION DETAIL
NOT TO SCALE



GROUNDWATER RELIEF DRAIN DETAIL
NOT TO SCALE



UNDERDRAINED SOIL FILTER #	ELEVATION A	ELEVATION B	LINER TYPE
1	57.00	58.00	30 MIL PVC/LDPE

UNDERDRAINED SOIL FILTER CONSTRUCTION OVERSIGHT NOTES:
THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE UNDERDRAIN. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE UNDERDRAIN'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

- CONSTRUCTION SEQUENCE: THE UNDERDRAIN AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE UNDERDRAIN HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
- COMPACTION OF UNDERDRAIN: UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
- CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
 - FOR FIRST UNDERDRAIN CONSTRUCTED: AFTER UNDERDRAIN PIPE IS INSTALLED AT GRADE AND BUT NOT BACKFILLED, AFTER THE UNDERDRAIN PIPE IS COMPLETELY BACKFILLED AND BEFORE PLACEMENT OF SOIL FILTER MEDIA.
 - AFTER THE SOIL FILTER MEDIA HAS BEEN INSTALLED.
 - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
 - ALL MATERIAL USED FOR THE CONSTRUCTION OF THE UNDERDRAIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY.

TESTING AND SUBMITTALS
1. THE SOIL FILTER MEDIA SHALL CONSIST OF A BLEND OF MATERIALS AS IDENTIFIED IN THE UNDERDRAINED SOIL FILTER MEDIA NOTES BELOW. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE FOR EACH COMPONENT OF THE UNDERDRAIN AND SUBMIT GRADATIONS FOR THE UNDERDRAIN MATERIALS TO THE ENGINEER FOR APPROVAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRAB) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.

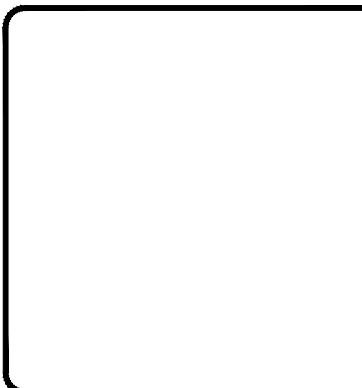
UNDERDRAINED SOIL FILTER MEDIA NOTES:
1. SOIL FILTER MEDIA CONSISTS OF A SALT Y SAND SOIL OR SOIL MIXTURE COMBINED WITH A MATURE, MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH 20% TO 25% BY VOLUME (NO LESS THAN 10% BY DRY WEIGHT). THE RESULTING MIXTURE SHOULD HAVE 6% TO 12% PASSING THE NO. 200 SIEVE AND A CLAY CONTENT OF LESS THAN 2%. THE PROPORTIONS OF THE MIXTURE CAN BE ADJUSTED SO IT WILL CONTAIN SUFFICIENT FINES AND ORGANIC MATTER. THE SOIL FILTER MEDIA MAY CONTAIN THE FOLLOWING (BY VOLUME):

- 50% OF SAND (MAINE DOT SPECIFICATION #703.01 IS CLOSE BUT IT CONTAINS INSUFFICIENT FINE MATERIAL FOR THE FILTER MEDIA).
- 20% OF SANDY LOAM TO FINE SANDY LOAM (TABLE 7.1.2).
- 30 % OF MATURE COMPOSTED WOODY FIBERS AND FINE SHREDDED BARK, SUPERHUMUS OR EQUIVALENT (ADJUSTED FOR MINERAL SOIL CONTENT).
- UNDERDRAIN STONE BEDDING MATERIAL MUST CONFORM TO THE MDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL MATERIAL. THE BEDDING MATERIAL MUST HAVE NO MORE THAN 5% PASSING THE 200 SIEVE.
- MATERIAL LAYERS ABOVE THE UNDERDRAIN BACKFILL LAYER SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO AVOID COMPACTION OF BOTH THE GRAVEL AND SOIL FILTER.
- OVER COMPACTION OF UNDERDRAIN MATERIAL SHALL BE AVOIDED. IF OVER COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.

UNDERDRAINED SOIL FILTER DETAIL
NOT TO SCALE

TYP. PERFORATED UNDERDRAIN
TRENCH SECTION
NOT TO SCALE

NOT FOR
CONSTRUCTION



REV.	BY:	DATE:	STATUS:
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SAGD RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

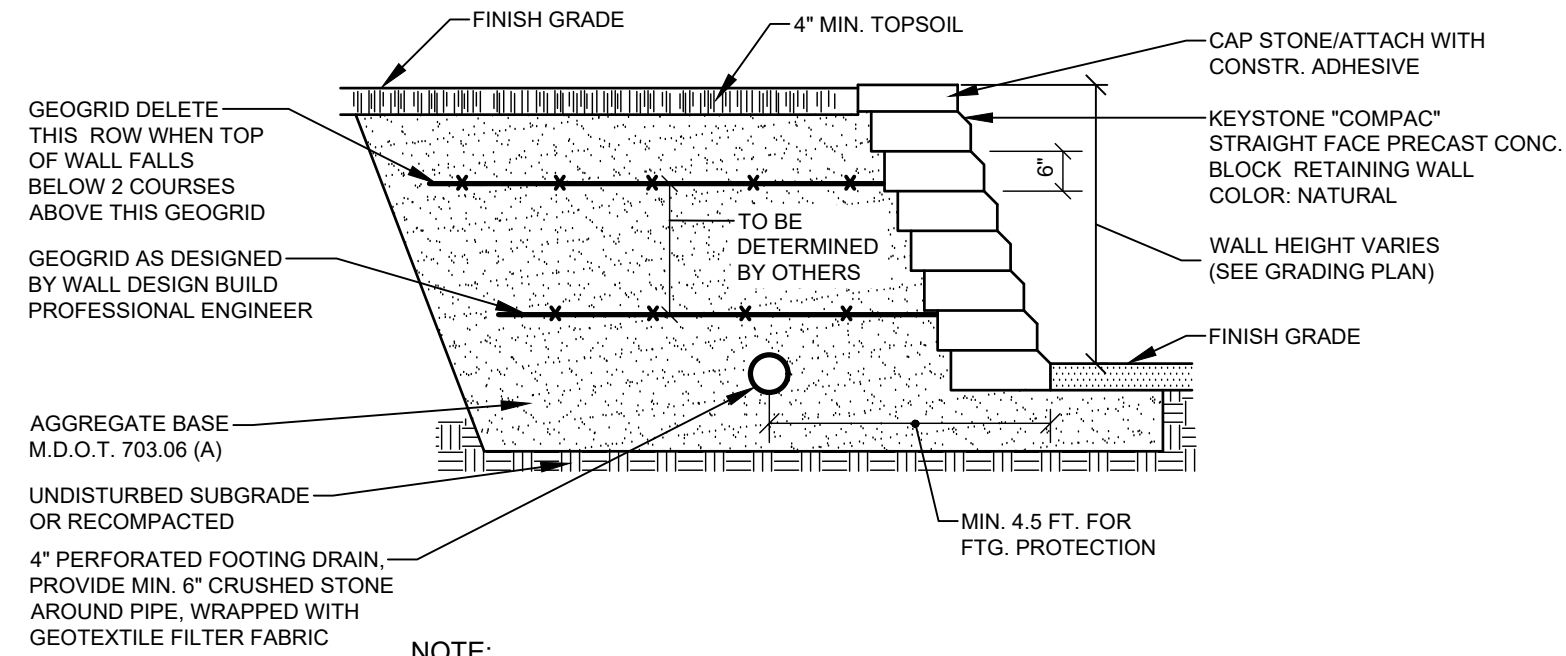
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DETAILS - 3
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

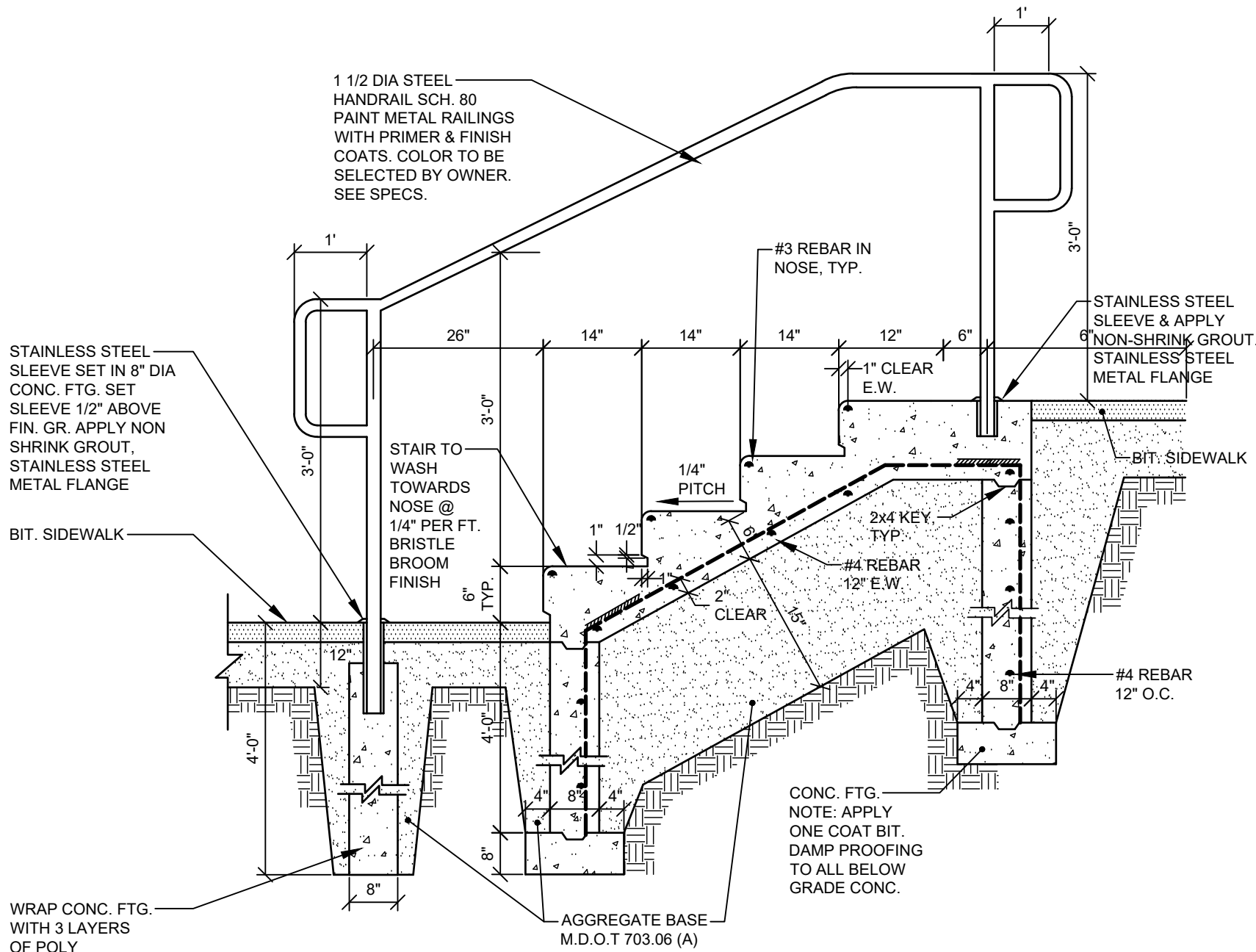
DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	NTS
PROJECT	18462

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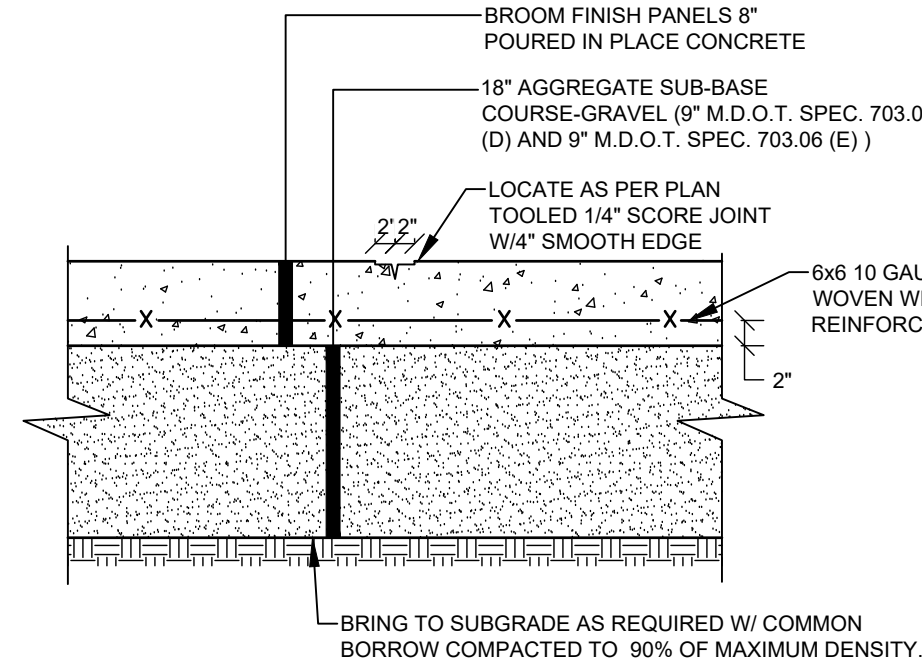


NOTE:
CONTRACTOR SHALL PROVIDE STAMPED ENGINEERING DESIGN PLANS AND CALCULATIONS FOR REVIEW BY OWNER PRIOR TO CONSTRUCTION. ALL WALL DESIGNS TO BE REVIEWED BY OWNERS GEOTECHNICAL ENGINEER FOR GLOBAL STABILITY PRIOR TO SUBMITTING PLANS AND CALCULATIONS TO OWNER.

CONCRETE BLOCK RETAINING WALL
NOT TO SCALE

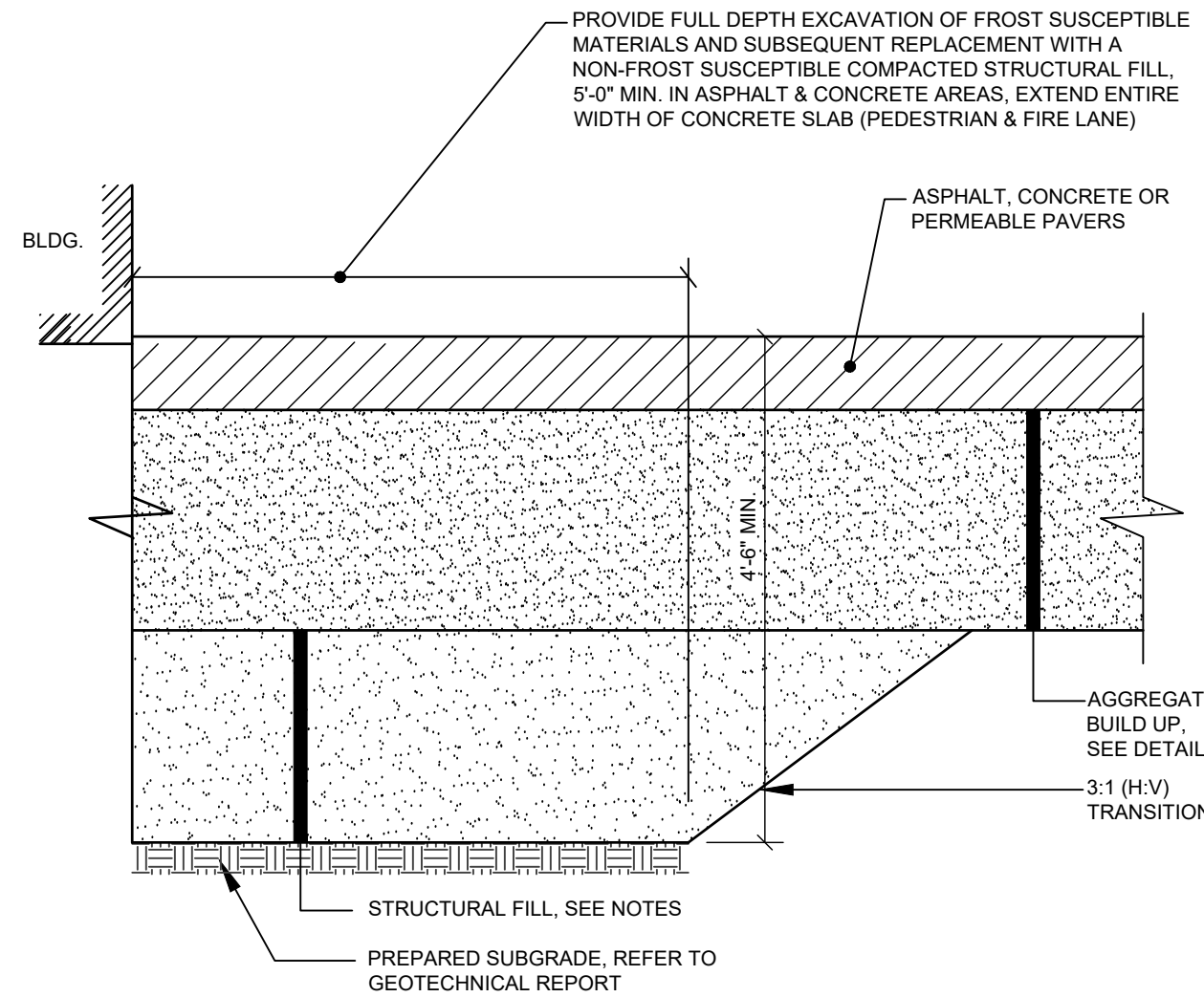


CONCRETE STAIR
NOT TO SCALE



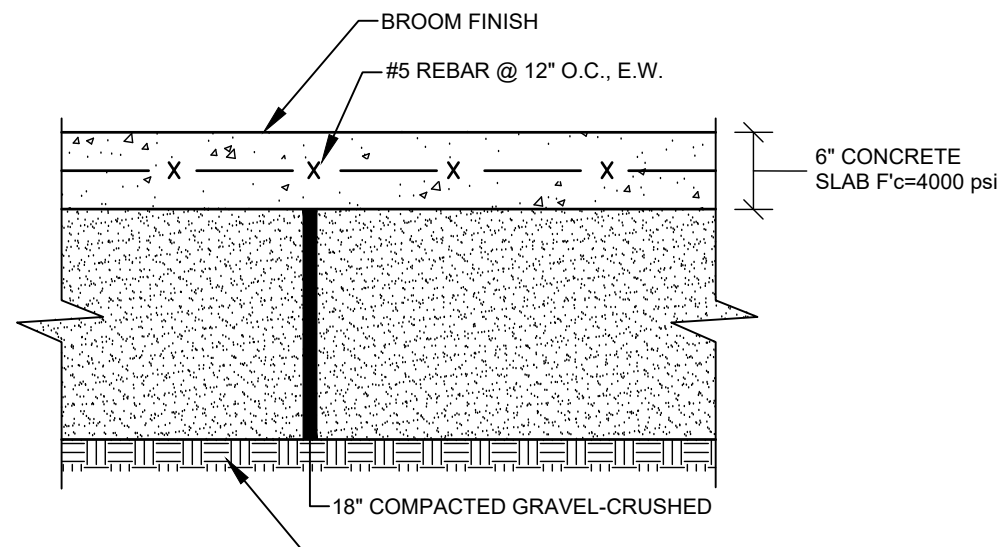
NOTES:
1. COMPACT GRAVEL SUB-BASE, BASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.
3. CONCRETE PAD FOR STANDBY GENERATORS TO BE COMPLETED BY STRUCTURAL ENGINEER LICENSED IN THE STATE OF MAINE.

HEAVY DUTY CONCRETE PAVEMENT
NOT TO SCALE



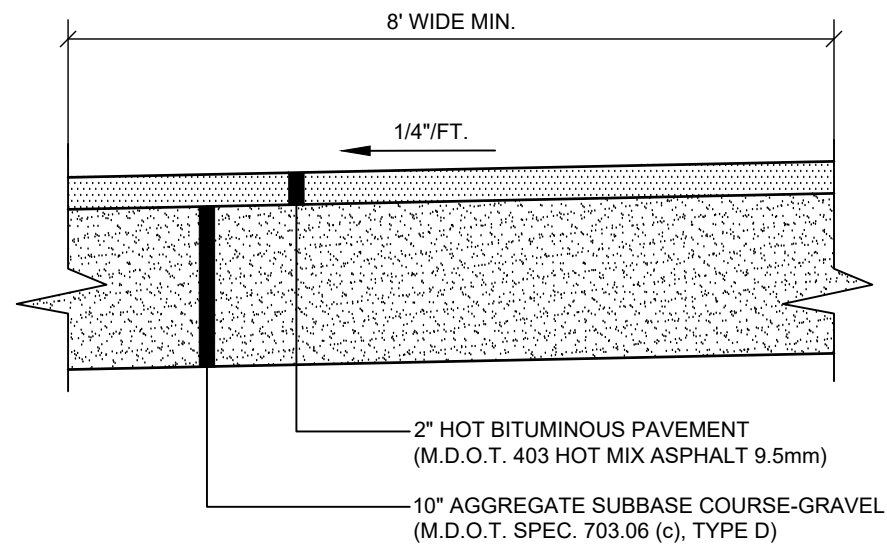
NOTES:
1. REFER TO DETAILS FOR PAVEMENT AND CONCRETE SECTIONS.
2. PROVIDE FULL DEPTH EXCAVATION OF FROST SUSCEPTIBLE MATERIALS AND SUBSEQUENT REPLACEMENT WITH A NON-FROST SUSCEPTIBLE COMPACTED STRUCTURAL FILL. 5'-0" MIN. IN ASPHALT & CONCRETE AREAS. EXTEND ENTIRE WIDTH OF CONCRETE SLAB (PEDESTRIAN & FIRE LANE).

PAVEMENT SECTION @ BUILDING
NOT TO SCALE

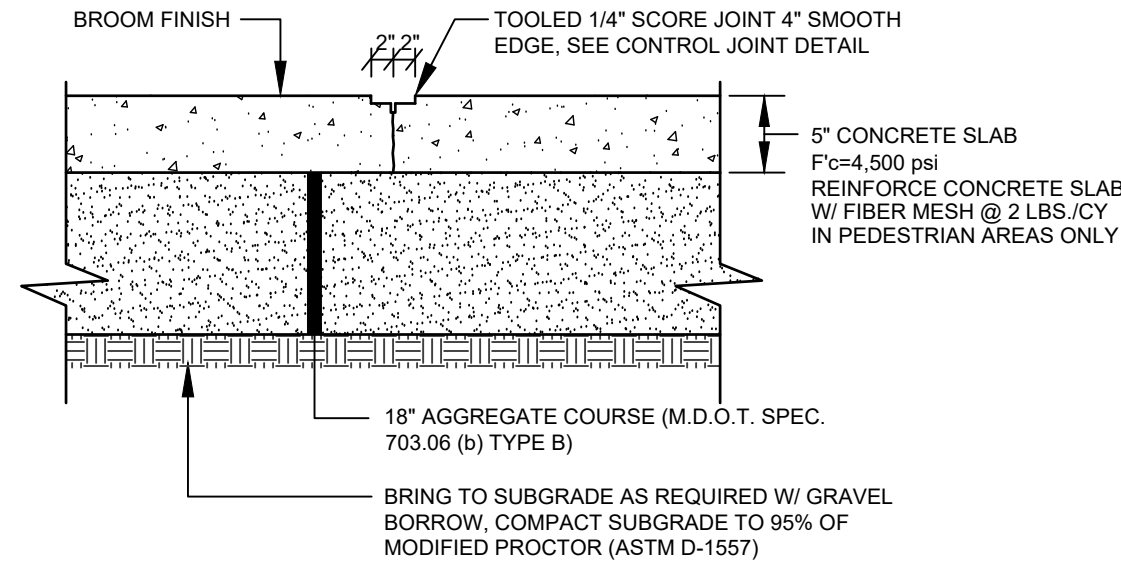


NOTE:
1. PROVIDE CONTRACTION CONTROL JOINTS EVERY 6' IN EACH DIRECTION

CONCRETE SLAB
NOT TO SCALE

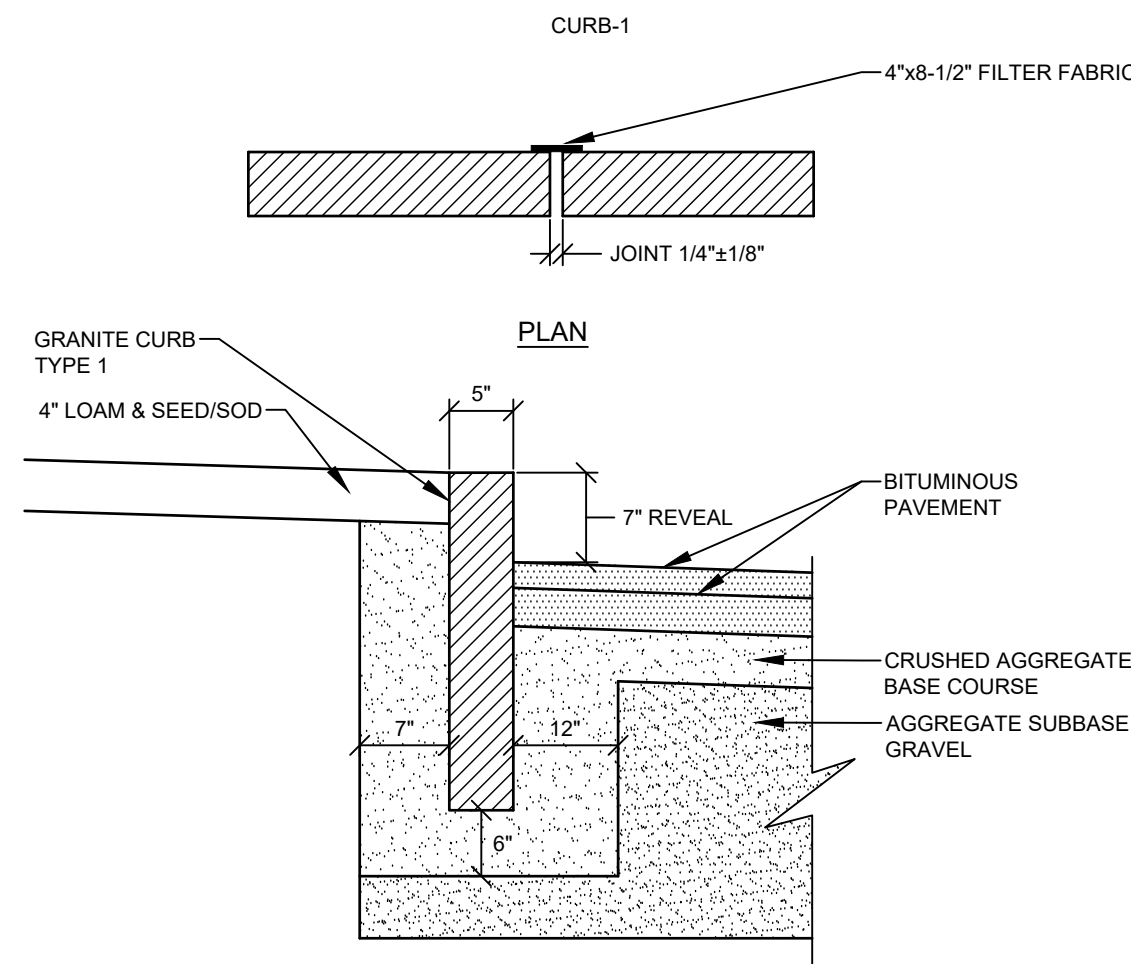


RIVERWALK TRAIL
NOT TO SCALE



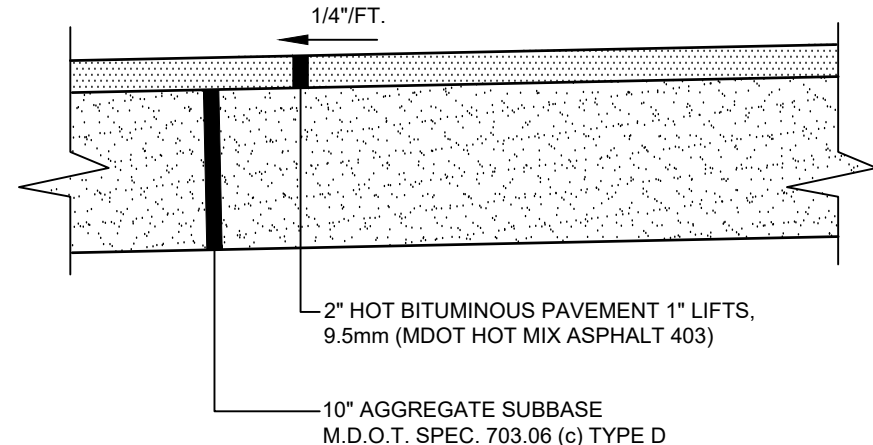
NOTES:
1. CONCRETE SHALL BE 4,500 PSI COMPRESSIVE, 500 PSI FLEXURAL, 1 1/2" AGGREGATE, WITH 6% (±1%) AIR ENTRAINMENT.
2. PROVIDE CONTRACTION CONTROL JOINTS PER CONTROL JOINT DETAIL.
3. DETAIL FOR CONCRETE SECTION IN AREAS WITH HEAVY VEHICULAR TRAFFIC.

CONCRETE SECTION (PEDESTRIAN AREAS)
NOT TO SCALE

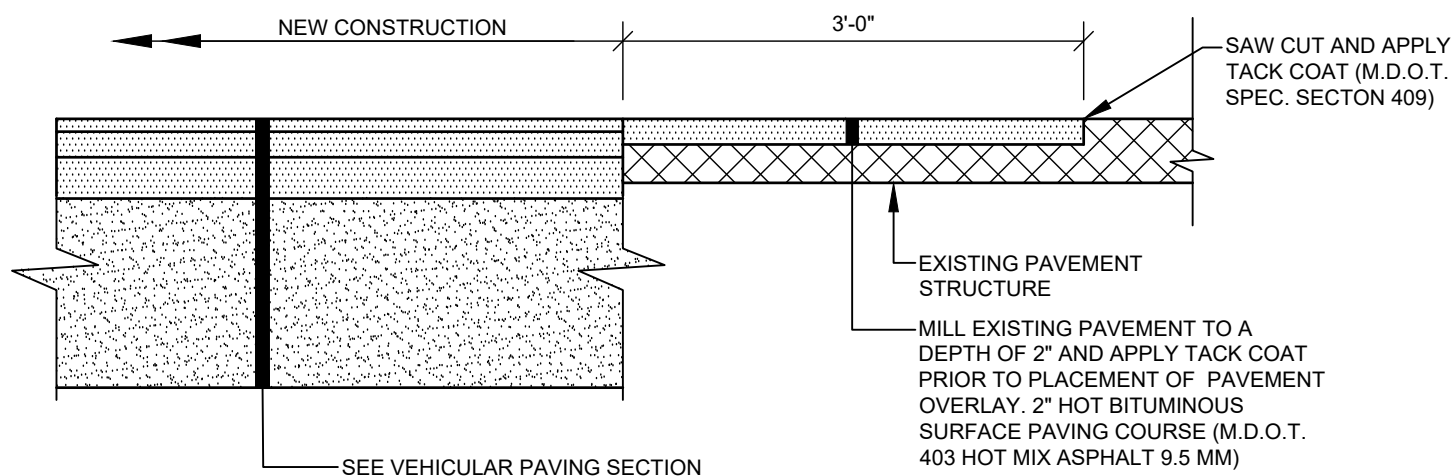


NOTES:
1. EXCAVATION INCIDENTAL TO COST OF CURB
2. SUBBASE SHALL BE COMPACTED TO A FIRM EVEN SURFACE PRIOR TO SETTING OF CURB

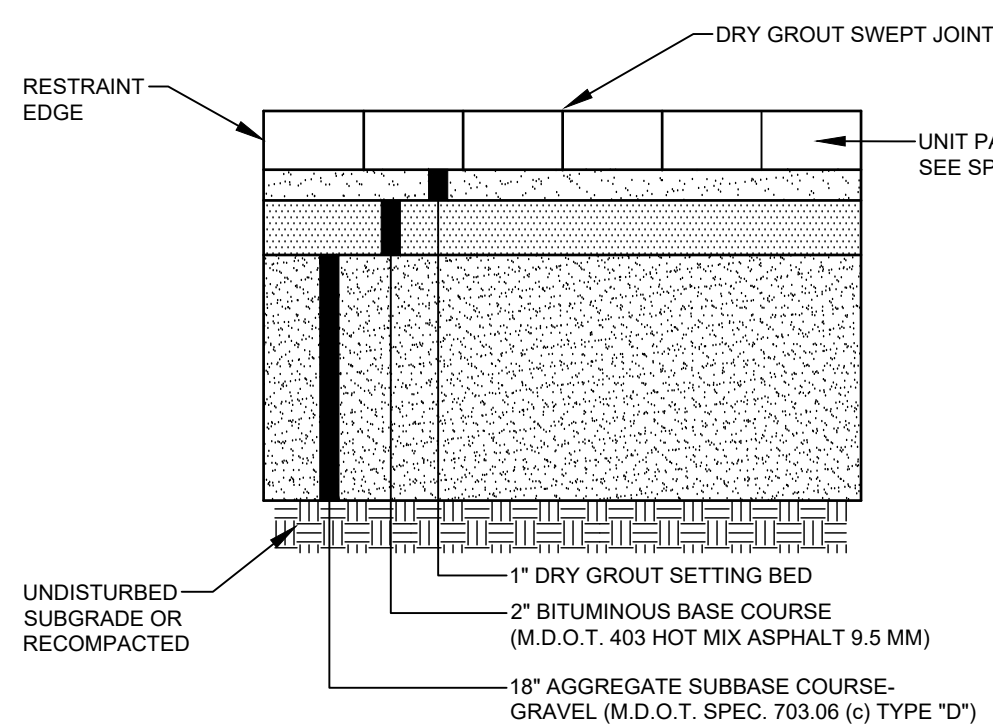
VERTICAL GRANITE CURB
NOT TO SCALE



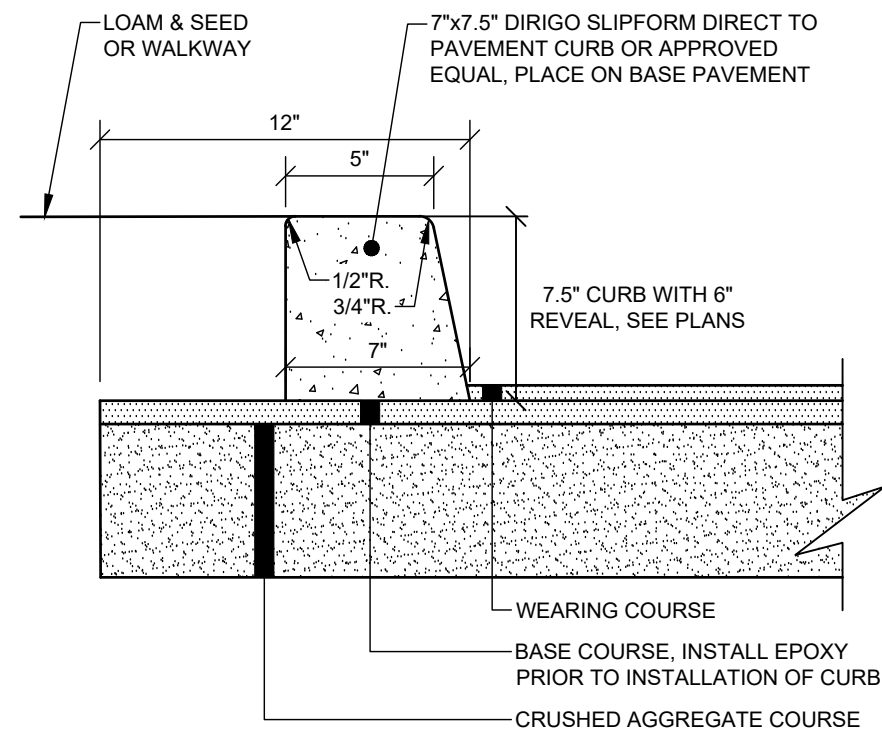
PEDESTRIAN PAVING
NOT TO SCALE



PAVEMENT JOINT
NOT TO SCALE

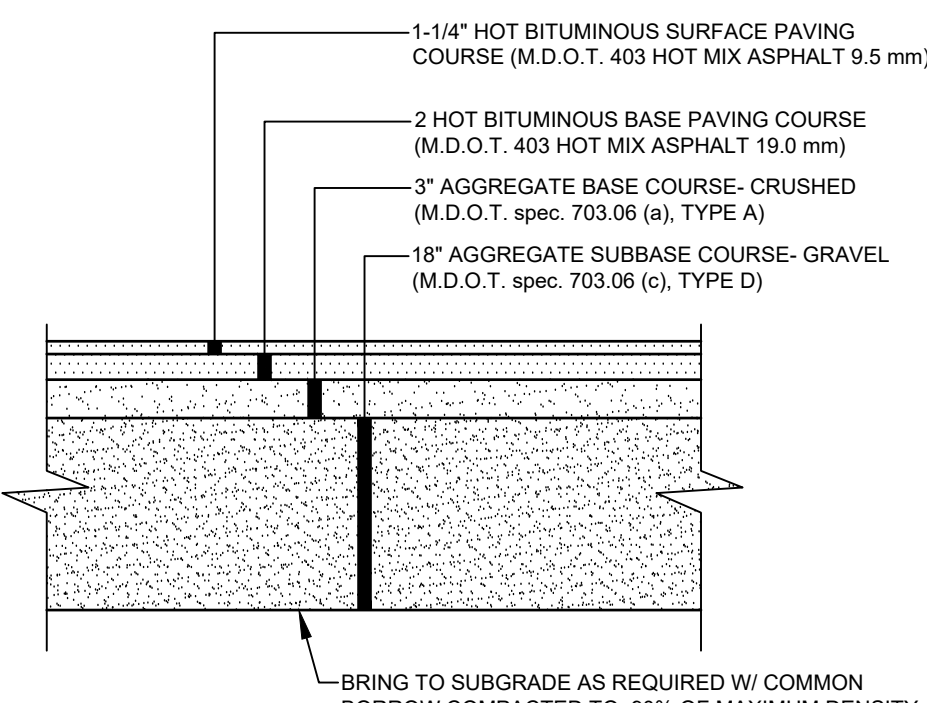


UNIT PAVER
NOT TO SCALE



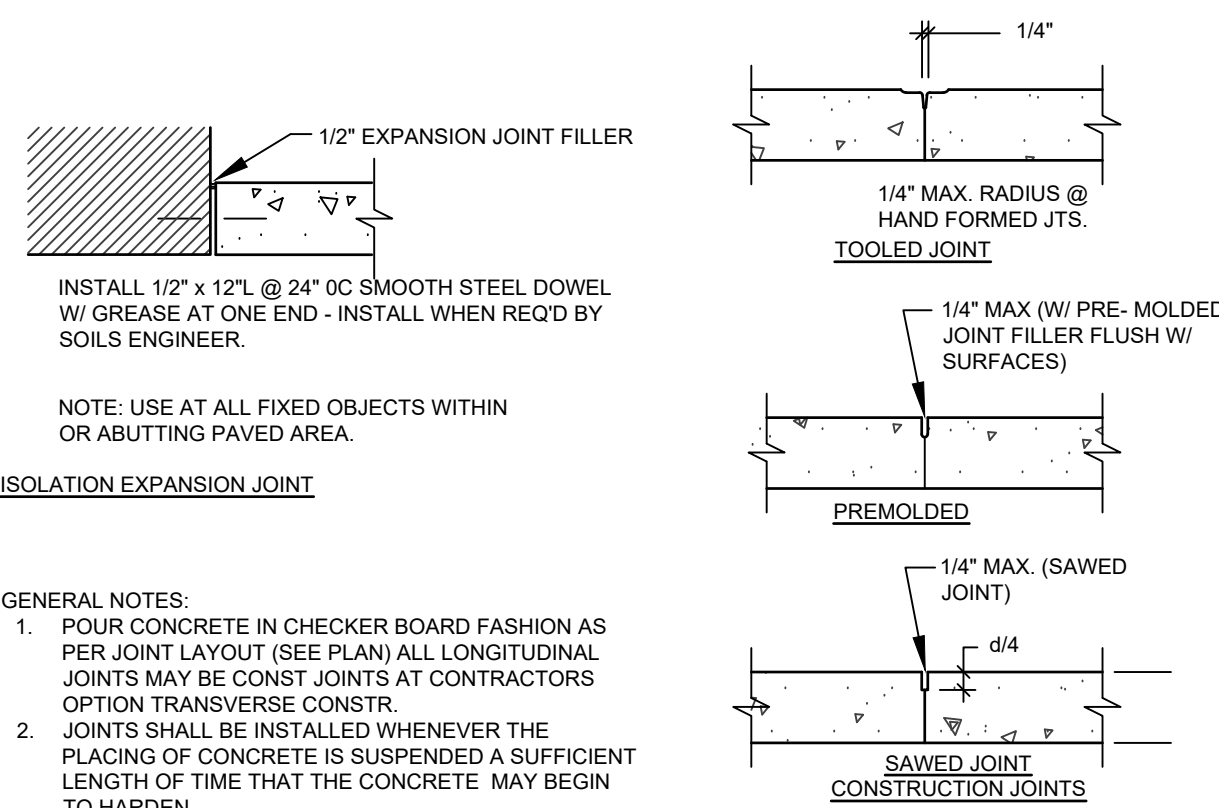
NOTES:
1. SEE TYPICAL ACCESS DRIVE SECTION FOR ROADWAY MATERIAL SPECIFICATIONS AND DEPTHS.
2. 6" TIPOFFS SHALL BE PROVIDED AS SHOWN ON PLANS.

SLIPFORM CURB SECTION
NOT TO SCALE



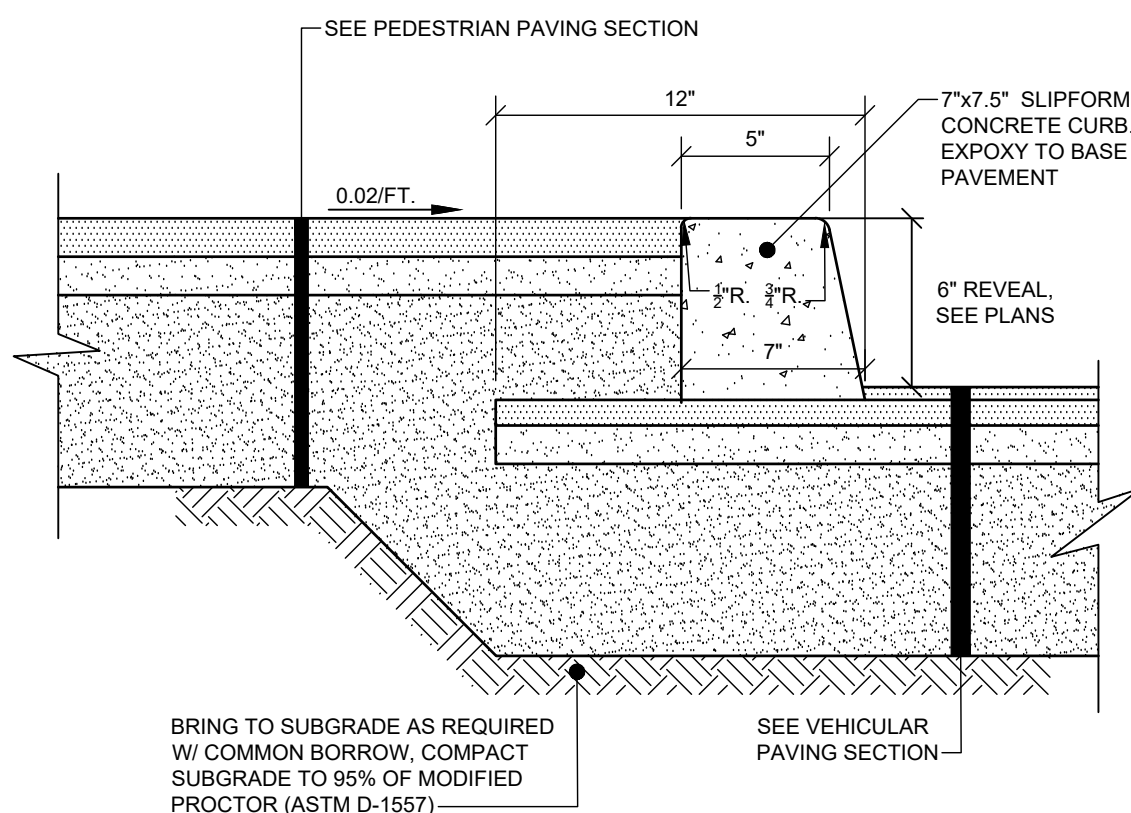
NOTES:
1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

VEHICULAR PAVING
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. COMPACT GRAVEL SUBBASE AND BASE COURSES TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. HOT MIX ASPHALT SURFACE COURSE SHALL BE COMPACTED TO 95% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041). BASE COURSE SHALL BE COMPACTED TO 95% ±2.5% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041).
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.

BITUMINOUS SIDEWALK WITH SLIPFORM CURB
NOT TO SCALE

18462-Dwg_18462-DWG-Details - 4

DETAILS - 4

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE

FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWALK DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	NTS
PROJECT	18462

SHEET 48 OF 51

SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Suburban Rd
South Portland, ME 04106
Tel: 207-269-2100

REV.	BY:	DATE:	STATUS:
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT

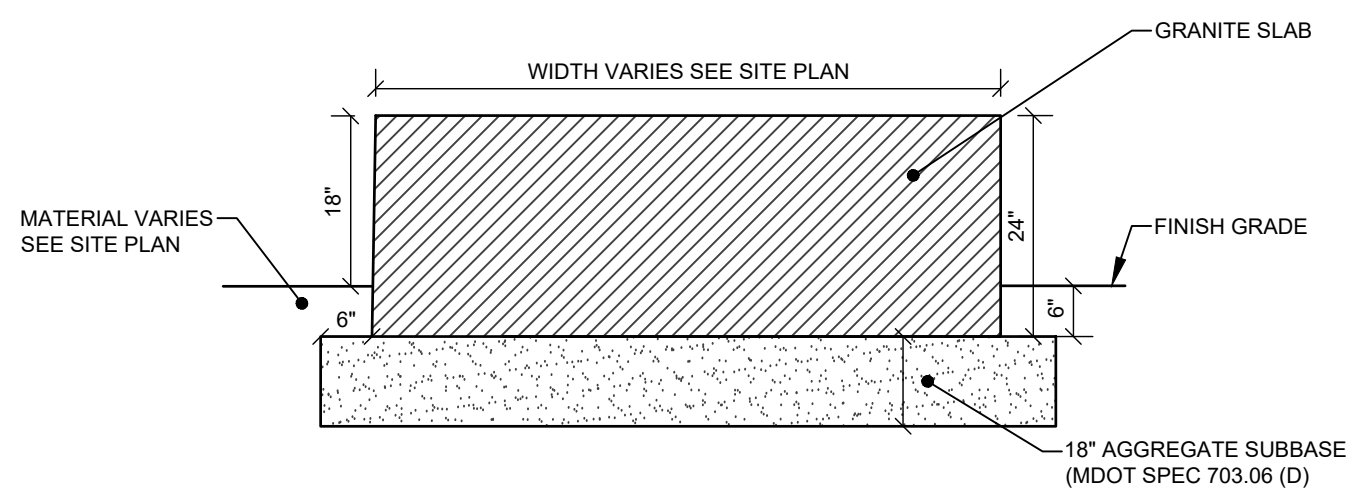
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED OR OTHERWISE SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

CRAIG A. BURGESS, PE 12638

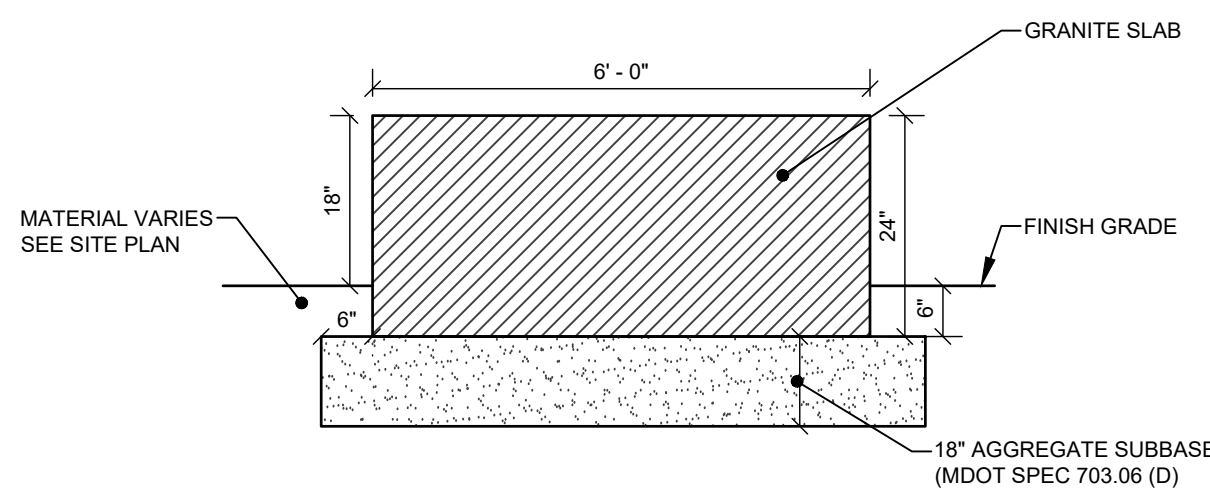


NOT FOR CONSTRUCTION

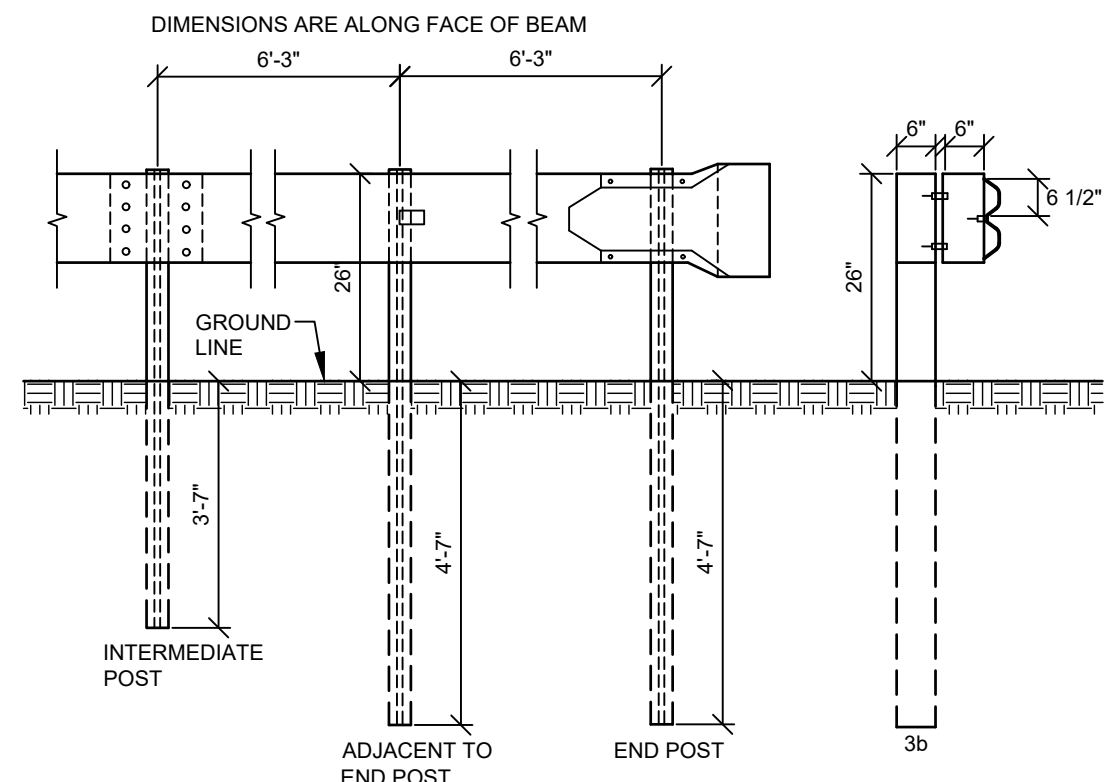
F:\Projects\1800\18462\DWG\Design\18462.Dwg 4/8/2023 4:53 PM TANNER E. GOODINE



GRANITE SEATING WALL SECTION
NOT TO SCALE

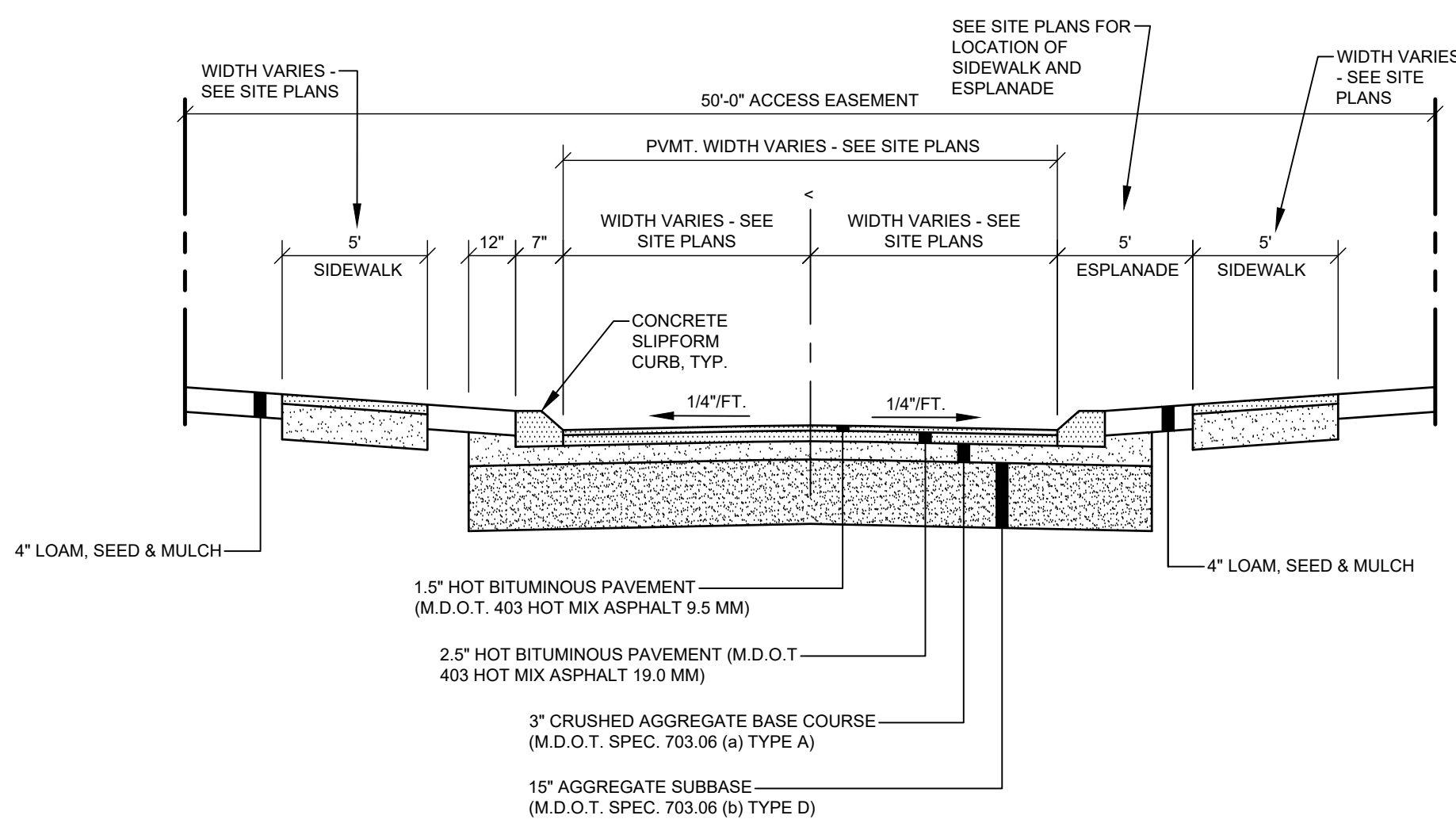


GRANITE BENCH SECTION
NOT TO SCALE

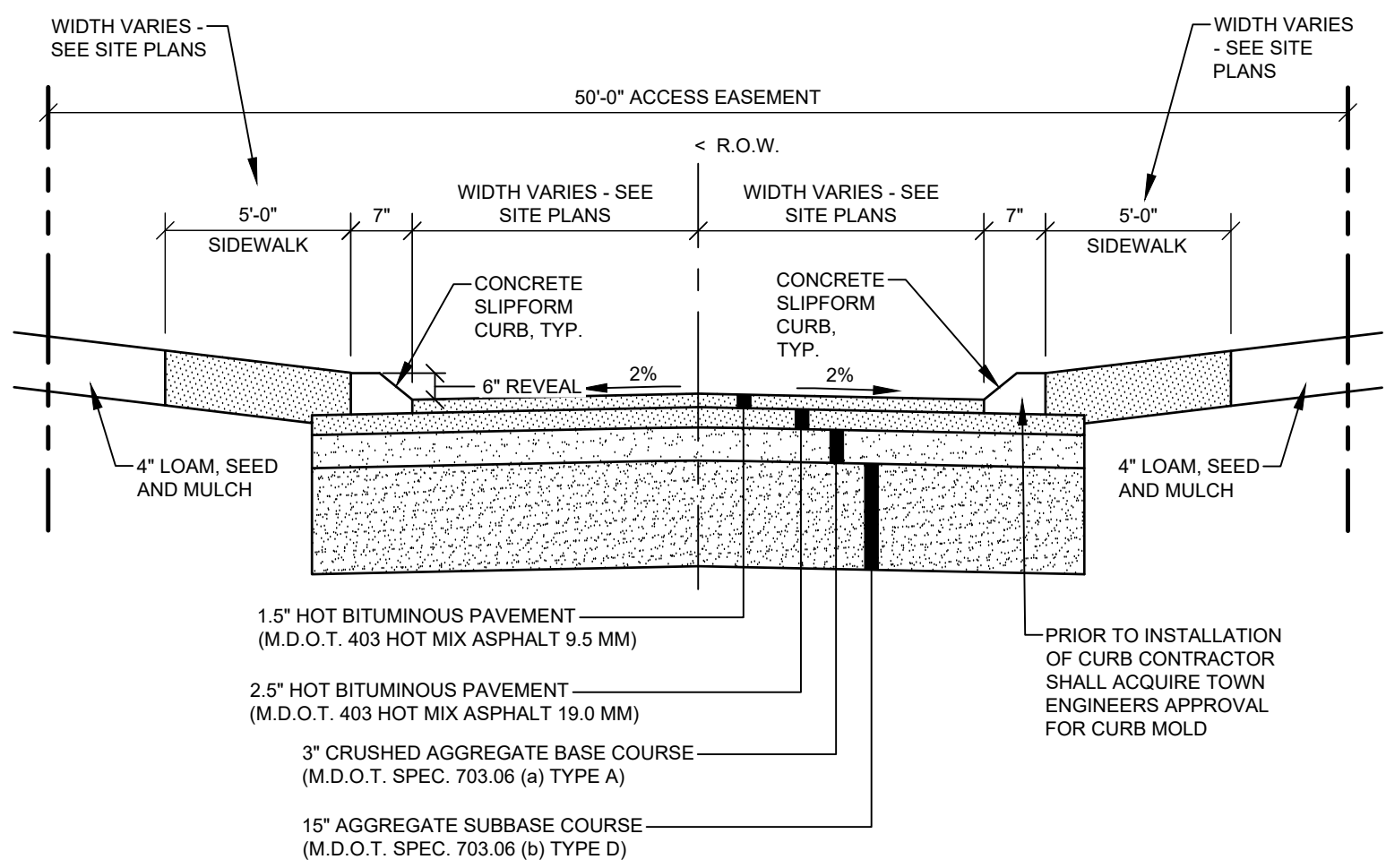


- NOTES:
1. INTERMEDIATE POST SPACING SHALL BE 6'-3" UNLESS OTHERWISE SHOWN.
 2. POSTS AND OFFSET BRACKETS FOR TYPE 3b GUARD RAIL SHALL BE W 6x6.
 3. ALL HOLES IN BEAM TO BE SHOP-PUNCHED BEFORE GALVANIZING.

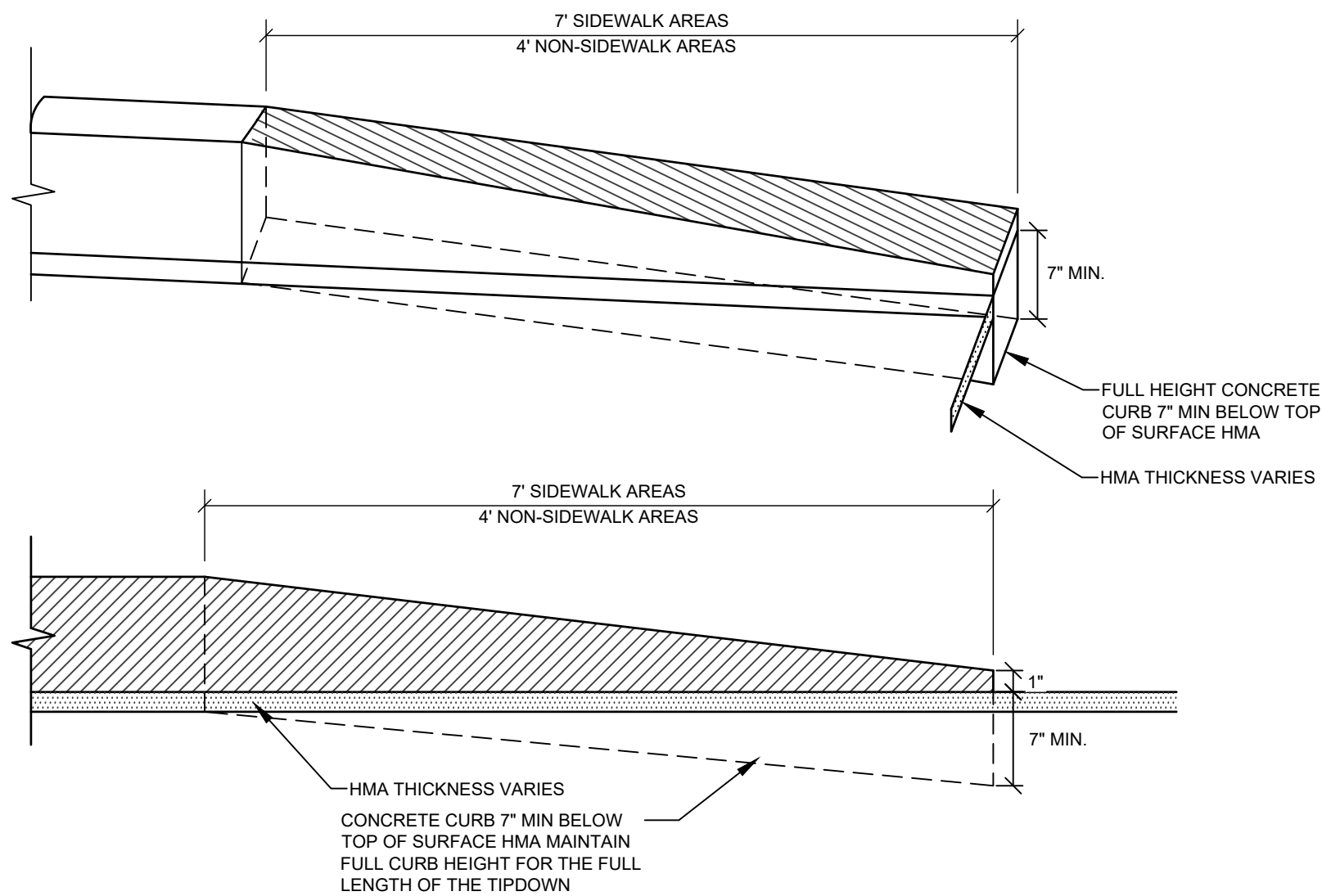
GUARDRAIL TYPE 3b
NOT TO SCALE



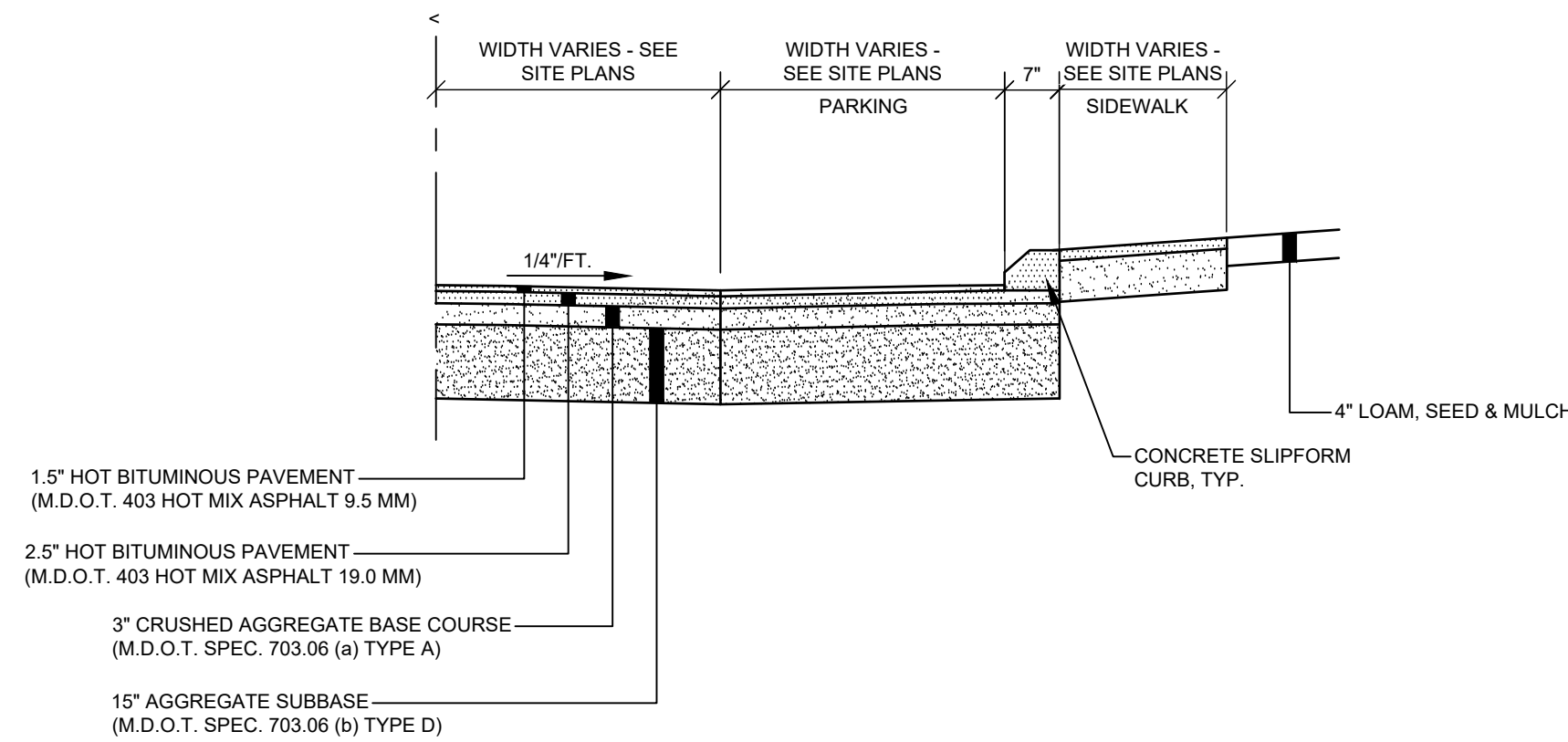
ROAD SECTION WITH ESPLANADE
NOT TO SCALE



ROAD SECTION
NOT TO SCALE



SLIPFORM CONCRETE CURB TIPDOWN, TYPICAL
NOT TO SCALE



ROAD SECTION WITH PARKING
NOT TO SCALE

18462.Dwg, 18462.DWG DETAILS - 5

DESIGNED TFG

DRAWN DAB

CHECKED CAB

DATE 04/12/2023

SCALE NTS

PROJECT 18462

DETAILS - 5

OF ONE DIAMOND

ELM STREET

BIDDEFORD, MAINE

FOR ONE DIAMOND DEVELOPMENT, LLC

2 LIMEWELL DRIVE, SUITE 201

KENNEBUNK, ME 04043

SEBAGO

TECHNICS

WWW.SEBOGOTECHNICS.COM

75 Sullivan Rd.

South Portland, ME 04106

TEL: 207-269-2100

E CAB 06/14/2023 ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW

D CAB 06/07/2023 ISSUED TO SACD RIVER CORRIDOR COMMISSION

C CAB 04/19/2023 REISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN

B CAB 04/12/2023 ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN

A CAB 03/28/2023 FOR JDA AGREEMENT

REV. BY: DATE: STATUS:

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APPROVED BY OTHER AGENCIES SHALL BE AT THE USER'S RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

CRAIG A. BURGESS, PE 12638

STATE OF MAINE

CRAIG A. BURGESS

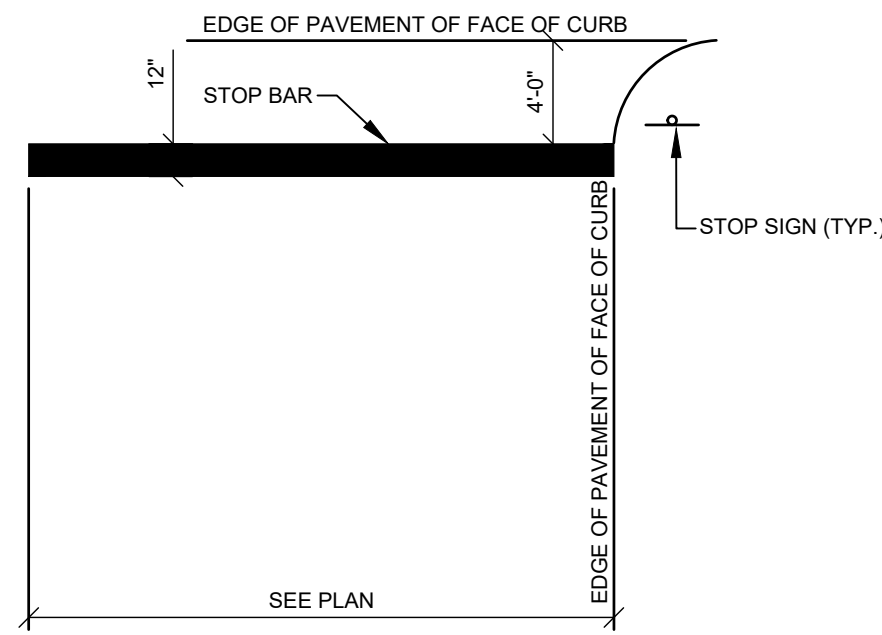
PE 12638

06/28/2023

NOT FOR

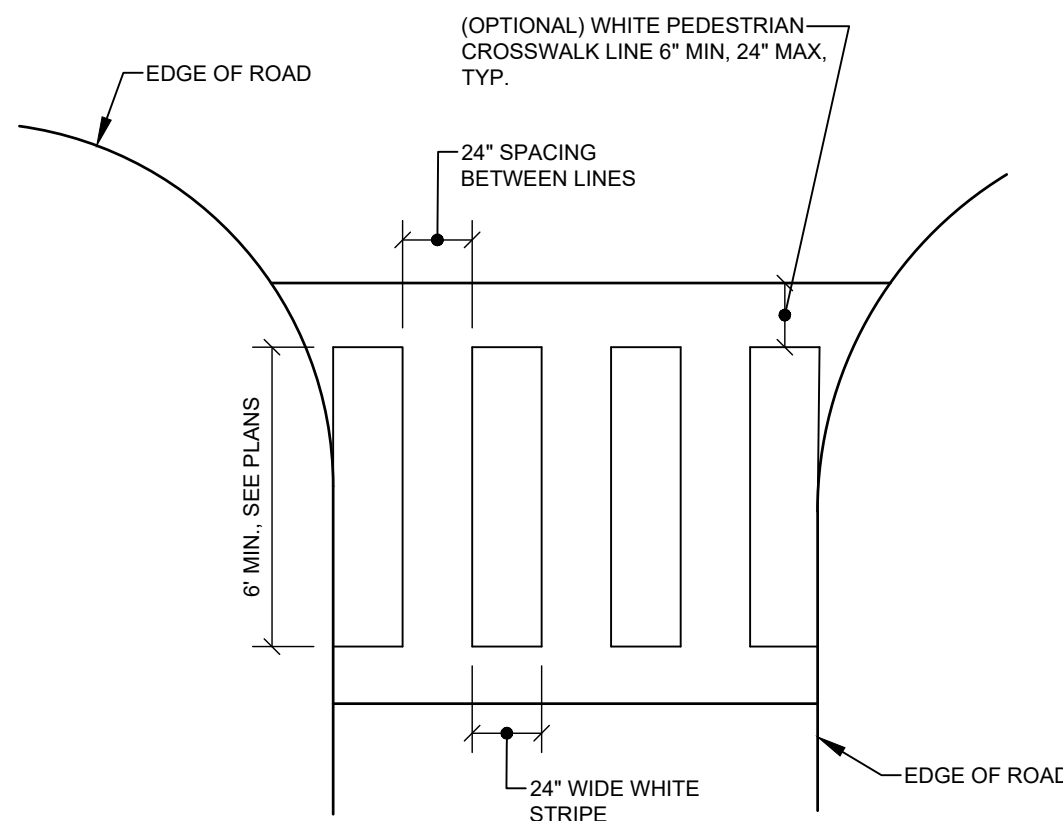
CONSTRUCTION

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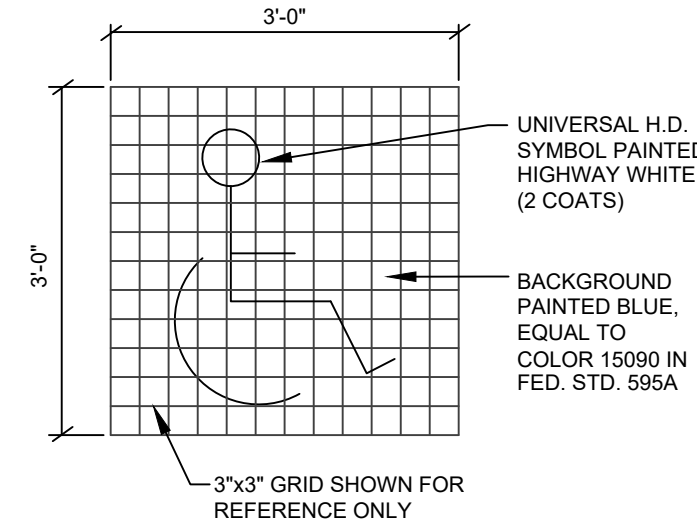


NOTE:
1. WORDS AND ARROWS FOR DRIVEWAYS SHALL BE APPLIED ACCORDING TO REQUIREMENTS AS OUTLINED IN SECTION 3B OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED REFLECTIVE WHITE.

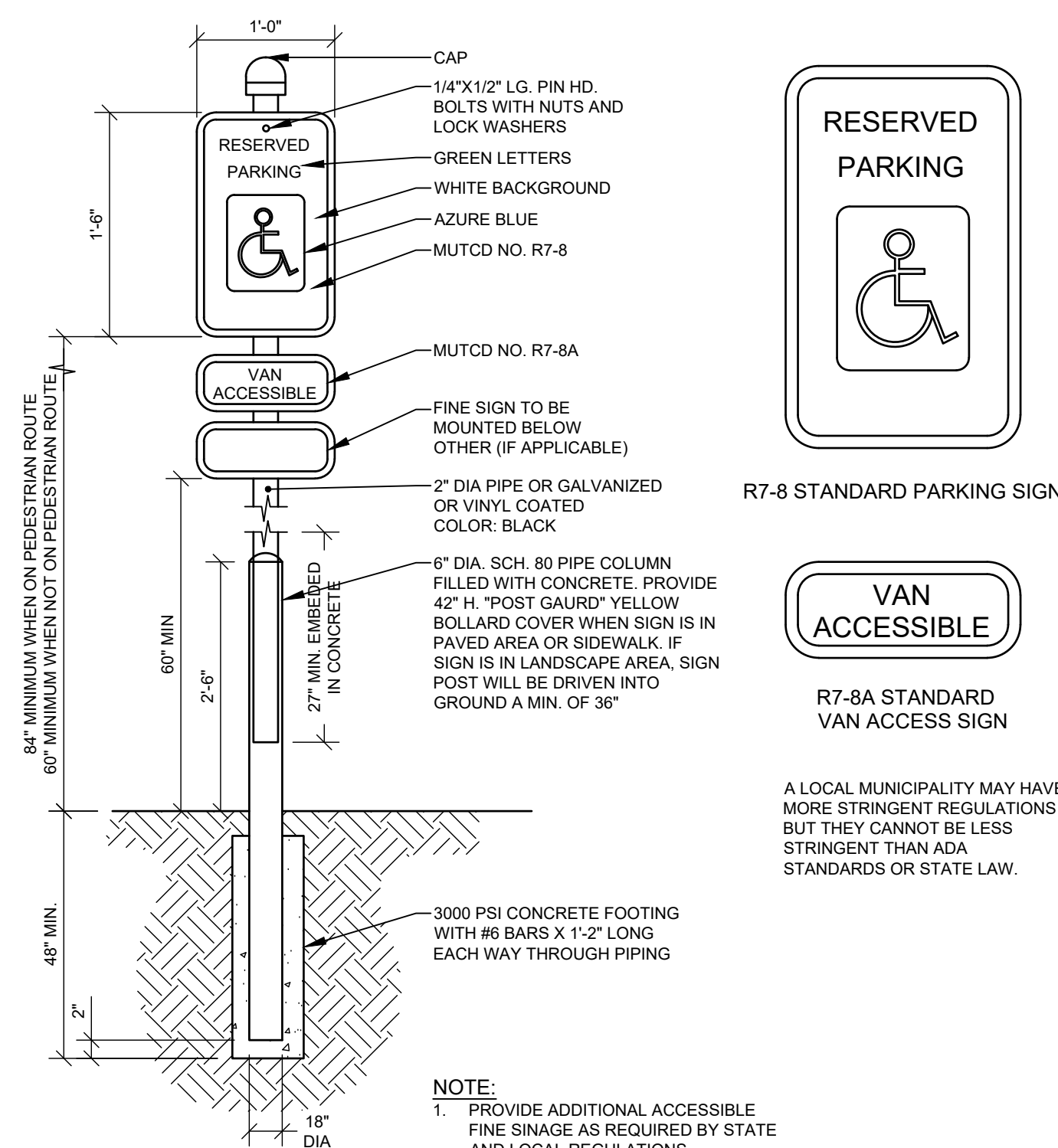
STOP BAR
NOT TO SCALE



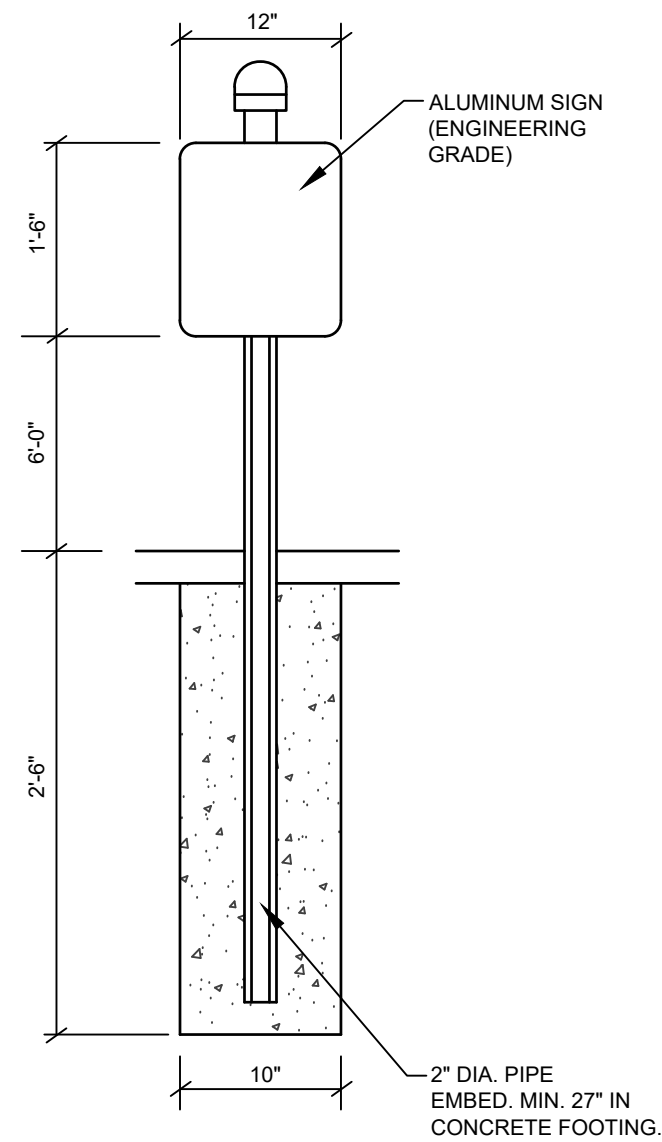
CROSSWALK MARKINGS
NOT TO SCALE



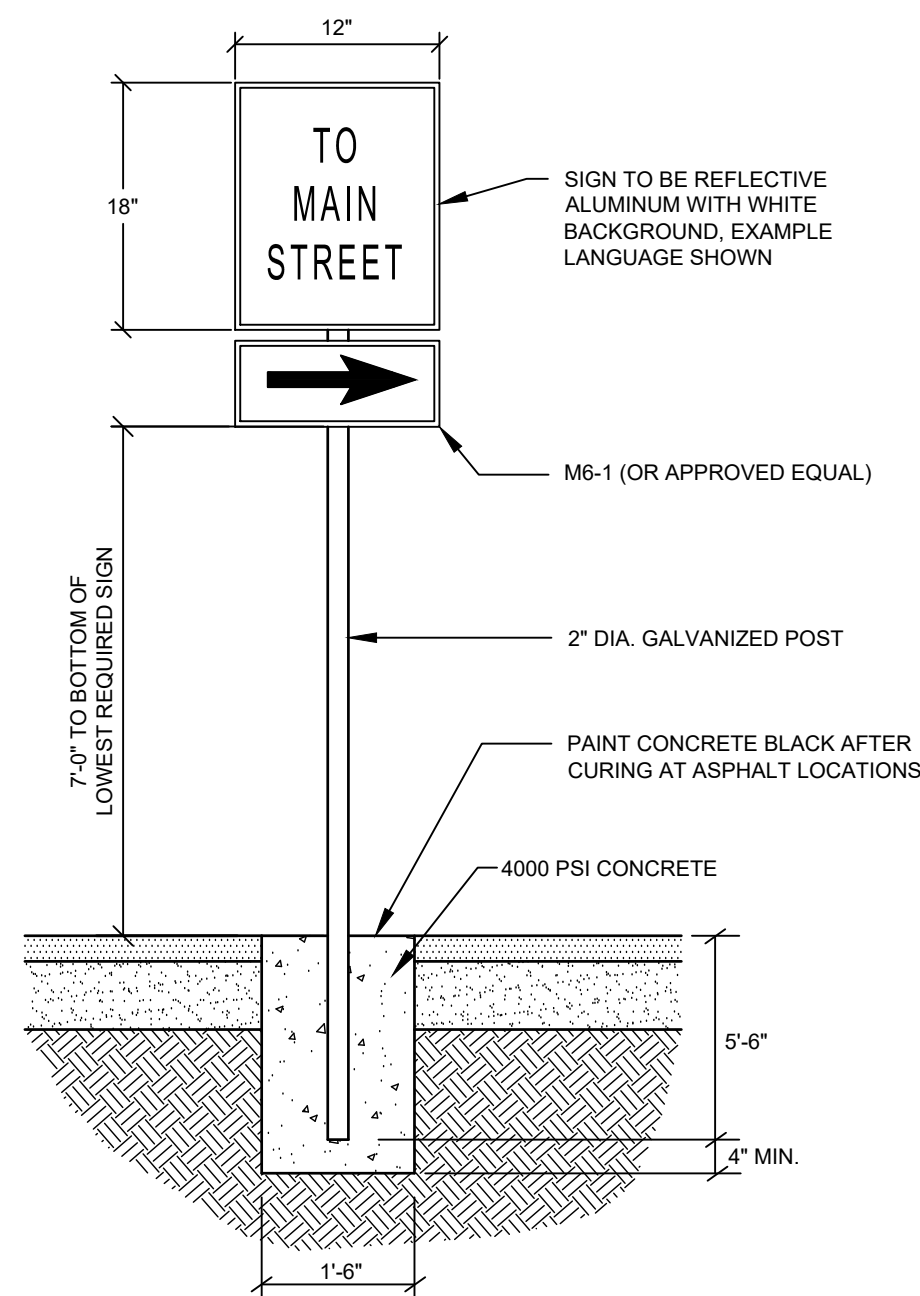
HANDICAP PAINT
NOT TO SCALE



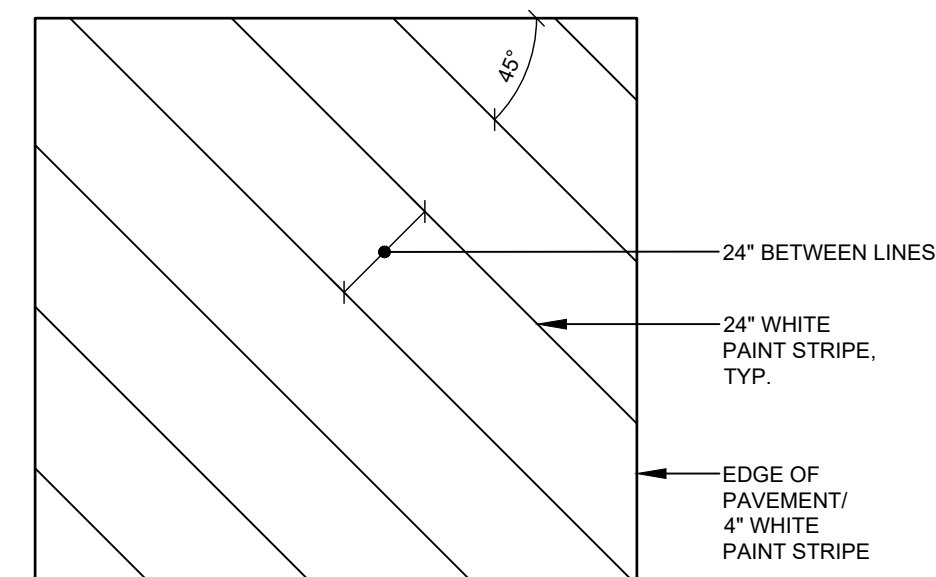
**RESERVED PARKING SIGN
(POLE MOUNTED)**
NOT TO SCALE



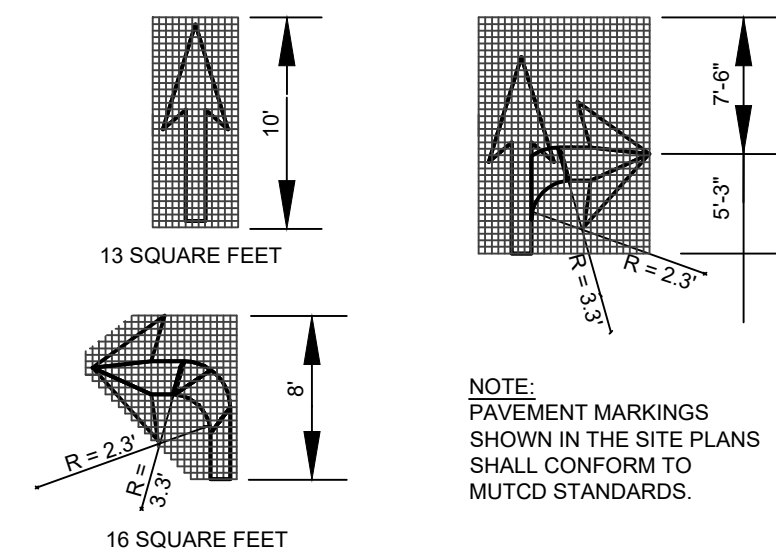
TYPICAL SIGN DETAIL
NOT TO SCALE



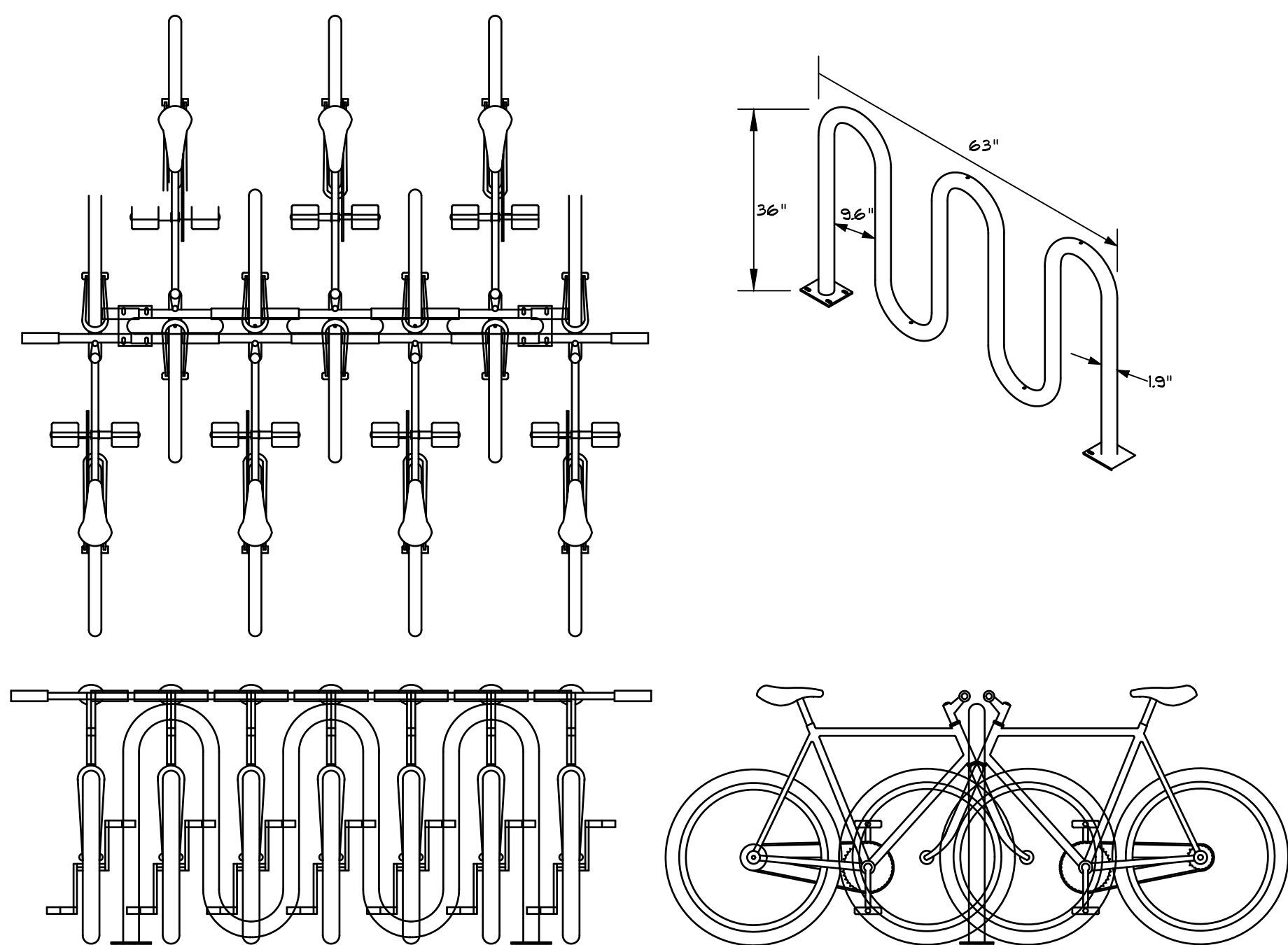
DIRECTIONAL SIGNAGE
NOT TO SCALE



DIAGONAL PAINT MARKINGS
NOT TO SCALE

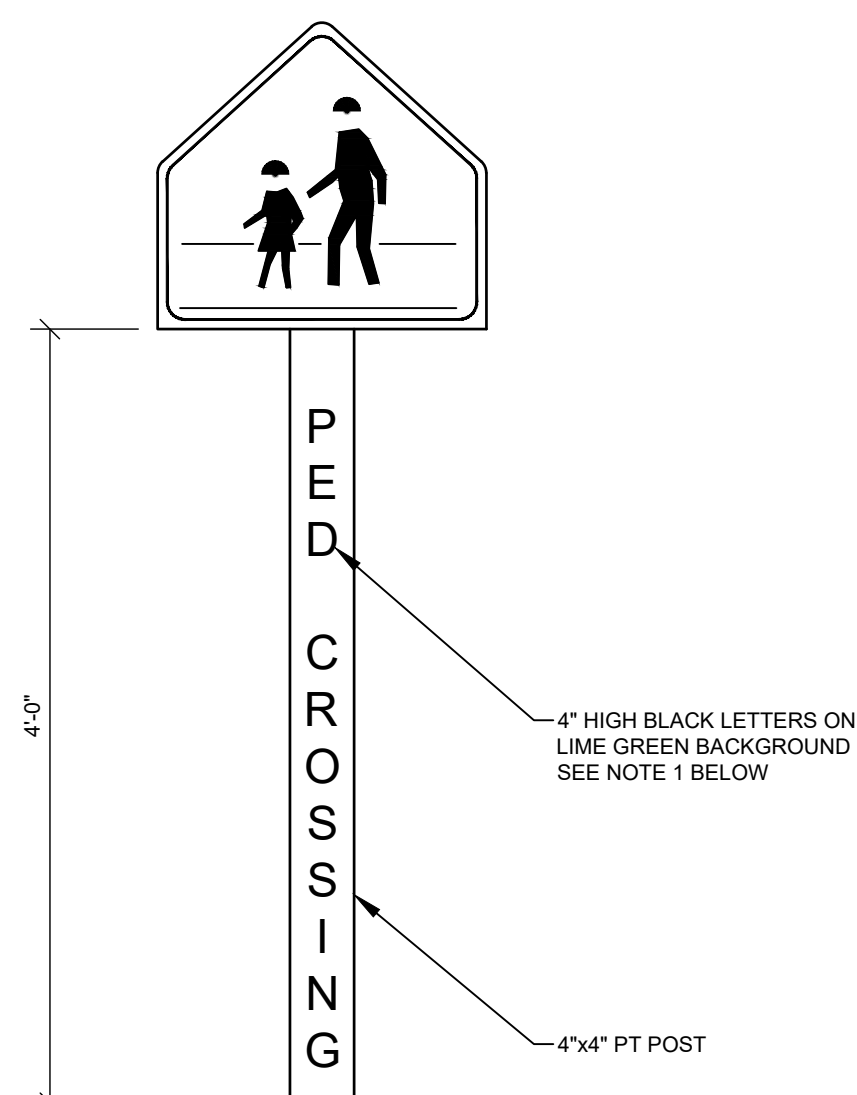


PAVEMENT ARROW DETAILS
NOT TO SCALE



NOTE:
BIKE RACK SHALL EQUAL DERO ROLLING RACK MODEL RR34 - 63\"/>

BIKE RACK DETAIL
NOT TO SCALE



NOTES:
1. COLOR: POST AND SIGN TO BE LIME GREEN
2. INSTALLATION TO BE COORDINATED WITH PUBLIC WORKS DEPARTMENT.
PEDESTRIAN CROSSING SIGN
NOT TO SCALE



NOTE:
EXAMPLE OF CURRENT WAYFINDING SIGN TREATMENT ALONG THE SACO/BIDDEFORD RIVERWALK - PROPOSED WAYFINDING SIGNAGE TO MATCH

RIVERWALK SIGN
NOT TO SCALE

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	NTS
PROJECT	18462

SHEET51 OF 51

DETAILS - 7
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

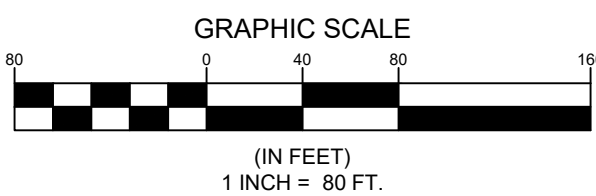
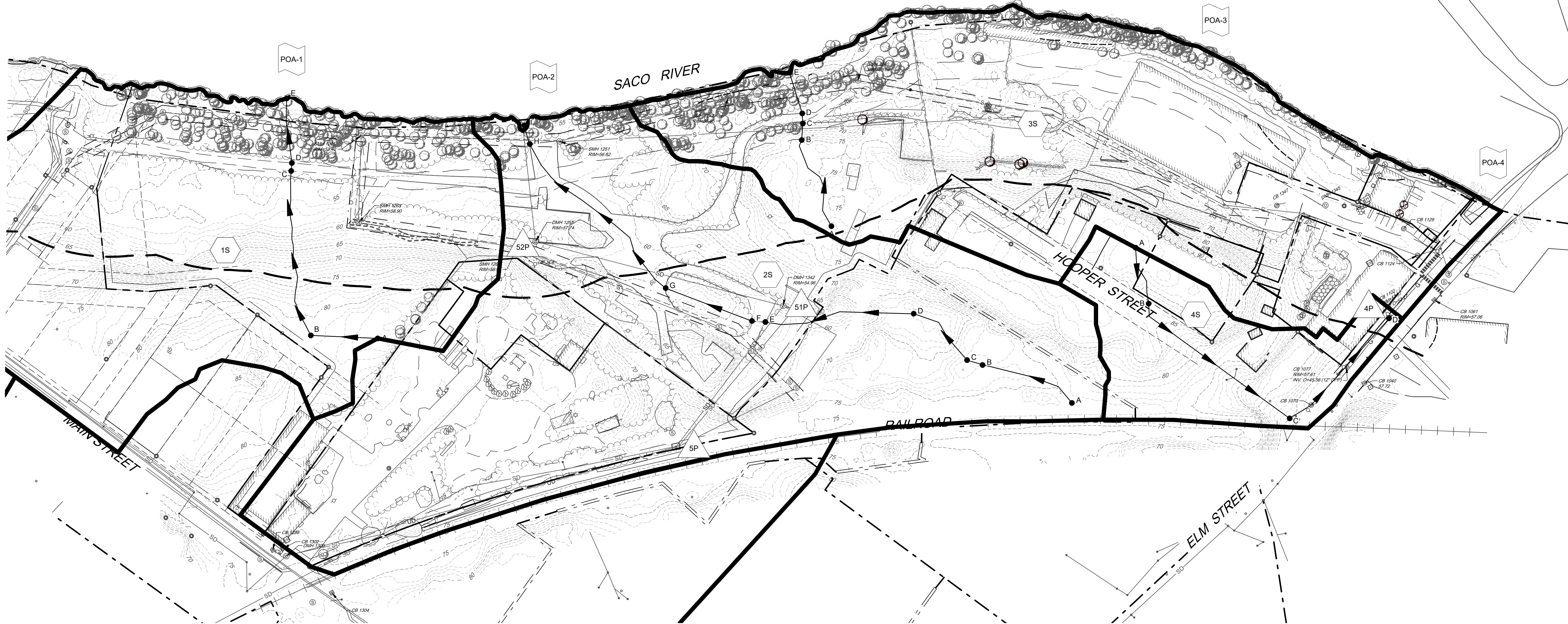
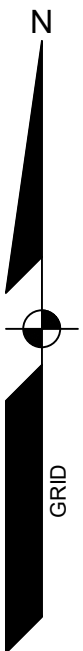
SEBAGO
TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel. 207-269-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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ORAGA A. BURGESS, PE 12638
STATE OF MAINE
CRAIG A. BURGESS
06/28/2023

NOT FOR
CONSTRUCTION



EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- REACH
- SUBCATCHMENT LABEL
- REACH
- POINT OF ANALYSIS
- STORMWATER TREATMENT/DETENTION POND
- SOILS BOUNDARY

- 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.

EXISTING CONDITIONS WATERSHED PLAN

OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 80'
PROJECT	18462

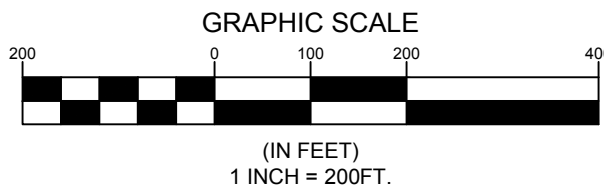
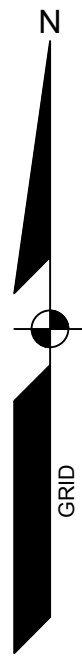
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TECHNICS
WWW.SEBAGOTECHNICS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel: 207-269-2100

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C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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NOT FOR
CONSTRUCTION



EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
A — B TIME OF CONCENTRATION
○ — ○ REACH
1S SUBCATCHMENT LABEL
1R REACH
POA-1 POINT OF ANALYSIS
1P STORMWATER TREATMENT/DETENTION POND
... HSG #
... HSG # SOILS BOUNDARY

NOTES:

1. 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 U (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.
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3. T_c PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 200'
PROJECT	18462

OFF-SITE WATERSHED PLAN
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICALS
WWW.SEAGOTECHNICALS.COM
75 JEFFERSON RD.
SOUTH PORTLAND, ME 04106
TEL: 207-260-2100

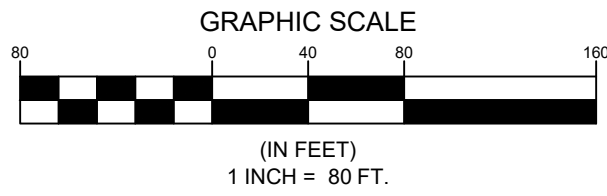
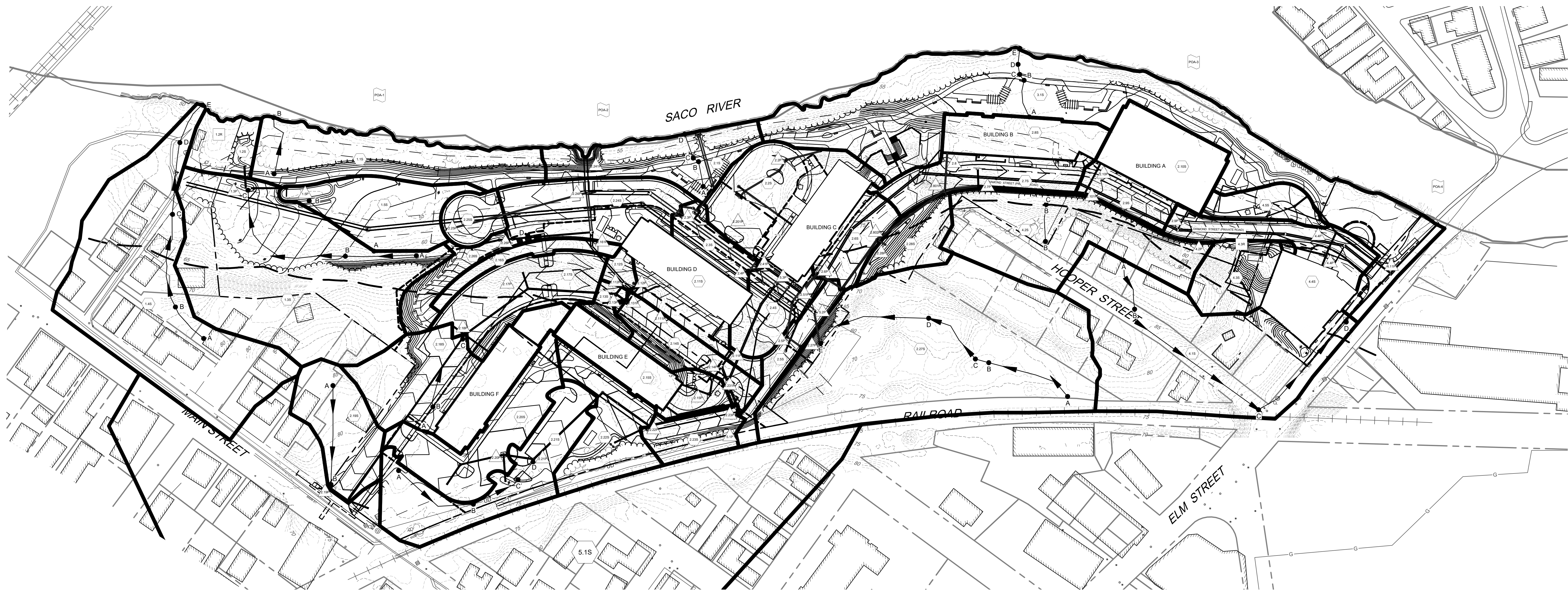
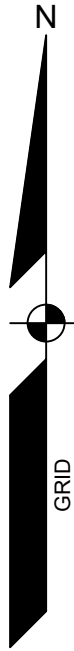
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A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

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APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.



NOT FOR
CONSTRUCTION

F:\Projects\18462\18462\DWG\Design\18462 SWP POST.dwg 6/20/23 4:55 PM J. JANNER, E. GOODINE



PROPOSED CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- REACH
- SUBCATCHMENT LABEL
- REACH
- POINT OF ANALYSIS
- STORMWATER TREATMENT/DETENTION POND
- HSG #
- SOILS BOUNDARY

- NOTES:
- 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). A HYDROLOGIC SOIL GROUP (HSG) WAS NOT SPECIFIED FROM THE WEB SOIL SURVEY. A HSG OF D WAS ASSUMED FOR ONSITE SOIL TYPES TO ACCOUNT FOR A COMPACTED URBAN FILL SCENARIO.
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 - TO PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 80'
PROJECT	18462

SHEET 3 OF 3

PROPOSED CONDITIONS WATERSHED PLAN
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

SEBAGO
TECHNICALS
WWW.SEBAGOTECHNICALS.COM
75 Sullivan Rd.
South Portland, ME 04106
Tel: 207-262-2100

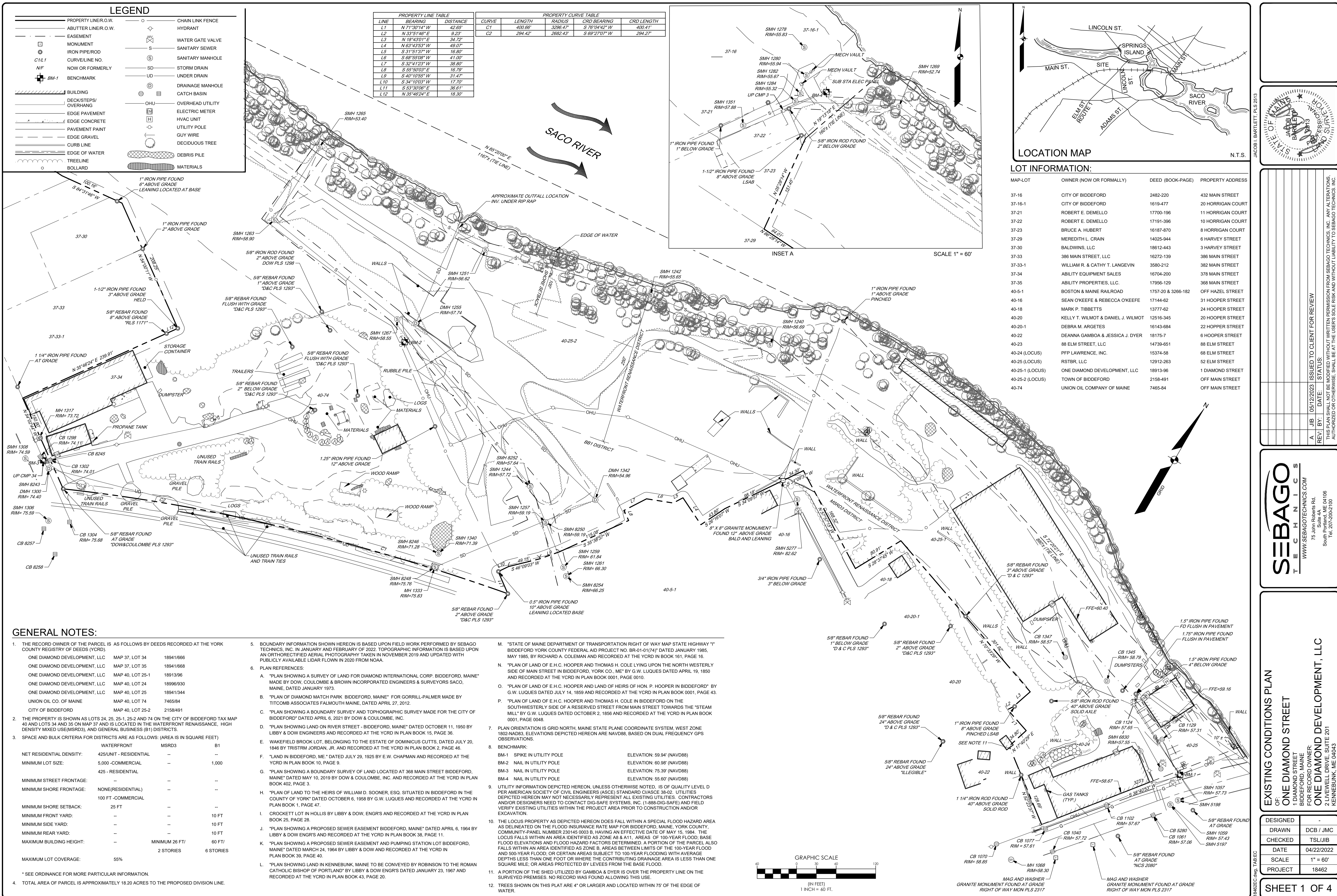
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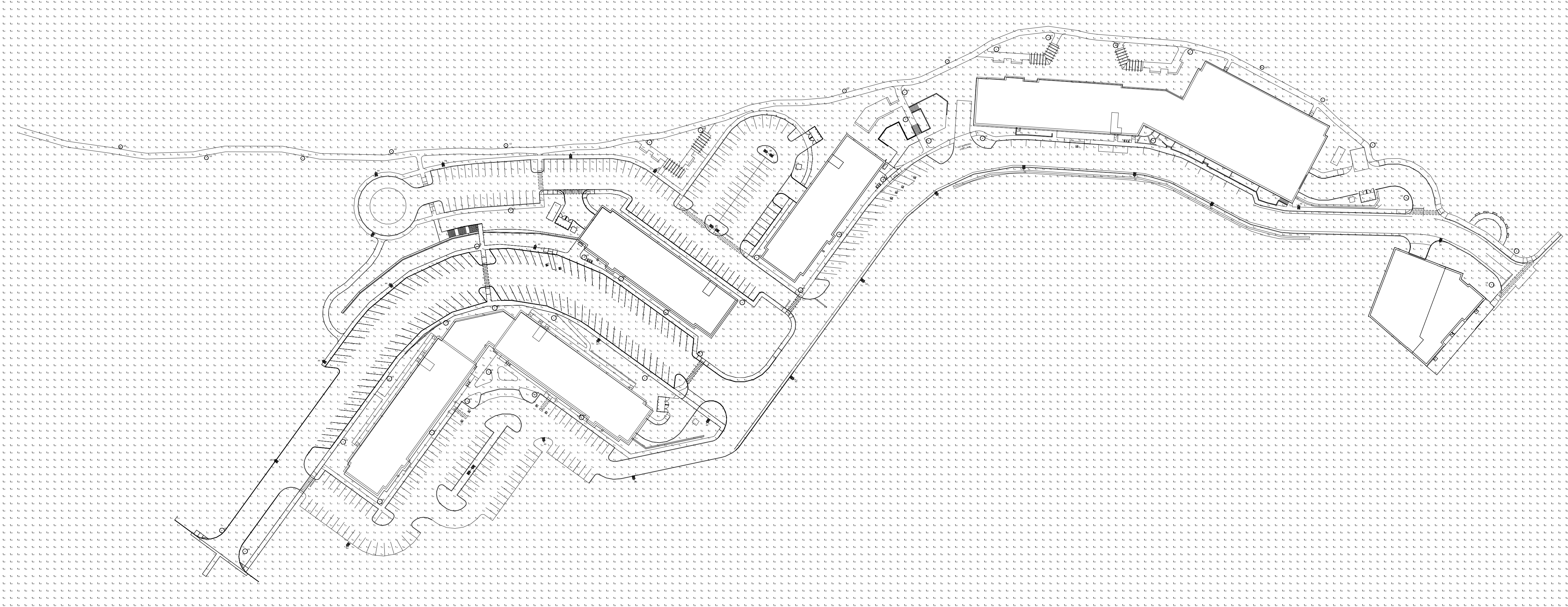
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CRAIG A. BURGESS, PE 12638



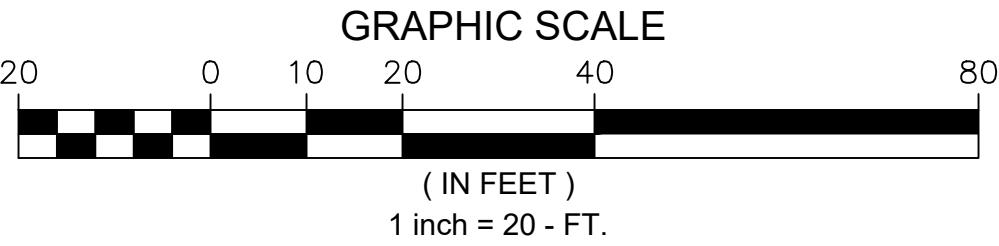
NOT FOR
CONSTRUCTION





Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	6	A3	25' - 0" AFG	0.900	19544	180	VP-2-72L-180-3K7-3
	11	A4	25' - 0" AFG	0.900	19139	180	VP-2-72L-180-3K7-4W
	5	A5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	3	B5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	9	U2	12' - 0" AFG	0.900	8823	80	URB-XXXX-21-36L-80-3K7-2-U
	40	U5	12' - 0" AFG	0.900	11043	110	URB-XXXX-26-48L-110-3K7-T5W-U

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.51	16.0	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.85	5.7	0.2	9.25	28.50
Walking Path	Illuminance	Fc	2.86	11.3	0.0	N.A.	N.A.



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

Current

DN BY:
REV BY:
QUOTE:
N/A

DATE:
05/01/23
DATE:
06/06/23

CHK BY:
N/A
SCALE:
AS NOTED

DRAWING / DESIGN NO.:
A230656R2

565

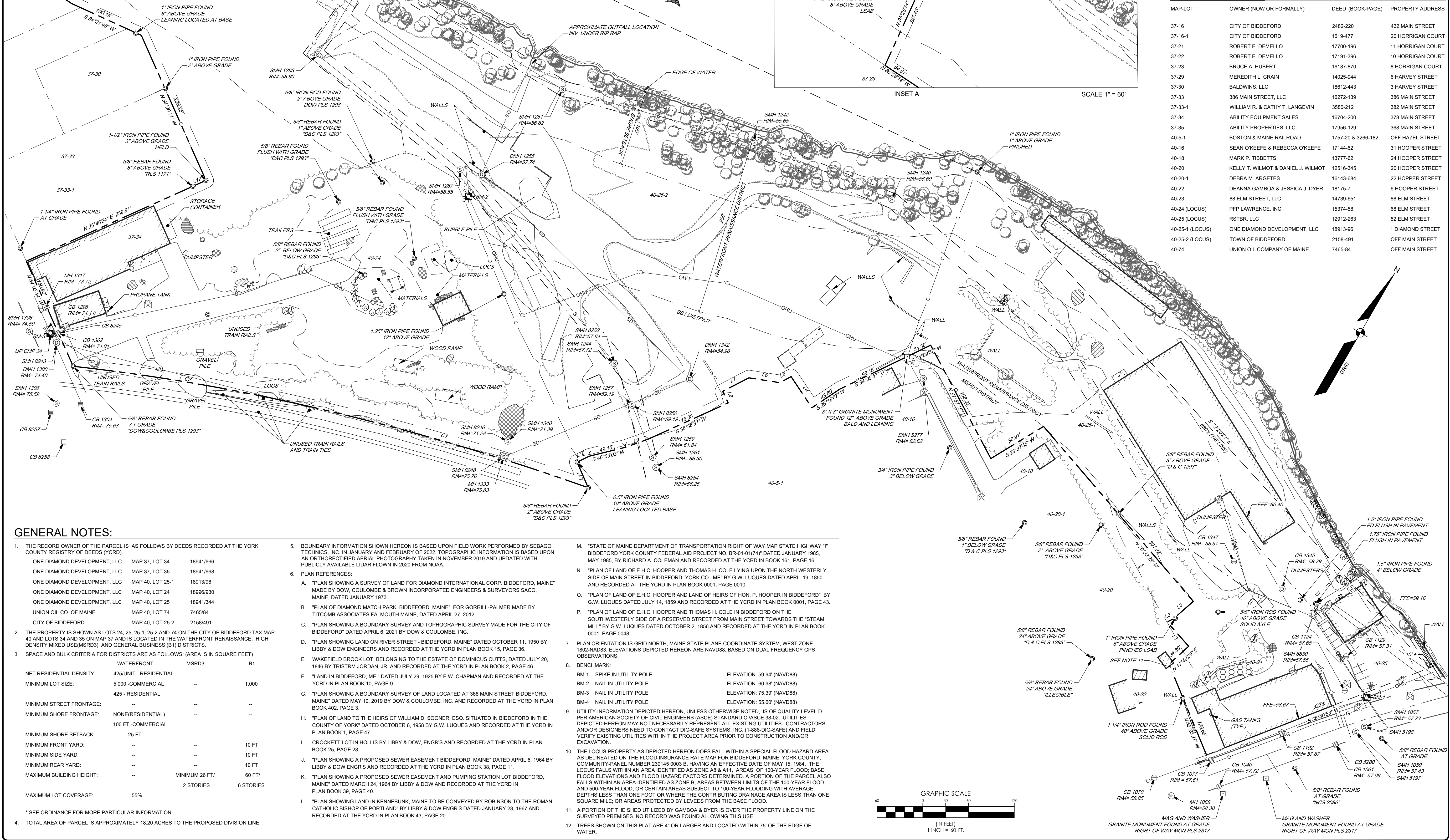
LEGEND

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

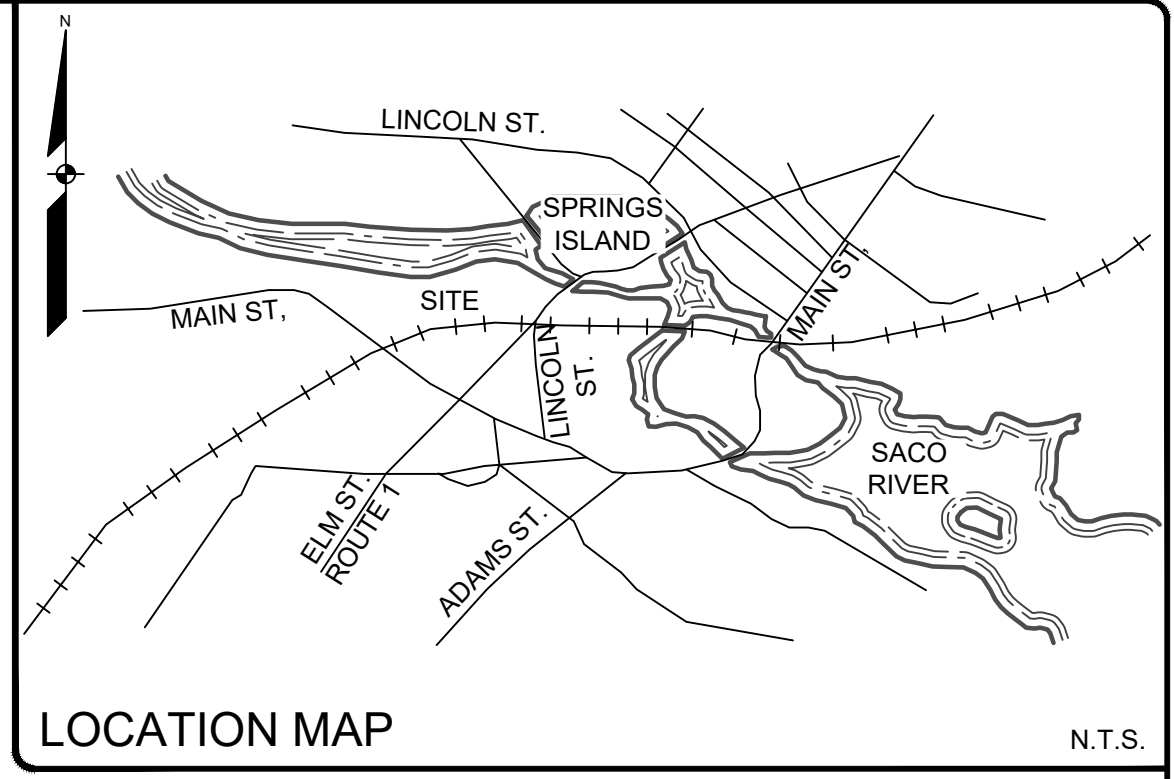
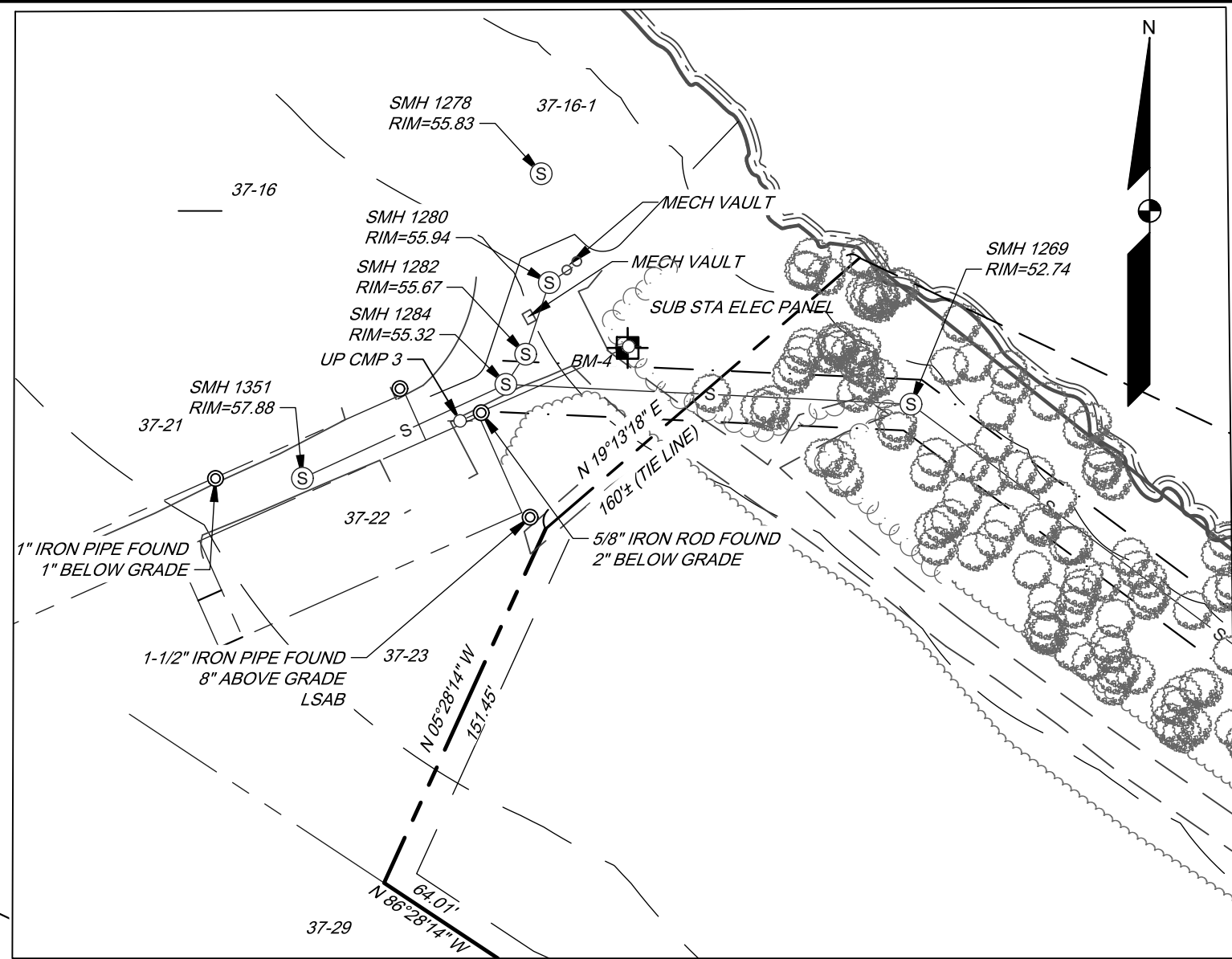
PROPERTY LINE TABLE			PROPERTY CURVE TABLE			
LINE	BEARING	DISTANCE	CURVE	LENGTH	RADIUS	CRD BEARING
L1	N 71°30'14" W	42.85'	C1	400.66'	3296.47'	S 76°04'42" W
L2	N 33°51'46" E	9.23'	C2	294.42'	2692.43'	S 69°27'07" W
L3	N 18°43'01" E	34.72'				
L4	N 63°43'53" W	49.07'				
L5	S 31°51'57" W	16.80'				
L6	S 68°53'08" 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:

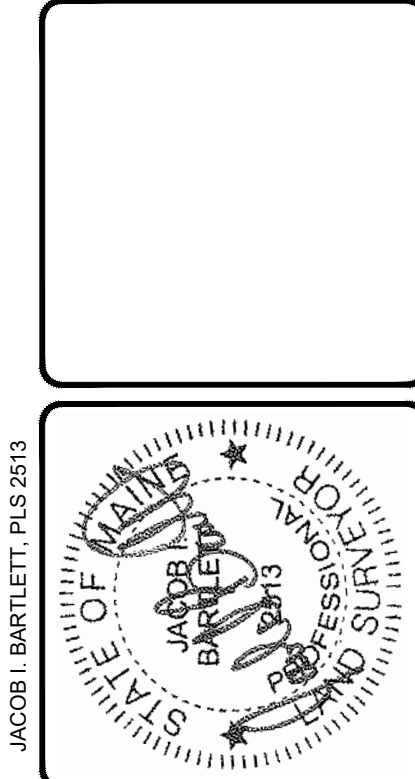
- THE RECORD OWNER OF THE PARCEL IS AS FOLLOWS BY DEEDS RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD):
 - ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 34 18941/666
 - ONE DIAMOND DEVELOPMENT, LLC MAP 37, LOT 35 18941/668
 - ONE DIAMOND DEVELOPMENT, LLC MAP 40, LOT 25-1 18913/96
 - ONE DIAMOND DEVELOPMENT, 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 7465/94
 - 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 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. 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 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 PLAN 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 TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

SEBAGO TECHNICS

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

EXISTING CONDITIONS PLAN

OF:

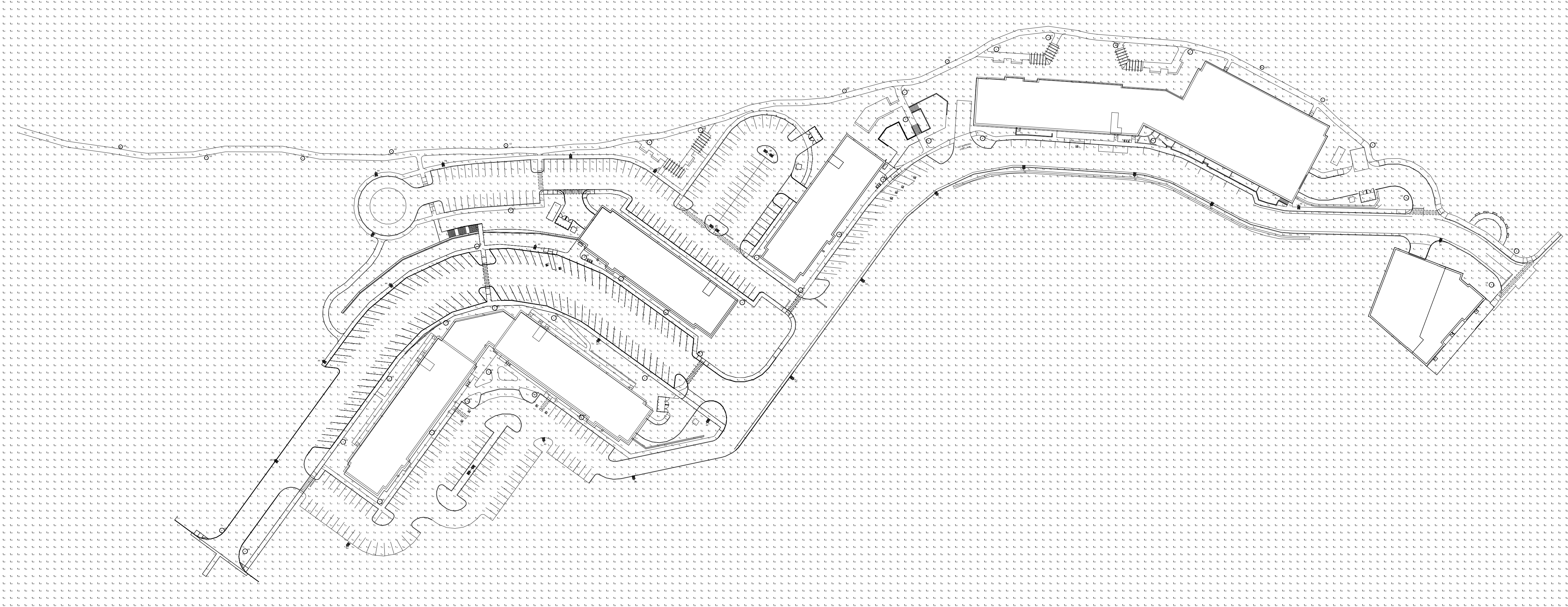
ONE DIAMOND STREET
1 DIAMOND STREET
BIDDEFORD, MAINE

FOR RECORD OWNER:

ONE DIAMOND DEVELOPMENT, LLC
2 LIVEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

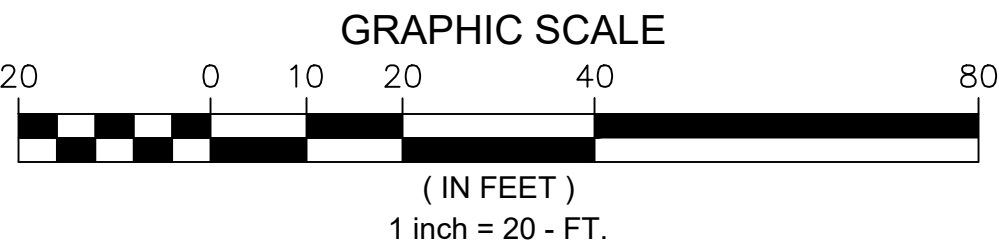
DESIGNED	-
DRAWN	DCB / JMC
CHECKED	TSU/JIB
DATE	04/22/2022
SCALE	1" = 60'
PROJECT	18462

SHEET 1 OF 1



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	6	A3	25' - 0" AFG	0.900	19544	180	VP-2-72L-180-3K7-3
	11	A4	25' - 0" AFG	0.900	19139	180	VP-2-72L-180-3K7-4W
	5	A5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	3	B5	25' - 0" AFG	0.900	18708	180	VP-2-72L-180-3K7-5QW
	9	U2	12' - 0" AFG	0.900	8823	80	URB-XXXX-21-36L-80-3K7-2-U
	40	U5	12' - 0" AFG	0.900	11043	110	URB-XXXX-26-48L-110-3K7-T5W-U

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.51	16.0	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.85	5.7	0.2	9.25	28.50
Walking Path	Illuminance	Fc	2.86	11.3	0.0	N.A.	N.A.



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: 05/04/23R2: 06/06/23

Current

DN BY:
DHK
REV BY:
DHK
QUOTE:
N/A

DATE:
05/01/23
DATE:
06/06/23
DRAWING / DESIGN NO.:
A230656R2

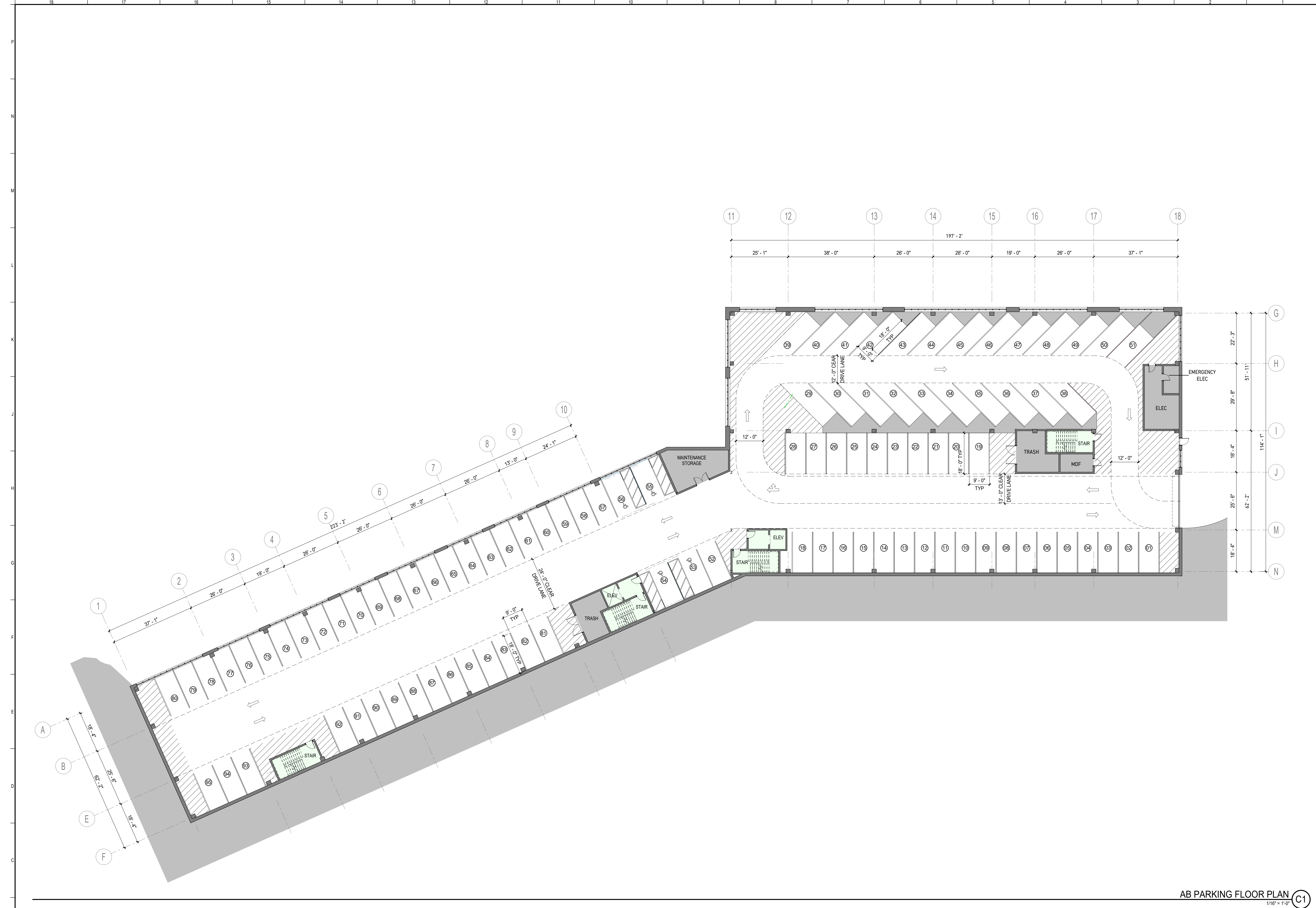
CHK BY:
N/A
SCALE:
AS NOTED

567



REV	DESCRIPTION	DATE
SITE PLAN REVIEW 06-14-23		
CURRENT ISSUE STATUS:		
 SMRT Architects and Engineers 75 Washington Ave., Suite 3A Portland, Maine 04101 1.877.700.7678 www.smrtninc.com Architecture • Engineering • Planning		
ONE DIAMOND - BUILDING A/B		
UNIT MATRIX		
SHEET TITLE:		
SCALE: AS NOTED		
PROJECT MANAGER: AJ		PROJECT NO: 22196
A/E OF RECORD: EMW		
JOB CAPTAIN: CAF		
DRAWN BY: SD/CAF/EMW		
SMRT FILE: AB.GI002-22196		SHEET No. AB.GI002

NOT FOR CONSTRUCTION



AB PARKING FLOOR PLAN C1
1/16" = 1'-0"

COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

TOTAL UNIT COUNT	
# OF BEDROOMS	COUNT
ONE BEDROOM	79
ONE BEDROOM - ADA	2
STUDIO	20
TWO BEDROOM	33
TWO BEDROOM - ADA	1
TOTAL	135

PARKING SCHEDULE	
TYPE	COUNT
ADA PARKING SPOTS	4
REGULAR PARKING SPOTS	91
TOTAL	95

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

PROJECT NORTH:

SMRT SMRT Architects and Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

ONE DIAMOND - BUILDING A/B

AB PARKING FLOOR PLAN

SHEET TITLE:

SCALE: AS NOTED	
PROJECT MANAGER: AJ	PROJECT NO: 22196
A/E OF RECORD: EMW	AB.AE100
JOB CAPTAIN: CAF	
DRAWN BY: SD/CAF/EMW	
SMRT FILE: AB AE100-22196	



COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

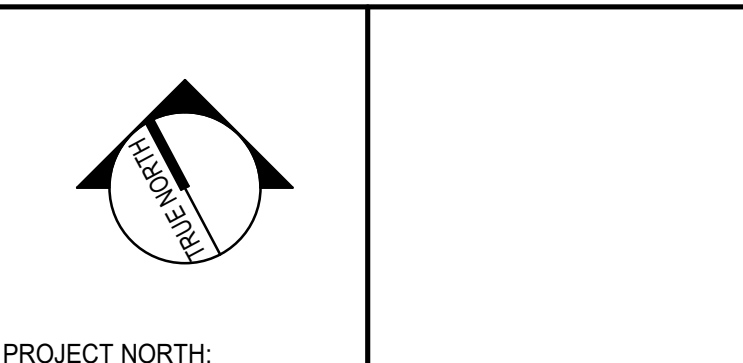
UNIT COUNT - LEVEL 2

# OF BEDROOMS	COUNT
ONE BEDROOM	16
STUDIO	4
TWO BEDROOM	6
TOTAL	26

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



PROJECT NORTH:
SMRT Architects and Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

ONE DIAMOND - BUILDING A/B

AB SECOND FLOOR PLAN

SHEET TITLE:

SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
AVE OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	SD/CAF/EMW		
SMRT FILE:	AB AE102-22196	SHEET No.	AB.AE102

NOT FOR CONSTRUCTION



COLOR LEGEND:

■	UNITS: STUDIO
■	UNITS: ONE BEDROOM
■	UNITS: TWO BEDROOM
■	AMENITY
■	SUPPORT
■	CIRCULATION
■	COMMERCIAL

UNIT COUNT - LEVEL 3	
# OF BEDROOMS	COUNT
ONE BEDROOM	16
STUDIO	4
TWO BEDROOM	6
TOTAL	26

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

PROJECT NORTH:

SMRT Architecture & Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

ONE DIAMOND - BUILDING A/B

AB THIRD FLOOR PLAN

SHEET TITLE:

SCALE: AS NOTED	
PROJECT MANAGER: AJ	PROJECT NO: 22196
A/E OF RECORD: EMW	AB.AE103
JOB CAPTAIN: CAF	
DRAWN BY: SD/CAF/EMW	
SMRT FILE: AB AE103-22196	

SHEET No. 572

AB THIRD FLOOR PLAN
1/16" = 1'-0"



COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

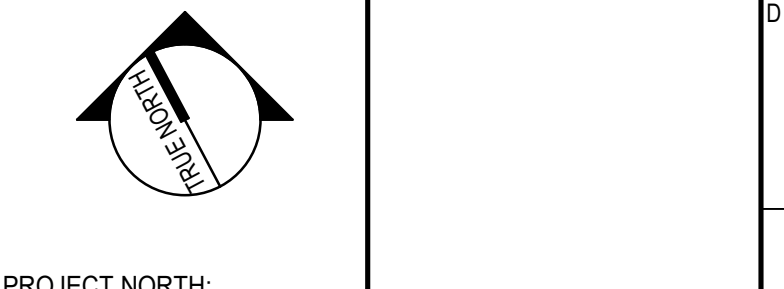
UNIT COUNT - LEVEL 4

# OF BEDROOMS	COUNT
ONE BEDROOM	15
ONE BEDROOM - ADA	1
STUDIO	4
TWO BEDROOM	6
TOTAL	26

REV	DESCRIPTION	DATE
-----	-------------	------

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



PROJECT NORTH:
SMRT Architecture + Engineering + Planning
SMRT Architects and Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

ONE DIAMOND - BUILDING A/B

AB FOURTH FLOOR PLAN

SHEET TITLE:

SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
A/E OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	SD/CAF/EMW		
SMRT FILE:	AB AE104-22196	SHEET No.	AB.AE104

NOT FOR CONSTRUCTION



COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

UNIT COUNT - LEVEL 5

# OF BEDROOMS	COUNT
ONE BEDROOM	13
STUDIO	4
TWO BEDROOM	6
Grand total	23

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

PROJECT NORTH:

SMRT SMRT Architects and Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

ONE DIAMOND - BUILDING A/B

AB FIFTH FLOOR PLAN

SHEET TITLE:

SCALE: AS NOTED	PROJECT NO: 22196
PROJECT MANAGER: AJ	AVE OF RECORD: EMW
JOB CAPTAIN: CAF	DRAWN BY: SD/CAF/EMW
SMRT FILE: AB AE105-22196	SHEET No. 574

NOT FOR CONSTRUCTION



COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

UNIT COUNT - LEVEL 6

# OF BEDROOMS	COUNT
ONE BEDROOM	6
ONE BEDROOM - ADA	1
STUDIO	2
TWO BEDROOM	3
TOTAL	12

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

PROJECT NORTH:

SMRT Architecture + Engineering + Planning

SMRT Architects and Engineers
75 Washington Ave., Suite 3A
Portland, Maine 04101
1.877.700.7678
www.smrtinc.com

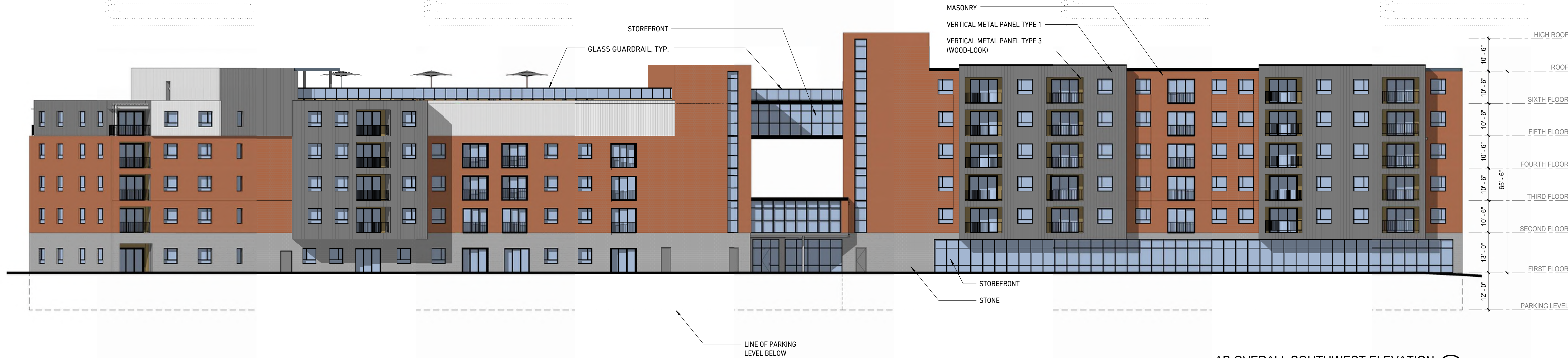
ONE DIAMOND - BUILDING A/B

AB SIXTH FLOOR PLAN

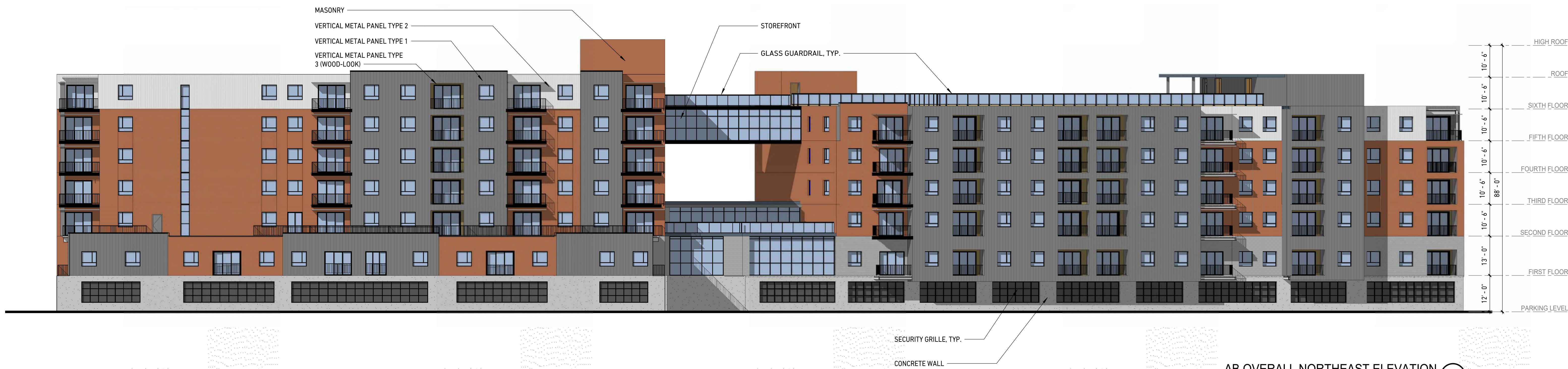
SHEET TITLE:

SCALE: AS NOTED		PROJECT NO: 22196
PROJECT MANAGER:	AJ	EMW
A/E OF RECORD:	EMW	CAF
JOB CAPTAIN:	CAF	SD/CAF/EMW
DRAWN BY:	SD/CAF/EMW	AB.AE106
SMRT FILE:	AB AE106-22196	SHEET No. 575

NOT FOR CONSTRUCTION



AB OVERALL SOUTHWEST ELEVATION 2
1/16" = 1'-0"



AB OVERALL NORTHEAST ELEVATION 1
1/16" = 1'-0"

REV	DESCRIPTION	DATE
SITE PLAN REVIEW 06-14-23		
CURRENT ISSUE STATUS:		
SMRT SMRT Architects and Engineers 75 Washington Ave., Suite 3A Portland, Maine 04101 1.877.700.7678 www.smrtinc.com		
ONE DIAMOND - BUILDING A/B		
EXTERIOR ELEVATIONS		
SHEET TITLE:		
SCALE: AS NOTED		
PROJECT MANAGER:	AJ	PROJECT NO: 22196
A/E OF RECORD:	EMW	
JOB CAPTAIN:	CAF	
DRAWN BY:	SD/CAF/EMW	
SMRT FILE:	AB AE201-22196	SHEET No. 576

AB.AE201

NOT FOR CONSTRUCTION





AB ENLARGED NORTHEAST ELEVATION H2
1/8" = 1'-0"



AB ENLARGED NORTH ELEVATION A2
1/8" = 1'-0"

[illegible]

RECESSED BRICK

STOREFRONT

VERTICAL METAL PANEL TYPE 1

MASONRY

STONE

AB OVERALL EAST ELEVATION

1/8" = 1'-0"

H2

VERTICAL METAL PANEL TYPE 2

VERTICAL METAL PANEL TYPE 1

MASONRY

STONE

AB OVERALL WEST ELEVATION

1/8" = 1'-0"

A2

REV	DESCRIPTION	DATE

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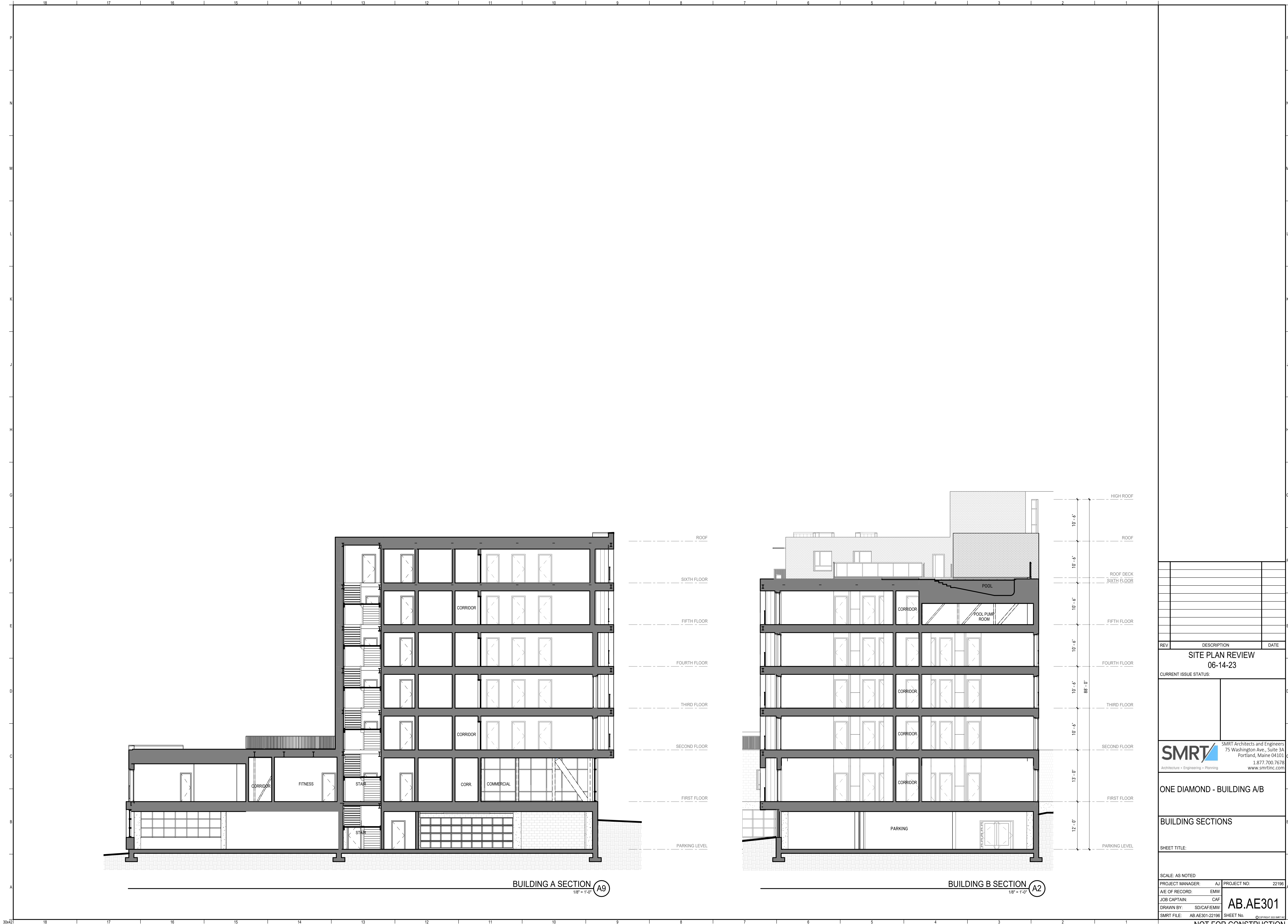
ONE DIAMOND - BUILDING A/B

EXTERIOR ELEVATIONS

SHEET TITLE:

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PROJECT MANAGER: AJ	AVE OF RECORD: EMW
JOB CAPTAIN: CAF	DRAWN BY: SD/CAF/EMW
SMRT FILE: AB AE204-22196	SHEET No. 579

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BUILDING SECTIONS

SHEET TITLE:

SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
A/E OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	SD/CAF/EMW		
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NORTH AERIAL VIEW



NORTHWEST AERIAL VIEW

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RENDERINGS		
SHEET TITLE:		
SCALE: AS NOTED		
PROJECT MANAGER:	AJ	PROJECT NO: 22196
AVE OF RECORD:	EMW	
JOB CAPTAIN:	CAF	
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SOUTHWEST AERIAL VIEW

REV	DESCRIPTION
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06-14-23

CURRENT ISSUE STATUS



ONE DIAMOND - BUILDING A/E

RENDERINGS

SHEET TITLE

SCALE: AS NOTED		
PROJECT MANAGER:	AJ	PROJECT NO:
A/E OF RECORD:	EMW	
JOB CAPTAIN:	CAF	
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		SHEET No.

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CONCEPTUAL RENDERING - BUILDING AB (G3)
12" = 1'-0"



CONCEPTUAL RENDERING - BUILDING AB & C (B10)
12" = 1'-0"



CONCEPTUAL RENDERING - BUILDING AB (B1)
12" = 1'-0"

REV	DESCRIPTION	DATE
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ONE DIAMOND - BUILDING A/B

RENDERINGS

SHEET TITLE:

SCALE: AS NOTED		PROJECT NO: 22196	
PROJECT MANAGER:	AJ		
A/E OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	SD/CAF/EMW		
SMRT FILE:	AB AE702-22196	SHEET No.	AB.AE702



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A/E OF RECORD:	EMW	AB.AE703	A
JOB CAPTAIN:	CAF		
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C OVERALL SOUTHEAST ELEVATION $\frac{1}{8}" = 1'-0"$ (H2)



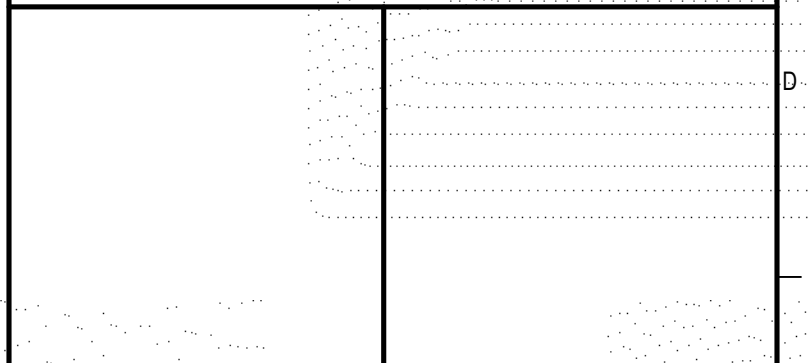
C OVERALL NORTHEAST ELEVATION A2
1/8" = 1'-0"

[illegible]

REV	DESCRIPTION	DATE
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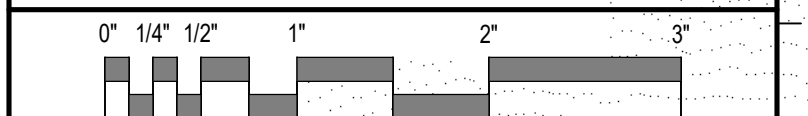
CURRENT ISSUE STATUS:



ONE DIAMOND - BUILDING C

EXTERIOR ELEVATIONS

SHEET TITLE:



SCALE: AS NOTED

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A/E OF RECORD:	EMW	C.AE201	A
JOB CAPTAIN:	CAF		
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C OVERALL NORTHWEST ELEVATION $\frac{1}{8"} = 1'-0"$ H2



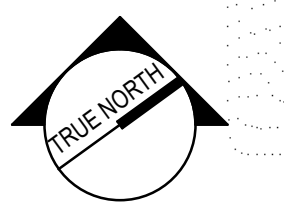
C OVERALL SOUTHWEST ELEVATION A2
1/8" = 1'-0"

[illegible]

REV	DESCRIPTION	DATE
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SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



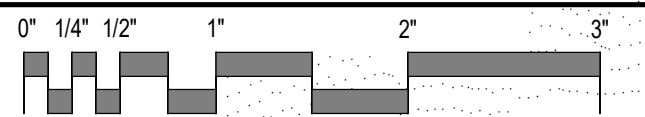
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ONE DIAMOND - BUILDING C

EXTERIOR ELEVATIONS

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
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A/E OF RECORD:	EMW	
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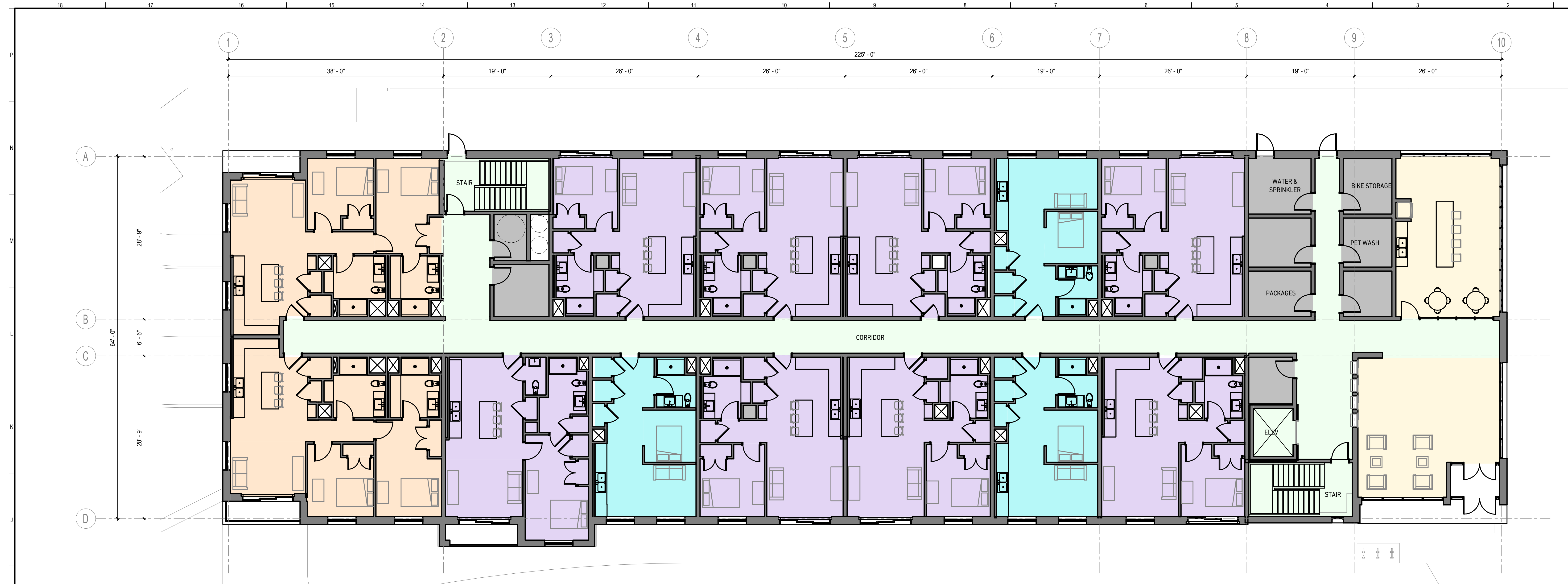
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DRAWN BY: SD C.ALZUZ

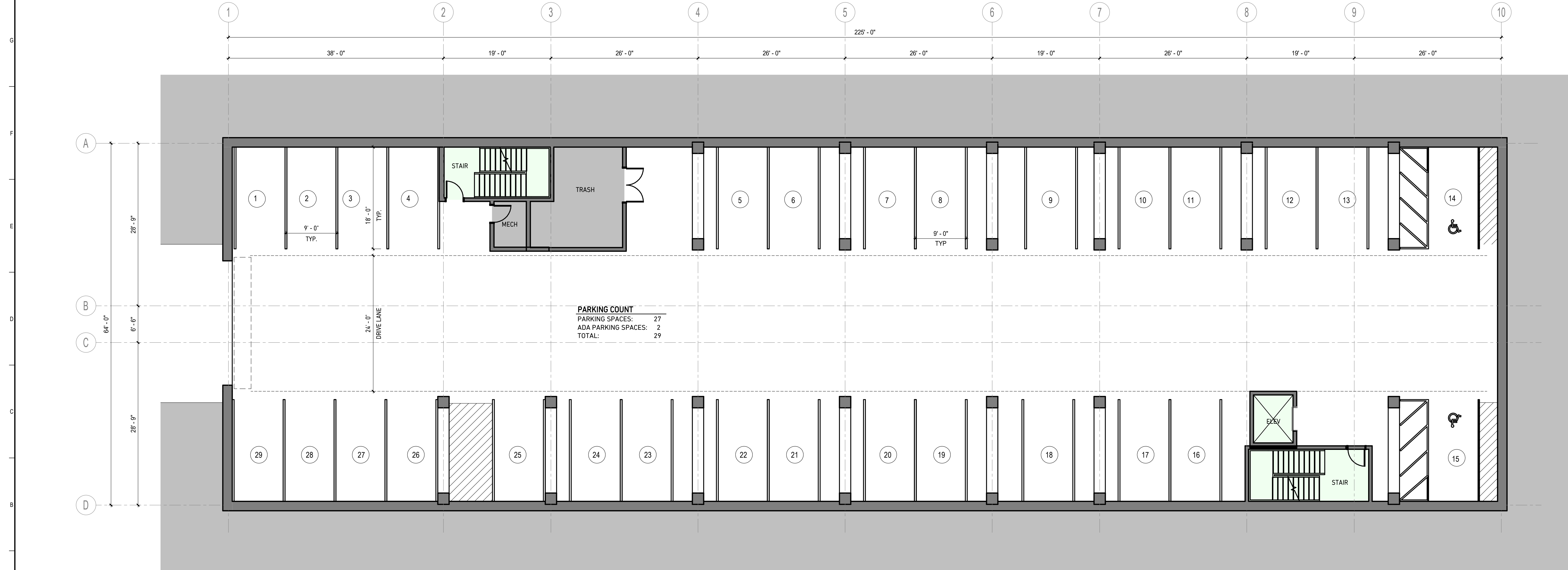
SMRT FILE: C.AE202-22196 SHEET No. 10 COPYRIGHT 2020 SMRT INC.

C.AE202

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D FIRST FLOOR PLAN (H1)
1/8" = 1'-0"



D PARKING FLOOR PLAN (A1)
1/8" = 1'-0"

COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

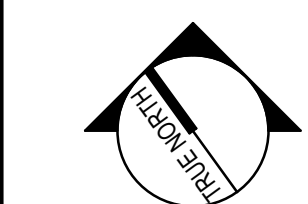
TOTAL UNIT COUNT

# OF BEDROOMS	COUNT
ONE BEDROOM	48
STUDIO	19
TWO BEDROOM	10
TOTAL	77

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



PROJECT NORTH:

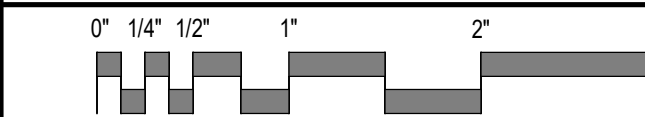


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ATLANTIC HOLDINGS
ONE DIAMOND - BUILDING D

D PARKING AND FIRST FLOOR
PLAN

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
AVE OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	CAF		
SMRT FILE:	D.AE100-22196	SHEET No.	D.AE100

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D OVERALL SOUTHWEST ELEVATION (H2)
1/8" = 1'-0"



D OVERALL SOUTHEAST ELEVATION (A2)
1/8" = 1'-0"

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

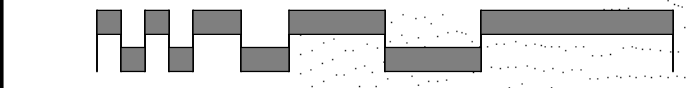


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ATLANTIC HOLDINGS
ONE DIAMOND - BUILDING D

EXTERIOR ELEVATIONS

SHEET TITLE:


0' 1/4" 1/2" 1' 2' 3'

SCALE: AS NOTED

PROJECT MANAGER: AJ PROJECT NO: 22196

AVE OF RECORD: EMW

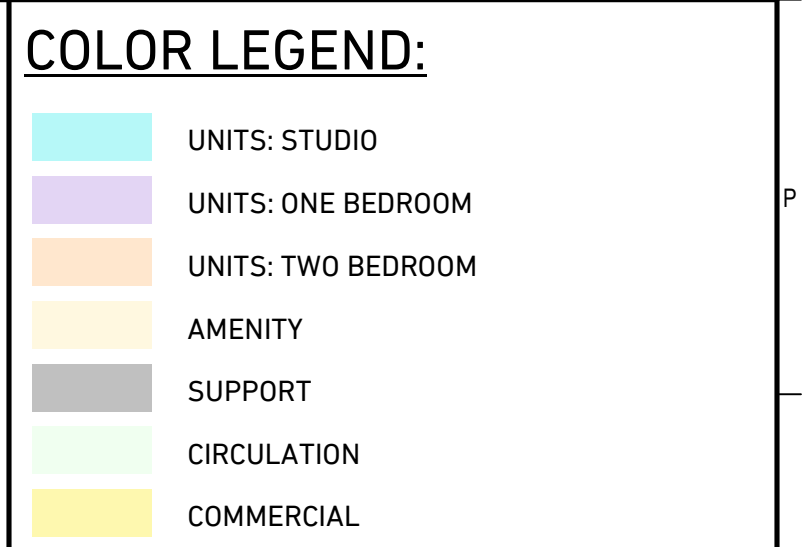
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DRAWN BY: SD

SMRT FILE: D.AE201-22196 SHEET No. 589

D.AE201

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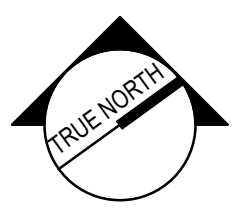
TOTAL UNIT COUNT	
# OF BEDROOMS	COUNT
ONE BEDROOM	96
STUDIO	38
TWO BEDROOM	20
TOTAL	154

				F
				E

REV	DESCRIPTION	DATE
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SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



PROJECT NORTH:	
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ONE DIAMOND - BUILDING E/F

EF PARKING FLOOR PLAN	B
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SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
A/E OF RECORD:	EMW	EF.AE100	A
JOB CAPTAIN:	CAF		
DRAWN BY:	SD		
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COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

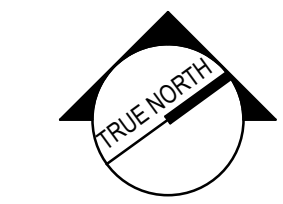
TOTAL UNIT COUNT

# OF BEDROOMS	COUNT
ONE BEDROOM	96
STUDIO	38
TWO BEDROOM	20
TOTAL	154

REV	DESCRIPTION	DATE
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SITE PLAN REVIEW
06-14-23

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ONE DIAMOND - BUILDING E/F

EF FIRST FLOOR PLAN

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
AVE OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
DRAWN BY:	SD		
SMRT FILE:	EF AE101-22196	SHEET No.	EF.AE101

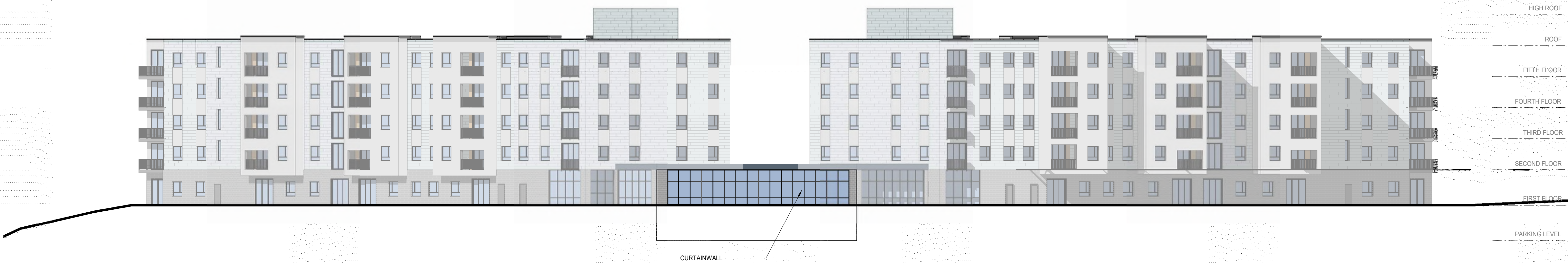
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EF OVERALL NORTHWEST ELEVATION (J3)
1/16" = 1'-0"



EF OVERALL NORTHEAST ELEVATION (E7)
1/16" = 1'-0"



EF OVERALL NORTH ELEVATION (A3)
1/16" = 1'-0"

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

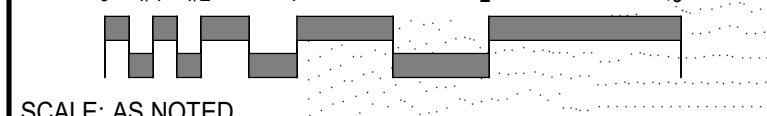
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ONE DIAMOND - BUILDING E/F

EXTERIOR ELEVATIONS

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER: AJ PROJECT NO: 22196

AVE OF RECORD: EMW

JOB CAPTAIN: CAF

DRAWN BY: SD

SMRT FILE: EF AE201-22196 SHEET No. 593

EF.AE201

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EF OVERALL SOUTHEAST ELEVATION (H4)
1/16" = 1'-0"



EF OVERALL SOUTHWEST ELEVATION (B4)
1/16" = 1'-0"

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

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ONE DIAMOND - BUILDING E/F

EXTERIOR ELEVATIONS

SHEET TITLE:
SCALE: AS NOTED
0' 1/4" 1/2" 1' 2' 3'

PROJECT MANAGER: AJ PROJECT NO: 22196
AVE OF RECORD: EMW
JOB CAPTAIN: CAF
DRAWN BY: SD
SMRT FILE: EF AE202-22196 SHEET No. 594

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COLOR LEGEND:

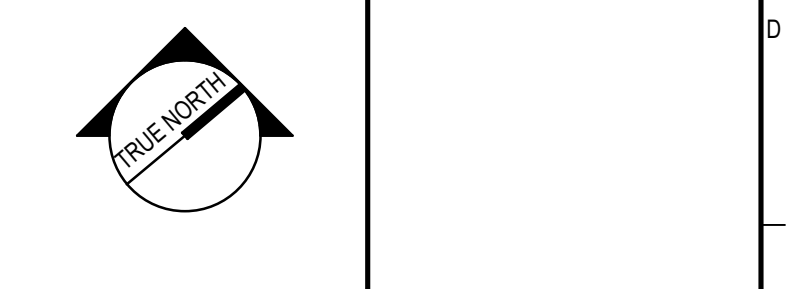
- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

TOTAL UNIT COUNT	
# OF BEDROOMS	COUNT
ONE BEDROOM	20
TWO BEDROOM	16
TOTAL	36

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

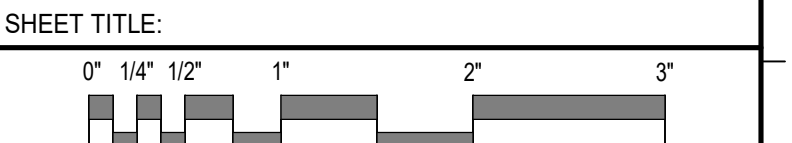
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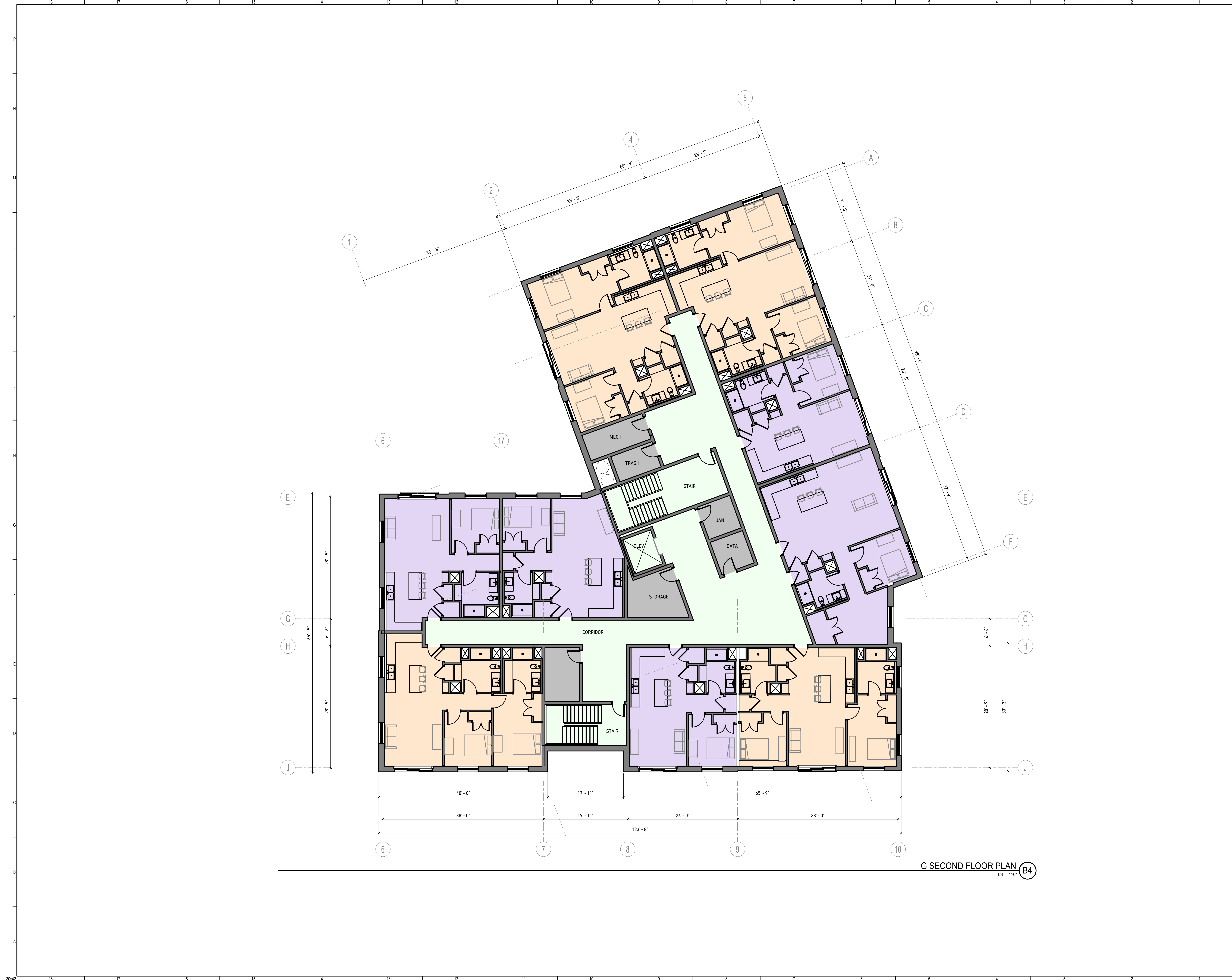
ATLANTIC HOLDINGS
ONE DIAMOND - BUILDING G

G FIRST FLOOR PLAN



SCALE: AS NOTED	PROJECT NO: 22196
PROJECT MANAGER: AJ	PROJECT NO: 22196
A/E OF RECORD: EMW	JOB CAPTAIN: CAF
DRAWN BY: SD/CAF/EMW	SMRT FILE: G AE100-22196
SHEET No. 1	G.AE100

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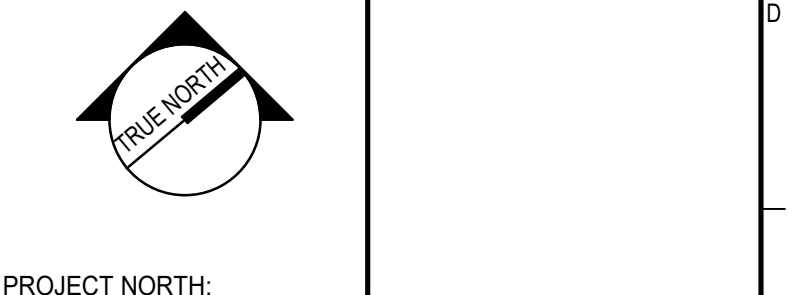
COLOR LEGEND:

- UNITS: STUDIO
- UNITS: ONE BEDROOM
- UNITS: TWO BEDROOM
- AMENITY
- SUPPORT
- CIRCULATION
- COMMERCIAL

REV	DESCRIPTION	DATE

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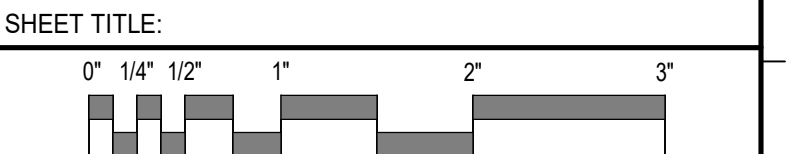
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ONE DIAMOND - BUILDING G

G SECOND FLOOR PLAN



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
A/E OF RECORD:	EMW		
JOB CAPTAIN:	CAF		
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OVERALL SOUTHEAST ELEVATION $\frac{1}{8"} = 1'-0"$ J3

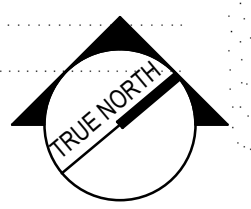


OVERALL NORTHEAST ELEVATION $\frac{1}{8}" = 1'-0"$ B3

[illegible]

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:



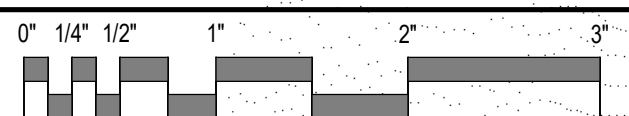
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ONE DIAMOND - BUILDING G

EXTERIOR ELEVATIONS

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER:	AJ	PROJECT NO:	22196
A/E OF RECORD:	EMW	G.AE201	SHEET No.  ©COPYRIGHT 2005 SMART INC.
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OVERALL SOUTHWEST ELEVATION (J3)
1/8" = 1'-0"



OVERALL NORTHWEST ELEVATION (B3)
1/8" = 1'-0"

REV	DESCRIPTION	DATE

SITE PLAN REVIEW
06-14-23

CURRENT ISSUE STATUS:

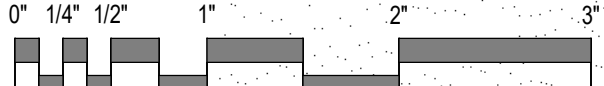


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ONE DIAMOND - BUILDING G

EXTERIOR ELEVATIONS

SHEET TITLE:



SCALE: AS NOTED

PROJECT MANAGER: AJ PROJECT NO: 22196

A/E OF RECORD: EMW

JOB CAPTAIN: CAF

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SMRT FILE: GAE202-22196 SHEET No. 598

G.AE202

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One Diamond Preliminary Submittal

Dated Drawings: 06/14/23

Public Works Review Comments

08/01/2023

1. General
 - a. No existing conditions plan submitted, as indicated by cover sheet and submitted checklist
 - b. No demolition plans submitted, as indicated by cover sheet and submitted checklist
 - c. No drainage plans submitted, as indicated by cover sheet and submitted checklist
 - d. No utility plans submitted, as indicated by cover sheet and submitted checklist
 - e. No detail sheets submitted, as indicated by cover sheet and submitted checklist
2. Sheet 1 – Cover Sheet
 - a. Estimated fill within flood zone is 12,000-CY; does this require any special permitting?
 - b. Only 27 sheets submitted; cover sheet lists 51+
3. Sheet 9 – Site Plan
 - a. Will private parking be enforced or will public be able to utilize surface parking spaces (i.e. Riverwalk)?
 - b. Southern ADA ramp at Elm Street; geometry looks odd, confirm minimum widths/slopes are met and if back curbing is needed
 - c. Can a screened solid hatch be added to retaining walls? (TYP)
 - d. Call out site materials (type of paving, type of sidewalks, Riverwalk, type of retaining walls, type of guardrails) (TYP)
 - e. Assumed sidewalks are asphalt; David G/Jeff D to confirm acceptable
4. Sheet 10 – Site Plan
 - a. Snow storage areas designated seem small; confirm adequate square footage is provided (TYP)
 - b. Additional ADA ramp dimensions recommended (TYP)
 - c. 5 ADA signs called out for 3 ADA parking spaces
5. Sheet 13 – Site Plan (Phase 2)
 - a. For Building C's vehicular curb cut, should sidewalks have tipdowns/ramps?
 - b. Is there a retaining wall west of Building D? If so, call out accordingly
 - c. Shouldn't there be a stop bar/stop sign near STA 201+00?
6. Sheet 14 – Site Plan (Phase 3)
 - a. Stop bars/stop signs recommended for Building F's interior row of parking
 - b. Why does slipform curb terminate along eastern perimeter?
7. Sheet 17 – Grading Plan
 - a. Limits of disturbance linework and acreage not delineated (per checklist)
 - b. Spot elevations don't match ADA ramp geometry
 - c. Missing ADA ramp spot elevations for southern Elm Street ramp
 - d. Per the SWM report, post-drainage flows to the existing Elm Street storm drain are being doubled (5-cfs vs 9.3-cfs)
8. Sheet 18 – Grading Plan
 - a. Tough to understand drainage routing without having drainage/utility plans
9. Sheet 19 – Grading Plan
 - a. Unclear how CB-126 works
10. Sheet 21-23 – Grading Plans (Phase 2)
 - a. Minimal spot elevations provided



August 10, 2023
18462

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

Response to Comments, One Diamond Street Project
Public Works Comments received August 1, 2023
One Diamond Development, LLC.

Dear David:

We are writing in response to review comments from the public works department received on August 3, 2023, related to the preliminary plan application documents submitted on June 14, 2023. We understand based on our review meeting with staff in your office on August 3, 2023 that these comments will be addressed in our final plan submittal.

The text of the comments are presented below in italics for reference, followed by our response.

One Diamond Preliminary Submittal
Dated Drawings: 06/14/23
Public Works Review Comments
08/03/2023

1. *General*

- a. *No Existing Conditions Plan provided (only an existing conditions stormwater plan partially covering the site)*

An existing conditions survey plan titled "Existing Conditions Plan of One Diamond Street by Sebago Technics Dated 05/12/2023" is included in the hard copy plans submitted on June 14, 2023 and submitted electronically as a .pdf document via a download link on June 14, 2023. The link was resent after a request from the Planning Department on July 18, 2023 when we received confirmation that the files were received and opened.

Please refer to the PDF document (89 pages) titled "**One Diamond - Full Plan Set to City of Biddeford 2023-06-14 18462 Reduced.pdf**" for the full plan package that includes all 51 of the site/civil drawings listed on the cover sheet as well as the architectural plans existing conditions survey and the photometric plans. The existing conditions plan is found at page 55 of 89 in this document.

- b. *Recommend a firetruck maneuver plan be provided throughout the campus (i.e. Auto-Turn); fire department can provide vehicle specs*

A turning template plan will be provided in the final plan application. Curb radii at intersections are widened on the current plans to accommodate truck movements based on prior discussions with the fire department. A confirming plan will be provided based on the truck specification being provided by the Fire Department.

- c. Confirm storm pipes have been hydraulically modelled for the 25-year storm and what starting tailwater elevation was used; 50-year storm should be routed to confirm any 'HGL>RIM' locations*

The stormwater analysis includes analysis of the 2-yr, 10-yr and 25-yr storm event. All of the analysis presented assumed a 50-year water surface elevation in the river, based on the FEMA Flood Insurance Rate Maps and Flood study for the City of Biddeford. A revised report with 50-year storm calculations will be presented in the Final Site Plan application, pending and incorporating any revisions related to MDEP's review of the project's Chapter 500 Stormwater Permit application.

2. Sheet 1 – Cover Sheet

- a. Estimated fill within flood zone is 12,000-CY; does this require any special permitting?*

A revised fill estimate will be prepared as part of the final site plan application. No fill is proposed within the regulatory floodway and no structures are located within the 100-year floodplain.

Fill in the floodplain is limited to portions of the site parking and the riverwalk trail. It is our understanding that a floodplain development permit is required for this fill that can be reviewed concurrently with the Planning Board's review. The floodplain development application will be submitted with the final site plan application so as to include any revisions made based on the Planning Board's preliminary plan review and incorporating any revisions based on MDEP's stormwater permit review.

3. Sheet 3 – Overall Site Plan

- a. I may have missed it, but should probably clarify somewhere in the plan set the 30' utility easement is for the new sewer main and is dedicated to the City.*

A standalone plan further identifying and clarifying easement locations, metes and bounds and purpose will be provided in the final application package, pending any revisions based on the City and MDEP review of the preliminary plan.

- b. Will private parking be enforced/signed or will public be able to utilize surface parking spaces (i.e. Riverwalk)?*

A parking management plan has not been determined at this time. At the City's request, 12 spaces are currently designated as dedicated public parking at the riverwalk.

- c. Is there other utility easements other than for the 30"-60" sewer main (i.e. storm?)*

Easements are presented on the preliminary site plans including 30' easements for the public utilities traversing the site including the storm drainage and sewers. The plan includes a 30' access easement over Diamond Street through the project and includes lines designating proposed public access easements over the riverwalk and adjacent open space including open space at the west end of the site.

A standalone plan further identifying and clarifying easement locations, metes and bounds and noting the purpose of each easement will be provided in the final application package, pending any revisions based on the City and MDEP review of the preliminary plan.

4. *Sheet 6 – Demolition Plan*

- a. *The upstream sewer manhole & pipe at the Diamond/Elm Street intersection should not be removed; this structure and pipe are being upgraded by the City and will be sized to accommodate this development's 30" sewer main*

The demolition plan will be modified to clarify the replacement of this structure by the City. The revisions will be clarified in the final plan submission as discussed in our meeting with Staff on August 3, 2023.

5. *Sheet 7 – Demolition Plan*

- a. *Keynote #13; further detail/callouts needed for existing storm drain removal near railroad (i.e. specify material/size of pipe/culvert)*

The demolition plan will be modified to clarify. The revisions will be clarified in the final plan submission as discussed in our meeting with Staff on August 3, 2023.

6. *Sheet 9 – Site Plan*

- a. *Call out site materials (type of paving, type of sidewalks, Riverwalk, type of retaining walls, type of guardrails) (TYP)*

Callouts corresponding to the construction details have been added to the plans. The revisions will be presented in the final plan submission as discussed in our meeting with Staff on August 3, 2023.

- b. *Can a screened solid hatch be added for retaining walls? (TYP)*

Shading has been added to the site plans clarifying the location of retaining walls. The revisions will be presented in the final plan submission as discussed in our meeting with Staff on August 3, 2023.

- c. *I assume space is limited; confirm multiple outbound traffic lanes onto Elm Street aren't needed/recommended (left-turn lane; straight-right-turn lane).*

A Traffic Movement Permit (TMP) application has been submitted for the full build out of the project. Intersection improvements and/or the need for a signal will be evaluated in that process. The phase 1 does not require a TMP review. The applicant has previously commissioned a portion of the City's ongoing traffic study along Elm Street. The results of that study are pending.

We anticipate the final plans for Phase 1, and/or plans submitted for approval of Phase 2/3 may incorporate geometry changes based on the ongoing studies. Space is available to incorporate a turn lane if required.

- d. *Curb within Elm Street (City ROW) shall be granite; callout accordingly*

The final plans will be revised to clarify granite curb within the City right of way. That is the intent of the design.

- e. Southern ADA ramp at Elm Street; geometry looks odd, confirm minimum widths/slopes are met and if back curbing is needed*

Clarifying details for this area will be provided on the final plans.

7. Sheet 10 – Site Plan

- a. Snow storage areas designated seem small; confirm adequate square footage is provided (TYP)*

Snow storage areas have been expanded and will be shown on the final plans. Typical of other private developments in urbanized settings, the owner/operator is responsible for snow removal and will be responsible for hauling snow in the event the areas available on the site are filled.

- b. Additional ADA ramp dimensions recommended (TYP)*

Additional dimension callouts have been added and will be presented on the final plans.

- c. 5 ADA signs called out for 3 ADA parking spaces*

Signage meeting ADA standards will be provided for all accessible parking spaces. The plans have been revised to include additional signs. This revision will be presented on the final plans.

8. Sheet 13 – Site Plan (Phase 2)

- a. For Building C's vehicular curb cut, should sidewalks have tip downs/ramps?*

Tip downs and ramps are included west of Building C at the driveway entrances. Additional spot grades will be added to the final plans to clarify the grading of the ramps.

- b. Is there a retaining wall west of Building D? If so, call out accordingly*

A retaining wall will be constructed west of Building D as part of the Phase 2 development. The plans have been revised to call out the wall. This revision will be presented on the final plans.

- c. Shouldn't there be a stop bar/stop sign near STA 201+00?*

Stop bars have been added to the Phase 2 plans. We anticipate providing additional dimensional details for the Phase 2 project in the Phase 2 Site plan application set when the Phase 2 project is submitted for site plan review.

9. Sheet 14 – Site Plan (Phase 3)

- a. Curb within Main Street (City ROW) shall be granite; callout accordingly*

The final plans will be revised to clarify granite curb within the City right of way. That is the intent of the design.

- b. Stop bars/stop signs recommended for Building F's interior row of parking*

Stop bars will be added to the Phase 3 plans. We anticipate providing additional dimensional details for the Phase 3 project in the Phase 3 site plan application set when the Phase 3 project is submitted for site plan review.

- c. Why does slip form curb terminate along the eastern perimeter?*

This will be reviewed and clarified in the Phase 3 application. It is our understanding that the ordinance does not require curbing at all parking locations.

- d. I assume space is limited; confirm multiple outbound traffic lanes onto Main Street aren't needed/recommended (left-turn lane; right-turn lane).*

This will be reviewed and clarified in the Phase 2 application. A Traffic Movement Permit (TMP) application has been submitted for the full build out of the project. Intersection geometry will be evaluated in that process. Space is available at this location if turn lanes(s) are required.

10. Sheet 17 – Grading Plan

- a. Limits of disturbance linework and acreage not delineated (per checklist)*

The proposed limits of disturbance is shown on the Demolition plans (Sheets 6 and Sheet 7) acreage is noted on the cover sheet and will be noted on final plans.

- b. For final submittal, slope % arrows should be provided for ADA ramps (TYP)*

Grading details and slope arrows will be provided on the final plans.

- c. Spot elevations don't match ADA ramp geometry*

The plans have been revised to add spot grades and adjust spot grade locations for clarity. This will be resented on the final plans.

- d. Missing ADA ramp spot elevations for the southern Elm Street ramp*

The plans have been revised to add spot grades and adjust spot grade locations for clarity. This will be presented on the final plans.

- e. Per the SWM report, post-drainage flows to the existing Elm Street storm drain are being doubled (5-cfs vs 9.3-cfs)*

The plans have been revised to eliminate the proposed storm drain connection to Elm Street in favor of a new outfall to the river as part of the MDEP stormwater Permit application. Revised plans will be provided in the final plan application, pending MDEP review.

11. Sheet 19 – Grading Plan

- a. Unclear how CB-126 works*

CB-126 is the outlet control structure for the proposed under drained soil filter. The rim of the grate is set above the bottom of the basin to impound the required treatment volume and allow it to filter through the soil media and into the underdrains below the filter. During storms that generate more than the required treatment volume the impounded runoff drains through the catch basin grate, acting as an outlet structure.

Please note, that the plans are being revised in response to MDEP and Saco River Corridor Commission comments to reduce impacts within 75 feet of the river and to reduce the amount of fill in the floodplain, and to better balance the site's earthwork. This includes lowering the riverwalk trail and parking lot grades. This revision will allow the soil filter at CB-126 to be eliminated in favor of tree filters installed in the parking lot. This revision will be provided on the final plans.

- b. The sediment forebays, underdrained soil filter, and level lip spreader are well-within the flood zone; any concern with long-term functionality/maintenance?*

The plans are being revised in response to MDEP and Saco River Corridor Commission comments to reduce impacts within 75 feet of the river and to reduce the amount of fill in the floodplain, and to better balance the site's earthwork. This includes lowering the riverwalk trail and parking lot grades. This revision will allow the soil filter at CB-126 to be eliminated in favor of tree filters installed in the parking lot. This revision will be provided on the final plans.

12. Sheet 21-23 – Grading Plans (Phase 2)

- a. Minimal spot elevations provided*

Additional plan details including spot grades for the Phase 2 and Phase 3 projects will be provided in the plan sets for Phase 2 & Phase 3 when those phases of the project are submitted for site plan review. The preliminary proposed grade contours in Phase 2 and Phase 3 project areas are intended to provide preliminary grading information to define the future drainage patterns and overall lot grading.

- b. I thought Building E&F are Phase 3? (sheet 22)*

The road work for the extension of Diamond Street from the end of Phase 1 to Elm Street will be constructed in Phase 2. Buildings E and F, with their associated parking will be constructed in Phase 3.

Sheet 22 will be revised to include notation clarifying the phase limits. The proposed phasing is presented on Sheet 4 of the plan set.

13. Sheet 27 – Overall Utility Plan

- a. Thank-you for providing this 'color-coded' plan; can non-gravity utilities be colored as-well (i.e. electric red, gas orange, water blue)?*

A revised plan coloring all of the utilities will be provided with the final plans.

- b. Confirm there is gas at your Elm Street connection; our Unutil map does not show gas in this location*

The existing gas main location will be clarified on the final plans.

14. Sheet 28 – Utility Plan

- a. Confirm electric and telecom can be routed within same ductbank*

We will confirm the duct bank routing with the affected utilities and confirm required conduit size/number and separation.

- b. Rims/inverts/contours not provided on plan; some flow arrows for storm/sewer would be beneficial (per checklist) (TYP)*

All of the preliminary plan rim and invert information is provided on the structure tables (Sheet 34) for clarity and plan legibility. Contours are presented on the grading plans for clarity.

15. Sheet 31-32 – Utility Plan (Phase 2/3)

- a. *Future phased building stubs should be extended to curblines to avoid ripping up pavement*

The plans have been revised as requested. This is the design intent. The revision will be presented on the final plans.

- b. *I thought Building E&F are Phase 3? (sheet 32)*

The road work for the extension of Diamond Street from the end of Phase 1 to Elm Street, including utilities will be constructed in Phase 2. Buildings E and F, with their associated parking will be constructed in Phase 3.

Sheet 32 will be revised to include notation clarifying the phase limits. The proposed phasing is presented on Sheet 4 of the plan set.

16. Sheet 34 – Pipe and Structure Tables

- a. *Per previous coordination, 30"-60" sewer main will have shallow slopes (<0.2%). City understands this design constraint. Can scour velocity be analyzed?*

Yes, we will perform a scour calculation. We will coordinate with the City to obtain the anticipated offsite sewer flows to be used in the evaluation.

- b. *Confirm SD-127, 128, 133, 210, 220, 221, & UD-101 should have 0% slopes*

The pipe referenced are part of the header pipe system of the subsurface sand filter, and an underdrain associated with that system. These are intended to have flat slopes.

17. Sheet 46 – Details

- a. *For any storm/sewer structure within the City's right-of-way, no steps should be proposed*

The details have been revised to remove the steps. Revised details will be presented on the final plans.

18. Sheet 48 – Details

- a. *Where is vertical granite curb proposed with 7" reveal?*

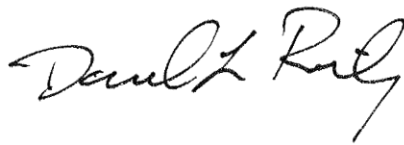
Granite curb is proposed within the public right of way. The detail has been revised to reflect a typical 6" curb reveal.

Closure:

Thank you for your time and attention to this project. Please contact me if there are questions regarding our response to the comments received or if additional clarifying materials are needed. As we discussed in our meeting on August 3, 2023. We will provide the revised plans incorporating the responses above in the final plan submittal.

Sincerely,

SEBAGO TECHNICS, INC.

A handwritten signature in black ink, appearing to read "Daniel L. Riley". The signature is fluid and cursive, with the first name "Daniel" and last name "Riley" clearly distinguishable.

Daniel L. Riley, P.E.
Vice President, Engineering

Cc: One Diamond Development, LLC

DLR/:
Enc.

Site Design Associates

Consulting Engineering and Land Planning

August 10, 2023

Mr. David Galbraith
Via email

**RE: One Diamond
Elm Street**

Dear David;

Per your request Site Design Associates has undertaken a review of the plans and documentation submitted in support of preliminary site plan and subdivision applications and a Site Location of Development Act (SLODA) application for the referenced project.

Our review was based on preliminary civil engineering plans dated 06-14-23. It is our understanding from the application materials that the applicant is seeking preliminary approval for phase 1 and a general review of the overall master plan for the site.

We are aware that the plans are preliminary, and may not contain the detail one would expect in the final documents. Our comments include some items that may be closer associated with final documentation, in order for the applicant to consider them prior to the final plan submission. Our review focused primarily on the phase 1 documentation, but as you will note in our comments, we have also offered suggestions for the subsequent phases of the project as appropriate.

Based on our review we offer the following comments for your, the planning board's, and the applicant's consideration:

A. General

1. It is our understanding that an application for a stormwater permit will be submitted to MDEP. We have undertaken a review of the stormwater management in consideration of the city code and SLODA requirements, but will defer to DEP for the final approval. A copy of the application should be submitted to the city when available.
2. The SLODA application includes the detailed plans for phase 1 and addresses the applicable sections. We have reviewed the application in the context that it represents the complete project, with the understanding that updated plans and documentation will be necessary when the applicant applies for phases 2 and 3 city approvals. We believe that it would be unnecessary at that time to submit revised SLODA applications and that the site plan and subdivision applications for phases 2 and 3 should suffice.
3. The applicant has submitted a Traffic Impact Assessment for phase 1 which concludes that an MDOT Traffic Movement Permit (TMP) will not be required for the first phase, but will be required for subsequent phases. They have also submitted a parking demand study, which suggests that the parking supply will

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

- be city code compliant for phase 1, but a waiver will be required for phases 2 and 3. The city may want to consider whether this information should be peer reviewed by a traffic engineer.
4. The total trip generation for the project would require that the private way meet the standards of a local collector road. In our opinion that would be excessive for a development of this nature. The plans seem to generally reflect the major urban residential street requirements. Would a waiver be required to approve the lesser standard? Also, it appears waivers for the minimum centerline curve radius, right of way width, and tangent length between curves of reverse alignment would also be required.
 5. The application indicates that the topographic survey is based on LIDAR data versus field survey. We do not believe this is ideal for the road and utility corridors, given the extent of existing and proposed utilities and stormwater management systems.
 6. We recommend that a standard boundary survey of the parcels be provided per code requirements.
 7. The project descriptions differ between the city and SLODA applications, and should be reconciled.
 8. Narratives addressing Article XI.II., Section 5.B., Site Design Criteria should be provided with the final plan submission.
 9. The private way note required under Article VI., Section 51.D.4. should be included on the plan to be recorded.
 10. Article VI Section 51.D.1. requires monumentation of the private way. This should be shown on a final plan.
 11. The project description indicates that two private roadways will be constructed. Will the entire road from Elm Street to Main Street be named as one or two roads?
 12. In regards to the previous comment, it seems that the final location of an intersection for traffic calming purposes and to discourage cut through traffic may be better located at Diamond Street station 200+25 shown on the phase 2A site plan, rather than at the intersection of phase 1 Diamond Street and a driveway. It appears the current design is to allow traffic to move around the 90-degree corner in Diamond Street proximate to two driveways with no stop control, which will increase the potential for conflicts.
 13. What is the status of responses to agency letters?
 14. Road and stormwater maintenance agreements will be required with the final submission.
 15. SLODA Application:
 - a. Section 1 – As noted above the description conflicts with the site plan application.
 - b. Section 3 – Need documentation of financial capacity and corporate standing.
 - c. Section 4 – Requires information about the applicant's experience per the SLODA application documentation requirements.
 - d. Section 7 – Status of IF and W review?
 - e. Section 8 – Status of historic archaeologic survey?

- f. Section 10 – Are any buffers required? Please provide a narrative per the SLODA application documentation requirements.
 - g. Section 14 – Provide a narrative per SLODA application documentation requirements. We recommend that given the nature of the development and proximity to the river that inspections in compliance with the DEP third party inspection program requirements be included as a condition of approval.
16. Will an overall subdivision plan showing all easements be provided?

B. Drawings

- 1. Existing Conditions Plan
 - a. Contours should be shown.
 - b. Existing storm drain information should be shown, including sizes, inverts, etc.
- 2. Site Plans
 - a. Clarify the curb materials. We believe the city will require type 1 granite radii and in the right of way at the intersections with public streets.
 - b. Should there be a landing and tactile warning on the east side of Elm Street at the end of the crosswalk?
 - c. Can the proposed crosswalk be installed perpendicular to Elm Street?
 - d. Why is the Elm Street crosswalk 5 ft. wide versus 6 ft.?
 - e. Why does the Diamond Street width vary throughout the site? If it assists in providing a consistent width, the parallel spaces could be 8 ft. wide per city code.
 - f. The turning circle at the end of the parking lot on sheet 11 does not meet code requirements for a dead end. Has the fire department reviewed and approved this?
 - g. Will the EV spaces shown be exclusively for EV's? If so, will signage and pavement markings be provided?
 - h. It appears one charger per space is shown, but dual chargers are available.
 - i. How will the EV spaces be protected from vehicle damage?
 - j. We assume the pavement markings in phases 2 and 3 will be consistent with phase 1.
 - k. Will buildings F and G require dumpster pads and enclosures?
 - l. There is not at grade accessible parking for building A and 1 space for building B.
 - m. Please show centerline stationing on all drawings.
 - n. It looks like there are several ADA signs at non-ADA spaces at the building C site on the phase 1 drawings.
 - o. There are three accessible spaces shown at the buiding C site, but one space lacks an access aisle.
 - p. The ramp layout southerly of the intersection of Diamond and Elm Streets looks awkward, and should be reviewed.

- q. Is an easement proposed for the city for access to the new 60" diameter stormdrain?

3. Grading and Drainage Plans

- a. More spot grades should be provided on the final plans, particularly at road and drive intersections, ramps, and accessible parking spaces.
- b. The grades shown for the accessible parking space at building B do not meet ADA standards.
- c. Specify the ECB proposed.
- d. Filter barriers should be shown between all disturbed areas and the river.
- e. Verify that stubs are provided where required for roof drainage.

4. Plan and Profiles

- a. Show utility and stormdrain information on final plans.
- b. Show cleanouts on the ends of the soil filter underdrains.

5. Utility Plans

- a. Verify all necessary utility stubs are shown in earlier phases for future phases.
- b. The plan calls for the existing 4 ft. x 4 ft. box culvert to be tied into DMH-103 in the street, where there are proposed utilities. Has making this connection easterly of the street and utilities been considered? This would result in all new infrastructure in the street areas, and also would allow for a shallower manhole for the tie in. Additionally, depending on the condition of the existing box culvert, it may be desirable to locate the connection outside the street area in a shallower manhole for easier access if future repairs are required.

6. Site Details

- a. DEP chapter 500, Appendix B, requirements for inspection and maintenance during construction should be added to sheet 44, and the storm event triggering wet weather inspections included. (0.5")
- b. The city engineering and public works departments should review the ADA warning plates for conformance with the city standard.
- c. Riprap slope and apron details at the 36" and 60" diameter outfalls should be provided.
- d. We recommend that the pedestrian paving and riverwalk trail detail be revised to include crushed aggregate base rather than subbase material under the pavement. The subbase material is difficult to fine grade, particularly under sidewalks.
- e. Detail additional conditions for the sidewalk ramps in the public right of way.

- f. The road section should consist of an 18" layer of subbase material and 4" of crushed aggregate base material.
- g. The road section with esplanade shows slipform curb installed on base gravel, and should be revised.
- h. The slipform concrete tipdown detail shows a 7" drop in 7 ft. We believe the maximum allowed under ADA is 6" in 6 ft.
- i. Soil filter detail:
 - Show relevant filter and spillway dimensions, slopes, storm elevations, etc.;
 - Forebay dimensions;
 - Testing and submittals should include permeability of the filter material;
 - Add inspections for when the BMP is at subgrade, prior to installation of the liner and after the liner is installed;
 - Break inspection step "A" into two inspections;
 - The spillway details show TRM and riprap. Specify which is proposed, and provide a specification;
 - The stormwater model and detail conflict relative to the storage. The model assumes a 14" layer of crushed stone with 40% voids, while the detail calls for coarse gravel, which would have less voids. Also, the model utilizes 1,220 sf of material at a consistent depth of 14", which is not what the detail indicates;
 - The model is based on a specific grate on the outlet structure, which should be specified on the plan.
- j. Subsurface sand filter Phase 1:
 - Relevant elevations should be shown including the design storms;
 - How will the grooves for the precast panel in the outlet structure be sealed;
 - Clarify the pipe alignments, sizes, and flow directions in the OCS 1 detail;
 - The detail reflects both a 30 mil liner and a non-woven geotextile. Are both necessary? Could the liner be installed in the bottom and on the sides, and the fabric installed over the top?

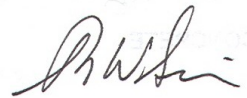
C. Stormwater Management

1. The city checklist requires that the 100-year storm be included in the modeling, and the city engineer requested 50-year as well..
2. Will each phase meet the Chapter 500 and city requirements regarding stormwater runoff quality and quantity as the project is constructed?
3. A legible and clearer post development drainage plan should be provided.

4. Pollutant loading plans for existing and proposed conditions should be provided.
5. A stormwater treatment plan should be provided.
6. There are numerous warnings in the Hydrocad models which seem to involve overtopping and generating tailwater conditions. Please explain the warnings.
7. What is the elevation of the normal water line of the river?
8. Are the elevations for the 25- and 50-year flood levels available? The report referenced the 50-year elevation but did not define it.
9. What is pond 51P, described as box culvert slab top?
10. Should the flood elevation for 51P be 54.96 per the existing conditions plan?
11. The peak elevation is 3 ft. above the rim at pond 52P and 7 ft above the rim for pond 51P. The model should be adjusted accordingly as that is a condition that could not occur.
12. The post construction I and M plan should include the storm requiring wet weather inspections. (1")
13. The 5-year recertification requirements for BMP's should be added to the post-construction I and M plan.
14. The model utilizes a box culvert size of 60" x 60", while the plans show 48" x 48". This should be clarified.
15. The area and curve number summaries should be provided with the Hydrocad modeling.
16. The city engineering should review the ADA warning plates for conformance with the city standard.
17. Riprap slope and apron details at the 60" diameter outfall should be provided.

We do not believe that these comments, which are generally technical in nature, will significantly impact the overall master plan design concept, and that they could be satisfactorily addressed at the time of the final plan submission, if the planning board and you concur. If you have any questions, or require additional information, please do not hesitate to contact me.

Sincerely,
Site Design Associates



Tom Saucier, P.E.
President



Site Location of Development Permit Application One Diamond Street Development

Prepared for
One Diamond Development, LLC
2 Livewell Drive, Suite 201
Kennebunk, Maine 04043

Prepared by
Sebago Technics
75 John Roberts Rd.
South Portland, ME 04106

June 2023

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- Section 6 Visual Quality and Scenic Character
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- Section 23 Water Vapor
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- Section 25 Notices

Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE
ATS # _____
L- _____
Total Fees: _____
Date: Received _____

FORM A PAGE 1

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.S.A. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)		☐ 20 acre development	☐ Marine Oil Terminal	☐ Major Amendment
		☐ Planning Permit	☐ Structure	☐ Minor Amendment
		☐ Metallic Mining	☒ Subdivision	
1. Name of Applicant:	One Diamond Development LLC		6. Name of Agent (if applicable):	Sebago Technics Inc
2. Applicant's Mailing Address:	2 Livewell Dr Suite201 Kennebunk		7. Agent's Mailing Address:	75 John Roberts Road, S Portland
3. Applicant's Daytime Phone #:	207-467-3688		8. Agent's Daytime Phone #:	207-200-2080
4. Applicant's Fax # (if available):			9. Agent's Fax # (if available):	
5. Applicant's e-mail address (REQUIRED -license will be sent via: e-mail):	klord@thomasandlord.com		10. Agent's e-mail address (REQUIRED - license will be sent via e-mail):	driley@sebagotechnics.com
PROJECT INFORMATION				
11. Name of Development:	One Diamond			
12. Map and Lot #'s:	Map #: 40 and 37	Lot #: *See section 2	13. Deed Reference #'s:	Book #: *See section 2 Page #: *See section 2
14. Location of Project City/Town:	Biddeford	15. County:	York	16. UTM Northing
17. UTM Easting				
18. Brief Description of Project including total parcel size:	Multi-use development consisting of 478 residential units and 14,125 SF of commercial space, in seven new multi-level buildings. A public river walkway and recreational open space will also be constructed.			
19. Type of Direct Watershed: (Check all that apply)	☐ Lake not most at risk ☒ River, stream or brook ☐ Coastal wetland ☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water ☐ Lake most at risk, severely blooming ☐ Freshwater wetland			
20. Name of Waterbody Project Site drains to:	Saco River			
21. Amount of Developed Area:	Total 15 ± acres:	Existing Developed area:	10 acres	New Developed area: 5 acres
22. Amount of Impervious Area:	Total 10 ± acres:	Existing Impervious areas:	5 acres	New Impervious area: 5 acres
23. Development started prior to obtaining a license?:	☐ Yes ☒ No			
24. Development or any portion of the site subject to enforcement action?	☐ Yes ☒ No		If yes, name of enforcement staff involved?	
25. Common scheme of development?:	☐ Yes ☒ No	26. Title, Right or Interest:	☒ own ☐ lease	☐ purchase option ☒ written agreement
27. Natural Resources Protection Act permit required?:	☒ Yes ☐ No	If yes:	☐ PBR ☐ Tier 1 ☐ Full Permit ☐ Tier 2	
28. Existing DEP Permit number (if applicable):				
29. Names of DEP staff person(s) present at the pre-application meeting:				
30. Does agent have an interest in project? If yes, what is the interest?	☐ Yes ☒ No			
CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2				

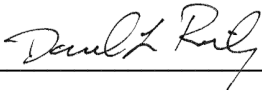
IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

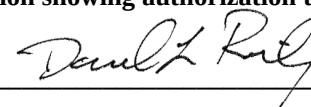
Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)".

Signed:  Title VP Engineering Date: 6-14-2023

**Notice of Intent to Comply
with Maine Construction
General Permit**

With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.

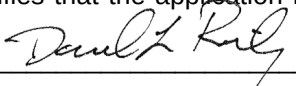
If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.

Signed  Date: 6-14-2023

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: 

Name (print): Dan Riley, P.E.

Date: 6-14-2023

Re/Cert/Lic No.: _____

Engineer # 9967 _____

Geologist _____

Soil Scientist _____

Land Surveyor _____

Site Evaluator _____

Active Member of the Maine Bar _____

Professional Landscape Architect _____

Other _____

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

Timothy Harrington 05/03/2023

PLEASE TYPE OR PRINT NAME HERE

APPLICANT'S AGENT SIGNATURE DATE

Craig Burgess, P.E.

PLEASE TYPE OR PRINT NAME HERE



05/03/2023

Dan Riley, P.E.

Section 1

Development Description

Development Description

A. Narrative

The proposed project site is comprised of multiple parcels located on Diamond Avenue in Biddeford. The parcels are identified on the Biddeford tax map 37, lots 34 & 35 and tax map 40, lots 24, 25, 25-1, 25-2, & 74. The subject site is located within the Business 1 (B1), High Density/Mixed Use (MSRD-3) and Waterfront Renaissance (WR) Districts. The combined parcels are approximately 18-acres. A majority of the subject site was originally developed for the Diamond Match Company in the late 1800's. At that time, 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 that support commercial uses. The gravel/paved access roads and laydown areas in northerly portions of the site have been used by the City of Biddeford in recent years to store materials.

The overall project will be constructed in three phases. Improvements in Phase 1 include:

- Building AB will consist of 146 residential units and 3,000 square feet of commercial space;
- A private roadway extending from the west side of Elm Street - the entry will be located at the current location of Diamond Street, which is directly opposite Upper Falls Road. A walkway will be constructed along the private road;
- A minimum of 130 surface level parking spaces and 76 understory parking spaces;
- A portion of the public sewer main will need to be removed and relocated around Buildings A and B;
- Water, gas, and underground utilities (power, telephone, and cable) will be extended from Elm Street;
- Other site amenities such as outdoor plazas, landscaping and lighting are proposed;
- Construction of a 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. Six parking spaces have been allocated for public use to directly access the trail and open space.

The overall mixed-use development for all phases involves construction of 480 residential units and 14,125 square feet of commercial space in seven new multi-level buildings. Commercial space is proposed on the first floor of buildings A, E/F and G. The number of commercial units will be contingent on the selection of tenants and required fit up. Building locations and topographic relief across the subject site will allow for views facing north toward Saco River. Two private roadways will connect Elm Street and Main Street. Parking to support the project development will be provided through a combination of angled parking along private roadways, understory parking inside six buildings, and parking lots. Public water and sewer are available to serve the proposed project. Demolition and relocation of existing utility mains through the site will be necessary to accommodate site improvements.

A VRAP application has been submitted for the full project area. 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 full project area in 2021. It was recommended that a Phase 2 be completed before the site was developed. St. Germain was contracted to complete a Phase 2 assessment and VRAP submission process for the project area.

The proposed project will not result in any direct wetland impacts. With the construction of the Riverwalk, a Permit by Rule for work in proximity of the Saco River is required. Permitting through the Saco River Corridor Commission will also be required.

The proposed project will result in approximately 8.56 acres of impervious surface, and 15.5 acres of developed area (inclusive of impervious area).

The project site is located in the watershed of the Saco River, which is not identified by the Maine Department of Environmental Protection (Maine DEP) as an Urban Impaired Stream under Chapter 502, Appendix B. The project also must be in general compliance with the Basic and General Standards as outlined in Maine DEP's Chapter 500 Standards. An exemption from the Flooding Standard is requested given the project site drains directly to Saco River.

B. Topographic Map

Attached as Figure 1.

C. Construction Plan

Phase 1 site improvements are scheduled to begin Spring 2024, and completed in Spring 2026.

The overall construction plan is as follows:

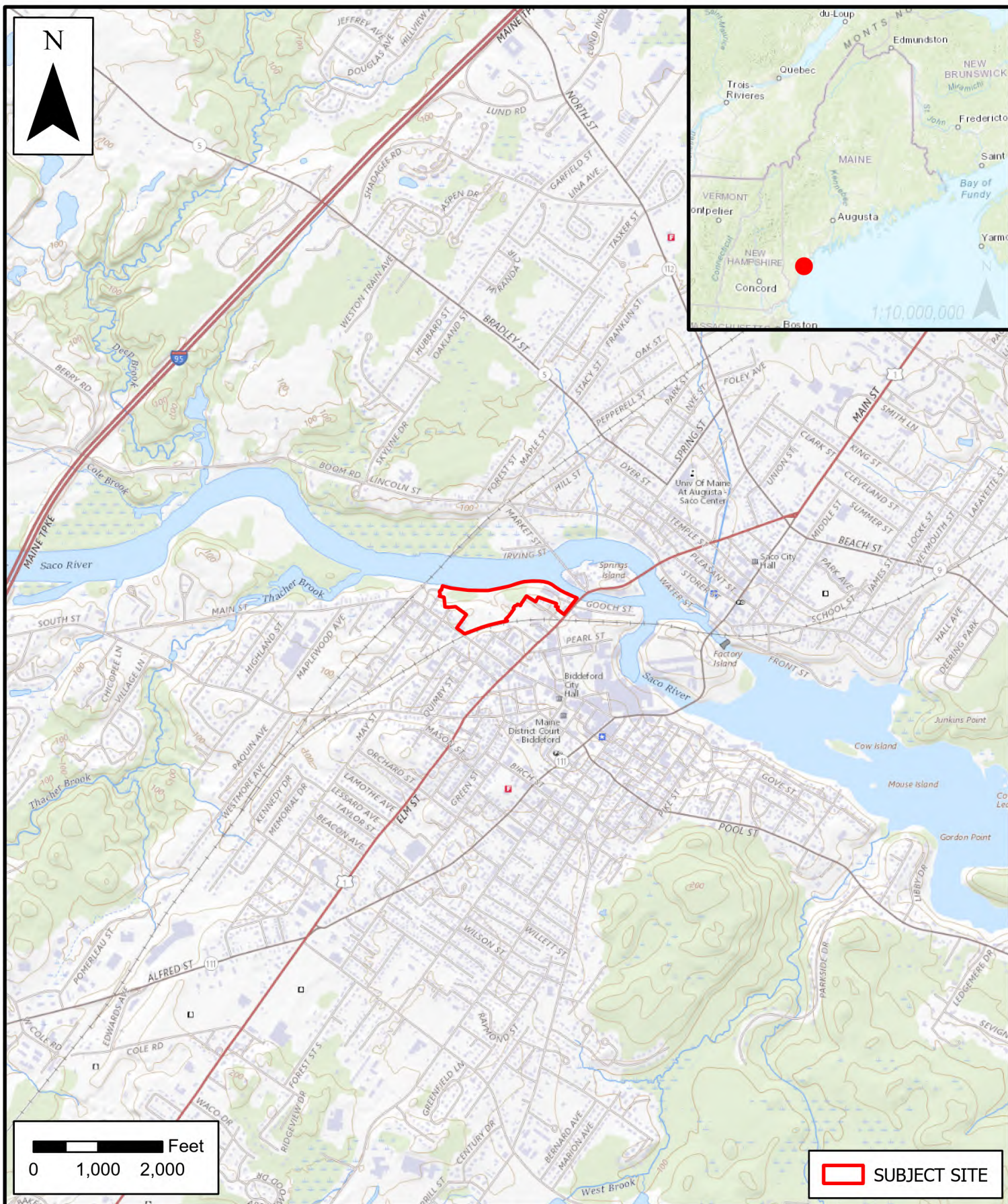
1. Install perimeter erosion and sediment control measures;
2. Install temporary construction fencing around work area;
3. Select location and place stabilized construction access;
4. Clear areas necessary for access drives;
5. Install stabilized construction entrance;
6. Demolition efforts as identified in the demolition plans.
7. Commence tree clearing operations and vegetation grubbing;
8. Commence earthwork operations;
9. Commence storm drainage treatment/collection system excavation and installation;
10. Commence utility installation;
11. Building construction...
12. As areas of earthwork operations are completed, all associated side slopes and finished surfaces shall be stabilized as indicated on the development plans;
13. Installation of subsurface sand filter chamber system;
14. Place sidewalk gravels;
15. Complete utility construction;
16. Place sidewalk bituminous paving;
17. Commence loam and seed;
18. Complete stabilization of all disturbed areas;
19. Touch up loam and seed as necessary;
20. Remove accumulated sediments from all sediment barriers and the storm drain system;
21. Once a 90% catch of vegetation is established, remove all temporary erosion and sedimentation control measures;
22. Pavement Cure Time;
23. Final Clean Up.

D. Drawings

All appropriate site drawings are attached. A partial list of Individual plans is listed below. Please see the plan set cover sheet for a complete plan list.

<u>Sheet Number</u>	<u>Sheet Title</u>
1	Cover Sheet
2	Notes & Legend
3	Overall Site Plan
4	Phasing Plan
5	Drawing Key Map
6	Demolition Plan -1
7	Demolition Plan -2
8	Vegetation Removal & Recommendation Plan

9	Site Plan – Phase 1-1
10	Site Plan – Phase 1-2
11	Site Plan - Riverwalk
12	Site Plan – Phase 2-1
13	Site Plan – Phase 2 – 2 & Phase 3
14	Site Plan – Phase 2 – Bldg G
15	Overall Grading Plan
16	Grading Plan – Phase 1-1
17	Grading Plan – Phase 1-2
18	Grading Plan - Riverwalk
19	Grading Plan – Phase 2-1
20	Grading Plan – Phase 2-2
21	Grading Plan – Phase 2 – Bldg G
22	Plan and Profile – 1
23	Plan and Profile – 2
24	Plan and Profile – 3
25	Plan and Profile – 4
26	Plan and Profile – 5
27	Overall Utility Plan
28	Utility Plan – Phase 1-1
29	Utility Plan – Phase 1-2
30	Utility Plan – Phase 2-1
31	Utility Plan – Phase 2-2
32	Utility Plan – Phase 2 – Bldg G
33	Pipe and Structure Data Tables
34	Landscape Plan – Phase 1-1
35	Landscape Plan – Phase 1-2
36	Landscape Plan - Riverwalk
37	Landscape Plan – Phase 2-1
38	Landscape Plan – Phase 2-2
39	Landscape Plan – Phase 2 – Bldg G
40	BMP Construction Plan
41	Erosion Control Notes
42	Details - 1
43	Details - 2
44	Details - 3
45	Details - 4
46	Details – 5
47	Details – 6
48	Details – 7
49	Details – 8
1 of 2	Existing Conditions Stormwater Plan
2 of 2	Proposed Conditions Stormwater Plan



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

Section 2

Title, Right or Interest

Section 2

Title, Right or Interest

The proposed project site is comprised of 7 parcels. The majority of the parcels are owned by One Diamond Development, LLC. One parcel there is a purchase and sales agreement in place between One Diamond Development, LLC and the City of Biddeford (the current owner). Please see this Section for a copy of the deeds and the purchase as sales agreement.

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

ONE DIAMOND PROPERTIES

<u>Property</u>	<u>Tax Map / Lot</u>	<u>Right, Title & Interest</u>
1 Diamond Street	40 / 25-1	Book 18913, Page 96
Off Main St. (City)	40 / 25-2	Joint Development Agreement
Off Main St. (Union Oil)	40 / 74	P&S Agreement
52 Elm Street	40 / 25	Book 18941, Page 344
68 Elm Street	40 / 24	Book 18996, Page 930
368 – 376 Main St.	37 / 35 & 35-1	Book 18941, Page 668
378 Main Street	37 / 34	Book 18941, Page 666

1 DIAMOND ST.

NANCY E HAMMOND, REGISTER OF DEEDS
E-RECORDED Bk 18913 PG 96
Instr # 2021074361
12/29/2021 12:19:41 PM
Pages 5 YORK CO

631

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.

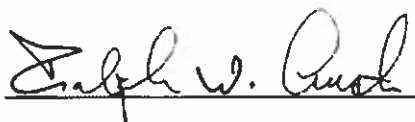
Also a certain other lot or parcel of land in said Biddeford and described in a deed from Gideon Tucker and Thomas M. Hayes to Joseph Hobson dated January 12, 1863, and recorded in said York County Registry of Deeds in Book 279, Page 192, as follows: land adjoining the western branch of Saco River, land 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.

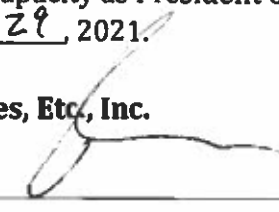
Four acres of land more or less, being all that portion of the twenty acre wood lot formerly owned by John Hooper which was not lived upon by Samuel F. Chase.

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: 

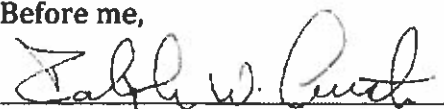
Brian T. Nestor
President

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~~

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

OFF MAIN ST.
(CITY PROPERTY)

JOINT DEVELOPMENT AGREEMENT

This Joint Development Agreement (the "Agreement") dated December 9, 2021 is executed by ONE DIAMOND DEVELOPMENT, LLC, the assignee of Lord & Harrington, LLC ("One Diamond") and the CITY OF BIDDEFORD ("City"). (One Diamond and the City are referred to individually as a "Party" and collectively as the "Parties.")

RECITALS

WHEREAS, One Diamond desires to develop a multi-unit, multi-building residential project with incidental commercial uses (the "Project") on property located at 1 Diamond Street, Biddeford, Maine (the "Diamond Property") and the adjacent Property owned by the City of Biddeford (Map 40, Lot 2, Block 25) (the "City Property"); and

WHEREAS, the City desires to create additional housing options in the City, including individually owned and rental units; and

WHEREAS, the City seeks to expand its RiverWalk pedestrian trail network and provide access to the RiverWalk through a portion of the Diamond Property and the City Property as well as provide passive open space for public recreational use on the Properties; and

WHEREAS, the City agrees to convey the City Property to One Diamond after One Diamond's satisfaction of the commitments contained herein; and

WHEREAS, the combined RiverWalk and the passive open space are expected to have a joint development value of \$900,000.00 - \$1,200,000.00;

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein and other consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

ARTICLE I

COMMITMENTS

1. One Diamond Commitments:

- a. One Diamond shall develop a multi-unit, multi-building residential project, with incidental commercial uses, on the Diamond Property and the City Property. The residential units shall be both ownership and rental units provided that at least 30% of the units shall be held in fee ownership.

- b. One Diamond shall construct a pedestrian pathway along the entire shoreline of the Saco River along the Diamond Property and the City Property that will connect with and become a part of the City's existing RiverWalk (the "RiverWalk Extension"). One Diamond agrees that it will construct the RiverWalk Extension pursuant to plans approved by the City as to location, dimension and design. The specifications, construction components, and details shall be substantially similar to the currently existing RiverWalk. Construction of the RiverWalk Extension shall be completed prior to the first occupancy permit being granted to One Diamond, or One Diamond shall provide a Bond in a form and amount acceptable to the City to ensure the completion of the RiverWalk Extension. After completion of the RiverWalk Extension, One Diamond shall grant an easement to the City for use of the RiverWalk Extension by members of the public. The City shall be responsible for maintenance of the RiverWalk Extension in the same manner as its maintenance of the existing RiverWalk.
- c. One Diamond shall develop and maintain in perpetuity a passive open space adjacent to the RiverWalk Extension (the "Open Space"). The Open Space shall be a minimum size of two (2) acres. One Diamond shall grant an easement to the City for the passive recreational use of the Open Space by members of the public. One Diamond also shall provide six (6) free public parking spaces adjacent to or in close proximity to the Open Space and RiverWalk Extension. Design of the Open Space and public parking shall be

in general accordance with the plans submitted by One Diamond to the City. After completion of construction, the Open Space and parking spaces shall be maintained by One Diamond.

d. At the closing of the City's transfer of the City Property to One Diamond (the "Closing"), One Diamond shall place the sum of \$1,000,000.00 into an interest bearing escrow account maintained by the City, said sum to be held in escrow as set forth below:

- (i) If One Diamond identifies a property acceptable to the City Council within one (1) year after the Closing, and submits, within an additional year, a redevelopment plan acceptable to the City Council to develop the property into a multi-unit residential and/or mixed use building, the City agrees that the \$1,000,000.00 plus accrued interest held in escrow will be paid to One Diamond.
- (ii) In the event that One Diamond does not identify a property acceptable to the City Council within one (1) year after the Closing, or if One Diamond fails to submit, within an additional year, a redevelopment plan acceptable to the City Council to develop said property into a multi-unit residential and/or mixed use building, One Diamond agrees that the \$1,000,000.00 plus accrued interest held in escrow will be paid to the City.

2. City Commitments:

- a. Upon One Diamond's completion of the undertakings set forth in Article I, Paragraph 1 above, the City shall convey to One Diamond, by a Municipal Release Deed, the City Property located adjacent to the Diamond Property, identified as Biddeford Tax Map 40, Lot 2, Block 25. The Parties agree that the City shall retain an easement on the City Property for any necessary stormwater/sewer maintenance and separation projects including, but not limited to, the installation of a combined sewer overflow tank, if required by the Department of Environmental Protection or other State agency, below the two (2) acre Open Space.
- b. The City will actively work with One Diamond, and assist as needed, during the permit and construction period.

3. TIF District:

The Parties agree that there will be no credit enhancement for the benefit of One Diamond in the development of the Project. However, the Parties further understand that the City will seek approval of a TIF District encompassing the City Property and the Diamond Property, with the proceeds from the TIF District to be used to advance affordable housing within the City of Biddeford.

ARTICLE II

TIME OF PERFORMANCE

One Diamond shall file site plan and subdivision review applications with the City Planning Board, any other City agencies, and the State of Maine within six (6) months of the date of execution of this Agreement. Failure to timely submit an application shall render this Agreement null and void at the City's sole discretion. Construction of the Project must begin within two (2) years of final Planning Board approval. Construction of the Project shall be substantially completed by December 31, 2024.

ARTICLE III

LIMIT OF LIABILITY

Notwithstanding any other provision of this Agreement, in no event shall the Parties or any of their Affiliates, by reason of any of their respective acts or omissions relating to the development, negotiation, design, financing, ownership, construction, operation or maintenance of the Project, or relation to any of their obligations under this Agreement, be liable whether in contract, tort, misrepresentation, warranty, negligence, strict liability, or otherwise for any special, indirect, or consequential damages arising out of or in connection with this Agreement, or the performance, non-performance or breach thereof.

ARTICLE IV

INDEMNIFICATION

Each Party shall indemnify, defend, and hold harmless the other Party and its agents, servants, officers, directors, employees and affiliates from and against any loss, cost, liability, claim, damage, expense (including, without limitation, all out-of-pocket expenses, reasonable attorneys' and paralegal fees, disbursements and costs), penalty or fine incurred in connection with any claim or cause of action arising from or in connection with any claim or cause of action arising from or in connection with the Project or this Agreement to the extent caused by the negligence, misrepresentation, fraud, fault or misconduct of the indemnifying Party or any of its affiliates.

ARTICLE V

MISCELLANEOUS

1. Representations and Warranties:

Each Party represents and warrants to the other that:

- a. it is duly qualified to do business and is in good standing in the State of Maine;

- b. it has full power and authority to execute, deliver and perform its obligations under this Agreement;
- c. the execution, delivery and performance of this Agreement has been duly and validly authorized by all necessary action by such Party; and
- d. the execution and delivery of this Agreement by such Party and the performance of the terms, covenants and conditions contained herein will not violate the charter, articles of incorporation or by-laws of such Party, or any order of a court or arbitrator, and will not conflict with and will not constitute a material breach of, or default under, the provisions of any material contract by which either Party is bound.

2. **Right to Require Performance:**

The failure of either Party at any time to require performance by the other Party of any provisions hereof shall in no way affect the right of such Party thereafter to enforce same. Nor shall waiver by either Party of any breach of any provisions hereof be taken or held to be a waiver of any succeeding breach of such provisions or as a waiver of any provision itself.

3. **Governing Law:**

This Agreement is and shall constitute a contract under and is to be construed in accordance with the laws of the State of Maine. Any dispute resulting in legal action and not resolved by arbitration, mediation, or such other method as may be mutually agreed to by the Parties shall be adjudicated within the jurisdiction of the State of Maine.

4. **Relationship of Parties:**

- a. This Agreement is not intended to supersede the authority granted by law to any regulatory board or agency of the City. Therefore, nothing in this Agreement shall be construed or implied to require the City Planning, Zoning or other regulatory boards or agencies (however designated) to approve the plans for any aspect of the Project or other action required under this Agreement.
- b. The Parties acknowledge that the obligations set further herein may be further described in other agreements and or deeds as agreed to by the Parties. The City and One Diamond agree to cooperate in good faith with regard to each and every aspect required for the completion of all construction and operations contemplated by this Agreement. The Parties

recognize, however, that the land use regulatory agencies of the City must perform their responsibilities in accordance with the law governing that performance and consequently are not obligated in any way by this Agreement. The City and One Diamond further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

- c. This Agreement shall not be interpreted or construed to independently create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent of representative of, or to otherwise bind, the other Party.

5. **Breach by One Diamond:**

- a. The City shall provide notice to One Diamond of a breach in writing, identifying the nature of the alleged breach and requested remedy. A breach shall be cured if remedied within thirty (30) days of receipt of the notice, or such other time as mutually agreed.

- b. If a breach is not cured as set forth above, the City may bring an action, in law or in equity, to enforce this Agreement as for damages, or both.
- c. If a breach is not cured as set forth above prior to the City's conveyance of the City Property to One Diamond, the City's obligation to convey the City Property shall be terminated.

6. **Breach by City:**

- a. One Diamond shall provide notice to the City of a material breach in writing, identifying the nature of the alleged breach and requested remedy. A material breach shall be cured if remedied within thirty (30) days of receipt of the notice, or such other time as mutually agreed.
- b. If a material breach is not cured as set forth above, One Diamond may bring an action, in law or in equity, to enforce this Agreement or for damages, or both.

7. **Integration:**

This Agreement, along with any exhibits, appendices, addenda, schedules, and amendments hereto, encompasses the entire agreement of the parties, and supersedes all previous understandings and agreements between the Parties,

whether oral or written. The Parties hereby acknowledge and represent, by affixing their hands and seals hereto, that the Parties have not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this Agreement, made by or on behalf of any other Party or any other person or entity whatsoever, prior to the execution of this Agreement. The Parties hereby waive all rights and remedies, at law or in equity, arising or which may arise as the result of a Party's reliance on such representation, assertion, guarantee, warranty, collateral contract or other assurance, provided that nothing herein contained shall be construed as a restriction or limitation of the Party's right to remedies associated with the gross negligence, willful misconduct or fraud of any person or party taking place prior to, or contemporaneously with, the execution of this Agreement.

8. **No Oral Modifications:**

This Agreement may not be changed or terminated orally. This Agreement and all the covenants, terms and provisions contained herein shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns. Except for an affiliated single purpose entity organized by L&H to construct and operate the Project, neither this Agreement nor any of the rights, interests or obligations under this Agreement may be assigned or delegated by any Party, without the prior written consent of the other Party. This Agreement is not intended to confer any rights or benefits to any entity other than to the City and to

One Diamond, its affiliate entity organized to construct and operate the Project, and its affiliates.

9. **Mutual Cooperation and Further Agreements:**

The Parties acknowledge that the obligations set further herein may be further described in other agreements as agreed to by the Parties. The City and One Diamond agree to cooperate in good faith with regard to each and every aspect required for the completion of all construction and operations contemplated by this Agreement. The Parties recognize, however, that the land use regulatory agencies of the City must perform their responsibilities in accordance with the law governing that performance and consequently are not obligated in any way by this Agreement. The City and One Diamond further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

10. **Notice:**

All notices required to be given to City or One Diamond under this Agreement shall be in writing and deemed given upon the earlier of actual receipt by personal

delivery or two (2) days after being mailed by U.S. Express, registered or certified mail, return receipt requested, or a reputable overnight courier as follows:

CITY: City of Biddeford
 c/o James A. Bennett, (or the then current) City Manager
 P.O. Box 566
 205 Main Street
 Biddeford, Maine 04005

With a copy to: City Attorney as designated in writing by the City

L&H: One Diamond Development, LLC
 2 Livewell Drive, Suite 201
 Kennebunk, ME 04043

With a copy to: One Diamond's attorney as designated in writing by L&H

11. Severability:

Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall

continue to be valid and binding upon the parties, who agree that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provisions.

12. Survival:

All express representations, warranties, indemnifications or limitations of liability made in or given in this Agreement shall survive the expiration or the termination of this Agreement for any reason.

13. Mediation/Arbitration:

The Parties hereto agree that prior to filing litigation they will consider alternative dispute resolution techniques such as mediation and arbitration to resolve all claims, counterclaims, disputes and other matters in question between the Parties arising out of this Agreement.

IN WITNESS WHEREOF, the Parties hereto have set their hands and seals as of the day, month and year first above written.

Vakne Gordon

Witness

ONE DIAMOND DEVELOPMENT, LLC

By: [Signature]

Name: Timothy Harrington

Title: Member

[Signature]

Witness

CITY OF BIDDEFORD

By: [Signature]

James A. Bennett, City Manager

OFF MAIN ST.
(UNION OIL CITY)

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. Marshall
 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: 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

Ralph W. Austin
 WITNESS

Richard J. Flaherty
 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,
Ralph W. Austin
 Notary Public/Attorney-at-Law
 Print Name:
 My commission expires:
 1
 Ralph W. Austin
 NOTARY PUBLIC
 State of Maine
 My Commission Expires
 11/09/2025

Maine R.E. Transfer Tax Paid

52 ELM ST.

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.

68 ELM ST.

DLN: 1002240189093

QUITCLAIM DEED

PFP Lawrence, Inc., a Massachusetts corporation, with a mailing address of 56 Kearney Road, Needham, MA

For consideration paid of **One Dollar (\$1.00)**

Grant to **One Diamond Development, LLC**, a Maine limited liability company, of **2 Livewell Drive, Suite 201, Kennebunk, Maine 04043**

With *quitclaim covenants*

the following described real property located at 68 Elm Street, City of Biddeford, York County, State of Maine

A certain lot or parcel of land with all buildings thereon situated in Biddeford in the County of York and State of Maine and bounded and described as follows: Beginning at River Street at the east corner of the heirs of the late William P. Hooper; thence running westerly by said Hooper land to land of the heirs of Samuel T. Merrill; thence southerly by said Merrill land to a stone wall; thence easterly by said stone wall and in a straight line from the east end thereof to said River Street to a point one hundred and twelve (112) feet distance from said Hooper corner; thence

Maine R.E. Transfer Tax Paid

Property Address: 68 Elm Street, Biddeford, Maine

northerly by said River Street to said Hooper corner and point of beginning.

Being the same premises described in a deed from Kathryn B. Mahaney to Annie T. Mahaney and recorded in York County Registry of Deeds in Book 996, Page 208 and dated March 1, 1943.

Also another certain lot or parcel of land beginning on the southerly side of River Street, so called, at its junction with Elm Street; thence westerly by said River Street about seventy six (76) feet to land of Alphonso M. Goodwin; thence in a southwesterly direction by land of said Alphonso M. Goodwin one hundred and sixty nine (169) feet, more or less, to land now or formerly of Samuel T. Merrill; thence in a southeasterly direction and at about right angles by the land of said Merrill seventy six (76) feet, more or less, to Elm Street; thence at about right angles in a northwesterly direction by said Elm Street one hundred and eighty (180) feet, more or less, to River Street and point of beginning.

For grantor's title, see deed of Alfred E. Pill, Robert E. Pill and Selig M. Friedberg dated February 15, 2008 and recorded with the York County Registry of Deeds in Book 15374, Page 0058-0060.

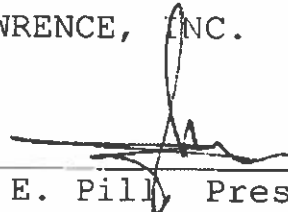
Meaning and intending to describe, as to both parcels, the property described in deeds recorded in the York County Registry of Deeds in Book 1984, Page 103 and Book 1984, Page 105.

(signature page attached)

Executed this 18 day of March, 2022.

PFP LAWRENCE, INC.

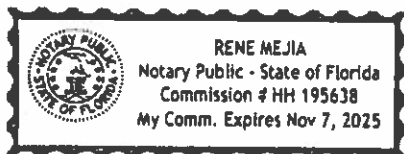
By:


Alfred E. Pill, President

STATE OF FLORIDA

Palm Beach, ss.

On this 18 day of March, 2022, before me, the undersigned notary public, personally appeared Alfred E. Pill, proved to me through satisfactory evidence of identification, which was (X) a driver's license and/or () _____, to be the person whose name is signed on the preceding or attached document; and acknowledged to me that he signed it voluntarily for its stated purpose.




Notary Public
My commission expires:

NANCY E HAMMOND, REGISTER OF DEEDS
 E-RECORDED **Bk 18941 PG 668**
 Instr # 2022006096
 01/31/2022 03:51:31 PM
 Pages 6 YORK CO

DLN: 1002240181791

QUITCLAIM DEED (With Covenant)

KNOW ALL MEN BY THESE PRESENTS

Maine R.E. Transfer Tax Paid

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

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

Ralph W. Quah

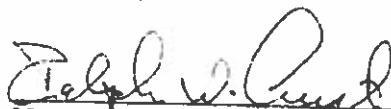
John Leclerc
By John Leclerc
Its: Member

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

378 MAIN ST.

NANCY E HAMMOND, REGISTER OF DEEDS
 E-RECORDED Bk 18941 PG 666
 Instr # 202205085
 01/31/2022 09:51:31 PM
 Pages 2 YORK CO

DIN: 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 Ladeda, 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: _____

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

Section 3

Financial Capacity

Financial Capacity

A. Estimated Costs

The proposed project is to be constructed in three phases. The anticipated construction site cost of Phase 1 is estimated to be approximately 8.6 million dollars. The approximate site cost of Phase 2 and 3 is approximately 7.5 million. The total site construction budget is expected to be around 16-17 million dollars.

B. Financing

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.

Section 4

Technical Ability

Technical Ability

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 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. Over the years, we have found our depth of services to be a key element in meeting the customer's needs with timely and responsive services.

Please see the Section for additional project team information.

BRIAN A. MCMAHON

Landscape Designer



Mr. McMahon joined Sebago Technics in July of 2021. Brian graduated Magna Cum Laude from the University of Rhode Island with a degree in Landscape Architecture and a minor in Community Planning. As a landscape designer, he has actively worked on projects that contain elements of site analysis, conceptual design, site detailing, graphic renderings, and planting design. Brian hopes to pursue his licensure to become a Registered Landscape Architect in Maine within the upcoming years.

EXPERIENCE



Sebago Technics Inc. - South Portland, ME

Landscape Architecture Intern

Dec. 2020 – Jan. 2021

- Range of work included rendering a variety of conceptual site plans and developing preliminary sketches for new projects.
- Familiarized with professional environment, in which multiple teams collaborated amongst one another.
- Acquired valuable skills with Adobe PhotoShop.

Gogan Landscaping & Masonry - Wells, ME

Mason & Landscape Installer

May 2018 – Aug. 2020

- Assisted in redesigns and installs of custom landscapes mostly on a residential scale.
- Facilitated landscape installs ranging from planting designs and small hardscapes.
- Led a small crew in numerous projects ranging from large patios, dry stack rock wall installations, and stone veneer applications.

Winn Contracting - Ogunquit, ME

Home Construction

Apr. 2015 – Sep. 2017

- Assisted in construction of two different houses.
- Acquired valuable skills and an understanding of contracting.

EDUCATION



University of Rhode Island,
Kingston, Rhode Island
Bachelor of Landscape Architecture
Minor: Community Planning

SKILLS

Experienced landscape installer
and mason

Proficient in AutoCAD, SketchUp &
Lumion

Proficient in Adobe PhotoShop,
InDesign, & Illustrator

Deciduous & coniferous plant
identification



207.200.2123



BMCMAHON@SEBAGOTECHNICS.COM

DANIEL L. RILEY, PE, CFM

Vice President, Engineering



Mr. Riley joined Sebago Technics, Inc. (STI) in August of 2001. Mr. Riley now serves as Vice President of Engineering with over 29 years of experience in the civil engineering field on projects for the private sector, as well as federal and municipal clients. He has a diverse background in civil engineering, municipal infrastructure and site design, permitting including institutional, commercial and residential development.

He is experienced and well versed in presenting complex, controversial and publicly sensitive issues to a variety of audiences. Mr. Riley's project management and technical experience involves a range of municipal and private sector projects. He has been directly involved in South Portland's significant CSO facility plan implementation and infrastructure projects including leading the design, planning and presentations to the public and City Council.

Mr. Riley has developed an outstanding relationship with permitting agencies in Southern Maine, the South Portland Planning Board and City Council. Prior to joining Sebago Technics, Mr. Riley worked as a professional engineer in Colorado specializing in water resources engineering. In that role, he managed projects for federal and municipal clients, including stormwater master planning studies and floodplain analysis and delineation projects. He has also assisted communities with the implementation of Stormwater Management Utilities.

EXPERIENCE



General Engineering Services Contract – City of South Portland, ME: Mr. Riley has been the Contract Manager and Lead Engineer for Sebago Technics' General Engineering Services Contract with the City of South Portland. In that role, he is responsible for coordinating the firm's services and providing engineering support for City Departments including Planning and Development, Bus/Transportation and Waterfront, Public Works, and Parks and Recreation. He has been directly responsible for the management of projects related to the City's CSO Facility Plan and related sewer and water resource projects.

- Thornton Heights-Pleasantdale Sewer Separation
- Greenbelt Trunk Line SWMM Modeling and Replacement Design
- Sawyer Street Culvert Replacement
- Willard Beach Outfall Replacement
- Trout Brook Culvert Study
- Public Works Facility, Preliminary Design through bond vote
- Knightville Sewer Separation Phase 1 and Phase 2 and Mill Creek Transit Hub
- Mussey Street Sewer Trunkline Replacement & Mussey Street/Pine Street Sewer Separation

Combined Sewer Separation Projects – City of Portland, ME: Mr. Riley has been the Project Manager for several of Sebago Technics' Sewer Separation contracts with the City of Portland since 2010. Notable relevant projects include:

- Fall Brook Watershed Study-City of Portland Public Services Department
- Woodford Street and Melrose Street: Design and Inspection Services 2016-2017
- Forest Avenue, Deering Street and Ocean Avenue: Design and Inspection Services 2017-2018
- Mackworth-Ocean and Walnut Street: Design Services 2018-2019 for construction in 2020-2021

EDUCATION



Villanova University, Villanova, PA
Bachelor of Science, Civil Engineering
1991

REGISTRATIONS

Professional Engineer:
Maine #9967
Colorado: #32176

Certified Floodplain Manager
#32249

MEMBERSHIPS

Chi Epsilon, National Civil Engineering
Honor Society

Association of State Floodplain
Managers (ASFPM)



TANNER F. GOODINE, EI

Civil Engineer



Mr. Goodine joined Sebago Technics, Inc., (STI) in March of 2021. Tanner graduated from the University of Maine with a degree in Civil Engineering. He has experience in construction with the Lane Corporation and in project design and inspection with Walsh Associates. He has served as a Resident Project Representative, permitted and designed projects and performed surveys using GPS. While at Sebago Technics, Tanner has served as a full-time construction inspector, performed erosion control inspections in both Maine and New Hampshire, and helped with design while not in the field.

EXPERIENCE



Portland Transportation Center Parking Lot Reconstruction & Stormwater Improvements – Full-time resident inspections and construction administration for the construction of a 3-acre parking lot and 17,000 square foot subsurface sand filter stormwater system along Thompson's Point in Portland, ME.

Boothbay Harbor Route 27 Sidewalk – Full-time resident inspections on a Locally Administered Project (LAP) of the construction of approximately 0.25 miles of paved sidewalk extension on Route 27 in Boothbay Harbor, ME.

Somerset Street & Kennebec Street Redesign, Portland, ME – Provided full-time resident inspections and construction administration for both the Somerset Street & Kennebec Street redevelopment projects for the City of Portland, ME.

3rd Party Inspections & Town Engineer Reviews for Wells, Cape Elizabeth, and Rye, NH – Performed weekly construction inspections as a third-party reviewer for Maine DEP to inspect stormwater and erosion control measures as well as performed engineering peer reviews for the Towns of Wells and Cape Elizabeth, ME, and Rye, NH.

Clifford Park, Boothbay, ME – Designed and provided construction administration for the redevelopment of a municipal park and three sports fields in Boothbay, ME. The project provided the area with an updated little league field, two multi-purpose recreational fields, stormwater and municipal utility improvements.

Shawnee Peak Parking Development – Provided engineering design and construction administration for the construction of a 2-acre parking lot and two underdrained soil filters in a critical watershed in Bridgton, ME.

EDUCATION



University of Maine - Orono, ME
B.S., Civil Engineering
2020

CERTIFICATIONS

Erosion and Sediment Control
Certification Program

Local Project Administration (LPA)

OSHA-10



Section 5

Noise

Noise

A. Developments Producing a Minor Noise Impact

The proposed project involves the construction of a multi-use development with a residential focus. Noise levels generated by the proposed development are expected to be minor in nature. Proposed noise levels at the property line will be consistent with the allowed amounts noted in the City of Biddeford ordinance for the MSRD3 and Waterfront Renaissance Districts. The City allows for residential sound levels of 55 dbA/67 dbC and commercial levels of 60 dbA/72 dbC between the hours of 7 am and 10 pm, with levels being allowed to surpass these numbers by 10 db for a single period, not to exceed 15 mins.

Temporary noise may arise during construction as a result of construction equipment working on the site. This noise potential is short-term and also not expected to be significant. Construction will occur from 7 a.m. to 7 p.m. or during daylight hours. Sounds emitted from construction and demolition equipment are exempt under the City of Biddeford ordinance.

Section 6

Visual Quality & Scenic Character

Visual Quality

The proposed project involves the redevelopment of a group of previously developed parcels. The site was previously utilized for manufacturing and has been the site of several historic fires. The applicant proposes to create a mixed-use residential development that will celebrate the historic structures within the Mill District, relate to the adjacent residential neighborhoods and ties in with the City of Biddeford's vision of a Riverwalk which will result in a connected waterfront. Proposed improvements include the continuation of the City's Riverwalk path along the Saco River, which will connect the development to downtown. The proposed buildings have been positioned to best utilize the varying terrain, existing vegetation has been utilized and a robust landscaping plan has been created. All structures have been designed to be in keeping with the area aesthetic. The proposed improvements will not result in a negative impact to the visual quality of the area.

Please see this Section for architectural elevation information and the plan set for site design information.

Section 7

Wildlife and Fisheries

Wildlife and Fisheries

A request to Maine Department of Inland Fisheries and Wildlife (MDIFW) was forwarded on April 27, 2023. As of this writing a response had not yet been received. It is not anticipated that the proposed project will result in a negative impact to any endangered, threatened, and/or special concern species. Any additional correspondence from the MDIFW will be forwarded upon receipt.

Please see this Section for a copy of the request letter.



April 27, 2023
18462

Mr. John Perry
Environmental Coordinator
Maine Department of Inland Fisheries
41 State House Station
Augusta, Maine 04333

ifwenvironmentalreview@maine.gov

Re: One Diamond Street Development
Proposed Mixed-Use Development
1 Diamond St Biddeford, Maine
Tax Map 40, Lots 25-1, 25-2, 24, 25 & 74, and Tax Map 37, Lots 34 & 35

Dear John:

On behalf of our client, Sebago Technics respectfully requests a site review for the proposed phased mixed-use development located at One Diamond Street in the City of Biddeford. The lots are identified on Biddeford Tax Map 40 as Lots 25-1, 25-2, 24, 25, and 74, and on Tax Map 37 as Lots 34 and 35. One Diamond Development, LLC proposes uses consisting of approximately 480 residential units and commercial space in seven new multi-story buildings. As part of the site review for permitting and design, we request MDFIW review regarding known locations of Endangered, Threatened, and Special Concern species, designated Essential and Significant Wildlife habitats, and fisheries habitats in the vicinity of the site as identified on the attached Location Map. I have also included a copy of the sketch and conceptual phasing plans.

If you have any questions, please do not hesitate to contact me at snichols@sebagotechnics.com or (207) 200-2120. I look forward to hearing from you.

Sincerely,

SEBAGO TECHNICS, INC.

A handwritten signature in black ink that reads "Stefanie Nichols".

Stefanie Nichols
Permitting Specialist/Project Coordinator

enc.

Section 8

Historic Sites

Historic Sites

A review request was forwarded to the Maine Historic Preservation Commission (MHPC) on April 27, 2023. A response was received on May 17, 2023. Their review determined that no architectural or prehistoric archaeological resources would be impacted by the proposed project. They did request that a historical archaeological study be conducted in the location of the old steam sawmill. It is not anticipated that the proposed project will result in an impact to any historic archaeological resources. Coordination with a historic archaeologist is in process. Any additional correspondence from the MHPC will be forwarded upon receipt.

Please see this Section for a copy of the response letter.



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.

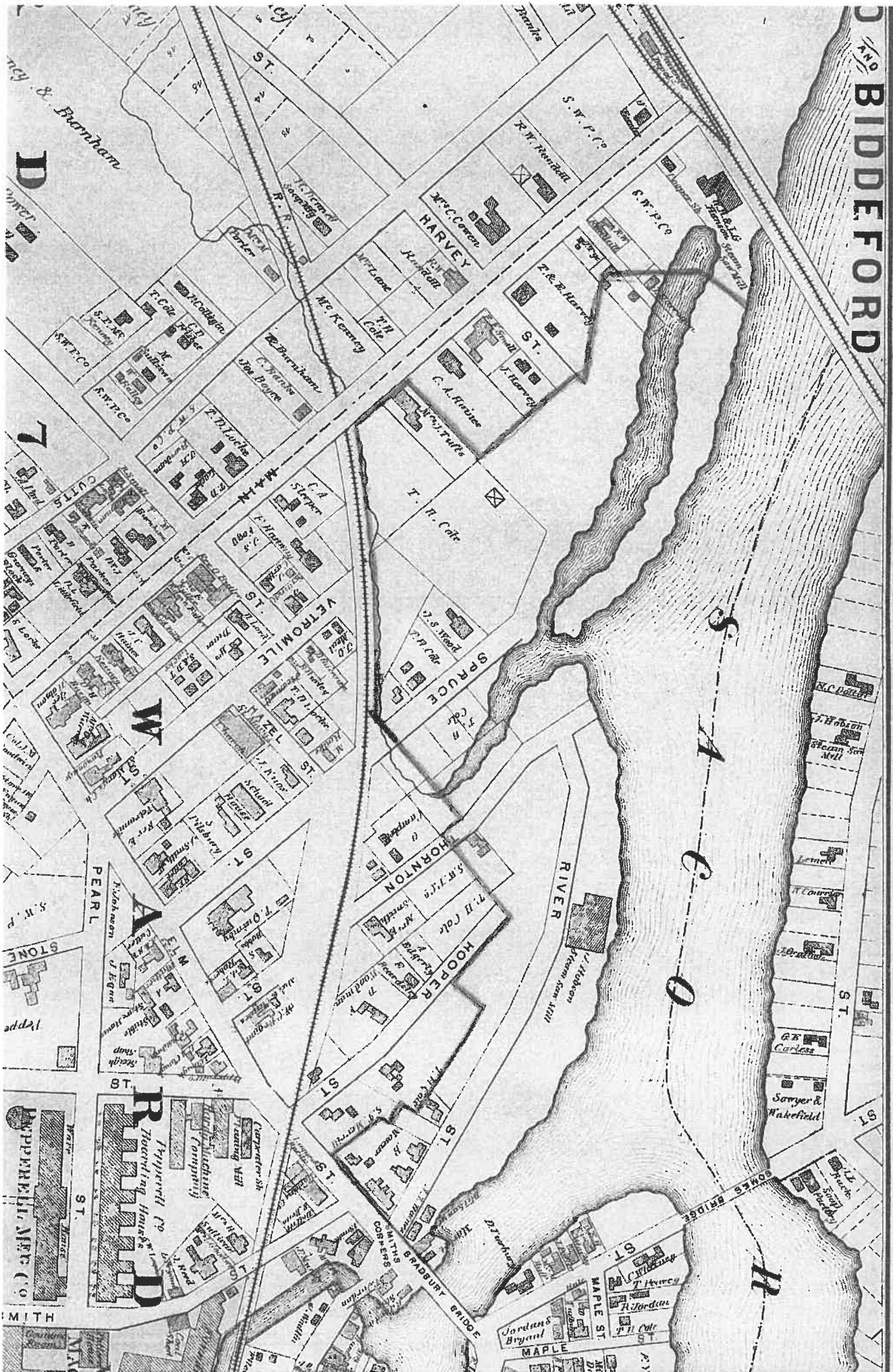
No architectural or prehistoric archaeological resources will be affected by this undertaking.

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

285-23 Apr. 27
1872



Section 9

Unusual Natural Areas

Unusual Natural Areas

Per a letter from the Maine Natural Areas Program dated May 1, 2023, there are no known rare or unique botanical features located on the project site.

Please see this Section for a copy of the response letter.



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>



Section 10

Buffers

Buffers

Please see the plan set for more detailed information on the proposed landscaping.

Section 11

Soils

Soils

A. Soil Survey Map and Report

Please see the plan set for the soil information.

The soil types identified in the soil survey were utilized in the pre- and post-development drainage plans and the corresponding hydrologic soil group was included in the stormwater runoff models.

B. Soil Survey Intensity Level by Development Type

Please see the plan set for soils information.

C. Geotechnical Investigation

Please see the draft Geotechnical Report by S.W. Cole included as part of this Section.

D. Hydric Soils Mapping

Please see this Section for a copy of the wetland and vernal pool memo. The site was reviewed for vernal pools in the spring of 2023 and none were found.



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

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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

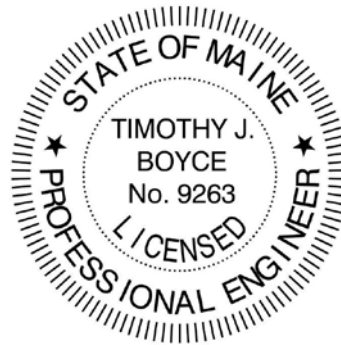
It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the final design and construction phases of the project.

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



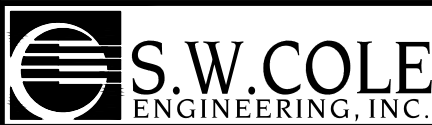
LEGEND:

 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.



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 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				
55 5 50 10 45 15 40 20			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)		
			3D		5-7	24/10	3-3-3-3		5.0 Very loose to loose dark brown WOOD, SAWDUST and ORGANIC SILT (Fill)		
			4D		10-12	24/24	2-1-1-3				
			5D		15-17	24/22	2-2-2-2		14.0 Medium stiff, gray silty CLAY		
			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 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		
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 D = Split Spoon Sample Pen. = Penetration Length WOR = Weight of Rods S_v = Field Vane Shear Strength, kips/sq.ft.
▽ At Completion of Drilling U = Thin Walled Tube Sample Rec. = Recovery Length WOH = Weight of Hammer q_u = Unconfined Compressive Strength, kips/sq.ft.
▽ After Drilling R = Rock Core Sample bpf = Blows per Foot RQD = Rock Quality Designation Ø = Friction Angle (Estimated)
V = Field Vane Shear mpf = Minute per Foot PID = Photoionization Detector 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

BORING NO.: **B-7**
SHEET: 1 of 1
PROJECT NO. 21-1652
DATE START: 12/20/2021
DATE FINISH: 12/20/2021

CLIENT: Barrett Made
PROJECT: Proposed One Diamond Residential Development
LOCATION: Diamond Street, Biddeford, Maine

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**

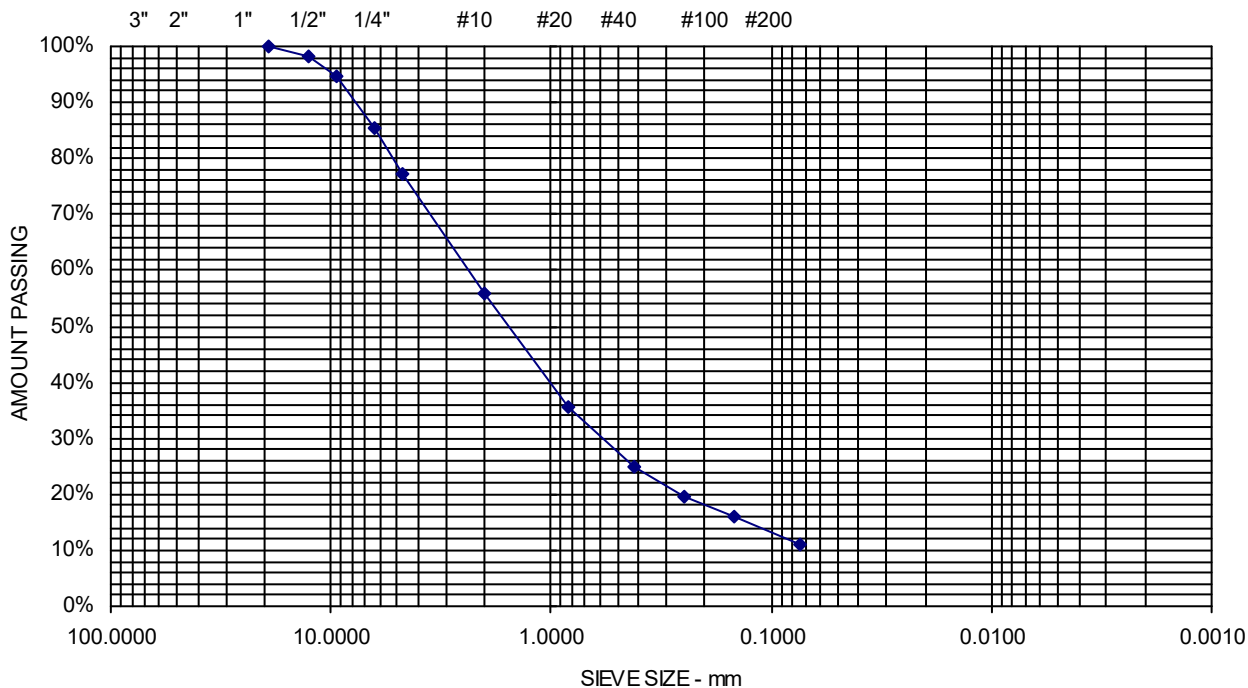
 Lab ID **21426S**

 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**

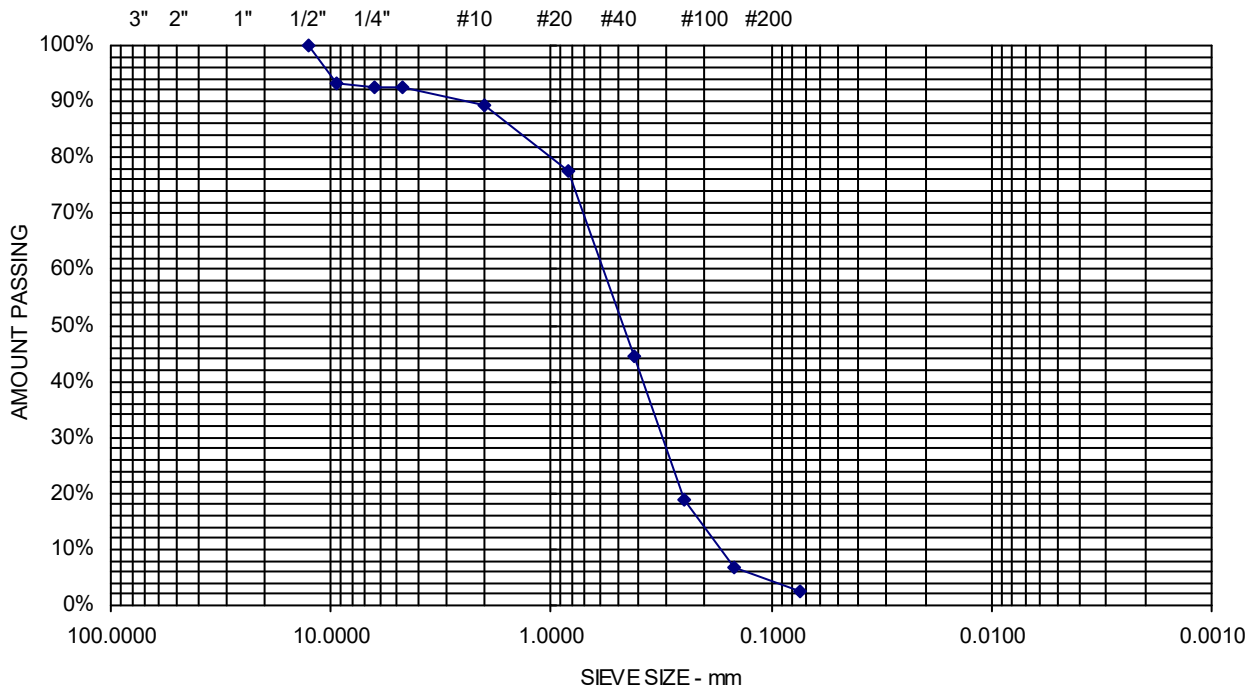
 Lab ID **21427S**

 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

0 150 300 600
US Feet



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 1



HISTORICAL IMAGERY
1986

0 150 300 600
US Feet



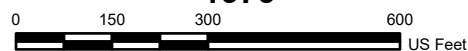
Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 2



S.W. COLE
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HISTORICAL IMAGERY

1970



Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 3



HISTORICAL IMAGERY
1956

0 150 300 600
US Feet

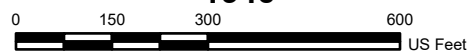


Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 4

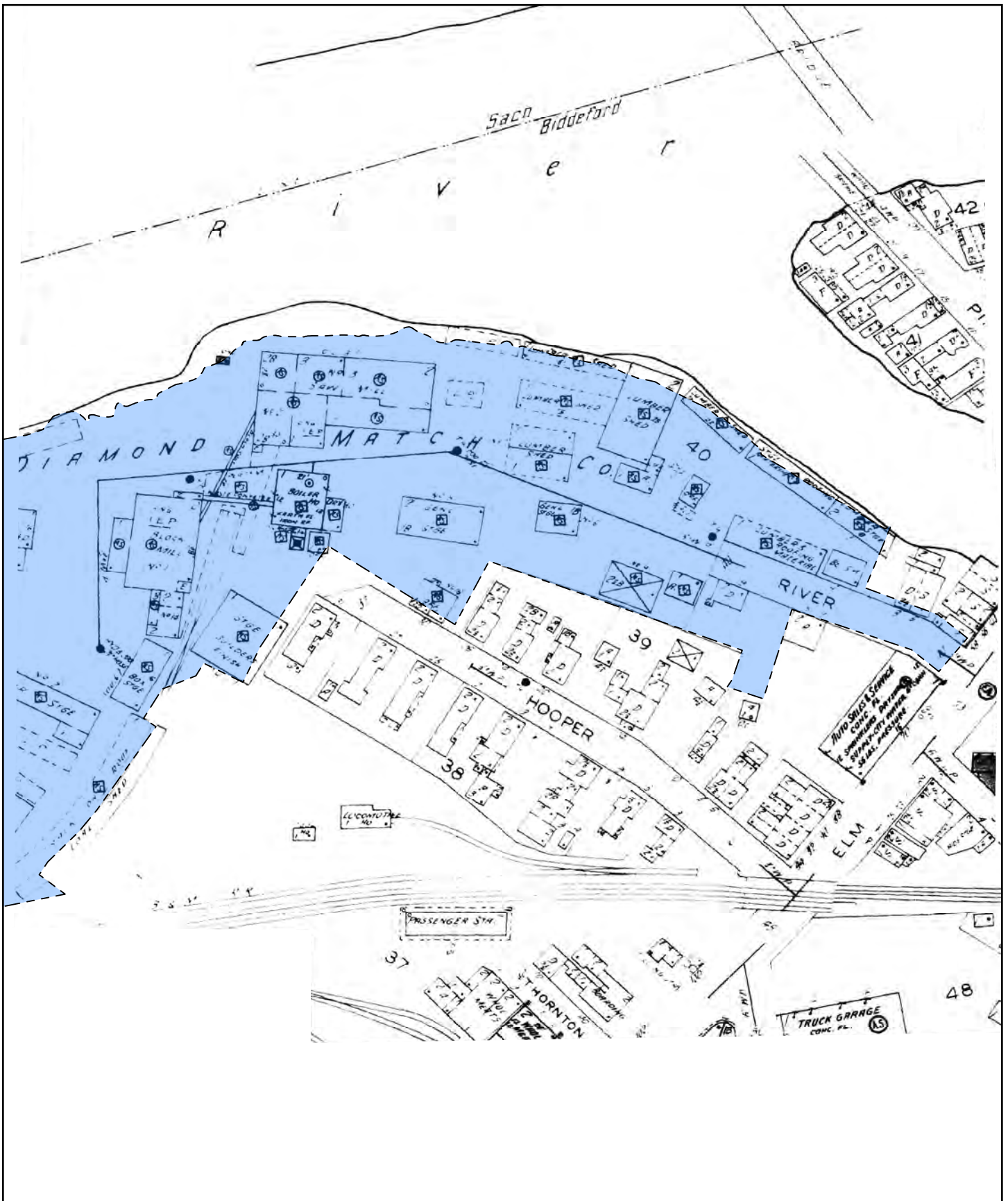


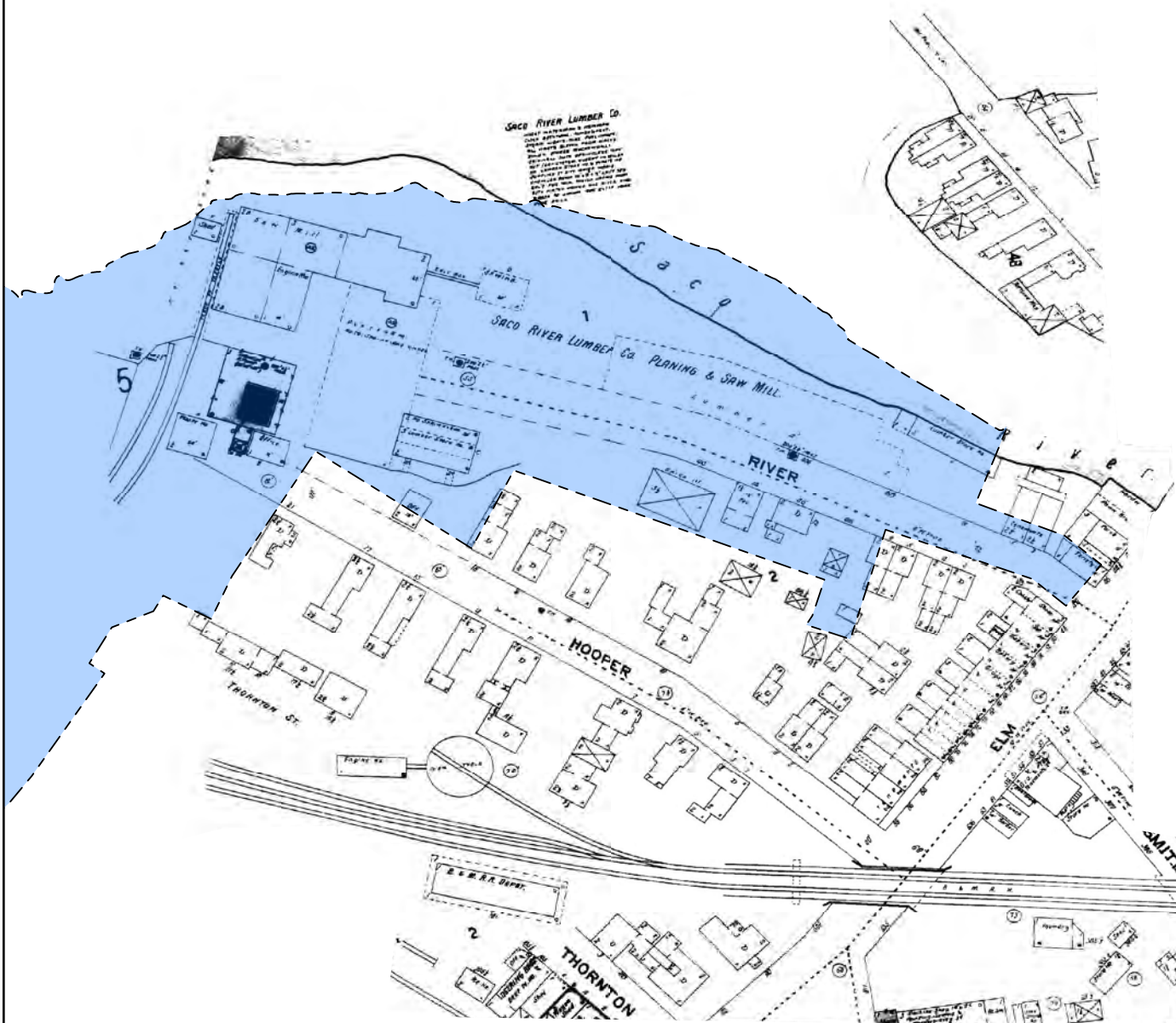
HISTORICAL IMAGERY

1940

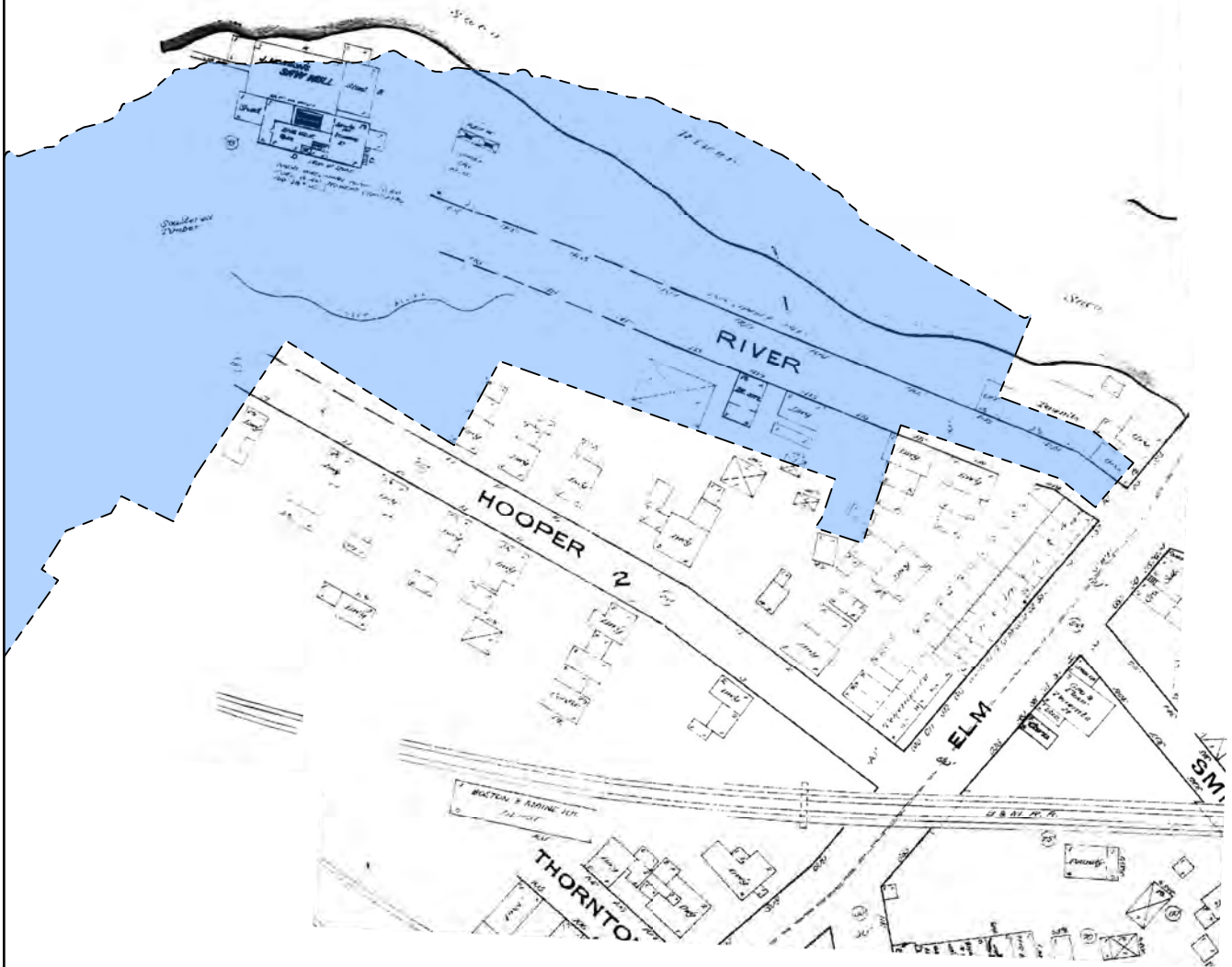


Job No. 21-1652
Date: 1/17/2022
Scale: 1" = 300'
Sheet: 5









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



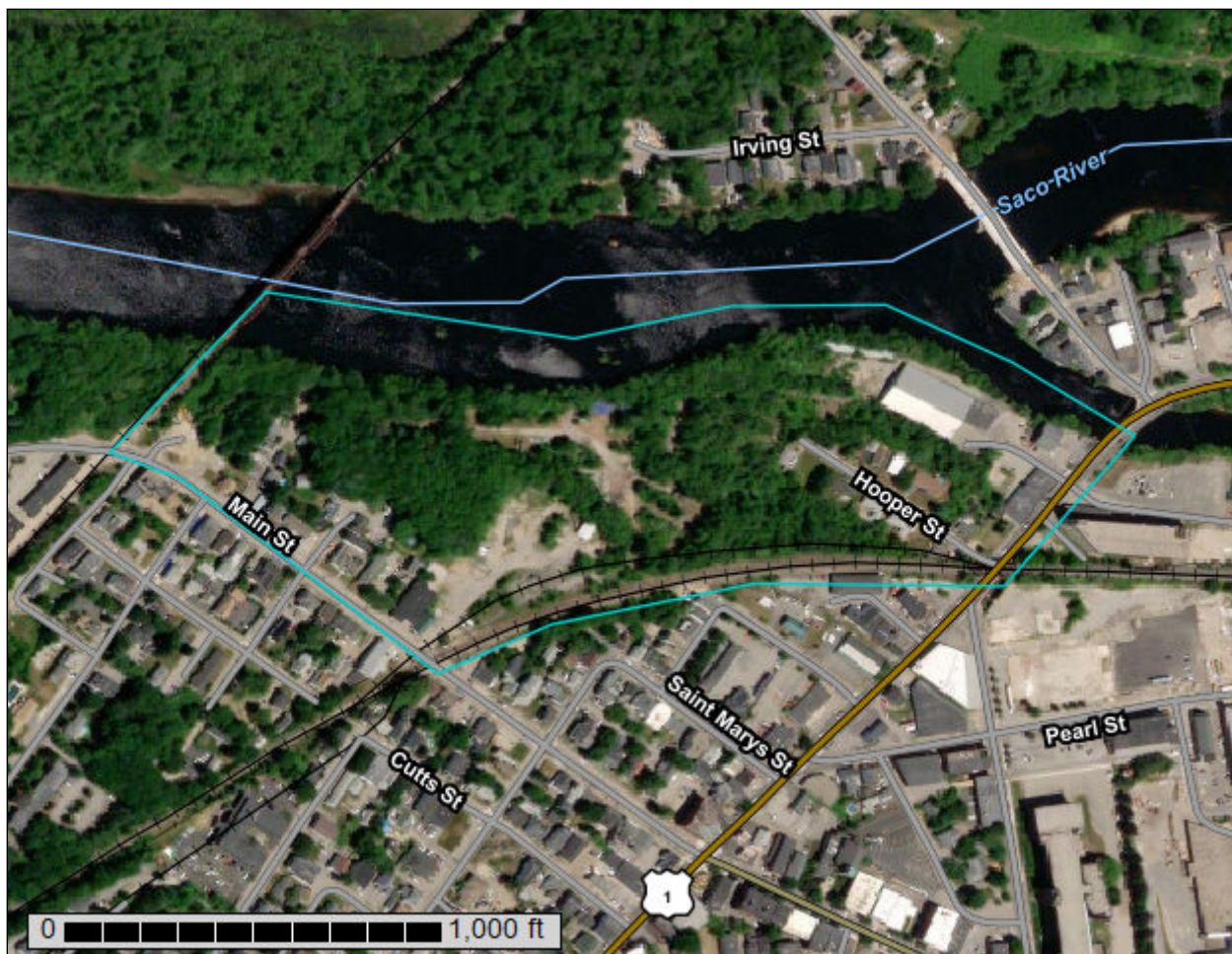
United States
Department of
Agriculture

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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Ur—Urban land.....	14
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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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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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Wetland and Vernal Pool Memo

To: Daniel Riley, Vice President, Engineering, PE, CFM

From: Anna Biddle, Environmental Scientist, LSS

A handwritten signature in black ink, appearing to read "Anna Biddle".

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.

Section 12

Stormwater Management



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 2023

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Appendix 2A:	Hydrologic Modeling– Existing Conditions (HydroCAD)Summary
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Appendix 3:	Inspection, Maintenance, and Housekeeping Plan
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 Report has been prepared to present analyses performed to address the potential impacts associated project due to proposed modifications in 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 Phase 1 and the overall project build-out scope (Phases 2 and 3).

2. Existing Conditions

The approximate 18.2-acre project site consists of partially developed land located at the former Diamond Match site that 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, 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 the catch basin in Diamond Street that combines with the existing 12" sewer main that runs through the site. The Saco River Basin occupies approximately 1,700 square miles of southwestern Maine and western New Hampshire. 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 67-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 is redirected north through the project, reduces to a 42-inch diameter pipe, and discharges into the river at a lower elevation than the 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

One Diamond proposed mixed-use development will consist of both residential units and commercial space, in seven new multi-level buildings to be constructed in three phases. Two private roadways will be constructed for access to each of the seven buildings. This roadway system extends throughout the entire site, connecting both Main Street and Elm Street. A river walkway will be constructed for public use along the Saco River on the northern edge of the property. Recreational open space will also be constructed in a variety of different locations along the riverwalk trail.

Phase One Development

Proposed site improvements for phase one will result in approximately 5.00 acres of impervious area and 3.20 acres of landscaped area. MDEP Site Location of Development Act (Site Law) stormwater standards apply to the project given that site improvements in Phase 1 will exceed three acres. Phase One site improvements include:

- The construction of a 28'-30' travel way heading westerly from Elm Street with parking spaces, equating to a total of 2.20 acres of impervious area.

- Two multi-story buildings, equating to 0.95 acres of impervious area.
- Several sidewalks and pedestrian pathways along the proposed road, roughly equating to 0.50 acres of impervious area.
- A riverwalk path with amenities, equating to 0.50 acres of impervious area.
- Vegetated and landscaped areas, including landscaped islands within parking and roadway areas, equating to 6.3 acres of landscaped area. This includes grassed areas as well as areas seeded with conservation mix and designated not to be mowed more than twice per year.
- Construction of a subsurface sand filter #1 (SSSF-1) and an underdrain soil filter (UDSF-1).
- Construction of a closed drainage system that will pick up flow from the offsite area. Where the system outlets at the river, the invert elevation will be at the approximate 50-year floodplain so that tailwater conditions are minimized.

Phase 1 Development Summary	
Impervious Area	4.2 acres
Landscaped Area	6.3 acres
Total Developed Area	10.5 acres

Phase one development will result in a tree-clearing area of approximately 4.8 acres. Several areas are proposed to be seeded with a conservation mix and designated to not be mowed twice per year to return site grading areas to the existing condition. These areas amount to approximately 1.8 acres, bringing the phase one limit of disturbance to roughly 10 acres. Additionally, land areas within the majority of the 25-foot setback of the Saco River are to be completely preserved and vegetation protected. Developed areas in Phases 2 and 3 that will be temporarily impacted in Phase 1 for drainage purposes are proposed to be seeded with conservation mix and designated not to be mowed twice per year until the proposed development occurs.

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 220 of those trees. Therefore, 29 percent of the trees with diameters larger than 4 inches are being removed within the 75-foot setback, meeting the Waterfront Renaissance District standard.

The catch basin in Diamond Street that combines with the sewer flow is proposed to be converted to a solid manhole cover. This will separate the on-site stormwater runoff and the sewer. The flow is proposed to be redirected towards the Saco River and into the existing 15-inch outfall pipe underneath Elm Street.

Masterplan Development

The overall project will result in approximately 15.50 acres of redeveloped land, including 9.70 acres of impervious surfaces and 6.00 acres of landscaped area.

Masterplan Development Summary	
Impervious Area	9.70 acres
Landscaped Area*	6.00 acres
Total Developed Area	15.70 acres

*Note: Landscaped areas include areas designated to be seeded with conservation mix and not to be mowed more than twice per year.

Existing drainage patterns are not expected to be significantly altered in Phase 1 and the masterplan development given that site runoff will continue to drain directly toward the river via stretches of sheet, shallow concentrated, and channelized flow. The stormwater management plan includes treatment measures that will provide pollutant removal or treatment, and mitigate the increased frequency and duration of channel erosive flows due to runoff from smaller storms and potential temperature impacts, per the standards outlined in Chapter 500 of the MDEP. Stormwater best management practices (BMPs) to be constructed for stormwater treatment and detention of runoff attributed to the project include two subsurface sand filters and one underdrain soil filter. Phase 1 will include the construction of one of the subsurface sand filters (SSSF-1) and the underdrain soil filter (UDSF-1). As some of the project amenities are general in nature, an impervious area of 0.2 acres is assumed to be tributary to UDSF-1. Phase 2 will include the construction of the second subsurface sand filter (SSSF-2) which will also manage runoff from Phase 3.

Development of all three phases will result in a total tree-clearing area of approximately 7.5 acres, leaving approximately 2.5 acres of trees or undeveloped land onsite.

Phase 1 and the overall site masterplan development are designed in a manner to minimize the effects of flooding along the Saco River. A majority of the riverwalk trail will be above the 100-year base flood elevation. Also, the parking area to the north that extends along the river and within the floodplain will be constructed above the base flood elevation. One storm drain outlet point at the river will be elevated to the approximate 50-year base flood elevation to further minimize tailwater conditions during normal flow.

5. Existing Conditions Model

The pre-development watershed plan consists of five subcatchments labeled 1S, thru 5S in the HydroCAD model. Four locations were identified as Points of Analysis (POA) for comparing peak runoff rates, with all four of the POAs being inlets to the Saco River. The overall drainage area included in the model is equal to 93.1 acres.

POA-1: 1S is identified as the northwestern fourth of the site and the subcatchment tributary to POA-1. The total tributary area that 1S contributes is approximately 7.5 acres. Stormwater runoff in this subcatchment drains to the north and into the Saco River.

POA-2: Watersheds 2S and 5S are both tributary to POA-2, with an overall runoff area of approximately 76.94 acres. 2S represents the middle of the site, between 1S and 3S. The total tributary area that 2S contributes is 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 to the south of the site that drains into the box culvert, represented by 5P. The box culvert is then relayed to a 42" outfall pipe that directly discharges into the Saco River, represented by 5P. 5P then eventually drains to a culvert where the outfall pipe converts to a 42" outfall pipe that directly discharges to the Saco River, which is represented by 52P. The total tributary area that 5S contributes is approximately 76 acres.

POA-3: 3S is identified as the northeastern fourth of the site and the subcatchment tributary to POA-3. Stormwater runoff from subcatchment 3S drains directly to the Saco River. The total tributary area that 3S contributes is approximately 7.8 acres. Stormwater runoff in this subcatchment drains to the north and into the Saco River. POA-3 receives overflow drainage from the existing catch basin in Elm Street, represented as 4P. However, as this catch basin is primarily tributary to POA-4, it is not included in the overall tributary area of POA-3.

POA-4: POA-4 represents the 15" outfall pipe that drains to the Saco River underneath Elm Street. 4S is tributary to POA-4 and represents the residential area at Hooper Street. The total tributary area that 4S contributes is approximately 1.8 acres. Stormwater runoff from 4S drains into catch basin 4P and then outlets via the 15" culvert into the Saco River.

6. Proposed Conditions Model

The post-development watershed plan consists of forty subcatchments. These subcatchment areas represent the areas from the existing condition that have been altered as a result of the proposed development. Points of Analyses 1-4 are unchanged from the pre-development model. The overall drainage area of the model remains equal to the pre-development model at 93.1 acres. Off-site landscape and impervious areas have been renamed in the post-development conditions model as "Offsite Landscape" and "Unconnected Impervious", respectively.

POA-1: Subcatchments 1.1S, 1.2S, 1.3S, 1.4S, and 1.5S are tributary to POA-1 in the post-development condition. These areas represent the pre-development subcatchment 1S as a result of the proposed development, as well as any off-site areas included in 1S that were unchanged in the post-development. Subcatchment 1.1S represents the stormwater discharge that directly drains to the Saco River, north of the proposed riverwalk. 1.2S represents the area that drains to a small swale (1.2R) that directly discharges into the Saco River. 1.3S represents a portion of the developed area south of the riverwalk and west of the proposed end of Phase 1 parking, as well as off-site development areas. 1.3S drains to a shallow depression and into a 12" culvert, represented by 1.3P, which then discharges stormwater runoff into 1.2R. 1.4S represents the remainder of the off-site development from pre-development subcatchment 1S that directly drains to the Saco River. 1.5S represents the lawn area to the south of the riverwalk that is tributary to the proposed underdrained soil filter (1.5P). Overall, the area tributary to POA-1 in the post-development condition is equal to 5.9 acres.

POA-2: Subcatchments 2.1S thru 2.28S and 5.1S are tributary to POA-2. POA-2 is the discharge point for two proposed BMPs: SSSF-1, represented by 2.201P, and SSSF-2, represented by 2.111P. Subcatchment 2.1S represents the area north of the proposed riverwalk that drains directly to the Saco River. Subcatchments 2.2S thru 2.10S and 2.27S are tributary to 2.201P. 2.201P discharges to POA-2 via a proposed 36" culvert outfall into the Saco River. The overall

area tributary to 2.201P is equal to 3.9 acres. Subcatchments 2.11S thru 2.23S are tributary to 2.111P. Discharge from 2.111P leaves the sand filter via a 36" and eventually connects to the proposed 60" outfall pipe that discharges to the Saco River, represented by 2.241P. The overall area tributary to 2.111P is equal to 6.0 acres. Subcatchment 2.25S is tributary to 2.25P. 2.25P also eventually connects to the 60" outfall pipe that discharges to the Saco River. The overall area tributary to 2.25P is equal to 0.5 acres. Subcatchment 5.1S represents the off-site drainage area south of the project parcel. The subcatchment area has been reduced as a portion of the off-site drainage area will be captured by the proposed onsite drainage system. The overall area tributary to POA-2 is equal to 80.3 acres.

POA-3: Subcatchment 3.1S represents the remaining area of 3S due to the redirection of onsite drainage as a result of the proposed development. Subcatchment 3.1S directly drains to the Saco River and has an overall tributary area of 2.7 acres. A portion of overflow drainage from the existing catch basin in Elm Street represented as 4.1P in the post-development model, drains to POA-3. However, this catch basin is primarily tributary to POA-4, so this is not included in the tributary area of POA-3.

POA-4. Subcatchments 4.1S, 4.2S, 4.3S, 4.4S, and 4.5S are tributary to POA-4. The overall tributary area of POA-4 increased from the pre-development area to the post-development area due to the redirection of onsite drainage characteristics. Subcatchment 4.1S represents the residential area on Hooper Street and drains to the existing catch basin on Elm Street, labeled as 4.1P. This subcatchment is unaltered between the pre-development and post-development conditions, however, the outfall pipe is intercepted by a proposed drainage structure, labeled as 4.11P. Subcatchments 4.2S, 4.3S, 4.4S, and 4.5S eventually drain to 4.11P and connect with the existing 15" outfall pipe and discharge to POA-4. Overall, the area tributary to POA-4 is equal to 4.2 acres.

7. Stormwater Management

Basic Standard - Chapter 500, Section 4(B)

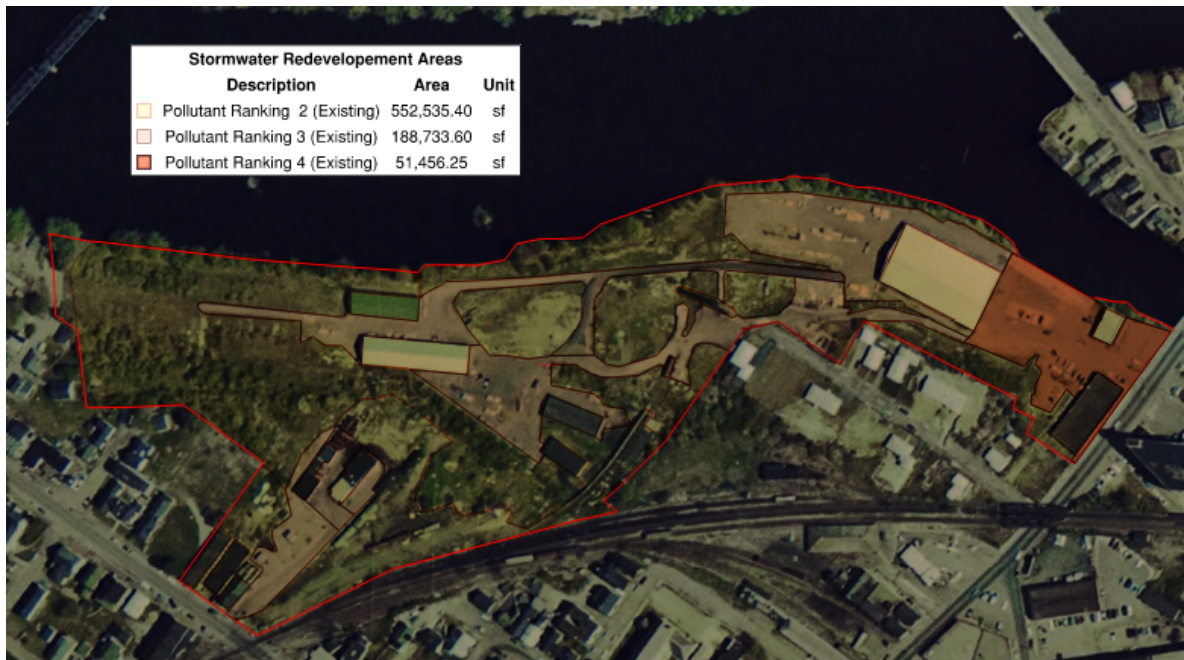
Since the project will disturb more than one (1) acre of land area, MDEP Basic Standards apply, requiring that grading or other construction activities on the site do not impede or otherwise alter drainage ways to have an unreasonable adverse impact. We have avoided adverse impacts by providing an Erosion & 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.

This project’s stormwater management system meets the redevelopment treatment level standards defined in MDEP’s Chapter 500, Section 4(C) – 2(d). 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. A minor amount of undeveloped land, as determined by the Department on a case-by-case basis, may be included within the perimeter of 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 get an overall proposed impact rating for both the existing condition and the proposed condition. Then, to find the ranked impact change due to redevelopment, the existing impact rating is divided by the total redevelopment acres and subtracted from the proposed impact rating divided by the total redevelopment acres. If the ranked impact rating is 0.0 or less (for a Site Law project), 50 percent of the developed area must be treated.



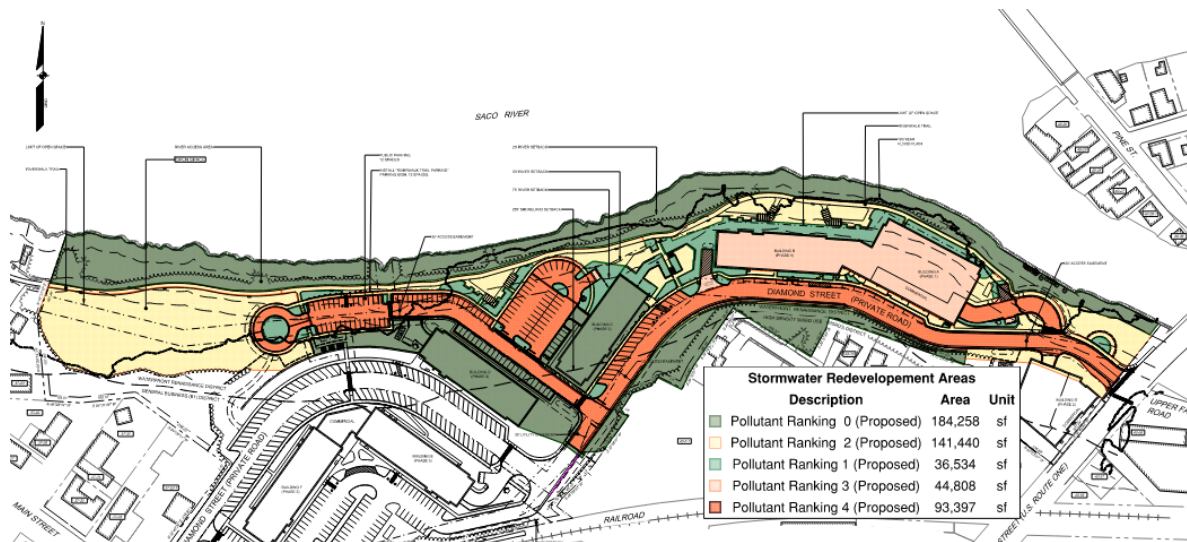
Historic Aerial of Project Site From 1970 – Pollutant Rankings

Phase One Development

The first phase of the project will be constructed largely within the footprint of the development that existed around 1970. See the above historic aerial for reference. Construction in Phase 1 results in an overall redevelopment rating difference of -0.82. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

Existing Impact Rating =	28.5
Proposed Impact Rating =	19.0
Existing Impact Rating per Acre of Development =	2.48
Proposed Impact Rating per Acre of Development =	1.65
Redevelopment Rating Difference=	-0.82

Treatment of runoff from 51% of developed surfaces in Phase One will be provided with the construction of one Subsurface Sand Filter #1 (SSSF-1) and one underdrain soil filter (UDSF-1), thus generally meeting minimum requirements.



Phase One – Pollutant Rankings

Masterplan Development

The masterplan development results in an overall redevelopment rating difference of -0.19. Runoff from a minimum of 50 percent of the developed area is required to be treated under the redevelopment standard.

Existing Impact Rating =	43.1
Proposed Impact Rating =	39.6
Existing Impact Rating per Acre of Development =	2.37
Proposed Impact Rating per Acre of Development =	2.18
Redevelopment Rating Difference =	-0.19

The total masterplan buildout proposes treatment of runoff from 66.4% of all developed surfaces and 77.9% of the total impervious area via the two subsurface chamber systems and one underdrained soil filter. Runoff from Phase One is proposed to be treated by SSSF-1 and UDSF-1, while Phases 2 and 3 are proposed to be treated by SSSF-2.



Project Masterplan – Pollutant Rankings

To mitigate the changes in hydrologic patterns due to the development of this project, two subsurface sand filters and one underdrain soil filter have been implemented into the stormwater management infrastructure. Filtration BMPs are very effective at removing a wide range of pollutants through the use of organic soil filter media. Subsurface sand filters are designed to store and discharge the stormwater at an attenuated rate to reduce the thermal impacts downstream of the system. The stormwater rises in the chambers and is filtered vertically out of the open bottom, through the filter, and to the storage and treatment area of the adjacent chambers, sand filter, and underdrain. Underdrained soil filters capture runoff and pass it through a soil media consisting of silty sand and organic matter mixture to remove a wide range of pollutants. Once through the soil media, the runoff is collected in a perforated underdrain pipe system and discharged downstream. BMP sizing and treatment calculations are provided in Appendix 1.

Flooding Standard - Chapter 500, Section 4(F)

MDEP flooding standards must be met for a project resulting in three acres or more of impervious area (structure). The Flooding Standard requires a project's stormwater management system to detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-, 10-, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. The project is located within the direct watershed of a major river segment, the Saco River, and the project is eligible for a waiver from the Flooding Standard as defined in MDEP's Chapter 500, section 4(F)-3(a). To support this project being applicable for a waiver from the flooding standard, a demonstration of the project conveying stormwater exclusively in sheet flow, in a manmade open channel, or a piped system directly into the Saco River is provided.

Stormwater runoff is being managed, stored, and treated in two subsurface sand filters and one underdrain soil filter. One subsurface sand filter will manage runoff from Phase One and a small

portion of Areas in Phase 2, and a second system will manage runoff from the remainder of Phase Two and Phase 3. All systems in which the stormwater runoff will flow are designed to have adequate capacity and stability to receive both the project's runoff and any ancillary off-site runoff passing through the system. The subsurface sand filter designated to provide treatment for Phases 2 and 3 has been sized to include a 10% increase in impervious area from what is shown on the Masterplan as a precautionary measure for future development and project scope changes. As stated previously, UDSF-1 has been sized to accommodate an additional 0.2 acres of impervious area in place of vegetated area as a precautionary measure for future development or change in scope. 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

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	11.9	8.7
	10-year	20.1	14.4
	25-year	26.8	18.7
POA-2	2-year	90.8	87.8
	10-year	145.8	141.2
	25-year	190.2	185.2
POA-3	2-year	10.4	7.2
	10-year	16.6	14.9
	25-year	22.0	22.4
POA-4	2-year	4.8	7.4*
	10-year	4.9	9.1*
	25-year	5.0	9.3*

*Note: Flows increased in the post-development condition from the pre-development condition.

The HydroCAD Data output sheets from this analysis are appended 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, and 3, are less than the peak runoff rates in the pre-development condition.

Peak runoff rates in the post-development condition at Points of Analysis 4 (POA-4) are above pre-development runoff rates for the 2-, 10-, and 25-year storm events. The area tributary to POA-4 increased from 1.8 acres in the pre-development condition to 4.2 acres in the post-development condition, with an approximate increase in 1.3 acres of impervious. The change in elevation from Elm Street to the entrance of Building AB, which makes it infeasible to drain the area west of Elm Street in a westerly direction toward the chamber system as it would lower the pipe elevation draining to SSSF-1 and cause the system to be inundated with tailwater from the Saco River. Furthermore, there are two structures in the existing condition that outlet directly to the Saco River through the existing stone wall. The outlet pipes of these structures would likely have to increase in size in order to provide available capacity, and this work would impact the existing wall.

Flow directed toward POA-3 is expected to remain generally unchanged between Phase One and the masterplan development given the majority of the development within this watershed occurs in Phase 1.

Since the entire project site is located within Saco River's watershed, all three phases are applicable for a waiver from the flooding standard, as defined in MDEP's Chapter 500, section

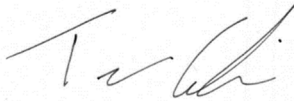
4(F)-3(a). All stormwater runoff from the project site during phase one will be conveyed exclusively in sheet flow, through a manmade open channel, or piped directly into the Saco River.

8. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. Stormwater BMPs in Phase 1 are proposed to provide treatment to 51% of the developed area of Phase 1 development. Proposed treatment in the masterplan development will be provided for 77.9% of the impervious area and 66.4% of the developed area. Runoff discharging from the site will be at or below pre-development conditions for the 2-, 10-, and 25-year storm events at POA-1, POA-2, and POA-3. 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.

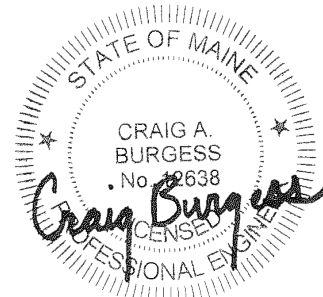
Prepared by:

SEBAGO TECHNICS, INC.



Tanner F. Goodine, EI
Civil Engineer

TFG/CAB



Craig Burgess, PE
Senior Project Manager

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	38,300	0	3,995	0	660	4,655	0	NO	0	0	0	
1.2S	10,620	0	900	0	710	1,610	0	NO	0	0	0	
1.3S	92,760	0	3,230	0	31,710	34,940	0	NO	0	0	0	
1.4S	89,910	0	0	0	0	0	0	NO	0	0	0	
1.5S	25,830	0	7,000	0	18,830	25,830	0	YES	7,000	18,830	25,830	UDSF-1
2.1S	24,955	0	4,800	0	6,295	11,095	0	NO	0	0	0	
2.2S	42,420	0	35,160	0	7,260	42,420	0	YES	35,160	7,260	42,420	SSSF-1
2.3S	9,410	0	8,400	0	1,010	9,410	0	YES	8,400	1,010	9,410	SSSF-1
2.4S	13,540	0	5,200	0	8,340	13,540	0	YES	5,200	8,340	13,540	SSSF-1
2.5S	9,390	0	7,970	0	1,420	9,390	0	YES	7,970	1,420	9,390	SSSF-1
2.6S	12,260	0	9,510	0	2,750	12,260	0	YES	9,510	2,750	12,260	SSSF-1
2.7S	20,620	0	16,430	0	4,190	20,620	0	YES	16,430	4,190	20,620	SSSF-1
2.8S	18,160	0	18,160	0	0	18,160	0	YES	18,160	0	18,160	SSSF-1
2.9S	9,575	0	8,625	0	950	9,575	0	YES	8,625	950	9,575	SSSF-1
2.10S	23,610	0	23,610	0	0	23,610	0	YES	23,610	0	23,610	SSSF-1
2.11S	26,360	0	24,400	0	1,960	26,360	0	YES	24,400	1,960	26,360	SSSF-2
2.12S	2,890	0	2,680	0	210	2,890	0	YES	2,680	210	2,890	SSSF-2
2.13S	3,940	0	2,655	0	1,285	3,940	0	YES	2,655	1,285	3,940	SSSF-2
2.14S	15,405	0	11,170	0	4,235	15,405	0	YES	11,170	4,235	15,405	SSSF-2
2.15S	21,310	0	18,040	0	3,270	21,310	0	YES	18,040	3,270	21,310	SSSF-2
2.16S	7,400	0	330	0	7,070	7,400	0	NO	0	0	0	
2.17S	28,720	0	22,720	0	6,000	28,720	0	YES	22,720	6,000	28,720	SSSF-2
2.18S	44,650	0	30,900	0	5,980	36,880	0	YES	30,900	5,980	36,880	SSSF-2
2.19S	23,020	0	3,960	0	2,760	6,720	0	YES	3,960	2,760	6,720	SSSF-2
2.20S	24,760	0	24,760	0	0	24,760	0	YES	24,760	0	24,760	SSSF-2
2.21S	35,205	0	25,280	0	4,425	29,705	0	YES	25,280	4,425	29,705	SSSF-2
2.22S	23,750	0	8,820	0	8,780	17,600	0	YES	8,820	8,780	17,600	SSSF-2
2.23S	11,470	0	4,900	0	3,480	8,380	0	YES	4,900	3,480	8,380	SSSF-2
2.24S	29,285	0	22,935	0	6,350	29,285	0	NO	0	0	0	
2.25S	8,300	0	5,700	0	2,600	8,300	0	NO	0	0	0	
2.26S	10,020	0	1,370	0	8,650	10,020	0	NO	0	0	0	
2.27S	133,910	0	0	0	0	0	0	NO	0	0	0	
2.28S	12,430	0	0	0	0	0	0	NO	0	0	0	
3.1S	117,010	0	18,370	0	37,820	56,190	0	NO	0	0	0	
4.1S	77,940	0	0	0	0	0	0	NO	0	0	0	
4.2S	47,770	0	0	0	1,500	1,500	0	NO	0	0	0	
4.3S	15,560	0	0	0	6,090	6,090	0	NO	0	0	0	
4.4S	32,320	0	29,035	0	3,285	32,320	0	NO	0	0	0	
4.5S	9,990	0	0	0	3,030	3,030	0	NO	0	0	0	
5S	2,850,215	0	0	0	0	0	0	NO	0	0	0	
TOTAL (S.F.)	4,054,990	0	411,015	0	202,905	613,920	0		320,350	87,135	407,485	

4.65806

TOTAL NEW IMPERVIOUS AREA (S.F.)	411,015	TOTAL DEVELOPED AREA (S.F.)	613,920
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	320,350	TOTAL AREA RECEIVING TREATMENT (S.F.)	407,485
% OF IMPERVIOUS AREA RECEIVING TREATMENT	77.9%	% OF AREA RECEIVING TREATMENT	66.4%

SEBAGO TECHNICS, INC.

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UNDERDRAINED SOIL FILTER									
Task:	Calculate water quality volume per MDEP chapter 500 regulations								
References	1. Maine DEP Chapter 500, Section 4.C.(3)(b)								
	a. "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"								
	2. Maine DEP Best Management Practices Stormwater Manual, Section 7.1								
	a. "surface should represent 5% of impervious area and 2% of landscaped area"								
Tributary to Underdrained Filter	UDSF-1								
Landscaped Area	18,830.00	SF							
Impervious Area	7,000.00	SF							
Minimum Surface Area									
Required	(2% X Landscaped + 5% X Impervious)								
Total Landscaped Area	18,830.00	SF	Area	376.6	SF				
Total Impervious Area	7,000.00	SF	Area	350.0	SF				
Required Minimum Surface Area	726.6				SF				
Provided Surface Area	1,220.0				SF				
Treatment Volume									
Required	(0.4" X Landscaped + 1.0" X Impervious)								
Landscaped Area	18,830.00	SF	Volume	627.7					
Impervious Area	7,000.00	SF	Volume	583.3					
Treatment Volume Required	1,211.0				CF	0.028	AF		
Provided Treatment Volume	1,515.0				CF	57.00-58.00			
Sediment Pre-Treatment									
Per Reference 2, Chapter 7.1	"Pretreatment devices shall be provided to minimize discharge of sediment to the soil filter"								
Annual Sediment Load:	55 cubic feet per acre per year of sanded area								
Area to be sanded:	7,000.00	SF							
Sediment Volume	9	CF							
Provided	100	CF	6	Inch Deep Forebay	with area of	200	sf		

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South Portland, Maine 04106

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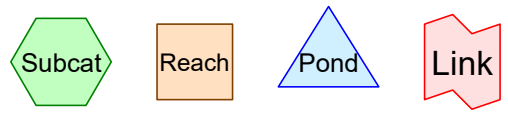
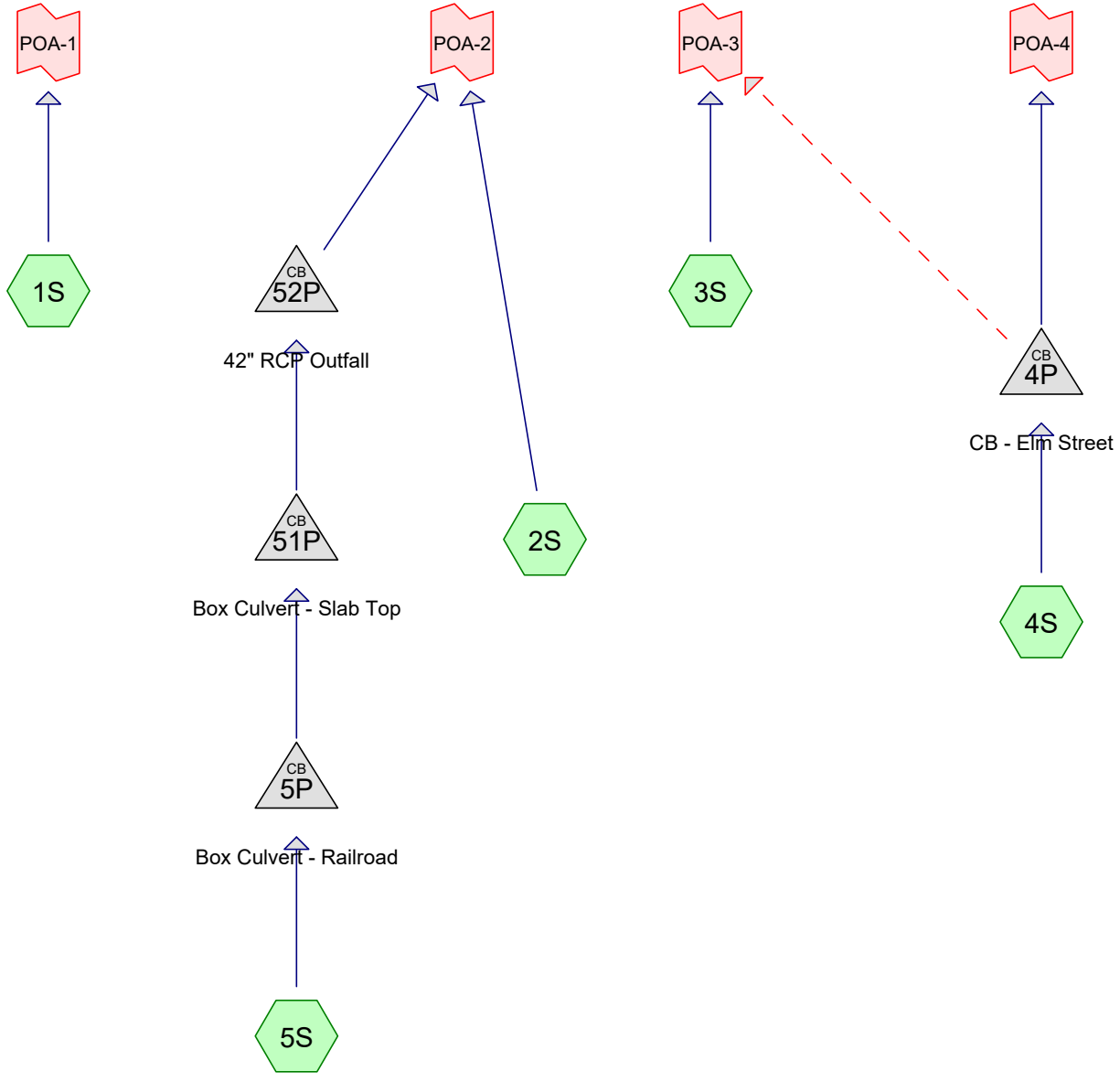
CALCULATED BY TFG DATE 6/7/2023

FILE NAME 18462 WQV Calcs.xlsx PRINT DATE 6/7/2023

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Appendix 2A

Existing Conditions HydroCAD Summary



Routing Diagram for 18462 PRE
Prepared by {enter your company name here}, Printed 6/8/2023
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18462 PRE*Type III 24-hr 2-YR Rainfall=3.30"*

Prepared by {enter your company name here}

Printed 6/8/2023

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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-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=2.09"
 Flow Length=462' Tc=21.9 min CN=88 Runoff=11.9 cfs 1.308 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=2.17"
 Flow Length=900' Tc=44.7 min CN=89 Runoff=11.7 cfs 1.794 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=2.17"
 Flow Length=245' Tc=38.4 min CN=89 Runoff=10.0 cfs 1.415 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=2.54"
 Flow Length=550' Tc=7.3 min CN=93 Runoff=4.9 cfs 0.379 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=2.45"
 Flow Length=4,504' Tc=52.6 min CN=92 Runoff=79.4 cfs 13.461 af

Pond 4P: CB - Elm Street Peak Elev=58.02' Inflow=4.9 cfs 0.379 af
 Primary=4.8 cfs 0.379 af Secondary=0.1 cfs 0.000 af Outflow=4.9 cfs 0.379 af

Pond 5P: Box Culvert - Railroad Peak Elev=62.17' Inflow=79.4 cfs 13.461 af
 60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=79.4 cfs 13.461 af

Pond 51P: Box Culvert - Slab Top Peak Elev=53.57' Inflow=79.4 cfs 13.461 af
 60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=79.4 cfs 13.461 af

Pond 52P: 42" RCP Outfall Peak Elev=51.08' Inflow=79.4 cfs 13.461 af
 42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=79.4 cfs 13.461 af

Link POA-1: Inflow=11.9 cfs 1.308 af
 Primary=11.9 cfs 1.308 af

Link POA-2: Inflow=90.8 cfs 15.255 af
 Primary=90.8 cfs 15.255 af

Link POA-3: Inflow=10.0 cfs 1.415 af
 Primary=10.0 cfs 1.415 af

Link POA-4: Inflow=4.8 cfs 0.379 af
 Primary=4.8 cfs 0.379 af

Total Runoff Area = 93.1 ac Runoff Volume = 18.357 af Average Runoff Depth = 2.37"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

18462 PRE*Type III 24-hr 10-YR Rainfall=4.90"*

Prepared by {enter your company name here}

Printed 6/8/2023

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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-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Runoff Area=327,520 sf 23.20% Impervious Runoff Depth=3.57"
 Flow Length=462' Tc=21.9 min CN=88 Runoff=20.1 cfs 2.239 af

Subcatchment2S: Runoff Area=431,500 sf 16.88% Impervious Runoff Depth=3.68"
 Flow Length=900' Tc=44.7 min CN=89 Runoff=19.5 cfs 3.035 af

Subcatchment3S: Runoff Area=340,400 sf 28.64% Impervious Runoff Depth=3.68"
 Flow Length=245' Tc=38.4 min CN=89 Runoff=16.6 cfs 2.394 af

Subcatchment4S: Runoff Area=77,940 sf 39.25% Impervious Runoff Depth=4.10"
 Flow Length=550' Tc=7.3 min CN=93 Runoff=7.7 cfs 0.611 af

Subcatchment5S: Runoff Area=2,877,030 sf 63.00% Impervious Runoff Depth=3.99"
 Flow Length=4,504' Tc=52.6 min CN=92 Runoff=126.9 cfs 21.970 af

Pond 4P: CB - Elm Street Peak Elev=58.22' Inflow=7.7 cfs 0.611 af
 Primary=4.9 cfs 0.584 af Secondary=2.8 cfs 0.027 af Outflow=7.7 cfs 0.611 af

Pond 5P: Box Culvert - Railroad Peak Elev=63.24' Inflow=126.9 cfs 21.970 af
 60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=126.9 cfs 21.970 af

Pond 51P: Box Culvert - Slab Top Peak Elev=56.76' Inflow=126.9 cfs 21.970 af
 60.0" x 60.0" Box Culvert n=0.011 L=380.0' S=0.0109 '/' Outflow=126.9 cfs 21.970 af

Pond 52P: 42" RCP Outfall Peak Elev=55.65' Inflow=126.9 cfs 21.970 af
 42.0" Round Culvert n=0.011 L=178.0' S=0.0118 '/' Outflow=126.9 cfs 21.970 af

Link POA-1: Inflow=20.1 cfs 2.239 af
 Primary=20.1 cfs 2.239 af

Link POA-2: Inflow=145.8 cfs 25.005 af
 Primary=145.8 cfs 25.005 af

Link POA-3: Inflow=16.6 cfs 2.421 af
 Primary=16.6 cfs 2.421 af

Link POA-4: Inflow=4.9 cfs 0.584 af
 Primary=4.9 cfs 0.584 af

Total Runoff Area = 93.1 ac Runoff Volume = 30.249 af Average Runoff Depth = 3.90"
48.47% Pervious = 45.1 ac 51.53% Impervious = 48.0 ac

Summary for Subcatchment 1S:

Runoff = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	88	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			

Summary for Subcatchment 2S:

Runoff = 25.8 cfs @ 12.57 hrs, Volume= 4.069 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	89	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			

Summary for Subcatchment 3S:

Runoff = 22.0 cfs @ 12.50 hrs, Volume= 3.210 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	89	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			

Summary for Subcatchment 4S:

Runoff = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	93	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			

Summary for Subcatchment 5S:

Runoff = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, 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	92	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			

Summary for Pond 4P: CB - Elm Street

[58] Hint: Peaked 0.06' above defined flood level

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af
 Secondary = 5.1 cfs @ 12.10 hrs, Volume= 0.063 af

Routing by Dyn-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' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 5.0 cfs @ 4.04 fps)

Secondary OutFlow Max=5.0 cfs @ 12.10 hrs HW=58.31' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 5.0 cfs @ 1.61 fps)

Summary for Pond 5P: Box Culvert - Railroad

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.88' @ 12.70 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=162.5 cfs @ 12.68 hrs HW=64.83' TW=62.70' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 162.5 cfs @ 7.80 fps)

Summary for Pond 51P: Box Culvert - Slab Top

[58] Hint: Peaked 7.09' above defined flood level

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.74' @ 12.69 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=62.70' TW=60.86' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 163.3 cfs @ 6.53 fps)

Summary for Pond 52P: 42" RCP Outfall

[58] Hint: Peaked 3.12' above defined flood level

Inflow Area = 66.0 ac, 63.00% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af
 Outflow = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af, Atten= 0%, Lag= 0.0 min
 Primary = 165.2 cfs @ 12.68 hrs, Volume= 28.985 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.86' @ 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=165.1 cfs @ 12.68 hrs HW=60.86' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 165.1 cfs @ 17.16 fps)

Summary for Link POA-1:

Inflow Area = 7.5 ac, 23.20% Impervious, Inflow Depth = 4.82" for 25-YR event
Inflow = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af
Primary = 26.8 cfs @ 12.29 hrs, Volume= 3.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-2:

Inflow Area = 76.0 ac, 56.98% Impervious, Inflow Depth = 5.22" for 25-YR event
Inflow = 190.2 cfs @ 12.68 hrs, Volume= 33.054 af
Primary = 190.2 cfs @ 12.68 hrs, Volume= 33.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-3:

Inflow Area = 7.8 ac, 28.64% Impervious, Inflow Depth = 5.03" for 25-YR event
Inflow = 22.0 cfs @ 12.50 hrs, Volume= 3.273 af
Primary = 22.0 cfs @ 12.50 hrs, Volume= 3.273 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

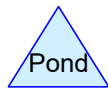
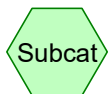
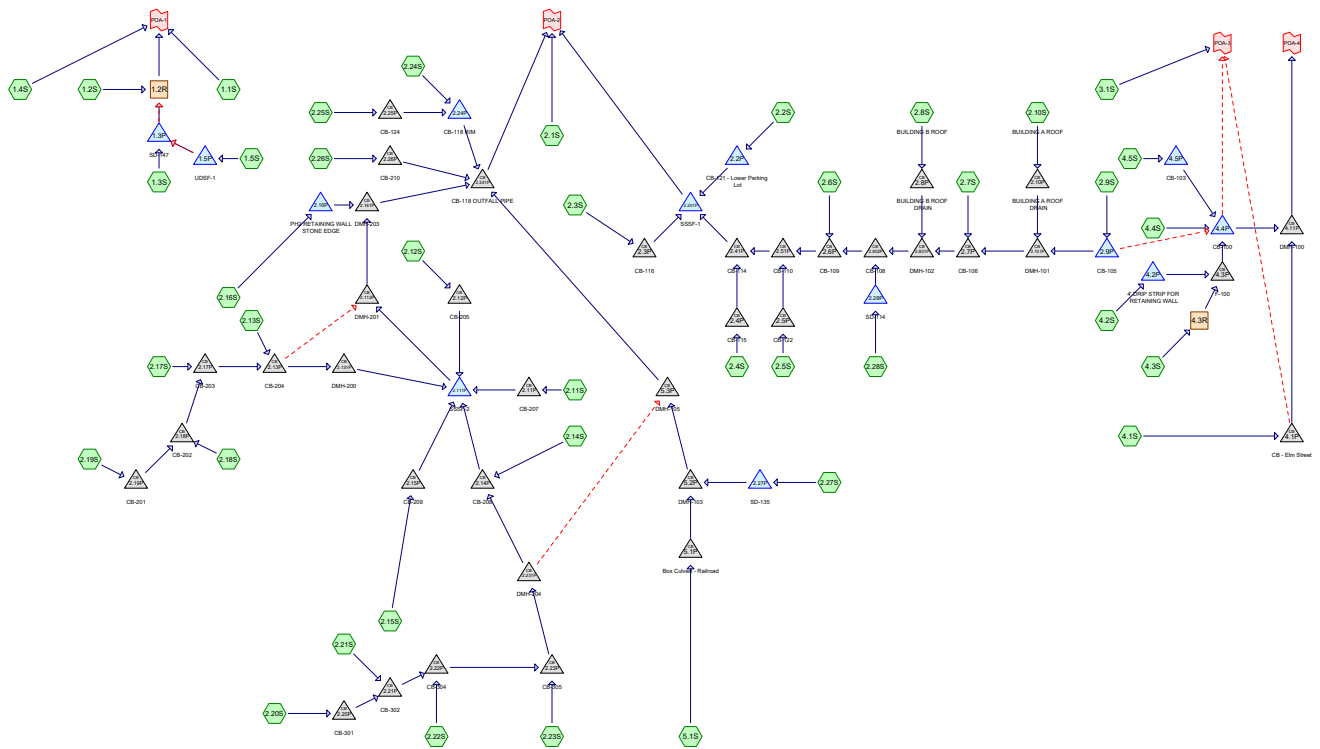
Summary for Link POA-4:

Inflow Area = 1.8 ac, 39.25% Impervious, Inflow Depth = 4.96" for 25-YR event
Inflow = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af
Primary = 5.0 cfs @ 12.10 hrs, Volume= 0.739 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Appendix 2B

Proposed Conditions HydroCAD Summary



Routing Diagram for 18462 POST

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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-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S:	Runoff Area=38,300 sf 10.43% Impervious Runoff Depth=1.69" Flow Length=110' Slope=0.0350 '/' Tc=18.2 min CN=83 Runoff=1.2 cfs 0.124 af
Subcatchment1.2S:	Runoff Area=10,620 sf 8.47% Impervious Runoff Depth=1.69" Tc=6.0 min CN=83 Runoff=0.5 cfs 0.034 af
Subcatchment1.3S:	Runoff Area=92,760 sf 9.52% Impervious Runoff Depth=1.69" Flow Length=370' Tc=16.3 min CN=83 Runoff=3.1 cfs 0.300 af
Subcatchment1.4S:	Runoff Area=89,910 sf 49.95% Impervious Runoff Depth=2.54" Flow Length=425' Tc=7.7 min CN=93 Runoff=5.6 cfs 0.437 af
Subcatchment1.5S:	Runoff Area=25,830 sf 27.10% Impervious Runoff Depth=1.84" Flow Length=150' Slope=0.0300 '/' Tc=11.3 min CN=85 Runoff=1.1 cfs 0.091 af
Subcatchment2.10S: BUILDING A ROOF	Runoff Area=23,610 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=1.7 cfs 0.139 af
Subcatchment2.11S:	Runoff Area=26,360 sf 92.56% Impervious Runoff Depth=2.96" Tc=6.0 min CN=97 Runoff=1.9 cfs 0.149 af
Subcatchment2.12S:	Runoff Area=2,890 sf 92.73% Impervious Runoff Depth=2.96" Tc=6.0 min CN=97 Runoff=0.2 cfs 0.016 af
Subcatchment2.13S:	Runoff Area=3,940 sf 67.39% Impervious Runoff Depth=2.45" Tc=6.0 min CN=92 Runoff=0.3 cfs 0.018 af
Subcatchment2.14S:	Runoff Area=15,405 sf 72.51% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=1.0 cfs 0.075 af
Subcatchment2.15S:	Runoff Area=21,310 sf 84.66% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=1.5 cfs 0.112 af
Subcatchment2.16S:	Runoff Area=7,400 sf 4.46% Impervious Runoff Depth=1.55" Tc=6.0 min CN=81 Runoff=0.3 cfs 0.022 af
Subcatchment2.17S:	Runoff Area=28,720 sf 79.11% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=2.0 cfs 0.145 af
Subcatchment2.18S:	Runoff Area=44,650 sf 69.74% Impervious Runoff Depth=2.54" Flow Length=190' Tc=7.0 min CN=93 Runoff=2.9 cfs 0.217 af
Subcatchment2.19S:	Runoff Area=23,020 sf 42.79% Impervious Runoff Depth=2.45" Flow Length=150' Slope=0.0200 '/' Tc=13.3 min CN=92 Runoff=1.2 cfs 0.108 af
Subcatchment2.1S:	Runoff Area=24,955 sf 19.23% Impervious Runoff Depth=1.77" Flow Length=118' Tc=9.5 min CN=84 Runoff=1.1 cfs 0.084 af

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Subcatchment2.20S:	Runoff Area=24,760 sf 100.00% Impervious Runoff Depth=3.07" Flow Length=245' Slope=0.0200 '/' Tc=13.9 min CN=98 Runoff=1.4 cfs 0.145 af
Subcatchment2.21S:	Runoff Area=35,205 sf 87.43% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=2.5 cfs 0.192 af
Subcatchment2.22S:	Runoff Area=23,750 sf 63.03% Impervious Runoff Depth=2.35" Tc=6.0 min CN=91 Runoff=1.5 cfs 0.107 af
Subcatchment2.23S:	Runoff Area=11,470 sf 69.66% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=0.8 cfs 0.056 af
Subcatchment2.24S:	Runoff Area=29,285 sf 78.32% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=2.0 cfs 0.148 af
Subcatchment2.25S:	Runoff Area=8,300 sf 68.67% Impervious Runoff Depth=2.45" Tc=6.0 min CN=92 Runoff=0.5 cfs 0.039 af
Subcatchment2.26S:	Runoff Area=10,020 sf 13.67% Impervious Runoff Depth=1.62" Tc=6.0 min CN=82 Runoff=0.4 cfs 0.031 af
Subcatchment2.27S:	Runoff Area=133,910 sf 25.29% Impervious Runoff Depth=1.92" Flow Length=350' Tc=39.1 min UI Adjusted CN=86 Runoff=3.5 cfs 0.492 af
Subcatchment2.28S:	Runoff Area=12,430 sf 0.00% Impervious Runoff Depth=1.41" Tc=6.0 min CN=79 Runoff=0.5 cfs 0.034 af
Subcatchment2.2S:	Runoff Area=42,420 sf 82.89% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=3.0 cfs 0.223 af
Subcatchment2.3S:	Runoff Area=9,410 sf 89.27% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=0.7 cfs 0.051 af
Subcatchment2.4S:	Runoff Area=13,540 sf 38.40% Impervious Runoff Depth=2.00" Tc=6.0 min CN=87 Runoff=0.7 cfs 0.052 af
Subcatchment2.5S:	Runoff Area=9,390 sf 84.88% Impervious Runoff Depth=2.74" Tc=6.0 min CN=95 Runoff=0.7 cfs 0.049 af
Subcatchment2.6S:	Runoff Area=12,260 sf 77.57% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=0.8 cfs 0.062 af
Subcatchment2.7S:	Runoff Area=20,620 sf 79.68% Impervious Runoff Depth=2.64" Tc=6.0 min CN=94 Runoff=1.4 cfs 0.104 af
Subcatchment2.8S: BUILDING B ROOF	Runoff Area=18,160 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=1.3 cfs 0.107 af
Subcatchment2.9S:	Runoff Area=9,575 sf 90.08% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=0.7 cfs 0.052 af

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Subcatchment3.1S:	Runoff Area=117,010 sf 22.08% Impervious Runoff Depth=1.84" Flow Length=120' Tc=9.7 min CN=85 Runoff=5.1 cfs 0.413 af
Subcatchment4.1S:	Runoff Area=77,940 sf 44.86% Impervious Runoff Depth=2.54" Flow Length=550' Tc=7.3 min CN=93 Runoff=4.9 cfs 0.379 af
Subcatchment4.2S:	Runoff Area=47,770 sf 25.14% Impervious Runoff Depth=1.84" Flow Length=80' Tc=14.2 min UI Adjusted CN=85 Runoff=1.8 cfs 0.168 af
Subcatchment4.3S:	Runoff Area=15,560 sf 1.22% Impervious Runoff Depth=1.48" Tc=6.0 min CN=80 Runoff=0.6 cfs 0.044 af
Subcatchment4.4S:	Runoff Area=32,320 sf 89.84% Impervious Runoff Depth=2.85" Tc=6.0 min CN=96 Runoff=2.3 cfs 0.176 af
Subcatchment4.5S:	Runoff Area=9,990 sf 69.67% Impervious Runoff Depth=2.54" Tc=6.0 min CN=93 Runoff=0.7 cfs 0.049 af
Subcatchment5.1S:	Runoff Area=2,850,215 sf 62.98% Impervious Runoff Depth=2.45" Flow Length=4,504' Tc=52.6 min CN=92 Runoff=78.6 cfs 13.336 af
Reach 1.2R:	Avg. Flow Depth=0.18' Max Vel=1.61 fps Inflow=3.3 cfs 0.426 af n=0.050 L=75.0' S=0.0333 '/' Capacity=73.0 cfs Outflow=3.3 cfs 0.426 af
Reach 4.3R:	Avg. Flow Depth=0.10' Max Vel=2.73 fps Inflow=0.6 cfs 0.044 af n=0.022 L=110.0' S=0.0432 '/' Capacity=50.0 cfs Outflow=0.6 cfs 0.044 af
Pond 1.3P: SD-147	Peak Elev=54.06' Storage=396 cf Inflow=3.2 cfs 0.391 af Primary=3.0 cfs 0.391 af Secondary=0.0 cfs 0.000 af Outflow=3.0 cfs 0.391 af
Pond 1.5P: UDSF-1	Peak Elev=57.76' Storage=1,858 cf Inflow=1.1 cfs 0.091 af Primary=0.1 cfs 0.091 af Secondary=0.0 cfs 0.000 af Outflow=0.1 cfs 0.091 af
Pond 2.101P: DMH-101	Peak Elev=62.66' Inflow=1.9 cfs 0.153 af 18.0" Round Culvert n=0.013 L=178.0' S=0.0051 '/' Outflow=1.9 cfs 0.153 af
Pond 2.10P: BUILDING A ROOF DRAIN	Peak Elev=66.72' Inflow=1.7 cfs 0.139 af 12.0" Round Culvert n=0.013 L=58.0' S=0.0317 '/' Outflow=1.7 cfs 0.139 af
Pond 2.111P: SSSF-2	Peak Elev=63.61' Storage=20,254 cf Inflow=15.2 cfs 1.326 af Outflow=3.7 cfs 1.326 af
Pond 2.112P: DMH-201	Peak Elev=59.41' Inflow=3.7 cfs 1.337 af 36.0" Round Culvert n=0.013 L=87.0' S=0.0184 '/' Outflow=3.7 cfs 1.337 af
Pond 2.11P: CB-207	Peak Elev=62.90' Inflow=1.9 cfs 0.149 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0140 '/' Outflow=1.9 cfs 0.149 af
Pond 2.12P: CB-205	Peak Elev=62.45' Inflow=0.2 cfs 0.016 af 12.0" Round Culvert n=0.013 L=12.0' S=0.0225 '/' Outflow=0.2 cfs 0.016 af

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Pond 2.131P: DMH-200

Peak Elev=63.48' Inflow=5.1 cfs 0.477 af
 18.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=5.1 cfs 0.477 af

Pond 2.13P: CB-204

Peak Elev=63.81' Inflow=6.0 cfs 0.488 af
 Primary=5.1 cfs 0.477 af Secondary=0.9 cfs 0.011 af Outflow=6.0 cfs 0.488 af

Pond 2.14P: CB-208

Peak Elev=63.35' Inflow=6.5 cfs 0.572 af
 24.0" Round Culvert n=0.013 L=4.0' S=0.0150 '/' Outflow=6.5 cfs 0.572 af

Pond 2.15P: CB-209

Peak Elev=62.99' Inflow=1.5 cfs 0.112 af
 12.0" Round Culvert n=0.013 L=30.0' S=0.0103 '/' Outflow=1.5 cfs 0.112 af

Pond 2.161P: DMH-203

Peak Elev=57.72' Inflow=3.8 cfs 1.356 af
 36.0" Round Culvert n=0.013 L=100.0' S=0.0120 '/' Outflow=3.8 cfs 1.356 af

Pond 2.16P: PH2 RETAININGWALL STONE

Peak Elev=69.59' Storage=251 cf Inflow=0.3 cfs 0.022 af
 8.0" Round Culvert n=0.013 L=10.0' S=0.0330 '/' Outflow=0.2 cfs 0.019 af

Pond 2.17P: CB-203

Peak Elev=65.97' Inflow=5.7 cfs 0.470 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=5.7 cfs 0.470 af

Pond 2.18P: CB-202

Peak Elev=67.18' Inflow=3.8 cfs 0.325 af
 18.0" Round Culvert n=0.013 L=130.0' S=0.0104 '/' Outflow=3.8 cfs 0.325 af

Pond 2.19P: CB-201

Peak Elev=70.65' Inflow=1.2 cfs 0.108 af
 12.0" Round Culvert n=0.013 L=340.0' S=0.0107 '/' Outflow=1.2 cfs 0.108 af

Pond 2.201P: SSSF-1

Peak Elev=58.72' Storage=13,229 cf Inflow=10.0 cfs 0.834 af
 Outflow=2.6 cfs 0.834 af

Pond 2.20P: CB-301

Peak Elev=70.94' Inflow=1.4 cfs 0.145 af
 12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=1.4 cfs 0.145 af

Pond 2.21P: CB-302

Peak Elev=69.90' Inflow=3.6 cfs 0.337 af
 18.0" Round Culvert n=0.013 L=260.0' S=0.0106 '/' Outflow=3.6 cfs 0.337 af

Pond 2.22P: CB-304

Peak Elev=67.32' Inflow=5.1 cfs 0.444 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=5.1 cfs 0.444 af

Pond 2.231P: DMH-204

Peak Elev=63.59' Inflow=5.8 cfs 0.500 af
 Primary=5.5 cfs 0.497 af Secondary=0.3 cfs 0.003 af Outflow=5.8 cfs 0.500 af

Pond 2.23P: CB-305

Peak Elev=64.71' Inflow=5.8 cfs 0.500 af
 24.0" Round Culvert n=0.013 L=40.0' S=0.0217 '/' Outflow=5.8 cfs 0.500 af

Pond 2.241P: CB-118 OUTFALLPIPE

Peak Elev=53.10' Inflow=85.7 cfs 15.405 af
 60.0" Round Culvert n=0.013 L=57.0' S=0.0046 '/' Outflow=85.7 cfs 15.405 af

Pond 2.24P: CB-118 RIM

Peak Elev=61.07' Storage=889 cf Inflow=2.5 cfs 0.187 af
 Outflow=1.6 cfs 0.187 af

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Pond 2.25P: CB-124

Peak Elev=57.26' Inflow=0.5 cfs 0.039 af
 12.0" Round Culvert n=0.013 L=245.0' S=0.0058 '/ Outflow=0.5 cfs 0.039 af

Pond 2.26P: CB-210

Peak Elev=56.92' Inflow=0.4 cfs 0.031 af
 12.0" Round Culvert n=0.013 L=150.0' S=0.0103 '/ Outflow=0.4 cfs 0.031 af

Pond 2.27P: SD-135

Peak Elev=58.65' Storage=419 cf Inflow=3.5 cfs 0.492 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0120 '/ Outflow=3.4 cfs 0.492 af

Pond 2.28P: SD-114

Peak Elev=68.38' Storage=20 cf Inflow=0.5 cfs 0.034 af
 12.0" Round Culvert n=0.013 L=17.0' S=0.0294 '/ Outflow=0.5 cfs 0.034 af

Pond 2.2P: CB-121 - Lower Parking Lot

Peak Elev=61.20' Storage=438 cf Inflow=3.0 cfs 0.223 af
 Outflow=2.1 cfs 0.223 af

Pond 2.3P: CB-116

Peak Elev=58.09' Inflow=0.7 cfs 0.051 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0116 '/ Outflow=0.7 cfs 0.051 af

Pond 2.41P: CB-114

Peak Elev=58.60' Inflow=7.3 cfs 0.560 af
 24.0" Round Culvert n=0.013 L=15.0' S=0.0193 '/ Outflow=7.3 cfs 0.560 af

Pond 2.4P: CB-115

Peak Elev=58.07' Inflow=0.7 cfs 0.052 af
 12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/ Outflow=0.7 cfs 0.052 af

Pond 2.51P: CB-110

Peak Elev=59.46' Inflow=6.6 cfs 0.508 af
 24.0" Round Culvert n=0.013 L=85.0' S=0.0109 '/ Outflow=6.6 cfs 0.508 af

Pond 2.5P: CB-122

Peak Elev=62.21' Inflow=0.7 cfs 0.049 af
 12.0" Round Culvert n=0.013 L=55.0' S=0.0153 '/ Outflow=0.7 cfs 0.049 af

Pond 2.6P: CB-109

Peak Elev=59.88' Inflow=5.9 cfs 0.459 af
 24.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=5.9 cfs 0.459 af

Pond 2.7P: CB-106

Peak Elev=61.97' Inflow=3.3 cfs 0.257 af
 18.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/ Outflow=3.3 cfs 0.257 af

Pond 2.801P: DMH-102

Peak Elev=61.77' Inflow=4.7 cfs 0.363 af
 18.0" Round Culvert n=0.013 L=140.0' S=0.0057 '/ Outflow=4.7 cfs 0.363 af

Pond 2.802P: CB-108

Peak Elev=61.03' Inflow=5.1 cfs 0.397 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0066 '/ Outflow=5.1 cfs 0.397 af

Pond 2.8P: BUILDING B ROOF DRAIN

Peak Elev=67.61' Inflow=1.3 cfs 0.107 af
 12.0" Round Culvert n=0.013 L=60.0' S=0.0207 '/ Outflow=1.3 cfs 0.107 af

Pond 2.9P: CB-105

Peak Elev=66.39' Storage=4 cf Inflow=0.7 cfs 0.052 af
 Primary=0.2 cfs 0.014 af Secondary=0.5 cfs 0.038 af Outflow=0.7 cfs 0.052 af

Pond 4.11P: DMH-100

Peak Elev=59.14' Inflow=7.4 cfs 0.803 af
 15.0" Round Culvert n=0.025 L=118.0' S=0.0094 '/ Outflow=7.4 cfs 0.803 af

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Pond 4.1P: CB - Elm StreetPeak Elev=56.34' Inflow=4.9 cfs 0.379 af
Primary=4.9 cfs 0.379 af Secondary=0.0 cfs 0.000 af Outflow=4.9 cfs 0.379 af**Pond 4.2P: 4' DRIP STRIP FOR RETAINING**Peak Elev=62.26' Storage=1,120 cf Inflow=1.8 cfs 0.168 af
8.0" Round Culvert n=0.013 L=140.0' S=0.0429 '/' Outflow=1.4 cfs 0.163 af**Pond 4.3P: F-100**Peak Elev=55.97' Inflow=1.7 cfs 0.207 af
15.0" Round Culvert n=0.013 L=105.0' S=0.0186 '/' Outflow=1.7 cfs 0.207 af**Pond 4.4P: CB-100**Peak Elev=58.15' Storage=620 cf Inflow=4.8 cfs 0.470 af
Primary=2.5 cfs 0.424 af Secondary=2.1 cfs 0.046 af Outflow=4.6 cfs 0.470 af**Pond 4.5P: CB-103**Peak Elev=57.39' Storage=10 cf Inflow=0.7 cfs 0.049 af
Outflow=0.7 cfs 0.049 af**Pond 5.1P: Box Culvert - Railroad**Peak Elev=62.15' Inflow=78.6 cfs 13.336 af
60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 '/' Outflow=78.6 cfs 13.336 af**Pond 5.2P: DMH-103**Peak Elev=54.80' Inflow=81.9 cfs 13.828 af
60.0" Round Culvert n=0.013 L=75.0' S=0.0041 '/' Outflow=81.9 cfs 13.828 af**Pond 5.3P: DMH-105**Peak Elev=54.15' Inflow=81.9 cfs 13.831 af
60.0" Round Culvert n=0.013 L=355.0' S=0.0040 '/' Outflow=81.9 cfs 13.831 af**Link POA-1:**Inflow=8.7 cfs 0.987 af
Primary=8.7 cfs 0.987 af**Link POA-2:**Inflow=87.8 cfs 16.323 af
Primary=87.8 cfs 16.323 af**Link POA-3:**Inflow=7.2 cfs 0.458 af
Primary=7.2 cfs 0.458 af**Link POA-4:**Inflow=7.4 cfs 0.803 af
Primary=7.4 cfs 0.803 af**Total Runoff Area = 93.1 ac Runoff Volume = 18.580 af Average Runoff Depth = 2.40"**
41.48% Pervious = 38.6 ac 58.52% Impervious = 54.5 ac

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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-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S:	Runoff Area=38,300 sf 10.43% Impervious Runoff Depth=3.08" Flow Length=110' Slope=0.0350 '/' Tc=18.2 min CN=83 Runoff=2.2 cfs 0.226 af
Subcatchment1.2S:	Runoff Area=10,620 sf 8.47% Impervious Runoff Depth=3.08" Tc=6.0 min CN=83 Runoff=0.9 cfs 0.063 af
Subcatchment1.3S:	Runoff Area=92,760 sf 9.52% Impervious Runoff Depth=3.08" Flow Length=370' Tc=16.3 min CN=83 Runoff=5.6 cfs 0.547 af
Subcatchment1.4S:	Runoff Area=89,910 sf 49.95% Impervious Runoff Depth=4.10" Flow Length=425' Tc=7.7 min CN=93 Runoff=8.8 cfs 0.705 af
Subcatchment1.5S:	Runoff Area=25,830 sf 27.10% Impervious Runoff Depth=3.28" Flow Length=150' Slope=0.0300 '/' Tc=11.3 min CN=85 Runoff=1.9 cfs 0.162 af
Subcatchment2.10S: BUILDING A ROOF	Runoff Area=23,610 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=2.6 cfs 0.211 af
Subcatchment2.11S:	Runoff Area=26,360 sf 92.56% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=2.9 cfs 0.229 af
Subcatchment2.12S:	Runoff Area=2,890 sf 92.73% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=0.3 cfs 0.025 af
Subcatchment2.13S:	Runoff Area=3,940 sf 67.39% Impervious Runoff Depth=3.99" Tc=6.0 min CN=92 Runoff=0.4 cfs 0.030 af
Subcatchment2.14S:	Runoff Area=15,405 sf 72.51% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.6 cfs 0.121 af
Subcatchment2.15S:	Runoff Area=21,310 sf 84.66% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=2.3 cfs 0.176 af
Subcatchment2.16S:	Runoff Area=7,400 sf 4.46% Impervious Runoff Depth=2.90" Tc=6.0 min CN=81 Runoff=0.6 cfs 0.041 af
Subcatchment2.17S:	Runoff Area=28,720 sf 79.11% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=3.0 cfs 0.231 af
Subcatchment2.18S:	Runoff Area=44,650 sf 69.74% Impervious Runoff Depth=4.10" Flow Length=190' Tc=7.0 min CN=93 Runoff=4.5 cfs 0.350 af
Subcatchment2.19S:	Runoff Area=23,020 sf 42.79% Impervious Runoff Depth=3.99" Flow Length=150' Slope=0.0200 '/' Tc=13.3 min CN=92 Runoff=1.9 cfs 0.176 af
Subcatchment2.1S:	Runoff Area=24,955 sf 19.23% Impervious Runoff Depth=3.18" Flow Length=118' Tc=9.5 min CN=84 Runoff=1.9 cfs 0.152 af

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Subcatchment2.20S:	Runoff Area=24,760 sf 100.00% Impervious Runoff Depth=4.66" Flow Length=245' Slope=0.0200 '/' Tc=13.9 min CN=98 Runoff=2.1 cfs 0.221 af
Subcatchment2.21S:	Runoff Area=35,205 sf 87.43% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=3.8 cfs 0.299 af
Subcatchment2.22S:	Runoff Area=23,750 sf 63.03% Impervious Runoff Depth=3.89" Tc=6.0 min CN=91 Runoff=2.4 cfs 0.177 af
Subcatchment2.23S:	Runoff Area=11,470 sf 69.66% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.2 cfs 0.090 af
Subcatchment2.24S:	Runoff Area=29,285 sf 78.32% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=3.1 cfs 0.236 af
Subcatchment2.25S:	Runoff Area=8,300 sf 68.67% Impervious Runoff Depth=3.99" Tc=6.0 min CN=92 Runoff=0.8 cfs 0.063 af
Subcatchment2.26S:	Runoff Area=10,020 sf 13.67% Impervious Runoff Depth=2.99" Tc=6.0 min CN=82 Runoff=0.8 cfs 0.057 af
Subcatchment2.27S:	Runoff Area=133,910 sf 25.29% Impervious Runoff Depth=3.37" Flow Length=350' Tc=39.1 min UI Adjusted CN=86 Runoff=6.0 cfs 0.864 af
Subcatchment2.28S:	Runoff Area=12,430 sf 0.00% Impervious Runoff Depth=2.72" Tc=6.0 min CN=79 Runoff=0.9 cfs 0.065 af
Subcatchment2.2S:	Runoff Area=42,420 sf 82.89% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=4.5 cfs 0.351 af
Subcatchment2.3S:	Runoff Area=9,410 sf 89.27% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=1.0 cfs 0.080 af
Subcatchment2.4S:	Runoff Area=13,540 sf 38.40% Impervious Runoff Depth=3.47" Tc=6.0 min CN=87 Runoff=1.2 cfs 0.090 af
Subcatchment2.5S:	Runoff Area=9,390 sf 84.88% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=1.0 cfs 0.078 af
Subcatchment2.6S:	Runoff Area=12,260 sf 77.57% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=1.3 cfs 0.099 af
Subcatchment2.7S:	Runoff Area=20,620 sf 79.68% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=2.2 cfs 0.166 af
Subcatchment2.8S: BUILDING B ROOF	Runoff Area=18,160 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=2.0 cfs 0.162 af
Subcatchment2.9S:	Runoff Area=9,575 sf 90.08% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=1.0 cfs 0.081 af

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Subcatchment3.1S:	Runoff Area=117,010 sf 22.08% Impervious Runoff Depth=3.28" Flow Length=120' Tc=9.7 min CN=85 Runoff=9.0 cfs 0.733 af
Subcatchment4.1S:	Runoff Area=77,940 sf 44.86% Impervious Runoff Depth=4.10" Flow Length=550' Tc=7.3 min CN=93 Runoff=7.7 cfs 0.611 af
Subcatchment4.2S:	Runoff Area=47,770 sf 25.14% Impervious Runoff Depth=3.28" Flow Length=80' Tc=14.2 min UI Adjusted CN=85 Runoff=3.2 cfs 0.299 af
Subcatchment4.3S:	Runoff Area=15,560 sf 1.22% Impervious Runoff Depth=2.81" Tc=6.0 min CN=80 Runoff=1.2 cfs 0.084 af
Subcatchment4.4S:	Runoff Area=32,320 sf 89.84% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=3.5 cfs 0.274 af
Subcatchment4.5S:	Runoff Area=9,990 sf 69.67% Impervious Runoff Depth=4.10" Tc=6.0 min CN=93 Runoff=1.0 cfs 0.078 af
Subcatchment5.1S:	Runoff Area=2,850,215 sf 62.98% Impervious Runoff Depth=3.99" Flow Length=4,504' Tc=52.6 min CN=92 Runoff=125.7 cfs 21.765 af
Reach 1.2R:	Avg. Flow Depth=0.24' Max Vel=1.91 fps Inflow=5.4 cfs 0.772 af n=0.050 L=75.0' S=0.0333 '/' Capacity=73.0 cfs Outflow=5.4 cfs 0.772 af
Reach 4.3R:	Avg. Flow Depth=0.14' Max Vel=3.40 fps Inflow=1.2 cfs 0.084 af n=0.022 L=110.0' S=0.0432 '/' Capacity=50.0 cfs Outflow=1.2 cfs 0.084 af
Pond 1.3P: SD-147	Peak Elev=54.55' Storage=1,442 cf Inflow=5.9 cfs 0.709 af Primary=5.0 cfs 0.708 af Secondary=0.1 cfs 0.001 af Outflow=5.0 cfs 0.709 af
Pond 1.5P: UDSF-1	Peak Elev=58.10' Storage=2,470 cf Inflow=1.9 cfs 0.162 af Primary=1.0 cfs 0.162 af Secondary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.162 af
Pond 2.101P: DMH-101	Peak Elev=62.84' Inflow=2.9 cfs 0.233 af 18.0" Round Culvert n=0.013 L=178.0' S=0.0051 '/' Outflow=2.9 cfs 0.233 af
Pond 2.10P: BUILDING A ROOF DRAIN	Peak Elev=66.97' Inflow=2.6 cfs 0.211 af 12.0" Round Culvert n=0.013 L=58.0' S=0.0317 '/' Outflow=2.6 cfs 0.211 af
Pond 2.111P: SSSF-2	Peak Elev=64.13' Storage=24,074 cf Inflow=21.6 cfs 2.064 af Outflow=11.8 cfs 2.064 af
Pond 2.112P: DMH-201	Peak Elev=60.16' Inflow=12.5 cfs 2.107 af 36.0" Round Culvert n=0.013 L=87.0' S=0.0184 '/' Outflow=12.5 cfs 2.107 af
Pond 2.11P: CB-207	Peak Elev=63.21' Inflow=2.9 cfs 0.229 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0140 '/' Outflow=2.9 cfs 0.229 af
Pond 2.12P: CB-205	Peak Elev=62.51' Inflow=0.3 cfs 0.025 af 12.0" Round Culvert n=0.013 L=12.0' S=0.0225 '/' Outflow=0.3 cfs 0.025 af

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Pond 2.131P: DMH-200

Peak Elev=63.85' Inflow=6.8 cfs 0.744 af
18.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=6.8 cfs 0.744 af

Pond 2.13P: CB-204

Peak Elev=64.18' Inflow=9.4 cfs 0.787 af
Primary=6.8 cfs 0.744 af Secondary=2.6 cfs 0.043 af Outflow=9.4 cfs 0.787 af

Pond 2.14P: CB-208

Peak Elev=63.70' Inflow=9.3 cfs 0.889 af
24.0" Round Culvert n=0.013 L=4.0' S=0.0150 '/' Outflow=9.3 cfs 0.889 af

Pond 2.15P: CB-209

Peak Elev=63.32' Inflow=2.3 cfs 0.176 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0103 '/' Outflow=2.3 cfs 0.176 af

Pond 2.161P: DMH-203

Peak Elev=58.49' Inflow=12.9 cfs 2.145 af
36.0" Round Culvert n=0.013 L=100.0' S=0.0120 '/' Outflow=12.9 cfs 2.145 af

Pond 2.16P: PH2 RETAININGWALL STONE

Peak Elev=69.74' Storage=316 cf Inflow=0.6 cfs 0.041 af
8.0" Round Culvert n=0.013 L=10.0' S=0.0330 '/' Outflow=0.5 cfs 0.038 af

Pond 2.17P: CB-203

Peak Elev=67.04' Inflow=9.0 cfs 0.757 af
18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=9.0 cfs 0.757 af

Pond 2.18P: CB-202

Peak Elev=67.66' Inflow=6.1 cfs 0.526 af
18.0" Round Culvert n=0.013 L=130.0' S=0.0104 '/' Outflow=6.1 cfs 0.526 af

Pond 2.19P: CB-201

Peak Elev=70.89' Inflow=1.9 cfs 0.176 af
12.0" Round Culvert n=0.013 L=340.0' S=0.0107 '/' Outflow=1.9 cfs 0.176 af

Pond 2.201P: SSSF-1

Peak Elev=59.11' Storage=15,314 cf Inflow=14.8 cfs 1.322 af
Outflow=9.7 cfs 1.322 af

Pond 2.20P: CB-301

Peak Elev=71.21' Inflow=2.1 cfs 0.221 af
12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=2.1 cfs 0.221 af

Pond 2.21P: CB-302

Peak Elev=70.26' Inflow=5.5 cfs 0.519 af
18.0" Round Culvert n=0.013 L=260.0' S=0.0106 '/' Outflow=5.5 cfs 0.519 af

Pond 2.22P: CB-304

Peak Elev=68.11' Inflow=7.8 cfs 0.696 af
18.0" Round Culvert n=0.013 L=150.0' S=0.0133 '/' Outflow=7.8 cfs 0.696 af

Pond 2.231P: DMH-204

Peak Elev=63.86' Inflow=9.0 cfs 0.786 af
Primary=7.7 cfs 0.768 af Secondary=1.3 cfs 0.018 af Outflow=9.0 cfs 0.786 af

Pond 2.23P: CB-305

Peak Elev=65.08' Inflow=9.0 cfs 0.786 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0217 '/' Outflow=9.0 cfs 0.786 af

Pond 2.241P: CB-118 OUTFALLPIPE

Peak Elev=54.81' Inflow=137.6 cfs 25.148 af
60.0" Round Culvert n=0.013 L=57.0' S=0.0046 '/' Outflow=137.6 cfs 25.148 af

Pond 2.24P: CB-118 RIM

Peak Elev=61.17' Storage=1,714 cf Inflow=3.9 cfs 0.299 af
Outflow=2.0 cfs 0.299 af

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Pond 2.25P: CB-124

Peak Elev=57.39' Inflow=0.8 cfs 0.063 af
 12.0" Round Culvert n=0.013 L=245.0' S=0.0058 '/ Outflow=0.8 cfs 0.063 af

Pond 2.26P: CB-210

Peak Elev=57.07' Inflow=0.8 cfs 0.057 af
 12.0" Round Culvert n=0.013 L=150.0' S=0.0103 '/ Outflow=0.8 cfs 0.057 af

Pond 2.27P: SD-135

Peak Elev=59.42' Storage=1,691 cf Inflow=6.0 cfs 0.864 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0120 '/ Outflow=5.3 cfs 0.864 af

Pond 2.28P: SD-114

Peak Elev=68.56' Storage=40 cf Inflow=0.9 cfs 0.065 af
 12.0" Round Culvert n=0.013 L=17.0' S=0.0294 '/ Outflow=0.9 cfs 0.065 af

Pond 2.2P: CB-121 - Lower Parking Lot

Peak Elev=61.34' Storage=1,208 cf Inflow=4.5 cfs 0.351 af
 Outflow=2.6 cfs 0.351 af

Pond 2.3P: CB-116

Peak Elev=58.20' Inflow=1.0 cfs 0.080 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0116 '/ Outflow=1.0 cfs 0.080 af

Pond 2.41P: CB-114

Peak Elev=59.03' Inflow=11.5 cfs 0.892 af
 24.0" Round Culvert n=0.013 L=15.0' S=0.0193 '/ Outflow=11.5 cfs 0.892 af

Pond 2.4P: CB-115

Peak Elev=58.24' Inflow=1.2 cfs 0.090 af
 12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/ Outflow=1.2 cfs 0.090 af

Pond 2.51P: CB-110

Peak Elev=59.80' Inflow=10.2 cfs 0.802 af
 24.0" Round Culvert n=0.013 L=85.0' S=0.0109 '/ Outflow=10.2 cfs 0.802 af

Pond 2.5P: CB-122

Peak Elev=62.32' Inflow=1.0 cfs 0.078 af
 12.0" Round Culvert n=0.013 L=55.0' S=0.0153 '/ Outflow=1.0 cfs 0.078 af

Pond 2.6P: CB-109

Peak Elev=60.26' Inflow=9.2 cfs 0.724 af
 24.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=9.2 cfs 0.724 af

Pond 2.7P: CB-106

Peak Elev=62.27' Inflow=5.1 cfs 0.399 af
 18.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/ Outflow=5.1 cfs 0.399 af

Pond 2.801P: DMH-102

Peak Elev=62.18' Inflow=7.1 cfs 0.561 af
 18.0" Round Culvert n=0.013 L=140.0' S=0.0057 '/ Outflow=7.1 cfs 0.561 af

Pond 2.802P: CB-108

Peak Elev=61.84' Inflow=7.9 cfs 0.625 af
 18.0" Round Culvert n=0.013 L=150.0' S=0.0066 '/ Outflow=7.9 cfs 0.625 af

Pond 2.8P: BUILDING B ROOF DRAIN

Peak Elev=67.79' Inflow=2.0 cfs 0.162 af
 12.0" Round Culvert n=0.013 L=60.0' S=0.0207 '/ Outflow=2.0 cfs 0.162 af

Pond 2.9P: CB-105

Peak Elev=66.40' Storage=5 cf Inflow=1.0 cfs 0.081 af
 Primary=0.3 cfs 0.022 af Secondary=0.8 cfs 0.059 af Outflow=1.0 cfs 0.081 af

Pond 4.11P: DMH-100

Peak Elev=62.59' Inflow=9.1 cfs 1.248 af
 15.0" Round Culvert n=0.025 L=118.0' S=0.0094 '/ Outflow=9.1 cfs 1.248 af

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Pond 4.1P: CB - Elm Street

Peak Elev=58.14' Inflow=7.7 cfs 0.611 af

Primary=6.3 cfs 0.602 af Secondary=1.4 cfs 0.009 af Outflow=7.7 cfs 0.611 af

Pond 4.2P: 4' DRIP STRIP FOR RETAINING

Peak Elev=63.25' Storage=1,987 cf Inflow=3.2 cfs 0.299 af

8.0" Round Culvert n=0.013 L=140.0' S=0.0429 ' / ' Outflow=2.2 cfs 0.294 af

Pond 4.3P: F-100

Peak Elev=56.21' Inflow=2.7 cfs 0.378 af

15.0" Round Culvert n=0.013 L=105.0' S=0.0186 ' / ' Outflow=2.7 cfs 0.378 af

Pond 4.4P: CB-100

Peak Elev=58.25' Storage=912 cf Inflow=7.7 cfs 0.789 af

Primary=2.8 cfs 0.646 af Secondary=4.7 cfs 0.143 af Outflow=7.5 cfs 0.789 af

Pond 4.5P: CB-103

Peak Elev=57.42' Storage=17 cf Inflow=1.0 cfs 0.078 af

Outflow=1.0 cfs 0.078 af

Pond 5.1P: Box Culvert - Railroad

Peak Elev=63.21' Inflow=125.7 cfs 21.765 af

60.0" x 60.0" Box Culvert n=0.011 L=388.0' S=0.0222 ' / ' Outflow=125.7 cfs 21.765 af

Pond 5.2P: DMH-103

Peak Elev=56.39' Inflow=131.0 cfs 22.629 af

60.0" Round Culvert n=0.013 L=75.0' S=0.0041 ' / ' Outflow=131.0 cfs 22.629 af

Pond 5.3P: DMH-105

Peak Elev=55.92' Inflow=131.0 cfs 22.647 af

60.0" Round Culvert n=0.013 L=355.0' S=0.0040 ' / ' Outflow=131.0 cfs 22.647 af

Link POA-1:

Inflow=14.4 cfs 1.703 af

Primary=14.4 cfs 1.703 af

Link POA-2:

Inflow=141.2 cfs 26.622 af

Primary=141.2 cfs 26.622 af

Link POA-3:

Inflow=14.9 cfs 0.885 af

Primary=14.9 cfs 0.885 af

Link POA-4:

Inflow=9.1 cfs 1.248 af

Primary=9.1 cfs 1.248 af

Total Runoff Area = 93.1 ac Runoff Volume = 30.467 af Average Runoff Depth = 3.93"
41.48% Pervious = 38.6 ac 58.52% Impervious = 54.5 ac

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.1S:

Runoff = 3.1 cfs @ 12.24 hrs, Volume= 0.313 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	3,995	98	Sidewalks, HSG D
	660	80	>75% Grass cover, Good, HSG D
	8,550	78	Meadow, non-grazed, HSG D
	25,095	83	Woods, Poor, HSG D
	38,300	83	Weighted Average
	34,305		89.57% Pervious Area
	3,995		10.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	110	0.0350	0.10		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.30"

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.2S:

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	900	98	Sidewalks, HSG D
	710	80	>75% Grass cover, Good, HSG D
	5,380	83	Woods, Poor, HSG D
*	390	89	Offsite Landscape, Poor, HSG D
	3,240	78	Meadow, non-grazed, HSG D
	10,620	83	Weighted Average
	9,720		91.53% Pervious Area
	900		8.47% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1.3S:

Runoff = 7.8 cfs @ 12.22 hrs, Volume= 0.759 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
31,710	80	>75% Grass cover, Good, HSG D
8,830	98	Unconnected pavement, HSG D
52,220	83	Woods, Poor, HSG D
92,760	83	Weighted Average
83,930		90.48% Pervious Area
8,830		9.52% Impervious Area
8,830		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	120	0.0100	0.14		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
1.6	250	0.0300	2.60		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
16.3	370	Total			

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Summary for Subcatchment 1.4S:

Runoff = 11.4 cfs @ 12.11 hrs, Volume= 0.925 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
1,020	78	Meadow, non-grazed, HSG D
* 35,270	89	Offsite Landscape, Poor, HSG D
44,910	98	Unconnected pavement, HSG D
8,710	83	Woods, Poor, HSG D
89,910	93	Weighted Average
45,000		50.05% Pervious Area
44,910		49.95% Impervious Area
44,910		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	70	0.0500	0.23		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.6	160	0.1000	4.74		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
0.7	120	0.0200	2.87		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
1.4	75	0.0300	0.87		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
7.7	425	Total			

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Summary for Subcatchment 1.5S:

Runoff = 2.6 cfs @ 12.15 hrs, Volume= 0.222 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
18,830	80	>75% Grass cover, Good, HSG D
* 7,000	98	Assumed Impervious, HSG D
25,830	85	Weighted Average
18,830		72.90% Pervious Area
7,000		27.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	150	0.0300	0.22		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"

Summary for Subcatchment 2.10S: BUILDING A ROOF

Runoff = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
23,610	98	Roofs, HSG D
23,610		100.00% Impervious Area

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

18462 POST

Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.11S:

Runoff = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af, Depth= 5.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,810	98	Paved parking, HSG D
*	1,710	98	Sidewalks, HSG D
	14,880	98	Roofs, HSG D
	1,960	80	>75% Grass cover, Good, HSG D
	26,360	97	Weighted Average
	1,960		7.44% Pervious Area
	24,400		92.56% Impervious Area

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

18462 POST*Type III 24-hr 25-YR Rainfall=6.20"*

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Summary for Subcatchment 2.12S:

Runoff = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 5.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	2,060	98	Paved parking, HSG D
*	620	98	Sidewalks, HSG D
	210	80	>75% Grass cover, Good, HSG D
	2,890	97	Weighted Average
	210		7.27% Pervious Area
	2,680		92.73% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.13S:

Runoff = 0.5 cfs @ 12.08 hrs, Volume= 0.040 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	1,635	98	Paved parking, HSG D
*	1,020	98	Sidewalks, HSG D
	1,285	80	>75% Grass cover, Good, HSG D
	3,940	92	Weighted Average
	1,285		32.61% Pervious Area
	2,655		67.39% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.14S:

Runoff = 2.1 cfs @ 12.08 hrs, Volume= 0.159 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	9,150	98	Paved parking, HSG D
*	2,020	98	Sidewalks, HSG D
	4,235	80	>75% Grass cover, Good, HSG D
	15,405	93	Weighted Average
	4,235		27.49% Pervious Area
	11,170		72.51% Impervious Area

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

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Summary for Subcatchment 2.15S:

Runoff = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	2,800	98	Paved parking, HSG D
*	300	98	Sidewalks, HSG D
	3,270	80	>75% Grass cover, Good, HSG D
	14,940	98	Roofs, HSG D
	21,310	95	Weighted Average
	3,270		15.34% Pervious Area
	18,040		84.66% Impervious Area

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

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Summary for Subcatchment 2.16S:

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	330	98	Sidewalks, HSG D
	7,070	80	>75% Grass cover, Good, HSG D
	7,400	81	Weighted Average
	7,070		95.54% Pervious Area
	330		4.46% Impervious Area

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

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Summary for Subcatchment 2.17S:

Runoff = 3.9 cfs @ 12.08 hrs, Volume= 0.302 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	18,690	98	Paved parking, HSG D
*	4,030	98	Sidewalks, HSG D
	6,000	80	>75% Grass cover, Good, HSG D
	28,720	94	Weighted Average
	6,000		20.89% Pervious Area
	22,720		79.11% Impervious Area

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

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Summary for Subcatchment 2.18S:

Runoff = 5.8 cfs @ 12.10 hrs, Volume= 0.460 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
10,130	98	Paved parking, HSG D
* 1,840	98	Sidewalks, HSG D
18,930	98	Roofs, HSG D
5,980	80	>75% Grass cover, Good, HSG D
240	98	Unconnected pavement, HSG D
7,530	83	Woods, Poor, HSG D
44,650	93	Weighted Average
13,510		30.26% Pervious Area
31,140		69.74% Impervious Area
240		0.77% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	60	0.0200	0.16		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.6	130	0.0300	3.52		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
7.0	190	Total			

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Summary for Subcatchment 2.19S:

Runoff = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,890	98	Paved parking, HSG D
*	70	98	Sidewalks, HSG D
	2,760	80	>75% Grass cover, Good, HSG D
	5,890	98	Unconnected pavement, HSG D
*	10,410	89	Offsite Landscape, Poor, HSG D
	23,020	92	Weighted Average
	13,170		57.21% Pervious Area
	9,850		42.79% Impervious Area
	5,890		59.80% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	150	0.0200	0.19		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"

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Summary for Subcatchment 2.1S:

Runoff = 2.6 cfs @ 12.13 hrs, Volume= 0.209 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
*	4,800	98	Sidewalks, HSG D
	6,295	80	>75% Grass cover, Good, HSG D
	3,385	78	Meadow, non-grazed, HSG D
	10,475	83	Woods, Poor, HSG D
	24,955	84	Weighted Average
	20,155		80.77% Pervious Area
	4,800		19.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	65	0.0100	0.12		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.1	8	0.0150	2.49		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
0.4	45	0.1500	1.94		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
9.5	118	Total			

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Summary for Subcatchment 2.20S:

Runoff = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
9,780	98	Paved parking, HSG D
14,980	98	Roofs, HSG D
24,760	98	Weighted Average
24,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	150	0.0200	0.19		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.5	70	0.0200	2.12		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
0.1	25	0.0200	2.87		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
13.9	245	Total			

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Summary for Subcatchment 2.21S:

Runoff = 4.9 cfs @ 12.08 hrs, Volume= 0.386 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description		
*	21,375	98	Paved parking, HSG D		
	3,905	98	Sidewalks, HSG D		
	4,425	80	>75% Grass cover, Good, HSG D		
	5,500	98	Unconnected pavement, HSG D		
	35,205	96	Weighted Average		
	4,425		12.57% Pervious Area		
	30,780		87.43% Impervious Area		
	5,500		17.87% Unconnected		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry, A-B

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Summary for Subcatchment 2.22S:

Runoff = 3.1 cfs @ 12.08 hrs, Volume= 0.234 af, Depth= 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,040	98	Paved parking, HSG D
*	1,780	98	Sidewalks, HSG D
	8,780	80	>75% Grass cover, Good, HSG D
	6,150	98	Unconnected pavement, HSG D
	23,750	91	Weighted Average
	8,780		36.97% Pervious Area
	14,970		63.03% Impervious Area
	6,150		41.08% Unconnected

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

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Summary for Subcatchment 2.23S:

Runoff = 1.5 cfs @ 12.08 hrs, Volume= 0.118 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	4,040	98	Paved parking, HSG D
*	860	98	Sidewalks, HSG D
	3,480	80	>75% Grass cover, Good, HSG D
	3,090	98	Unconnected pavement, HSG D
	11,470	93	Weighted Average
	3,480		30.34% Pervious Area
	7,990		69.66% Impervious Area
	3,090		38.67% Unconnected

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

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Summary for Subcatchment 2.24S:

Runoff = 4.0 cfs @ 12.08 hrs, Volume= 0.308 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	17,430	98	Paved parking, HSG D
*	5,505	98	Sidewalks, HSG D
	6,350	80	>75% Grass cover, Good, HSG D
	29,285	94	Weighted Average
	6,350		21.68% Pervious Area
	22,935		78.32% Impervious Area

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

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Summary for Subcatchment 2.25S:

Runoff = 1.1 cfs @ 12.08 hrs, Volume= 0.084 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,860	98	Paved parking, HSG D
*	1,840	98	Sidewalks, HSG D
	2,600	80	>75% Grass cover, Good, HSG D
	8,300	92	Weighted Average
	2,600		31.33% Pervious Area
	5,700		68.67% Impervious Area

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

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Summary for Subcatchment 2.26S:

Runoff = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	8,650	80	>75% Grass cover, Good, HSG D
*	1,370	98	Sidewalks, HSG D
	10,020	82	Weighted Average
	8,650		86.33% Pervious Area
	1,370		13.67% Impervious Area

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

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Summary for Subcatchment 2.27S:

Runoff = 8.1 cfs @ 12.52 hrs, Volume= 1.178 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Adj	Description
77,240	83		Woods, Poor, HSG D
* 22,810	89		Offsite Landscape, Poor, HSG D
33,860	98		Unconnected pavement, HSG D
133,910	88	86	Weighted Average, UI Adjusted
100,050			74.71% Pervious Area
33,860			25.29% Impervious Area
33,860			100.00% Unconnected

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
1.3	165	0.1700	2.06		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
39.1	350	Total			

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.28S:

Runoff = 1.3 cfs @ 12.09 hrs, Volume= 0.092 af, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
10,530	78	Meadow, non-grazed, HSG D
* 1,100	89	Offsite Landscape, Poor, HSG D
800	83	Woods, Poor, HSG D
12,430	79	Weighted Average
12,430		100.00% Pervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.2S:

Runoff = 5.8 cfs @ 12.08 hrs, Volume= 0.455 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	19,090	98	Paved parking, HSG D
*	2,385	98	Sidewalks, HSG D
	13,685	98	Roofs, HSG D
	7,260	80	>75% Grass cover, Good, HSG D
	42,420	95	Weighted Average
	7,260		17.11% Pervious Area
	35,160		82.89% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.3S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,305	98	Paved parking, HSG D
*	1,095	98	Sidewalks, HSG D
	1,010	80	>75% Grass cover, Good, HSG D
	9,410	96	Weighted Average
	1,010		10.73% Pervious Area
	8,400		89.27% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.4S:

Runoff = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	3,690	98	Paved parking, HSG D
*	1,510	98	Sidewalks, HSG D
	8,340	80	>75% Grass cover, Good, HSG D
	13,540	87	Weighted Average
	8,340		61.60% Pervious Area
	5,200		38.40% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.5S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	7,450	98	Paved parking, HSG D
*	520	98	Sidewalks, HSG D
	1,420	80	>75% Grass cover, Good, HSG D
	9,390	95	Weighted Average
	1,420		15.12% Pervious Area
	7,970		84.88% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.6S:

Runoff = 1.7 cfs @ 12.08 hrs, Volume= 0.129 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	8,420	98	Paved parking, HSG D
*	1,090	98	Sidewalks, HSG D
	2,750	80	>75% Grass cover, Good, HSG D
	12,260	94	Weighted Average
	2,750		22.43% Pervious Area
	9,510		77.57% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.7S:

Runoff = 2.8 cfs @ 12.08 hrs, Volume= 0.217 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	13,000	98	Paved parking, HSG D
*	3,430	98	Sidewalks, HSG D
	4,190	80	>75% Grass cover, Good, HSG D
	20,620	94	Weighted Average
	4,190		20.32% Pervious Area
	16,430		79.68% Impervious Area

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

Summary for Subcatchment 2.8S: BUILDING B ROOF

Runoff = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
18,160	98	Roofs, HSG D
18,160		100.00% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 2.9S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	6,050	98	Paved parking, HSG D
*	2,575	98	Sidewalks, HSG D
	950	80	>75% Grass cover, Good, HSG D
	9,575	96	Weighted Average
	950		9.92% Pervious Area
	8,625		90.08% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 3.1S:

Runoff = 12.2 cfs @ 12.13 hrs, Volume= 1.005 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	1,705	98	Paved parking, HSG D
*	16,665	98	Sidewalks, HSG D
	37,820	80	>75% Grass cover, Good, HSG D
	17,285	78	Meadow, non-grazed, HSG D
*	2,150	89	Offsite Landscape, Poor, HSG D
	7,460	98	Roofs, HSG D
	33,925	83	Woods, Poor, HSG D
	117,010	85	Weighted Average
	91,180		77.92% Pervious Area
	25,830		22.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	65	0.0100	0.12		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.1	8	0.0150	2.49		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
0.3	17	0.0150	0.86		Shallow Concentrated Flow, C-D
					Short Grass Pasture Kv= 7.0 fps
0.3	30	0.1500	1.94		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
9.7	120	Total			

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Summary for Subcatchment 4.1S:

Runoff = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
34,960	98	Unconnected pavement, HSG D
* 42,980	89	Offsite Landscape, Poor, HSG D
77,940	93	Weighted Average
42,980		55.14% Pervious Area
34,960		44.86% Impervious Area
34,960		100.00% Unconnected

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			

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Summary for Subcatchment 4.2S:

Runoff = 4.4 cfs @ 12.19 hrs, Volume= 0.410 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Adj	Description
1,500	80		>75% Grass cover, Good, HSG D
16,750	83		Woods, Poor, HSG D
* 8,000	89		Offsite Landscape, Poor, HSG D
12,010	98		Unconnected pavement, HSG D
9,510	78		Meadow, non-grazed, HSG D
47,770	87	85	Weighted Average, UI Adjusted
35,760			74.86% Pervious Area
12,010			25.14% Impervious Area
12,010			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	60	0.0200	0.07		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.30"
0.1	20	0.3300	4.02		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
14.2	80	Total			

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Summary for Subcatchment 4.3S:

Runoff = 1.7 cfs @ 12.09 hrs, Volume= 0.118 af, Depth= 3.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
6,090	80	>75% Grass cover, Good, HSG D
5,000	78	Meadow, non-grazed, HSG D
4,280	83	Woods, Poor, HSG D
190	98	Unconnected pavement, HSG D
15,560	80	Weighted Average
15,370		98.78% Pervious Area
190		1.22% Impervious Area
190		100.00% Unconnected

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

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Summary for Subcatchment 4.4S:

Runoff = 4.5 cfs @ 12.08 hrs, Volume= 0.354 af, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	12,070	98	Paved parking, HSG D
*	2,585	98	Sidewalks, HSG D
	14,380	98	Roofs, HSG D
	3,285	80	>75% Grass cover, Good, HSG D
	32,320	96	Weighted Average
	3,285		10.16% Pervious Area
	29,035		89.84% Impervious Area

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

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 4.5S:

Runoff = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

	Area (sf)	CN	Description
	6,630	98	Paved parking, HSG D
*	330	98	Sidewalks, HSG D
	3,030	80	>75% Grass cover, Good, HSG D
	9,990	93	Weighted Average
	3,030		30.33% Pervious Area
	6,960		69.67% Impervious Area

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

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Summary for Subcatchment 5.1S:

Runoff = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (sf)	CN	Description
2,761,635	92	1/8 acre lots, 65% imp, HSG D
88,580	83	Woods, Poor, HSG D
2,850,215	92	Weighted Average
1,055,152		37.02% Pervious Area
1,795,063		62.98% 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			

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Summary for Reach 1.2R:

[81] Warning: Exceeded Pond 1.3P by 0.50' @ 5.64 hrs

Inflow Area = 3.0 ac, 12.95% Impervious, Inflow Depth = 4.32" for 25-YR event
Inflow = 8.0 cfs @ 12.35 hrs, Volume= 1.068 af
Outflow = 8.0 cfs @ 12.36 hrs, Volume= 1.068 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.19 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 0.46 fps, Avg. Travel Time= 2.7 min

Peak Storage= 275 cf @ 12.35 hrs

Average Depth at Peak Storage= 0.30'

Bank-Full Depth= 1.00' Flow Area= 17.0 sf, Capacity= 73.0 cfs

10.00' x 1.00' deep channel, n= 0.050 Scattered brush, heavy weeds

Side Slope Z-value= 7.0 ' ' Top Width= 24.00'

Length= 75.0' Slope= 0.0333 ' '

Inlet Invert= 53.50', Outlet Invert= 51.00'



Summary for Reach 4.3R:

Inflow Area = 0.4 ac, 1.22% Impervious, Inflow Depth = 3.96" for 25-YR event
Inflow = 1.7 cfs @ 12.09 hrs, Volume= 0.118 af
Outflow = 1.6 cfs @ 12.10 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.79 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 1.7 min

Peak Storage= 48 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 50.0 cfs

2.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 110.0' Slope= 0.0432 '/'
Inlet Invert= 63.00', Outlet Invert= 58.25'



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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Pond 1.3P: SD-147

[79] Warning: Submerged Pond 1.5P Primary device # 1 INLET by 0.64'

Inflow Area = 2.7 ac, 13.35% Impervious, Inflow Depth = 4.32" for 25-YR event
 Inflow = 9.3 cfs @ 12.23 hrs, Volume= 0.981 af
 Outflow = 7.6 cfs @ 12.36 hrs, Volume= 0.981 af, Atten= 18%, Lag= 7.6 min
 Primary = 5.9 cfs @ 12.36 hrs, Volume= 0.937 af
 Secondary = 1.7 cfs @ 12.36 hrs, Volume= 0.044 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 54.87' @ 12.36 hrs Surf.Area= 4,923 sf Storage= 2,785 cf

Plug-Flow detention time= 3.3 min calculated for 0.981 af (100% of inflow)
 Center-of-Mass det. time= 3.3 min (854.1 - 850.8)

Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	3,445 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	50	0	0
54.00	650	350	350
55.00	5,540	3,095	3,445

Device	Routing	Invert	Outlet Devices
#1	Primary	53.00'	15.0" Round Culvert L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.00' / 52.80' S= 0.0057 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	54.50'	3.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.9 cfs @ 12.36 hrs HW=54.87' (Free Discharge)↑ **1=Culvert** (Barrel Controls 5.9 cfs @ 4.79 fps)**Secondary OutFlow** Max=1.7 cfs @ 12.36 hrs HW=54.87' (Free Discharge)↑ **2=Broad-Crested Rectangular Weir**(Weir Controls 1.7 cfs @ 1.54 fps)

Summary for Pond 1.5P: UDSF-1

Inflow Area = 0.6 ac, 27.10% Impervious, Inflow Depth = 4.49" for 25-YR event
 Inflow = 2.6 cfs @ 12.15 hrs, Volume= 0.222 af
 Outflow = 1.6 cfs @ 12.31 hrs, Volume= 0.222 af, Atten= 37%, Lag= 9.5 min
 Primary = 1.6 cfs @ 12.31 hrs, Volume= 0.222 af
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 58.31' @ 12.31 hrs Surf.Area= 2,009 sf Storage= 2,874 cf

Plug-Flow detention time= 170.7 min calculated for 0.222 af (100% of inflow)
 Center-of-Mass det. time= 170.3 min (974.7 - 804.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	54.32'	5,258 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.32	1,220	0.0	0	0
54.33	1,220	40.0	5	5
55.49	1,220	40.0	566	571
55.50	1,220	10.0	1	572
56.99	1,220	10.0	182	754
57.00	1,220	100.0	12	766
58.00	1,810	100.0	1,515	2,281
59.00	2,450	100.0	2,130	4,411
59.33	2,680	100.0	846	5,258

Device	Routing	Invert	Outlet Devices
#1	Primary	54.23'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.23' / 53.00' S= 0.0246 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	54.33'	6.0" Round 6" UD Header L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.33' / 54.33' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	54.32'	2.410 in/hr Filtration to UD over Surface area
#4	Device 1	58.00'	1.8" x 1.8" Horiz. CB-126 Rim X 5.00 columns X 5 rows C= 0.600 Limited to weir flow at low heads
#5	Secondary	58.33'	5.0' long x 2.0' breadth Emergency Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=1.6 cfs @ 12.31 hrs HW=58.31' (Free Discharge)

- ↑ 1=Culvert (Passes 1.6 cfs of 7.2 cfs potential flow)
- ↑ 2=6" UD Header (Passes 0.1 cfs of 1.8 cfs potential flow)
- ↑ 3=Filtration to UD (Exfiltration Controls 0.1 cfs)
- ↑ 4=CB-126 Rim (Orifice Controls 1.5 cfs @ 2.68 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=54.32' (Free Discharge)

- ↑ 5=Emergency Spillway (Controls 0.0 cfs)

Summary for Pond 2.101P: DMH-101

[79] Warning: Submerged Pond 2.9P Primary device # 1 INLET by 0.23'

Inflow Area = 0.8 ac, 97.14% Impervious, Inflow Depth = 4.69" for 25-YR event
 Inflow = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af
 Outflow = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.7 cfs @ 12.08 hrs, Volume= 0.298 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.98' @ 12.08 hrs

Flood Elev= 71.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.95'	18.0" Round Culvert L= 178.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.95' / 61.05' S= 0.0051 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.6 cfs @ 12.08 hrs HW=62.98' (Free Discharge)

↑**1=Culvert** (Barrel Controls 3.6 cfs @ 3.99 fps)

Summary for Pond 2.10P: BUILDING A ROOF DRAIN

Inflow Area = 0.5 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
 Inflow = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af
 Outflow = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.3 cfs @ 12.08 hrs, Volume= 0.269 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.26' @ 12.08 hrs

Flood Elev= 71.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	12.0" Round Culvert L= 58.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.00' / 64.16' S= 0.0317 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.3 cfs @ 12.08 hrs HW=67.26' (Free Discharge)

↑1=Culvert (Inlet Controls 3.3 cfs @ 4.19 fps)

Summary for Pond 2.111P: SSSF-2

[93] Warning: Storage range exceeded by 1.56'
 [81] Warning: Exceeded Pond 2.11P by 3.30' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.12P by 3.80' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.131P by 2.46' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.14P by 2.67' @ 12.19 hrs
 [81] Warning: Exceeded Pond 2.15P by 3.19' @ 12.19 hrs

Inflow Area = 6.0 ac, 76.93% Impervious, Inflow Depth = 5.29" for 25-YR event
 Inflow = 26.1 cfs @ 12.09 hrs, Volume= 2.648 af
 Outflow = 22.2 cfs @ 12.19 hrs, Volume= 2.657 af, Atten= 15%, Lag= 6.3 min
 Primary = 22.2 cfs @ 12.19 hrs, Volume= 2.657 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 66.39' @ 12.19 hrs Surf.Area= 12,767 sf Storage= 27,741 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 88.8 min (856.6 - 767.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	61.33'	10,912 cf	49.00'W x 252.82'L x 3.50'H Field A 43,358 cf Overall - 16,079 cf Embedded = 27,279 cf x 40.0% Voids
#2A	61.83'	16,079 cf	ADS_StormTech SC-740 +Cap x 350 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 350 Chambers in 10 Rows
#3B	61.33'	383 cf	6.25'W x 60.58'L x 3.50'H Field B 1,325 cf Overall - 368 cf Embedded = 958 cf x 40.0% Voids
#4B	61.83'	368 cf	ADS_StormTech SC-740 +Cap x 8 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
27,741 cf			Total Available Storage

Storage Group A created with Chamber Wizard
 Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	58.90'	36.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.90' / 58.70' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	59.00'	6.0" Round 6" UD HEADER L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 59.00' / 59.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	61.33'	4.000 in/hr FILTRATION TO UD over Surface area
#4	Device 1	63.33'	6.0' 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
#5	Device 4	61.84'	24.0" Round 24" overflow

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L= 5.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 61.84' / 61.84' S= 0.0000 '/ Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=21.4 cfs @ 12.19 hrs HW=66.19' (Free Discharge)

- ↑ 1=Culvert (Passes 21.4 cfs of 64.7 cfs potential flow)
- ↑ 2=6" UD HEADER (Passes 1.2 cfs of 2.5 cfs potential flow)
- ↑ 3=FILTRATION TO UD (Exfiltration Controls 1.2 cfs)
- ↑ 4=Broad-Crested Rectangular Weir (Passes 20.2 cfs of 96.4 cfs potential flow)
- ↑ 5=24" overflow (Inlet Controls 20.2 cfs @ 6.43 fps)

Pond 2.111P: SSSF-2 - Chamber Wizard Field A**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

35 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 250.82' Row Length +12.0" End Stone x 2 = 252.82' Base Length

10 Rows x 51.0" Wide + 6.0" Spacing x 9 + 12.0" Side Stone x 2 = 49.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

350 Chambers x 45.9 cf = 16,079.0 cf Chamber Storage

43,358.1 cf Field - 16,079.0 cf Chambers = 27,279.1 cf Stone x 40.0% Voids = 10,911.6 cf Stone Storage

Chamber Storage + Stone Storage = 26,990.6 cf = 0.620 af

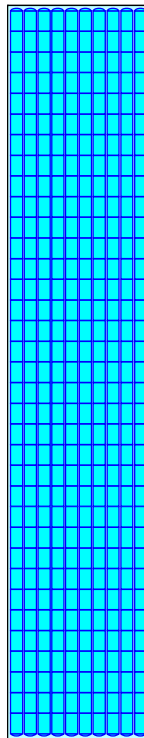
Overall Storage Efficiency = 62.3%

Overall System Size = 252.82' x 49.00' x 3.50'

350 Chambers

1,605.9 cy Field

1,010.3 cy Stone



Pond 2.111P: SSSF-2 - Chamber Wizard Field B**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58'
Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

8 Chambers x 45.9 cf = 367.5 cf Chamber Storage

1,325.1 cf Field - 367.5 cf Chambers = 957.6 cf Stone x 40.0% Voids = 383.0 cf Stone Storage

Chamber Storage + Stone Storage = 750.6 cf = 0.017 af

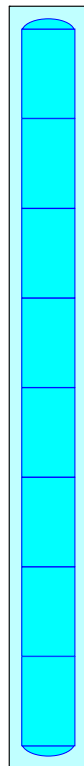
Overall Storage Efficiency = 56.6%

Overall System Size = 60.58' x 6.25' x 3.50'

8 Chambers

49.1 cy Field

35.5 cy Stone



Summary for Pond 2.112P: DMH-201

[79] Warning: Submerged Pond 2.111P Primary device # 1 INLET by 2.01'

Inflow Area = 6.0 ac, 76.93% Impervious, Inflow Depth = 5.48" for 25-YR event
 Inflow = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af
 Outflow = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af, Atten= 0%, Lag= 0.0 min
 Primary = 24.4 cfs @ 12.19 hrs, Volume= 2.739 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.94' @ 12.19 hrs

Flood Elev= 72.85'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.60'	36.0" Round Culvert L= 87.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.60' / 57.00' S= 0.0184 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=23.6 cfs @ 12.19 hrs HW=60.89' (Free Discharge)

↑1=Culvert (Inlet Controls 23.6 cfs @ 4.07 fps)

Summary for Pond 2.11P: CB-207

Inflow Area = 0.6 ac, 92.56% Impervious, Inflow Depth = 5.84" for 25-YR event
 Inflow = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af
 Outflow = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.7 cfs @ 12.08 hrs, Volume= 0.295 af

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= 66.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	12.0" Round Culvert L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 61.93' S= 0.0140 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.7 cfs @ 12.08 hrs HW=63.49' (Free Discharge)

↑1=Culvert (Barrel Controls 3.7 cfs @ 4.65 fps)

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Summary for Pond 2.12P: CB-205

Inflow Area = 0.1 ac, 92.73% Impervious, Inflow Depth = 5.84" for 25-YR event
 Inflow = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af
 Outflow = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.4 cfs @ 12.08 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.55' @ 12.08 hrs

Flood Elev= 72.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.20'	12.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.20' / 61.93' S= 0.0225 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=62.55' (Free Discharge)

↑1=Culvert (Inlet Controls 0.4 cfs @ 1.60 fps)

Summary for Pond 2.131P: DMH-200

[79] Warning: Submerged Pond 2.13P Primary device # 1 INLET by 1.71'

Inflow Area = 2.3 ac, 66.15% Impervious, Inflow Depth = 4.95" for 25-YR event
 Inflow = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af
 Outflow = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.11' @ 12.10 hrs

Flood Elev= 72.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	18.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.96' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.10 hrs HW=64.11' (Free Discharge)

↑1=Culvert (Inlet Controls 7.8 cfs @ 4.43 fps)

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Summary for Pond 2.13P: CB-204

[79] Warning: Submerged Pond 2.17P Primary device # 1 OUTLET by 2.00'

Inflow Area = 2.3 ac, 66.15% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 12.1 cfs @ 12.10 hrs, Volume= 1.033 af
 Outflow = 12.1 cfs @ 12.10 hrs, Volume= 1.033 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.10 hrs, Volume= 0.951 af
 Secondary = 4.3 cfs @ 12.10 hrs, Volume= 0.082 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.50' @ 12.10 hrs

Flood Elev= 72.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.40'	18.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.40' / 62.30' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Secondary	63.33'	18.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.33' / 62.60' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.10 hrs HW=64.50' (Free Discharge)

↑1=Culvert (Inlet Controls 7.8 cfs @ 4.42 fps)

Secondary OutFlow Max=4.3 cfs @ 12.10 hrs HW=64.50' (Free Discharge)

↑2=Culvert (Inlet Controls 4.3 cfs @ 2.91 fps)

Summary for Pond 2.14P: CB-208

[79] Warning: Submerged Pond 2.231P Primary device # 1 INLET by 1.53'

Inflow Area = 2.5 ac, 81.08% Impervious, Inflow Depth = 5.40" for 25-YR event
 Inflow = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af
 Outflow = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.4 cfs @ 12.09 hrs, Volume= 1.142 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.96' @ 12.09 hrs

Flood Elev= 66.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.90'	24.0" Round Culvert L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.90' / 61.84' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.3 cfs @ 12.09 hrs HW=63.96' (Free Discharge)

↑1=Culvert (Barrel Controls 11.3 cfs @ 4.37 fps)

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Summary for Pond 2.15P: CB-209

Inflow Area = 0.5 ac, 84.66% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af
 Outflow = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.9 cfs @ 12.08 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.69' @ 12.08 hrs

Flood Elev= 65.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.24'	12.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.24' / 61.93' S= 0.0103 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=63.69' (Free Discharge)

↑1=Culvert (Inlet Controls 2.9 cfs @ 3.71 fps)

Summary for Pond 2.161P: DMH-203

[79] Warning: Submerged Pond 2.112P Primary device # 1 INLET by 0.65'

Inflow Area = 6.2 ac, 74.93% Impervious, Inflow Depth = 5.43" for 25-YR event
 Inflow = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af
 Outflow = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af, Atten= 0%, Lag= 0.0 min
 Primary = 25.0 cfs @ 12.19 hrs, Volume= 2.793 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.28' @ 12.19 hrs

Flood Elev= 72.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.90'	36.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.90' / 55.70' S= 0.0120 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=24.2 cfs @ 12.19 hrs HW=59.23' (Free Discharge)

↑**1=Culvert** (Inlet Controls 24.2 cfs @ 4.11 fps)

Summary for Pond 2.16P: PH2 RETAINING WALL STONE EDGE

Inflow Area = 0.2 ac, 4.46% Impervious, Inflow Depth = 4.07" for 25-YR event
 Inflow = 0.8 cfs @ 12.09 hrs, Volume= 0.058 af
 Outflow = 0.7 cfs @ 12.13 hrs, Volume= 0.054 af, Atten= 13%, Lag= 2.7 min
 Primary = 0.7 cfs @ 12.13 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 69.84' @ 12.13 hrs Surf.Area= 1,050 sf Storage= 358 cf
 Flood Elev= 72.33' Surf.Area= 1,050 sf Storage= 1,271 cf

Plug-Flow detention time= 60.1 min calculated for 0.054 af (94% of inflow)
 Center-of-Mass det. time= 29.1 min (839.3 - 810.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	68.99'	1,271 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	1,050	0.0	0	0
69.00	1,050	40.0	4	4
71.99	1,050	40.0	1,256	1,260
72.00	1,050	100.0	11	1,271

Device	Routing	Invert	Outlet Devices
#1	Primary	69.33'	8.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.33' / 69.00' S= 0.0330 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.7 cfs @ 12.13 hrs HW=69.84' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.7 cfs @ 2.44 fps)

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Summary for Pond 2.17P: CB-203

[81] Warning: Exceeded Pond 2.18P by 0.06' @ 12.09 hrs

Inflow Area = 2.2 ac, 66.10% Impervious, Inflow Depth = 5.39" for 25-YR event
Inflow = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af
Outflow = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af, Atten= 0%, Lag= 0.0 min
Primary = 11.6 cfs @ 12.10 hrs, Volume= 0.993 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.24' @ 12.10 hrs

Flood Elev= 71.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.50'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.50' / 62.50' S= 0.0133 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=11.6 cfs @ 12.10 hrs HW=68.24' (Free Discharge)

↑1=Culvert (Inlet Controls 11.6 cfs @ 6.57 fps)

Summary for Pond 2.18P: CB-202

[79] Warning: Submerged Pond 2.19P Primary device # 1 OUTLET by 1.86'

Inflow Area = 1.6 ac, 60.57% Impervious, Inflow Depth = 5.34" for 25-YR event
 Inflow = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af
 Outflow = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.8 cfs @ 12.11 hrs, Volume= 0.691 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.21' @ 12.11 hrs

Flood Elev= 73.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	18.0" Round Culvert L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 64.75' S= 0.0104 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.8 cfs @ 12.11 hrs HW=68.21' (Free Discharge)

↑1=Culvert (Inlet Controls 7.8 cfs @ 4.43 fps)

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Summary for Pond 2.19P: CB-201

Inflow Area = 0.5 ac, 42.79% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af
 Outflow = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.4 cfs @ 12.18 hrs, Volume= 0.232 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 71.16' @ 12.18 hrs

Flood Elev= 74.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	70.00'	12.0" Round Culvert L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.00' / 66.35' S= 0.0107 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.18 hrs HW=71.16' (Free Discharge)

↑1=Culvert (Inlet Controls 2.4 cfs @ 3.09 fps)

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Summary for Pond 2.201P: SSSF-1

[79] Warning: Submerged Pond 2.2P Primary device # 1 INLET by 1.85'

[81] Warning: Exceeded Pond 2.3P by 1.26' @ 12.17 hrs

[81] Warning: Exceeded Pond 2.41P by 1.02' @ 12.63 hrs

Inflow Area = 3.9 ac, 77.63% Impervious, Inflow Depth = 5.26" for 25-YR event
 Inflow = 18.7 cfs @ 12.09 hrs, Volume= 1.723 af
 Outflow = 15.4 cfs @ 12.15 hrs, Volume= 1.723 af, Atten= 18%, Lag= 3.7 min
 Primary = 15.4 cfs @ 12.15 hrs, Volume= 1.723 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.43' @ 12.15 hrs Surf.Area= 8,542 sf Storage= 16,628 cf

Plug-Flow detention time= 91.4 min calculated for 1.723 af (100% of inflow)

Center-of-Mass det. time= 91.4 min (855.6 - 764.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.50'	7,549 cf	58.50'W x 146.02'L x 3.50'H Field A 29,897 cf Overall - 11,026 cf Embedded = 18,871 cf x 40.0% Voids
#2A	57.00'	11,026 cf	ADS_StormTech SC-740 +Cap x 240 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 240 Chambers in 12 Rows
18,574 cf			Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.26'	36.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.26' / 53.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	54.33'	4.0" Round 4" UD HEADER L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.33' / 54.33' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#3	Device 2	56.50'	4.000 in/hr FILTRATION TO UD over Surface area
#4	Device 1	58.50'	6.0' long x 0.5' breadth RECTANGULAR WEIR PANEL Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Device 4	57.00'	24.0" Round 24" OVERFLOW CULVERT L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.00' / 56.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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Primary OutFlow Max=15.4 cfs @ 12.15 hrs HW=59.43' (Free Discharge)

↑ 1=Culvert (Passes 15.4 cfs of 62.3 cfs potential flow)

↑ 2=4" UD HEADER (Passes 0.8 cfs of 0.9 cfs potential flow)

↑ 3=FILTRATION TO UD (Exfiltration Controls 0.8 cfs)

↑ 4=RECTANGULAR WEIR PANEL (Passes 14.6 cfs of 17.9 cfs potential flow)

↑ 5=24" OVERFLOW CULVERT (Inlet Controls 14.6 cfs @ 4.65 fps)

Pond 2.201P: SSSF-1 - Chamber Wizard Field A**Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)**

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

20 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 144.02' Row Length +12.0" End Stone x 2 = 146.02' Base Length

12 Rows x 51.0" Wide + 6.0" Spacing x 11 + 12.0" Side Stone x 2 = 58.50' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

240 Chambers x 45.9 cf = 11,025.6 cf Chamber Storage

29,896.9 cf Field - 11,025.6 cf Chambers = 18,871.3 cf Stone x 40.0% Voids = 7,548.5 cf Stone Storage

Chamber Storage + Stone Storage = 18,574.1 cf = 0.426 af

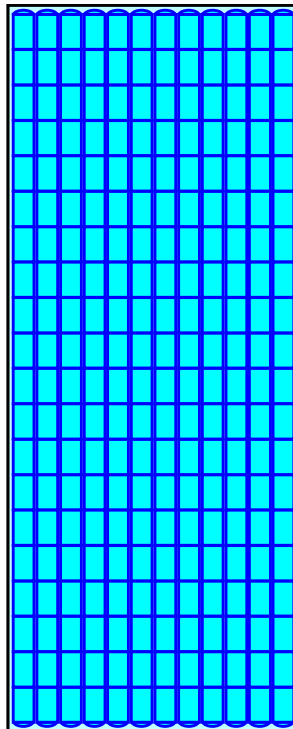
Overall Storage Efficiency = 62.1%

Overall System Size = 146.02' x 58.50' x 3.50'

240 Chambers

1,107.3 cy Field

698.9 cy Stone



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Summary for Pond 2.20P: CB-301

Inflow Area = 0.6 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
Inflow = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af
Outflow = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
Primary = 2.7 cfs @ 12.18 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 71.53' @ 12.18 hrs

Flood Elev= 74.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	70.20'	12.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.20' / 69.80' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.7 cfs @ 12.18 hrs HW=71.53' (Free Discharge)

↑1=Culvert (Inlet Controls 2.7 cfs @ 3.46 fps)

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Summary for Pond 2.21P: CB-302

[79] Warning: Submerged Pond 2.20P Primary device # 1 INLET by 0.48'

Inflow Area = 1.4 ac, 92.62% Impervious, Inflow Depth = 5.82" for 25-YR event
 Inflow = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af
 Outflow = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.0 cfs @ 12.10 hrs, Volume= 0.668 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 70.68' @ 12.10 hrs

Flood Elev= 74.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.85'	18.0" Round Culvert L= 260.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.85' / 66.10' S= 0.0106 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.0 cfs @ 12.10 hrs HW=70.68' (Free Discharge)↑**1=Culvert** (Inlet Controls 7.0 cfs @ 3.95 fps)

Summary for Pond 2.22P: CB-304

[79] Warning: Submerged Pond 2.21P Primary device # 1 INLET by 0.14'

Inflow Area = 1.9 ac, 84.23% Impervious, Inflow Depth = 5.63" for 25-YR event
 Inflow = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af
 Outflow = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.1 cfs @ 12.09 hrs, Volume= 0.902 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.99' @ 12.09 hrs

Flood Elev= 73.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 64.00' S= 0.0133 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.0 cfs @ 12.09 hrs HW=68.99' (Free Discharge)

↑1=Culvert (Inlet Controls 10.0 cfs @ 5.69 fps)

Summary for Pond 2.231P: DMH-204

[79] Warning: Submerged Pond 2.23P Primary device # 1 INLET by 0.55'

Inflow Area = 2.2 ac, 82.47% Impervious, Inflow Depth = 5.60" for 25-YR event
 Inflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af
 Outflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.3 cfs @ 12.09 hrs, Volume= 0.983 af
 Secondary = 2.3 cfs @ 12.09 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 64.05' @ 12.09 hrs

Flood Elev= 67.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.43'	24.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.43' / 62.00' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.33'	24.0" Round Culvert L= 160.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.33' / 52.65' S= 0.0668 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.3 cfs @ 12.09 hrs HW=64.05' (Free Discharge)↑**1=Culvert** (Inlet Controls 9.3 cfs @ 3.42 fps)**Secondary OutFlow** Max=2.3 cfs @ 12.09 hrs HW=64.05' (Free Discharge)↑**2=Culvert** (Inlet Controls 2.3 cfs @ 2.27 fps)

Summary for Pond 2.23P: CB-305

[79] Warning: Submerged Pond 2.22P Primary device # 1 OUTLET by 1.43'

Inflow Area = 2.2 ac, 82.47% Impervious, Inflow Depth = 5.60" for 25-YR event
 Inflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af
 Outflow = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.6 cfs @ 12.09 hrs, Volume= 1.020 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 65.43' @ 12.09 hrs

Flood Elev= 68.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 62.63' S= 0.0217 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.6 cfs @ 12.09 hrs HW=65.43' (Free Discharge)

↑1=Culvert (Inlet Controls 11.6 cfs @ 3.73 fps)

Summary for Pond 2.241P: CB-118 OUTFALL PIPE

[79] Warning: Submerged Pond 2.161P Primary device # 1 INLET by 0.21'

[81] Warning: Exceeded Pond 2.26P by 0.35' @ 12.68 hrs

[79] Warning: Submerged Pond 5.3P Primary device # 1 INLET by 6.77'

Inflow Area = 75.8 ac, 62.43% Impervious, Inflow Depth = 5.26" for 25-YR event
 Inflow = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af
 Outflow = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af, Atten= 0%, Lag= 0.0 min
 Primary = 179.6 cfs @ 12.68 hrs, Volume= 33.195 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.11' @ 12.68 hrs

Flood Elev= 60.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.82'	60.0" Round Culvert L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.82' / 48.56' S= 0.0046 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=179.5 cfs @ 12.68 hrs HW=57.10' (Free Discharge)

↑1=Culvert (Inlet Controls 179.5 cfs @ 9.14 fps)

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Summary for Pond 2.24P: CB-118 RIM

[81] Warning: Exceeded Pond 2.25P by 4.09' @ 12.56 hrs

Inflow Area = 0.9 ac, 76.19% Impervious, Inflow Depth = 5.44" for 25-YR event
 Inflow = 5.1 cfs @ 12.08 hrs, Volume= 0.391 af
 Outflow = 2.3 cfs @ 12.25 hrs, Volume= 0.391 af, Atten= 54%, Lag= 9.9 min
 Primary = 2.3 cfs @ 12.25 hrs, Volume= 0.391 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 61.26' @ 12.25 hrs Surf.Area= 9,536 sf Storage= 2,506 cf

Plug-Flow detention time= 8.5 min calculated for 0.391 af (100% of inflow)
 Center-of-Mass det. time= 8.5 min (778.0 - 769.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.90'	12,230 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.90	100	0	0
61.00	7,000	355	355
62.00	16,750	11,875	12,230

Device	Routing	Invert	Outlet Devices
#1	Primary	60.90'	1.8" x 1.8" Horiz. CB-1234 X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.3 cfs @ 12.25 hrs HW=61.26' (Free Discharge)
 ↑1=CB-1234 (Orifice Controls 2.3 cfs @ 2.89 fps)

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Summary for Pond 2.25P: CB-124

Inflow Area = 0.2 ac, 68.67% Impervious, Inflow Depth = 5.27" for 25-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

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.48' @ 12.08 hrs

Flood Elev= 60.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.85'	12.0" Round Culvert L= 245.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.85' / 55.44' S= 0.0058 '/ 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=57.48' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.13 fps)

Summary for Pond 2.26P: CB-210

Inflow Area = 0.2 ac, 13.67% Impervious, Inflow Depth = 4.17" for 25-YR event
 Inflow = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af
 Outflow = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.1 cfs @ 12.09 hrs, Volume= 0.080 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 57.18' @ 12.09 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	56.55'	12.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.55' / 55.00' S= 0.0103 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.09 hrs HW=57.18' (Free Discharge)

↑1=Culvert (Inlet Controls 1.1 cfs @ 2.13 fps)

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Summary for Pond 2.27P: SD-135

Inflow Area = 3.1 ac, 25.29% Impervious, Inflow Depth = 4.60" for 25-YR event
 Inflow = 8.1 cfs @ 12.52 hrs, Volume= 1.178 af
 Outflow = 6.4 cfs @ 12.77 hrs, Volume= 1.178 af, Atten= 21%, Lag= 14.9 min
 Primary = 6.4 cfs @ 12.77 hrs, Volume= 1.178 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 59.99' @ 12.77 hrs Surf.Area= 4,651 sf Storage= 3,775 cf

Plug-Flow detention time= 3.7 min calculated for 1.178 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (830.9 - 827.2)

Volume	Invert	Avail.Storage	Storage Description
#1	57.50'	3,843 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.50	10	0	0
58.00	200	53	53
59.00	1,340	770	823
60.00	4,700	3,020	3,843

Device	Routing	Invert	Outlet Devices
#1	Primary	57.50'	15.0" Round Culvert L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.50' / 56.90' S= 0.0120 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.4 cfs @ 12.77 hrs HW=59.99' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 6.4 cfs @ 5.18 fps)

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Summary for Pond 2.28P: SD-114

Inflow Area = 0.3 ac, 0.00% Impervious, Inflow Depth = 3.86" for 25-YR event
 Inflow = 1.3 cfs @ 12.09 hrs, Volume= 0.092 af
 Outflow = 1.3 cfs @ 12.10 hrs, Volume= 0.092 af, Atten= 2%, Lag= 0.9 min
 Primary = 1.3 cfs @ 12.10 hrs, Volume= 0.092 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 68.68' @ 12.10 hrs Surf.Area= 160 sf Storage= 58 cf

Flood Elev= 71.50' Surf.Area= 1,700 sf Storage= 1,915 cf

Plug-Flow detention time= 0.9 min calculated for 0.092 af (100% of inflow)

Center-of-Mass det. time= 0.9 min (816.2 - 815.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	1,915 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.00	10	0	0
69.00	230	120	120
70.00	830	530	650
71.00	1,700	1,265	1,915

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	12.0" Round Culvert L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.50' S= 0.0294 ' S= 0.0294 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.10 hrs HW=68.68' (Free Discharge)↑ **1=Culvert** (Inlet Controls 1.3 cfs @ 2.22 fps)

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Summary for Pond 2.2P: CB-121 - Lower Parking Lot

Inflow Area = 1.0 ac, 82.89% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 5.8 cfs @ 12.08 hrs, Volume= 0.455 af
 Outflow = 2.9 cfs @ 12.23 hrs, Volume= 0.455 af, Atten= 51%, Lag= 8.7 min
 Primary = 2.9 cfs @ 12.23 hrs, Volume= 0.455 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 61.44' @ 12.23 hrs Surf.Area= 8,935 sf Storage= 2,028 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 3.1 min (766.0 - 762.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	57.00'	15,425 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	50	0.0	0	0
58.00	50	0.0	0	0
59.00	50	0.0	0	0
60.00	50	0.0	0	0
60.90	50	0.0	0	0
61.00	200	100.0	13	13
62.00	20,000	100.0	10,100	10,113
62.25	22,500	100.0	5,313	15,425

Device	Routing	Invert	Outlet Devices
#1	Primary	57.58'	12.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.58' / 57.10' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	60.90'	1.8" x 1.8" Horiz. CB-19 Rim X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.9 cfs @ 12.23 hrs HW=61.44' (Free Discharge)

↑ **1=Culvert** (Passes 2.9 cfs of 5.3 cfs potential flow)

↑ **2=CB-19 Rim** (Orifice Controls 2.9 cfs @ 3.54 fps)

Summary for Pond 2.3P: CB-116

Inflow Area = 0.2 ac, 89.27% Impervious, Inflow Depth = 5.73" for 25-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

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.28' @ 12.08 hrs

Flood Elev= 62.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.68'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.68' / 57.10' S= 0.0116 '/ 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=58.28' (Free Discharge)

↑1=Culvert (Inlet Controls 1.3 cfs @ 2.64 fps)

18462 POST

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Summary for Pond 2.41P: CB-114

[81] Warning: Exceeded Pond 2.4P by 1.01' @ 12.09 hrs

[79] Warning: Submerged Pond 2.51P Primary device # 1 INLET by 1.05'

Inflow Area = 2.7 ac, 74.85% Impervious, Inflow Depth = 5.09" for 25-YR event
 Inflow = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af
 Outflow = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af, Atten= 0%, Lag= 0.0 min
 Primary = 14.8 cfs @ 12.09 hrs, Volume= 1.165 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 59.38' @ 12.09 hrs

Flood Elev= 64.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.30'	24.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.30' / 57.01' S= 0.0193 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.8 cfs @ 12.09 hrs HW=59.38' (Free Discharge)↑**1=Culvert** (Barrel Controls 14.8 cfs @ 5.63 fps)

Summary for Pond 2.4P: CB-115

Inflow Area = 0.3 ac, 38.40% Impervious, Inflow Depth = 4.71" for 25-YR event
 Inflow = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af
 Outflow = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.7 cfs @ 12.09 hrs, Volume= 0.122 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.37' @ 12.09 hrs

Flood Elev= 64.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	57.60'	12.0" Round Culvert L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 57.60' / 57.40' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.09 hrs HW=58.37' (Free Discharge)

↑1=Culvert (Barrel Controls 1.7 cfs @ 3.55 fps)

Summary for Pond 2.51P: CB-110

[79] Warning: Submerged Pond 2.6P Primary device # 1 INLET by 1.47'

Inflow Area = 2.4 ac, 79.50% Impervious, Inflow Depth = 5.14" for 25-YR event
 Inflow = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af
 Outflow = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af, Atten= 0%, Lag= 0.0 min
 Primary = 13.2 cfs @ 12.09 hrs, Volume= 1.043 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 60.08' @ 12.09 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.33'	24.0" Round Culvert L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 58.33' / 57.40' S= 0.0109 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.1 cfs @ 12.09 hrs HW=60.08' (Free Discharge)

↑1=Culvert (Inlet Controls 13.1 cfs @ 4.51 fps)

Summary for Pond 2.5P: CB-122

Inflow Area = 0.2 ac, 84.88% Impervious, Inflow Depth = 5.61" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af
 Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.3 cfs @ 12.08 hrs, Volume= 0.101 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.40' @ 12.08 hrs

Flood Elev= 66.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.80'	12.0" Round Culvert L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.80' / 60.96' S= 0.0153 '/ 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=62.40' (Free Discharge)

↑1=Culvert (Inlet Controls 1.3 cfs @ 2.63 fps)

Summary for Pond 2.6P: CB-109

[79] Warning: Submerged Pond 2.802P Primary device # 1 INLET by 0.86'

Inflow Area = 2.2 ac, 78.98% Impervious, Inflow Depth = 5.10" for 25-YR event
 Inflow = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af
 Outflow = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.9 cfs @ 12.09 hrs, Volume= 0.942 af

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= 66.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	58.61'	24.0" Round Culvert L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 58.61' / 58.43' S= 0.0051 ' / S= 0.0051 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.9 cfs @ 12.09 hrs HW=60.56' (Free Discharge)

↑**1=Culvert** (Barrel Controls 11.9 cfs @ 4.83 fps)

Summary for Pond 2.7P: CB-106

[79] Warning: Submerged Pond 2.101P Primary device # 1 INLET by 0.57'

Inflow Area = 1.2 ac, 90.45% Impervious, Inflow Depth = 5.00" for 25-YR event
 Inflow = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af
 Outflow = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.4 cfs @ 12.08 hrs, Volume= 0.515 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.52' @ 12.08 hrs

Flood Elev= 69.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.95'	18.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.95' / 60.70' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.4 cfs @ 12.08 hrs HW=62.52' (Free Discharge)

↑**1=Culvert** (Barrel Controls 6.4 cfs @ 4.33 fps)

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Summary for Pond 2.801P: DMH-102

[81] Warning: Exceeded Pond 2.7P by 0.41' @ 12.08 hrs

Inflow Area = 1.7 ac, 92.86% Impervious, Inflow Depth = 5.24" for 25-YR event
Inflow = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af
Outflow = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af, Atten= 0%, Lag= 0.0 min
Primary = 9.0 cfs @ 12.08 hrs, Volume= 0.722 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.93' @ 12.08 hrs

Flood Elev= 70.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.60'	18.0" Round Culvert L= 140.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.60' / 59.80' S= 0.0057 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=9.0 cfs @ 12.08 hrs HW=62.92' (Free Discharge)

↑1=Culvert (Barrel Controls 9.0 cfs @ 5.07 fps)

Summary for Pond 2.802P: CB-108

[79] Warning: Submerged Pond 2.801P Primary device # 1 INLET by 2.16'

Inflow Area = 1.9 ac, 79.18% Impervious, Inflow Depth = 5.04" for 25-YR event
 Inflow = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af
 Outflow = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.2 cfs @ 12.09 hrs, Volume= 0.813 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 62.77' @ 12.09 hrs

Flood Elev= 71.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.70'	18.0" Round Culvert L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.70' / 58.71' S= 0.0066 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.2 cfs @ 12.09 hrs HW=62.76' (Free Discharge)

↑**1=Culvert** (Inlet Controls 10.2 cfs @ 5.78 fps)

Summary for Pond 2.8P: BUILDING B ROOF DRAIN

Inflow Area = 0.4 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-YR event
 Inflow = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af
 Outflow = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.5 cfs @ 12.08 hrs, Volume= 0.207 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 67.94' @ 12.08 hrs

Flood Elev= 70.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.76' S= 0.0207 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.08 hrs HW=67.94' (Free Discharge)

↑1=Culvert (Inlet Controls 2.5 cfs @ 3.30 fps)

Summary for Pond 2.9P: CB-105

Inflow Area = 0.2 ac, 90.08% Impervious, Inflow Depth = 5.73" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af
 Outflow = 1.3 cfs @ 12.08 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.4 cfs @ 12.08 hrs, Volume= 0.028 af
 Secondary = 1.0 cfs @ 12.08 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 66.41' @ 12.08 hrs Surf.Area= 126 sf Storage= 6 cf

Flood Elev= 67.50' Surf.Area= 1,050 sf Storage= 525 cf

Plug-Flow detention time= 0.1 min calculated for 0.105 af (100% of inflow)

Center-of-Mass det. time= 0.1 min (757.6 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	66.35'	3,563 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.35	100	0	0
67.00	400	163	163
68.00	1,700	1,050	1,213
69.00	3,000	2,350	3,563

Device	Routing	Invert	Outlet Devices
#1	Primary	62.75'	12.0" Round Culvert L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.75' / 62.05' S= 0.0050 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.35'	1.8" x 1.8" Horiz. CB-2 RIM X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads
#3	Secondary	66.35'	30.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=66.41' (Free Discharge)

↑ **1=Culvert** (Passes 0.4 cfs of 4.6 cfs potential flow)

↑ **2=CB-2 RIM** (Weir Controls 0.4 cfs @ 0.78 fps)

Secondary OutFlow Max=1.0 cfs @ 12.08 hrs HW=66.41' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 1.0 cfs @ 0.56 fps)

Summary for Pond 4.11P: DMH-100

[58] Hint: Peaked 5.19' above defined flood level

[81] Warning: Exceeded Pond 4.1P by 4.93' @ 12.11 hrs

[81] Warning: Exceeded Pond 4.4P by 4.86' @ 12.11 hrs

Inflow Area = 4.2 ac, 45.30% Impervious, Inflow Depth = 4.51" for 25-YR event
 Inflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af
 Outflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 63.19' @ 12.11 hrs

Flood Elev= 58.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.24'	15.0" Round Culvert L= 118.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.24' / 51.13' S= 0.0094 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=9.3 cfs @ 12.11 hrs HW=63.19' (Free Discharge)

↑1=Culvert (Barrel Controls 9.3 cfs @ 7.59 fps)

Summary for Pond 4.1P: CB - Elm Street

Inflow Area = 1.8 ac, 44.86% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af
 Outflow = 10.0 cfs @ 12.10 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.4 cfs @ 12.10 hrs, Volume= 0.767 af
 Secondary = 3.6 cfs @ 12.10 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.25' @ 12.10 hrs

Flood Elev= 58.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	53.27'	15.0" Round Culvert L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.27' / 52.24' S= 0.0094 ' S= 0.0094 ' 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=6.4 cfs @ 12.10 hrs HW=58.25' (Free Discharge)

↑1=Culvert (Barrel Controls 6.4 cfs @ 5.19 fps)

Secondary OutFlow Max=3.6 cfs @ 12.10 hrs HW=58.25' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Weir Controls 3.6 cfs @ 1.43 fps)

Summary for Pond 4.2P: 4' DRIP STRIP FOR RETAINING WALL

Inflow Area = 1.1 ac, 25.14% Impervious, Inflow Depth = 4.49" for 25-YR event
 Inflow = 4.4 cfs @ 12.19 hrs, Volume= 0.410 af
 Outflow = 2.7 cfs @ 12.39 hrs, Volume= 0.405 af, Atten= 39%, Lag= 12.1 min
 Primary = 2.7 cfs @ 12.39 hrs, Volume= 0.405 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 64.24' @ 12.39 hrs Surf.Area= 2,200 sf Storage= 2,859 cf
 Flood Elev= 65.25' Surf.Area= 2,200 sf Storage= 4,092 cf

Plug-Flow detention time= 29.3 min calculated for 0.405 af (99% of inflow)
 Center-of-Mass det. time= 21.2 min (828.2 - 807.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	60.99'	4,092 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	2,200	0.0	0	0
61.00	2,200	40.0	9	9
64.99	2,200	40.0	3,511	3,520
65.00	2,200	100.0	22	3,542
65.25	2,200	100.0	550	4,092

Device	Routing	Invert	Outlet Devices
#1	Primary	61.25'	8.0" Round Culvert L= 140.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.25' / 55.25' S= 0.0429 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.7 cfs @ 12.39 hrs HW=64.24' (Free Discharge)
 ↑**1=Culvert** (Barrel Controls 2.7 cfs @ 7.70 fps)

Summary for Pond 4.3P: F-100

[79] Warning: Submerged Pond 4.2P Primary device # 1 OUTLET by 1.17'

Inflow Area = 1.5 ac, 19.26% Impervious, Inflow Depth = 4.32" for 25-YR event
 Inflow = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af
 Outflow = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.5 cfs @ 12.13 hrs, Volume= 0.523 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 56.42' @ 12.13 hrs

Flood Elev= 58.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	55.25'	15.0" Round Culvert L= 105.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.25' / 53.30' S= 0.0186 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.5 cfs @ 12.13 hrs HW=56.42' (Free Discharge)

↑1=Culvert (Inlet Controls 3.5 cfs @ 2.90 fps)

Summary for Pond 4.4P: CB-100

[81] Warning: Exceeded Pond 4.3P by 2.52' @ 6.59 hrs

[81] Warning: Exceeded Pond 4.5P by 0.89' @ 12.13 hrs

Inflow Area = 2.4 ac, 45.62% Impervious, Inflow Depth = 5.23" for 25-YR event
 Inflow = 10.0 cfs @ 12.09 hrs, Volume= 1.056 af
 Outflow = 9.8 cfs @ 12.11 hrs, Volume= 1.056 af, Atten= 3%, Lag= 1.3 min
 Primary = 2.9 cfs @ 12.11 hrs, Volume= 0.817 af
 Secondary = 6.8 cfs @ 12.11 hrs, Volume= 0.240 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 58.32' @ 12.11 hrs Surf.Area= 3,142 sf Storage= 1,102 cf

Plug-Flow detention time= 2.1 min calculated for 1.056 af (100% of inflow)
 Center-of-Mass det. time= 2.1 min (794.5 - 792.4)

Volume	Invert	Avail.Storage	Storage Description
#1	57.75'	1,603 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.75	20	0.0	0	0
58.00	1,600	100.0	203	203
58.50	4,000	100.0	1,400	1,603

Device	Routing	Invert	Outlet Devices
#1	Primary	53.20'	12.0" Round Culvert L= 110.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.20' / 52.63' S= 0.0052 ' S= 0.0052 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	57.75'	1.8" x 1.8" Horiz. Orifice/Grate X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads
#3	Secondary	58.00'	15.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.9 cfs @ 12.11 hrs HW=58.32' (Free Discharge)↑ **1=Culvert** (Passes 2.9 cfs of 5.9 cfs potential flow)↑ **2=Orifice/Grate** (Orifice Controls 2.9 cfs @ 3.64 fps)**Secondary OutFlow** Max=6.8 cfs @ 12.11 hrs HW=58.32' (Free Discharge)↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 6.8 cfs @ 1.41 fps)

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Summary for Pond 4.5P: CB-103

Inflow Area = 0.2 ac, 69.67% Impervious, Inflow Depth = 5.38" for 25-YR event
 Inflow = 1.3 cfs @ 12.08 hrs, Volume= 0.103 af
 Outflow = 1.3 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.4 min
 Primary = 1.3 cfs @ 12.09 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 57.44' @ 12.09 hrs Surf.Area= 343 sf Storage= 24 cf

Plug-Flow detention time= 0.2 min calculated for 0.103 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (772.3 - 772.1)

Volume	Invert	Avail.Storage	Storage Description
#1	57.30'	2,449 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.30	10	0.0	0	0
58.00	1,700	100.0	599	599
59.00	2,000	100.0	1,850	2,449

Device	Routing	Invert	Outlet Devices
#1	Primary	53.68'	12.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.68' / 53.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	57.30'	1.8" x 1.8" Horiz. Orifice/Grate X 6.00 columns X 6 rows C= 0.600 in 24.0" x 24.0" Grate (20% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.3 cfs @ 12.09 hrs HW=57.44' (Free Discharge)

↑ **1=Culvert** (Passes 1.3 cfs of 5.4 cfs potential flow)
 ↑ **2=Orifice/Grate** (Weir Controls 1.3 cfs @ 1.21 fps)

Summary for Pond 5.1P: Box Culvert - Railroad

Inflow Area = 65.4 ac, 62.98% Impervious, Inflow Depth = 5.27" for 25-YR event
 Inflow = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af
 Outflow = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af, Atten= 0%, Lag= 0.0 min
 Primary = 163.6 cfs @ 12.68 hrs, Volume= 28.715 af

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=163.6 cfs @ 12.68 hrs HW=63.97' (Free Discharge)

↑**1=Culvert** (Inlet Controls 163.6 cfs @ 6.96 fps)

Summary for Pond 5.2P: DMH-103

[79] Warning: Submerged Pond 2.27P Primary device # 1 INLET by 0.83'

[79] Warning: Submerged Pond 5.1P Primary device # 1 OUTLET by 7.68'

Inflow Area = 68.5 ac, 61.29% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af
 Outflow = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af, Atten= 0%, Lag= 0.0 min
 Primary = 169.9 cfs @ 12.68 hrs, Volume= 29.893 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.33' @ 12.68 hrs

Flood Elev= 67.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.65'	60.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.65' / 50.34' S= 0.0041 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=169.9 cfs @ 12.68 hrs HW=58.33' (Free Discharge)

↑1=Culvert (Inlet Controls 169.9 cfs @ 8.65 fps)

Summary for Pond 5.3P: DMH-105

[79] Warning: Submerged Pond 2.231P Secondary device # 2 OUTLET by 5.37'

[79] Warning: Submerged Pond 5.2P Primary device # 1 INLET by 7.37'

Inflow Area = 68.5 ac, 61.29% Impervious, Inflow Depth = 5.24" for 25-YR event
 Inflow = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af
 Outflow = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af, Atten= 0%, Lag= 0.0 min
 Primary = 169.9 cfs @ 12.68 hrs, Volume= 29.930 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 58.02' @ 12.68 hrs

Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.34'	60.0" Round Culvert L= 355.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.34' / 48.92' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

Primary OutFlow Max=169.9 cfs @ 12.68 hrs HW=58.02' (Free Discharge)

↑1=Culvert (Inlet Controls 169.9 cfs @ 8.65 fps)

Summary for Link POA-1:

Inflow Area = 5.9 ac, 25.50% Impervious, Inflow Depth = 4.68" for 25-YR event
Inflow = 18.7 cfs @ 12.12 hrs, Volume= 2.307 af
Primary = 18.7 cfs @ 12.12 hrs, Volume= 2.307 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

18462 POST*Type III 24-hr 25-YR Rainfall=6.20"*

Prepared by {enter your company name here}

Printed 6/8/2023

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Summary for Link POA-2:

Inflow Area = 80.3 ac, 62.86% Impervious, Inflow Depth = 5.25" for 25-YR event
Inflow = 185.2 cfs @ 12.62 hrs, Volume= 35.128 af
Primary = 185.2 cfs @ 12.62 hrs, Volume= 35.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-3:

Inflow Area = 2.7 ac, 22.08% Impervious, Inflow Depth = 5.72" for 25-YR event
Inflow = 22.4 cfs @ 12.12 hrs, Volume= 1.280 af
Primary = 22.4 cfs @ 12.12 hrs, Volume= 1.280 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Link POA-4:

Inflow Area = 4.2 ac, 45.30% Impervious, Inflow Depth = 4.51" for 25-YR event
Inflow = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af
Primary = 9.3 cfs @ 12.11 hrs, Volume= 1.584 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Appendix 3

Inspection, Maintenance and Housekeeping Plan



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
One Diamond Street
Biddeford, Maine

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. Subsurface Sand Filter

- Inspect the site monthly for the first few months after construction. Then inspections can occur on an annual basis, preferably after rain events when clogging will be obvious.
- Make any repairs necessary to ensure the measure is operating properly.
- Regular maintenance is necessary to remove surface sediment, trash, debris, and leaf litter.
- Outlets and chambers need to be cleaned/repared when drawdown times in the filter exceeds 36 hours.
- In certain cases, layers of sand may need to be replaced every 3 to 5 years.

F. Underdrained Soil Filter

- Debris and sediment buildup should be removed from forebay and basin as needed.
- Any bare areas or erosion rills should be repaired with new filter media, seeded and mulched.
- Sediment and plant debris should be removed from the pretreatment structure at least annually.
- Fertilization of the filter area should be avoided unless absolutely necessary to establish vegetation.
- Harvesting and pruning of excessive growth should be done occasionally.

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 in 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
Diamond Street
Biddeford, Maine**

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for 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 Biddeford 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)		
Additional Notes/Observations:			

Subsurface Sand Filter

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:	
BMP Element	Suggested Maintenance	Observations	Inspection Notes/Recommended Action
Pretreatment			
	Sediment Depth/Removal (Annually)		
Outlet Control Structure			
	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe			
	Ground Stabilized (>1" rain, Annually)		
Subsurface Chambers			
	Sediment Depth/Removal (Annually)		
Additional Notes/Observations:			

Underdrain Soil Filter

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:	
BMP Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Outlet Control Structure	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe	Ground Stabilized (>1" rain, Annually)		
Emergency Spillway	Review for signs of erosion (Twice Annually)		
	Review for signs of discharge (>1" rain, twice annually)		
Embankments	Review for signs of erosion (Twice Annually)		
Filter Bed	Trim overgrown vegetation with string trimmer (annually)		
	Review basin for evidence of vehicular traffic or storage of snow within footprint (annually)		
	Confirm pond drains in 24-48 hours for water quality volume (annually)		
Additional Notes/Observations:			

Appendix 4

Subsurface Investigations & FEMA Flood Map



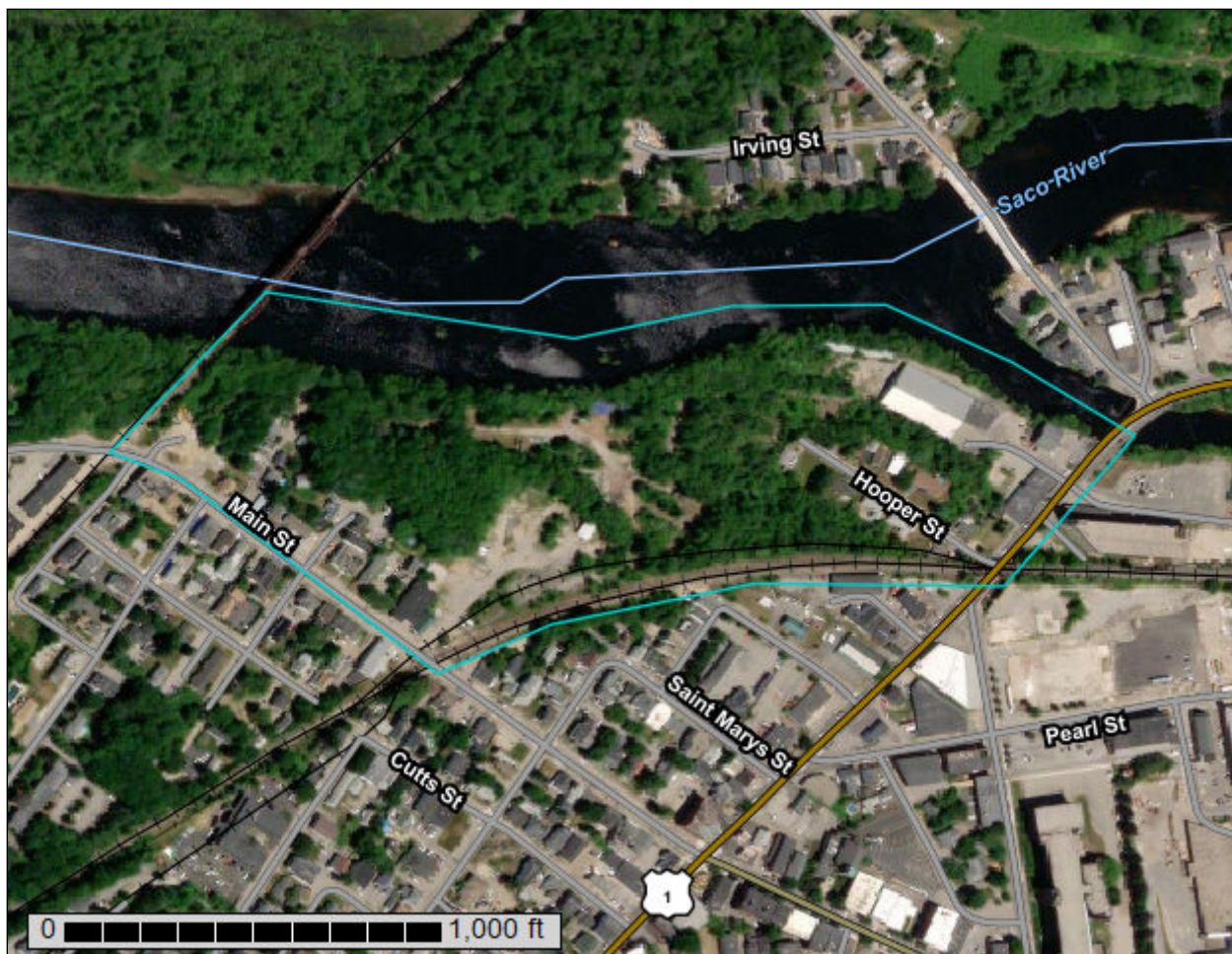
United States
Department of
Agriculture

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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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

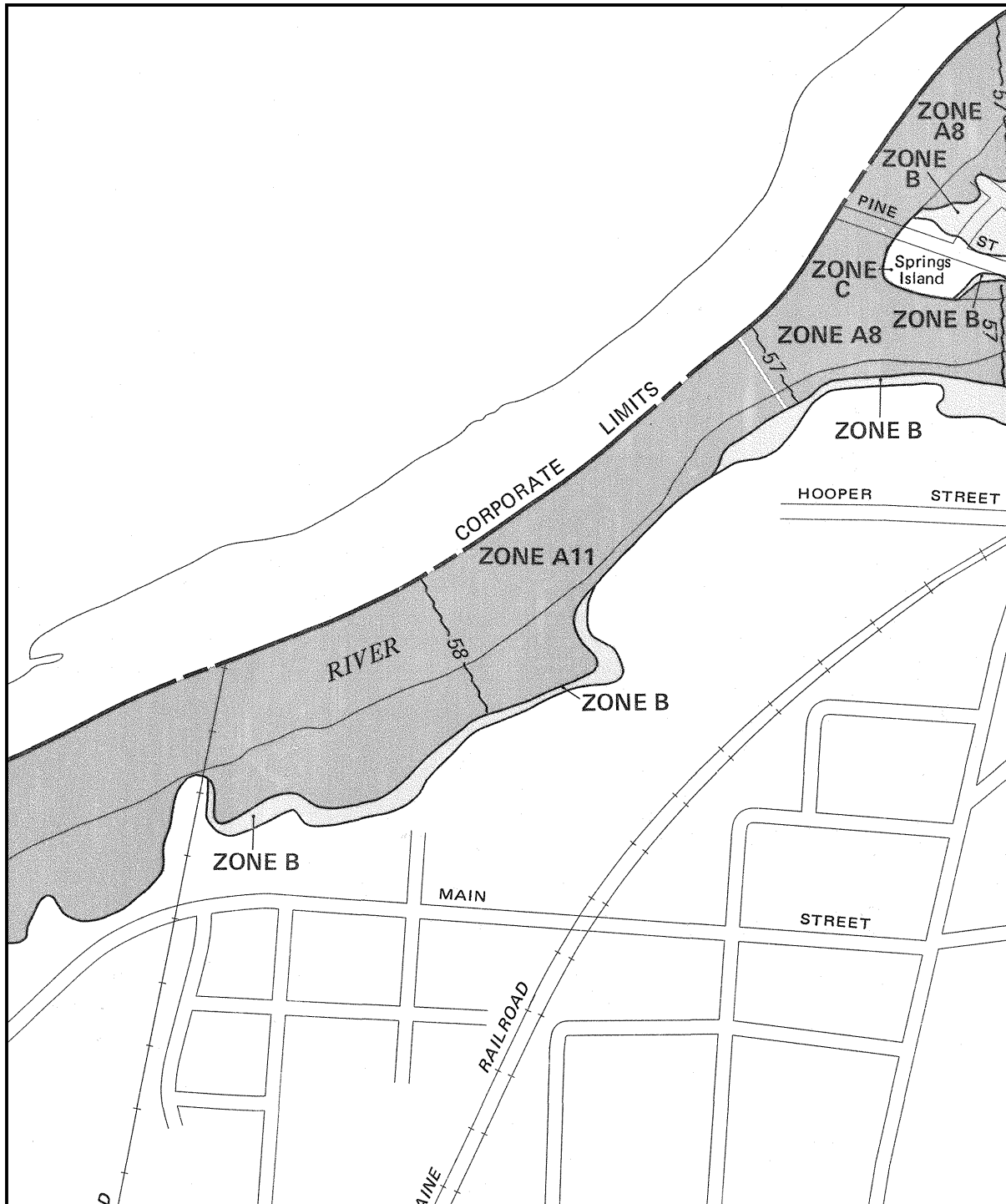
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APPROXIMATE SCALE

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

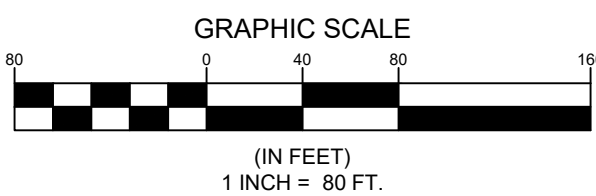
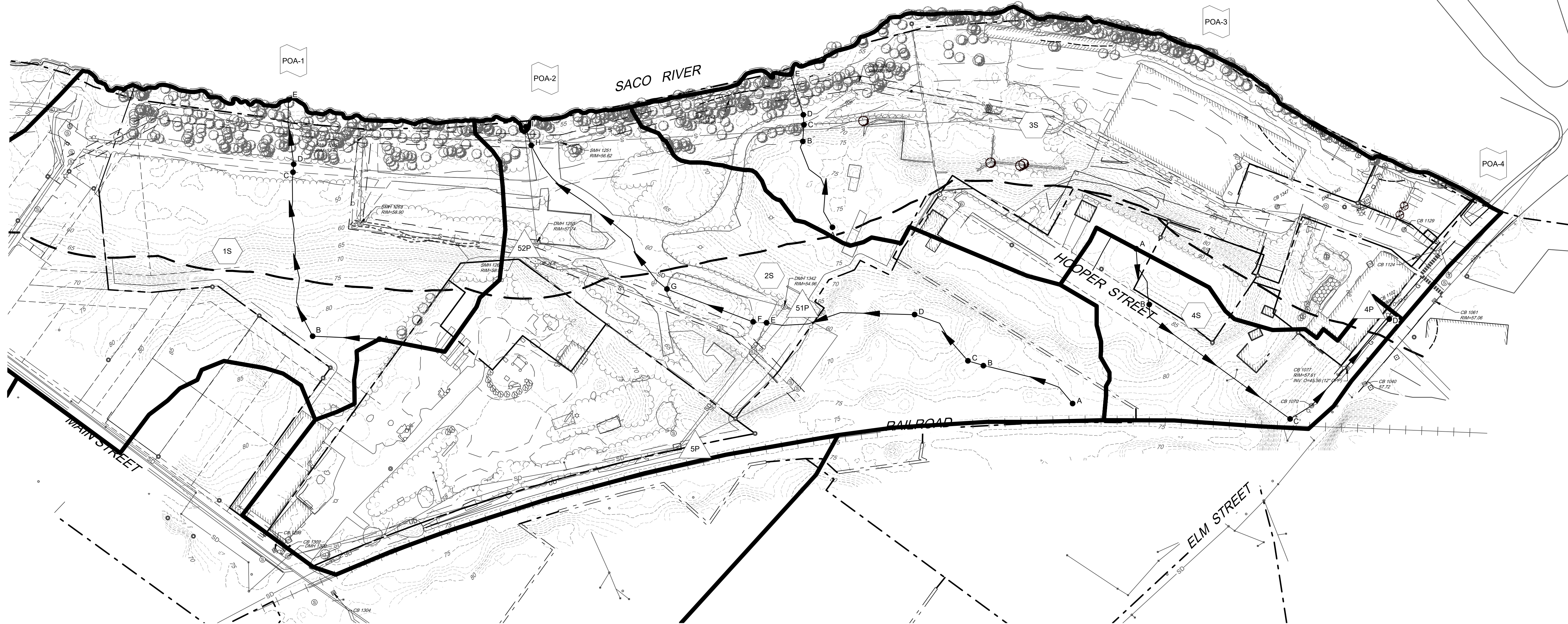
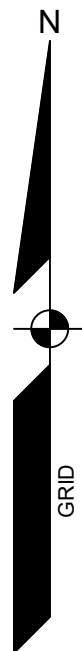


Federal Emergency Management Agency

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

Appendix 5

Stormwater Management Plans



EXISTING CONDITIONS LEGEND

- SUBCATCHMENT BOUNDARY
A — B TIME OF CONCENTRATION
○ — ○ 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 U (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.

EXISTING CONDITIONS WATERSHED PLAN

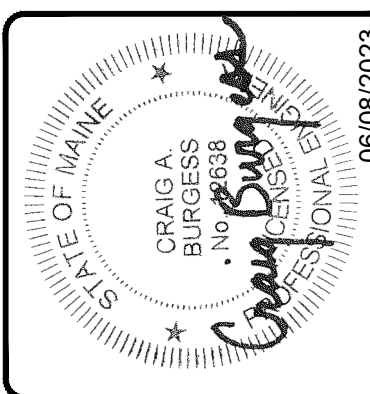
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 80'
PROJECT	18462

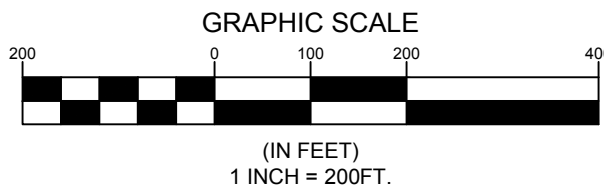
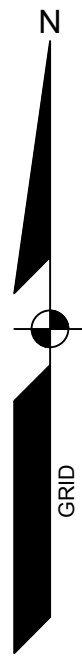
E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNIQS, INC. ANY ALTERATIONS AUTHORIZED BY OTHER PERMITS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNIQS, INC.

SEBAGO
TECHNIQS
WWW.SEBAGOTECHNIQS.COM
75 Juddville Rd.
South Portland, ME 04106
Tel: 207-269-2100



NOT FOR
CONSTRUCTION



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 #

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3. T_c PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

DESIGNED	TFG
DRAWN	DAB
CHECKED	CAB
DATE	04/12/2023
SCALE	1" = 200'
PROJECT	18462

OFF-SITE WATERSHED PLAN
OF:
ONE DIAMOND
ELM STREET
BIDDEFORD, MAINE
FOR:
ONE DIAMOND DEVELOPMENT, LLC
2 LIMEWELL DRIVE, SUITE 201
KENNEBUNK, ME 04043

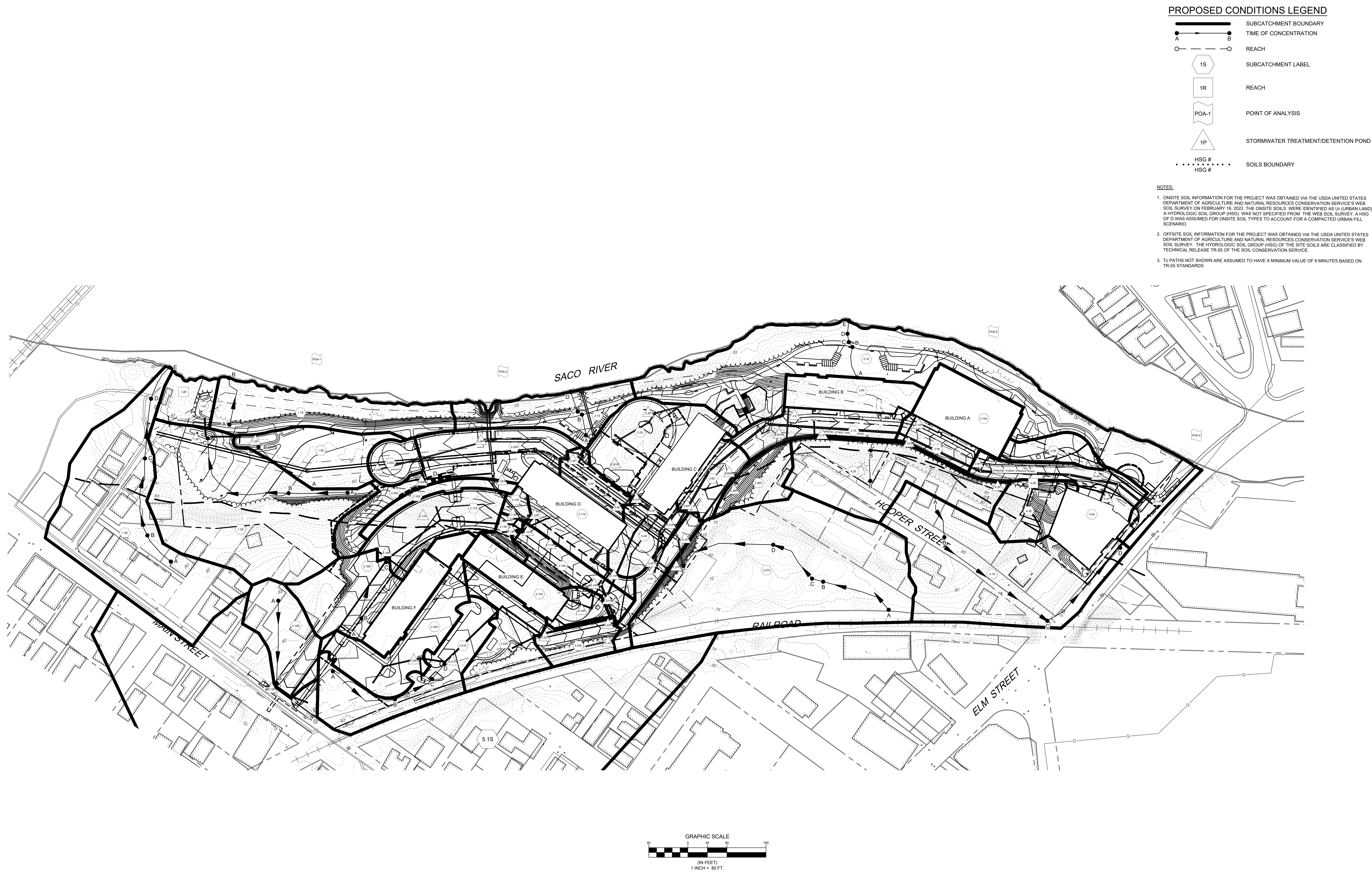
SEBAGO
TECHNICALS
WWW.SEBAGOTECHNICALS.COM
75 JEFFERSON RD.
SOUTH PORTLAND, ME 04106
TEL: 207-260-2100

E	CAB	06/14/2023	ISSUED TO CITY OF BIDDEFORD FOR SITE PLAN REVIEW
D	CAB	06/07/2023	ISSUED TO SACO RIVER CORRIDOR COMMISSION
C	CAB	04/19/2023	RE-ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
B	CAB	04/12/2023	ISSUED TO CITY OF BIDDEFORD FOR SKETCH PLAN
A	CAB	03/28/2023	FOR JDA AGREEMENT
REV.	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICALS, INC. ANY ALTERATIONS
APPROVED ON OTHER SHEETS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICALS, INC.



NOT FOR
CONSTRUCTION



Section 13

Urban Impaired Stream Submissions

Urban Impaired Stream Standard

Not Applicable. The Urban Impaired Stream Standard does not apply to this project.

Section 14

Basic Standards Submissions

Basic Standards

The Basic Standard Requirements for Erosion and Sediment Control and Maintenance are included in the plan set.

Section 15

Groundwater

Groundwater**A. Narrative and Report****1. Location**

Please see this Section for information regarding Bedrock, Surficial Geology and Sand & Gravel Aquifers.

2. Quantity

Please see Section 16 for a copy of the capacity request letter to Maine Water.

It is anticipated that the estimated total water usage for Phase 1 will be 21,300 gallons per day (gpd). Fire service demand for Phase 1 is approximately 2,140 gpm.

3. Sources

Sewer will be provided by a municipal sewer system. Please see Section 17 for a copy of the capacity request letter to the City of Biddeford Wastewater Division.

4. Measures to Prevent Degradation

All impervious drainage areas associated with the project are directed to stormwater management facilities designed to meet or exceed current DEP treatment standards.

B. Groundwater Protection Plan

There are no development plans to store or use petroleum products, pesticides, herbicides, road salt, solvents, acids or other materials with the potential to contaminate groundwater.

C. Monitoring Plan

The proposed project area was previously developed and as part of this development has been entered into the State VRAP program. There is no proposed monitoring plan, however any soils management plans associated with the site will be adhered to during construction.

Section 16

Water Supply

Water Supply

A. Water Supply Method

The development will be serviced by public water. Please see this Section for a copy of the ability to serve letter from Maine Water.

B. Subsurface Wastewater Disposal

The proposed development will not utilize subsurface wastewater disposal systems. The proposed development will be connected to the public sewer system.

Please see Section 17 for the confirmation of capacity request letter from the City of Biddeford Wastewater Division.

C. Total Usage

Water supply requirements for this project is estimated to be a total of 19,320 gallons per day (gpd).



June 9th, 2023

SEBAGO TECHNICS, INC.
ATTN: Tanner F. Goodine, E.I.
75 John Roberts Road, Suite 1A
South Portland, ME 04106

Re: Diamond Street Development Phase 1 – Saco Maine – Ability to Serve Determination

Greetings,

The Maine Water Company (MWC) has received your request for Ability to Serve Determination on behalf of your client, One Diamond Development LLC, for the above referenced project. The request indicates a plan for Phase 1 of the development that consists of 143 residential units with a combination of studio, one and two bedroom units with an overall estimated domestic demand presented as 19,320 gallons per day (gpd). The request also indicates a looped connection from Elm Street to Main Street. Based on the criteria presented, domestic water is available for your project. MWC does have adequate flows in the area from the existing 16-inch cast iron main on Elm Street and the 20-inch main on Main Street to serve a main extension for the proposed development. The static pressure in the area is approximately 55psi. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- The development will require a public main extension to serve the proposed development. An updated utility sheet will be required to show utility placement and separation, including any hydrants, services, valves, blow off assemblies and other waterline appurtenances.
- MWC will require inspection during installation of the new public main and service line connections at the expense of the developer. Additional plan approval, paperwork and fees associated with services and main extensions in this area will require proper coordination with MWC. Maine Water requires upfront payment for inspection and paperwork to be fully completed before any construction on waterworks materials.
- A phase 2 utility plan will need to be accepted, showing how Phase 1 will loop the main from Elm St to Main St.
- Allow up to 30 days for the MWC utility review process to be completed before any construction on waterworks materials will be approved.
- A hydrant flow test will need to be conducted and analyzed by the sprinkler designers to ensure adequate flows in the event of a fire. The analysis should consider a both phases before the final loop of the water main is complete.
- Proposed public or private fire hydrants must be accepted by the City of Saco and approved by the local fire authority.
- An easement for access and operation of all water service valves on this property must be signed, notarized and registered with the county registry before activation. MWC will draft and supply this document to be executed by the owner.

Should a Customer Agreement for service not be executed within one year of the date of this letter, MWC reserves the right to reevaluate its ability to serve this project.

All work must be completed in accordance with MWC Terms and Conditions as well as material specifications. All appropriate paperwork must be completed and deposit paid prior to the start of construction. Please forward all design plan revisions as the project develops to prevent construction delays. Water service will be provided in accordance with Maine Public Utility Commission rules. If you have any additional questions, please do not hesitate to contact our office at 1-800-287-1643 or by email at Marcus.Knipp@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Marcus Knipp, E.I.
Engineer



City of Biddeford, Maine

City of Biddeford

Public Works Department / Engineering Division/Wastewater Administration Division
P.O. Box 586, 205 Main Street, Suite 301
Biddeford, ME 04005
Phone: (207) 284-9118, Fax: (207) 571-0662

Letter of Wastewater Treatment Plant Capacity to Serve Proposed Mixed Use Development Off Diamond Street

Tanner Goodine
Sebago Technics, Inc.
75 John Roberts Road
Suite 1A
South Portland, Me 04106

June 6, 2023

Brief description of project: **Proposed Mixed Use Development Project off Diamond Street
Biddeford, Maine-** Currently Estimated new flows: **67,634 gpd.**

Determination

The applicant is proposing a mixed use development off Diamond Street. Based on an email received from Sebago Technics, Inc., dated May 23, 2023, it is currently projected that the proposed mixed use development will discharge 67,634 gallons per day of flow to the system.

The City of Biddeford Wastewater Department has reviewed the request to serve the above described project. It has been determined that at this time, once the flow reaches the wastewater treatment facility, the City has sufficient capacity to treat the estimated flows from the above described project. Changes to the project from that presented to this department may require a new review of the request for ability to serve. This determination will be effective for a period of one year from the date above.

Upon approval of the Planning Board, the applicant must make application for sewer service. Flow amounts for the project will be determined at the time application is made and may or may not be the amount stated above. The applicant will be required to pay all fees based on the flow amount calculated at the time application is made and prior to the issuance of any building permits and/or the issuance of a certificate of occupancy.

As a condition of approval, you will be required to remove any roof drains or Catch basins that are connected to the combined sewer system.

205 Main Street, Biddeford, ME 04005 P: 207.284.9313 F: 207.571.0678 www.biddefordmaine.org

*The City of Biddeford is an equal opportunity provider. To file a complaint, write to
Human Resource Director, 205 Main Street Biddeford, ME 04005, or call (207) 286-0593.*

Any food preparation activities will need to be discussed with the Fats, Oils and Grease (FOG) coordinator to determine if a permit may be required.

This Capacity to Serve Letter is intended only to indicate that the City of Biddeford Wastewater Treatment Facilities has the ability to handle and treat the flow from the above stated project once it is received at the treatment facility. Project design plans must be submitted to the City for review and comment. The Planning Department, Engineering Department or other persons from the Wastewater Department may require further studies, calculations or documentation to determine any actions that may need to be taken to address any impacts/capacity issues and/or any system upgrades that may be needed to address any impacts this project may have on the City's sewer collection and conveyance system(s) or its components.

Thomas Milligan, PE
City Engineer Emeritus
City of Biddeford Engineering Department
Tom.milligan@biddefordmaine.org
207-284-9118

CC: Jeff Demers, Public Works/Wastewater Director
Craig Chekan, City Engineer
Roby Fecteau, Code Enforcement
David Galbraith, City Planner
Alex Buechner, Wastewater Superintendent

Section 17

Wastewater Disposal

Wastewater Disposal

A. On-Site Subsurface Wastewater Disposal Systems

Not applicable.

B. Nitrate-Nitrogen Impact Assessment

Not applicable.

C. Municipal Facility or Utility Company Letter

Please see this Section for a copy of the confirmation of capacity letter from the City of Biddeford Wastewater Division.

It is anticipated that the proposed project will generate approximately 19,320 gpd of waste.

D. Wastewater Discharge Information

The proposed development will not discharge any liquid waste into any stream, river, pond, lake or other body of water.

E. Storage or Treatment Lagoons

The proposed development will not include any lagoons, impoundments, ponds or similar structures for storage involving liquid waste other than stormwater.

Section 18

Solid Waste

Solid Waste

A. Estimated Quantities of Solid Waste

The proposed project is a multi-phased multi-use development:

Phase 1	Phase 2/3
135 Residential Units	343 Residential Units
5,500 sf Commercial Space	8,625 sf Commercial Space

Municipal Solid Waste:

Municipal solid waste (MSW) for this residential development will be collected by Pine Tree Waste and hauled to Eco Maine and either recycled or disposed of at their waste-to-energy plant in Portland.

Phase 1

Phase 1 of the proposed residential development will generate approximately **2.16 cy** waste per day.

$$(135 \text{ units} \times 8\text{lbs per day})/500 = 2.16 \text{ cy per day}$$

Phase 1 of the proposed commercial development will generate approximately **27.5 cy** waste per day.

$$(5500 \text{ sf} \times 2.5\text{lbs per day})/500 = 27.5 \text{ cy}$$

Phase 2/3

Phase 1 of the proposed residential development will generate approximately **5.49 cy** waste per day.

$$(343 \text{ units} \times 8\text{lbs per day})/500 = 5.49 \text{ cy per day}$$

Phase 2/3 of the proposed commercial development will generate approximately **43.13 cy** waste per day.

$$(8625 \text{ sf} \times 2.5\text{lbs per day})/500 = 43.13 \text{ cy}$$

Total approximate waste per day (Phase 1 -3): 78.28 cy

reference: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials> and [Waste Generated by Industry and Building Type \(wastecare.com\)](https://www.wastecare.com/Waste-Generated-by-Industry-and-Building-Type)

B. Off-Site Disposal of Construction/Demolition Debris

Phase one of the proposed project involves approximately 77,500 sf of building demolition as well as 105,500 sf of impervious surface removal. Phases 2/3 of the proposed project involves

approximately 23,500 sf of building demolition as well as 42,500 sf of impervious surface removal.

Debris associated with the construction of Phase 1 (183,000 sf) will be that of typical construction waste. Assuming roughly 4 lbs./sf of construction debris, waste generation is anticipated to be approximately **1,464 cy**. It will be the responsibility of the contractor to remove construction waste from the site during construction. Construction debris, including uncontaminated, unpainted and clean inert material, will be transported offsite by Casella to their Westbrook (594 County Road, Westbrook, ME 04092) location. Material processed at these facilities is ultimately hauled to the Juniper Ridge Landfill (S-020700-WD- A-N) at 2828 Bennoch Road in Old Town, Maine. All Metal recycling material will be hauled to Schnitzer Steel (568 Riverside Street, Portland, ME 04103) or CIA Salvage (366 Sokokis Trail N, Limerick, ME 04048).

Phase 1

$$(77,500 \text{ sf building} \times 4 \text{ lbs./sf waste})/500 = 620 \text{ cy}\pm \text{ of waste}$$

$$(105,500 \text{ sf impervious} \times 4 \text{ lbs./sf waste})/500 = 844 \text{ cy}\pm \text{ of waste}$$

Phase 2/3

$$(23,500 \text{ sf building} \times 4 \text{ lbs./sf waste})/500 = 188 \text{ cy}\pm \text{ of waste}$$

$$(42,500 \text{ sf impervious} \times 4 \text{ lbs./sf waste})/500 = 340 \text{ cy}\pm \text{ of waste}$$

Total approximate waste generation (Phase 1 -3): 1,992 cy

C. On-Site Disposal of Wood Waste/Land Clearing Debris

It is estimated that approximately 3,000 cubic yards of tree waste will be generated as part of this project. Approximately 4.8 acres of trees will be cleared in phase one and 2.7 acres of trees will be cleared in phases 2/3. A qualified tree cutter will perform any of the required tree clearing and the logs will be taken off site. Associated stumps and grubbing will be ground on site by a portable stump grinder and used as mulch in the stabilization of back slopes and for erosion control. The grinding must be completed within a 30-day time period if a DEP permit has not been obtained. Material that has been ground and is not being used on-site must be hauled off-site within a time-period of 30 days from the end of the grinding process by a licensed Non-Hazardous Waste Transporter.

For the purposes of this Section STI estimates approximately **3000 cy** of stumps and grubbing (assuming 7.5 acre @ 400 cy/acre) will be generated during construction.

D. **Special or Hazardous Waste**

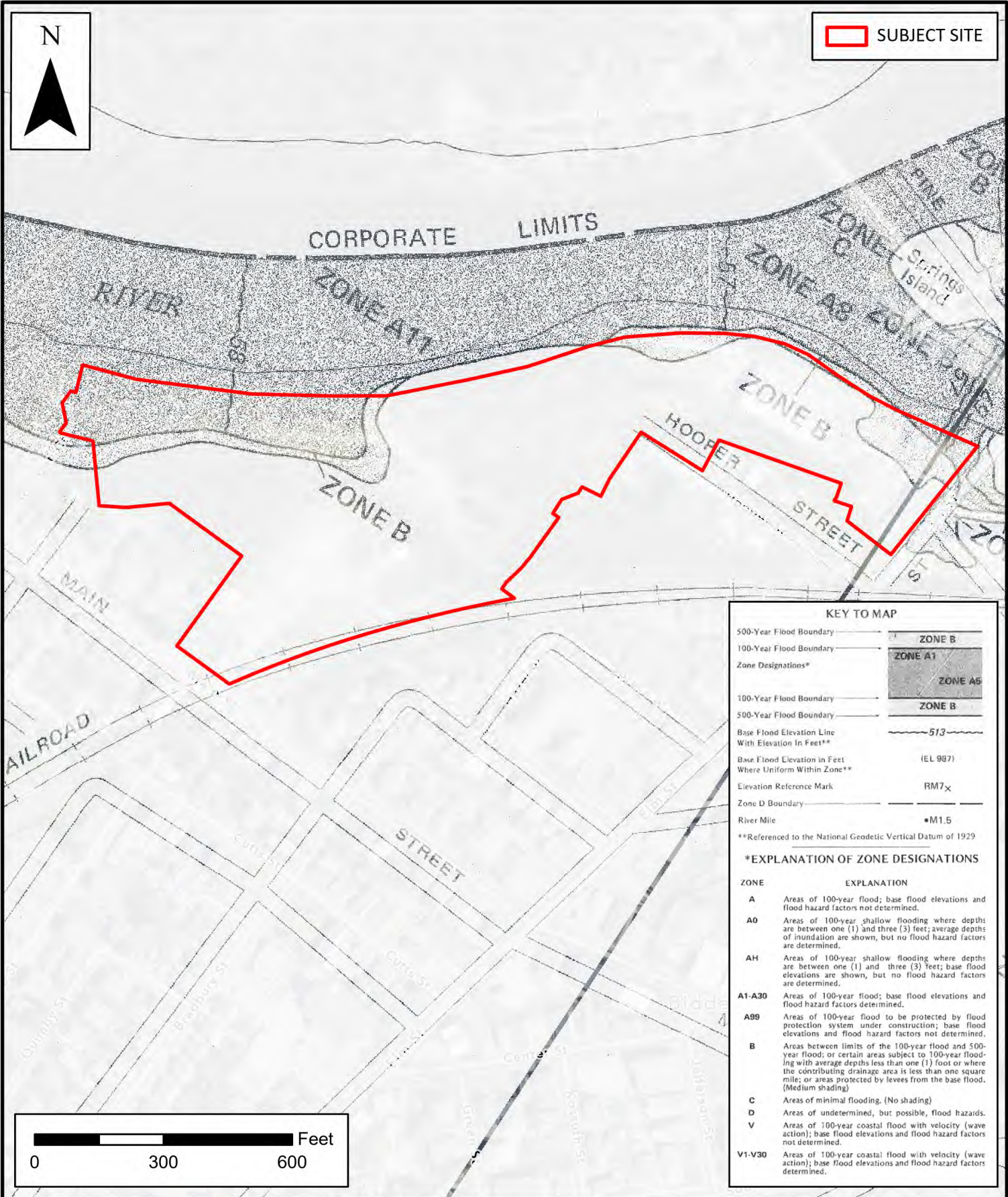
The proposed project area is enrolled in the State VRAP program. All site work will be done in accordance to the soils management outlined in the VRAP agreement.

Section 19

Flooding

Flooding

A portion of the proposed project is located in the 100-year flood zone. Please see this Section for a copy of the FEMA FIRM map: Community Panel Number 230145 0003 B, dated May 15, 1984.



SUBJECT SITE

KEY TO MAP

500-Year Flood Boundary
100-Year Flood Boundary
Zone Designations*

100-Year Flood Boundary
500-Year Flood Boundary
Base Flood Elevation Line With Elevation In Feet**
Base Flood Elevation in Feet Where Uniform Within Zone**
Elevation Reference Mark
Zone D Boundary
River Mile

**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
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 (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

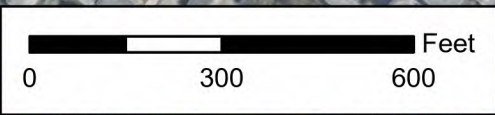
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

FEMA NATIONAL FLOOD HAZARDS
ONE DIAMOND DEVELOPMENT, LLC

LOCATION:
DIAMOND STREET
BIDDEFORD, ME

INFORMATION:
FEMA FIRM PANELS 230145 0003 & 0004 B
EFFECTIVE MAY 15, 1984

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



	SUBJECT SITE
	DELINEATED FLOODPLAIN



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

FEMA NATIONAL FLOOD HAZARDS

ONE DIAMOND DEVELOPMENT, LLC

LOCATION:
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BIDDEFORD, ME

INFORMATION:
FEMA FIRM PANELS 230145 0003 & 0004 B
EFFECTIVE MAY 15, 1984

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

Section 20

Blasting

Blasting

Given the nature of the site it is not anticipated that blasting will be required. However, should ledge be encountered during construction, a blasting plan will be submitted for approval that has been developed to be in compliance with the accepted limit for safe levels of blasting vibrations as developed by the U.S. Bureau of Mines as presented in Appendix B of the U.S. Bureau of Mines, RI 8507.

Blasting Requirements

Should blasting be necessary, we recommend that the following controls be implemented for the project:

The Contractor should comply with all applicable laws, rules, ordinances, and regulations of the federal government, the State of Maine, and the City of Biddeford governing transportation, storage, handling and use of explosives.

Prior to the start of rock excavation or blasting work, notices should be sent to residents and businesses in the area describing the blasting and rock excavation work, indicating the approximate schedule of work, and describing blasting procedures, mitigation measures, and blast warning signals.

Prior to the start of blasting work, pre-blast condition surveys should be conducted of all existing structures and conditions on the site, adjacent to the site, or in the vicinity of the site. These surveys should extend to such structures, wells, or an item that may be affected by the Contractor's blasting operations. As a minimum, condition surveys should be performed on all structures within a half-mile of anticipated blasting areas.

Prior to the start of blasting work, the Contractor should submit to the engineer for review a blasting plan containing details of proposed blasting and construction operations including:

- A. Sequence and schedule of blasting rounds including the general sequence of drilling, blasting, excavating, etc.
- B. Specifics of typical blast rounds and open cut blast rounds in deepest rock cut areas and areas closest to existing structures.
- C. In each area specified, include the following blast round details:
 - Diameter, spacing, burden, depth and orientation of each blast hole for each round design.
 - Nomenclature and amount (in terms of weight and number of cartridges) of explosives and distribution of charge to be used within each hole, on each delay,

- and the total for the blast.
 - Nomenclature and type of detonators and delay pattern for the round.
 - Type and location of stemming to be used in holes.
 - Calculations of anticipated vibration levels at nearest adjacent structure or well.
- D. Specifics of Test Blasts to check effectiveness and vibration characteristics of typical trench and open cut blasting rounds.
- E. Methods of matting or covering the blast area to prevent fly rock and excessive air blast overpressure.
- F. Name and qualifications of licensed blaster who will be on site at all times directly supervising the loading and detonation of each blast.
- G. Name and qualifications of the person responsible for conducting pre-blast condition surveys.
- H. Name and qualifications of the person responsible for monitoring and reporting blast vibrations.
- I. Details of an audible advance signal system to be employed at the job site as a means of informing workers, Engineer, Architect, Owner, and the general public that a blast is about to occur. Details of access control during blasting.

The Contractor should conduct all blasting activity in such a manner that the peak particle velocity of ground vibration measured at the locations of the nearest structures or wells to the blast does not exceed the “safe limits” recommended by the U.S. Bureau of Mines as presented in Figure B-1 of Appendix B of U.S. Bureau of Mines, RI 8507.

The Contractor should conduct all blasting activities in such a way that sound levels from blasting shall not exceed the limits given in the Maine Department of Environmental Protection Rules, Chapter 375.10 (c)(4)(c).

<u># of Blasts Per Day</u>	<u>Sound Level Limit</u>
1	129 dBL
2	126 dBL
3	124 dBL
4	123 dBL

Blast monitoring should be conducted by an independent firm trained in the use of a seismograph, and records should be analyzed and results reported by persons familiar with analyzing and reporting the frequency content of a seismograph record. A minimum of two (2) engineering seismographs shall be used for each blast, one each adjacent to the nearest off-site structures or wells which lie within a 300-foot radius of blasting activities.

Blast Monitoring Equipment: All instrumentation proposed for use on the project shall have been calibrated within the previous six (6) months to a standard traceable to the National Bureau of Standards. Characteristics of required instrumentation are listed below:

- Measure the three (3) mutually perpendicular components of particle velocity in the directions vertical, radial and perpendicular to the vibration source.
- Measure and display the maximum peak particle velocity component and air blast overpressure. These readings must be displayed and be able to be read in the field, immediately after each blast.
- Furnish a permanent time history record of particle velocity waveforms and air blast overpressure waveforms, so that frequency and time of maximum peak particle velocity or air blast overpressure can be determined.

Blast Monitoring Reports: Within 24 hours following each blast, the Contractor should submit to the Engineer a Blast Monitoring Report. Each Blast Monitoring Report should include all of the following applicable items:

- Blast round design data, as indicate in Section C of the Blasting Requirements.
- Blast Monitoring Location Plan, indicating the location of the blast, the monitoring locations, and the distances from the blast to monitoring locations.
- Vibration and air blast overpressure data from each seismograph, including a copy of the strip chart (or other permanent record of velocity/time waveform) with calibration and monitoring record marked with the date, time and location of the blast.
- In the event that the Contractor's design round results in ground vibrations and/or air blast overpressures exceed the blasting limit criteria presented herein, the Contractor should immediately revise the round design appropriately and submit the revised round design to the Engineer for review. Allow sufficient time for review.
- The Contractor should report to the Engineer in writing all blasting complaints received by the Contractor within 24 hours of receipt. Each blast complaint report should include the name and address of the complaint, time received, date and time of blast complained about, and a description of the circumstances, which led to the complaint. Upon receipt of a written complaint from a resident alleging damage from the blasting, the Contractor's representative or a representative of the Blaster's Insurance Company should investigate the claim and a written report should be issued to the homeowner, with a copy to the Engineer, of the results of the investigation and the response of the Contractor. This written report should be received by the resident and the Engineer within 15 work days of receipt of the written complaint.

Review by the owner and the owner's consultant of the blast designs and techniques shall not relieve the Contractor of his responsibility for the accuracy, adequacy and safety of the blasting, exercising proper supervision and field judgment and producing the results within the blasting limits required by the requirements.

Blasting shall be limited to between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

Blasting mats shall be utilized for all blast rounds detonated to prevent the throw of fly rock from the blasting area, unless the Contractor's independent professional engineer/seismologist determines that the overburden is sufficient enough to prevent fly rock.

Ammonium Nitrate Fuel Oil (ANFO) shall not be permitted for blasting.

At the start of blasting, the Contractor shall perform a series of test blast to establish a site-specific relationship between the charge weight per millisecond delay and peak ground vibration levels at various distances from the blast. The results of the test blasts will form the basis for selection of maximum permissible charge weights during production blasting.

Section 21

Air Emissions

Air Emissions

The proposed development is not anticipated to generate adverse air emissions which could impact the developed area or abutting properties. Temporary emissions may occur during the construction of the project due to earth moving activities and construction equipment. These emissions are expected to be limited in nature and of short duration. Provisions for dust control, if needed during construction, have been included in the Erosion and Sediment Control Plan.

Section 22

Odors

Odors

The proposed project will not result in odor generation. Temporary limited odors may arise during construction as a result of construction equipment working on the site. This odor potential is short-term and also not expected to be significant.

Section 23

Water Vapor

Water Vapor

The proposed project involves the construction of a mixed-use residential development. It will not result in the generation of water vapor emissions that would impact the area or abutting properties.

Section 24

Sunlight

Sunlight

The proposed development will not result in a sunlight impact to abutting properties. The buildings are situated on the property in such a way as to not create a mass of structure that could impact the sunlight to the surrounding properties.

Section 25

Notices

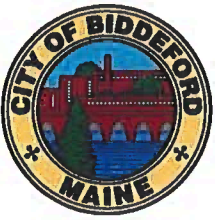
Notices

A. Evidence That a Notice Has Been Sent

Public notice and meetings are being held via the municipal process.

B. List of Abutters

Please see this Section.



CITY OF BIDDEFORD

PLANNING DEPARTMENT

David C.M. Galbraith
Deputy Director/City Planner
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Biddeford, ME 04005
(207) 284-9115

David.Galbraith@Biddefordmaine.org

Planning Board Memorandum

TO: Chair Patoine and Members of the Biddeford Planning Board

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

DATE: August 9, 2023

RE: **Inclusionary Zoning Regulations / Planning Board Public Hearing**

MEETING DATE: August 16, 2023

I. INTRODUCTION:

As the Board is aware, the City has been experiencing unprecedented growth in the creation of new housing units within the City. The vast majority of the residential developments that have been approved by the City, in recent years, have been for market rate apartments. Inclusionary Zoning (IZ) is sometimes known as inclusionary housing, a reference to the desired outcome of the zoning. Simply stated, IZ requires that all new construction of housing units, most especially rentals, must participate in the creation of affordable housing units. Usually, IZ is designed to target community members that are considered to have very low to moderately low incomes. These zoning regulations are mandates without any public financial investment.

The City Council received the Report of the Mayor's Affordable Housing Task Force, which identified that long term residents of the City, most especially long term renters, are more likely to pay a greater percentage of their monthly income today than they did when they started renting, and over fifty percent (50%) of all full time Biddeford residents are renters. The market rents continue to increase at a rate in Biddeford that exceeds cost of living and inflation. The Affordable Housing Task Force (AHTF) identified the current increase in housing costs, particularly among renters, is a hardship for the residents of the City of Biddeford and the Biddeford City Council recognizes this issue and finds that there is currently a lack of affordable housing within the City of Biddeford, and the lack of affordable housing is detrimental to the health, safety and welfare of the inhabitants of the City of Biddeford and said lack of affordable housing constitutes an emergency as set forth in the Charter of the City of Biddeford, Article III, § 8.

The Mayor's Affordable Housing Task Force determined that the City's current Land Use Ordinance regulations and existing Comprehensive Plan are inadequate to prevent serious public harm, namely the continuance of residential development without requiring affordable housing units and as such has recommended that the City adopt an Inclusionary Zoning Ordinance and Inclusionary Zoning Regulations which may include multiple approaches. Based upon the finding that the current lack of affordable housing constitutes an emergency and that the City's current ordinances, land use regulations and existing Comprehensive Plan are inadequate to address the lack of affordable housing, pursuant to 30-A

MEETING: Planning Board Workshop
TOPIC: Inclusionary Zoning Regulations
MEETING DATE: August 16, 2023

M.R.S. § 4356, a moratorium on new residential projects with ten (10) or more units was approved by the City Council on April 4, 2023 to address existing land use ordinance, rules and regulations and adopt new land use ordinances, rules and regulations.

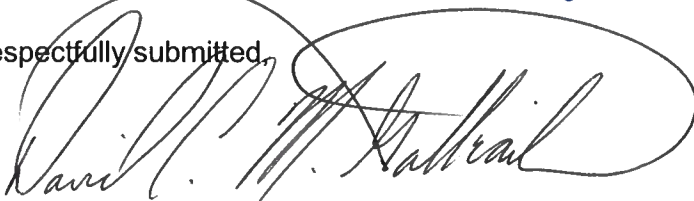
The City Council forward the Inclusionary Zoning issue to the City's Policy Committee who reviewed the draft document on June 12, 2023 who made changes to the original draft which we forwarded to the City Council for their review. The revised Inclusionary Zoning (IZ) Ordinance regulations have been prepared to possibly create a Housing Chapter in the City of Biddeford Code of Ordinances. Also, the City of Biddeford IZ Regulations are based upon City of Portland IZ Regulations. On June 20, 2023 the City Council reviewed the draft Ordinance and has forwarded the matter to the Planning Board for their review, input and a formal recommendation to the Council. It should be noted that City staff is preparing revisions to the City Code of Ordinances to comply with LD2003 including revisions to the existing City Housing Density Bonus Regulations and will present them as soon as they are ready for public discussion at future Planning Board and City Council meetings. Attached you will find the following documents:

1. Council Order 2023.25 Inclusionary Zoning Memorandum to City Council dated June 20, 2023
2. City Council Inclusionary Zoning Order # 2023.25 dated June 20, 2023
3. Draft Inclusionary Zoning Regulations, dated June 8, 2023, Amended June 12, 2023 by the Policy Committee and most recently amended to incorporate the Planning Board's comments at their July 26, 2023 meeting.

II. Next Steps:

This draft ordinance was discussed at a public hearing before the Planning Board on July 26, 2023 and the Board's comments have been incorporated into the revised draft Ordinance. At this time, Staff is seeking final input and direction from the Planning Board with a recommendation to the City Council related to the modified Inclusionary Zoning (IZ) draft ordinance. The most recent changes illustrates ~~deleted text in blue strikethrough~~, and new text shown as blue underlined.

Respectfully submitted,



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

ATTACHMENTS:

1. Council Order 2023.25 Inclusionary Zoning Memorandum to City Council dated June 20, 2023
2. City Council Inclusionary Zoning Order # 2023.25 dated June 20, 2023
3. Draft Inclusionary Zoning Regulations, dated June 8, 2023, Amended June 12, 2023 by the Policy Committee and most recently amended to incorporate the Planning Board's comments at their July 26, 2023 meeting.
4. August 9, 2023 Memorandum from Greg Mitchell, Planning and Development Director to the Planning Board.



Planning Board

Meeting Date: August 16, 2023

Meeting Time: 6pm

Agenda Item No: Planning Board Agenda Item # 7B

Item Description: City of Biddeford **REVISED** Proposed Inclusionary Zoning and Affordable Housing Trust Fund Regulations

Submitted by: Greg Mitchell, Planning & Development Director

Supporting Information/Documentation:

REVISED Proposed Inclusionary Zoning and Affordable Housing Trust Fund Regulations are attached in a strike through and underline format. ***The amendments presented at the July 26, 2023 Planning Board meeting have been incorporated and additional revisions are proposed which include the following:***

- ***Land Use Code references have been added,***
- ***Exemption from IZ Regulations have been added for all "Residential projects with Planning Board and/or City Council approvals" and***
- ***Typographical errors related to format, grammar or internal regulations consistency.***

Key Terms:

Inclusionary Zoning (IZ)

Executive Summary:

To date, direction on City Proposed IZ and Affordable Housing Trust Fund Regulations has been provided from the following public meetings:

- June 12, 2023 City Council Policy Committee recommendation to the City Council.
- June 20, 2023 City Council meeting and referral to the Planning Board and
- July 26, 2023 Planning Board meeting.

Detailed Review:

Definition. Inclusionary zoning (IZ) is sometimes known as inclusionary housing, a reference to the desired outcome of the zoning. Simply stated, IZ requires that all new construction of housing units, most especially rentals, must participate in the creation of affordable housing units. Usually, IZ is designed to target community members that are considered to have very low to moderately low incomes. These zoning regulations are mandates without any public financial investment.

Overview of Proposed REVISED Biddeford Inclusionary Zoning and Affordable Housing Trust Fund Regulations with the following City Staff comments:

- **Applicable to Rental Projects only including eight (8) or more residential units.**
- **Affordability Level:** A one hundred (100) percent area medium income affordability level. It is proposed to combine IZ Regulations with other City, State of Maine and federal affordable housing programs to lower housing affordability levels.
- **Percent of Required Affordable Units:** Ten (10)
- **Term:** Thirty (30) years to be consistent with LD 2003.
- **Opt Out Fees:** \$100,000 fixed per unit.
- **Exceptions:** Language is proposed to exempt affordable housing projects under the following two situations:
 1. Projects which utilize **public** financing requiring affordability restrictions, as defined by tax increment financing, US Housing and Urban Development (HUD) funds such as HOME or Community Development Block Grant (CDBG), or other federal, state, or local housing programs, or Low-Income Housing Tax Credit Program and
 2. Residential Projects with Planning Board and/or City Council approvals.

IZ and Affordable Housing Trust Fund Regulations are two new programs to address city affordable housing needs. In addition, city staff is preparing amendments to the City Land Use Code to support increasing the supply of housing and to address city affordable housing needs including:

- City Code of Ordinances amendments to comply with LD2003,
- Revisions to the existing City Housing Density Bonus Regulations,
- Revisions to Accessory Dwelling Units and
- Allowing reductions with residential property frontage requirements.

I note that the City Council approved amendments to the Land Use Code to allow residential development on “Back Lots” was approved with a Planning Board recommendation.

Funding Source:

Not applicable.

Staff Recommendation:

City staff looks forward to discussion and direction at your August 16, 2023 Planning Board meeting.

City of Biddeford, Maine
DRAFT Inclusionary Zoning Regulations
NEW Ordinance: Article VI Performance Standards, Section 40 Inclusionary Zoning
Amended June 26, 2023 based upon discussions and direction from the Planning Board

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DEFINITIONS

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Affordable Housing. Housing for which the percentage of income a household is charged in rent and other housing expenses or must pay in monthly mortgage payments (including condominium/HOA fees, mortgage insurance, other insurance and real estate taxes), does not exceed 30% of a household income, or other amount established in City regulations that does not vary significantly from this amount.

Workforce housing unit for rent for which:

- A. The rent is affordable to a household earning 100% or less than of AMI.
- B. The unit is rented to a household earning 100% or less than of AMI.
- C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

HOUSING

Purpose

It is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this section therefore is to offer incentives to developers to include units of affordable and workforce housing within development projects, thereby mitigating the impact of market rate housing construction, or the demonstrated increase in affordable housing needs resulting from the creation of new lower-income jobs, on the limited supply of available land for suitable housing, and helping to meet the housing needs of all economic groups within the city. The City believes that this section will assist in meeting the City's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety, and welfare of its citizens.

Ensuring Workforce Housing

A. Purpose. Based on the City Council adopted the 2023 City's Comprehensive Plan and the Mayor Affordable Housing Task Force Report dated December, 2022, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this subsection is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of City of Biddeford citizens.

B. Applicability. This subsection shall apply to development projects that create eight (8) or more net new dwelling units for rent through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a nonresidential use to residential use, or any combination of these elements. This ordinance shall not apply to projects as follows:

a. ~~Using~~ public financing requiring affordability restrictions, as defined by tax increment financing, U.S. Department of Housing and Urban Development funds such as HOME or CDBG, other federal, state, or local housing program, or the Low-Income Housing Tax Credit Program or-

~~B-b.~~ Residential projects with Planning Board and/or City Council approvals.

C. Standards. Development projects subject to this subsection shall be subject to the following requirements:

1. Notwithstanding any language to the contrary in this Land Use Code, all developments of eight (8) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this subsection.
2. At least 10% of the units in the project shall meet the definition of workforce housing units for rent to an eligible household, as defined in Article I, In General ~~XXX~~. The project shall have the option of paying a partial fee-in-lieu as outlined in Subsection per 6a ~~XX~~ below. Where the required number of units results in a fraction of less than 0.5, the required number of onsite units is rounded down to the nearest whole number. Where the required number of units results in a fraction of 0.5 or more, the development project shall have the option of paying a partial fee-in-lieu for the fractional value or rounding the number of onsite units up to the nearest whole number.

3. Projects shall not be segmented or phased to avoid compliance with these provisions. In cases where projects are completed in phases, affordable units shall be provided in proportion to the development of market rate units unless otherwise permitted through regulations.
4. Workforce units must be integrated with the rest of the development, must use a common entrance, and must provide no indications from common areas that these units are workforce housing units. Exteriors of affordable units shall be consistent with and indistinguishable from the exteriors of other units in the project. Workforce units shall be comparable in materials, interior finishes, amenities, and parking to dwelling units in the neighborhood and in the development in which they are located.
5. Workforce units need not be the same size as other units in the development but the number of bedrooms in such units ~~, either on or off site,~~ shall be no less than 10 percent of the total number of bedrooms in the development. For the purposes of calculating the number of bedrooms in a development, every 400 square feet in each market rate unit will count as a bedroom if the Planning Authority determines this method is appropriate in lieu of counting actual bedrooms.
6. As an alternative to providing workforce housing units, the project may:
 - a. Pay a fee-in-lieu of some or all of the units. In-lieu fees shall be paid into the Housing Trust Fund. The fee for affordable units not provided shall be \$100,000 per unit, ~~adjusted annually in the same way as the fee under Subsection XXX.~~ The payment shall be required in conjunction with a request for a Certificate of Occupancy.
7. If at least 33% of the units in a development are workforce units, the development is eligible for subsidy through an Affordable Housing Tax Increment Financing (TIF) District Credit Enhancement Agreement, subject to City Council approval.
8. The term of affordability for the required % workforce units provided shall be thirty (30) years.

D. Implementing regulations. Regulations to further specify the details of this subsection shall be developed, including, but not limited to:

1. Specific methodology for income verification.
2. Situations where less than permanent affordability might be considered.
- ~~3. Guidelines for meeting the requirement that off-site units be "in the same neighborhood."~~

E. Reporting to City Council. In conjunction with the annual report on the Housing Trust Fund, the Planning Authority shall annually report on developments subject to this subsection, the number of units produced, the amount of fee-in-lieu collected, and the overall effectiveness of this subsection in achieving its stated purpose.

F. Sunset Regulations. Municipal Inclusionary Zoning Regulations will sunset within three (3) years following City Council adoption unless extended by the City Council. All Inclusionary Zoning Projects approved by the Planning Board shall remain in effect if the Inclusionary Zoning Regulations Sunset.

HOUSING TRUST FUND

Purpose

The purpose of enacting this section is:

- A.** To establish a City of Biddeford Housing Trust Fund for the promotion, retention, and creation of an adequate supply of housing, particularly affordable housing, for all economic groups and to limit the net loss of housing units in the city.
- B.** To serve as a vehicle for addressing very low, low, and median income housing needs through a combination of funds as set out in this article.

Establishment of the Housing Trust Fund

The City Council shall establish a special revenue account under the name “City of Biddeford Housing Trust Fund” (Housing Trust Fund). Deposits into the fund shall include:

- A.** In-lieu fees under Subsection 6a-XXX.
- B.** Funds appropriated to be deposited into the fund by vote of the City Council.
- C.** Voluntary contributions of money or other liquid assets to the fund.
- D.** Any federal, state, or private grant or loan funds provided to the fund.
- E.** Interest from fund deposits and investments.
- F.** Repayments of loans made from the fund.

Management of the Trust Fund

The City Manager, or his or her designee, shall serve as the manager of the Housing Trust Fund.

The responsibilities of the manager, subject to the orders of the City Council, shall include:

- A.** Maintaining the financial and other records of the Housing Trust Fund.
- B.** Disbursing and collecting Housing Trust Fund monies in accordance with the Housing Trust Fund Annual Plan.
- C.** Monitoring the use of monies distributed to successful applicants for Housing Trust Fund support to assure on-going compliance with the purposes of the fund and the conditions under which these monies were granted or loaned.

Housing Trust Fund Annual Plan

- A.** Each fiscal year, the City Council shall adopt a Housing Trust Fund Annual Plan. The City Manager shall submit to the City Council a recommended Housing Trust Fund Annual Plan, utilizing the revenues of the Housing Trust Fund as well as any other funds the City Manager may propose as appropriate.
- B.** The Housing Trust Fund ~~a~~Annual ~~p~~Plan shall include:
 - 1. A description of all programs to be funded in part or in full by the Housing Trust Fund.
 - 2. A description of how funds from the Housing Trust Fund will be distributed among very low-income, low-income and moderate-income households.
 - 3. The amount of funds budgeted for programs funded in part or in full from the Housing Trust Fund.

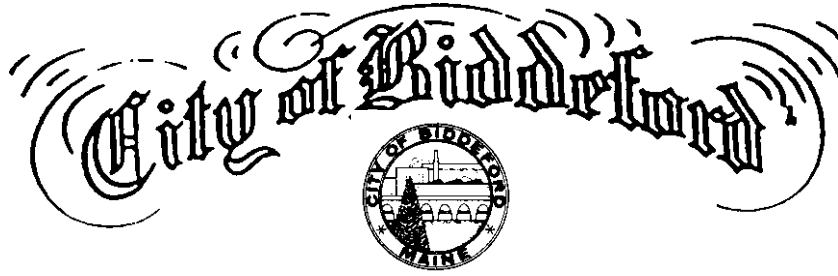
- C. Priority for the expenditure of funds collected pursuant to [SubsSection 6a-XXX](#) shall be given to the creation of new housing stock, through either new construction or conversion of nonresidential buildings to residential use.

Distribution and use of the Housing Trust Fund's Assets

- A. All distribution of principal, interest, or other assets of the Housing Trust Fund shall be made in furtherance of the public purposes set out in Section [6a-XXX](#).
- B. During each year, the Housing Trust Fund shall disburse as grants or loans so much of the Housing Trust Fund's assets as the City Council in its discretion has approved in the Housing Trust Fund ~~a~~Annual ~~p~~Plan.
- C. Funds shall not be used for City administrative expenses.
- D. Funds shall not be used for property operating expenses or supporting services.
- E. No grants or loans shall be awarded by the Housing Trust Fund to corporations, partnerships, or individuals who are delinquent at the time of application in the payment of property taxes or other fees to the City of Biddeford, who have been convicted of arson, who have been convicted of discrimination in the sale or lease of housing under the fair housing laws of the State of Maine, or who have pending violations of current City electrical, plumbing, building, or housing codes or zoning ordinances.

Term of Affordability

- A. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of an affordable rental or cooperative unit, the City of Biddeford shall impose enforceable requirements on the owner of the housing unit that the unit remain affordable for the remaining life of the housing unit, assuming good faith efforts by the owner to maintain the housing unit and rehabilitate it as necessary. The remaining life of the housing unit shall be presumed to be a minimum of 30 years.
- B. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of ownership housing, the City of Biddeford shall impose enforceable resale restrictions on the owner to keep the housing unit affordable for the longest feasible time, while maintaining and equitable balance between the interests of the owner and the interests of the City of Biddeford.
- C. The affordability restriction requirements described in this subsection shall run with the land and the City of Biddeford shall develop appropriate procedures and documentation to enforce these requirements and shall record such documentation in the York County Registry of Deeds.



2023.25

IN BOARD OF CITY COUNCIL on June 20, 2023

WHEREAS, the Biddeford City Council has received the Report of the Mayor's Affordable Housing Task Force;

WHEREAS, that report identified that long term residents of the City, most especially long term renters, ". . . are more likely to pay a greater percentage of their monthly income today than they did when they started renting..." and over fifty percent (50%) of all full time Biddeford residents are renters;

WHEREAS, the market rents continue to increase at a rate in Biddeford that exceeds cost of living and inflation, and the history and unique character of Biddeford includes a mix of residents with a range of income levels;

WHEREAS, the current increase in housing costs, particularly among renters is a hardship for the residents of the City of Biddeford and the Biddeford City Council recognizes and finds that there is currently a lack of affordable housing within the City of Biddeford, and the lack of affordable housing is detrimental to the health, safety and welfare of the inhabitants of the City of Biddeford and said lack of affordable housing constitutes an emergency as set forth in the Charter of the City of Biddeford, Article III, § 8.

WHEREAS, the Mayor's Affordable Housing Task Force has recommended that the City adopt an Inclusionary Zoning Ordinance and Inclusionary Zoning Regulations which may include multiple approaches;

WHEREAS, the City's current land use ordinance, regulations and existing comprehensive plan are inadequate to prevent serious public harm, namely the continuance of residential development without requiring affordable housing units;

WHEREAS, based upon a finding that the current lack of affordable housing constitutes an emergency and the City of Biddeford current ordinances, land use regulations and existing comprehensive plan are inadequate to address the lack of affordable housing, pursuant to 30-A M.R.S. § 4356, a moratorium on new residential projects with ten (10) or more units was approved by the City Council on April 4, 2023 to address existing land use ordinance, rules and regulations and adopt new land use ordinances, rules and regulations;

NOW, THEREFORE, IT IS HEREBY ORDERED that the City Council supports the concept of municipal Inclusionary Zoning Regulations and refers to the Planning Board the responsibility to prepare Inclusionary Zoning Regulations for City Council review and action.

Attest by:_____

Bid Notices and Requests for Services



Published in Portland Press Herald on July 29, 2023

Location

York County, Maine

Notice Text

York County Biddeford Planning Board Public Hearing Notice Date of Public Hearing: August 16, 2023 Time: 6:00 PM Location: Biddeford City Hall, Council Chambers and Remote Access Meeting (1 MRSA 403-B) On behalf of the City Clerk and the Biddeford Planning Board provides notice that they will hold a Public Hearing and take comments regarding Inclusionary Zoning for the City of Biddeford on August 16, 2023. Information on how to view and/or participate in the meeting will be available after August 10, 2023 at <https://www.biddefordmaine.org/2478/Video-Agendas-Minutes> by selecting the Agenda or Agenda Packet. For detailed information about the above items please e-mail nan.whitten@biddefordmaine.org , or go to www.biddefordmaine.org/planning .