City of Biddeford
Planning Board

July 17, 2024 at 6:00 PM
City Hall Council Chambers & Zoom

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

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
3. Adjustment(s) to Agenda
4. Executive Session
5. Planner's Business
   - 5.a 2024.38 Introduction of Proposed Amendment to Marijuana Ordinance
6. Consent Agenda
   - 6.a Approval of Meeting Minutes from June 5 & 26, 2024
7. Open Public Hearing
8. Close Public Hearing
9. Unfinished Business
10. New Business
    - 10.a 2024.32 Public Meeting and take comments to review a Sketch Plan Subdivision Application for Coastal Oaks, LLC. The property is located at 512 Pool Street (Tax Map 9, Lot 31) in the RF & SR-1 Zones. The applicants propose constructing a subdivision containing 8 single family homes.
    - 10.b 2024.33 Review a Sketch Plan Subdivision Application for Coastal Oaks, LLC. The property is located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone. The applicants propose to convert the existing vacant building into 25± apartments.
    - 10.c 2024.29 Review a Preliminary request for Site Plan/Subdivision for Westbrook

Development Corporation (Thatcher Brook Affordable Housing). The property is 37 Barra Road (Tax Map 2, P/O Lot 42) in the I3 Zone.

10.d 2024.31 Review a Preliminary Site Plan for Mike Eon Associates, LTD. The property is 25 Barra Road (Tax Map 2, Lot 43-10) in the I3 Zone. The applicant plans on constructing a Dentist's Office with 25 Parking Spaces.

11. Other Business

12. 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

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
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(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: July 10, 2024

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

MEETING DATE: July 17, 2024 at 6:00 PM

I. INTRODUCTION:

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

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

II. DRAFT AMENDMENT:

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

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

The below is Staff's proposed amendment to the above language (to keep all setback standards under the same subsection) of "C". The proposed text additions are shown in blue underline, and there are

currently no proposed text deletions as identified with ~~red strikethrough~~. The proposed text amendment is below:

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

1) No new marijuana establishment may be located within any building that is located within 500 feet of any other building containing a marijuana establishment.

2) No marijuana establishments shall be sited within 500 feet of the lot lines of a public or private school.

3) No marijuana establishments shall be sited within 500 feet of the lot lines of any public facility, place of worship, residential property, or childcare facility. This standard may not be relaxed by variance or waiver.

III. ITEMS TO CONSIDER:

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

IV. SECTION 77 MARIJUANA ESTABLISHMENTS:

Below is a link to the City's Marijuana Establishment Ordinance:

https://ecode360.com/31970024?highlight=&searchId=1375951380259495#31970024

CITY OF BIDDEFORD

Planning and Development Department

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

Planning Board Meeting
Meeting Minutes
DRAFT

Date: June 5, 2024
Time: 6:00 PM
Location: Council Chambers & Zoom

1. **Pledge of Allegiance**
2. **Declaration of Quorum/Voting Members: Larry Patoine (Chair), Susan Deschambault, Alexa Plotkin & Dylan Doughty (Alternate Member) Dylan Doughty will be voting in place of Roch Angers**
   Staff Present: David Galbraith, Adi Iriqat & Nan Whitten
   Chair Patoine opened the meeting at 6:01 PM
3. **Adjustments to the Agenda-Indian Cliff Development (9F) will be presented before AVESTA (9E)**
   Discussion of Holiday meetings at the end of meeting
4. **Planner's Business-introduction of Adi Iriqat**
5. **Consent Agenda**
   5. A. Approval of Meeting Minutes from 5-15-24
   MOTIONS: 6:03 PM
   Motion-Plotkin -Motion to approve minutes as presented
   Second-Doughty
   Vote: Motion passed by unanimous vote
6. **Open Public Hearing 6:03 PM**
   6. A. 2024.26 Biddeford Planning Board will have the SECOND READING for an amendment to Article XII-Floodplain Management Ordinance
   - **Galbraith introduced the item and reminded the Board that this is a state mandate.**
   - **Will go to City Council next with the Board recommendation**
   - **No public comments**
     MOTION: 6:06 PM
     Motion-Deschambault-Motion to APPROVE the proposed Zoning Ordinance Text Amendment: Code of Ordinances, Part III: Land Development Regulations, Article XII Floodplain Management Ordinance – SECOND READING, as written, and upon adoption replace the City's existing Floodplain Management Ordinance.
     Second-Doughty
     Vote: Motion passed unanimously
7. **Close Public Hearing 6:07 PM**
8. **Unfinished Business-None**

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9. New Business

9. A. 2024.10 The Biddeford Planning Board will review and discuss a Final Site Plan Application for UNE to build Tennis Courts at 16 Old Pool Road (Tax Map 9, Lot 13) in the IN Zone.

- **Galbraith introduced the item, nothing major with stormwater report**
- **Andrew Philippe from UNE represented the application with Tom Saucier of Site Design**
- **Project is to meet NCAA rules**
- **Public**
  Jill Fink to get questions from yesterday answered music will not be played during warm ups and practices.
  Lisa Smith email questions to be answered.
- **Pickleball will be moved to 8:00 AM**
- **They are notifying people no court usage prior to 8:00 AM**
- **Security will monitor the court.**
- **If still not adhered to court will be locked up.**
- **Speakers in PA System has been reduced from 4 to 2**
- **Lights are for UNE sanctioned events only.**
- **Lights will be controlled by athletic department**
- **Two 75 seat bleachers being added**
- **Increased traffic-no parking on Old Pool Rd, parking is being encouraged to go to parking lots on campus**
- **They cannot control people speeding that will be a job for the police department**
- **No further questions from the public**
- **Deschambault encourages UNE to continue good communication**
- **UNE has provided the link for events to the Hills Beach Association.**
- **Lisa Smith 90 Old Pool Road-communication piece critical include a few streets over, the lights are bright and the PA system is loud, she is concerned about the gate and wants that information.**
- **Galbraith UNE changed plans to install a path for emergency personnel and vehicles to get in.**

MOTION: 6:28 PM
Motion-Plotkin-Motion to approve the slopes waiver steeper than 2:1 in ledge Article XI.5.B.1.e.3
Second-Doughty
Vote: Motion passed unanimously
Motion-Plotkin-Motion to approve Case # 2024.10 Final Plan Review for UNE to expand their tennis courts located at 16 Old Pool Road (Tax Map 9, Lot 13), with the recommended Conditions of Approval.
Second-Deschambault
Vote: Motion passed unanimously

9. B. 2023.28 The Biddeford Planning Board will review and discuss a request from Tom

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Watson & Co for an amendment to the Conditions of Approval for 10, 20, 30 Upper Falls Way (Tax Map 40, Lots 55,55-3,56-1) in the MSRD-3 Zone.

- **Galbraith introduced the amendment to Conditions of Approval**
- **Developer is moving at a much faster pace than the state therefore needs this amendment**
- **Peter Heil of Acorn Engineering represented the applicant**
- **Heil added to Galbraith's comments**
- **No public comments**
- **Plotkin asked when the table for the TMP was done-has been updated to included increase in units**

MOTION: 6:38 PM

Motion-Beaudette- Motion to approve the proposed amendment to the project's Conditions of Approval Item 1b to read " The Applicant must provide a Maine DOT Traffic Movement Permit to the City prior to the issuance of Occupancy Permits for the commercial portions of the development", and the inclusion the Staff recommended Conditions of Approval (COA) listed above

Second-Doughty

Vote: Motion passed unanimously

9. C. 2024.27 The Biddeford Planning Board will review and discuss a Sketch Plan submission by Josh Cushman for a subdivision located at Pepperell Mill Buildings 19 & 20 (Tax Map 71, Lots 10-4, & 10-1) in the MSRD-3 Zone.

- **Galbraith introduced the project**
- **Staff has been working with the applicant for a couple of months**
- **Parking will be in the parking garage**
- **Must go through HPC & SRCC**
- **Josh Cushman and Marieke Thormann of Fathom represented the application**
- **No public comments**
- **Plotkin everyone is excited for the project but worried the parking garage will fill up, what is plan b, what are the requirements for parking in the ordinance-parking needs to be within 1500 feet of the structure, which this building is. Applicant has met with the parking garage management to secure the spaces for the residents.**
- **Units are studio, 1 & 2 bedroom units**
- **Plotkin feels there is sufficient street parking as well.**
- **Beaudette asked about the demolished building for parking, is there an effort to see how many spaces can be created in the campus? There has been a parking study done for the entire campus that has been presented to the Board. Designated spaces for office workers and others for residents. The City is paying attention to make sure there is sufficient parking.**
- **Plotkin is this part of the Pepperell Mill Campus-yes but not the same owners.**
- **These 2 buildings are part of the campus which are being sold off to the applicants. Some of the buildings are getting sold off.**

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- **Plotkin is concerned we are keeping track of what is being sold off so that there is sufficient parking.**
- **Part of the transfer includes working with Presidium to be in compliance for parking.**
- **Deschambault asked Galbraith about the Mills and the Lofts they are not considered part of Pepperell? That is correct they are not.**
- **Deschambault is the housing going to be top 2 or 3 floors? Entire building. Is this building different than others where we have seen the first floor ceilings are not high enough for residential homes? Yes, all ceilings have sufficient height for residential living.**
- **Deschambault is there going to be handicapped parking. Yes there will be 7 spots adjacent to the building 2 of which will be handicapped.**
- **Deschambault the need of handicapped parking is growing and not all disabilities can be seen those numbers may need to be increased.**
- **Doughty wants to know about the rates for rent-6 units will be the required affordable and the rest will be market rate.**
- **There are plans for a roof top deck for the building looking over the falls.**
- **Will there be an elevator-yes**
- **Plotkin how will the building be heated and cooled-heat pumps**
- **They are working with the parks service for tax credits**
- **Waiver for drainage will be addressed at preliminary.**

9. D. 2024.29 The Biddeford Planning Board will review and discuss a Sketch Plan Application for Site Plan/Affordable Housing Subdivision for Westbrook Development Corporation at 37 Barra Road (Tax Map 2, Lot 42) in the I3 zone.

- **Galbraith introduced the project**
- **Proposal of 2 low income buildings**
- **Project has been reviewed by SRC at conception plan**
- **Tyler Norad of Westbrook Development Corp represented the applicant**
- **Norad shared a power point presentation**
- **This will be 80 units**
- **Maine needs 80,000 units by 2030 at this time**
- **Proposing a senior and family option**
- **More senior specific projects are needed**
- **Contract zone will be needed**
- **Utilities will be part of the rent, trash & snow taken care of by management company**
- **Would like approvals this summer for applying to MSHA for a grant**
- **No public comments**
- **Beaudette this was originally designed as an office park, does the need for housing trump the need for commercial uses?**
- **Galbraith the site has been vacant for 20 years, there is residential in the area, we have council support**
- **Doughty speak about scoring high for MSHA, extremely competitive process, MSHA tax funding if you don't get granted money by MSHA you don't have a project. Scoring is by MSHA they want you to be on a bus**

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line, near amenities, which town, near services, Biddeford is on top tier, acquisition cost, municipalities in the project, experienced developers, highly regulated, scores change every 2 years

- **Doughty what happens if a project does not get funding, they have to wait another year to apply.**
- **Patoine asked about their experience in Cumberland and asked to explain the tax credit.**
- **A member of the public (Dean on Zoom) asked about this being a business park. Galbraith explained why this is being used for residential.**
- **Plotkin was thankful that they are bringing this project to Biddeford. Will there be a play area for the families with children-we hope to do playgrounds and picnic areas but are not on that level yet so will work with the City on fitting these areas in.**
- **Galbraith once this has been finalized a bit to know parking demands it can be more creative**
- **Beaudette opportunities for corporate sponsorships for playgrounds and open areas.**
- **Deschambault how will you handle smoking and pets? People are looking for storage, air conditioners, outside hoses. Children need a place to walk with mom, baby, and stroller, get people outside.**
- **Norad: AC is included heat pump based, Maine Housing required, storage spaces is regulated by Maine Housing, there will be rocking chairs on the porches and walking routes.**
- **Deschambault SMAA is right down the street and is perfect for the elderly housing.**
- **UNE students will be coming for PT to the residents**
- **YMCA is close and a discounted rate for families would be perfect.**
- **Patoine-electric grid? Norad this is a MSHA requirement it is being studied. Patoine this needs to be looked into. Galbraith to find answer on this.**
- **Plotkin-get an ability to serve letter from electric company.**
- **Beaudette this is a tricky question as electricity comes from burning fossil fuels.**

9. E. 2024.21 The Planning Board will review and discuss a Preliminary Plan presented by Indian Cliff Development Corp for an 8-lot subdivision on Barra Road (Tax Map 7, Lot 15) in the R-3 & R-1 zones.

Dylan Doughty recused himself from this project and the AVESTA Housing project.

- **Galbraith introduced the project**
- **Goes hand in hand with the AVESTA Housing project.**
- **Subdivision is straight forward**
- **Public Works and the Fire Department have been involved with the design of these projects in order to be in compliance.**
- **Chris McDonald of BH2M represented the applicant with Mike Eon of Indian Cliff Development.**
- **McDonald explained the changes that have happened since Sketch Plan.**

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- **Eon wants to make sure we check the deed covenant on the WDC project.**
- **The first lot is dedicated to a pond for stormwater due to Thacher Brook watershed. Eon has worked with the Director of Public Works to make sure the wastewater and driveways are where BPW wants it.**
- **They are working very closely with the Eastern Trail Association.**
- **They have to have the project done within 18 months of the Reveler Project.**
- **Working with the City on the sewer issues in the area.**
- **No furnaces so that there is no chance of them breaking and linking into Thacher Brook**
- **9 lots in all**
- **No public comments**
- **Patoine pretty straight forward**

  MOTION: 8:14 PM

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

  Second-Beaudette

  Vote: Motion passed unanimously

9. F. 2024.18 The Planning Board will review & discuss a Preliminary application by AVESTA Housing to create a 46-unit elderly affordable housing project on Barra Road (Tax Map 7, Lot 15) in the R-3 zone.

- **Galbraith introduced the project**
- **Applicant has increased the landscaping**
- **Per Tom Milliken, sewer for AVESTA is sufficient.**
- **Turn around is being relocated to accommodate public works**
- **Chris McDonald from BH2M and Ryan Fecteau from AVESTA represented the applicant**
- **Parking, access drive, driving aisles have not changed since Sketch Plan**
- **Reviewed comments from 3rd party engineers and staff, no significant changes proposed.**
- **Mike Eon spoke on connections to the Eastern Trail**
- **Zoom ended at 8:24 PM**
- **25-40 acres going into preservation**
- **Eon spoke about the connectivity of the Riverwalk and the Eastern Trail**
- **Public**

  Maryline Rosignal-effect of extra traffic how it will be dealt with

  Galbraith talked about plans for handling the traffic increase
- **Eon has worked for years on cleaning up Thacher Brook where it is an impaired stream**

  MOTIONS: 8:37 PM

  Motion-Beaudette- Motion to approve Case # 2024.18 Preliminary Plan Application for AVESTA Housing to build a 46 unit low income housing project for the elderly. Property is located at Barra Road (Tax Map 7, Lot 15) in the R-3 zone.

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Amended Motion to use Trailside Way
Second-Plotkin
Vote: Motion passed unanimously

10. Other Business
Changes in Planning Board schedule due to holidays
June 26th at 5:00 PM
Back to normal on July 17th

11. Adjourn 8:46 PM

_____ _____

Planning Board Chair/Vice Chair **Date**

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

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CITY OF BIDDEFORD

Planning and Development Department

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

Planning Board Meeting
Meeting Minutes
DRAFT

Date: June 26, 2024
Time: 5:00 PM
Location: Council Chambers & Zoom

1. **Pledge of Allegiance**
2. **Declaration of Quorum/Voting Members: Larry Patoine (Chair), Susan Deschambault, Roch Angers & Matt Dubois (Alternate Member)**
   Staff Present: David Galbraith, & Nan Whitten
   Chair Patoine opened the meeting at 5:04 PM
3. **Adjustments to the Agenda- Due to a lack of quorum, consent agenda is postponed until 7-17-24; 7B & 7C postponed until 7-17-24**
4. **Planner's Business-Introduction of Matt Dubois**
5. **Consent Agenda-postponed**
   5. A. Approval of Meeting Minutes from 6-5-24
6. **Unfinished Business-None**
7. **New Business**
   A. 2023.31 Review of a Sketch Plan Application for Diversacorp Holdings, LLC, for a 4-unit condominium at 20 Clifford Street (Tax Map 39, Lots 303-1 & 304) in the R-2 Zone. The project will consist of a 4-unit multi-unit condominium. Access for each unit will be along Tibbetts Avenue with all units being served by public utilities.
   - **Austin Fagan from BH2M represented the applicant.**
   - **No DEP or Army Corp permitting required**
   - **Project was seen over a year ago therefore Sketch Plan again.**
   - **Delay due to leg work done by client**
   - **Stormwater runoff going into combined system**
   - **No Comments from the Public**
   - **Patoine-clarification of which plan to use.**
   - **Galbraith discussed steep slope & stormwater runoff with catch basins in the drive way**
   - **Patoine page 13 of stormwater management report-habitat map shows possible impact, Fagan to look into and report back.**
   - **Deschambault-due to vegetation, called Project Canopy (Rebecca Henry), she encourages applicant to use them as a resource to know which vegetation to preserve. Applicant will reach out, Galbraith would like to save what can be saved.**
   - **Patoine-Site Plan says "Test Pit Required" where sewer is going to tie in GIS map indicates they need to do test pit on invert at connection.**

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- **Dubois-Tibbets is very narrow, is it 2 way and can fire apparatus get in? Yes to both**
- **Deschambault-clarification of address, property will be readdressed to Clifford Street.**
- **Patoine-Tibbets is only 35' wide and steep drop off.**
- **Dubois-elevations?**
- **Fagan-not submitted due to Sketch Plan but did share one.**
- **Roof is constructed so that the stormwater runs off the back into French Drain.**
- **Angers-Market Rate or Affordable? Fagan to find out and report back**
- **Angers-not much change from a year ago.**
- **Patoine-feedback to applicant?**
- **Save what trees they can.**
- **Landscape plan will be needed.**
- **Dubois-will you have to close off a part of Tibbets Ave for construction and equipment? Fagan does not think so.**
- **Fagan was reminded about the Site Plan Checklist**
- **Patoine suggests the applicant notify neighbors when equipment will be on Tibbetts Lane.**
- **Deschambault-when do you plan to start? As soon as possible.**
- **Patoine-positive feedback and we thank you for your time, look forward to Preliminary Plan Submittal.**

7. B. 2024.32 Review of a Sketch Plan for Coastal Oaks, LLC for an 8 lot subdivision of single family homes located at 512 Pool Street (Tax Map 9, Lot 31) in the RF & SR-1 zones.
THIS ITEM HAS BEEN POSTPONED TENTATIVELY UNTIL JULY 17, 2024

7. C. 2024.33 Review of a Sketch Plan for Coastal Oaks, LLC for conversion of a vacant structure into 25 +/- residential apartments at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone. THIS ITEM HAS BEEN POSTPONED TENTATIVELY UNTIL JULY 17, 2024

8. Other Business
9. Adjourn 5:25 PM

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Planning Board Chair/Vice Chair **Date**

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CITY OF BIDDEFORD

Planning and Development Department

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PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, City Planner & Deputy Director of the Planning & Development Dept.

DATE: April 9, 2023

RE: 2024.32 Sketch Plan for Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) Rural Farm (RF) and Suburban Residential 1 (SR-1).

MEETING DATE: June 26, 2024 at 5:00 PM

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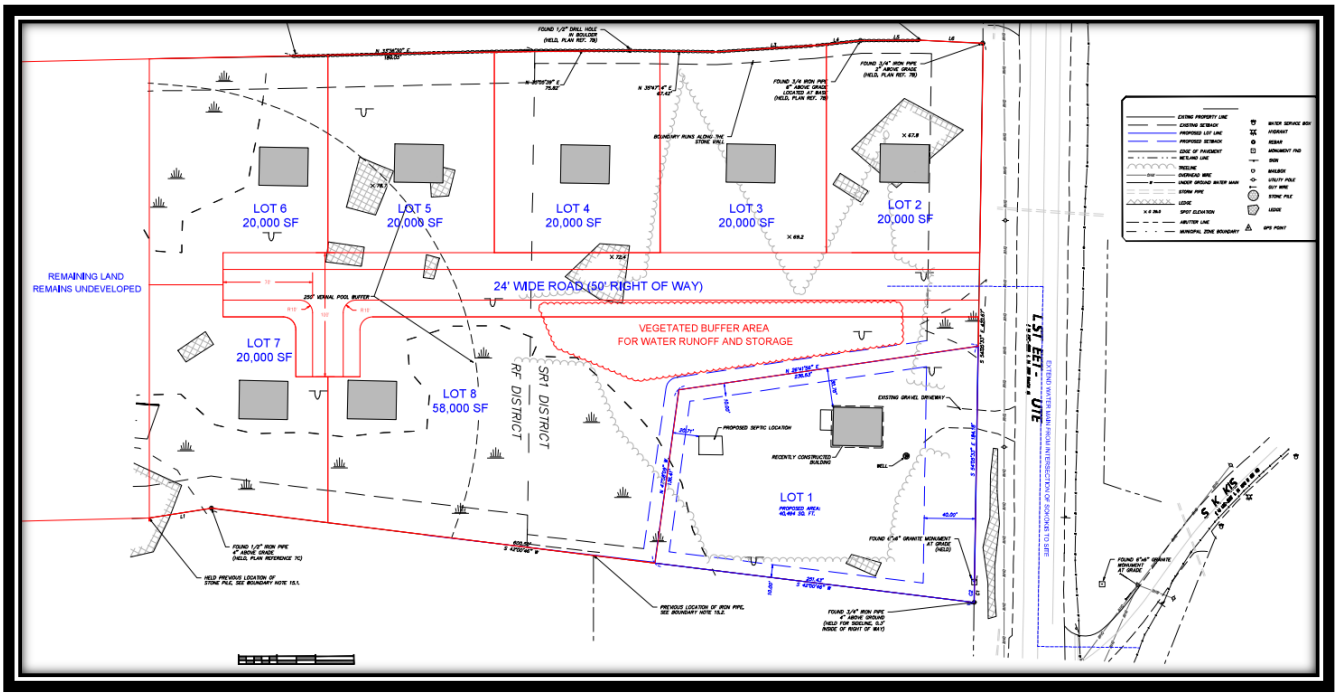
1. INTRODUCTION

This application is being presented by MP Design Consultants, for Ethan Scott (D.B.A. Coastal Oaks LLC.) jointly referred to as "Applicants or Applicant". The application is for a nine (9) lot subdivision, consisting of eight (8) single-family residential lots and one lot proposed as openspace. The subject property is approximately 17.45-acres in area, and is located in both the Rural Farm (RF) and Suburban Residential 1 (SR-1). The proposed development lots would be served by private septic systems and would connect to public water via a proposed public water extension to the site via Sokokis Road.

Coastal Oaks 9 Lot Residential Subdivision - 512 Pool Street

RE: 2024.32 Sketch Plan for Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) Rural Farm (RF) and Suburban Residential 1 (SR-1).

MEETING DATE: June 26, 2024 at 6:00 PM



Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision

2. PROJECT DATA/INFORMATION

1.	Applicant:	Coastal Oaks. LLC 198 Saco Avenue Old Orchard Beach, ME 04064
2.	Owner of Property:	Same as applicant
3.	Agent:	Paul Weinstein-Weinstein Leovell & Ordway, PA 431 Main Street Saco, ME 04072
4.	Surveyor:	MP Design Consultants 118 Turnpike Road, Suite 200 Southborough, MA 01772
5.	Project Location:	512 Pool Street
6.	Project Tax Map #/Lot #:	Tax Map 9, Lot 31
7.	Lot Size:	17.45 Acres
8.	Base Zoning:	RF/SR1
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant Land with 1 single family home
11.	Proposed Use:	8 Single Family Homes
12.	Approvals Required:	Subdivision/Site Plan
13.	Uses in the Vicinity:	Residential
14.	Waivers Needed:	a. None

18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	
23.	LDR Attachment A: Fees Paid:	Sketch Plan-A portion of fees paid
25.	Planning Board Review History: Sketch Plan-June 26, 2024	

3. REVIEW PROCESS

Per City ordinance, this application is subject to Subdivision Review (Chapter 66 – Subdivisions) and approval by the Planning Board.

4. GENERAL REVIEW COMMENTS:

- **APPLICATION COMPLETENESS:** This application is for subdivision sketch plan review so the purpose of this memorandum introduce the project/s to the Board, with the desire to identify items the Board believes are important and necessary for the continued review of this plan / project.

- **ZONING:** The subject property has a split zoning as it is zoned Suburban Residential 1 (SR-1) adjacent to Pool Street and Rural Farm (RF) for the majority of the proposed lots including the proposed openspace.

- **REVIEW STANDARDS:**

  In general, staff found the sketch plan application to satisfy City subdivision requirements.

- **WAIVERS:** The applicant is not seeking any waivers at this time.

5. STAFF REVIEW COMMENTS:

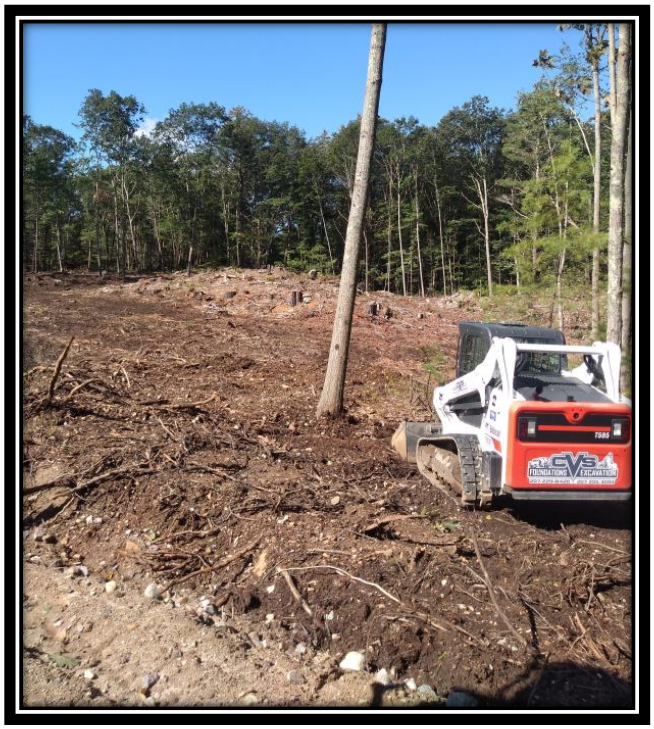
A. Planning Department Comments:

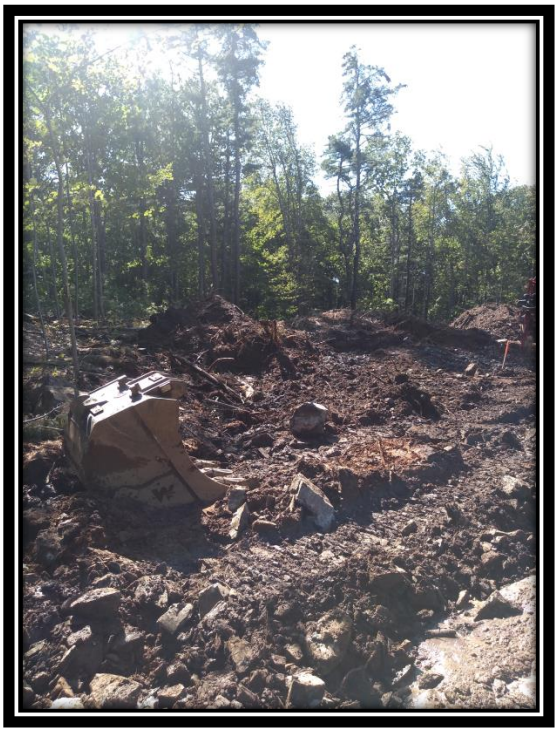
1) Public Water: During the pre-application meeting it was mentioned that the project proposed to extend public water to the site via Sokokis Road. Preliminary application plans shall include the water connection as being proposed, and the method of installation (directional bored preferred over trench cut).

2) Timber Harvesting: The property had a State approved forestry plan for the property that was granted to Beaulieu Logging (Harvest # 2301688). Due to the previously identified wetlands, and the amount of clearing that was done on the property, City Staff would like written confirmation, from the State, that the clearing that occurred on the property did not exceed the issued Harvest Permit and that no wetlands were filled / impacted beyond what the State may have approved.

RE: 2024.32 Sketch Plan for Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) Rural Farm (RF) and Suburban Residential 1 (SR-1).

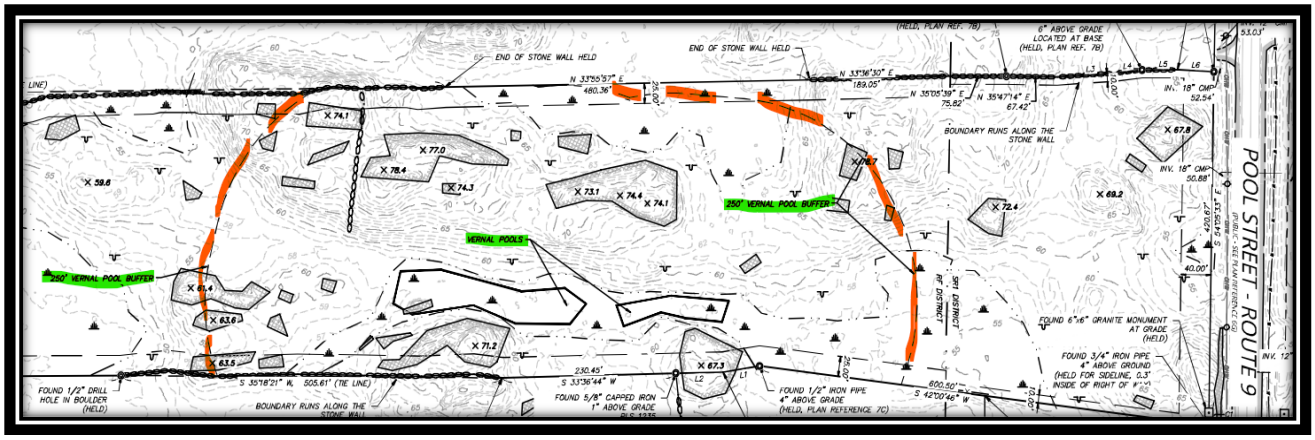
MEETING DATE: June 26, 2024 at 6:00 PM





Timber Harvesting – Lot Clearing

3) <u>Identified Vernal Pools:</u> The submitted Topography and Boundary Survey illustrates two (2) vernal pools and their respective 250' setback. Lots # 5, 6, 7 & 8 are within the required setback. Are these vernal pools classified as "significant"? If so, it would appear that lots 6, 7 & 8 would be unbuildable. Please confirm.



Topography and Boundary Survey

4) Driveway Relocation: The driveway to the recently constructed house should be relocated so that the lot gains vehicle access from the proposed roadway rather than Pool Street.

5) Submittal Requirement – Lot Area: The preliminary application shall include the entire parcel and the disposition of the "remaining land" shall be specified (remain with the Homeowners Association or gifted to a land trust?).

6) Fire Hydrants: The locations of existing and proposed fire hydrants shall be shown on the Preliminary Application submittal.

7) Street Name: The proposed private roadway shall be named on the preliminary application plans. The City's E-911 Addressing Officer shall review and approve the proposed roadway name to verify that the name will not conflict with any existing street names or developments.

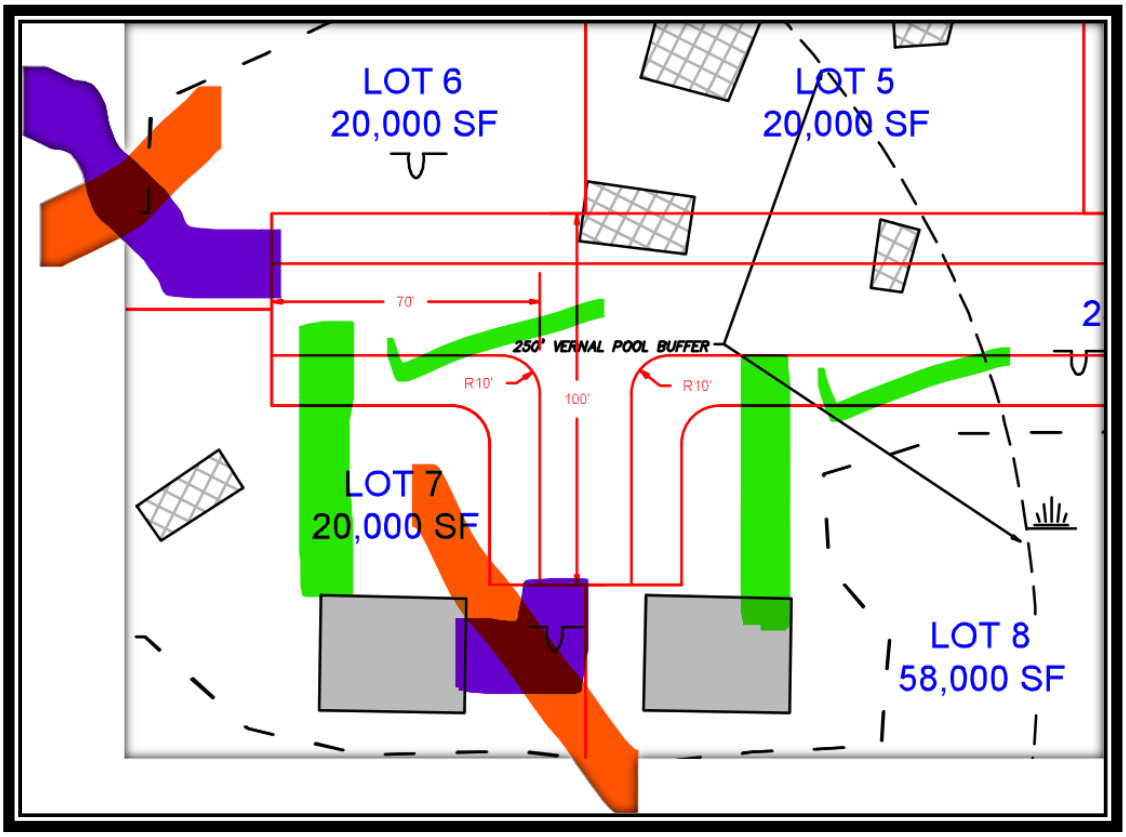
8) Vegetated Buffer Area: The submitted plans include a "Vegetated Buffer Area for water Runoff and Storage". From visiting the site it appears that all of the vegetation has been removed from this area. Please illustrate what plantings are being proposed for this area.

9) Septic Systems: Passing septic system designs shall be submitted for Preliminary Review. The plans shall also illustrate the septic system locations for each of the lots on the Plan Set.

10) Setbacks / Building Envelopes and Driveways: Required Building Setbacks, street frontage, building envelopes, and proposed driveway locations shall be illustrated on Preliminary Application Plans. Please note, driveways may NOT be placed off the ends of the roadway or off the end of the vehicle turn-around. Driveways may only be placed onto the proposed street. Shown below in green are acceptable driveway locations, onto the main roadway, and unacceptable locations illustrated in purple / orange.

RE: 2024.32 Sketch Plan for Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) Rural Farm (RF) and Suburban Residential 1 (SR-1).

MEETING DATE: June 26, 2024 at 6:00 PM



Acceptable driveway locations illustrated in green and non-acceptable shown in orange / purple

11) Emergency Vehicle Turning Radii: The roadway shall be designed to accommodate the largest vehicle utilized by the Fire Department. The proposed plans show a 10' radii at the turn around which I believe should be a 30' radii. Please verify with the Ed Dexter, Deputy Fire Chief.

12) Pool Street Entrance: The proposed entranceway off Pool Street shall be illustrated and shall also show the turning templates for all fire apparatus movements at Pool Street and at the on-site hammerhead turn-around.

13) Trees / Vegetation: The submitted subdivision plan illustrates an existing tree-line which is only shown on the Suburban Residential (SR) portion of the property. It also appears, from visiting the site, that many of the trees within the existing tree line may have been removed. The existing and proposed treeline shall be illustrated, on the entire parcel.

14) The subdivision plan includes symbols that don't appear on the Symbol identifier data box.

= ???

15) The proposed street is to remain private and will not be accepted by the City of Biddeford as a public street. As such homeowner's association documents shall be submitted including roadway ownership, maintenance including snow removal. The HOA shall also include any common drainage areas and their annual maintenance. A note of this nature shall be included on the recorded plan set.

16) A stop sign and stop bar shall be illustrated on revised plan sets.

B. Peer Engineer Review Comments: Per your request we have undertaken a review of the Sketch Plan submitted in support of an application for a proposed subdivision located at 512 Pool Street. Based on this preliminary review, we offer the following comments for the applicant's and city's consideration as the project moves forward:

1) Will the proposed road remain private or be offered to the city for acceptance?

2) Based on the number of lots, the road would be classified as a minor residential nonurban access under the code. The plan appears to show both a 33.5 ft. and 33 ft. wide travelled way, while the code would require a 20 ft. wide paved travel way with two 2 ft. wide gravel shoulders.

3) The plan shows the edges of pavements on opposite sides of the street with the same radius, which cannot happen with parallel street lines.

4) Lot 10 does not meet the frontage requirement of the code, which should be met at the setback line for lots fronting on a cul-de-sac.

5) Pavement radii at Pool Street should be a minimum of 30 ft. per the code.

6) The setback from Pool Street should be noted as 40 ft.

7) The building windows on lots 5, 8, 10, 11, 14, 17, and 18 include wetlands. If the goal is to allow fill of those wetlands, the fill should be permitted. If no fill is permitted, then that should be indicated on the drawings.

8) What are the small squares shown along the edges of the proposed pavement?
9) Is it the intent of the developer to build the homes or sell only lots?

10) Who will own the proposed open space?

11) What is the source of topographic information? Field survey should be provided for the road and areas where stormwater BMP's will be located.

12) The tangent length between curves with reverse alignment should be a minimum of 50 ft.

6. STAFF RECOMMENDATION

The Application is for Subdivision "sketch plan review" so no formal Planning Board action is required. However, the Board should take this opportunity to review the proposed subdivision plans and identify any items the Board may wish to review or modify as part of this application.

City of Biddeford - Planning Department June 11, 2024

205 Main Street

Biddeford, Maine 04005

RE: 512 Pool Street- Subdivision Sketch Plan Application

Ethan Scott and King Weinstein of Coastal Oaks, LLC owner of the land at 512 Pool Street, a 17.45 acre parcel located in the RF and SR-1 zones, propose an 8 lot subdivision of single family homes. The parcel currently is not serviced by either public water or sewer, however this proposal incorporates an extension of the water main from the eastern intersection of Pool Street and Sokokis Road, to the subject parcel.

Of the 17.45 acre lot, Coastal Oaks proposes to build on the front 30% adjacent to Pool Street, leaving the rear 12.5 +/- acres to remain under ownership of the future homeowners association, potential donation to land/environmental trusts, or to retain for future use. The intention is for the new road to remain private, with private maintenance agreements and costs at the responsibility of the homeowner's association.

Ethan Scott – Owner

Coastal Oaks, LLC

198 Saco Avenue

Old Orchard Beach, ME 04064

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
X Other: SKETCH PLAN

Applicant Information:
Name: COASTAL OAKS, LLC
Mailing Address: 198 SACO AVE, OLD ORCHARD BEACH, ME 04064
Telephone: 207-710-7570
Email: ethanscottdevelopment@gmail.com
What is your legal interest in the property?
✓ Owner __ Potential Buyer with Contract __ Lease/Rental Agreement

Owner's Information:
Name: COASTAL OAKS LLC - ETHAN SCOTT
Mailing Address: 198 SACO AVE, OLD ORCHARD BEACH, ME 04064
Telephone: 207-710-7570
Email: ethanscottdevelopment@gmail.com

Agent's Information:
Name: PAUL WEINSTEIN - WEINSTEIN, LOVELL, & ORDWAY, P.A.
Mailing Address: 431 MAIN ST, SACO ME 04072
Telephone: 207-283-4546
Email: pweinstein@sacolaw.com

Engineer/Surveyor's Information:
Name: MP DESIGN CONSULTANTS
Mailing Address: 118 TURNPIKE ROAD, SUITE 200, SOUTHBOROUGH, MA 01772
Telephone: 617-560-0778
Email: marc.alencar@mpdconsultants.com

Project Location and Lot Information:
Street Address: 512 Pool STREET Drainage Watershed: SACO RIVER WATERSHED
Tax Map: 9 Lot: 31
Current Zoning: RF/SR1 Shoreland Zoning: N/A
Size of Lot: 17.45 (✓)acres ( )s.f. Lot Frontage: 420.67'
Existing Use of Property: VACANT LAND, ONE SINGLE FAMILY HOME

Property currently serviced by:
✓ City Road __ Public Sewer __ Public Water __ Public Trash
__ Private Road __ Septic System __ Private Well __ Private Hauler

Slope Conditions in Area of Construction (if applicable):
✓ Flat (0-3% slope) __ Rolling (3-8% slope) __ Hilly (8-15% slope) __ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ✓ (Yes) __ (No) if yes attach information
Is the project within the 100-year floodplain? __ (Yes) ✓ (No) if yes attach information
Do you plan to bring fill onto the lot? __ (Yes) ✓ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:
Coastal oaks proposes a new 8 unit subdivision consisting of 8 single family homes, with public water extended from Sokokis Road, and private septic

Property to be Serviced by:

__ City Road __ Public Sewer ✓ Public Water ✓ Public Trash
✓ Private Road ✓ Septic System __ Private Well __ Private Hauler

Limits of Disturbance: 5 (✓)acres ( )s.f.
Net change in impervious cover: 1 (✓)acres ( )s.f.
Is this project part of a larger project? __(Yes) ✓(No)
Is the project proposing a new Private or Public Road? ✓(Yes, Private) __(Yes, Public) __(No)
Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) __(Yes) ✓(No)
Is the project proposing any Stormwater facilities/BMPs? __(Yes) ✓(No)
Will a Traffic Movement Permit (TMP) be required?: __(Yes) ✓(No)

__ **If in a Shoreland Zone:**
Percent of residential lot coverage (Max 20%): _____
Percent of structure expansion (Max 30%): _____
__ **If Subdivision Review, number of lots proposed:** _____
__ **If a Private Way is proposed, number of lots served:** _____

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

Total new square feet footprint of structure: 10,000
Total new square feet paving/parking: 34,000

Waiver Requests (attach details):

1. To be determined
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval N/A Sketch Plan application
   __ 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. See cover letter
C. Photographs of Site. N/A Sketch Plan application
D. Architectural renderings/drawings of proposed buildings, as required. See example have attached
E. Engineering Plans, as required. Sketch Plans attached
F. Stormwater Management Report, as required. N/A Sketch Plan application

Fees (Due at time of Submission):

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

Required Signatures:

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

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

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

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

Signature of Applicant: [signature] **Date** 6/11/24

Signature of Property Owner: [signature] **Date** 6/11/24

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

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

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL 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)

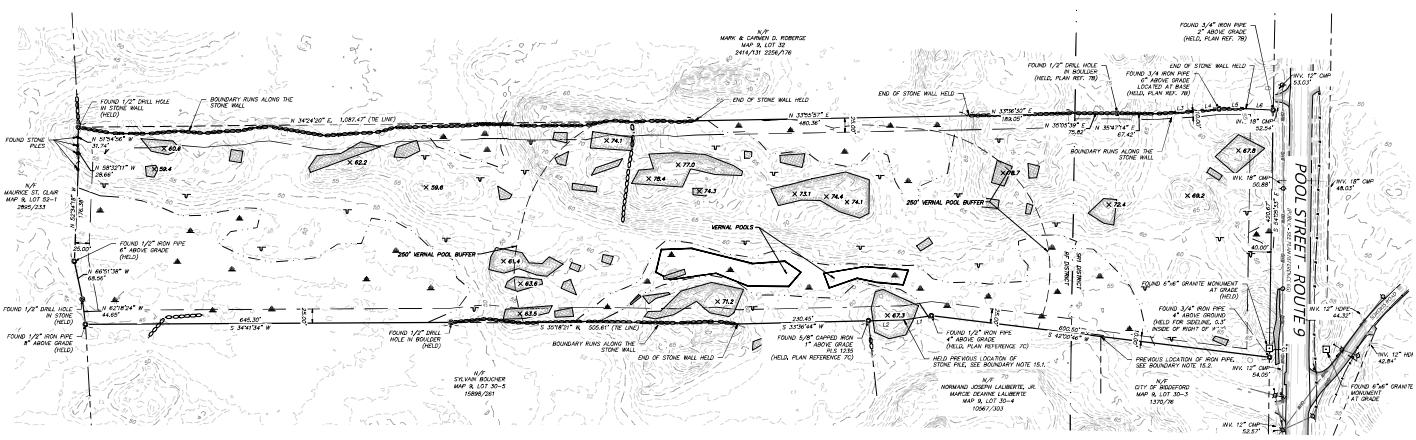
HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

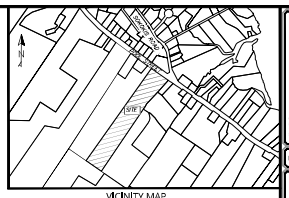
A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIUDAL DRAWINGS REQUIRING BOARD SIGNATURE

B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

PARCEL LINE AND CURVE SEGMENTS			
SEGMENT	LENGTH	BEARING / DELTA	RADIUS
C1	15.62	0112°23"	22916.53
L1	49.51	S28° 17' 50"W	
L2	62.75	S33° 46' 05"W	
L3	76.62	N31° 25' 40"E	
L4	37.16	N28° 47' 23"E	
L5	47.43	N24° 50' 11"E	
L6	48.26	N37° 39' 41"E	





VICINITY MAP
BIDDEFORD, MAINE N.T.S.

LEGEND

- PROPERTY LINE
- EDGE OF PAVEMENT
- WETLAND LINE
- TREELINE
- OHW OVERHEAD WIRE
- UNDER GROUND WATER MAIN
- STORM PIPE
- LEDGE
- MAJOR CONTOUR
- MINOR CONTOUR
- X 26.0 SPOT ELEVATION
- ABUTTER LINE
- MUNICIPAL ZONE BOUNDARY
- WATER SERVICE BOX
- HYDRANT
- REBAR
- MONUMENT FND
- SIGN
- MAILBOX
- UTILITY POLE
- GUY WIRE
- STONE PILE
- LEDGE
- GPS POINT

GENERAL NOTES:

1. THE RECORD OWNERS OF THE LOCUS PARCEL IS AS FOLLOW:
   PAUL J. BARTON & TERESA M. BARTON BY DEED DATED DECEMBER 31, 2009 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD) IN BOOK 15821, PAGE 456.
2. THE PROPERTY IS SHOWN AS LOT 31 ON THE CITY OF BIDDEFORD, MAINE TAX MAP 9, AND IS LOCATED IN BOTH THE RURAL FARM (RF) DISTRICT & SUBURBAN RESIDENTIAL (SR1) DISTRICT.
3. SPACE AND BULK CRITERIA FOR THE SR1 & RF DISTRICTS ARE AS AS FOLLOWS:

	SR1 DISTRICT 20,000 S.F.	RF DISTRICT 20,000 S.F.
MINIMUM LOT SIZE:		
MINIMUM STREET FRONTAGE:	120 FEET*	100 FEET*
MINIMUM FRONT YARD:	25 FEET*	40 FEET*
MINIMUM SIDE YARD:	25 FEET	16 FEET
MINIMUM REAR YARD:	25 FEET	16 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET	35 FEET

   * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
4. TOTAL AREA OF PARCEL IS APPROXIMATELY 17.45 ACRES.
5. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIER ENGINEERING & DESIGNING IN APRIL OF 2023.
6. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIER ENGINEERING & DESIGNING IN APRIL OF 2023. THE SURVEY WAS PERFORMED AND METHODS SUPPLEMENTED WITH GPS EQUIPMENT. GPS EQUIPMENT WAS EMPLOYED IN THE COLLECTION OF THE TOPOGRAPHIC INFORMATION. ALL DATA REMOTELY COLLECTED HAS BEEN FIELD TO MEET AND/OR EXCEED THE NATIONAL MAPPING STANDARDS FOR 1 FOOT CONTOUR INTERVALS SET FORTH BY THE AMERICAN SOCIETY FOR PHOTOGRAMMETRY & REMOTE SENSING (ASPRS).
7. PLAN REFERENCES:
   A. "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP - STATE AID HIGHWAY NO. 2 - FEDERAL AID SECONDARY PROJECT 5317 (14) 1.51 F.C. FILE NO. 154-156 - SHEET 5 OF 5, DATED JANUARY, 1957 AND RECORDED IN PLAN BOOK 31, PAGE 2".
   B. "PLAN OF LAND OF CARMEN & MARK ROBERGE ON THE NEW POOL ROAD - BIDDEFORD, ME" PREPARED BY ASSOCIATED PLANNING, DATED SEPTEMBER 15, 1979 AND RECORDED IN PLAN BOOK 161, PAGE 35.
   C. "PLAN SHOWING A STANDARD BOUNDARY SURVEY OF PROPERTY OF JAMES T. CHRISTENY PREPARED BY MILLMAN FRENCE, P.L.S. #1229, DATED DECEMBER 13, 2000 AND RECORDED IN PLAN BOOK 261, PAGE 33.
8. BOOK AND PAGE REFERENCES SHOWN HEREON ARE PURSUANT TO THE YORK COUNTY REGISTRY OF DEEDS (YCRD).
9. PLAN DATA RETRIEVED IS BASED IN NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE NAD-83/2011, ELEVATIONS CONVERTED FROM NAVD88 BASED ON LOCAL FREQUENCY GPS OBSERVATIONS.
10. UTILITY INFORMATION SHOWN HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 38-02 (2005). UTILITIES SHOWN HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR ENGINEERS NEED TO CONTACT TIGHSAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND FOR DESIGN USE.
11. LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDDEFORD, MAINE, YORK COUNTY, COMMUNITY PANEL NUMBER 230140 0008 B HAVING AN EFFECTIVE DATE OF MAY 16, 1984. THE ENTIRETY OF THE PARCEL FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF MINIMAL FLOODING.
12. A WETLAND DELINEATION WAS PERFORMED ON THIS PROPERTY BY BURNHAM, OF 2023 BY ALEX BURNHAM, CERTIFIED SOIL SCIENTIST OF WHITE OAK SOIL LLC. THE DELINEATION CONFORMED TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORIZED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUBMETER ACCURACY.
13. A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX BRANCHINI, LICENSED SOIL SCIENTIST OF WHITE OAK SOIL LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 5.05 OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
14. DEED REFERENCES:
   14.1. JOSEPH CARVALHO SERFICO (ESTATE) TO MARY A. & PAUL J. BARTON, DATED OCTOBER 16, 1986 RECORDED IN DEED BOOK 1660, PAGE 326.
15. BOUNDARY NOTES:
   15.1. THE STONE HEAP AS CALLED FOR IN DEED REFERENCE 14.1 AND SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED IN THE FIELD. THE BEARINGS SHOWN ON PLAN REFERENCE 7C AND MONUMENTS FOUND IN THE FIELD WERE USED TO REESTABLISH ITS LOCATION.
   15.2. THE IRON PIPE SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED. THE PREVIOUS LOCATION WAS DETERMINED BY UTILIZING PLAN REFERENCE 7C AS WELL AS HOLDING A DISTANCE OF 330.0' NORTH EASTERLY FROM THE FOUND IRON PIPE TO THE SOUTH WEST.
16. THE BOUNDARY BETWEEN THE RF ZONE & THE SR1 ZONE WAS DETERMINED UTILIZING THE ONLINE SERVICES PROVIDED BY THE CITY OF BIDDEFORD, 350 FEET FROM THE SOUTHERLY SIDE OF THE POOL STREET RIGHT OF WAY WAS HELD AS MEASURED.

SURVEYORS CERTIFICATION:

THE SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

JOSHUA R. EDDY, MAINE PLS 2058 DATE:

80 0 80 160
SCALE : 1" = 80'
Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

Colliers Engineering & Design

www.colliersengineering.com

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FOR STATE SPECIFIC DIGSAFE PHONE NUMBERS SEE WWW.CALL811.COM

NO.	DATE	COMMENTS	DRAWN BY

DRAFT

TOPOGRAPHIC & BOUNDARY SURVEY

FOR

COASTAL OAKS LLC

512 POOL ST
YORK COUNTY
BIDDEFORD, MAINE
TAX MAP 9 LOT 31

RECORD OWNER
ANTHONY & MARGARET SERPICO
16 GOODALE AVE
SACO, ME

Colliers Engineering & Design

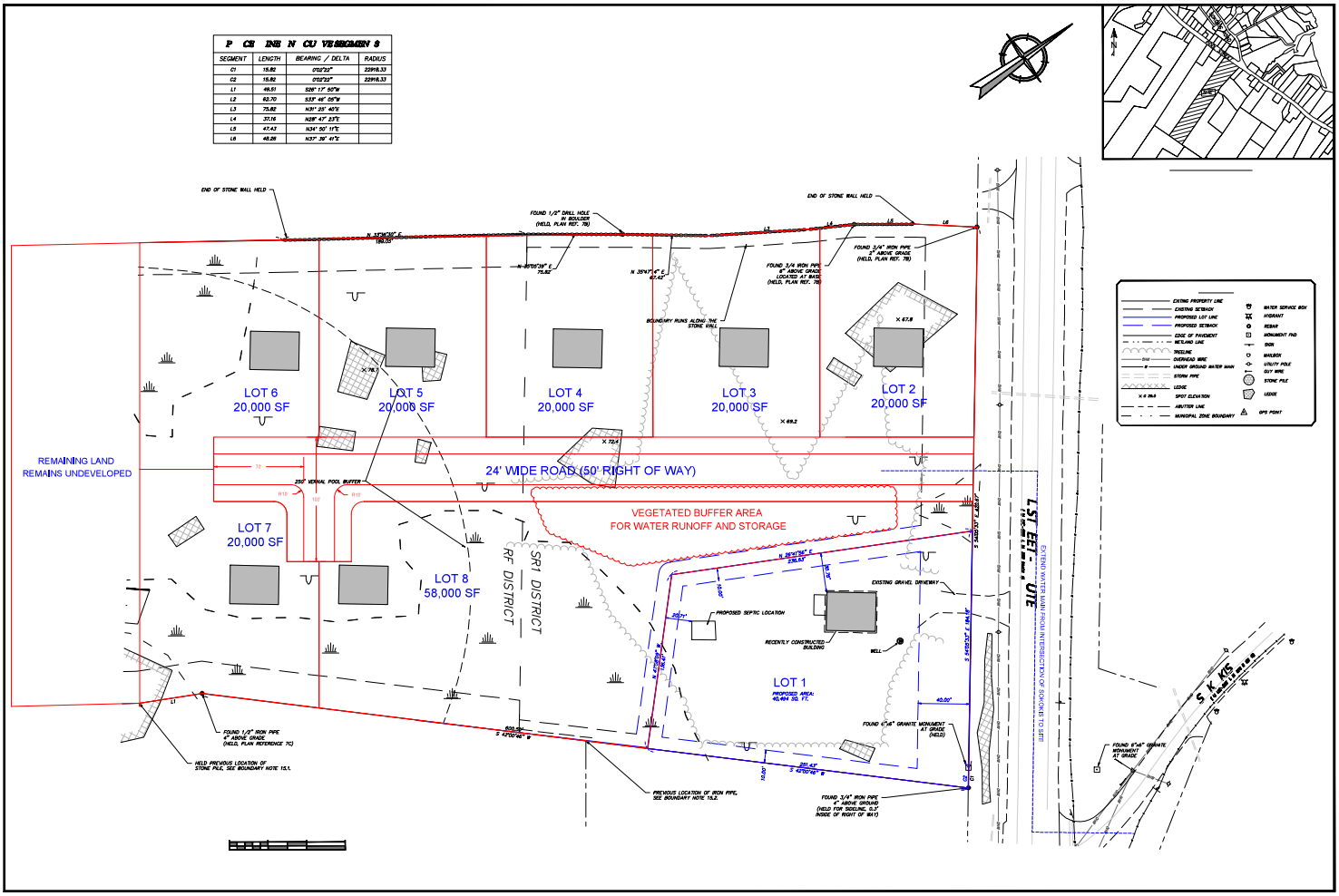
BRUNSWICK
41 Church Road
Brunswick, ME 04011
Phone 207.443.7082
CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL • GEOTECHNICAL • TRANSPORTATION

SCALE	DATE	DRAWN BY	CHECKED BY
1"=80' (24x36)	05/01/2023	JBF	DJH
PROJECT NUMBER		DWG NAME	
23-02250		23-02250_POOL-ST_PROJECT.DWG	

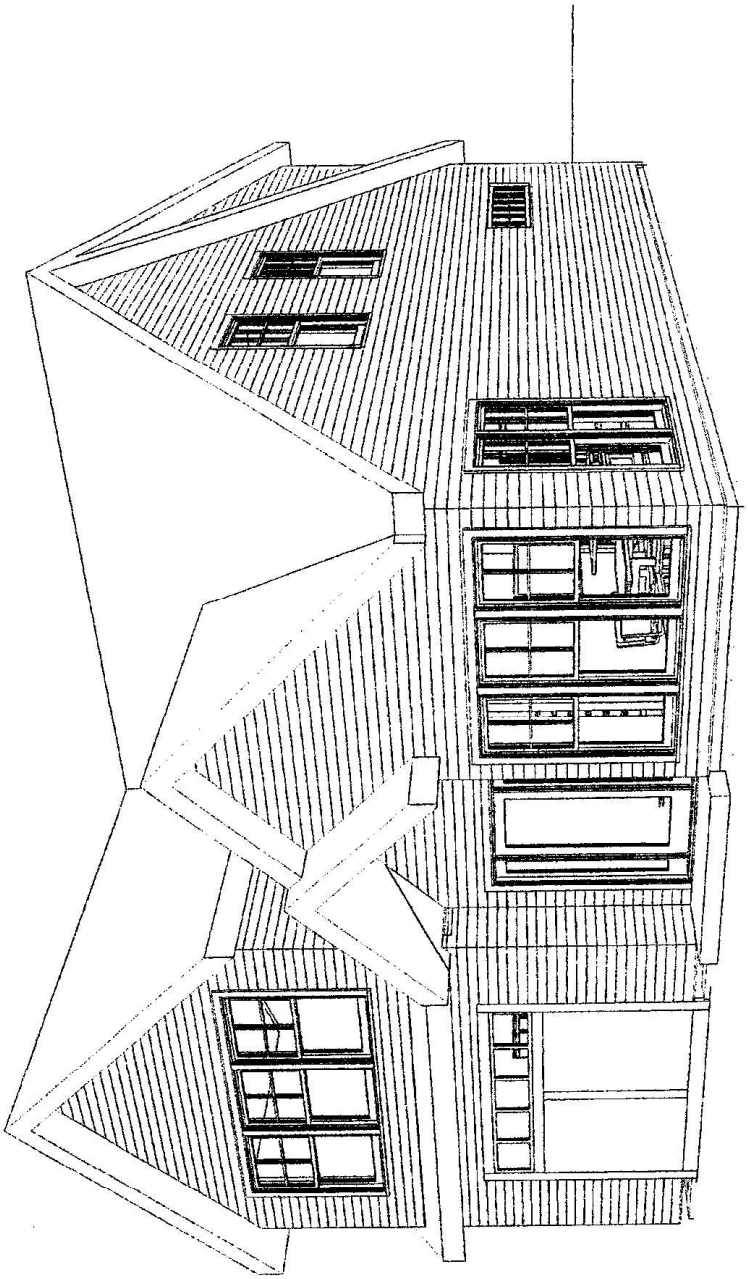
DWG. TITLE
BOUNDARY AND TOPOGRAPHIC SURVEY

SHEET NUMBER
1 of 1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



SEGMENT	LENGTH	BEARING / DELTA	RADIUS
C1	15.82	0°03'23"	22918.33
C2	15.82	0°03'23"	22918.33
L1	49.51	S26° 17' 50"W	
L2	62.70	S33° 46' 05"W	
L3	75.82	N31° 33' 40"E	
L4	37.16	N28° 47' 33"E	
L5	47.43	N34° 50' 11"E	
L6	48.26	N37° 39' 41"E	



ORIGINAL DOCUMENT HAS A SECURITY VOID BACKGROUND PANTOGRAPH, MICROPRINTED BORDER - SEE REVERSE SIDE FOR COMPLETE SECURITY FEATURES

Coastal Oaks, LLC
Ph. 207-934-7622
198 Saco Avenue
Old Orchard Beach, ME. 04064

Saco & Biddeford Saving
2 Portland Ave
Old Orchard Beach, ME 04064

001627

6/12/2024

PAY TO THE ORDER OF City of Biddeford $ **75.00

Seventy-Five and 00/100********** DOLLARS

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

MEMO: 512 Pool St Sketch plan application

AUTHORIZED SIGNATURE

⑈001627⑈ ⑆211272630⑆ 9000027227⑈

THIS DOCUMENT CONTAINS HEAT SENSITIVE INK. TOUCH OR PRESS AND RED IMAGE DISAPPEARS WITH HEAT.

CITY OF BIDDEFORD

Planning and Development Department

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

PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner

DATE: June 17, 2024

RE: 2024.33 Sketch Plan - Subdivision Review Coastal Oaks / Proposed Construction of a 25 residential apartment units on 12 Pearl Street (Tax Map 40, Lots 72), within Building 12, located in the MSRD-1 Zone.

MEETING DATE: June 26, 2024 at 5:00 PM

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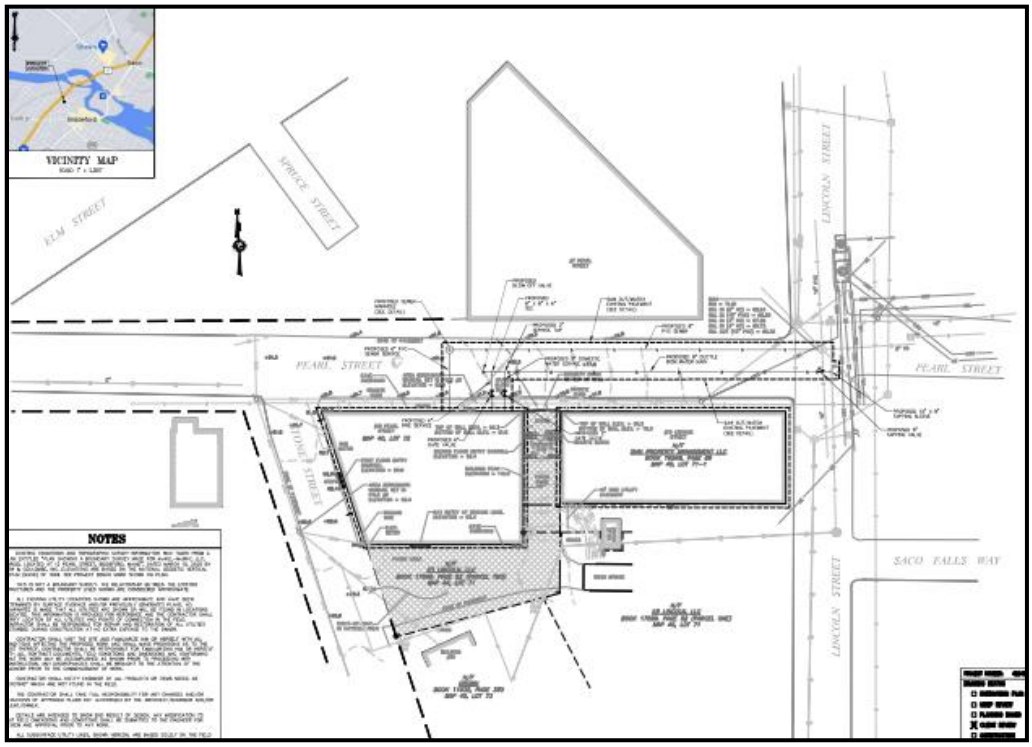
1. INTRODUCTION

Ethan Scott and King Weinstein of Coastal Oaks, LLC have an agreement to purchase the property located at 12 Pearl Street, a .284 acre parcel with existing three story 21,000 sf brick building located in the MSDR-1 zone, propose a sketch plan application to convert the existing storage/vacant building into 25 +/- residential apartment units.



2024.33 Sketch Plan - Subdivision Review Coastal Oaks / Proposed Construction of a 25 residential apartment units on 12 Pearl Street (Tax Map 40, Lots 72), within Building 12, located in the MSRD-1 Zone.

MEETING DATE: June 26, 2024 at 5:00 PM

The parcel is currently serviced by public water, sewer, and natural gas. Coastal Oaks has made an agreement with Premium Parking to lease out 30 parking spaces in the 15 Pearl Street garage, in addition to parking located on the parcel itself in an amount yet to be determined. Coastal Oaks also intends to add an additional story to the building comprising of residential units and potential common/gathering spaces, though the footprint of the existing structure will remain unchanged, and as discussed with the Applicant, the proposed rooftop units will be setback from the sides of the building so as not to detract from the historic building.

Buildings 12 Pearl Street– Proposed 25 Unit Buildings

The existing structure is an empty building that was a former mill building which has remained vacant for numerous years. The sketch plan application includes a narrative which includes the following proposal overview:

> *The project site includes 1 Building (n.o.12), identified as Parcel ID 40-72 on the City of Biddeford's Assessor's Map. Building 12 is located in the Main Street Revitalization District 1 (MSRD1). The building has three levels (including the basement) with the addition of a 4th story and a combined gross floor area of square feet of 21,000 (the existing footprint will remain the same). The applicant is proposing to convert the building into 25 residential dwelling units across the four stories. An overall existing conditions plan with the site location highlighted has been provided with this letter.*

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Overall, this project aims to provide housing to a much-needed housing stock within the City's downtown in order to support the vibrant community of people and businesses and further increase activity within the City's flourishing downtown. This project proposes to convert Building 12 into 25 residential apartments that will consist of the following mix:

1st Floor: Six (6) one bedroom units and one (1) studio = 7 one room units
2nd Floor: Six (6) one bedroom units and one (1) studio = 7 one room units
3rd Floor: Six (6) one bedroom units and one (1) studio= 7 one room units
4th Floor: Four (4) two (2) bedroom units = Four (4), two (2) bedroom Units

Total: 25 units

The Applicants are proposing to construct a 4th floor to the existing 3 story building. The Applicants are also proposing exterior modifications, not submitted as part of the sketch plan review, which anticipate the introduction of new windows and the possibility of removing some of the existing brick façade and replacing with steel and glass. These items will require review and approval of the Historic Preservation Commission (HPC). The property has existing parking and is currently serviced by a City Road, Public Sewer, Water and Trash and therefore minimal site work is anticipated.

12 Pearl Street – Existing Building elevations

2024.33 Sketch Plan - Subdivision Review Coastal Oaks / Proposed Construction of a 25 residential apartment units on 12 Pearl Street (Tax Map 40, Lots 72), within Building 12, located in the MSRD-1 Zone.

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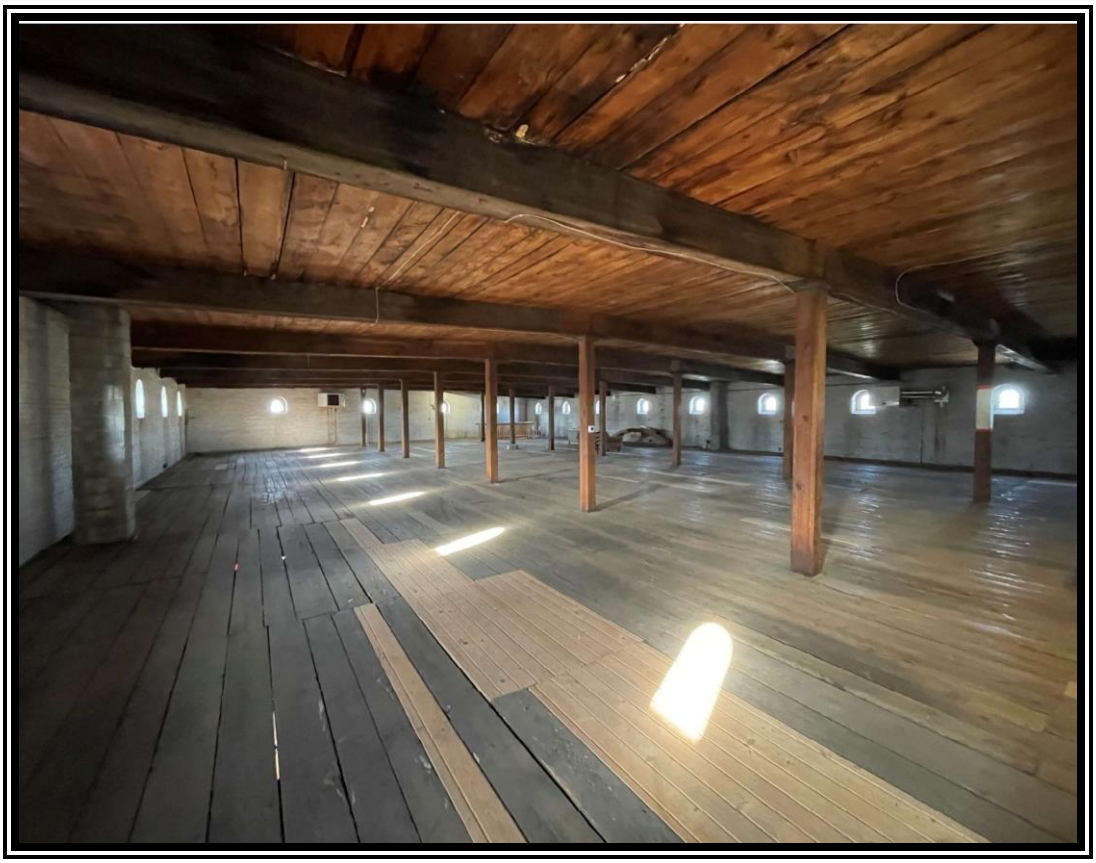
Buildings 12, (highlighted in red) – Proposed 25 Unit Buildings



Building 12 – First Floor Interior Image

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2. PROJECT DATA/INFORMATION

1.	Applicant:	Coastal Oaks, LLC 198 Saco Ave, Old Orchard Beach, ME 04064
2.	Owner of Property:	McCill-McWay, LLC 20 Tate Street, Portland ME, 04102
3.	Agent:	Tadgeman H.A. McWilliams 20 Tate Street, Portland ME, 04102
4.	Surveyor:	MP Design Consultants 118 Turnpike Rd, Suite 200, Southborough, MA 01772
5.	Project Location:	12 Pearl St
6.	Project Tax Map #/Lot #:	Tax Map 40, Lots 72
7.	Lot Size:	.284
8.	Base Zoning:	MSRD-1
9.	Overlay Zoning:	N/A
10.	Existing Use:	Storage/Vacant
11.	Proposed Use:	4-story residential structures 25-units
12.	Approvals Required:	Sketch plan application
13.	Uses in the Vicinity:	Commercial
14.	Waivers Needed:	None requested
15.	Waivers Granted:	N/A
16.	Other Non-City Permits Required:	N/A
17.	LDR Attachment A: Fees Paid:	N/A
18.	Planning Board Review History: Sketch Plan 6-26-24	

3. REVIEW PROCESS

Per City ordinance, this application is subject to Site Plan (Land Development Regulations, Article XI) review and Subdivision Review (Chapter 66 – Subdivisions) approval by the Planning Board.

4. Departmental Review Comments:

A. Planning:

1. Building Elevations: The Preliminary Plan submittal shall include building elevations identifying all proposed exterior building modifications which will also need review and approval from the Historic Preservation Commission (HPC).

These modifications shall specifically include proposed window and doorway modifications.

2. All refuse and recycling dumpsters shall be fully screened with a dumpster enclosure/s and the locations of said enclosures shall be shown on the redevelopment plans.

3. The Preliminary Plan Application shall include a detailed overview / narrative of all property improvements being proposed.

4. The existing retaining wall situated between building 12 and building 7 is leaning out. The wall is part of building 12's property. This retaining wall shall be verified for structural stability and any required corrective shall be part of this redevelopment project. See Picture below.

5. Being a residential development, where is the main entrance going to be located and will this include any exterior building modifications?

6. The existing site conditions contain a fairly wide curb opening, which should be reduced to 24' in width and as much of the current parking area behind the building should be converted into landscaped areas and contain trees and shrubs.

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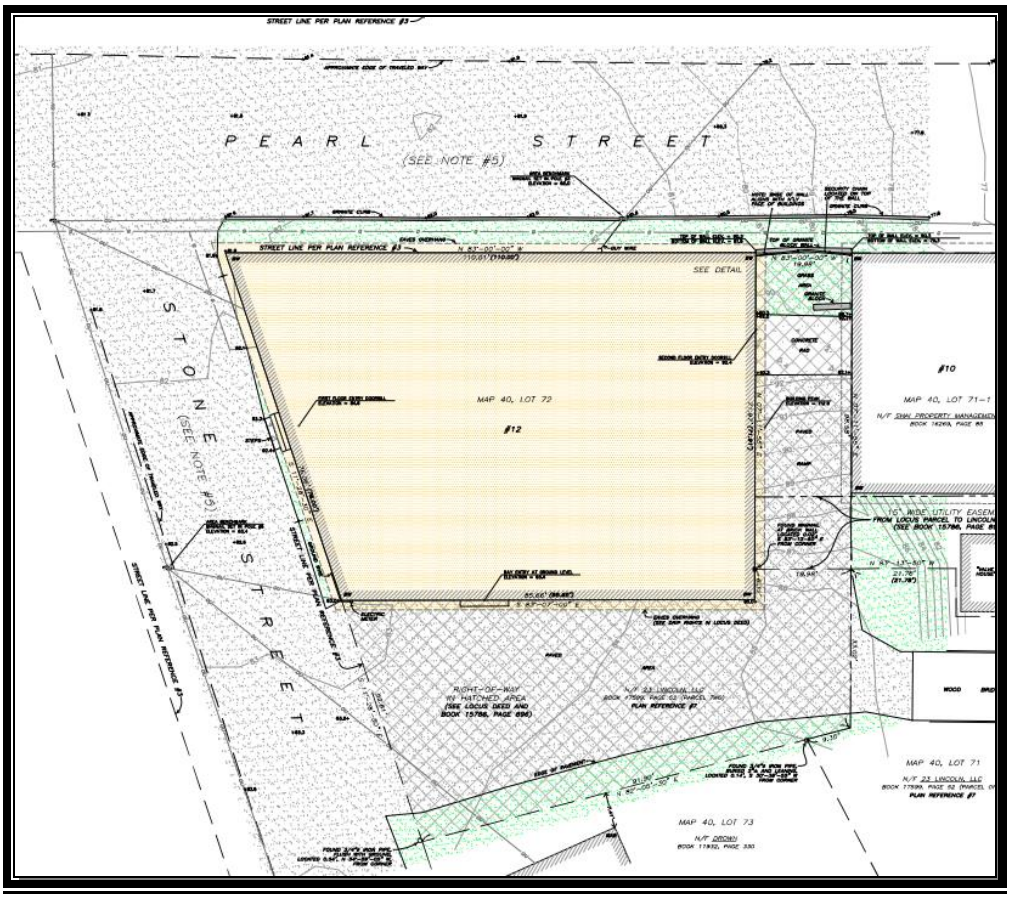

7. Designated “temporary parking” / parking easement stalls shall be clearly identified on submitted site plans.

8. Prior to Final Planning Board review, the Applicant shall include a signed perpetual parking agreement with Premium Parking for all of the required parking for the development.

9. 10% of the proposed units shall be for low/moderate income rental apartments or a financial contribution of $100,000. Per required LMI units. This project will require 3 LMI units or a $300,000. Contribution to the City’s Housing Trust Fund.

B. <u>Code Enforcement:</u>

1. No comments / concerns at this time.

C. Engineering / Public Works:

1. The Applicant shall provide interior storm and sanitary plumbing plans, confirming both gravity systems are separated and have separated downstream connections within the City's infrastructure. If the interior storm and sanitary piping are not separated or do not outfall into separated systems, the Applicant shall provide formal separation plans, including disconnection of roof drains / downspouts. The submitted plans shall be reviewed and approved by the City's Director of Engineering prior to the issuance of any building or plumbing permits.

2. All vehicle maneuvering must occur on-site and may not utilize either Pearl Street or Stone Street for backing into / out of the property. Truck turning radii shall be shown on preliminary plan sets.

D. Police:

1. No comments / concerns at this time.

E. Fire:

1. No comments / concerns at this time.

F. Traffic Peer Review:

1. Not Applicable.

G. Engineering Peer Review:

1. No comments at this time.

2. STAFF REVIEW

- **APPLICATION COMPLETENESS:** This Application is for a "Sketch Plan" review and in addition to Planning Board review and approval of the project, it also requires approval from:

  A. Historic Preservation Committee

- **ZONING:**

  The subject property is located within the City's MSRD-1 zoning district where multi-family dwellings are a permitted use. The proposed twenty five (25) unit

building is situated in a vacant development which is consistent with the surrounding development within the area.

- **REVIEW STANDARDS:**

  In general, staff found the application to satisfy City subdivision and site plan requirements which are adequate for Sketch Plan Review.

  WAIVERS:

  No waivers are being sought at this time

3. <u>SAMPLE MOTIONS:</u>

The Application before the Board is a “Sketch Plan” so no formal vote is required. However, the Board should provide the Applicant direction regarding any items that should be included in the formal Preliminary Application.

City of Biddeford - Planning Department June 11, 2024

205 Main Street

Biddeford, Maine 04005

RE: 12 Pearl Street- Subdivision Sketch Plan Application

Ethan Scott and King Weinstein of Coastal Oaks, LLC have an agreement to purchase the property located at 12 Pearl Street, a .284 acre parcel with existing three story 21,000 sf brick building located in the MSDR-1 zone, propose a sketch plan application to convert the existing storage/vacant building into 25 +/- residential apartment units. The parcel is currently serviced by public water, sewer, and natural gas.

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Ethan Scott – Owner

Coastal Oaks, LLC

198 Saco Avenue

Old Orchard Beach, ME 04064

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: SKETCH PLAN

Applicant Information:

Name: COASTAL OAKS, LLC
Mailing Address: 198 SACO AVE, OLD ORCHARD BEACH, ME 04064
Telephone: 207-710-7570
Email: ethan scott development@gmail.com
What is your legal interest in the property?
__ Owner ✓ Potential Buyer with Contract __ Lease/Rental Agreement

Owner's Information:

Name: McWILL-McWAY, LLC
Mailing Address: 20 TATE STREET, PORTLAND ME, 04102
Telephone:
Email:

Agent's Information:

Name: TADGEMAN H.A. McWILLIAMS
Mailing Address: 20 TATE STREET #1, PORTLAND ME 04102
Telephone:
Email:

Engineer/Surveyor's Information:

Name: MP DESIGN CONSULTANTS
Mailing Address: 118 TURNPIKE ROAD, SUITE 200, SOUTHBOROUGH, MA 01772
Telephone: 617-560-0778
Email: marc.alencar@mpdconsultants.com

Project Location and Lot Information:

Street Address: 12 PEARL ST Drainage Watershed:
Tax Map: 40 Lot: 72
Current Zoning: MSRD-1 Shoreland Zoning: N/A
Size of Lot: .284 (✓)acres ( )s.f. Lot Frontage: 130'+
Existing Use of Property: STORAGE / VACANT

Property currently serviced by:

✓ City Road ✓ Public Sewer ✓ Public Water ✓ Public Trash
__ Private Road __ Septic System __ Private Well __ Private Hauler

Slope Conditions in Area of Construction (if applicable):
✓ Flat (0-3% slope) __ Rolling (3-8% slope) __ Hilly (8-15% slope) __ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? __ (Yes) ✓ (No) if yes attach information
Is the project within the 100-year floodplain? __ (Yes) ✓ (No) if yes attach information
Do you plan to bring fill onto the lot? __ (Yes) ✓ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

Coastal Oaks proposes a conversion of the existing 3 story storage building into 25 apartment units. The existing footprint will remain the same, with the addition of a 4th story.

Property to be Serviced by:

✓ City Road ✓ Public Sewer ✓ Public Water ✓ Public Trash

__ Private Road __ Septic System __ Private Well __ Private Hauler

Limits of Disturbance: Ø ( )acres (✓)s.f.

Net change in impervious cover: Ø ( )acres (✓)s.f.

Is this project part of a larger project? __(Yes) ✓(No)

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

Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) ✓(Yes) __(No)

Is the project proposing any Stormwater facilities/BMPs? ✓(Yes) __(No)

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

__ **If in a Shoreland Zone:**

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

Percent of structure expansion (Max 30%): _____

__ **If Subdivision Review, number of lots proposed:** _____

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

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

Total new square feet footprint of structure: _____

Total new square feet paving/parking: _____

Waiver Requests (attach details):

1. To be determined
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval N/A Sketch Plan Application
   - __ 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. See cover letter

C. Photographs of Site. N/A Sketch Plan Application

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

E. Engineering Plans, as required. Sketch Plans / Preliminary engineering attached.

F. Stormwater Management Report, as required. N/A Sketch Plan application

Fees (Due at time of Submission):

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

Required Signatures:

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

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

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

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

Signature of Applicant: NS **Date** 6/11/24

Signature of Property Owner: [illegible] **Date** 6/11/24

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

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

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL 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 INDIVIUDAL DRAWINGS REQUIRING BOARD SIGNATURE

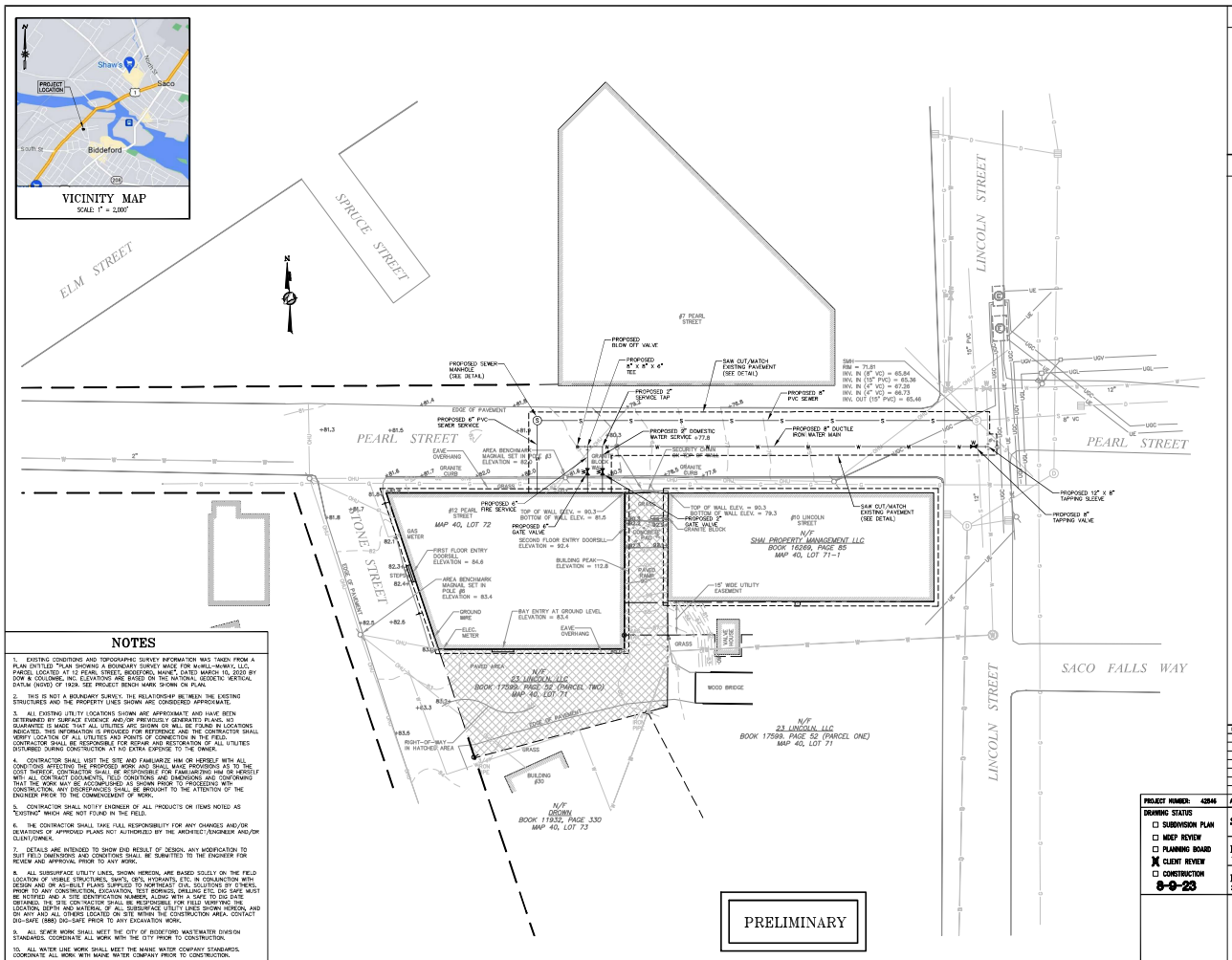
B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

12
PEARL
STREET

WATERBED CITY USA
the sleep PROS

VICINITY MAP
SCALE: 1" = 2,000'



INDEX

1. SITE & UTILITY PLAN
2. PLAN SHOWING A BOUNDARY SURVEY (DOW & COULOMBE, INC.)
3. CONSTRUCTION DETAILS – SHEET 1
4. CONSTRUCTION DETAILS – SHEET 2

LEGEND

	BOUNDARY LINE
	EDGE OF PAVEMENT
	RIGHT-OF-WAY LINE
	ABUTTER
	EXISTING EASEMENT
	EXISTING UTILITY POLE
OHU	EXISTING OVERHEAD UTILITY
UE	EXISTING UNDERGROUND ELECTRIC
UGC	EXISTING UNDERGROUND COMMUNICATIONS
UGV	EXISTING UNDERGROUND VIDEO
UGL	EXISTING UNDERGROUND LIGHTING
	EXISTING GATE VALVE
W	EXISTING WATER LINE
	EXISTING SEWER MANHOLE
S	EXISTING SEWER LINE
	EXISTING CATCH BASIN
	EXISTING DRAIN MANHOLE
D	EXISTING DRAIN LINE
G	EXISTING GAS LINE
76	EXISTING UNDERGROUND VIDEO
+78.8	EXISTING SPOT GRADE
	PROPOSED SEWER MANHOLE
S	PROPOSED SEWER LINE
	PROPOSED GATE VALVE
W	PROPOSED WATER LINE

THIS PLAN IS FOR REVIEW PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR RECORDING

NOTES

1. EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM A PLAN ENTITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR McWILL-McWAY, LLC, PARCEL LOCATED AT 12 PEARL STREET, BIDDEFORD, MAINE", DATED MARCH 10, 2020 BY DOW & COULOMBE, INC. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929. SEE PROJECT BENCH MARK SHOWN ON PLAN.

2. THIS IS NOT A BOUNDARY SURVEY. THE RELATIONSHIP BETWEEN THE EXISTING STRUCTURES AND THE PROPERTY LINES SHOWN ARE CONSIDERED APPROXIMATE.

3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND HAVE BEEN DETERMINED BY SURFACE EVIDENCE AND/OR PREVIOUSLY GENERATED PLANS. NO GUARANTEE IS MADE THAT ALL UTILITIES ARE SHOWN OR WILL BE FOUND IN LOCATIONS INDICATED. THIS INFORMATION IS PROVIDED FOR REFERENCE AND THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES AND POINTS OF CONNECTION IN THE FIELD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND RESTORATION OF ALL UTILITIES DISTURBED DURING CONSTRUCTION AT NO EXTRA EXPENSE TO THE OWNER.

4. 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 CONFORMING 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.

5. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.

6. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND/OR DEVIATIONS OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.

7. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT DETAIL DIMENSIONS AND CONDITIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.

8. ALL SUBSURFACE UTILITY LINES, SHOWN HEREON, ARE BASED SOLELY ON THE FIELD LOCATION OF VISIBLE STRUCTURES, SMH'S, CB'S, HYDRANTS, ETC. IN CONJUNCTION WITH DESIGN AND OR AS-BUILT PLANS SUPPLIED TO NORTHEAST CIVIL SOLUTIONS BY OTHERS. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, DRILLING ETC. DIG SAFE MUST BE NOTIFIED. A DIG SAFE TICKET NUMBER MUST BE PROVIDED WITH A LIST OF DIG DATE DESIGNATED BY A DIG SAFE CONTRACTOR TO PERFORM THE WORK. THE EXACT LOCATION, DEPTH AND MATERIAL OF ALL SUBSURFACE UTILITY LINES SHOWN HEREON, AND ON ANY AND ALL OTHERS LOCATED ON SITE WITHIN THE CONSTRUCTION AREA, CONTACT DIG-SAFE (888) DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

9. ALL SEWER WORK SHALL MEET THE CITY OF BIDDEFORD WASTEWATER DIVISION STANDARDS. COORDINATE ALL WORK WITH THE CITY PRIOR TO CONSTRUCTION.

10. ALL WATER LINE WORK SHALL MEET THE MAINE WATER COMPANY STANDARDS. COORDINATE ALL WORK WITH MAINE WATER COMPANY PRIOR TO CONSTRUCTION.

11. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO THE START OF WORK.

PRELIMINARY

Revision	By	Date	Change
1	SMA	8/9/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846 | ACAD FILE: 42846-SITE.DWG | SCALE: 1" = 20' | DATE: AUGUST 8, 2023

DRAWING STATUS
- ☐ SUBDIVISION PLAN
- ☐ MDEP REVIEW
- ☐ PLANNING BOARD
- ☒ CLIENT REVIEW
- ☐ CONSTRUCTION

8-9-23

Drawing Name: SITE & UTILITY PLAN

Project Name: PROPOSED UTILITY IMPROVEMENTS
12 PEARL STREET, BIDDEFORD, MAINE 04005

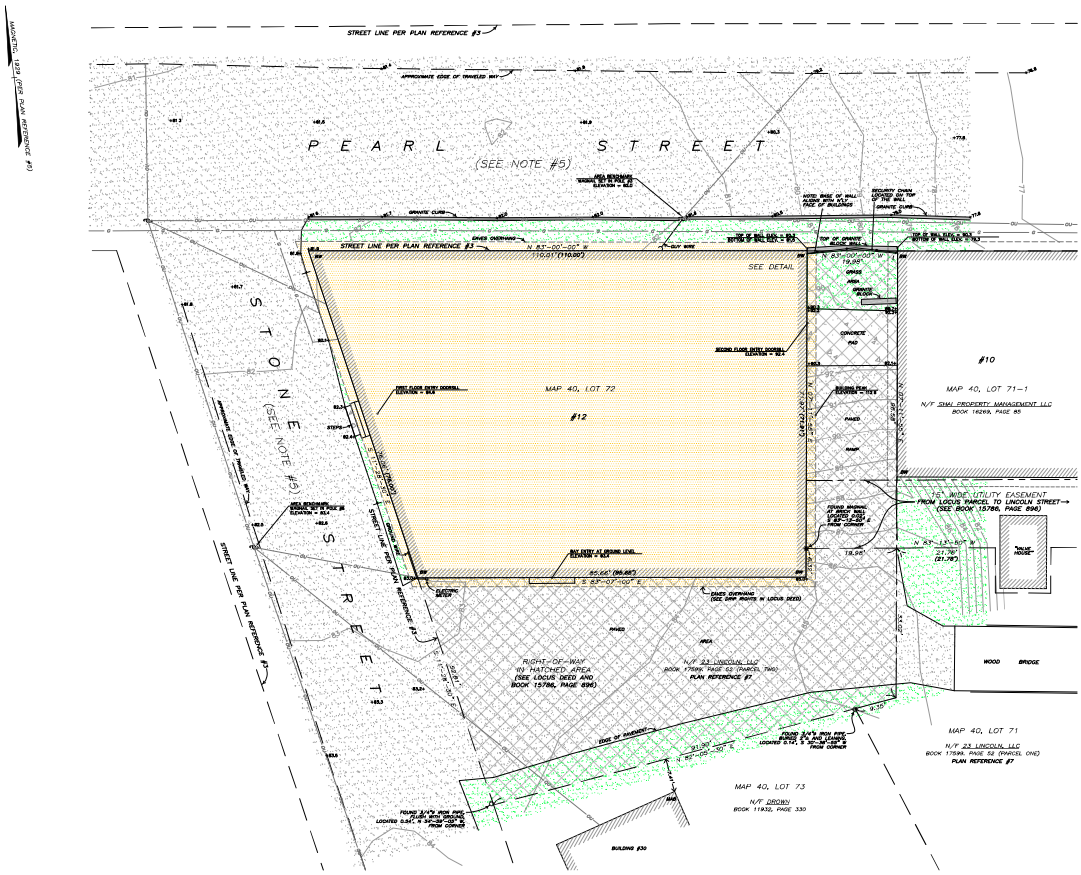
Owner/Applicant: McWILL-McWAY, LLC
20 TATE STREET #1, PORTLAND, MAINE 04102

SURVEYING • ENGINEERING • LAND PLANNING
Northeast Civil Solutions
INCORPORATED
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074
tel 207.883.1000
e-mail / website info@northeastcivilsolutions.com www.northeastcivilsolutions.com

0 20' 40' 80'

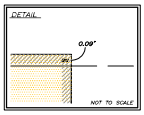
8-9-23

SHEET 1 OF 4



LEGEND :

●	SET IRON ROD WITH CAP (UNLESS OTHERWISE NOTED)
PU	UTILITY POLE
ø	DIAMETER
N/F	NOW OR FORMERLY
BW	BRICKWORK
MAB	METAL OVER ASBESTOS SIDING
—▫—	SIGN
—o—	CHAIN LINK FENCE
—OU—	OVERHEAD UTILITY LINES
—G—	UNDERGROUND GAS (SEE NOTE #9)
—80—	CONTOUR LINE
BG.0+	SPOT ELEVATION (AT PLUS SIGN)



LOCUS DEED REFERENCES :

ATRIX NORTH REALTY LLC
TO
McWILL-McWAY, LLC
JANUARY 2, 2019 BOOK 17874, PAGE 145

SEE ALSO:
BOOK 15786, PAGE 896 (COMMON USE AREA AGREEMENT)

PLAN REFERENCES :

1. "PLAN SHOWING LAND ON PEARL & STONE STS. BIDDEFORD-MAINE", DATED SEPTEMBER 14, 1940 BY LIBBY & DOW AND RECORDED AT YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 15, PAGE 6.
2. "PLAN SHOWING LAND ON PEARL & LINCOLN STS. BIDDEFORD, MAINE", DATED MAY 1, 1941 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 15, PAGE 9.
3. "PLAN SHOWING LAND CONVEYED IN A PROPOSED SALE BY THE PEPPERELL MANUFACTURING CO. TO THE CITY OF BIDDEFORD", DATED JANUARY 19, 1946 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 14, PAGE 18.
4. "PLAN SHOWING LAND ON LINCOLN STREET BIDDEFORD-MAINE", DATED MAY 2, 1949 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 15, PAGE 28.
5. "PLAN OF LAND MADE FOR HENRY R. & MURIEL P. PELLETIER BIDDEFORD-MAINE", DATED NOVEMBER 20, 1991 BY DOW & COULOMBE, INC.
6. "12 PEARL STREET, BIDDEFORD, MAINE – FOR: VACATION PROPERTIES, INC. – PROPOSED SITE DEVELOPMENT AND SUBDIVISION PLAN", DATED JUNE 21, 2007 AND REVISED AUGUST 15, 2007 AND SEPTEMBER 19, 2007 BY ASSOCIATED DESIGN PARTNERS INC. AND RECORDED AT Y.C.R.D. IN PLAN BOOK 324, PAGE 33.
7. "PLAN SHOWING A BOUNDARY SURVEY MADE FOR THE 23 LINCOLN STREET, LLC", DATED APRIL 7, 2015, BY DOW & COULOMBE, INC.

NOTES :

1. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS SURVEY CONFORMS TO STATE OF MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS' STANDARDS FOR A SPECIAL FLOOD HAZARD AREA. EXCEPTIONS: A PROPOSED LEGAL DESCRIPTION WAS NOT PREPARED. A SURVEYOR'S REPORT WAS NOT PREPARED.
2. AREA EQUALS 7,050 SQUARE FEET OR 0.161 ACRE.
3. ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929
4. INFORMATION IN PARENTHESES COPIED FROM DEED AND PLAN REFERENCES.
5. ACCORDING TO A DOCUMENT FROM THE CITY CLERK'S OFFICE DATED APRIL 7, 1958 PEARL STREET AND STONE STREET WERE ACCEPTED AS PUBLIC STREETS. THE MEASUREMENTS DESCRIBED IN SAID DOCUMENT MATCH PLAN REFERENCE #3.
6. ACCORDING TO THE LOCUS DEED, THE SUBJECT PARCEL WAS CONVEYED TOGETHER WITH A RIGHT OF WAY OVER A STRIP OF LAND LYING SOUTHERLY AND EASTERLY OF THE SUBJECT PARCEL, SHOWN AS THE HATCHED AREA ON THIS PLAN. SEE LOCUS DEED AND BOOK 15786, PAGE 896 FOR MORE DETAILS AND CONDITIONS.
7. ACCORDING TO THE LOCUS DEED, THE SUBJECT PARCEL WAS CONVEYED TOGETHER WITH THE RIGHT FOR THE EAVES ON THE BUILDING TO DRIP ON TO THE ADJOINING LAND. SEE SAID DEED FOR MORE DETAILS.
8. ACCORDING TO THE LOCUS DEED AND THE "COMMON USE AREA AGREEMENT" FOUND IN DEED BOOK 15786, PAGE 896, THE SUBJECT PARCEL IS SUBJECT TO TERMS, CONDITIONS, AND EASEMENTS.
9. THE UNDERGROUND GAS LINE SHOWN IS BASED ON PAINT MARKS FOUND ON THE PAVEMENT.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

No.	Revision	Date

STATE OF MAINE
PETER
COLE TONY
DOW
Date: 2020.03.10
LICENSED
PLS 2166
PROFESSIONAL LAND SURVEYOR

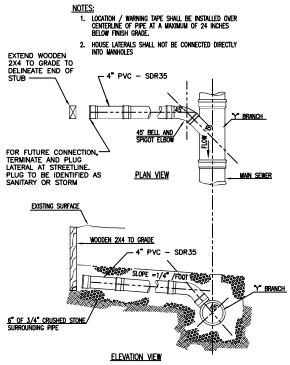
PLAN SHOWING A BOUNDARY SURVEY MADE FOR
McWILL–McWAY, LLC
(MAILING ADDRESS: C/O STEVE BLAIS, BLAIS CIVIL ENGINEERS
21 CLIFFORD STREET, SUITE 2, BIDDEFORD, ME 04074)
PARCEL LOCATED AT 12 PEARL STREET
BIDDEFORD MAINE

Dow & Coulombe, Inc.
Land Surveyors & Land Planners Since 1864
15 Park Street, Saco, Maine 04072
Tel: (207) 282-5127 Fax: (207) 282-4252
info@dow-coulombe.com • www.dow-coulombe.com

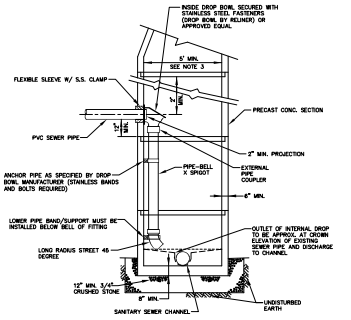
Date: MARCH 10, 2020
H. Scale: 1" = 10'
Drawn by: JWS
Chk'd by: MJC
Appv'd by: PDD
SHEET 1 OF 1

ZONE–10
Dwgs0020, BLAIS10

NOTES:
1. LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. HOUSE LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES

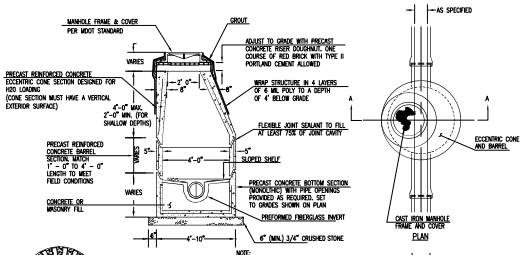


TYPICAL SANITARY SEWER
HOUSE LATERAL "Y" CONNECTION DETAILS
NOT TO SCALE



NOTES:
1. DROP MANHOLE INSIDE DIAMETER IS TO BE 5 FEET.
2. DIMENSIONS AND CONSTRUCTION OF DROP MANHOLE TO BE SIMILAR TO TYPICAL MANHOLE EXCEPT AS SHOWN.
3. SUBMIT SHOP DRAWINGS PRIOR TO CONSTRUCTION.
4. INTERNAL DROP REQUIRES PERMISSION FROM SEWER DEPARTMENT PRIOR TO USE.
5. CONE REPLACEMENT AND/OR REPOSITIONING MAY BE REQUIRED.
6. MINIMUM INSIDE DROP TO BE 24" (INVERT OF THE INCOMING PIPE TO THE INVERT OF THE OUTLET OF THE INTERNAL DROP).

DROP SEWER MANHOLE INSIDE CONNECTION
N.T.S.



NOTE:
PRIOR TO PLACING BACKFILL, SEWER MANHOLE SHALL BE WRAPPED IN 4 LAYERS OF 6 MIL. PLOYETHYLENE TO A DEPTH OF 5' BELOW GRADE

NOTE:
JOINTS SHALL BE STAGGERED FOR EACH COURSE

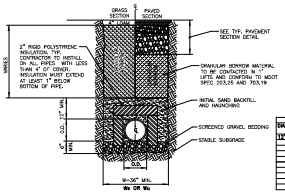
NOTE:
1. ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS. CHANNEL TO BE SHAPED TO ACCEPT ADDITIONAL INLET PIPES.
2. MANHOLE FRAME & COVER PER MDOT STANDARD
3. PROVIDE 2' LONG (MIN.) STUBS FOR ALL PIPES ENTERING OR LEAVING SEWER MANHOLES
4. THE MANHOLES SHALL BE VACUUM TESTED AND THE SEWER PIPELINE TESTED USING A LOW PRESSURE AIR TEST IN ACCORDANCE WITH TOWN SPECIFICATIONS.
5. FOR SHALLOW MANHOLES, A 2' CONE MAY BE USED.
6. FLEXIBLE RUBBER BOOT OR APPROVED EQUAL SHALL BE EQUIPPED WITH A MINIMUM OF 2 STAINLESS STEEL BANDS

NOTE:
ALL SEWER PIPES SHALL BE INSTALLED WITH THE BELLS UPGRADIENT.

CATCH BASIN/DRAIN MANHOLE DIMENSIONAL REQUIREMENTS		
I.D.	WALL WIDTH	FLOOR THICKNESS
4'–0"	5"	6"
5'–0"	6"	6"
6'–0"	7"	6"
8'–0"	8"	8"
10'–0"	10"	9"

NOTE:
MANHOLE, FRAME AND COVER SHALL BE DESIGNED TO WITHSTAND HS–20 LOADING.

PRECAST CONCRETE SEWER MANHOLE TYPE "A"
NOT TO SCALE

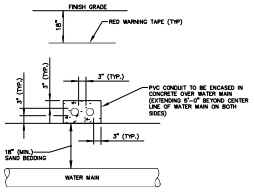


SEWER TRENCH SECTION
N. T. S.

TRENCH WIDTH Wa OR Wu		
DIAMETER OF PIPE D	Wa UNSHEETED	Wu SHEETED
12" AND SMALLER	2'–0"	2'–0"
18"	2'–3"	2'–3"
24"	2'–6"	2'–6"
30"	2'–9"	2'–9"
36"	3'–0"	3'–0"
42"	3'–3"	3'–3"
48"	3'–6"	3'–6"
54"	3'–9"	3'–9"
60"	4'–0"	4'–0"
72"	4'–6"	4'–6"
48"	5'–0"	5'–0"

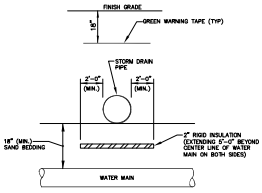
TRENCH WIDTH DATA

NOTES:
1. MAINTAIN MIN. 5'–0" COVER OVER WATER MAIN. INSTALL DEEPER IF REQUIRED TO MAINTAIN 18" SEPARATION AT UTILITY CROSSING. REFER TO TYPICAL WATER MAIN TRENCH SECTION.
2. REFER TO UNDERGROUND CONDUIT DETAILS.



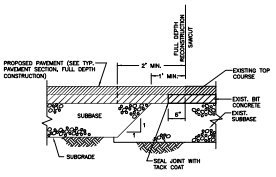
WATER/ELECTRIC & COMMUNICATIONS CONDUIT CROSSING DETAIL
NOT TO SCALE

NOTES:
1. MAINTAIN MIN. 5'–0" COVER OVER WATER MAIN. INSTALL DEEPER IF REQUIRED TO MAINTAIN 18" SEPARATION AT UTILITY CROSSING. REFER TO TYPICAL WATER MAIN TRENCH SECTION.
2. REFER TO TYPICAL STORM DRAIN TRENCH SECTION.



WATER/STORM DRAIN CROSSING DETAIL
NOT TO SCALE

PRELIMINARY



NOTE: PER MDOT ITEM 403

SAWCUT & PAVEMENT MATCH DETAIL
N.T.S.

THIS PLAN IS FOR REVIEW PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR RECORDING

Revision	By	Date	Change
1	SMA	8/8/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846	ACAD FILE: 42846-DETAILS.DWG	SCALE: AS NOTED	DATE: AUGUST 8, 2023

Drawing Name:
CONSTRUCTION DETAILS – SHEET 1

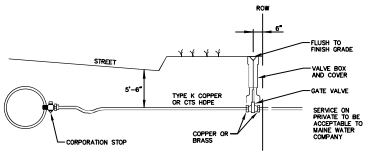
Project Name and Location:
PROPOSED UTILITY IMPROVEMENTS
12 PEARL STREET, MIDDLETON, MAINE 04005

Prepared For:
McWILL–McWAY, LLC
20 TATE STREET #1, PORTLAND, MAINE 04102

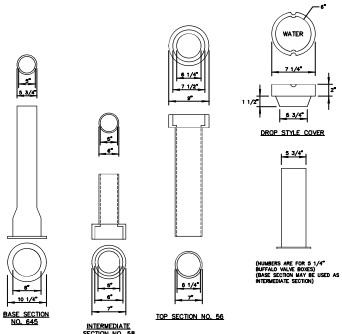
SURVEYING ⊕ ENGINEERING ⊕ LAND PLANNING
Northeast Civil Solutions
INCORPORATED
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074
tel 207.883.1000
e–mail / website
info@northeastcivilsolutions.com
www.northeastcivilsolutions.com

8–2–23

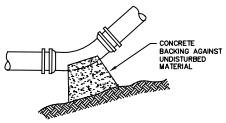
SHEET 3 OF 4



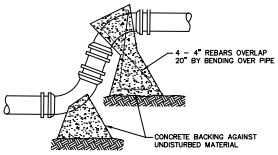
TYPICAL SERVICE CONNECTION
NOT TO SCALE



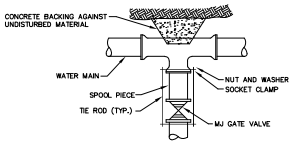
VALVE BOX & COVER
NOT TO SCALE



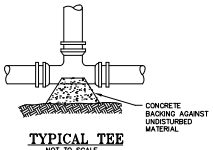
TYPICAL BEND
NOT TO SCALE



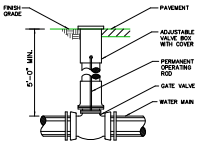
TYPICAL OFF-SET
NOT TO SCALE



TYPICAL VALVE CONNECTION
RESTRAINED JOINT TEE
NOT TO SCALE

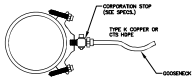


TYPICAL TEE
NOT TO SCALE

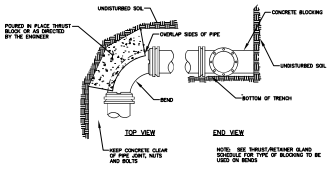


NOTE: UNLESS OTHERWISE INDICATED ALL GATE VALVES SHALL HAVE PERMANENTLY INSTALLED OPERATING RODS TERMINATING AT LEAST 2'-0" AND NOT MORE THAN 3'-0" BELOW THE TOP OF THE VALVE BOX.

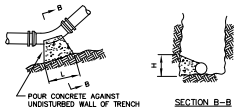
BURIED GATE VALVE
NOT TO SCALE



SERVICE SADDLE
(2" C.C. OR IRON PIPE THREAD)



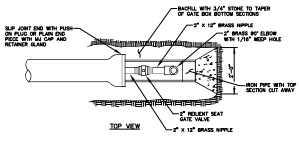
STANDARD BEND BLOCKING
NOT TO SCALE

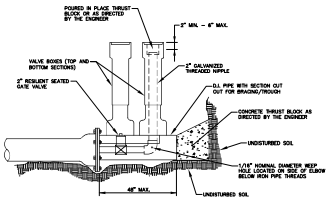


BEARING AREAS - SQUARE FEET					
NOMINAL DIAMETER OF FITTING	FITTING				
	DEAD END	BRANCH OF TEE	90° BEND	45° BEND	BEND SMALLER THAN 45° GREATER THAN 10°
6"	2	2	3	2	2
8"	4	4	5	3	2
10"	6	6	8	4	2
12"	8	8	10	6	3
14"	12	12	16	9	4
16"	12	12	20	10	5

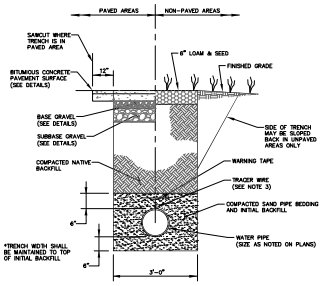
NOTES
1. ALL BENDS, TEE HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
2. BEARING AREA IS AREA OF CONCRETE IN CONTACT WITH WALL OF TRENCH=H×L.
3. HEIGHT (H) AND LENGTH (L) AS REQUIRED TO OBTAIN BEARING AREA IN TABLE.

THRUST BLOCK DETAILS
NOT TO SCALE



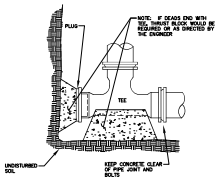


STANDARD 2" BLOW OFF
NOT TO SCALE



NOTES:
1. APPLIES AT ROADWAYS, DRIVEWAYS, SIDEWALKS, AND LANDSCAPED AREAS.
2. SAND AND BACKFILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 12 INCHES IN DEPTH AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. BASE AND SUBBASE MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN DEPTH AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
3. NONMETALLIC PIPE SHALL BE PARALLELED BY A METALLIC TRACER WIRE GROUNDED TO METAL AT THE CURB STOP VALVE AND INTERIOR PLUMBING. TRACER WIRE SHALL BE 12 AWG STRANDED COPPER WITH AN HMW-PE JACKET.

WATER TRENCH
NOT TO SCALE



STANDARD TEE BLOCKING
NOT TO SCALE

PRELIMINARY

THIS PLAN IS FOR REVIEW PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR RECORDING

Revision	By	Date	Change
1	SMA	8/8/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846 | ACAD FILE: 42846-DETAILS.DWG | SCALE: AS NOTED | DATE: AUGUST 8, 2023

Drawing Name:
CONSTRUCTION DETAILS - SHEET 2

Project Name and Location:
PROPOSED UTILITY IMPROVEMENTS
12 PEARL STREET, BIDDEFORD, MAINE 04005

Prepared For:
McWILL-McWAY, LLC
20 TATE STREET #1, PORTLAND, MAINE 04102

SURVEYING • ENGINEERING • LAND PLANNING
Northeast Civil Solutions
INCORPORATED
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074
tel 207.883.1000
e-mail / website info@northeastcivilsolutions.com www.northeastcivilsolutions.com

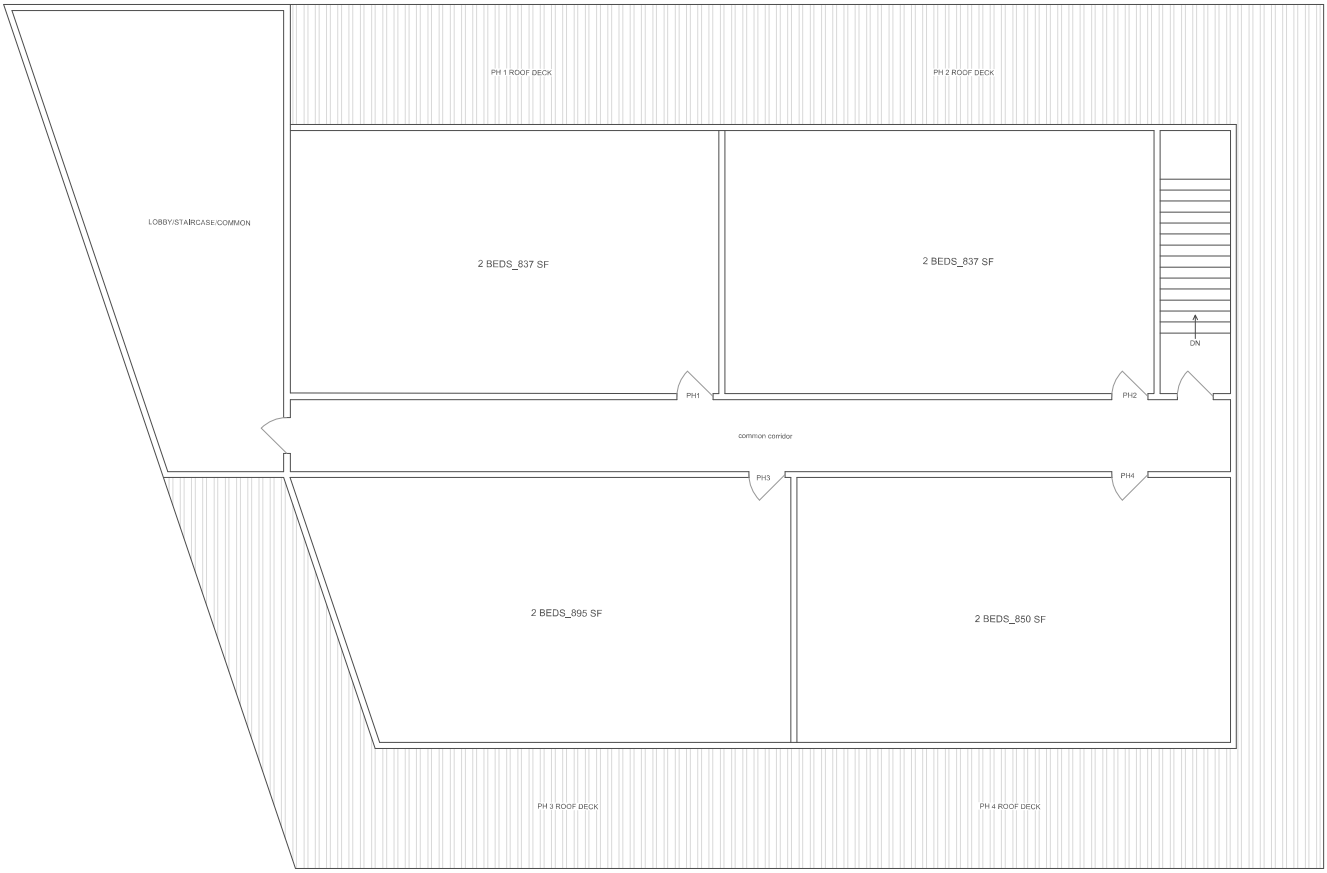
8-8-23

SHEET 4 OF 4

E:\LAND PROJECT\DWG\DWG\DWG 12 PEARL STREET - BIDDEFORD\PLANSET\DWG-DETAILS.DWG

1ST FLOOR PLAN

2ND AND 3RD FLOORS


PH 1 ROOF DECK
PH 2 ROOF DECK
LOBBY/STAIRCASE/COMMON
2 BEDS_837 SF
2 BEDS_837 SF
DN
PH1
PH2
common corridor
PH3
PH4
2 BEDS_895 SF
2 BEDS_850 SF
PH 3 ROOF DECK
PH 4 ROOF DECK

TOP FLOOR

June 06, 2024

Coastal Oaks LLC
12 Pearl Street
Biddeford, Maine, 04005

Parking at P4301- 15 Pearl Street Garage

To Whom It May Concern,

This official notice is confirming Premium Parking location P4301- 15 Pearl Street Garage to be used for up to approximately 30 parking spaces by residents of Coastal Oaks LLC. This parking location has adequate capacity to accommodate these needs.

Respectfully,

Tony Rock
Account Manager
Premium Parking

ORIGINAL DOCUMENT HAS A SECURITY VOID BACKGROUND PANTOGRAPH, MICROPRINTED BORDER - SEE REVERSE SIDE FOR COMPLETE SECURITY FEATURES

Coastal Oaks, LLC
Ph. 207-934-7622
198 Saco Avenue
Old Orchard Beach, ME. 04064

Saco & Biddeford Saving
2 Portland Ave
Old Orchard Beach, ME 04064

001628

6/12/2024

PAY TO THE ORDER OF City of Biddeford **75.00

$

Seventy-Five and 00/100********** DOLLARS

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

Security features included. Details on back.

SECURE SECURE SECURE SECURE

MEMO: 12 Pearl St Sketch plan application

AUTHORIZED SIGNATURE

⑈001628⑈ ⑆211272630⑆ 9000027227⑈

THIS DOCUMENT CONTAINS HEAT SENSITIVE INK. TOUCH OR PRESS AND RED IMAGE DISAPPEARS WITH HEAT.

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: July 10, 2024

RE: 2024.29 Preliminary Site Plan - Subdivision Review for Westbrook Development Corporation (WDC) / Proposed Construction of affordable housing at 37 Barra Road (Tax Map 2, Lot 42), in the I-3 Zone / Contract Zone #24.

MEETING DATE: July 17, 2024 at 6:00 PM

---

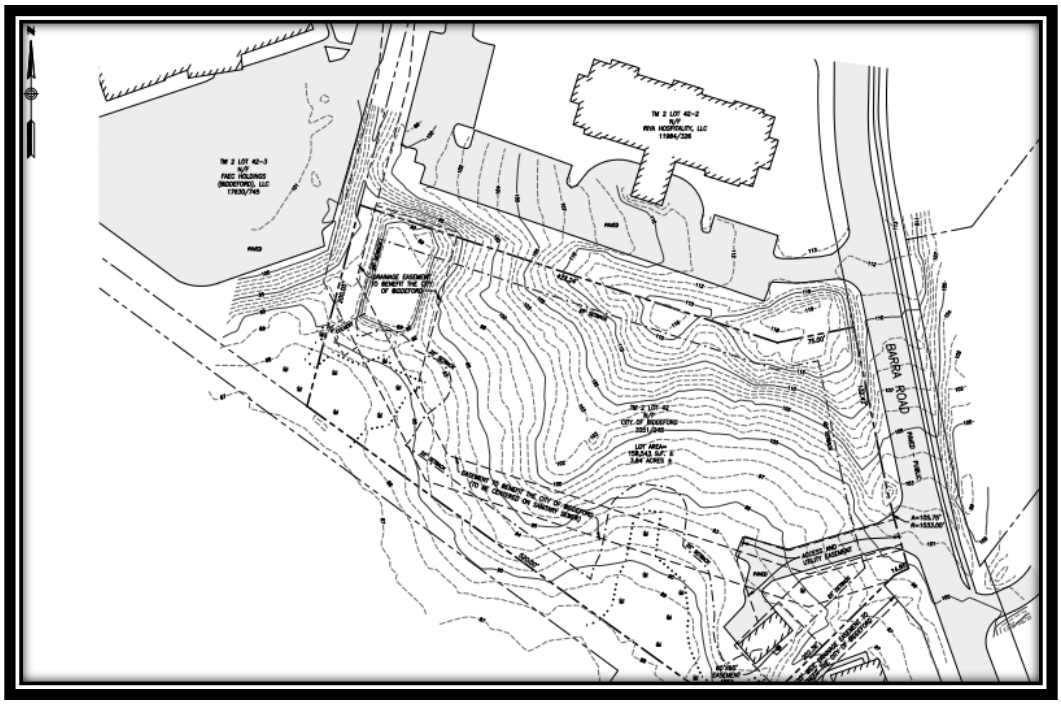
1. INTRODUCTION

The Westbrook Development Corporation (Developer), Thatcher Brook Apartments I, LP (Owner), and Thatcher Brook Apartments II, LP (Owner), Gorrill Palmer, collectively referred to as "WDC" or "Applicant/s", are pleased to make this Preliminary Site Plan and Subdivision submission for the proposed 76-unit multi family residential development project at 37 Barra Road (Tax Map 2, Lot 42), Biddeford, ME. Gorrill-Palmer has been retained and authorized by the Applicant to perform all work necessary to submit this application. An initial Sketch Plan submission was made in May 2024 and reviewed at the June 5th, 2024, Planning Board meeting. The subject property is located within the City's I-3 Zoning district and the proposed residential development will require the review and recommendation from Planning Board to the City Council for the approval of the proposed Contract Zone #24, which is part of this application.

The proposed project will develop two (2) new multi-family apartment buildings totaling 76-units utilizing the MSHA low-income housing tax credit program. One building will provide affordable non-age restricted housing units and the other will provide affordable senior housing units for those aged 55+. PROJECT DESCRIPTION The parcel, located at 37 Barra Road, is currently owned by the City of Biddeford and is approximately 3.65-acres. The parcel is identified as Map 2, Lot 42 according to the City of Biddeford's Assessor's Maps. The subject lot was created and identified as Lot #1 in a City of Biddeford subdivision which was created in 1999 and received a MeDEP SLDA Permit1 at that time. The subdivision was known as the Exit 4 Business Park and is now more frequently known as the Thatcher Brook Business Park. The site is within the I3 – Commercial Industrial Zone. Westbrook Development Corporation has requested a contract zone to build the proposed plan. A copy of the Option to Purchase Agreement is included in Attachment B of the Applicant's Preliminary application. The applicant has provided a well written and detailed narrative of their project, which is located in their Preliminary Application. The application also provides an overview of each of the Site Design Criteria § XI-II.-5B. and Subdivision Review Requirements § 66-39 (d).

Case 2024.29 Preliminary Site Plan - Subdivision Review for Westbrook Development Corporation (WDC) / Proposed Construction of affordable housing at 37 Barra Road (Tax Map 2, P/O Lot 42), in the I-3 Zone / Contract Zone #24.

Planning Board Hearing date: July 17, 2024.



Existing Conditions Plan – 37 Barra Road

The subject property is currently owned by the City of Biddeford and the development would require the purchase of the land. The property is 3.65-acres in area and is located within the City's I-3 Zoning District. The property is currently vacant, except for a sewer pump station (building) with a small, paved access drive / parking area. The lot includes an access and utility easement for the pump station and associated parking in addition to an "easement to benefit the City of Biddeford (to be centered on sanitary sewer)" approximately 30' wide. The remainder of the land remains undeveloped.

The proposal includes the construction of two (2) multi-story buildings with a total of up to 80 units of affordable rental housing. As stated in their application narrative; *"Our team aims to develop two new multifamily apartment buildings consisting of up to 80 units of affordable rental housing. This site, currently owned by the City of Biddeford, is an excellent location for such a development due to its existing infrastructure, bus lines, and proximity to various amenities and employment opportunities".* The application also describes the population they serve, stating, *"Our concept envisions 100% of the proposed units to be reserved as affordable housing. The existing funding sources managed by Maine Housing typically require affordability to be set for households earning up to 50% and 60% of Area Median Income (AMI)".* The proposed plans illustrate 36-units within a 9,667 square foot building footprint, located within the western ½ of the lot and a 40-unit building with a 10,852 square foot footprint parallel to Barra Road.

Case 2024.29 Preliminary Site Plan - Subdivision Review for Westbrook Development Corporation (WDC) / Proposed Construction of affordable housing at 37 Barra Road (Tax Map 2, P/O Lot 42), in the I-3 Zone / Contract Zone #24.

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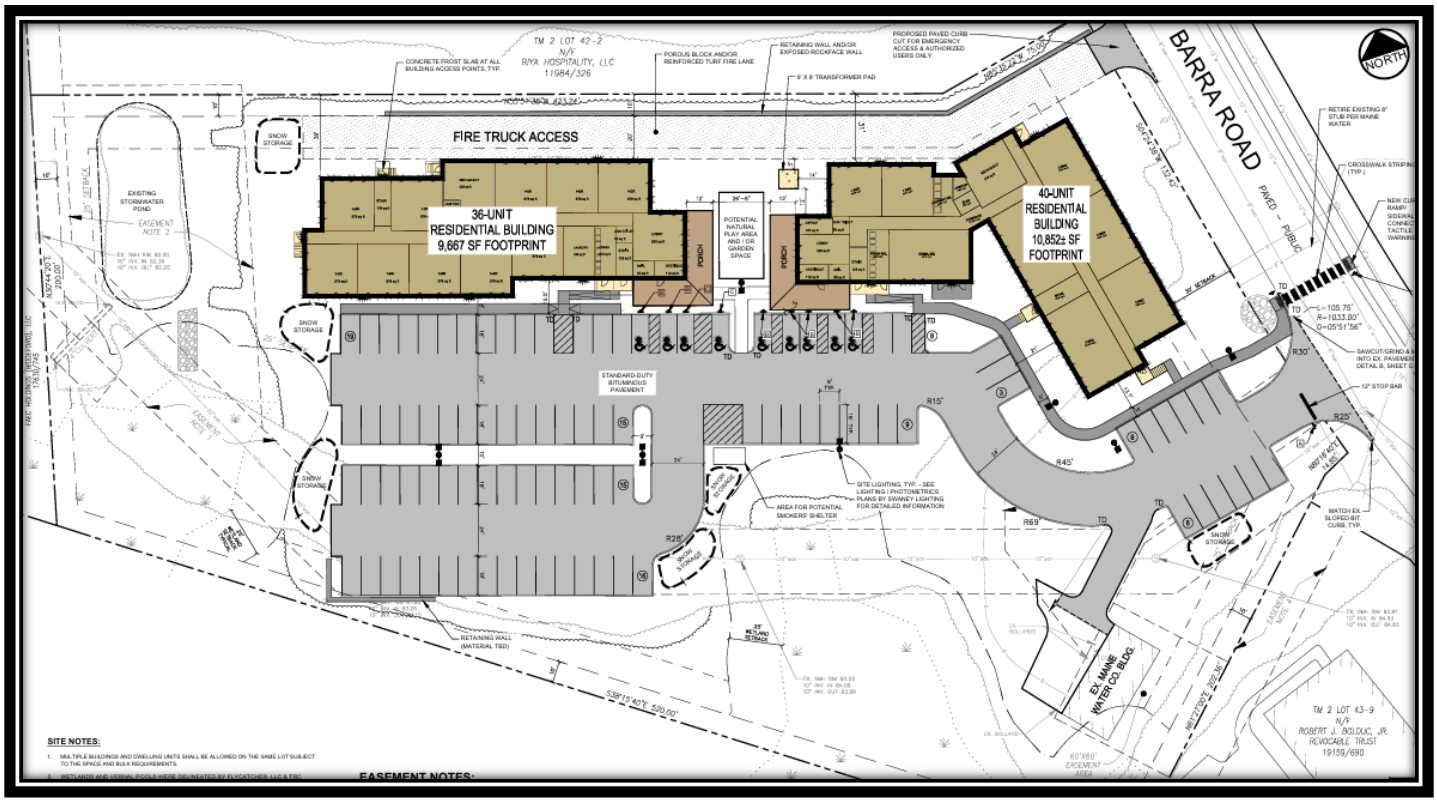

WDC – Preliminary Plan - 37 Barra Road – Revised Parking Design and Emergency Access

The Applicants have been working with the City's Fire Department to amend the site design to provide emergency access and maneuverability on site. Shown above is the revised / preliminary site plan, illustrating the following features:

A. An emergency access fire lane is provided along the northern property line with fire department connections on the rear (north) of the buildings.
B. A drive aisle / fire lane has been illustrated along the front (south) of both buildings.
C. The central parking lot has been redesigned to provide an emergency vehicle turn-around.
D. Snow storage areas are illustrated on the plans.
E. A "potential natural play area or garden space", has been placed between the two buildings, adjacent to the front / side porches of the buildings.
F. Site lighting.
G. As suggested by the Planning Board, the interior sidewalk system has been proposed pedestrian crosswalk from the property, crossing Barra Road and connecting to the existing Barra Road sidewalk system has been added.

Case 2024.29 Preliminary Site Plan - Subdivision Review for Westbrook Development Corporation (WDC) / Proposed Construction of affordable housing at 37 Barra Road (Tax Map 2, P/O Lot 42), in the I-3 Zone / Contract Zone #24.

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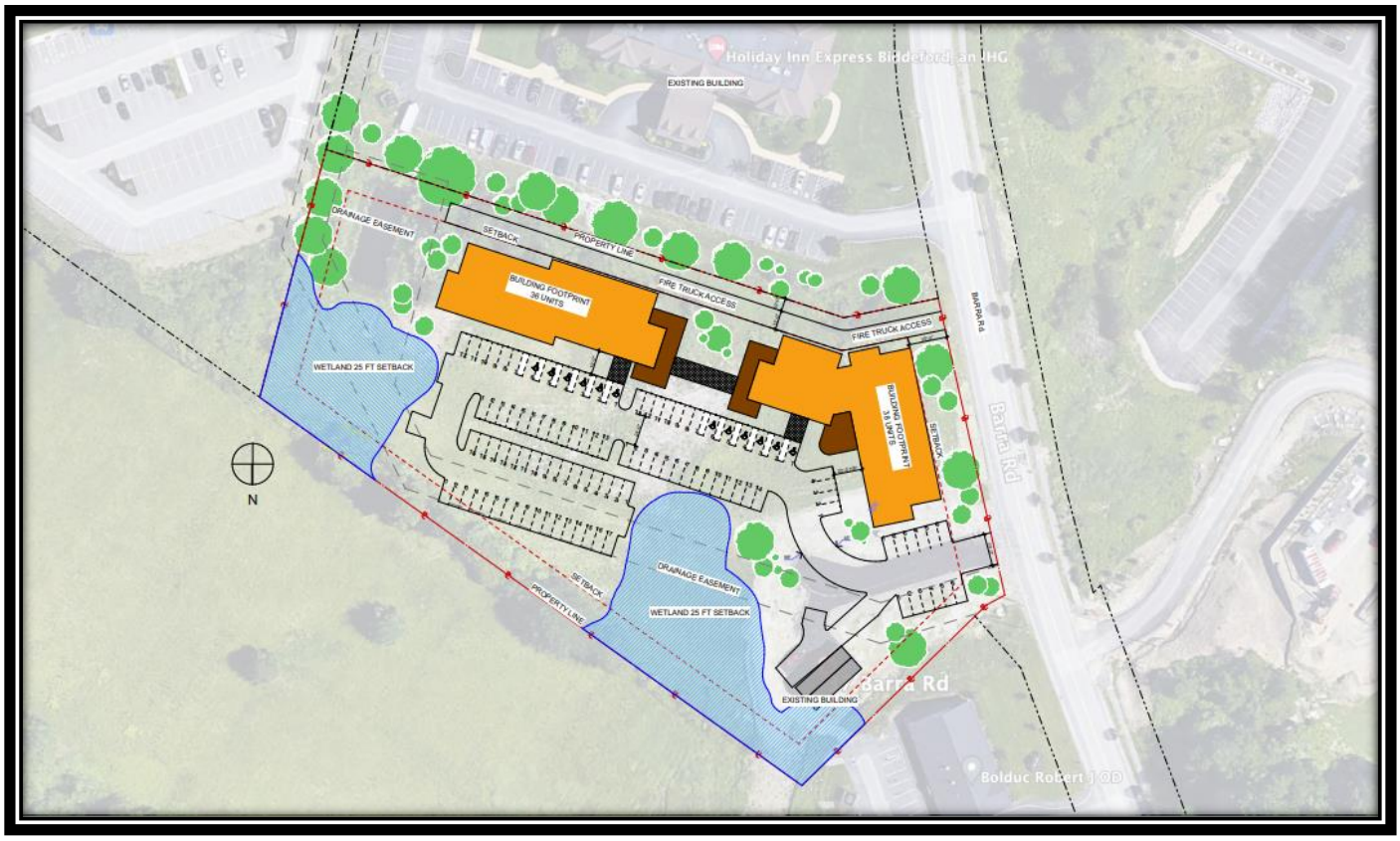

WDC – Sketch Plan - 37 Barra Road - Wetlands Identified in Blue and Original Parking Design

The Application goes on to outline their proposal as:

Development Proposal *Our development plan includes two distinct buildings:*

1. *Senior Housing Building: Reserved for residents aged 55 and older, this 36-unit building will consist entirely of one-bedroom apartments. This design is intended to cater to the needs of seniors, providing them with comfortable, manageable living spaces.*

2. *Mixed-Use Family Building: This 38-unit building will not be age-restricted and will offer a mix of one-bedroom, two-bedroom, and three-bedroom units. Specifically, 50% of the units will be one-bedroom, while the remainder will be two-bedroom and three-bedroom units. This mix is designed to accommodate a variety of family sizes and living arrangements, ensuring broad community appeal.*

The buildings will have community spaces, air conditioning, outdoor seating areas, indoor trash rooms, laundry rooms, and free Wi-Fi for telemedicine services. The buildings will be designed with energy efficiency in mind utilizing efficient electric HVAC heating and cooling systems and will target other energy efficiency goals like high end insulation, roof top solar panels, and conduits for future EV charging stations. Utilities will be included in tenant's rent as a means to help keep all of their housing costs both predictable and affordable.

Accessibility and Infrastructure: *The site is exceptionally well-positioned to support affordable housing due to its accessibility to key infrastructure:*

• Public Transportation: The site is well served by existing bus routes along Barra Road, which is crucial for residents who rely on public transit.
• Utilities: The land is serviced by public water and sewer systems, and three-phase power is available, providing reliable and efficient utilities for the buildings.
• Proximity to Highway: The site's closeness to the highway enhances connectivity, making it easier for residents to travel to and from work and other destinations.
• Nearby Amenities: The area is surrounded by employment opportunities and amenities suitable for both families and seniors, such as shopping centers, healthcare facilities, and recreational areas.

Traffic Review and Parking Analysis: The preliminary application provides a traffic analysis which is being reviewed by the City's Peer Review Traffic Engineer.

WDC's Desired Project Approvals: The Applicant's goal is to receive all their municipal and state approvals by August 23rd in order to be eligible to apply for Maine Housing's annual funding round in September 2024. They note that funding is extremely competitive and there are always more deserving projects than there is funding available. As such, it is not uncommon for projects to need to reapply more than once for Maine Housing funding. The proposed development will also require approval of the proposed Contract Zone (#24), currently under review with this application.

It should be noted that this development proposal came together following a phone call from the George Gervais, the City's Economic Development / Planning Director, to WDC following their denial of a similar project in another community whose residents voted against the low / moderate income housing project. Seeing the need for affordable housing, which remains a high priority of the City Council, Mr. Gervais reached out to WDC's representatives, and was a natural fit to attract the Applicant to Biddeford. As such, the Applicants are seeking to get all municipal approvals by August 23, 2024 to enable the project to be eligible grant funding for September 2024.

3. PROJECT DATA/INFORMATION

1.	Applicant:	Westbrook Development Corporation 30 Liza Harmon Drive Westbrook, ME 04092
2.	Owner of Property:	City of Biddeford
3.	Agent:	Owen Haskell, Inc.
4.	Surveyor:	Owen Haskell, Inc. – Professional Land Surveyors
5.	Project Location:	37 Barra Road
6.	Project Tax Map #/Lot #:	Tax Map 2, Lot 42
7.	Lot Size:	3.65 Acres
8.	Base Zoning:	I-3
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant Lot
11.	Proposed Use:	Affordable Housing
12.	Approvals Required:	Site Plan and Subdivision Review
13.	Uses in the Vicinity:	Mixed use, commercial, medical
14.	Waivers Needed:	TBD
18.	Waivers Granted:	None at this time

22.	Other Non-City Permits Required:	N/A
23.	LDR Attachment A: Fees Paid:	Yes
25.	Planning Board Review History: 6-5-24 Sketch Plan 7-17-24 Preliminary Plan Review 8-7-24 (ANTICIPATED- Final Plan Review)	

4. REVIEW PROCESS

Per City ordinance, this application is subject to Site Plan (Land Development Regulations, Article XI) and Subdivision Review (Chapter § 66-39) which review approval by the Planning Board. This requires the following:

A. Site and Subdivision Sketch Plan Review;
B. Site and Subdivision Preliminary Review and;
C. Site and Final Review.
D. Contract Zone: The project will also require a Contract Zone which will, require City Council approval following Planning Board review and recommendation.

5. Pending Items:

A. Thatcher Brook Watershed Impact Fees (TBD)

B. Street Opening and Sewer Impact Fees (TBD)

C. Traffic and Parking Peer Review Comments

D. Submittal of a Landscape Plan, including common and botanical names and vegetation sizes at installation. All plant species shall be native to Maine.
E. Final use of the "potential natural play area or garden space" proposed to be located between the two buildings, adjacent to the front / side porches of the buildings.
F. City Attorney review of proposed Contract Zone #24.

6. Recommended Motions:

A. Motion to Approve: I motion to APPROVE Case # 2024.29 Preliminary Site Plan and Subdivision Review for Westbrook Development Corporation (WDC) for the proposed construction of 80+/- affordable housing at 37 Barra Road (Tax Map 2, Lot 42), in the I-3 Zone and forward a positive recommendation to the City Council to approve Contract Zone #24.

B. Motion to Deny I motion to DENY Case # 2024.29 Preliminary Site Plan and Subdivision Review for Westbrook Development Corporation (WDC) for the proposed construction of 80+/-affordable housing at 37 Barra Road (Tax Map 2, Lot 42), in the I-3 Zone and forward a positive recommendation to the City Council to approve Contract Zone #24, for the following reasons:

1) _____.
2) _____.
3) _____.

C. Motion to Table: I motion to TABLE # 2024.29 Preliminary Site Plan and Subdivision Review for Westbrook Development Corporation (WDC) for the proposed construction of 80+/-affordable

housing at 37 Barra Road (Tax Map 2, Lot 42), in the I-3 Zone and forward a positive recommendation to the City Council to approve Contract Zone #24, for the following reasons:

1) _____.
2) _____.
3) _____.

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST *LAST REVISED: 05/17/23*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing submittal information with non-acceptable reasoning will be rejected.
4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	37 Barra Road - Residential Development
Planning Board # (if available):	
Applicant Name/Info:	Westbrook Development Corporation, Thatcher Brook Apartments I, LP, Thatcher Brook Apartments II, LP
Submittal #/Type (Prelim/Final):	Preliminary Site/Subdivision Plan
Submittal Date:	06.26.2024

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	**GENERAL PLAN REQUIREMENTS**				
A	Drawing specific legends (linetypes, hatches, etc.)	Y			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	Y			
C	North arrows, standard engineering scale viewports, dated revision blocks	Y			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	Y			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	Y			
2	**COVER SHEET**				
A	Project Name & Property Address	Y			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Y			
C	Site Location Map	Y			
D	Sheet Set List of Drawings	Y			
E	Tax Map and Lot ID	Y			
F	Zoning & Shoreland Zone Information	Y			
G	Existing Use Description	Y			
H	Proposed Use Description	Y			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	N			
J	Name of Drainage Watershed	Y			
K	Within the MS4 Urbanized Area (Yes/No)	Y			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	N			
M	Within the 100-year Flood Zone (Yes/No)	N			
N	Public Road Proposed (Yes/No)	N			
O	Private Road Proposed (Yes/No)	N			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	N	Project connects to an existing onsite stormwater basin		
Q	Public Storm Drain Connection (Yes/No)	Y			
R	Limits of Disturbance in acres	Y			
S	Pervious Land Cover square footage, existing and proposed	Y			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Y			
U	Building Roof square footage, existing and proposed	Y			
V	Assigned Planning Board Number				
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
3	**EXISTING CONDITIONS PLAN**				
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Y			
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	N	Not provided on survey plan, will be provided in coordination with contractor		
C	Property & Right-of-Way Lines	Y			
D	Boundary line information (bearings, distances, etc.)	Y			
E	Property pin and monumentation locations	Y			
F	Existing easements with proper ownership identified	Y			
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Y			
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
I	100-year Flood Zone Limits & Elevation	N	not applicable		
J	USDA-NRCS Soil Boundaries and Labels	N	not applicable		
K	Existing contours with adequate contour labelling; minimum 1' contour interval	Y			
L	Existing building FFEs annotated	N	not applicable		
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	N	not applicable		
N	Existing buildings & structures	Y			
O	Existing pavement areas & number of parking spaces	N	not applicable		
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	N	not applicable		
Q	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	Y			
R	Existing signage and striping	N	not applicable		
S	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	Y			
T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Y			
U	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Y			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Y			
W	Location of any borings, drinking wells, and monitoring wells	N	Geotechincal report is forthcoming.		
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**				
A	Limits-of-disturbance outlined and acreage annotated	Y			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
C	100-year Flood Zone Limits	N	not applicable		
D	Callout existing site features to be demolished/removed/replaced	Y			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Y			
F	Hatch existing buildings and pavement to be removed	Y			
G	Construction Entrance location(s)	Y			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Y			
I	Stockpile and staging area(s) identified (with proper perimeter control)	Y			
J	Inlet protection location(s)	Y			

K	Note requiring contractor to implement dust control measures throughout construction	Y			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	Y			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing				
N	If large development is proposed with an extensive underground stormwater conveyance network, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations				
5	**SITE PLAN/SUBDIVISION PLAN**				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	Y			
B	Existing property and right-of-way lines	Y			
C	Proposed subdivision lot lines and labels	Y			
D	Required Zoning Setbacks shown with dimensions and annotation	Y			
E	Bulk requirement summary table (zoning/parking calculations)	Y			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
G	100-year Flood Zone Limits	N	not applicable		
H	Proposed building outlines, door entrances and loading docks	Y			
I	Proposed building labels	Y			
J	Proposed road extents; provide clear annotation if roads will be public or private	N	not applicable		
K	Proposed parking and accessible parking locations; annotate parking space counts	Y			
L	Proposed signage, parking striping, and traffic striping	Y			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	Y			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Y			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	Y			
P	Proposed landscaping; detailed landscaping design should be on separate plans	N	Landsacpe Plan by Landscape Archietct to be provided with final submission.		
Q	Designated snow storage areas	Y			
R	Proposed dumpster locations and trash removal access	N	not applicable		
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	Y			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	Y			
U	Road centerline stationing shown, labelled every 0+50' with curve data	N	not applicable		
V	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	N	not applicable		
W	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	N	not applicable		
X	Planning Board signature block for final recording	Y			
6	**GRADING PLAN**				
A	Partial Grading Plans needed for any viewport greater than 1"=20'				
B	Limits-of-disturbance outlined and acreage annotated	Y			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	Y			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	Y			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	Y			
F	Detailed grading for all ditches, swales, outfalls, and riprap	Y			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	Y			
H	Existing spot elevations for all asphalt and curb tie-in locations	Y			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
J	100-year Flood Zone Limits	N	not applicable		
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval: low/high points, PC/PT, road centerline, edge-of-asphalt				
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks				
M	Proposed spot elevations for all parking and drive aisle geometry points				
N	Proposed spot elevations for all building corners and door-entry locations				
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)				
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points				
Q	Proposed % slope arrows for all ADA parking spaces and sidewalks				
R	Proposed longitudinal % slope arrows for drainage ditch centerlines				
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas				
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
7	**ROAD PROFILES (if public/private road proposed)**	N/A			
A	Existing surface; dashed and screened				
B	Proposed surface; continuous and bold				
C	Corresponding centerline stationing and curve data annotation				
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)				
E	Horizontal and vertical scale bars				
F	Clear annotation if proposed road will be public or private				
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance				
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads				
8	**UTILITY PLAN**				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	Y			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	Y			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Y			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	Y			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Y			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	Y			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	Y			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	Y			
I	Flow directional arrows for storm & sewer pipes	Y			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	Y			

K	All storm drains must be sized to convey the 25-year storm	Y			
L	Sewer force main sizes and invert elevations				
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W)				
N	Grease trap & oil-water separator locations, sizes, elevations				
O	Water, gas, electric, and telecom sizes labelled				
9	**UTILITY PROFILES**	N/A			
A	Utility profiles for **all** gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)				
B	Existing surface; dashed and screened				
C	Proposed surface; continuous and bold				
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)				
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope				
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated				
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated				
H	Known ledge or groundwater elevations				
I	For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified				
J	For storm outfalls, include riprap sizing and grading extents				
K	Horizontal and vertical scale bars				
10	**DETAILS**				
A	Road section detail, including pavement & gravel depths	Y			
B	Sidewalk, paver, crosswalk, and any other pavement section details	Y			
C	Pavement sawcut detail	Y			
D	Utility trench/backfill detail	Y			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	Y			
F	Signage, striping, and ADA details	Y			
G	E&S notes and details; only show applicable/proposed measures	Y			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	Y			
I	Storm outfall & riprap details	Y			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	Y			
K	Pump station, grease trap, and oil-water separator details				
L	Conduit section details				
M	Miscellaneous details (as needed)				
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**	N/A			
A	As required by ordinance; at a minimum: locations, counts, and species/models must be identified	N	Landscaped plan by landscape architect to be provided with final submission.		
B	Landscaping & lighting details	Y	Photometrics provided. Landscape details provided for final plan.		
12	**DOCUMENTS/REPORTS/CALCULATIONS**				
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built Inspections post-construction	Y			
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. Four City-standardized stormwater summary tables	N	not applicable. See stormwater memo for analysis.		
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	N	Ability to serve requested. Waiting for final review from City.		
D	A Performance Guarantee Cost Estimate utilizing Planning's template				
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	N	not applicable		
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches) via the rational method; starting tailwater conditions/documentation must be clearly identified	Y			
G	If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies	N			
H	Sizing calculations for any SWM water quality BMP or detention facility	N			
I	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed iii. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	N			
J	Salt Management Plan				
K	Sewer pump station sizing calculations				
L	Sewer pump station maintenance plan				
M	Grease trap sizing calculations				
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more				
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals				

GORRILL PALMER

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South Portland, Maine 04106
207.772.2515

June 26, 2024

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

Subject: Preliminary Site Plan and Subdivision Application
Thatcher Brook Apartments I & II
Tax Map 2, Lot 42 – Biddeford, ME

Dear David,

On behalf of **Westbrook Development Corporation (Developer), Thatcher Brook Apartments I, LP (Owner), and Thatcher Brook Apartments II, LP (Owner)**, Gorrill Palmer is pleased to make this Preliminary Site Plan and Subdivision submission for the proposed 76-unit multi-family residential development project at 37 Barra Road, Biddeford, ME. Gorrill-Palmer has been retained and authorized by the Applicant to perform all work necessary to submit this application. An initial Sketch Plan submission was made in May 2024 and reviewed at the June 5th, 2024, Planning Board meeting. A Sketch Plan Application Fee of $13,709.28 and a Preliminary Plan Application Fee of $13,755 has been submitted separately from this application. The proposed project will develop two (2) new multi-family apartment buildings totaling 76-units utilizing the MSHA low-income housing tax credit program. One building will provide affordable non-age restricted housing units and the other will provide affordable senior housing units for those aged 55+.

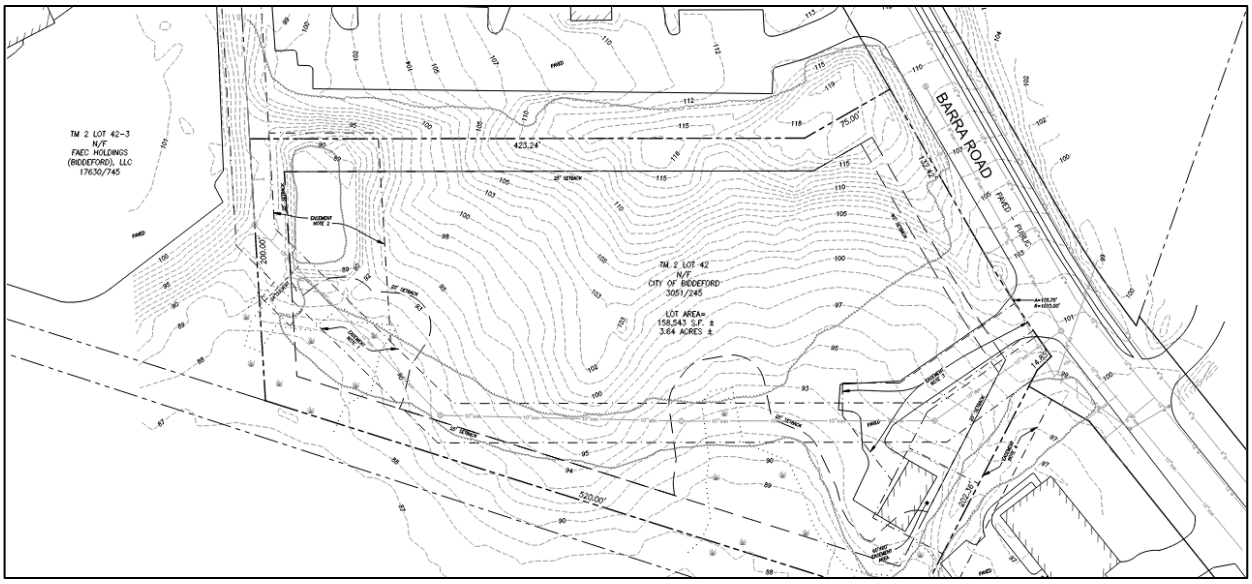
PROJECT DESCRIPTION

The parcel, located at 37 Barra Road, is currently owned by the City of Biddeford and is approximately 3.65-acres. The parcel is identified as Map 2, Lot 42 according to the City of Biddeford's Assessor's Maps. The subject lot was created and identified as Lot #1 in a City of Biddeford subdivision which was created in 1999 and received a MeDEP SLDA Permit[1] at that time. The subdivision was known as the Exit 4 Business Park and is now more frequently known as the Thatcher Brook Business Park. The site is within the I3 – Commercial Industrial Zone. Westbrook Development Corporation has requested a contract zone to build the proposed plan. A copy of the Option to Purchase Agreement is included in Attachment B.

Parcel Imagery from City GIS

[1] Reference Department Order #L-19832-39-A-N filed April 15th, 1999

The property is bound to the north by the Holiday Inn, to the east by Barra Road, to the south by a doctor's office and an undeveloped field, and to the west by Southern Maine Healthcare. The property is partially developed with an existing 24' wide paved driveway providing access to a pump station structure operated by Maine Water Company in the southeast corner of the property. The City of Biddeford maintains a public sewer main which spans east-west through the property. An existing stormwater basin is located in the northwest corner of the property which is also maintained by the City of Biddeford. These facilities, and their respective easements, are identified on the survey plan.

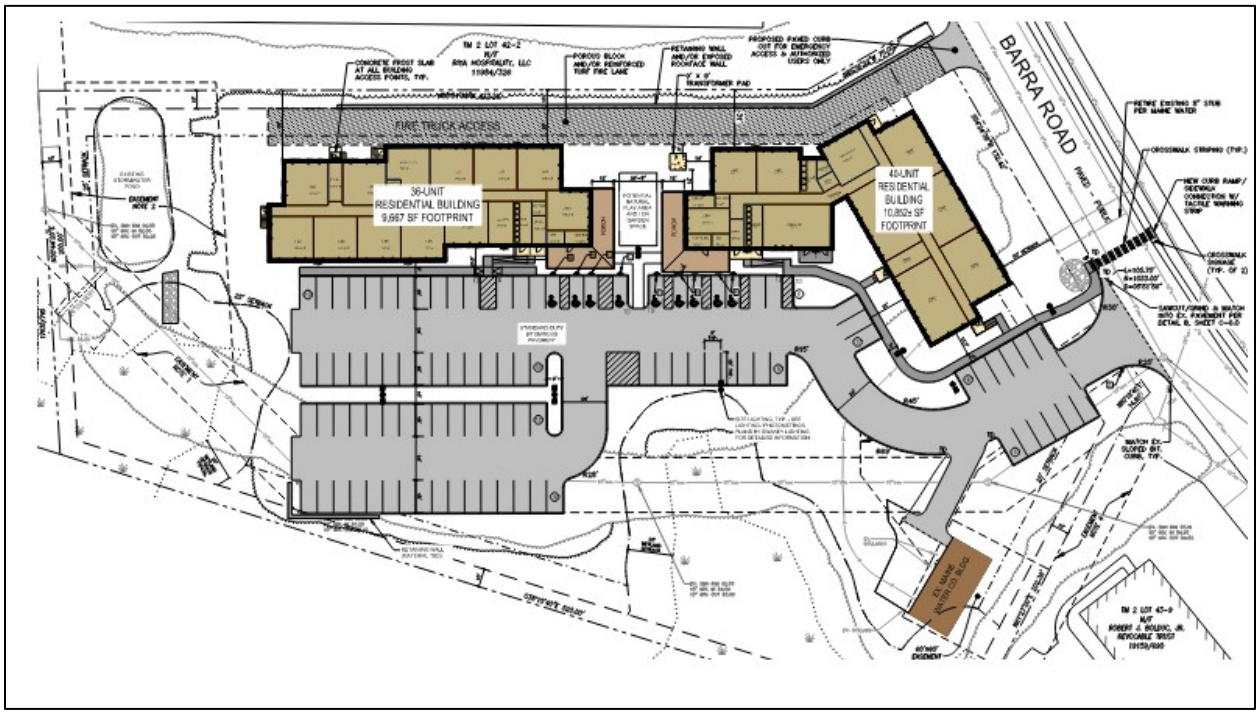


Survey Plan

An updated boundary and topographic survey was completed by Owen Haskell in May 2024 and updated wetland delineations were performed by Flycatcher in May 2024. Geotechnical explorations were performed in May 2024 by Summit Engineering. Topography across the site is rolling to steep with 5% to 15% grades and generally slopes from north to south towards the designated wetlands along the southern boundary. The north portion of the lot is vegetated with mixed growth including some trees and bushes. The center of the property is generally grass and bushes. Maintained lawn areas exist around the driveway, pump station building and along the sewer easement. The southern and eastern portions of the lot are wooded along the perimeter and contain wetland areas. In total, there is approximately +30' of elevation difference from the northeast portion of the site to the southwest portion of the site.

The project proposes to construct two (2) multi-family buildings totaling 76-units. Building #1 will be located closest to Barra Road and contain forty (40) affordable non-age restricted units. This building will be four stories tall with a 10,852SF footprint and generally have an L-shape footprint to run parallel with the north and east property boundaries. The unit distribution within the building will be twenty (20) 1-bedroom units, twelve (12) 2-bedroom units, and eight (8) 3-bedroom units. Building #2 will be located westerly on the lot and contain thirty-six (36) affordable senior units which will all be 1-bedroom units. This building will be three stories with a 9,667SF footprint with a rectangular shape in line with the northerly leg of the Building #1 and running parallel with the northerly property boundary. Access into the site will utilize a similar curb cut location and alignment to the existing driveway on the southeast portion of the Barra Road frontage. However, the driveway will be reestablished and regraded to accommodate the proposed site grades. The driveway will extend into the site and turn north before realigning with the buildings and running parallel with the northerly property boundary, running east west generally through the center of the site. The majority of parking will be located in front of the two

buildings with a small parking area located at the south end of Building #1 near the front entrance. A new paved access will be provided for the Maine Water Company to access their pump station facility. Along the northerly property boundary, a secondary curb cut will provide emergency and service vehicle access along the north sides of the buildings. This fire lane will be constructed with either a porous block or reinforced turf material. This fire lane may also be used for other authorized service vehicles to access the utility services rooms located along the north side of the buildings. Each building will have main entrances emanating from 12' wide porches facing each other. The buildings will be spaced approximately 30' apart (between the porches) which will provide an opportunity for placemaking which may include a natural play area for children and/or a garden space. The buildings will have various egress points and other internal functions requiring exterior doors such as the mechanical rooms and internal trash rooms.



Preliminary Site Plan

As previously described, the property has moderate slopes which have been accounted for in the current design. Additionally, shallow bedrock conditions exist in the north-central portion of the property. The buildings will be constructed with finished floor elevations at El. 105.25' which is generally situated in the middle of the existing grades on site. This approach seeks to balance cut and fill volumes. This includes cuts in the north of the property requiring steep slopes and/or retaining walls along the north property line and fill slopes and/or retaining walls off of the proposed parking area to the south; providing a level development footprint for the buildings and parking.

Site grades are also dependent on the stormwater management scheme for the property and ensure runoff can be captured and conveyed to the existing stormwater pond in the northwest end of the property. This property was identified as Lot #1 in a City of Biddeford subdivision which was the subject of a MeDEP SLDA permit in 1999. That permit identified development thresholds and drainage schemes for the proposed lots, including the subject lot. For the subject lot, the existing stormwater pond was designed to receive all runoff generated on site. Additionally, the total impervious surface/lot coverage was established in the permit as 48% (76,302SF) of the lot and 1,316SF of wetland impact (already executed with the road/frontage construction). The current site plan is within the previously permitted

lot coverage and does not propose any further wetland impacts. Runoff generated on site will ultimately flow to the stormwater basin via a closed storm drain system consisting of catch basins located around the building in paved and landscaped areas which flow westerly to the basin. The stormwater basin was designed to provide flooding protection sufficient to reduce the peak discharge emanating from the site from the pre- to post-developed condition for a development which included 76,302SF of impervious surface and 95,396SF of developed surface. We conclude the peak discharge will be further reduced since the current site plan only proposes to construct 70,501SF of impervious surface and 22,756SF of landscaped area. Water quality treatment is also provided by the stormwater basin for total suspended solids treatment per the MeDEP water quality treatment standards which were applicable at the time of the original SLDA permit application. A stormwater management memo is provided in Attachment G which discusses these points further.

Public water, sewer, power, and natural gas are available at the project frontage along Barra Road and within the property. A new 8" water service will extend into the site within the proposed fire lane along the north side of the buildings. A 4" domestic and 6" fire service will extend into each building from this main service line. A private hydrant will also be located in between the two buildings along the fire lane. Maine Water has provided an Ability To Serve capacity confirmation and is currently reviewing the water service design. Sewer services will flow together on site and flow through a series of drop structures to connect into the existing sewer main in the southwest corner of the property. Three phase power is available at the project frontage where services will extend underground to two padmount transformers (one per building) and underneath the fire lane to the mechanical rooms for each building. Communications/telephone/fiber facilities will extend similarly underground to from the nearest utility pole to the mechanical rooms along the north side of the buildings. Natural gas is not anticipated to be utilized at this time. Utility outreach to the City Engineering Department and Maine Water Company is provided in Attachment D of this application.

We note that the Site Plan also demonstrates that the project may be built in one or more phases as dependent on availability of competitive funding from MaineHousing and other sources.

SITE PLAN REVIEW REQUIREMENTS

In accordance with § XI of the City of Biddeford's Land Development Regulations the following information is provided.

Site Design Criteria § XI-II.-5B

Drainage

a. *The rate of post-development runoff shall not exceed that of predevelopment. Details of catch basins, drainage pipes and retention/detention ponds shall be provided as needed with the application. All detail sheets shall bear the seal and signature of a professional engineer, licensed in the State of Maine.*

As previously discussed, the subject lot was part of the Thatcher Brook Business Park which received an SLDA permit in 1999. That stormwater management plan proposed a stormwater basin (now constructed and existing in the northwest portion of the lot) which was intended to provide stormwater quality and quantity treatment for only the subject lot.

b. *A written engineering report describing the impacted watershed area, projected runoff, and any projected downstream impact shall be required.*

The project is within the Thatcher Brook watershed. A stormwater memorandum is provided in Attachment G which outlines the original stormwater design for the existing basin and the proposed impervious coverage to be built out on the property. We note that the stormwater basin was constructed as designed and the proposed site development contemplates less impervious and developed area than originally planned and, therefore, we anticipate the peak discharge rate for the development will be reduced as originally designed.

c. *Drainage easements shall be established for any concentrated off-site drainage. Such easement shall state who has the responsibility to maintain the easement. Easement documents shall be reviewed, at applicant expense, by the Director of Public Works, City Engineer, and the City Solicitor, as to exactness of content. Plans shall include the location of easements.*

No new drainage easements are proposed as part of this effort.

d. *Where it is determined by the City Engineer or consultant hired by the Board, that the additional runoff incident to the development of the projected site will overload an existing downstream drainage facility, the Board may require the provision of water-retarding facilities or other improvements to alleviate said problem.*

The existing stormwater basin will provide sufficient stormwater management to reduce the peak discharge rate of the subject lot and will not have an adverse impact on the Thatcher Brook.

e. *Development in specific areas of concern shall provide detailed information and address specific issues in relation to drainage:*

1. *Parcels situated within the federally designated flood hazard zone, as per Flood Hazard Boundary Map H01-18, dated May, 1984, as amended, shall comply with all applicable federal regulations relating thereto.*

2. *One-hundred-year flood elevation line shall be included where applicable.*

3. *No slope shall be created which results in a slope of more than two feet horizontal to one foot vertical unless proper retaining walls are proposed.*

The project is not located in any special flood hazard areas or 100-year floodplain. Slopes on site which are steeper than 2:1 shall receive rip rap stabilization or are proposed as retaining walls.

f. *Drainage improvements shall be scheduled to be constructed as part of the first portion of any project where drainage improvements are proposed.*

This requirement is understood by the Applicant.

g. *Special bonding of 1 1/2 times the anticipated cost of said improvements shall be incorporated by the developer to insure that improvements are placed and that they function as planned. No portion of this special bond may be released until the project, or that portion of the project for which the drainage improvement is proposed has been constructed, and until so released by the Planning Board, with the recommendation from the Director of Public Works and the City Engineer.*

The Applicant will coordinate with the City Planning and Code Enforcement Department accordingly.

Utilities

a. *All utilities, including electric, gas, water/sewer, shall be shown on the plat, and separate detail sheets as needed.*

The existing nearby utilities and proposed utility services are shown on the project plans.

b. *Accessways, storage, and parking areas shall be graded and improved with pavements, curbs, gutters, sidewalks, storm drainage facilities, outdoor lighting, etc.*

The proposed site will include bituminous pavement with slipform concrete curbing in the driveway, drive aisle, and parking areas. A fire lane located along the north side of the buildings will include reinforced turf material.

c. *All accessways/drives and service ways shall be of sufficient width and configuration to accommodate the prospective traffic and to afford satisfactory access to police, firefighting and other such service.*

The proposed driveway and parking drive aisles are 24' wide. The northerly fire lane is 20' wide. We have met with and reviewed the current plans with the Fire Department. The current plans reflect their comments and we have included a fire truck turning template with this application in Attachment I.

d. *Any proposal within 200 feet of a public water or sewer line(s) must connect to system(s). Applicant must supply copies of letters from the environmental specialist of the City of Biddeford for sewer, and water company shall confirm details of connection and/or concerns.*

The proposed project will utilize the public water and sewer services which are located at the project frontage. Ability to Serve letters are provided in Attachment D noting our initial outreach to the City Sewer department and the Maine Water Company.

e. *Whether or not a municipal water system is proposed, the following items must be specified in application narrative and on plat:*

1. *Rated normal capacity and gallons per minute at prime use time.*

The anticipated daily flows are estimated to be 11,040 gpd based on a design flow of 120 gpd for single units and 90 gpd per bedroom for multibedroom units assuming (36) 1-bedroom senior units and (20) 1-bedroom, (12) 2-bedroom and (8) 3-bedroom family units.

2. *Rated maximum capacity and gallons per minute at prime use time.*

   The anticipated peak daily flow is estimated to be approximately three times the average daily flow.

3. *Residual pressure of proposed tap line.*

   The residual pressure of the proposed tap line is expected to be approximately 60 psi per the Ability to Serve Letter provided by Maine Water Company in Attachment D.

f. *Where nondomestic sanitary discharge (any discharge into the public sewer system containing other than normal household wastes) is anticipated, such effluent shall be identified and comply with any and all federal, state, and local laws, ordinances, rules, and regulations. Where any such laws, ordinances, rules and regulations may overlap or may be inconsistent, the more stringent shall apply.*

   The proposed sanitary sewer flow are anticipated to be normal household wastes.

g. *Where public sanitary service is available, or where developers must extend such service, applicants must apply for and receive a discharge permit from the City Council of the City of Biddeford prior to approval by the Planning Board.*

   An Ability to Serve request has been submitted to the City Engineering Department and we await their review and confirmation of capacity to serve and sewer service design.

h. *Where practicable, all electrical and telephone utilities shall be placed underground.*

   All electrical and telephone/communications/fiber services will extend to the proposed buildings underground. These services are proposed to extend into the site within the northerly fire lane.

Parking

a. *A parking plan shall delineate the number of parking and delivery or loading spaces and the physical arrangement. Details of parking plan shall conform to the provisions of the off-street parking section of Article VI of this Zoning Ordinance.*

   The proposed parking spaces are shown on the project plans and comply with the typical parking stall and ADA parking stall dimensions. The proposed contract zone requires a parking ratio of 0.67 spaces per unit however we are currently providing 95 parking spaces (1.25:1 ratio).

b. *No on-street parking, delivery or loading is permitted, except where specifically allowed by the Planning Board.*

   No on-street parking is proposed as part of this project.

c. *Whenever a use existing on the effective date of these regulations is changed thereafter to a new use, parking facilities and access shall be provided as required herein for such new uses.*

   The project will create new parking spaces applicable to the proposed residential uses.

d. *In the case of multifamily projects the number of required parking spaces should be increased 5% to allow for visitor parking.*

The project is providing 95 parking spaces which is greater than the minimum identified in the contract zone language. As such, the project will provide 5% visitor spaces.

e. *Parking lots shall be landscaped and/or screened to provide for a pleasing visual effect and blending in with the surrounding area.*

The majority of the parking spaces will be provided in the center of the site set back from Barra Road. Landscaping within parking islands and at the perimeter of the parking areas will provide screening for surrounding properties.

f. *Lots shall be illuminated for security purposes. The lighting shall be designed in such a way that off-site glare is minimized.*

A photometrics plan and lighting cut sheets is provided in Attachment J. This plan demonstrates the project's ability to minimize site glare and spillover onto adjacent properties by utilizing full cut-off, downcasting fixtures.

g. *Adequate space shall be allowed for the accumulation of snow during the winter plowing months.*

Snow storage areas are shown on the Site Plan.

<u>Structural Layout and Design</u>

a. *Design of buildings.*

1. *Buildings shall be designed to blend harmoniously with the surrounding structures in the neighborhood. New structures should be designed so as to complement the style of the abutting older structures. A photograph, architectural rendering or other representation of the proposed structure must accompany the application for site review.*

The proposed buildings have been designed to blend in with the surrounding neighborhood and offer aesthetically pleasing elements commonly found in New England architectural vernacular. Floorplans and elevations are provided in Attachment E.

2. *In the I-3 Zone structures shall have a facade sheath in brick or other masonry finish. Other facade finishes may be used when it can be clearly shown to the board that such facing material will advance the City's intent to make the I-3 area a more attractive gateway to the City.*

The contract zone language allows the Applicant to utilize different siding materials and does not strictly require the use of a brick or other style masonry to be utilized on the building façade.

b. *Setbacks. Proposed structures shall be set back from roadways, in conformance with requirements for the particular zone; and shall be set in such a way as to blend in harmoniously with buildings on abutting properties, and to allow for adequate landscaping of the front yard.*

The contract zone language establishes a 30' front and 15' side/rear building setback which blends in harmoniously with the surrounding neighborhood. This allows for sufficient landscaping in the front yard and perimeter areas. These setbacks are shown on the project plans.

c. *Fire protection.*

1. *All proposed structures and additions to existing buildings must be designed to meet existing fire protection standards.*

   Both structures will be designed per the latest local and state fire protection requirements.

2. *Fire hydrants and fire escapes must be clearly presented on plats.*

   The buildings are designed with multiple stair towers/egress points around the buildings to meet the applicable life safety requirements.

3. *Clear ways around buildings must be maintained to provide for 360° access to structures.*

   Clear ways are provided around the building which have been reviewed by the Fire Department.

4. *Areas in front of structures must be kept clear of parking spaces to allow for emergency access.*

   Sufficient clear space is provided in front of structures to provide emergency vehicle access.

5. *Buildings should be designed with internal sprinkler systems. This is particularly the case in terms of multifamily and industrial/warehousing structures, and structures that will be located in areas that are far or difficult to reach from fire stations.*

   Both buildings will be constructed with sprinkler systems.

6. *In residential developments of 24 units or more, or buildings of 5,000 square feet or more, a central alarm system to the central fire station shall be installed, unless a negative recommendation, in writing, is received from the Fire Marshal.*

   The Applicant will coordinate with the Fire Department to confirm the applicability of a central alarm system.

7. *In residential developments of 24 dwelling units or more, or office buildings with more than two separate establishments or places of business, a "knock box" shall be provided and indicated on plat. This box shall be in accordance with the specifications and standards as prescribed by the Fire Department of the City of Biddeford.*

   The Applicant will coordinate with the Fire Department for the final location of a Knox Box for fire department access to the buildings as necessary.

8. *Whenever gas, either natural or propane or other type, is proposed to be used on-site, a separate external shutoff valve shall be provided for each building on the site. The valve location shall be indicated on the plat and approved in writing by the fire chief/fire marshal.*

   The Applicant may elect to utilize natural gas or propane for hot water functions within the buildings, however neither are currently shown on the project plans. We understand shutoff valves will be necessary for proper hookups to each building.

d. *Landscaping.*

   1. *All sites must be landscaped with vegetation that will act to:*

      (a) *Reduce the impact of lighting, vehicular and structural, on abutting properties;*

      (b) *Reduce the impact of proposed structures on the privacy of abutters;*

      (c) *Make the site more attractive to the average viewer.*

   2. *Landscaping measures will be indicated on the plat by drawings and narrative note. The use of trees and shrubs for fencing and shading is strongly encouraged. Care must be taken to ensure that tree, etc., are placed in such a fashion that in time they will cause minimum impact on abutting properties and public roadways and travelways, particularly as they grow.*

   3. *Whenever possible existing vegetation shall be preserved and incorporated into the landscaping scheme of the project.*

   4. *Each proposal will include a detailed landscaping plan. This plan will include the location, type and size of existing mature trees (those trees over eight inches in diameter).*

   5. *Particular attention should be paid to offsetting the visual impact of new structures in areas where there may be a stark contrast with the existing design trend of the neighborhood.*

      A landscape plan prepared by a landscape architect will be provided with the final submission.

e. *Service, storage and utility areas.*

   1. *All service, storage, and utility areas shall be designed to the side or rear yard of a proposed or existing building or structure, and such areas shall be appropriately screened/buffered by walls, fences, earth berms, or vegetation.*

      The northerly fire lane will also contain underground utilities, a private hydrant, and a padmount transformer. These utilities will be screened as much as possible while allowing sufficient access for servicing/use. Water and electrical meters as well as trash bins will be located interior to the building and not visible from the exterior.

   2. *Proposed utility elements shall be adequately screened; and, if producing sound, baffled upon Planning Board request.*

See response above.

3. *Trash receptacles, dumpsters, storage sheds, etc., shall be shown on plat.*

   Trash bins are located internal to the building and, therefore, no exterior trash storage is provided.

f. *Paving, parking, and storage areas.*

   1. *No paving, parking, or storage shall be permitted within the required setback of any side or rear property line;*

      The contract zone language provides a 0' setback for paving/parking/fire lanes. This is necessary to provide sufficient parking and fire lane access while avoiding excessive impacts to natural site features such as the southerly wetlands.

   2. *No paving, parking, or storage (except for entrances/exits) shall be permitted within 25 feet of any front property line. These unpaved nonparking or nonstorage areas shall be maintained as landscaped areas or open spaces.*

      Parking is not proposed within 25' of the front property line.

g. *Handicapped accessibility.*

   1. *Pedestrian walkways, entrances and exits designed for use by the handicapped shall be provided as required by any and all federal, state, or local laws, ordinances, rules and regulations or as requested by the Planning Board.*

      The project includes 4 accessible parking spaces for the senior building and 5 spaces for the family building. This is well above what would typically be required for minimum ADA parking space requirements and reflects the accessible apartment units the Applicant is pledging to construct as part of the MaineHousing (MSHA) Low Income Housing Tax Credit (LIHTC) program. To meet MSHA funding requirements, an additional 18 accessible spaces are demonstrated as a possible future parking scenario on the Site Plans should the Applicant seek to pledge additional accessible units within the building. Sufficient access is provided from the parking areas into the main entrance of the building along the designated ADA route.

   2. *Handicapped parking spaces and accessways shall be indicated on plat whenever they are to be employed.*

      The accessible parking spaces discussed above are shown on the project plans and Site/Subdivision Plan.

h. *Loading facilities.*

   1. *Loading facilities for new structures shall be designed to the rear or side of any and all proposed or existing building or structure.*

Not applicable.

2. *Loading facilities shall be designed in accordance with the applicable federal, state, or local laws, ordinances, codes, rules and regulations and shall be off-street or accessible via a public street.*

   Not applicable.

i. *Parking, loading, and protective buffers.*

1. *All parking, loading and protective buffers shall be situated on the same tract or parcel of land as the primary use building or structure.*

   All parking, loading and buffers are located on the subject parcel as necessary.

2. *The maximum nonvegetated area of the land area being developed and reviewed shall be 75%.*

   The proposed nonvegetated area is 58 of the total lot area%.

3. *Any parking or paving, including all access ways, egress ways, entrances and exits on streets for both pedestrian and vehicular use, shall not cover or occupy more than 30% of the land area being developed and reviewed and shall be included with the maximum nonvegetated area.*

   The proposed parking/pavement area for the project total is 26% of the total lot area.

4. *In all applications, a minimum of 25% of the land area being developed and reviewed shall remain in its natural state or shall be maintained as appropriately landscaped area.*

   The existing land area not be disturbed is 32% of the total lot area.

5. *All buildings or structures shall be sited in conformance with established setbacks of the particular zone. No building or structure may be built within the required side yard setback. The Planning Board may require greater setbacks in areas such as turnpikes, water bodies, railroads, etc.*

   The proposed buildings have been located on the property within the applicable setbacks established as part of the contract zone.

6. *All buffered or screened areas shall be densely planted with shrubs or trees which are respectively at least two or three feet high at the time of planting and are of a type which may be expected to form a year-round dense screen of at least five feet high within three years, provided that such screening shall not obstruct the view of oncoming traffic when entering or exiting the site. An additional cash bond to cover the cost of replacement of these plantings may be required. The term of the bond shall be equal to three years from the time of planting. At the end of the three years any unused portion of this security will be returned to the applicant along with accrued interest.*

   The buffer/screening areas including the front yard area and around the perimeter of the parking area have been planted to provide sufficient screening as requested. This is shown on the landscape plan provided in the project plans.

j. Open space.

1. *In new residential developments: Open space shall be provided in the ratio of 1,000 square feet for each dwelling unit. This open space shall be identified as either a "green space" or as "recreational space."*

   The contract zone language identifies an open space ratio of 250SF per unit. Based on the density afforded, 76 units would typically required 76,000SF of open space area which is not feasible on this site while also balancing the required driveway, parking, and emergency access. We note that green space will be provided on site for residents of both buildings around the site including an active porch area which will appeal to residents of all ages. Additionally, the Eastern Trail is located a short distance away on Barra Road.

2. *Whenever practicable, open space in a residential development shall include a mixture of active and passive recreational opportunities to benefit the various residents of the project. Such opportunities would include, but are not limited to, ball and other playing fields, tennis courts, etc.*

   A final open space plan has not been completed, however, the Applicant is reviewing the ability for a natural play space between the two buildings. This is shown in a general note on the Site Plan.

3. *In large-scale projects hiking trails or nature paths are encouraged.*

   The project is located a short distance away from the Eastern Trail which connects to Barra Road.

4. *In projects that abut rivers or streams a public easement is encouraged, to provide access to a limited natural resource.*

   Not applicable.

5. *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 site layout and grading for the development leverages the existing topography and southerly exposure of the lot. Buildings are situated along the northerly property boundary on higher elevations than parking areas. Southerly on the lot there are mapped wetland areas which the site layout is careful to avoid and maintain vegetated buffers. There are no other sensitive natural resources which would require further avoidance.

k. External lighting.

1. *All existing/proposed external lighting must be included on plat. Lighting will be described as needed.*

   Existing street lights in Barra Road are shown on the project plans.

2. *Lighting shall be designed to provide adequate illumination on-site, especially in parking areas, walkways and structural entrances, and site entrance from roadways. At the same time all illumination will be designed to mitigate adverse impact on abutting properties and structures, and traffic.*

   A photometrics is provided in the project plans. Lighting fixture cuts sheets are provided in Attachment J which provides sufficient lighting for the parking areas and building entrances.

l. Signs.

1. *All proposed signs shall meet standards provided in Article VI of the Zoning Ordinance of the City of Biddeford.*

   The buildings may include address numbers on each buildings facing Barra Road. Currently, no other signs are proposed for the buildings. These addresses would be placed on the building in accordance with the applicable City Code.

2. *Signs shall be indicated on plat.*

   The location of the signs on the building will be noted on the final site plan.

3. *A detail of sign design shall be submitted as part of the application for site review.*

   We would request that the final signage be provided as a condition of approval prior to issuance of a building permit for each building to allow sufficient design for these final details.

m. Historic and archaeological resources. 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.

As part of the original SLDA permit process for the business park, historical and archeological review was undertaken for the entire subdivision and, ultimately, no significant resources were identified within the subject lot and/or the subdivision.

SUBDIVISION REVIEW REQUIREMENTS

In accordance with § 66-39 *Board action on approval of preliminary plan* of the City of Biddeford's Code of Ordinances, the following information is provided.

Required Information § 66-35(d)

(d) In addition to the above plat information, the subdivider shall provide the following documents;

(1) Valid deed or option indicating an interest held by the subdivider in the parcel of land (this shall be kept current during the review process).

A copy of the deed for the subject parcel is provided in Attachment B.

(2) Completed application form.

The completed application form is provided in Attachment A.

(3) Narrative of the proposed project briefly describing the general nature of the project, i.e., type of project; residential or commercial; number of lots intended to create.

A narrative describing the project is provided at the beginning of this application letter.

(4) Draft covenants and deeds for each lot proposed.

It is anticipated that the Applicant will create one condominium for each building so that the LP entities may retain ownership sufficient for funding purposes. However, the ownership/management of the development will remain Westbrook Development Corporation. Final condo documentation will be provided, if required, for the final submission.

(5) Easement documents for proposed rights-of-way for utilities, drainageways, roadways and other travelways or public amenities.

No easements are proposed for public amenities as part of this project.

(6) Statement of financial capability of subdivider to undertake the proposed project.

A financial capacity letter is provided in Attachment C of this application.

(7) Statement identifying principals involved in the project.

A company profile and personnel profiles are provided as Technical Capacity evidence in Attachment C for the Westbrook Development Team. Additionally, the design team currently includes:

- Project Architect – Kaplan Thompson Architects
  - Jesse Thompson, FAIA, LEED AP, CPHC
  - Selomi Nganga
- Project Engineer – Gorrill Palmer
  - Kaleb Bourassa, PE

(8) Statement demonstrating that the subdividers have the technical capability to complete the proposed project as presented.

Evidence of Technical Capacity is provided in Attachment C. Westbrook Development Corporation

(9) Copies of such covenants or deed restrictions as are intended to all or part of the tract.

No covenants or deed restrictions are proposed.

(10)Review by water company, power company and City Engineering, police, and fire department.

We have reached out to the Maine Water Company, City Engineering, and police and fire departments for review. Maine Water has provided confirmation of capacity to serve the development and we await final approval from the other entities. We will provide final approvals to the Planning Department as soon as they are received.

Conditions and Requirements § 66-39(b)

(b) 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:

a. The elevation land, and its relation to the floodplains;

b. The nature of the soils and the subsoils;

c. The ability to adequately support waste disposal;

d. The slope of the land and its affects on effluents;

e. The availability of streams for the disposal of effluents; and

f. The applicable state and local health and water resources regulations.

The project is a residential development and will not cause undue air or water pollution.

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

The project will be served by public water emanating from Barra Road. Domestic and fire services will extend into both buildings.

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

The Maine Water Company has confirmed sufficient capacity to serve the proposed 76-unit residential development. The Ability to Serve letter is provided in Attachment D.

(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 site improvements will include buildings, pavement, reinforced turf, and landscaped area, among other surfaces, which will remain stabilized post-construction. No unreasonable soil erosion or dangerous conditions will be created as a result of this project.

(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 project proposed to create 39 peak hour trip ends which is not anticipated to cause unsafe traffic conditions on Barra Road and the adjacent street systems. A traffic memo is provided in Attachment H which demonstrates the trip generation and driveway safety review.

(6) The project will provide for adequate sewage waste disposal.

The project will utilize the public sewer system which flows cross-country through the subject parcel.

(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 development will utilize a private trash collection vendor to handle solid waste generated. The development will not cause an unreasonable burden on the municipality to provide sewage treatment.

(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 project will not have an undue effect on the scenic character of the area. The project will utilize a natural color pallet and locate buildings set back from the Barra Road sufficient to provide buffering in the front yard area and around the perimeter of the development.

(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 project is in line with the recent Comprehensive Plan which was completed in 2023. That plan outlined the rising cost for housing and the need for additional housing within the community.

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

Evidence of financial and technical capacity has been provided in Attachment C. The financial capacity letter is from Gorham Savings Bank.

(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 project is not located within 250' of any lake, pond, river or tidal waters.

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

The project has been designed and will continue to operate as originally intended in the stormwater management plan which was approved for the Thatcher Brook Business Park as approved by the MeDEP and City of Biddeford.

(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;

The project is not located within the FEMA flood boundary, floodway, or flood insurance maps.

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

The project will not obstruct abutting properties access to sunlight as it is lower in elevation and separated a sufficient distance from the nearest structure.

(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.

No portion of the site has been identified as containing historic or archeological resources as concluded in previous local and state review efforts for the business park.

CLOSURE

One electronic copy of the application materials and seven (7) full size (24x36) plan sets are submitted for your consideration and distribution to the Planning Board. We look forward to reviewing this project with you and the Planning Board at the next available meeting.

If you have any questions regarding the information being submitted, please contact our office at 207-772-2515 or kbourassa@gorrillpalmer.com.

Sincerely,

Kaleb Bourassa, PE
Project Manager
Gorrill-Palmer
Phone: 207.772.2515 x297
kbourassa@gorrillpalmer.com

Attachments:
A – Planning Board Application, Agent Authorization
B – Title, Right, & Interest
C – Financial and Technical Capacity
D – Utility Correspondence
E – Architectural Renderings/Drawings of Proposed Buildings
F – Site Photos
G – Stormwater Management Memo
H – Traffic Report
I – Fire Truck Turning Movements
J – Lighting Fixture Cut Sheets
Site Plans

C: Tyler Norod – Westbrook Development Corporation (WDC)
Maggie Stanley – WDC
Jesse Thompson – Kaplan Thompson Architects

u:\4303_wha barra road development_biddeford,me\p applications\local\preliminary site & subdivision\final_ltr_site-sub_06.26.2024_.docx

PROJECT PARCEL SITE
CITY OF BIDDEFORD
TAX ASSESSOR'S MAP AND LOT NUMBERS

MAP	LOT	CCRD
2	42	B 3051 / P 245

PROJECT APPLICANT:
WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE
WESTBROOK, ME 04092
ATTN: TYLER NOROD

CURRENT PROPERTY OWNER OF RECORD:
CITY OF BIDDEFORD
C.C.R.D. BOOK 3051, PAGE 245

ZONE: I3 - INDUSTRIAL COMMERCIAL ZONE
CONTRACT ZONE
USE: RESIDENTIAL
WATERSHED: THATCHER BROOK

SITE IMPROVEMENT PLANS

FOR

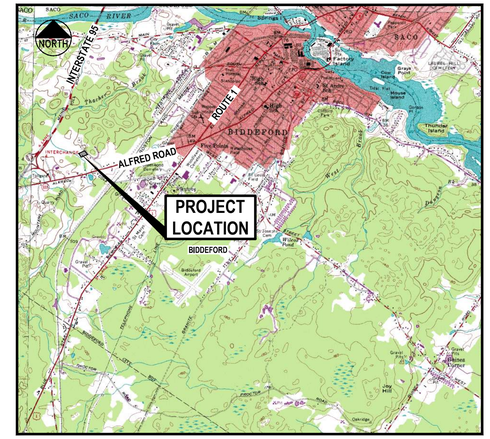
WESTBROOK DEVELOPMENT CORPORATION

76 - UNIT RESIDENTIAL DEVELOPMENT

37 BARRA ROAD, BIDDEFORD, MAINE

JUNE 2024

PERMIT PLANS



LOCATION MAP
SCALE: 1" = 1000'

INDEX

C-1.0 COVER SHEET
C-1.1 GENERAL NOTES AND LEGEND
C-1.2 COMPILED SURVEY (BY OWEN HASKELL, INC.)
C-2.0 EXISTING CONDITIONS & REMOVALS PLAN
C-3.0 OVERALL SITE / SUBDIVISION PLAN
C-3.1 SITE LAYOUT PLAN
C-4.0 UTILITY PLAN
C-5.0 GRADING, DRAINAGE & EROSION CONTROL PLAN
C-6.0 SITE DETAILS
C-6.1 STORM DRAIN & UTILITY DETAILS
C-6.2 EROSION CONTROL & MISCELLANEOUS DETAILS
C-6.3 EROSION AND SEDIMENT CONTROL NARRATIVE
*C-7.0 ACCESS DRIVE PROFILES
*C-8.0 STORM DRAIN PROFILES
*S-1 SITE SECTIONS
*S-2 SITE SECTIONS

L-1 SITE LIGHTING / PHOTOMETRICS PLAN (BY SWANEY LIGHTING)

*NOT INCLUDED IN THIS SUBMISSION

UTILITIES

WATER
ATTN:
MAINE WATER

BIDDEFORD, MAINE 04005

ELECTRIC
ATTN: JAY AGRESTE
CENTRAL MAINE POWER COMPANY
162 CANCO ROAD
P.O. BOX 1801
PORTLAND, MAINE 04104
207.242.4092 (OFFICE)
jay.agreste@cmpco.com

TELEPHONE
ATTN: PATRICK MORRISON
CONSOLIDATED COMMUNICATIONS
5 DAVIS FARM ROAD
PORTLAND, MAINE 04103
207.797.1866

CABLE
ATTN: MARK PELLETIER
CHARTER COMMUNICATIONS
118 JOHNSON ROAD
PORTLAND, MAINE 04102
207.253.2291
mark.pelletier@charter.com

SEWER & STORM DRAIN
ATTN: TOM MILLIGAN
CITY OF BIDDEFORD
205 MAIN STREET
BIDDEFORD, MAINE 04005
207.284.9118

DIG SAFE
1.800.225.4977

PERMITS / APPROVALS

LOCAL	GOVERNING BODY	STATUS
SITE PLAN PERMIT	CITY OF BIDDEFORD 205 MAIN STREET BIDDEFORD, MAINE 04005 207.571.0700	SKETCH PLAN SUBMITTED 05.29.2024 PRELIMINARY SITE/SUBDIVISION PLAN SUBMITTED 06.26.2024
BUILDING PERMIT	CITY OF BIDDEFORD 205 MAIN STREET BIDDEFORD, MAINE 04005 207.571.0700	TO BE SUBMITTED BY CONTRACTOR
STATE		
SITE LOCATION OF DEVELOPMENT ACT PERMIT	MAINE DEP 312 CANCO ROAD PORTLAND, MAINE 04103 207.822.6300	PERMIT ORDER #L-19832-39-A-N
DRIVEWAY/ENTRANCE PERMIT	CITY OF BIDDEFORD 205 MAIN STREET BIDDEFORD, MAINE 04005 207.571.0700	-

CONSULTANT LIST

CIVIL ENGINEER:
Gorrill Palmer Consulting Engineers, Inc.
300 SOUTHBOROUGH DRIVE, SUITE 200
SOUTH PORTLAND, MAINE 04106
207.772.2515
CONTACT: KALEB BOURASSA, P.E.
kbourassa@gorrillpalmer.com

SURVEYOR (TOPOGRAPHY AND BOUNDARY):
OWEN HASKELL, INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, ME 04105
207.774.0424
CONTACT: RANDY LOUBIER, PLS

ARCHITECT:
KAPLAN THOMPSON ARCHITECTS
102 EXCHANGE STREET
PORTLAND, ME 04101
207.842.2888
CONTACT: JESSE THOMPSON, FAIA, LEED AP, CPHC

WETLANDS:
FLYCATCHER, LLC
106 LAFAYETTE STREET, SUITE 2A
YARMOUTH, ME 04096
CONTACT: ROD KELSHAW
rod@flycatcherllc.com

CITY OF BIDDEFORD PLANNING BOARD
SITE PLAN APPROVAL

CHAIRMAN _____

_____

_____ _____

_____ _____

_____ _____

DATE _____

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

ALL PERMITS ARE ANTICIPATED TO HAVE CONDITIONS ATTENDANT WITH THEIR APPROVAL. THE CONTRACTOR SHALL REVIEW ALL PERMITS AND THE CONDITIONS ATTENDANT WITH APPROVALS PRIOR TO THE START OF THE WORK. UNLESS OTHERWISE STIPULATED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR IS REQUIRED TO COMPLY AND FULFILL ALL CONDITIONS OF APPROVAL.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
KALEB A. BOURASSA
No. 17072
LICENSED
PROFESSIONAL ENGINEER
06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-COVER.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: COVER SHEET
Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE
Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-1.0

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GENERAL NOTES

1. IN ADDITION TO THESE PLANS AND NOTES, THE CONTRACTOR SHALL REFER TO PROJECT DOCUMENTS PREPARED BY KAPLAN THOMPSON ASSOCIATES FOR CONSTRUCTION SPECIFICATIONS AND BIDDING PROCEDURES.

2. THIS PROJECT WILL BE SUBJECT TO THE TERMS AND CONDITIONS OF ALL PERMITS ISSUED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MAINE DEPARTMENT OF TRANSPORTATION, LOCAL UTILITY COMPANIES AND THE CITY OF BIDDEFORD.

3. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCE, PAVING, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS. ENTRANCES IN MOST LOCATIONS REQUIRE STRUCTURAL SLABS. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR INFORMATION ON THE STRUCTURAL SLAB ENTRANCES.

4. ALL REQUIRED AND NECESSARY INSPECTIONS AND OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSIONS AND THE FINAL SERVICE CONNECTIONS.

5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT ITS SOLE COST.

6. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE APPLICANT AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR THE CITY, AT NO ADDITIONAL COST TO THE OWNER.

7. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.

8. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE PROJECT SPECIFICATIONS, THE CITY OF BIDDEFORD AND SERVICING UTILITY REQUIREMENTS, IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SHALL APPLY AT NO EXTRA COST TO THE OWNER.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS THROUGHOUT THE PROJECT AND PROVIDING THE OWNER WITH A SET OF ELECTRONIC FINAL RECORD DRAWINGS WHEN THE PROJECT IS COMPLETE.

10. THE CONTRACTOR WILL BE RESPONSIBLE FOR CREATING AND ADMINISTRATING A POLLUTION PREVENTION PLAN FOR THE PROJECT TO PREVENT CONTAMINATION OF ALL AUTHORIZED AND UNAUTHORIZED NON-STORMWATER DISCHARGES INTO THE STORMWATER SYSTEM. SEE BELOW FOR A LIST OF NON-STORMWATER DISCHARGES:

AUTHORIZED NON-STORMWATER DISCHARGES:

(a) DISCHARGES FROM FIREFIGHTING ACTIVITY;
(b) FIRE HYDRANT FLUSHINGS;
(c) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
(d) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
(e) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
(f) 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;
(g) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
(h) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
(i) FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
(j) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
(k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
(l) LANDSCAPE IRRIGATION.

UNAUTHORIZED NON-STORMWATER DISCHARGES:

(a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
(b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
(c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
(d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

SITE LAYOUT NOTES

1. ALL HANDICAP PARKING SPACES ARE TO RECEIVE HANDICAP SIGNS AND PAVEMENT MARKINGS AS ILLUSTRATED ON THE DETAIL SHEETS.

2. BITUMINOUS CONCRETE CURB, SLIPFORM CONCRETE CURB AND GRANITE CURB SHALL MEET THE REQUIREMENTS OF MDOT 702.001, 703.07 AND 609.04.

3. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR THE FACE OF THE BUILDING.

4. EXCEPT WHERE INDICATED OTHERWISE, THE PAVEMENT IS TO BE STANDARD DUTY PAVEMENT.

5. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & STANDARDS OF THE MAINE DEPARTMENT OF TRANSPORTATION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITIONS AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS.

6. STRIPE PARKING AREAS, DRIVES AND ROADWAY AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, CROSSWALKS, HANDICAP SYMBOLS, PAINTED ISLANDS AND FIRE LANES. (ALL MARKINGS EXCEPT MEDIAN ISLANDS AND CENTERLINES TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT). ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F". MEDIAN ISLANDS AND CENTERLINES TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT.

7. SEE DETAILS FOR PARKING STALL DIMENSIONS, HANDICAP SYMBOLS, SIGNS AND SIGN POSTS.

8. STOP BARS SHALL BE 12" WIDE.

9. PAINTED ISLANDS SHALL BE 4" WIDE DIAGONAL LINES @ 3'-0" O.C. BORDERED BY 4" WIDE LINES.

GRADING & DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N = 0.012 OR LESS.

2. PROVIDE TURF REINFORCEMENT IN AREAS INDICATED ON THE PLANS.

3. AN "AS-BUILT" CERTIFICATION AND PLANS OF THE STORMWATER DRAINAGE SYSTEM IS REQUIRED PRIOR TO THE OWNER ACCEPTING ANY BUILDINGS AND PROPERTY. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ANY DEVIATION FROM THE PLANS MAY DELAY THE ACCEPTANCE OF THE PROJECT, WITH CONTRACTOR RESPONSIBLE FOR ANY ASSOCIATED COSTS.

4. SEE EXISTING CONDITIONS FOR BENCHMARK INFORMATION.

5. SEE GRADING, DRAINAGE AND EROSION/SEDIMENT CONTROL FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.

6. ALL DISTURBED AREAS NOT TO BE PAVED, SODDED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.

7. COMPACTION REQUIREMENTS:

LOCATION	MINIMUM COMPACTION*
SUBBASE AND BASE GRAVEL BELOW PAVED OR CONCRETE AREAS	95%
SUBGRADE FILL BELOW PAVED AREAS	90%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%
STRUCTURAL FILL WITHIN PROPOSED BUILDING AREA	95%
SELECT FILL ADJACENT BUILDING FOUNDATIONS, EXTERIOR FOUNDATIONS AND WITHIN 8 INCHES OF THE SLAB-ON-GRADE	95%

*ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM-D-1557.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

9. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND EXIT RAMPS ADJACENT TO THE BUILDING AND ALONG NEW CURBED AREAS.

10. PROVIDE STABILIZATION OR SEPARATION GEOTEXTILE FABRIC OVER UNSTABLE SOILS AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND IN ACCORDANCE WITH THE FINAL GEOTECHNICAL RECOMMENDATIONS.

LOCAL APPROVALS, WAIVERS AND VARIANCES

THE CONSTRUCTION PLANS ARE TO BE SUBMITTED TO THE CITY OF BIDDEFORD FOR THEIR REVIEW, APPROVAL AND RECORDS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

UTILITY NOTES

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED AND CONSTRUCTED BY THE DIVISION SITE CONTRACTOR TO WITHIN 5 FEET OF THE BUILDINGS, AT A LOCATION COORDINATED WITH THE MEP CONTRACTOR(S) AND THE BUILDING PLANS. SITE WORK WITHIN 5 FEET OF UNDERSLAB UTILITIES SHALL CONSIST OF TRENCHING AND BACKFILLING. ACTUAL UTILITY INSTALLATION SHALL BE BY THE MEP CONTRACTOR. ALL REQUIRED CONNECTION FEES SHALL BE PAID BY THE GENERAL CONTRACTOR.

2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH CONSOLIDATED COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.

3. ALL SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE MAINE STATE PLUMBING CODE, CITY OF BIDDEFORD STANDARDS AND THE SUBSURFACE WASTEWATER DISPOSAL RULES.

4. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER.

5. COORDINATE ALL UTILITY WORK WITH THE APPROPRIATE UTILITY COMPANY. ALL UTILITY WORK SHALL CONFORM TO THE STANDARDS OF THE UTILITY COMPANY AND PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

6. THE LOCATIONS OF THE NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE SERVING UTILITY COMPANY, CONTRACTOR AND MEP DESIGNERS.

7. UNDERGROUND ELECTRICAL, CONDUIT MATERIAL AND INSTALLATION SHALL CONFORM TO UTILITY COMPANY STANDARDS AND PROJECT SPECIFICATIONS, WHICH EVER IS MORE STRINGENT.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OR WORK TO FINISH GRADE.

9. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

10. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.

11. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL, AT NO EXTRA EXPENSE TO THE OWNER.

12. A 5 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.

13. THE CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION AND PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOB SITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER AND AFFECTED BUSINESSES.

LANDSCAPE NOTES

(SUBJECT TO COORDINATION WITH LANDSCAPE DRAWINGS. IN CASE OF CONFLICT BETWEEN THIS SECTION AND THE LANDSCAPE DRAWINGS, THE LANDSCAPING DRAWINGS SHALL GOVERN)

1. ALL PLANTS SHALL BE NURSERY GROWN AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN, STANDARDS AND SHALL BE SUBJECT TO THE APPROVAL OF THE OWNERS REPRESENTATIVE BEFORE AND AFTER PLANTING.

2. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER INSPECTION AND ACCEPTANCE, AND SHALL HAVE AT LEAST 80% HEALTHY GROWTH AT THE END OF THE GUARANTEED PERIOD.

3. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM AND SEED.

4. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS USED IN A CURBED ISLAND, THE BARK SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" LOAM AND SEED.

5. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING AS SHOWN.

6. PARKING AREA PLANTED ISLANDS TO HAVE A MINIMUM OF 6" TOPSOIL. REMOVE ALL CONSTRUCTION DEBRIS BEFORE TOPSOILING. TOPSOIL SHALL BE PLACED TO TOP OF CURB.

7. ALL PLANT MATERIAL SHALL BE APPROVED BY THE OWNER OR THE OWNERS REPRESENTATIVE PRIOR TO ARRIVAL ON THE SITE.

8. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.

9. THE CONTRACTOR SHALL LOCATE, VERIFY, AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTINGS AND UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.

10. NO SUBSTITUTION OF PLANT MATERIALS SHALL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.

12. SEE PLANTING DETAILS FOR WEED BARRIER INFORMATION.

13. ALL PLANTING LOCATED AT THE ENTRANCE TO THE PROJECT OR AT INTERSECTIONS WITHIN THE SITE WILL BE MAINTAINED AND WILL NOT EXCEED 3 FEET IN HEIGHT WITHIN A TRIANGLE FORMED 25' INTO THE DRIVEWAY AND 25' ALONG THE TRAVEL WAY.

EROSION CONTROL NOTES:

1. PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES, CLEARING AND GRADING LIMITS SHALL BE STAKED BY THE CONTRACTOR BASED ON THE LIMITS OF GRADING SHOWN ON THE DRAWINGS AND ACCEPTED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. AFTER THE CLEARING AND GRADING LIMITS HAVE BEEN ACCEPTED, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCES, SEDIMENT BARRIERS AND THE CONSTRUCTION ENTRANCES ASSOCIATED WITH THE PROJECT.

2. ALL GROUND AREAS DISTURBED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCHED AS SOON AS POSSIBLE. TEMPRORARY/PERMANENT SEED MIXTURES SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL PROJECT PREPARED FOR THIS PROJECT.

3. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE SILT FROM ALL STORM LINES AND APPURTENANCES.

4. ALL STORM DRAIN INLETS AND OUTLETS NOT IN PAVED AREAS ARE TO RECEIVE RIPRAP PROTECTION APRONS DURING CONSTRUCTION.

5. SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES SHOWN ON THE EROSION CONTROL DETAIL SHEET.

6. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCE AS NECESSARY TO ENSURE THAT IT FUNCTIONS TO CAPTURE MUD FROM THE TIRES OF CONSTRUCTION VEHICLES DURING CONSTRUCTION. THE PURPOSE OF THE CONSTRUCTION ENTRANCE IS TO KEEP ADJACENT STREETS CLEAR OF DIRT AND MUD. SWEEPING OF THE ROADWAYS SHALL BE PERFORMED BY THE CONTRACTOR ON AN AS NEEDED BASIS, BUT AT A MINIMUM ONCE A WEEK.

7. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO TOPSOIL FOR USE IN LANDSCAPING OPERATIONS.

8. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE WHICH CAUSE THE LEAST PRACTICAL UNPROTECTED DENUDED AREAS ON THE SITE DURING CONSTRUCTION.

9. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES AS ENFORCED BY THE MEDEP OR LOCAL AGENCIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.

10. A FULL EROSION/SEDIMENTATION CONTROL PLAN ACCOMPANIES THIS DRAWING SET.

11. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS AS SHOWN AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.

12. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAIN STORM OF 0.25 INCHES OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 OF THE STRUCTURE HEIGHT.

13. INSTALL CURLEX EROSION CONTROL MAT OR EQUAL ON ALL SLOPES STEEPER THAN 3:1.

14. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES, CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OCTOBER 2016".

15. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER, MDEP, THE CITY OF BIDDEFORD, OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.

RECORD DRAWING NOTE:

1. THE CONTRACTOR SHALL PROVIDE RECORD INFORMATION OF WORK COMPLETED IN ORDER TO SATISFY THE RECORD DRAWING REQUIREMENTS OF THE CITY OF BIDDEFORD.

LEGEND

EXISTING

- BOUNDARY LINE/R.O.W.
- ABUTTER LINE/R.O.W.
- DEED LINE/ROW
- TIE LINE
- EASEMENT
- FLOODPLAIN
- CENTERLINE
- IRON PIPE/ROD
- BENCHMARK
- BUILDING
- SIGN
- EDGE PAVEMENT
- ---122--- ---120--- CONTOURS
- ×30.20 SPOT GRADE
- CHAIN LINK FENCE
- DECIDUOUS TREE
- CONIFEROUS TREE
- GUARDRAIL
- WATER GATE VALVE
- HYDRANT
- W W WATER MAIN
- 12" san SANITARY SEWER
- 12"RCP 24"SD STORM DRAIN
- MANHOLE (AS LABELLED)
- CATCH BASIN
- UNIDENTIFIED MH
- OHW OVERHEAD UTILITY
- EM ELECTRIC METER BOX
- LIGHT POLE
- UTILITY POLE
- GUY
- BOULDER
- BORING BORING LOCATION BY SUMMIT GEOENGINEERING
- ZONING DISTRICT BOUNDARY
- WETLANDS DELINEATED BY FLYCATCHER, LLC
- STREAM
- TP A TEST PIT

PROPOSED

- BARRIER FREE SYMBOL
- SIGN
- A SIGN LABEL
- GUIDERAIL - METAL
- GUIDERAIL - TIMBER
- FENCE - CHAINLINK
- FENCE - WOOD
- BUILDING / BUILDING ACCESS
- PROPERTY LINE
- CONDOMINIUM LOT LINE
- RETAINING WALL
- PEDESTRIAN CROSSWALK
- TRAFFIC ARROWS
- BOLLARD
- SLIPFORM CONCRETE CURB
- BITUMINOUS CURB
- CATCH BASIN
- 100 CONTOUR LABEL
- DRAIN MANHOLE
- RIPRAP INLET APRON
- RIPRAP OUTLET APRON
- 1 2 2:1 SLOPE DESIGNATION
- 100.00 SPOT GRADE
- TC 99.0 BC 98.50 SPOT GRADE AT CURB (TC=TOP / BC=BOTTOM)
- WATER MARK
- 10"UD UNDERDRAIN
- SD9 STORM DRAIN
- TREE LINE OR LIMIT OF CLEARING
- CURB STOP
- HYDRANT
- LIGHT POLE WITH FIXTURE(S)
- WALL MOUNT LIGHT
- SANITARY SEWER MANHOLE
- TEST PIT
- T TRANSFORMER PAD
- UTILITY POLE
- VALVE
- SANITARY SEWER
- 6"W WATER MAIN
- 2"G GAS MAIN
- UGE UNDERGROUND ELECTRIC
- OHE OVERHEAD ELECTRIC
- TRAIL
- SNOW STORAGE
- CLL CLEARING LIMIT LINE

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE KALEB A. BOURASSA No. 17072 LICENSED PROFESSIONAL ENGINEER 06.26.24

KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-COVER.dwg		

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GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

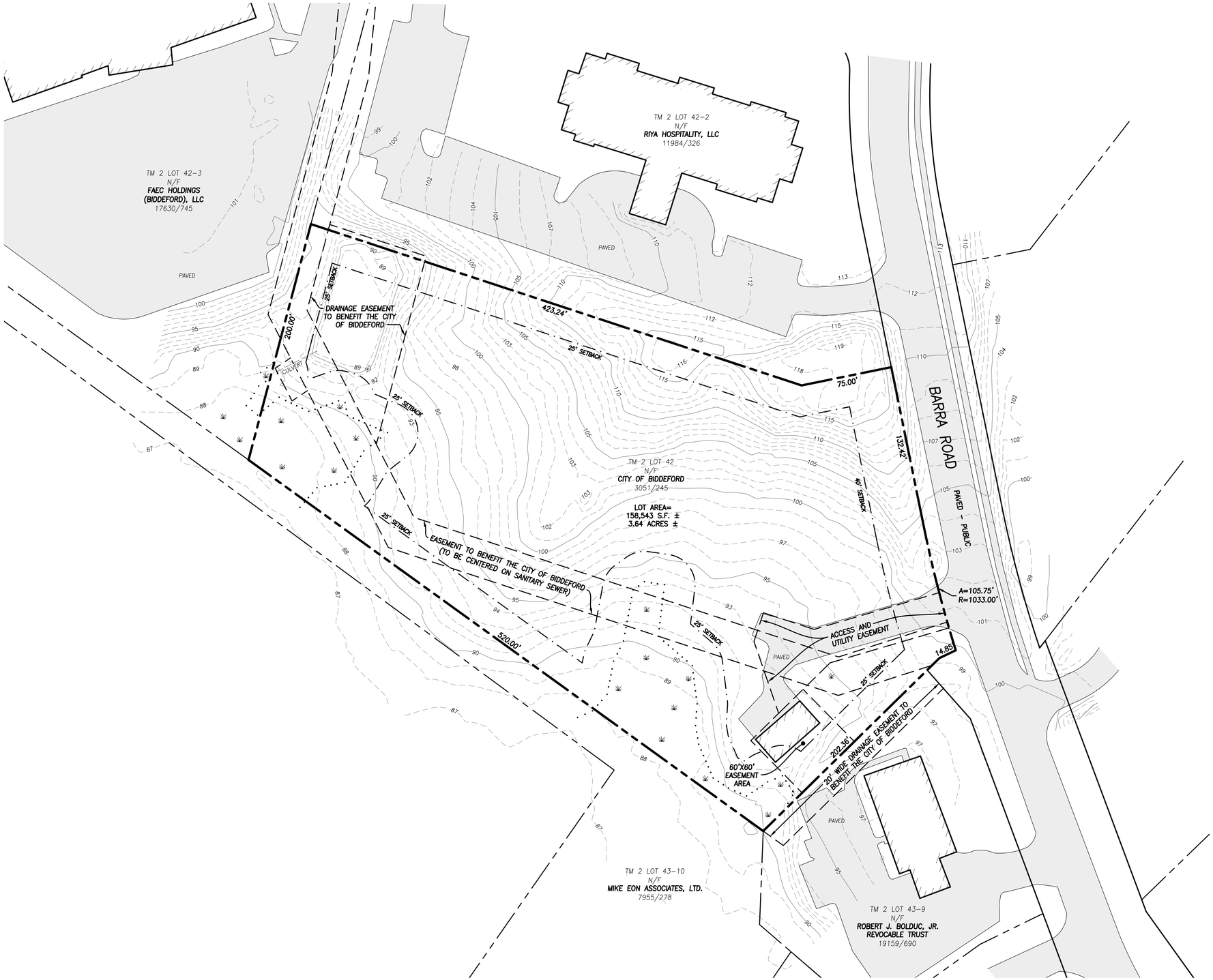
Drawing Name: GENERAL NOTES AND LEGEND

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

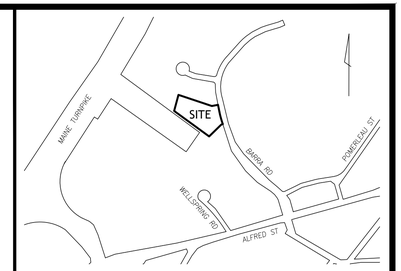
Drawing No. C-1.1

U:\4303_WHA Barra Road Development_Biddeford,ME\Z - CAD\DWG\4303-COVER.dwg 6/25/2024 11:43 AM



SCALE : 1" = 40'

0' 20' 40' 80'



LOCATION MAP

N.T.S.

LEGEND

- SETBACK LINE
- EASEMENT LINE
- EDGE OF WETLAND
- 100 — 1' CONTOUR

PLAN REFERENCES

1. "CITY OF BIDDEFORD, 205 MAIN STREET, BIDDEFORD, MAINE – FIFTH AMENDED SUBDIVISION PLAN", SEPTEMBER 12, 2024, BY OWEN HASKELL, INC, RECORDED AT YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.) IN PLAN BOOK 371, PAGE 50.

2. "AMENDED SUBDIVISION PLAN OF: LOT 1 – EXIT 4 BUSINESS PARK, BARRA ROAD, BIDDEFORD, MAINE – FOR: VERIZON NEW ENGLAND, INC.", NOVEMBER 21, 2000, BY SEBAGO TECHNICS.

3. "RECORD PLAN OF THE: EXIT 4 BUSINESS PARK PCH, BARRA ROAD, BIDDEFORD, MAINE – FOR: VERIZON NEW ENGLAND, INC.", NOVEMBER 14, 2000, BY SEBAGO TECHNICS, RECORDED AT Y.C.R.D. IN PLAN BOOK 260, PAGE 11.

4. SITE PLAN, COMMERCIAL SITE, 35 BARRA ROAD, BIDDEFORD, MAINE", JUNE 2011, BY BH2M, RECORDED AT Y.C.R.D. IN PLAN BOOK 354, PAGE 25.

5. SUBDIVISION PLAN, 3 LOT SUBDIVISION, BARRA ROAD, BIDDEFORD, MAINE", JUNE 2013, BY BH2M, RECORDED AT Y.C.R.D. IN PLAN BOOK 362, PAGE 30.

GENERAL NOTES

1. OWNER OF RECORD: CITY OF BIDDEFORD
TAX MAP 2 LOT 42
Y.C.R.D. BOOK 3051 PAGE 245

2. BEARINGS ARE BASED ON STATE PLAN COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83.

3. ELEVATIONS ARE BASED ON NAVD 88 DATUM, DERIVED FROM 2020 LiDAR DATA PROVIDED VIA HTTPS://COAST.NOAA.GOV/DATAVIEWER/.

4. THE PURPOSE OF THIS PLAN IS TO SHOW THE APPROXIMATE BOUNDARY OF THE LOCUS PARCEL AND ITS RELATION TO EXISTING FEATURES AND TOPOGRAPHIC DATA.

5. THE LOCUS PARCEL IS ENTIRELY WITHIN AN INDUSTRIAL 3 (I3) ZONE WITH THE FOLLOWING DIMENSIONAL REQUIREMENTS;
FRONT SETBACK: 40 FEET
SIDE/REAR SETBACK: 25 FEET
WETLAND SETBACK: 25 FEET

6. ACCORDING TO FEMA'S FLOOD INSURANCE RATE MAP 2301450008B, w/ EFFECTIVE DATE MAY 15, 1984, THE LOCUS PARCEL IS ZONE C (AREA OF MINIMAL FLOODING)

7. THE BOUNDARY OF THE LOCUS PARCELS SOLELY BASED ON PLAN REFERENCE #1. THIS IS NOT A BOUNDARY SURVEY.

8. WETLAND'S WERE DELINEATED MAY 22, 2024 BY FLYCATCHER, LLC.

9. BUILDINGS AND PAVEMENT SHOWN ARE BASED ON AERIAL PHOTOGRAPHY.

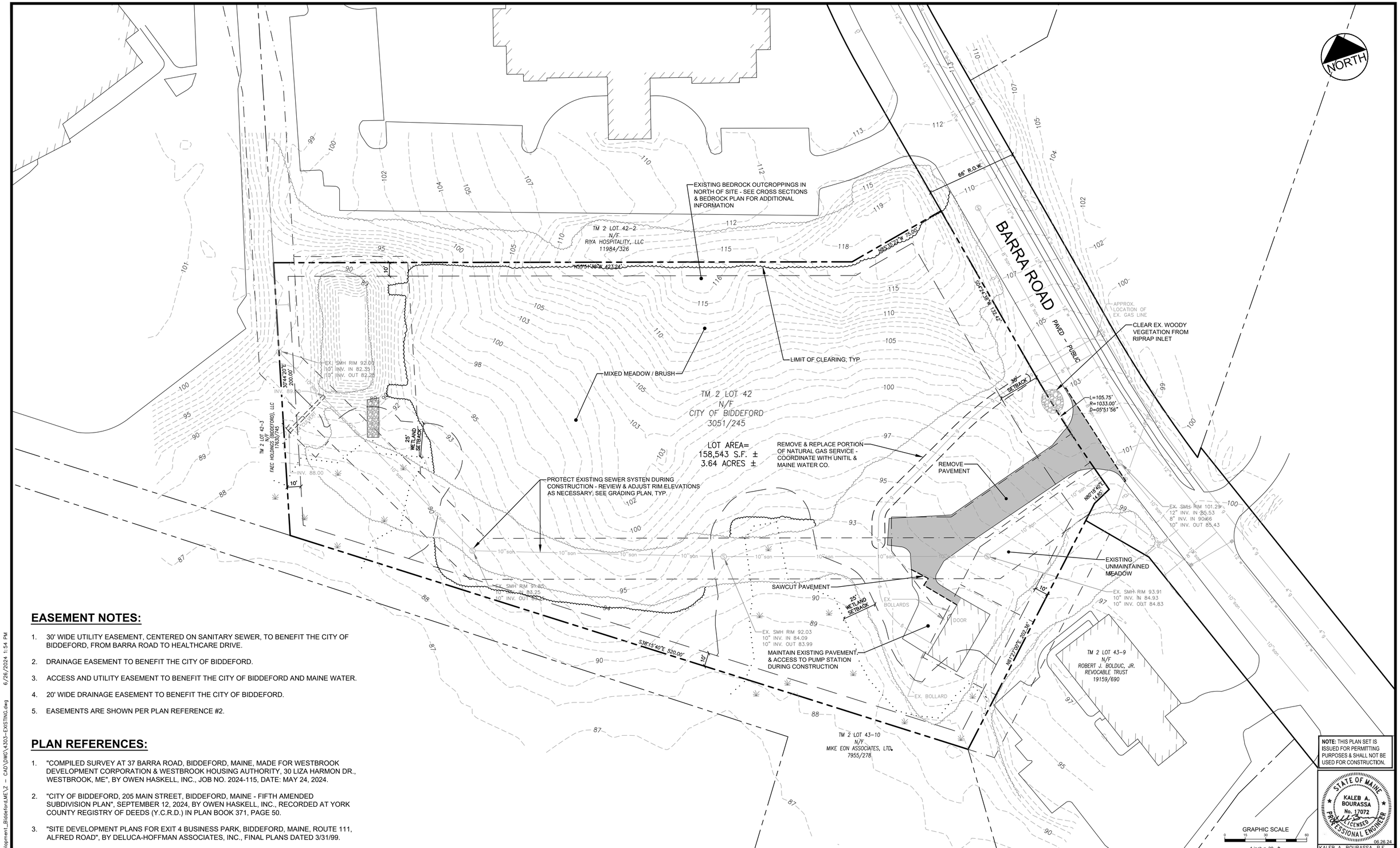
10. THE LOCUS PARCEL IS SUBJECT TO AN ACCESS & UTILITY EASEMENT AND A 60'X60' EASEMENT AREA, SHOWN PER PLAN REFERENCE #1. THE STATUS OF SAID EASEMENTS ARE UNKNOWN.

11. THE EASEMENTS LABELED "TO BENEFIT THE CITY OF BIDDEFORD" ARE SHOWN PER PLAN REFERENCE #1. THE STATUS OF SAID EASEMENTS ARE UNKNOWN.

Compiled Survey
At
37 Barra Road, Biddeford, Maine
Made for
Westbrook Development Corporation
& Westbrook Housing Authority
30 Liza Harmon Dr, Westbrook, ME

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

DRAWN BY: JWS	DATE: MAY 24, 2024	JOB NO. 2024-115
CHECKED BY: RRL	SCALE: 1" = 40'	DRWG. NO. 1



EASEMENT NOTES:

1. 30' WIDE UTILITY EASEMENT, CENTERED ON SANITARY SEWER, TO BENEFIT THE CITY OF BIDDEFORD, FROM BARRA ROAD TO HEALTHCARE DRIVE.
2. DRAINAGE EASEMENT TO BENEFIT THE CITY OF BIDDEFORD.
3. ACCESS AND UTILITY EASEMENT TO BENEFIT THE CITY OF BIDDEFORD AND MAINE WATER.
4. 20' WIDE DRAINAGE EASEMENT TO BENEFIT THE CITY OF BIDDEFORD.
5. EASEMENTS ARE SHOWN PER PLAN REFERENCE #2.

PLAN REFERENCES:

1. "COMPILED SURVEY AT 37 BARRA ROAD, BIDDEFORD, MAINE, MADE FOR WESTBROOK DEVELOPMENT CORPORATION & WESTBROOK HOUSING AUTHORITY, 30 LIZA HARMON DR., WESTBROOK, ME", BY OWEN HASKELL, INC., JOB NO. 2024-115, DATE: MAY 24, 2024.
2. "CITY OF BIDDEFORD, 205 MAIN STREET, BIDDEFORD, MAINE - FIFTH AMENDED SUBDIVISION PLAN", SEPTEMBER 12, 2024, BY OWEN HASKELL, INC., RECORDED AT YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.) IN PLAN BOOK 371, PAGE 50.
3. "SITE DEVELOPMENT PLANS FOR EXIT 4 BUSINESS PARK, BIDDEFORD, MAINE, ROUTE 111, ALFRED ROAD", BY DELUCA-HOFFMAN ASSOCIATES, INC., FINAL PLANS DATED 3/31/99.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
KALEB A. BOURASSA
No. 17072
LICENSED
PROFESSIONAL ENGINEER
06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-EXISTING.dwg		

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GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

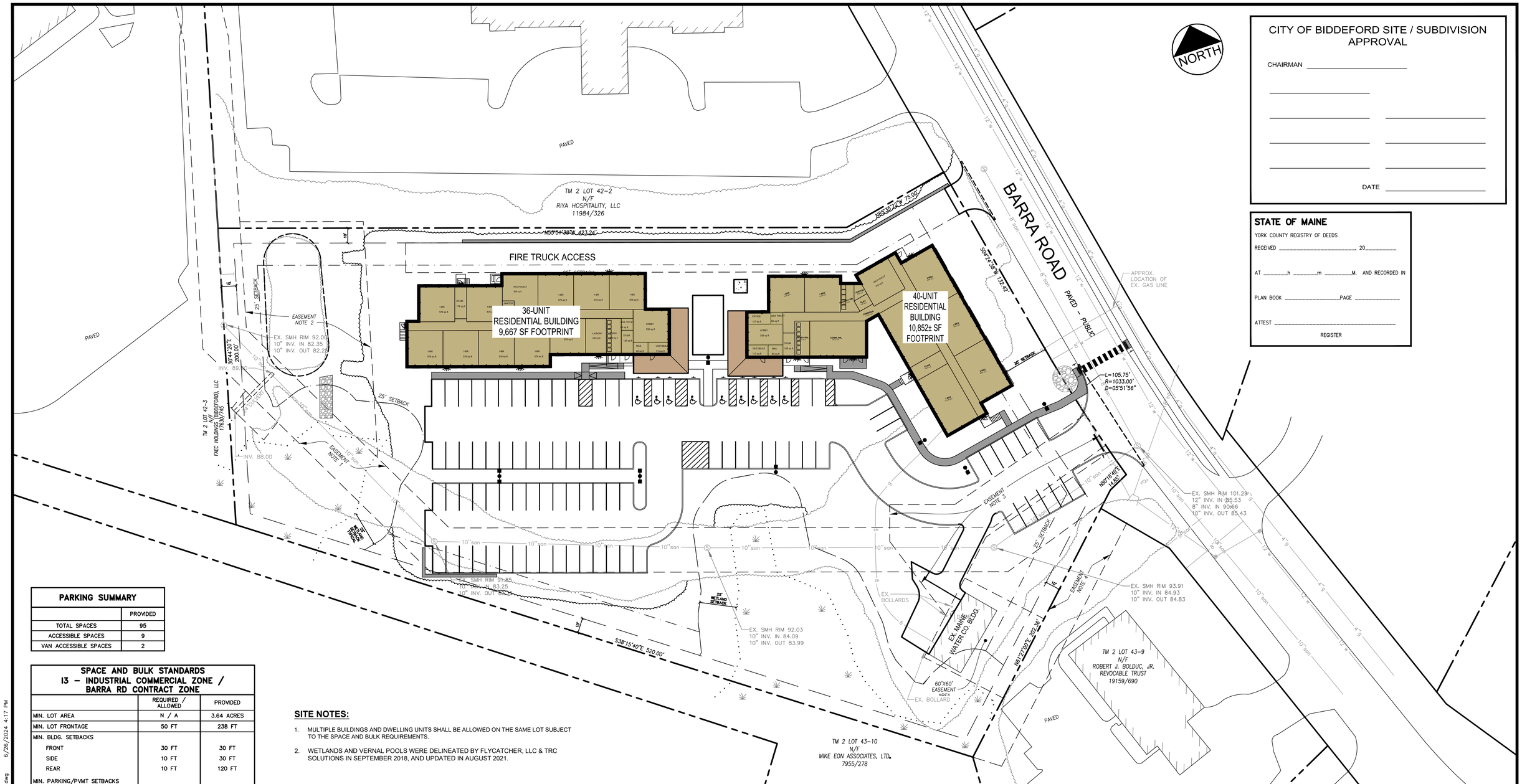
Drawing Name: EXISTING CONDITIONS & REMOVALS PLAN

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-2.0

U:\4303_WHA Barra Road Development_Biddeford,ME\Z - CAD\DWG\4303-EXISTING.dwg 6/26/2024 1:54 PM



CITY OF BIDDEFORD SITE / SUBDIVISION APPROVAL

CHAIRMAN _____

_____

_____ _____

_____ _____

_____ _____

DATE _____

STATE OF MAINE

YORK COUNTY REGISTRY OF DEEDS

RECEIVED _____ 20_____

AT _____h _____m _____M. AND RECORDED IN

PLAN BOOK _____PAGE _____

ATTEST _____

REGISTER

PARKING SUMMARY	
	PROVIDED
TOTAL SPACES	95
ACCESSIBLE SPACES	9
VAN ACCESSIBLE SPACES	2

SPACE AND BULK STANDARDS I3 – INDUSTRIAL COMMERCIAL ZONE / BARRA RD CONTRACT ZONE		
	REQUIRED / ALLOWED	PROVIDED
MIN. LOT AREA	N / A	3.64 ACRES
MIN. LOT FRONTAGE	50 FT	238 FT
MIN. BLDG. SETBACKS		
FRONT	30 FT	30 FT
SIDE	10 FT	30 FT
REAR	10 FT	120 FT
MIN. PARKING/PVMT SETBACKS		
FRONT	25 FT	25 FT
SIDE / REAR	25 FT	0 FT
MAX. BUILDING HEIGHT	6 STORIES OR 60 FT	6 STORIES OR 60 FT
MAX. IMPERVIOUS COVERAGE PER LOT	75% OR 118,918 SF	70,501 SF

CURRENT PROPERTY OWNER OF RECORD:
CITY OF BIDDEFORD
C.C.R.D. BOOK 3051, PAGE 245

SITE NOTES:

1. MULTIPLE BUILDINGS AND DWELLING UNITS SHALL BE ALLOWED ON THE SAME LOT SUBJECT TO THE SPACE AND BULK REQUIREMENTS.
2. WETLANDS AND VERNAL POOLS WERE DELINEATED BY FLYCATCHER, LLC & TRC SOLUTIONS IN SEPTEMBER 2018, AND UPDATED IN AUGUST 2021.

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2. DRAINAGE EASEMENT TO BENEFIT THE CITY OF BIDDEFORD.
3. ACCESS AND UTILITY EASEMENT TO BENEFIT THE CITY OF BIDDEFORD AND MAINE WATER.
4. 20' WIDE DRAINAGE EASEMENT TO BENEFIT THE CITY OF BIDDEFORD.
5. EASEMENTS ARE SHOWN PER PLAN REFERENCE #2.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
KALEB A. BOURASSA
No. 17072
LICENSED
PROFESSIONAL ENGINEER
06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-SITE.dwg		

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An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

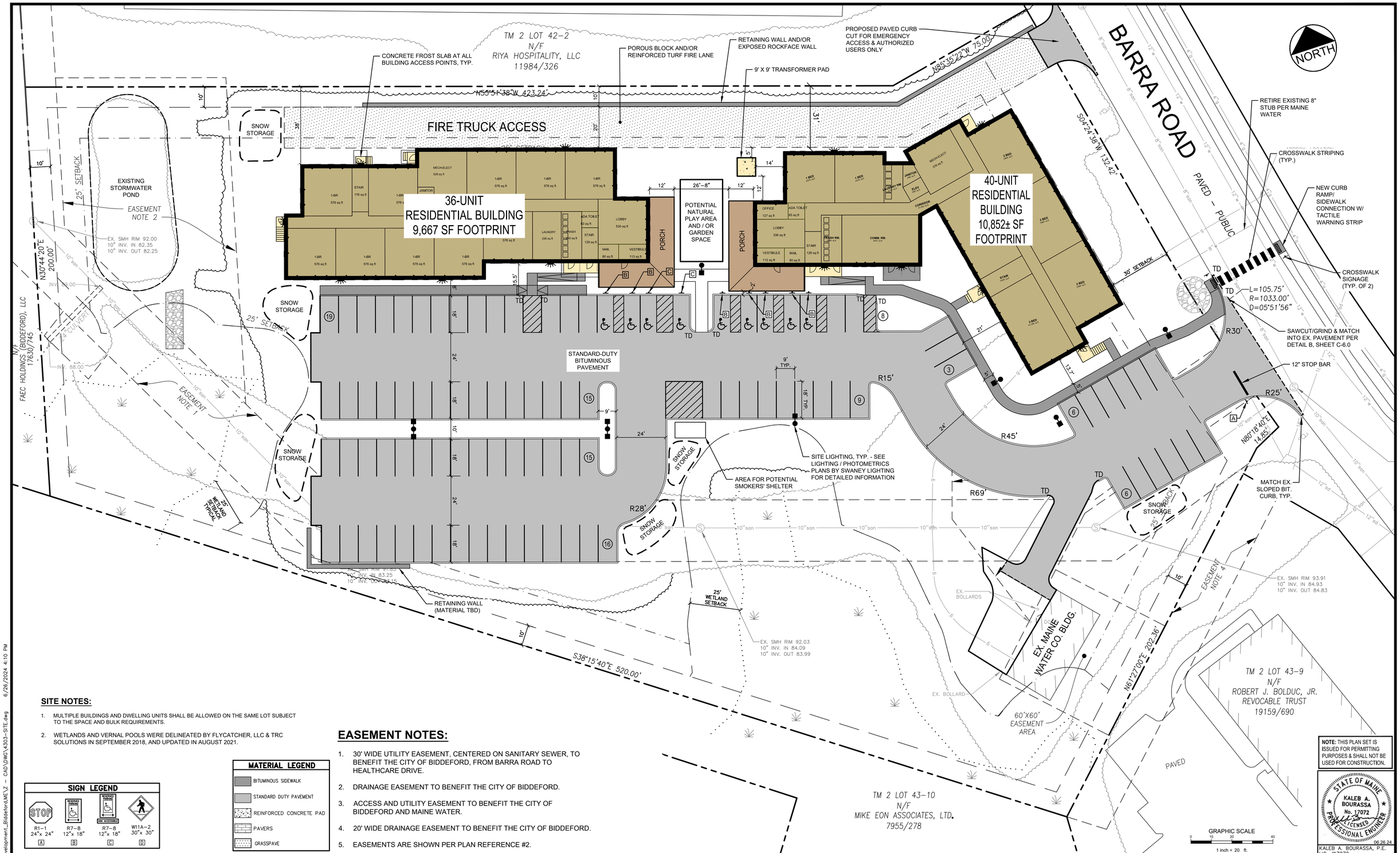
Drawing Name: OVERALL SITE / SUBDIVISION PLAN

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-3.0

U:\4303_WHA Barra Road Development_Biddeford,ME\Z – CAD\DWG\4303-SITE.dwg 6/26/2024 4:17 PM



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SIGN LEGEND

R1-1	R7-8	R7-8	W11A-2
24"x 24"	12"x 18"	12"x 18"	30"x 30"
A	B	C	D

MATERIAL LEGEND

- BITUMINOUS SIDEWALK
- STANDARD DUTY PAVEMENT
- REINFORCED CONCRETE PAD
- PAVERS
- GRASSPAVE

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — KALEB A. BOURASSA No. 17072 — LICENSED PROFESSIONAL ENGINEER — 06.26.24

KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

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An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: SITE LAYOUT PLAN

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-3.1

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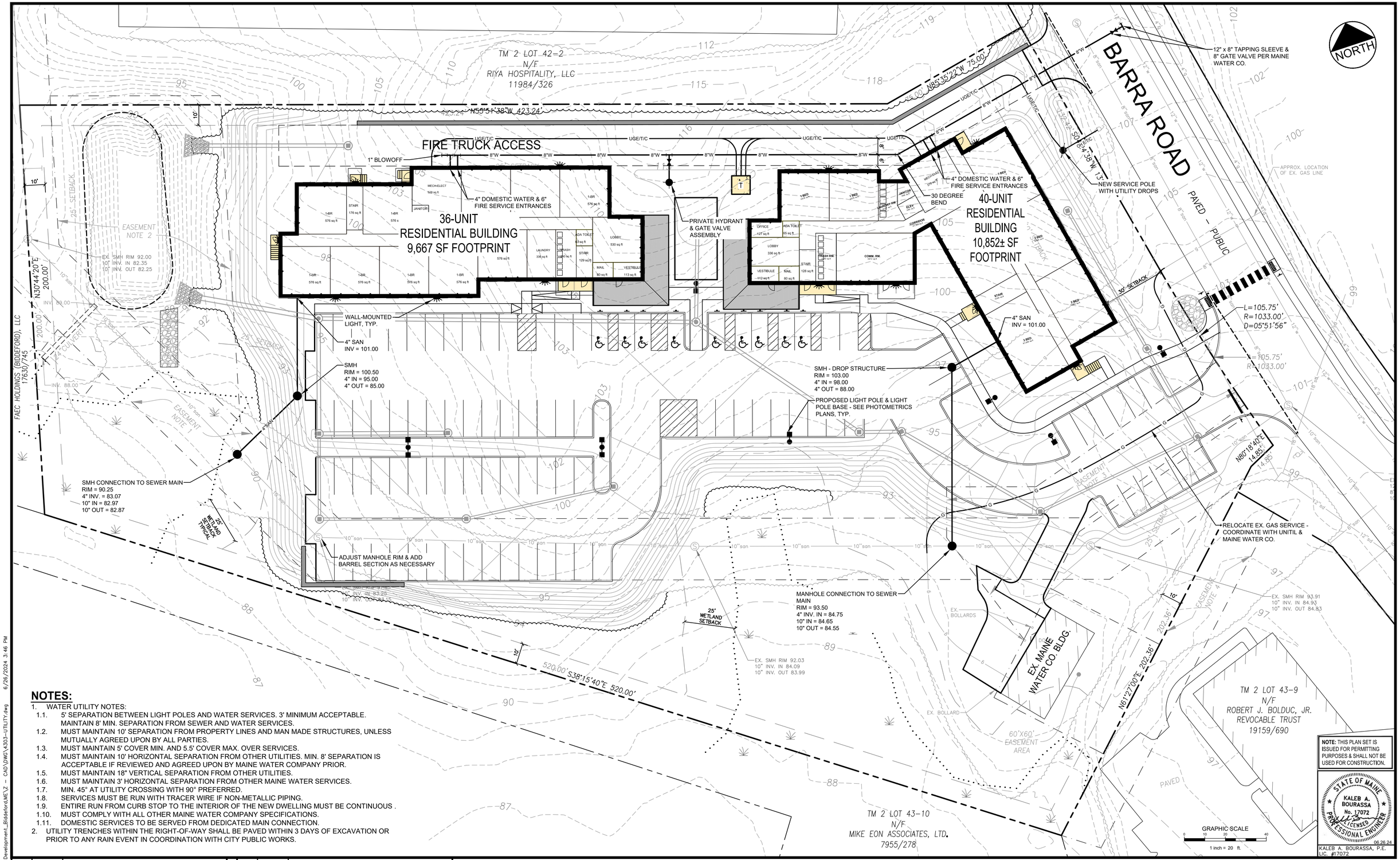

NOTES:

1. WATER UTILITY NOTES:
   - 1.1. 5' SEPARATION BETWEEN LIGHT POLES AND WATER SERVICES. 3' MINIMUM ACCEPTABLE. MAINTAIN 8' MIN. SEPARATION FROM SEWER AND WATER SERVICES.
   - 1.2. MUST MAINTAIN 10' SEPARATION FROM PROPERTY LINES AND MAN MADE STRUCTURES, UNLESS MUTUALLY AGREED UPON BY ALL PARTIES.
   - 1.3. MUST MAINTAIN 5' COVER MIN. AND 5.5' COVER MAX. OVER SERVICES.
   - 1.4. MUST MAINTAIN 10' HORIZONTAL SEPARATION FROM OTHER UTILITIES. MIN. 8' SEPARATION IS ACCEPTABLE IF REVIEWED AND AGREED UPON BY MAINE WATER COMPANY PRIOR.
   - 1.5. MUST MAINTAIN 18" VERTICAL SEPARATION FROM OTHER UTILITIES.
   - 1.6. MUST MAINTAIN 3' HORIZONTAL SEPARATION FROM OTHER MAINE WATER SERVICES.
   - 1.7. MIN. 45° AT UTILITY CROSSING WITH 90° PREFERRED.
   - 1.8. SERVICES MUST BE RUN WITH TRACER WIRE IF NON-METALLIC PIPING.
   - 1.9. ENTIRE RUN FROM CURB STOP TO THE INTERIOR OF THE NEW DWELLING MUST BE CONTINUOUS .
   - 1.10. MUST COMPLY WITH ALL OTHER MAINE WATER COMPANY SPECIFICATIONS.
   - 1.11. DOMESTIC SERVICES TO BE SERVED FROM DEDICATED MAIN CONNECTION.
2. UTILITY TRENCHES WITHIN THE RIGHT-OF-WAY SHALL BE PAVED WITHIN 3 DAYS OF EXCAVATION OR PRIOR TO ANY RAIN EVENT IN COORDINATION WITH CITY PUBLIC WORKS.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
KALEB A. BOURASSA
No. 17072
LICENSED PROFESSIONAL ENGINEER
06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-UTILITY.dwg		

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An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: UTILITY PLAN

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-4.0

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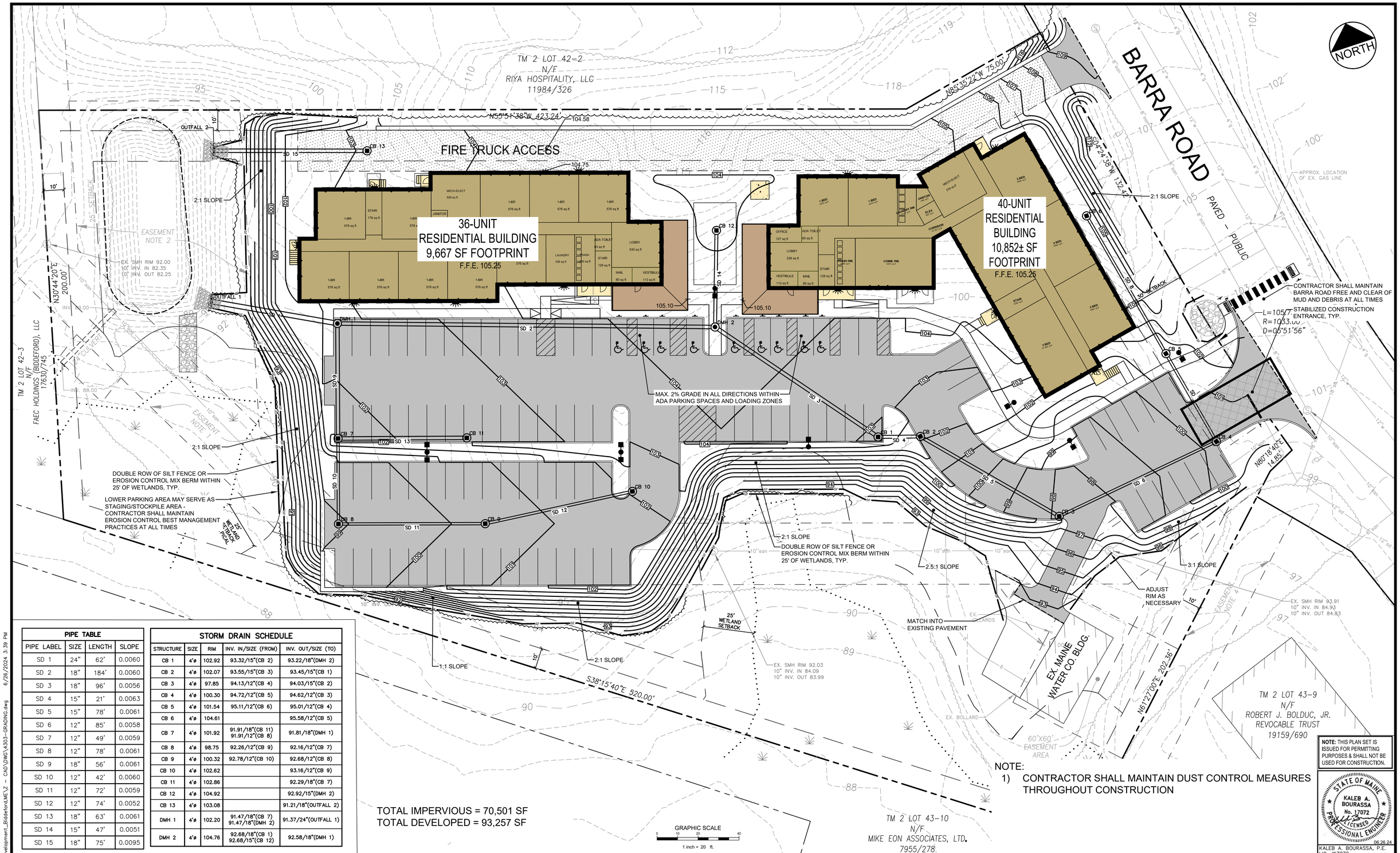

TOTAL IMPERVIOUS = 70,501 SF
TOTAL DEVELOPED = 93,257 SF

NOTE:
1) CONTRACTOR SHALL MAINTAIN DUST CONTROL MEASURES THROUGHOUT CONSTRUCTION

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — KALEB A. BOURASSA No. 17072 — LICENSED PROFESSIONAL ENGINEER

06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

PIPE TABLE

PIPE LABEL	SIZE	LENGTH	SLOPE
SD 1	24"	62'	0.0060
SD 2	18"	184'	0.0060
SD 3	18"	96'	0.0056
SD 4	15"	21'	0.0063
SD 5	15"	78'	0.0061
SD 6	12"	85'	0.0058
SD 7	12"	49'	0.0059
SD 8	12"	78'	0.0061
SD 9	18"	56'	0.0061
SD 10	12"	42'	0.0060
SD 11	12"	72'	0.0059
SD 12	12"	74'	0.0052
SD 13	18"	63'	0.0061
SD 14	15"	47'	0.0051
SD 15	18"	75'	0.0095

STORM DRAIN SCHEDULE

STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)
CB 1	4'ø	102.92	93.32/15"(CB 2)	93.22/18"(DMH 2)
CB 2	4'ø	102.07	93.55/15"(CB 3)	93.45/15"(CB 1)
CB 3	4'ø	97.85	94.13/12"(CB 4)	94.03/15"(CB 2)
CB 4	4'ø	100.30	94.72/12"(CB 5)	94.62/12"(CB 3)
CB 5	4'ø	101.54	95.11/12"(CB 6)	95.01/12"(CB 4)
CB 6	4'ø	104.61		95.58/12"(CB 5)
CB 7	4'ø	101.92	91.91/18"(CB 11) 91.91/12"(CB 8)	91.81/18"(DMH 1)
CB 8	4'ø	98.75	92.26/12"(CB 9)	92.16/12"(CB 7)
CB 9	4'ø	100.32	92.78/12"(CB 10)	92.68/12"(CB 8)
CB 10	4'ø	102.62		93.16/12"(CB 9)
CB 11	4'ø	102.86		92.29/18"(CB 7)
CB 12	4'ø	104.92		92.92/15"(DMH 2)
CB 13	4'ø	103.08		91.21/18"(OUTFALL 2)
DMH 1	4'ø	102.20	91.47/18"(CB 7) 91.47/18"(DMH 2)	91.37/24"(OUTFALL 1)
DMH 2	4'ø	104.76	92.68/18"(CB 1) 92.68/15"(CB 12)	92.58/18"(DMH 1)

Rev.	Date	Revision

Rev.	Date	Revision
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1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-GRADING.dwg		

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GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: GRADING, DRAINAGE & EROSION CONTROL PLAN

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-5.0

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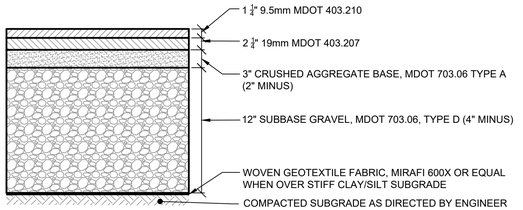
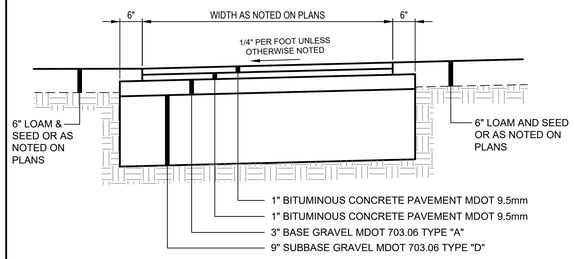


NOTES:

1. APPLY TACK COAT BETWEEN BINDER AND SURFACE COURSES.
2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION.

(A) STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT SECTION

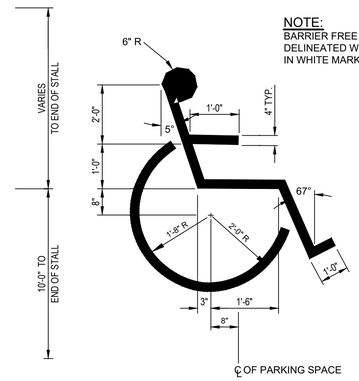
N.T.S.



(D) BITUMINOUS SIDEWALK DETAIL - NON-CURBED AREAS

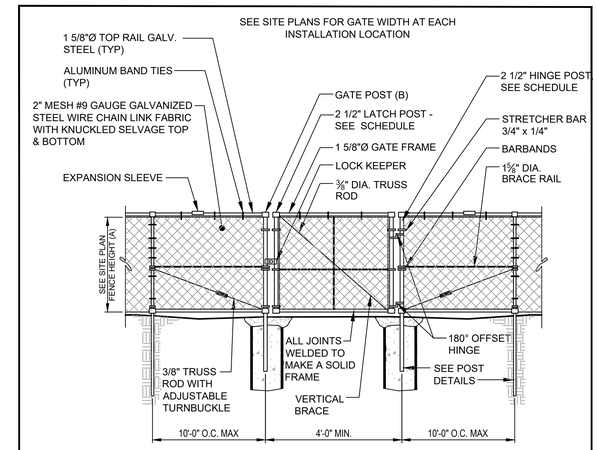
N.T.S.

NOTE:
BARRIER FREE STALLS SHALL BE DELINEATED WITH THIS SYMBOL IN WHITE MARKING.

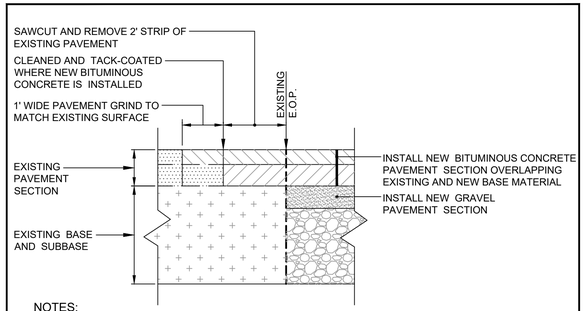


(G) INTERNATIONAL BARRIER FREE SYMBOL

N.T.S.



4' WIDE PEDESTRIAN SINGLE SWING GATE (WHERE SHOWN ON PLANS)



NOTES:

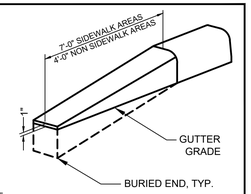
1. APPLY TACK COAT BETWEEN BINDER AND SURFACE COURSES.
2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION.

(B) TYPICAL PAVEMENT SECTION NEW PAVEMENT ADJACENT TO EXISTING PAVEMENT

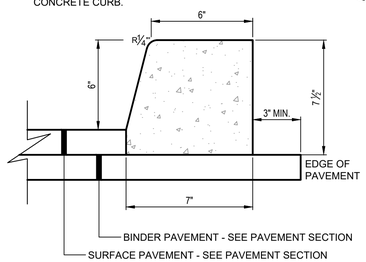
N.T.S.

NOTES:

1. 4,000 PSI CONCRETE WITH FIBER REINFORCEMENT.
2. 4% TO 6% AIR ENTRAINMENT.
3. 1" TO 2" SLUMP.
4. APPLY EPOXY TO BINDER PAVEMENT PRIOR TO CURB PLACEMENT.
5. APPLY SALTGUARD ™ TREATMENT TO ALL CONCRETE CURB.

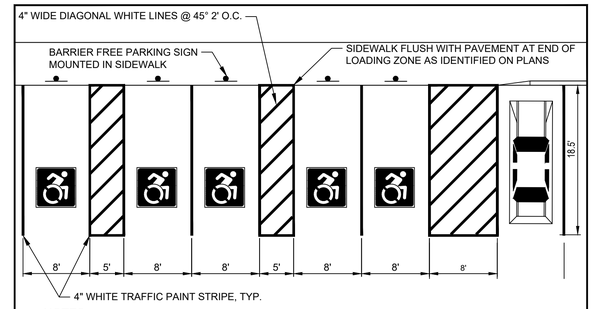


END TRANSITION CURB



(E) EXTRUDED VERTICAL SLIPFORM CONCRETE CURB

N.T.S.

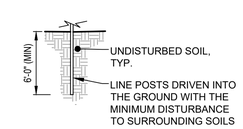


NOTES:

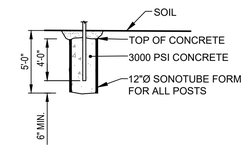
1. A MIN. OF ONE IN EIGHT BARRIER FREE SPACES SHALL BE VAN ACCESSIBLE (OR AS SHOWN ON PLANS). SEE THE SITE LAYOUT PLAN FOR LOCATIONS.
2. BARRIER FREE GRAPHICS SYMBOL (PAINTED WHITE) TO BE CENTERED IN PARKING STALL. SYMBOL TO BE PAINTED ON BLUE NON-SKID BACKGROUND. GRAPHIC SYMBOL SHALL MEET ALL APPLICABLE STATE & LOCAL REGULATIONS.

(H) TYPICAL BARRIER FREE PARKING STALL DIMENSIONS & STANDARD PARKING STALL STRIPING

N.T.S.



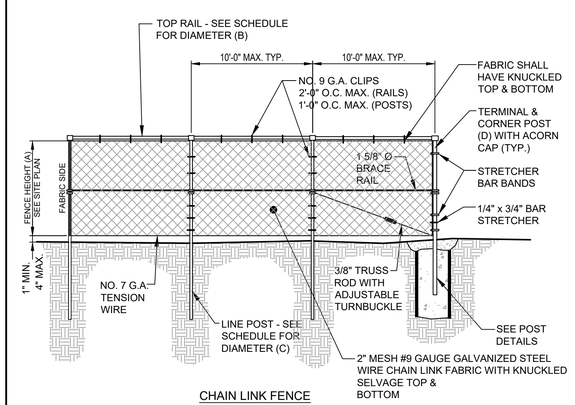
INTERMEDIARY LINE POST DETAIL



TERMINAL, CORNER & GATE POST DETAIL

CHAIN LINK FENCE INSTALLATION SCHEDULE			
FENCE HEIGHT (A)	TOP RAIL PIPE DIA. (B)	LINE POST PIPE DIA. (C)	CORNER, TERMINAL & GATE POST PIPE DIA. (D)
4'	1.66"	1.90"	2.375"
6'	1.66"	1.90"	2.375"
8'	1.66"	2.375"	2.875"
10'	1.66"	2.875"	2.875"

SINGLE SWINGING GATE INSTALLATION SCHEDULE	
FENCE HEIGHT (A)	GATE POST PIPE DIA. (B)
4'	2.875"
6'	2.875"
8'	4.000"
10'	4.000"



CHAIN LINK FENCE

NOTES:

1. DIMENSIONS FOR PIPE DIAMETERS ARE NOMINAL OUTSIDE DIAMETERS.
2. REFER TO PLANS FOR LOCATION & HEIGHT OF FENCES TO BE INSTALLED.

(J) GALVANIZED CHAIN LINK FENCE DETAILS

N.T.S.

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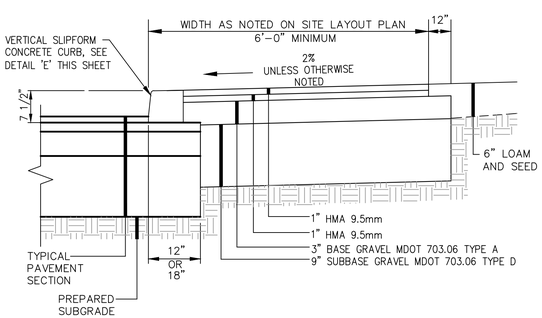
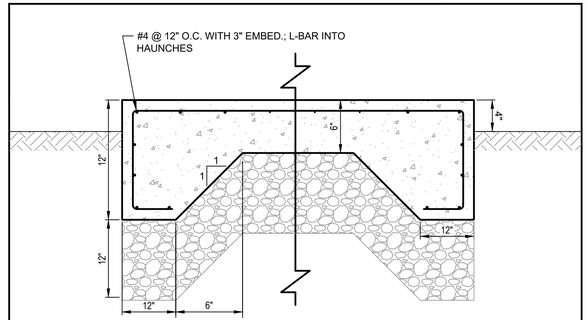
STATE OF MAINE
KALEB A. BOURASSA
No. 17072
LICENSED
PROFESSIONAL ENGINEER
06.26.24

KALEB A. BOURASSA, P.E.
LIC. #17072



(C) BITUMINOUS SIDEWALK DETAIL - CURBED AREAS

N.T.S.

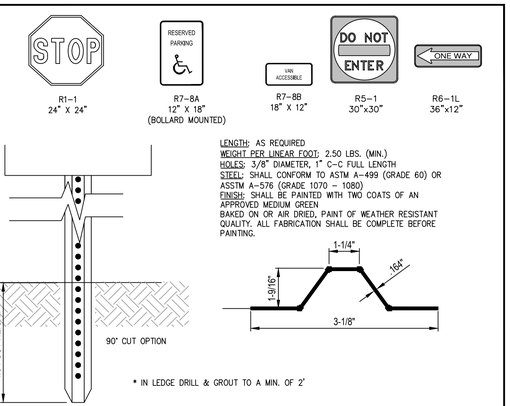


NOTES:

1. SEE SITE LAYOUT PLAN FOR PAD DIMENSIONS.
2. 12" BASE GRAVEL SHALL BE MDOT 703.06 STANDARDS FOR TYPE D GRAVEL.
3. CONCRETE PAD SHALL HAVE COMPRESSIVE STRENGTH OF 4,500 PSI.
4. PROVIDE BROOM FINISH AND SALTGUARD™ CHLORIDE INHIBITOR.

(F) STAND-ALONE CONCRETE PAD DETAIL

N.T.S.



LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS. (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 – 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

* IN LEDGE DRILL & GROUT TO A MIN. OF 2'

(I) SIGN LEGEND & SIGN POST

N.T.S.

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Rev.	Date	Revision

Rev.	Date	Revision
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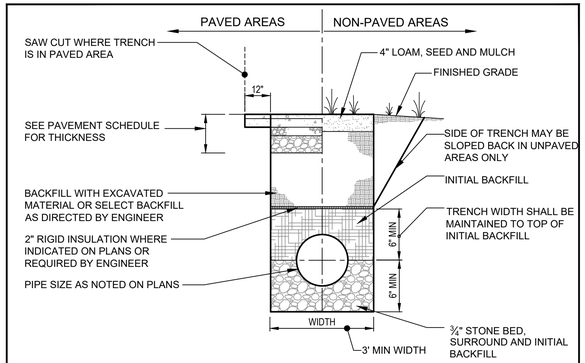
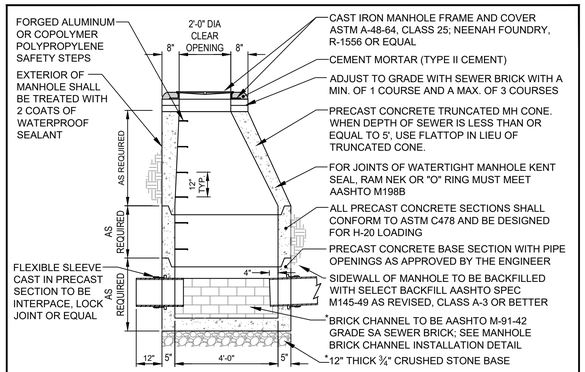


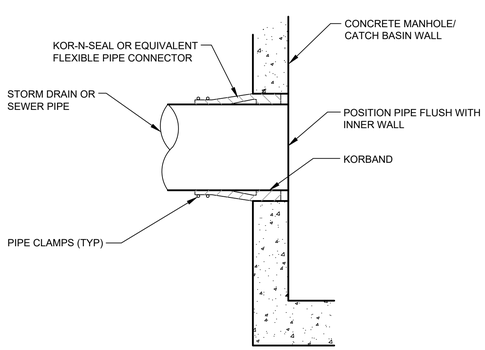
NOTE:
BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

(A) TYPICAL SEWER AND STORM DRAIN TRENCH SECTION
N.T.S.



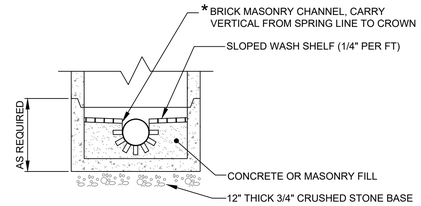
(B) 4'-0" DIA. PRECAST SEWER & STORM DRAIN MANHOLE DETAIL
N.T.S.

NOTE:
CHANNEL MAY ALSO BE A PREFABRICATED FIBERLINER 2000 CHANNEL AS FABRICATED BY GDT, INC. OF ESSEX, CT OR EQUAL



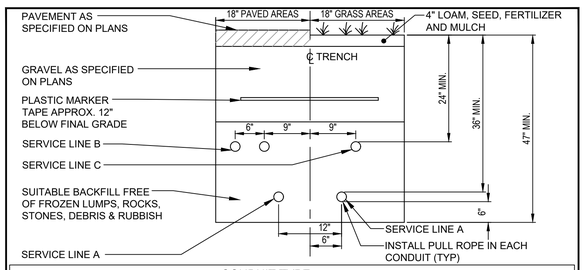
(C) PIPE CONNECTION TO PRECAST CONCRETE SANITARY SEWER AND STORM DRAINAGE STRUCTURES
N.T.S.

*NOTE:
CHANNEL MAY ALSO BE A PREFABRICATED FIBERLINER 2000 CHANNEL AS FABRICATED BY GDT, INC. OF ESSEX, CT OR EQUAL



NOTES:
1. BRICK CHANNEL TO BE AASHTO M-91-42 GRADE SA SEWER BRICK.*
2. MANHOLE TEST TO BE ACCOMPLISHED AFTER CHANNEL INSTALLATION IS COMPLETE.
3. WHERE THE ALIGNMENT CHANGES OR SIDE FLOW ENTERS THE MANHOLE, CONSTRUCT CHANNEL WITH A SMOOTH RADIAL CHANNEL TO ACCOMPLISH ALL JUNCTIONAL CHANGE OF ALIGNMENT WITHIN MANHOLE.

(D) MANHOLE BRICK CHANNEL INSTALLATION DETAIL
N.T.S.

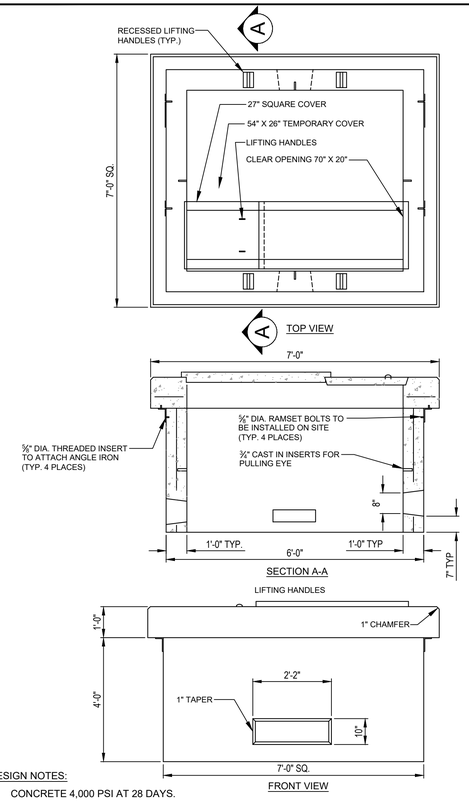


CONDUIT TYPE

SERVICE	CONDUIT SIZE	GRASS AREAS	PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	RIGID GALVANIZED STEEL, ASTM A120	POWER	SEE NOTE 1
B	4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	TELEPHONE	SEE NOTE 1
C	2"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	COMMUNICATION	

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10' ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. SEE SITE ELECTRICAL PLAN FOR LOCATION AND NUMBER OF CONDUITS.

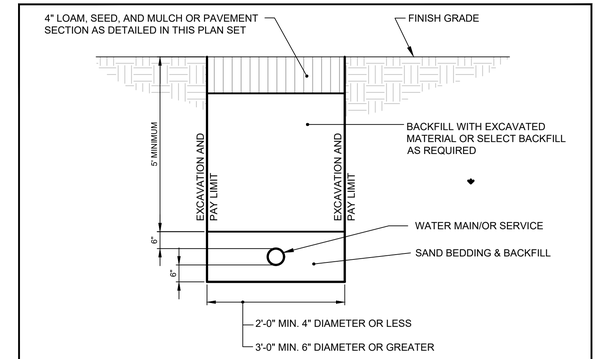
(E) UTILITY TRENCH - PRIMARY ELECTRIC, TELEPHONE & COMMUNICATIONS
N.T.S.



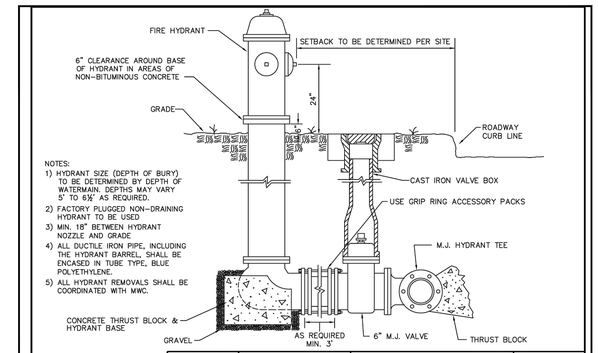
DESIGN NOTES:
1. CONCRETE 4,000 PSI AT 28 DAYS.
2. REINFORCING #4 BARS AT 6" O.C. EACH WAY.
3. DUCT OPENINGS SHOWN ARE TYPICAL AND CAN BE MODIFIED PER REQUEST.
4. CENTRAL MAINE POWER COMPANY SPECIFICATION.
5. TEMPORARY COVER HAS (2) ⅝" THREADED LIFTING INSERTS CAST IN.

NOTE: CONFIRM TRANSFORMER PAD SIZES WITH OWNER AND ELECTRICAL DESIGNER. SITE WORK CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE TRANSFORMER PAD.

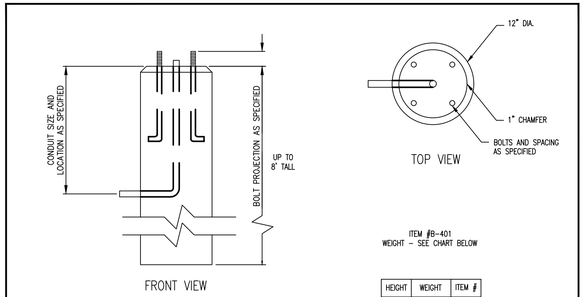
(G) 7'-0" TRANSFORMER PAD
N.T.S.



(I) WATER SERVICE TRENCH SECTION
N.T.S.



(J) FIRE HYDRANT INSTALLATION DETAIL
N.T.S.



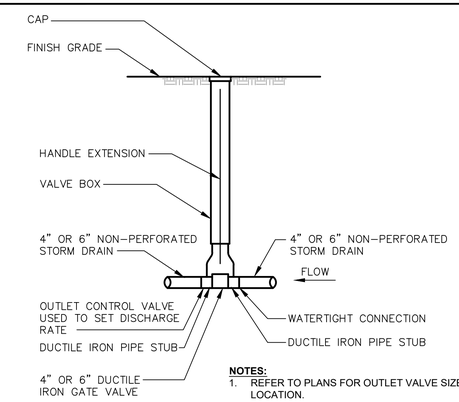
ITEM #B-401
WEIGHT - SEE CHART BELOW

HEIGHT	WEIGHT	ITEM #
4' TALL	472 LBS	B-4014
5' TALL	590 LBS	B-4015
6' TALL	708 LBS	B-4016
7' TALL	826 LBS	B-4017
8' TALL	944 LBS	B-4018

DESIGN NOTES:
1 - CONCRETE 4000 PSI AT 28 DAYS.
2 - REINFORCING IS AS SPECIFIED. (TYP. 4 - #4 VERTICALLY AND #3 STIRRUPS 12" O.C. HORIZONTALLY)
3 - ANCHOR BOLTS AND GROUNDING AS SPECIFIED.
4 - BALLAST POURED AROUND BASE IF REQUIRED.

PRECAST CONCRETE PRODUCTS OF MAINE, INC. PHONE (207) 729-1628 FAX (207) 729-8710

(F) 12" DIA. LIGHT POLE BASE
N.T.S.



NOTES:
1. REFER TO PLANS FOR OUTLET VALVE SIZE AT EACH LOCATION.
2. PROVIDE VALVE WRENCH AND HANDLE EXTENSION TO OWNER UPON COMPLETION OF WORK.

(H) OUTLET VALVE DETAIL
N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE KALEB A. BOURASSA No. 17072 LICENSED PROFESSIONAL ENGINEER 06.26.24

KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB | Draft: CDD | Date: JUNE 2024
Checked: SRB | Scale: AS NOTED | Job No.: 4303
File Name: 4303-DETAILS.dwg

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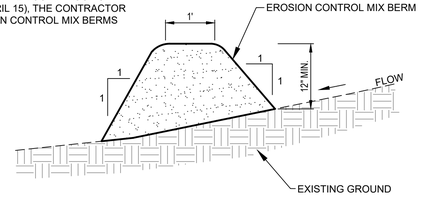
GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: STORM DRAIN & UTILITY DETAILS
Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE
Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-6.1

U:\4303_WHA Barra Road Development_Biddeford,ME\2 - CAD\DWG\4303-DETAILS.dwg 6/25/2024 11:45 AM

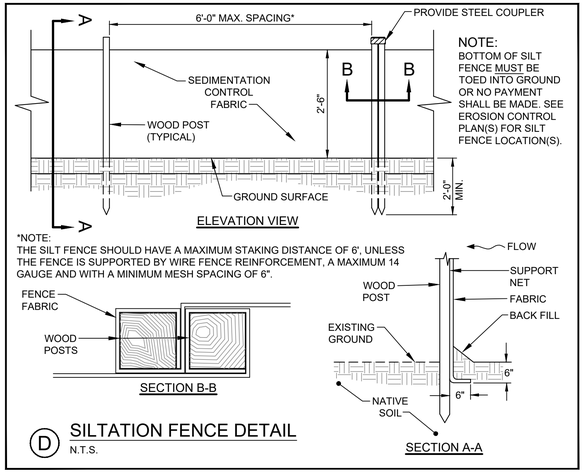
NOTE:
DURING PERIODS OF WINTER CONSTRUCTION (NOV. 15 THROUGH APRIL 15), THE CONTRACTOR SHALL INSTALL EROSION CONTROL MIX BERMS IN LIEU OF SILT FENCE.



EROSION CONTROL MIX:
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES & MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:

- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100%, DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70%, MAXIMUM OF 85%, PASSING A 0.75" SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 mmhos/cm.
- PH SHALL FALL BETWEEN 5.0 AND 8.0.

(A) EROSION CONTROL MIX BERM DETAIL
N.T.S.

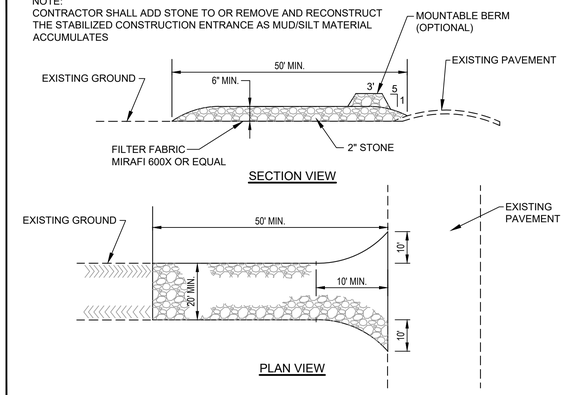


NOTE:
BOTTOM OF SILT FENCE MUST BE TOED INTO GROUND OR NO PAYMENT SHALL BE MADE. SEE EROSION CONTROL PLAN(S) FOR SILT FENCE LOCATION(S).

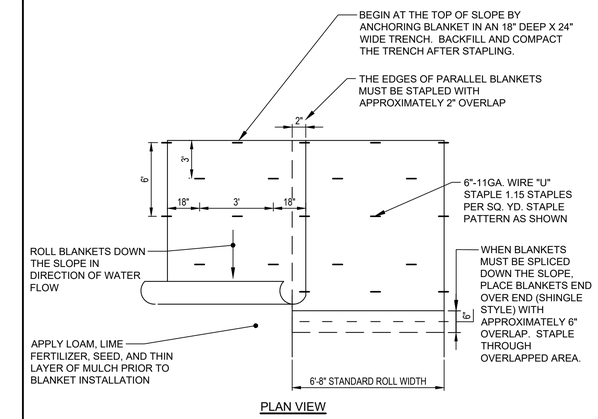
*NOTE:
THE SILT FENCE SHOULD HAVE A MAXIMUM STAKING DISTANCE OF 6', UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT, A MAXIMUM 14 GAUGE AND WITH A MINIMUM MESH SPACING OF 6".

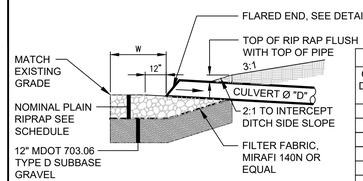
(D) SILTATION FENCE DETAIL
N.T.S.

NOTE:
CONTRACTOR SHALL ADD STONE TO OR REMOVE AND RECONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES



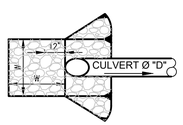
(G) STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.





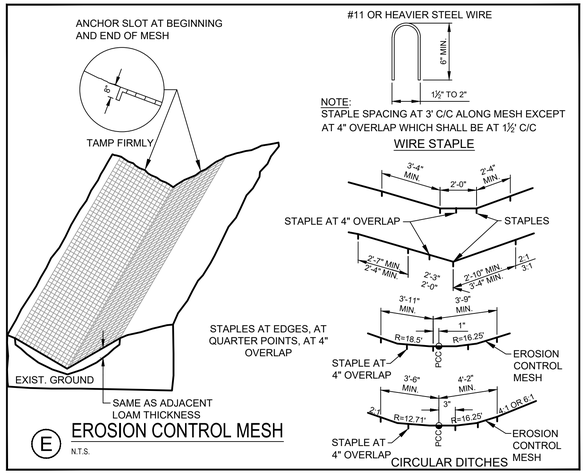
SCHEDULE

CULVERT DIAMETER (D)	WIDTH (W)	STONE D_{50}	RIPRAP THICKNESS
12"	2'	6"	14"
15"	4'	6"	14"
18"	4'	6"	14"
24"	6'	6"	14"
36"	8'	12"	27"
42"	10'	12"	27"
48"	12'	12"	27"



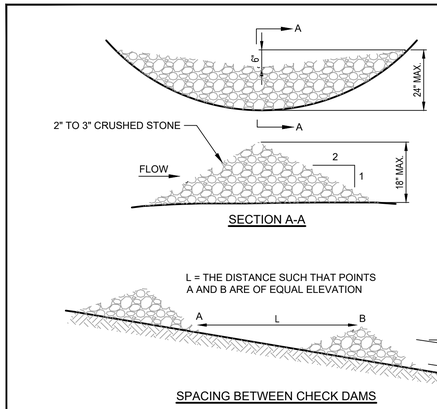
NOTE:
RIPRAP GRADATION AND PLACEMENT - THE RIPRAP GRADATION SHALL BE A WELL-GRADED MIX FROM ABOUT 1.5 TIMES THE D SIZE TO ABOUT 25 PERCENT OF THE D SIZE. THE RIPRAP STONES SHALL BE CAREFULLY PLACED WORKING FROM THE TOE OF THE SLOPE UPWARD. THE STONES SHOULD BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12 INCHES ONTO THE GEOTEXTILE. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH UNIFORMLY SLOPED SURFACE.

(B) PIPE/CULVERT INLET APRON
N.T.S.



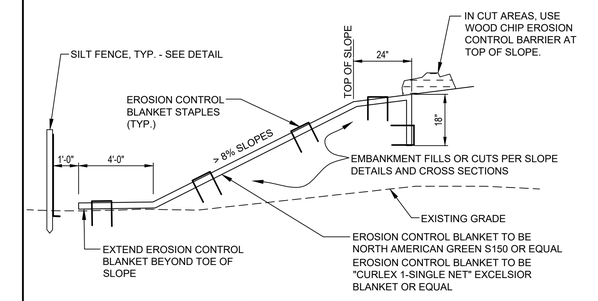
NOTE:
STAPLE SPACING AT 3' C/C ALONG MESH EXCEPT AT 4" OVERLAP WHICH SHALL BE AT 1½' C/C

(E) EROSION CONTROL MESH
N.T.S.



S_0 (FT./FT.)	L (FT.)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

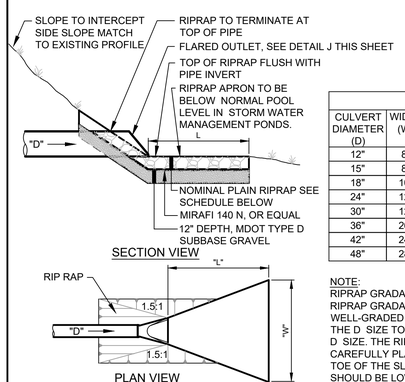
(H) STONE CHECK DAM DETAIL
N.T.S.



NOTE:
EROSION CONTROL BLANKET STAPLE SIZE AND DISTRIBUTION PER MANUFACTURER'S SPECIFICATIONS.

NOTES:
1. IF GRASS CATCH IS NOT 75% BY SEPTEMBER 1, ADD #4 REBARS @ 3'-0" ROWS @ 3' CENTERS. REMOVE OR DRIVE REBARS 3" BELOW GRADE IN SPRING FOLLOWING TURF ESTABLISHMENT.
2. MULCH RATE TO BE 1/2 THE RATE OTHERWISE SPECIFIED.

(J) EROSION CONTROL BLANKET SLOPE STABILIZATION DETAIL
N.T.S.



SCHEDULE

CULVERT DIAMETER (D)	WIDTH (W)	LENGTH (L)	STONE D_{50}	RIPRAP THICKNESS
12"	8'	10'	6"	14"
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30"	12'	16'	12"	27"
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NOTE:
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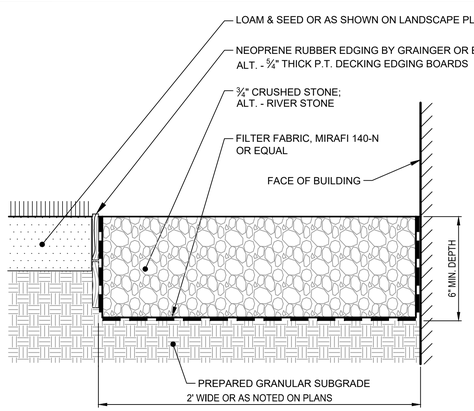
(C) PIPE/CULVERT OUTLET APRON
N.T.S.



(F) STONE EDGE AGAINST BLDG. FACE DETAIL
N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — KALEB A. BOURASSA No. 17072 — LICENSED PROFESSIONAL ENGINEER — 06.26.24
KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
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1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
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File Name: 4303-DETAILS.dwg		

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An LJB Engineering Company
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300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: EROSION CONTROL & MISCELLANEOUS DETAILS
Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE
Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-6.2

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1.3.5 EROSION CONTROL MEASURES AND SITE STABILIZATION

THE PRIMARY EMPHASIS OF THE EROSION/SEDIMENTATION CONTROL PLAN, WHICH WILL BE IMPLEMENTED FOR THIS PROJECT, IS AS FOLLOWS:

- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID REVEGETATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
- THE USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (HAY BALES/ STONE CHECK DAMS/SILT FENCE, ETC.)

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. FOR FURTHER REFERENCE, SEE THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS.

A. DEWATERING

WATER FROM CONSTRUCTION TRENCH DEWATERING SHALL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 50 FEET OF A PROTECTED NATURAL RESOURCE. DEWATERING DISCHARGE SHALL NOT BE DIRECTED ACROSS ADJACENT PROPERTIES IN A CONCENTRATED MANNER.

B. INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. 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 FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

THE FOLLOWING STANDARDS MUST BE MET DURING CONSTRUCTION.

(a) **INSPECTION AND CORRECTIVE ACTION**. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (RAINFALL), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.

(b) **MAINTENANCE**. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPS OR SIGNIFICANT REPAIR OF BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

(c) **DOCUMENTATION**. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. 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, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) 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 CITY STAFF AND A COPY MUST BE PROVIDED 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.

C. TEMPORARY EROSION CONTROL MEASURES

TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AS REQUIRED BY THIS REPORT AND AS SHOWN ON THE PLAN SET FOR THE PROJECT. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER, THE CITY OF BIDDEFORD, OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

1. CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO EACH CONSTRUCTION AREA.

2. SILTATION FENCE OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS TO TRAP RUNOFF- BORNE SEDIMENTS UNTIL GRASS AREAS ARE REVEGETATED. THE SILT FENCE AND/OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THIS PACKAGE AND INSPECTED AT LEAST ONCE A WEEK AND BEFORE AND IMMEDIATELY AFTER A STORM EVENT OF 0.5 INCHES OR GREATER, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE OR BERM LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM. WOOD WASTE COMPOST BERMS ARE NOT TO BE USED ADJACENT TO WETLAND AREAS THAT ARE NOT TO BE DISTURBED.

3. STRAW OR HAY MULCH INCLUDING HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND OCTOBER 15TH ON SLOPES OF LESS THEN 15 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED ON SLOPES OF EQUAL TO OR STEEPER THAN 15 PERCENT SHALL BE COVERED BY A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. FABRIC NETTING AND STAPLES SHALL BE USED ON DISTURBED AREAS WITHIN 50' OF LAKES, STREAMS, AND WETLANDS REGARDLESS OF THE UPSTREAM SLOPE. MULCH PLACED BETWEEN OCTOBER 15TH AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT SHALL BE COVERED WITH A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 3:1 AND EQUAL TO OR FLATTER THAN 2:1, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR EQUAL. SLOPES STEEPER THAN 2:1 SHALL RECEIVE RIPRAP AS NOTED ON THE PLANS. THE MULCH APPLICATION RATE FOR BOTH TEMPORARY AND PERMANENT SEEDING IS 75 LBS PER 1000 SF AS IDENTIFIED IN ATTACHMENT A OF THIS SECTION. MULCH SHALL NOT BE PLACED OVER SNOW.

4. TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:

   a) TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 100 FEET OF ANY WETLANDS WHICH WILL NOT BE DISTURBED AND SHALL BE LOCATED AWAY FROM DRAINAGE SWALES.

   b) STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH, SUCH AS HAY, STRAW, OR EROSION CONTROL MIX.

   c) STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER AT THE TIME OF FORMATION.

5. ALL DENUDED AREAS THAT ARE WITHIN 100 FEET OF AN UNDISTURBED WETLAND, WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN A BUILDING PAD, PARKING AREA, OR ACCESS DRIVE SUBBASE AREA, SHALL RECEIVE MULCH OR EROSION CONTROL MESH FABRIC WITHIN 48 HOURS OF INITIAL DISTURBANCE OF SOIL. ALL AREAS WITHIN 100 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48 HOUR WINDOW. IN OTHER AREAS, THE TIME PERIOD MAY BE EXTENDED TO 7 DAYS.

6. FOR WORK, WHICH IS CONDUCTED BETWEEN OCTOBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DENUDED AREAS, SHALL BE COVERED WITH HAY MULCH OR EROSION CONTROL MIX, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH A FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO 2 DAYS FOR ALL AREAS.

7. BARRA ROAD SHALL BE SWEPT TO CONTROL MUD AND DUST AS NECESSARY. ADDITIONAL STONE SHALL BE ADDED TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

8. DURING GRUBBING OPERATIONS STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS AND AS DIRECTED ON THE EROSION CONTROL PLANS.

9. SILT FENCING WITH A MINIMUM STAKE SPACING OF 6 FEET SHALL BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHALL BE ANCHORED. A DOUBLE ROW OF SILT FENCE SHALL BE USED ADJACENT TO WETLANDS.

10. WOOD WASTE COMPOST/BARK BERMS MAY BE USED IN LIEU OF SILTATION FENCING. BERMS SHALL BE REMOVED AND SPREAD IN A LAYER NOT TO EXCEED 3" THICK ONCE UPSTREAM AREAS ARE COMPLETED AND A 90% CATCH OF VEGETATION IS ATTAINED.

11. STORM DRAIN CATCH BASIN INLET PROTECTION SHALL BE PROVIDED THROUGH THE USE OF STONE SEDIMENT BARRIERS OR APPROVED SEDIMENT BAGS (SUCH AS SILT SACK). INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE BARRIERS SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHALL BE REMOVED AND THE BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ½ THE DESIGN DEPTH OF THE BARRIER. THE BARRIER SHALL BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA HAS BEEN STABILIZED.

12. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS - SECTION 637 - DUST CONTROL.

13. LOAM AND SEED IS INTENDED TO SERVE, AS THE PRIMARY PERMANENT REVEGETATIVE MEASURE FOR ALL DENUDED AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES, SUCH AS RIPRAP. APPLICATION RATES ARE PROVIDED IN ATTACHMENT A OF THIS SECTION. SEEDING SHALL NOT OCCUR OVER SNOW.

D. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED, AND SEEDED. FABRIC NETTING, ANCHORED WITH STAPLES, SHALL BE PLACED OVER THE MULCH IN AREAS AS NOTED IN **TEMPORARY EROSION CONTROL MEASURES** PARAGRAPH 3 OF THIS REPORT. ALL AREAS WITHIN 100 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48 HOUR WINDOW. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

2. ALL STORM DRAIN PIPE OUTLETS SHALL HAVE RIPRAP APRONS AT THEIR OUTLET TO PROTECT THE OUTLET AND RECEIVING CHANNEL FROM SCOUR AND DETERIORATION. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE APRONS SHALL BE INSTALLED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO DIRECTING RUNOFF TO THE TRIBUTARY PIPE OR CULVERT.

1.4 IMPLEMENTATION SCHEDULE

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO ENSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE OPTIMIZED:

IT IS ANTICIPATED THAT CONSTRUCTION WILL COMMENCE IN SPRING OF 2025 AND BE COMPLETED BY FALL OF 2026.

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE, THIS SHALL BE ACCOMPLISHED BY LIMITING THE DISTURBED AREA.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT CONSTRUCTION ACCESS POINTS FROM PAVED ROADWAYS.

2. INSTALL CATCH BASIN INLET PROTECTION, AND PERIMETER SILT FENCE/WOOD WASTE BERMS PRIOR TO GRUBBING RESPECTIVE AREAS.

3. CLEAR AND GRUB AREA TO BE DEVELOPED. INSTALL STONE CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.

4. FOUNDATION PREPARATION AREA SHALL BE EXCAVATED FOR INSTALLATION OF THE BUILDING FOOTINGS. BUILDING WORK WILL BE ON GOING THROUGH THE REMAINDER OF THE PROJECT.

5. COMMENCE INSTALLATION OF DRAINAGE APPURTENANCES.

6. COMMENCE CONSTRUCTION OF PERVIOUS PAVER FILTER/RESERVOIR UP TO CHOKER COURSE, FOCAL POINT FILTERS AND / OR DETENTION PONDS.

7. COMMENCE EARTHWORK AND GRADING TO SUBGRADE.

8. COMMENCE INSTALLATION OF UTILITIES.

9. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.

10. COMPLETE INSTALLATION OF UNDERGROUND UTILITIES TO WITHIN 5' OF THE BUILDINGS.

11. INSTALL LIGHT POLE FOUNDATIONS AND LIGHT POLES.

12. COMPLETE REMAINING EARTHWORK OPERATIONS.

13. COMPLETE INSTALLATION OF CATCH BASINS AND APPURTENANCES.

14. INSTALL SUB-BASE AND BASE GRAVEL WITHIN PARKING FIELDS, WALKWAYS, AND ALL DRIVEWAYS.

15. INSTALL BASE COURSE PAVING FOR ACCESS DRIVE AND PARKING AREA AS WELL AS CONCRETE SURFACES.

16. INSTALL CURBING IN PARKING FIELDS, DRIVEWAYS, AND ALONG THE ACCESS DRIVES AS NEEDED.

17. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.

18. INSTALL PERVIOUS PAVERS AND INFILL STONE, SURFACE COURSE PAVING FOR ACCESS DRIVE AND PARKING AREAS. STRIPE PER PLAN.

19. ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

20. TOUCH UP LOAM AND SEED.

NOTE: ALL DENUDED AREAS NOT SUBJECT TO FINAL PAVING, RIPRAP, OR GRAVEL SHALL BE REVEGETATED.

PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE FOR THE COMPLETION OF THE WORK, WHICH WILL SATISFY THE FOLLOWING CRITERIA:

1. THE ABOVE CONSTRUCTION SEQUENCE SHOULD GENERALLY BE COMPLETED IN THE SPECIFIED ORDER; HOWEVER, SEVERAL SEPARATE ITEMS MAY BE CONSTRUCTED SIMULTANEOUSLY. WORK MUST ALSO BE SCHEDULED OR PHASED TO REDUCE THE EXTENT OF THE EXPOSED AREAS AS SPECIFIED BELOW. THE INTENT OF THIS SEQUENCE IS TO PROVIDE FOR EROSION CONTROL AND TO HAVE STRUCTURAL MEASURES SUCH AS SILT FENCE AND CONSTRUCTION ENTRANCES IN PLACE BEFORE LARGE AREAS OF LAND ARE DENUDED.

2. THE WORK SHALL BE CONDUCTED IN SECTIONS WHICH SHALL:

   a) LIMIT THE AMOUNT OF EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 30 DAYS.

   b) REVEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT; OR TEMPORARILY STABILIZED WITHIN 48 HOURS OF INITIAL DISTURBANCE OF SOIL FOR AREAS WITHIN 100 FEET OF AN UNDISTURBED WETLAND AND 7 DAYS FOR ALL OTHER AREAS. AREAS WITHIN 100 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48 HOUR WINDOW.

   c) INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEM AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE. THE DITCHES SHALL BE IMMEDIATELY LINED OR REVEGETATED AS SOON AS THEIR INSTALLATION IS COMPLETE.

1.5 EROSION, SEDIMENTATION AND STABILIZATION CONTROL PLAN

THE EROSION CONTROL PLAN IS INCLUDED IN THE PLAN SET.

1.6 DETAILS AND SPECIFICATIONS

THE EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

1.7 WINTER STABILIZATION PLAN

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 15 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.

WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT ANY AREA LEFT EXPOSED CAN BE CONTROLLED BY THE CONTRACTOR. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY/PARKING AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR SHALL INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

STOCKPILES OF SOIL OR SUBSOIL SHALL 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 WOODWASTE EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE SHALL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCE 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) 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. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOODWASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

AN AREA SHALL BE CONSIDERED DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, 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 SHALL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL 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 NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

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 230 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 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAT 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 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 LOAMED, 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 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. **STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS** -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 1. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 1, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT SHALL LINE THE DITCH 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, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.

INSTALL A STONE LINING IN THE DITCH --THE APPLICANT SHALL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT SHALL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. **STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES** -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT SHALL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 1. THE DEPARTMENT SHALL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 1, THEN THE APPLICANT SHALL 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 SEPTEMBER 1 THE APPLICANT SHALL 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 APPLICANT SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT SHALL COVER THE SLOPE WITH A LAYER OF WOODWASTE COMPOST AS DESCRIBED IN ITEM III OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS STANDARD.

STABILIZE THE SLOPE WITH SOD -- THE APPLICANT SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY SEPTEMBER 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 SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).

STABILIZE THE SLOPE WITH WOODWASTE COMPOST -- THE APPLICANT SHALL PLACE A SIX-INCH LAYER OF WOODWASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOODWASTE COMPOST, THE APPLICANT SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT SHALL NOT USE WOODWASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

STABILIZE THE SLOPE WITH STONE RIPRAP -- THE APPLICANT SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

3. **STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS** -- BY SEPTEMBER 15 THE APPLICANT SHALL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE APPLICANT FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY SEPTEMBER 1 THE APPLICANT SHALL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT SHALL 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 1, THEN THE APPLICANT SHALL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.

STABILIZE THE SOIL WITH SOD -- THE APPLICANT SHALL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY SEPTEMBER 15. 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 SHALL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT SHALL 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.

TEMPORARY SEEDING PLAN

Project: Proposed Residential Development

Site Location: 37 Barra Road, Biddeford, ME

Permanent Seeding X Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with ____ pounds of ____ N-P-K/ac. OR 13.8 pounds of 10-10-10 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:
6.
   50% Winter Rye
   50% Annual Rye
7. Mulching instructions: Apply at the rate of ____per acre, OR 75 pounds per M. Sq. Ft.

		Amount	Unit # Tons. Etc.
8.	TOTAL LIME	138	#/1000 sq. ft.
9.	TOTAL FERTILIZER	13.8	#/1000 sq. ft.
10.	TOTAL SEED	1.03	#/1000 sq. ft.
11.	TOTAL MULCH	75	#/1000 sq. ft.
12.	TOTAL other materials, seeds, etc.		
13.	REMARKS		

Spring seeding is recommended; however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

PERMANENT SEEDING PLAN

Project: Proposed Residential Development

Site Location: 37 Barra Road, Biddeford, ME

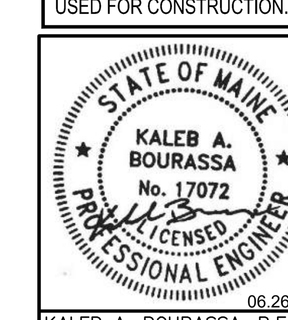
X Permanent Seeding Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with ____ pounds of ____ N-P-K/ac. OR 18.4 pounds of 10-20-20 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:
   40% Creeping Red Fescue
   30% Charger II Perennial Ryegrass
   20% KenBlue Kentucky Bluegrass
   10% Tiffany Chewings Fescue
6. Mulching instructions: Apply at the rate of ____per acre, OR 75 pounds per M. Sq. Ft.

		Amount	Unit # Tons. Etc.
7.	TOTAL LIME	138	#/1000 sq. ft.
8.	TOTAL FERTILIZER	18.4	#/1000 sq. ft.
9.	TOTAL SEED	1.03	#/1000 sq. ft.
10.	TOTAL MULCH	75	#/1000 sq. ft.
11.	TOTAL other materials, seeds, etc.		
12.	REMARKS:		

Spring seeding is recommended, however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



06.26.24

KALEB A. BOURASSA, P.E.
LIC. #17072

Rev.	Date	Revision

Rev.	Date	Revision
2	2024.06.26	PRELIMINARY PLAN SUBMISSION TO CITY OF BIDDEFORD
1	2024.06.18	FOR CLIENT REVIEW

Design: KAB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 4303
File Name: 4303-DETAILS.dwg		

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Drawing Name: EROSION & SEDIMENT CONTROL NOTES

Project: PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

Client: WESTBROOK DEVELOPMENT CORPORATION
30 LIZA HARMON DRIVE, WESTBROOK, ME 04092

Drawing No. C-6.3

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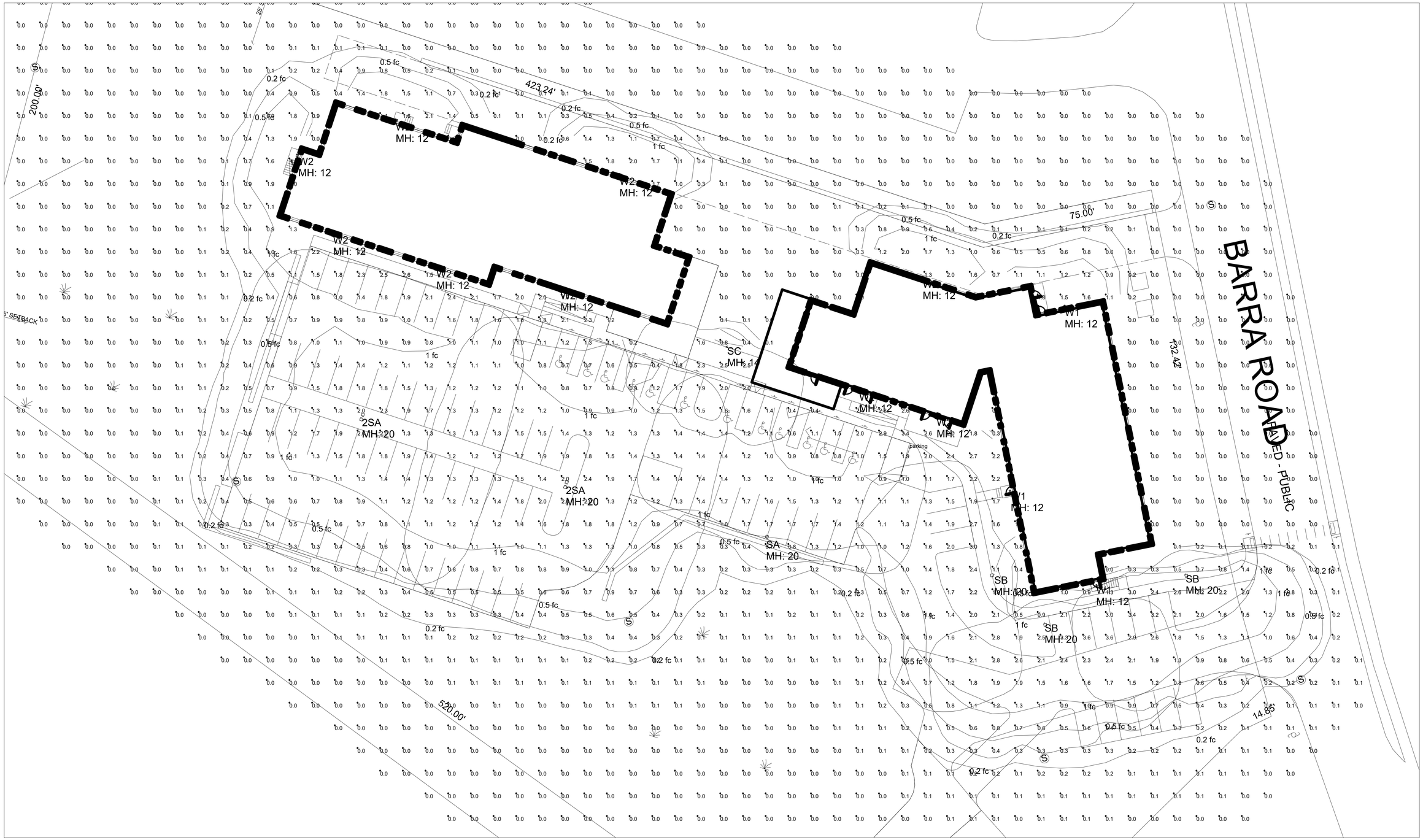
Luminaire Schedule (note fixture cataloge numbers are not complete)						
Type	Qty	Lum. Lumens	LLF	Lum. Watts	Description	Mounting Height
2SA	2	8085	0.900	83.6	VP-ST-1-36L-85-3K7-4W	20
SA	1	8085	0.900	83.6	VP-ST-1-36L-85-3K7-4W	20
SB	3	7343	0.900	85	VP-ST-1-36L-85-3K7-4W-BC	20
SC	1	3777	0.900	45.5	VP-ST-1-36L-39-3K7-4W-BC	14
W1	3	2369	0.900	19.9	GEO1-24L-20-3K7-4W	12
W2	9	2489	0.900	19.9	GEO1-24L-20-3K7-3-UNV-DBT	12

Calculation Summary					
Label	Avg	Max	Min	Avg/Min	Max/Min
site	0.39	3.6	0.0	N.A.	N.A.
parking	1.21	2.5	0.3	4.03	8.33

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.



PLAN VIEW

site ltg 6-25-24.AGI

TITLE
BARRA RD - RT 111 MULTI UNIT
BIDDEFORD, ME
SITE LIGHTING LAYOUT

Date:6/25/2024

GENERATED FOR:
GORRILL PALMER

SCALE NOT TO SCALE

Page 1 of 1

SWANEY LIGHTING ASSOCIATES, INC.

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

NOTICE: THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SWANEY LIGHTING ASSOCIATES. ITS ACCEPTANCE CONSTITUTES AN AGREEMENT THAT THE DRAWING WILL BE TREATED AS CONFIDENTIAL. THIS DRAWING IS TO BE USED FOR NO PURPOSE OTHER THAN AS DETAILED IN WRITING BY SWANEY LIGHTING ASSOCIATES. IT IS TO BE KEPT IN ITS ENTIRETY AND RETURNED UPON REQUEST AND IS NOT TO BE COMMUNICATED, DISCLOSED OR COPIED, EXCEPT AS PERMITTED IN WRITING BY SWANEY LIGHTING ASSOCIATES.
NOTE: THE ACCURACY OF THIS LIGHTING LAYOUT IS SUGGESTED AS THE BEST UTILIZATION OF LIGHTING FIXTURES INCLUDED IN THIS DRAWING. IT IS PROVIDED USING FIXTURE PHOTOMETRICS SUPPLIED BY THE MANUFACTURER. ALL VARIABLES AND UNKNOWNS SUCH AS VOLTAGE, LAMP LUMEN OUTPUT, AND OTHER PERFORMANCE SHOWN IN IES FILE IS NOT THE RESPONSIBILITY OF THE MANUFACTURER. ITS USE FOR ANY OTHER PURPOSE IS NOT AUTHORIZED BY SWANEY LIGHTING ASSOCIATES.

ATTACHMENT A

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 X Site Plan Review __ Extraction
__ Conditional Use Permit X Subdivision __ Private Way
__ Other: _____

Applicant Information:
Name: Westbrook Development Corporation, Thatcher Brook Apartments I, LP, and Thatcher Brook Apartments II, LP
Mailing Address: 30 Liza Harmon Drive, Westbrook ME 04092
Telephone: 207.956.1575
Email: _____
What is your legal interest in the property?
__ Owner X Potential Buyer with Contract __ Lease/Rental Agreement

Owner's Information:
Name: City of Biddeford
Mailing Address: 205 Main Street, Biddeford, ME 04005
Telephone: 207.571.0700
Email: _____

Agent's Information:
Name: Gorrill Palmer
Mailing Address: 300 Southborough Dr Suite 200, South Portland, ME 04106
Telephone: 207.772.2515
Email: kbourassa@gorrillpalmer.com

Engineer/Surveyor's Information:
Name: Gorrill Palmer
Mailing Address: 300 Southborough Dr Suite 200, South Portland, ME 04106
Telephone: 207.772.2515
Email: kbourassa@gorrillpalmer.com

Project Location and Lot Information:
Street Address: 37 Barra Road Drainage Watershed: Thatcher Brook
Tax Map: 2 Lot: 42
Current Zoning: I3 Shoreland Zoning: NO
Size of Lot: 3.65 (X)acres ( )s.f. Lot Frontage: 238.17 ft
Existing Use of Property: Vacant, Pump Station located within 60' x 60' utility easement

Property currently serviced by:

X City Road __ Public Sewer __ Public Water __ Public Trash
__ Private Road __ Septic System __ Private Well __ Private Hauler

Slope Conditions in Area of Construction (if applicable):
__Flat (0-3% slope) __Rolling (3-8% slope) X Hilly (8-15% slope) __Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? X (Yes)__(No) if yes attach information
Is the project within the 100-year floodplain? __ (Yes) X (No) if yes attach information
Do you plan to bring fill onto the lot? X (Yes) __(No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

76-unit multi-family residential development - see attached narrative

Property to be Serviced by:

X City Road X Public Sewer X Public Water __ Public Trash

__ Private Road __ Septic System __ Private Well X Private Hauler

Limits of Disturbance: 106,912 ( )acres (X)s.f.

Net change in impervious cover: 62,825 ( )acres (X)s.f.

Is this project part of a larger project? __(Yes) X(No)

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

Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) __(Yes) X(No)

Is the project proposing any Stormwater facilities/BMPs? X(Yes) __(No)

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

__ **If in a Shoreland Zone:**

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

Percent of structure expansion (Max 30%): _____

__ **If Subdivision Review, number of lots proposed:** _____

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

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

Total new square feet footprint of structure: 20,519 SF

Total new square feet paving/parking: 37,878 SF

Waiver Requests (attach details):

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

Required Submittal Attachments:

A. Letters of Approval
   - __ Fire Department – Contact Chief or Deputy Chief – 282-9986
   - X Ability to Serve for Water Service – Maine Water – 282-1543
   - __ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
   - __ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127

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

C. Photographs of Site.

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

E. Engineering Plans, as required.

F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

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

Required Signatures:

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

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

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

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

Signature of Applicant: Tyler Norod **Date** 06/26/2024

Agent

Signature of ~~Property Owner:~~ _____ **Date** 06/26/2024

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_INDIVDUAL 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 INDIVIUDAL 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

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST *LAST REVISED: 05/17/23*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing submittal information with non-acceptable reasoning will be rejected.
4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	37 Barra Road - Residential Development
Planning Board # (if available):	
Applicant Name/Info:	Westbrook Development Corporation, Thatcher Brook Apartments I, LP, Thatcher Brook Apartments II, LP
Submittal #/Type (Prelim/Final):	Preliminary Site/Subdivision Plan
Submittal Date:	06.26.2024

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	**GENERAL PLAN REQUIREMENTS**				
A	Drawing specific legends (linetypes, hatches, etc.)	Y			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	Y			
C	North arrows, standard engineering scale viewports, dated revision blocks	Y			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	Y			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	Y			
2	**COVER SHEET**				
A	Project Name & Property Address	Y			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Y			
C	Site Location Map	Y			
D	Sheet Set List of Drawings	Y			
E	Tax Map and Lot ID	Y			
F	Zoning & Shoreland Zone Information	Y			
G	Existing Use Description	Y			
H	Proposed Use Description	Y			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	N			
J	Name of Drainage Watershed	Y			
K	Within the MS4 Urbanized Area (Yes/No)	Y			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	N			
M	Within the 100-year Flood Zone (Yes/No)	N			
N	Public Road Proposed (Yes/No)	N			
O	Private Road Proposed (Yes/No)	N			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	N	Project connects to an existing onsite stormwater basin		
Q	Public Storm Drain Connection (Yes/No)	Y			
R	Limits of Disturbance in acres	Y			
S	Pervious Land Cover square footage, existing and proposed	Y			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Y			
U	Building Roof square footage, existing and proposed	Y			
V	Assigned Planning Board Number				
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
3	**EXISTING CONDITIONS PLAN**				
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Y			
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	N	Not provided on survey plan, will be provided in coordination with contractor		
C	Property & Right-of-Way Lines	Y			
D	Boundary line information (bearings, distances, etc.)	Y			
E	Property pin and monumentation locations	Y			
F	Existing easements with proper ownership identified	Y			
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Y			
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
I	100-year Flood Zone Limits & Elevation	N	not applicable		
J	USDA-NRCS Soil Boundaries and Labels	N	not applicable		
K	Existing contours with adequate contour labelling; minimum 1' contour interval	Y			
L	Existing building FFEs annotated	N	not applicable		
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	N	not applicable		
N	Existing buildings & structures	Y			
O	Existing pavement areas & number of parking spaces	N	not applicable		
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	N	not applicable		
Q	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	Y			
R	Existing signage and striping	N	not applicable		
S	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	Y			
T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Y			
U	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Y			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Y			
W	Location of any borings, drinking wells, and monitoring wells	N	Geotechincal report is forthcoming.		
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**				
A	Limits-of-disturbance outlined and acreage annotated	Y			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
C	100-year Flood Zone Limits	N	not applicable		
D	Callout existing site features to be demolished/removed/replaced	Y			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Y			
F	Hatch existing buildings and pavement to be removed	Y			
G	Construction Entrance location(s)	Y			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Y			
I	Stockpile and staging area(s) identified (with proper perimeter control)	Y			
J	Inlet protection location(s)	Y			

K	Note requiring contractor to implement dust control measures throughout construction	Y			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	Y			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing				
N	If large development is proposed with an extensive underground stormwater conveyance network, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations				
5	**SITE PLAN/SUBDIVISION PLAN**				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	Y			
B	Existing property and right-of-way lines	Y			
C	Proposed subdivision lot lines and labels	Y			
D	Required Zoning Setbacks shown with dimensions and annotation	Y			
E	Bulk requirement summary table (zoning/parking calculations)	Y			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
G	100-year Flood Zone Limits	N	not applicable		
H	Proposed building outlines, door entrances and loading docks	Y			
I	Proposed building labels	Y			
J	Proposed road extents; provide clear annotation if roads will be public or private	N	not applicable		
K	Proposed parking and accessible parking locations; annotate parking space counts	Y			
L	Proposed signage, parking striping, and traffic striping	Y			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	Y			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Y			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	Y			
P	Proposed landscaping; detailed landscaping design should be on separate plans	N	Landsacpe Plan by Landscape Archietct to be provided with final submission.		
Q	Designated snow storage areas	Y			
R	Proposed dumpster locations and trash removal access	N	not applicable		
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	Y			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	Y			
U	Road centerline stationing shown, labelled every 0+50' with curve data	N	not applicable		
V	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	N	not applicable		
W	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	N	not applicable		
X	Planning Board signature block for final recording	Y			
6	**GRADING PLAN**				
A	Partial Grading Plans needed for any viewport greater than 1"=20'				
B	Limits-of-disturbance outlined and acreage annotated	Y			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	Y			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	Y			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	Y			
F	Detailed grading for all ditches, swales, outfalls, and riprap	Y			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	Y			
H	Existing spot elevations for all asphalt and curb tie-in locations	Y			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Y			
J	100-year Flood Zone Limits	N	not applicable		
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval; low/high points, PC/PT, road centerline, edge-of-asphalt				
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks				
M	Proposed spot elevations for all parking and drive aisle geometry points				
N	Proposed spot elevations for all building corners and door-entry locations				
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)				
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points				
Q	Proposed % slope arrows for all ADA parking spaces and sidewalks				
R	Proposed longitudinal % slope arrows for drainage ditch centerlines				
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas				
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
7	**ROAD PROFILES (if public/private road proposed)**	N/A			
A	Existing surface; dashed and screened				
B	Proposed surface; continuous and bold				
C	Corresponding centerline stationing and curve data annotation				
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)				
E	Horizontal and vertical scale bars				
F	Clear annotation if proposed road will be public or private				
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance				
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads				
8	**UTILITY PLAN**				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	Y			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	Y			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Y			
D	Proposed underground utility locations; bold (storm, sewer, force main, water,gas, electric, telecom, lighting)	Y			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Y			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	Y			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	Y			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	Y			
I	Flow directional arrows for storm & sewer pipes	Y			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	Y			
K	All storm drains must be sized to convey the 25-year storm	Y			

L	Sewer force main sizes and invert elevations				
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W)				
N	Grease trap & oil-water separator locations, sizes, elevations				
O	Water, gas, electric, and telecom sizes labelled				
9	**UTILITY PROFILES**	N/A			
A	Utility profiles for all gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)				
B	Existing surface; dashed and screened				
C	Proposed surface; continuous and bold				
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)				
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope				
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated				
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated				
H	Known ledge or groundwater elevations				
I	For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified				
J	For storm outfalls, include riprap sizing and grading extents				
K	Horizontal and vertical scale bars				
10	**DETAILS**				
A	Road section detail, including pavement & gravel depths	Y			
B	Sidewalk, paver, crosswalk, and any other pavement section details	Y			
C	Pavement sawcut detail	Y			
D	Utility trench/backfill detail	Y			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	Y			
F	Signage, striping, and ADA details	Y			
G	E&S notes and details; only show applicable/proposed measures	Y			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	Y			
I	Storm outfall & riprap details	Y			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	Y			
K	Pump station, grease trap, and oil-water separator details				
L	Conduit section details				
M	Miscellaneous details (as needed)				
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**	N/A			
A	As required by ordinance; at a minimum: locations, counts, and species/models must be identified	N	Landscaped plan by landscape architect to be provided with final submission.		
B	Landscaping & lighting details	Y	Photometrics provided. Landscape details provided for final plan.		
12	**DOCUMENTS/REPORTS/CALCULATIONS**				
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction	Y			
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. Every City-provided/approved stormwater summary tables	N	not applicable. See stormwater memo for analysis.		
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	N	Ability to serve requested. Waiting for final review from City.		
D	A Performance Guarantee Cost Estimate utilizing Planning's template				
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	N	not applicable		
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches) via the rational method; starting tailwater conditions/documentation must be clearly identified	Y			
G	If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies	N			
H	Sizing calculations for any SWM water quality BMP or detention facility	N			
I	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed iii. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	N			
J	Salt Management Plan				
K	Sewer pump station sizing calculations				
L	Sewer pump station maintenance plan				
M	Grease trap sizing calculations				
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more				
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals				

City of Biddeford, Maine

COST ESTIMATE WORKSHEET

OWNER/APPLICANT: Westbrook Development Corporation

PROJECT NAME: 37 Barra Road - Residential Development

	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
1	Clearing and Grubbing	Acre	2	$12,000.00	$24,000.00
2	Erosion/Sediment Control	Lump Sum	1	$15,000.00	$15,000.00
3	Site Stabilization	Lump Sum	1	$5,000.00	$5,000.00
4	Ledge Removal	Cubic Yard	1000	$150.00	$150,000.00
5	Sanitary Sewer				
	Manholes	Each	4	$6,000.00	$24,000.00
	Main	Linear Foot	197	$80.00	$15,760.00
	House Services	Linear Foot			$0.00
6	Water Main				
	Main	Linear Foot	350	$100.00	$35,000.00
	Services	Linear Foot	40	$90.00	$3,600.00
	House Services	Linear Foot			$0.00
	Hydrants	Each	1	$6,000.00	$6,000.00
7	Electric				
	Underground Utility Trench	Linear Foot	375	$50.00	$18,750.00
	Conduit/Wiring	Linear Foot	375	$20.00	$7,500.00
	Transformer Bases	Each	1	$7,500.00	$7,500.00
8	Storm Drainage				
	Pipe/Culvert	Linear Foot	1082	$95.00	$102,790.00
	Catch Basin	Each	15	$6,000.00	$90,000.00
	Other Treatment Devices	Each			$0.00
9	Stormwater Management				
	Outlet Control Structure	Each			$0.00
	Stromwater Management Facilities	Each			$0.00
10	Excavate and Grade Subgrade	Cubic Yard	11719	$30.00	$351,570.00
11	Roadways				
	Subbase Gravel	Cubic Yard			$0.00
	Base/Finish Gravel	Cubic Yard			$0.00
	Base Paving	Ton			$0.00
	Finish Paving	Ton			$0.00
	Geotextile Fabric	Ton			$0.00
12	Sidewalks				
	Subbase Gravel	Cubic Yard			$0.00
	Base/Finish Gravel	Cubic Yard			$0.00
	Base Paving	Ton			$0.00
	Finish Paving	Ton			$0.00
13	Parking Lots/Other Areas				
	Subbase Gravel	Cubic Yard	1750	$35.00	$61,250.00
	Base/Finish Gravel	Cubic Yard	350	$40.00	$14,000.00
	Base Paving	Ton	462	$120.00	$55,440.00
	Finish Paving	Ton	346.5	$150.00	$51,975.00

City of Biddeford, Maine

COST ESTIMATE WORKSHEET

14	Curbing – Bituminous	Linear Foot			$0.00
15	Curbing - Concrete	Linear Foot	1306	$20.00	$26,120.00
15	Curbing – Granite	Linear Foot			$0.00
16	Pavement Striping	Linear Foot			$0.00
17	Guardrail	Linear Foot			$0.00
18	Fencing	Linear Foot			$0.00
19	Loam and Seed	1,000 Square Feet	30	$500.00	$15,000.00
20	Riprap	Cubic Yard			$0.00
21	Landscaping	Lump Sum			$0.00
22	Street Lights	Each			$0.00
23	Site Lighting	Each	7	$3,500.00	$24,500.00
24	Monuments/Iron Pipes	Lump Sum			$0.00
25	Clean Up	Lump Sum	1	$5,000.00	$5,000.00
26	As Builts	Lump Sum	1	$2,000.00	$2,000.00
27	Other				$0.00
28	Other				$0.00
29	Other				$0.00
30	Other				$0.00
31	Other				$0.00

COST ESTIMATE TOTAL: **$1,111,755.00**
150% of TOTAL: **$1,667,632.50**

FOR OFFICE USE ONLY

EROSION CONTROL/SITE STABILIZATION BOND (IF APPLICABLE): _____

PERFORMANCE GUARANTEE REQUIRED: _____

Name: _____

Signature: _____

Date:

June 25, 2024

Subject: State or Local Permitting
Thatcher Brook Apartments I & II Development
Agent Authorization Letter

To Whom it May Concern:

Westbrook Development Corporation – Thatcher Brook Apartments I, LP & Thatcher Brook Apartments II, LP have retained Gorrill Palmer to prepare State/Local Permit Applications for the above referenced project. Gorrill Palmer and their subconsultants are authorized to act as an agent for matters related to these permits.

Sincerely,

Tyler Norod

Tyler Norod
Development Director
Westbrook Development Corporation

ATTACHMENT B

BK8517 PG292

WARRANTY DEED

051414

MAINE R.E. TRANSFER TAX PAID

MIKE EON ASSOCIATES, LTD., a Maine corporation with place of business at 260 Main Street, Biddeford, ME, 04005, for consideration paid, grants to **THE INHABITANTS OF THE CITY OF BIDDEFORD**, a body politic and corporate, with a mailing address of 205 Main Street, Biddeford, Maine, with Warranty Covenants, the land and interest in land situated in Biddeford, York County, Maine, described as follows:

A certain lot or parcel of land situated in said Biddeford and being that parcel designated as "LOT 97A" on plan entitled "Final Plan Amended, Cathedral Oaks, Phase III, Lots 93 & 94, Cathedral Oaks Drive, Biddeford, ME, by: MIKE EON ASSOCIATES, LTD., 260 Main Street, Biddeford, Maine", dated July, 1997, prepared by BH2M, Berry, Huff, McDonald, Milligan, Inc., 28 State Street, Gorham, Maine, 04038, duly recorded in York Registry of Deeds in Plan Book 237, page 4, to which plan and the record thereof reference is made for a more particular description of the within conveyed premises.

Also conveying herewith a perpetual right of way and easement to be used in common with Mike Eon Associates, Ltd., its successors and assigns and all others who may now have or may be granted rights in the future by Mike Eon Associates, Ltd., their respective heirs, successors and assigns for the use, introduction, maintenance, repair and replacement of a sanitary sewer line under the surface of the premises hereinafter described and for the construction, maintenance, repair and replacement of a pedestrian walkway and non-motorized bicycle path on and over the surface of the hereinafter described parcel of land. The area encumbered by this right of way and easement shall be that area designated as "ROW RESERVED BY MIKE EON ASSOC. LTD. SEE NOTE 23 TO BE CONVEYED TO THE CITY OF BIDDEFORD SEE NOTE 28" which is a portion of Lot 97 on the above described plan to which reference is made for a more particular description of the within conveyed premises.

It shall be a condition of this grant that the person or entity exercising its rights thereunder shall restore the surface condition of the property to the condition which existed prior to such exercise, or as nearly so as practical, bearing in my that certain physical improvements are specifically contemplated herein. Mike Eon Associates, Ltd., for itself and its successors and assigns, specifically reserves the right to use such area for all purposes not inconsistent with the grant herein made including, but not limited to, ingress to and egress from Lot #97 on said plan and the installation, use, maintenance and repair of all utility services in, on, over and under the said area.

IN WITNESS WHEREOF, Mike Eon Associates, Ltd., has caused this instrument to be signed in its name and behalf and its seal to be hereunto affixed by Michael R. Eon, its President, thereunto duly authorized this 7th day of ~~October~~ November, 1997.

WITNESS:

Mike Eon Associates, Ltd.

by: _____
Michael R. Eon, President

STATE OF MAINE
YORK, ss

November ~~October~~ 7, 1997

Personally appeared the above named Michael R. Eon, President of Mike Eon Associates, Ltd., 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,

_____
~~Notary Public/~~Attorney at Law

Print name: Richard A. Hutts

deed/0270-023/f drive
revised 10/22/97

RECEIVED YORK S S.
1997 NOV 12 A 9:34

ATTEST: Lois M. Muse
REGISTER OF DEEDS

2

288 (447)

Return to:
City of Biddeford
att: Bruce Benway
205 Main St.
Biddeford, ME
04005

OPTION TO PURCHASE AGREEMENT

THIS OPTION TO PURCHASE AGREEMENT (the "Agreement") is entered into effective 4 day of June, 2024 (the "Effective Date"), between the CITY OF BIDDEFORD, a Maine municipal corporation having a mailing address of 205 Main Street, Biddeford, Maine 04005 ("Seller"), and WESTBROOK DEVELOPMENT CORPORATION, a Maine nonprofit corporation having a mailing address 30 Liza Harmon Drive, Westbrook, Maine 04092, or its assigns ("Buyer").

RECITALS

WHEREAS, Seller is the owner of a certain parcel of land located at 37 Barra Road, Biddeford, Maine being Lot 1 as depicted on a certain Fifth Amended Subdivision Plan (the "Plan") prepared for the City of Biddeford by Owen Haskell, Inc. dated September 12, 2014, and recorded in the York County Registry of Deeds in Book 371, Page 50 ("Seller's Property"); and

WHEREAS, Seller wishes to grant to Buyer, and Buyer wishes to accept, an option to purchase the Seller's Property (together with any easements for access and stormwater management reasonable for the development of the property for the Buyer's purpose, the "Option Premises"), for the construction of one or more affordable multi-family apartment buildings constructed across one or more phases (the "Project"), upon the terms and conditions as set forth herein.

NOW, THEREFORE, in consideration of one dollar ($1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1) **Option Period**; Exercise of Option; Amendment to Exhibit A. Seller hereby grants to Buyer for $1.00 (the "Option Payment") the exclusive option, for a period ending December 31, 2026 (the "Option Period"), to purchase the Option Premises upon the terms and conditions stated herein (the "Option"). Buyer may exercise the Option at any time during the Option Period by giving written notice to Seller of its intent to do so (the "Purchase Notice").

2) **Purchase Conditioned Upon Use as Affordable Housing**. The Buyer hereby acknowledges that the Option and the obligations of the Seller to convey the Option Premises to the Buyer is conditioned upon the Buyer agreeing to use the Option Premises for the creation of Affordable Housing. For purposes of this agreement, Affordable Housing shall mean the following: (a) for rental housing a development in which a household whose income does not exceed 80% of the area median income for the area as defined by the United States Department of Housing and Urban Development under the United States Housing Act of 1937, Public Law 75-412, 50 Stat. 888, Section 8 (as determined by HUD "AMI"), as amended, can afford a majority (51% or greater) of the units in the development; or (b) for resident owned housing, a development in which a household whose income does not exceed 120% of AMI can afford a majority (51% or greater) of the units in the development. This condition shall be satisfied for purposes of proceeding with sale of the

Option Premises to the Buyer by a notice to proceed from Maine State Housing Authority for the construction of affordable housing using Low Income Housing Tax Credits, a commitment for debt or equity financing for the construction of affordable housing a condition of which will be the Buyer's entry into an affordability covenant, or a commitment for conventional financing where the Buyer also agrees to enter into a separate affordability covenant that meets the affordability criteria of this Section 2 with an entity that meets the definition of a "Qualified Holder" under 33 M.R.S.A. § 121(3).

3) **Due Diligence**. Within five (5) business days after the Effective Date, Seller shall provide Buyer with all surveys, title policies, environmental reports in its or its agents' possession including without limitation copies of any surveys of the Option Premises within Seller's or Seller's agents' possession promptly following the Effective Date of this Agreement.

   Buyer and others whom Buyer may designate shall have the right, at all reasonable times, at Buyer's sole cost and expense, risk and hazard, to enter upon the Option Premises to examine and/or show the same and make, or cause to be made, engineering studies with respect thereto, including, without limitation, surveying, conducting test borings in order to determine sub-soil conditions, and in general conducting all other tests, analysis and studies of the Option Premises which Buyer deems prudent in connection with Buyer's intended development or use of the Option Premises. If Buyer does not exercise the Option, Buyer shall promptly restore the surface of the Option Premises as reasonably as possible to its pre-existing condition, unless otherwise agreed by Seller.

   Seller hereby acknowledges, that to extent required by the Project funding, the Buyer's exercise of the Option and the carrying out of the Project is dependent on the results on environmental review requirements of Maine State Housing Authority or the Department of Housing and Urban Development.

4) **Extension**. Prior to the expiration of the Option Period, Buyer shall have the right to extend the Option Period for a period of one (1) year by providing written notice to Seller thereof.

5) **Purchase Price**. If Buyer exercises the Option, the purchase price for the Option Premises shall be One Dollar ($1.00).

6) **Closing**. If Buyer exercises the Option, the Closing shall occur within thirty (30) days of the delivery of the Purchase Notice, at a time that is mutually agreeable to the Buyer and Seller at the offices of the Buyer's attorney, Drummond Woodsum, 84 Marginal Way, Suite 600, Portland, Maine 04101. The deed and other customary transfer documents are to be delivered at the Closing.

7) **Conditions to Sale**. If Buyer exercises the Option, the following terms and provisions shall apply:

   a) Title to the Option Premises shall be conveyed to Buyer by good and sufficient Warranty Deed which deed shall convey good and clear record and marketable title to the Option Premises, free from encumbrances except provisions of existing building and

zoning laws and any covenants and/or easements of record provided that the same do not interfere with Buyer's intended use of the Option Premises; such real estate taxes for the then current tax period which are not due and payable on the date of delivery of such deed; utility, access, drainage or other similar easements in connection with adjoining properties, and any matters of record which in Buyer's opinion do not interfere with Buyer's plans to develop the Option Premises. Buyer shall notify Seller of any defects in title that would make Seller unable to give title to the Option Premises as herein stipulated. Seller shall be obligated to proceed in good faith to cure any such title defect(s). If required, the Closing shall be extended to allow Seller time to cure any such title defects, but in no event shall the Closing be extended more than thirty (30) days for such purposes. If a title defect exists, Buyer may elect, by written notice to Seller, either (i) to accept title to the Option Premises subject to any uncured defects in title or (ii) to terminate the Option, whereupon any Option Payment or extension fees paid by Buyer to Seller shall be immediately refunded to Buyer, the obligations of all parties hereunder shall cease, and neither party shall have any claim against the other by reason of this Agreement.

b) In furtherance of the preceding subsection 7.a., the Buyer and Seller agree to, either as part of the deed described herein or through a separate easement agreement, to negotiate and enter into terms governing the Seller's reserved easement rights to the area shown on the Plan as "Easement to Benefit the City of Biddeford (to be centered on sanitary sewer)", which allows for non-exclusive use of the easement area by the Seller for the existing sewer line located therein and the maintenance of the same, in a manner that is compatible with the Buyer's intended use of the Option Premises.

c) Seller shall not mortgage, encumber, or alter the use of the Option Premises prior to the Closing without the prior consent of the Buyer, and shall maintain it consistent with the manner in which the Seller has operated and maintained the Option Premises prior to this Agreement. Full possession of the Option Premises is to be delivered at the Closing, free of all tenants and occupants and otherwise in the same condition as it is now. Buyer and Buyer's agents may inspect the Option Premises up to forty-eight (48) hours prior to the Closing in order to determine whether the condition of the Option Premises complies with the terms and conditions of this Agreement. Seller agrees to provide prompt written notice to Buyer of any newly arising or newly discovered defects with respect to the Option Premises.

d) Each party shall pay one-half of the Maine real estate transfer tax unless otherwise exempt.

8) **Representations.** Seller represents, covenants and warrants to and agrees with Buyer that (i) Seller is the current owner of the Option Premises and has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder, and (ii) the execution and delivery of this Agreement and the performance by Seller of the obligations hereunder will not conflict with, or result in breach of any regulation, order, judgment, injunction or decree of any court or governmental authority or any agreement or instrument to which Seller is a party or by which Seller is bound, except as otherwise

provided for herein, and (iii) that there is no pending or, to the best of Seller's knowledge, threatened action or proceeding before any court, governmental agency or arbitrator relating to or arising out of the ownership of the Option Premises or any portion thereof, or which may adversely affect Seller's ability to perform this Agreement, or which may affect the Option Premises or any portion thereof.

Seller further represents and warrants that (i) the Seller has not received any notice from any governmental authority that (A) the Option Premises is in violation of any environmental laws, (B) the Option Premises contains any hazardous materials, or any person or entity has caused or permitted any hazardous material to be manufactured, generated, processed, produced, disposed on, at, through, or under the Option Premises or any hazardous materials to be placed stored, held, transferred, or transported from or to the Option Premises, (C) there has been a release of hazardous materials on, in, at, under, or from the Option Premises, or (D) Seller is subject to any environmental action in connection with the Option Premises; (ii) during Seller's ownership of the Option Premises, no underground tanks have been installed on, in, or under the Option Premises, except as disclosed to the Buyer within five (5) days of the Effective Date; (iii) to the best of Seller's knowledge, it is not in breach of or has any liability under or with respect to any environmental law with respect to the Option Premises; and (iv) Seller has not received any notice of any contemplated, proposed, or pending environmental action with respect to the Option Premises.

Buyer represents, covenants and warrants to Seller that Buyer has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder, and, subject to approval by its lender, the execution and delivery of this Agreement and the performance by Buyer of its obligations hereunder: (i) have been duly authorized by all requisite action; and (ii) will not conflict with, or result in a breach of, any of the terms, covenants and provisions of the by-laws or articles of organization of Buyer or any law or any regulation, order, judgment, writ, injunction or decree of any court or governmental authority, or any agreement or instrument to which Buyer is a party or by which it is bound.

9) **Further Assurances**. The parties agree that up to and after the date of closing, they shall do such things and execute, acknowledge and deliver any and all additional instruments, documents and materials as either party may reasonably request to fully effectuate the purposes of this Agreement.

10) **Risk of Loss**. The risk of loss shall remain on Seller at all times until closing.

11) **Notices**. Except where expressly stated otherwise, any notice relating in any way to this Agreement shall be in writing and shall be delivered to the other party by (a) registered or certified mail, return receipt requested, (b) overnight by a nationally recognized courier, (c) hand delivery obtaining a receipt therefor, or (d) email, addressed to the parties as follows:

To Seller: CITY OF BIDDEFORD
205 Main Street
Biddeford, Maine 04005
Attention: _____
Email: _____

With a copy to: [INSERT COUNSEL]

To Buyer: Westbrook Development Corporation
Attn: Tyler Norod, Development Director
30 Liza Harmon Drive, Westbrook, Maine 04092
Email: tnorod@wdc.org

With a copy to: Robert M. Liscord
Drummond Woodsum
84 Marginal Way, Suite 600
Portland, Maine 04101-2480
Email: rliscord@dwmlaw.com

Notices shall be deemed delivered upon such hand delivery, or upon the earlier of either (i) the date delivered or (ii) the date of delivery, refusal or non-delivery as indicated on the return receipt, in the case of notice by registered or certified mail or overnight courier as provided above.

Notice by email shall be deemed delivered upon sending, except if the sender receives an "out of office" or "undeliverable" or similar message indicating that the email was not immediately received by the other party, such notice shall be deemed ineffective and must be provided by one of the other methods permitted herein.

Either party may, by such manner of notice, substitute persons or addresses for notice other than those listed above.

12) **Memorandum**. Seller and Buyer agree that this Agreement may not be recorded but the Buyer may request that the Seller and Buyer execute a Memorandum in the form mutually agreeable to the parties which may be recorded at the Cumberland County Registry of Deeds at the option and expense of Buyer.

13) **Assignment**. Buyer may assign this Agreement without the prior consent of the Seller to one or more entities formed by the Buyer for the purpose of carrying out the Project.

14) **Miscellaneous**. This Agreement shall be binding upon and inure to the benefit of the heirs, successors and assigns of the parties. Headings are for convenience of reference only and have no independent legal significance. This Agreement may not be modified, waived or amended except in a writing signed by the parties hereto. No waiver of any breach or term hereof shall be effective unless made in writing signed by the party having the right to enforce such a breach, and no such waiver shall be construed as a waiver of any subsequent breach. No course of dealing or delay or omission on the part of any party in exercising any right or remedy shall operate as a waiver thereof or otherwise be prejudicial thereto. Any and all prior and contemporaneous discussions, undertakings, agreements and understandings of the parties are merged in this Agreement, and the exhibits referenced herein, which alone fully and completely express their entire agreement. It is expressly understood and agreed that time is of the essence with respect to this Agreement. If any term or provision of this Agreement, or the application thereof to any person or circumstance shall be held to be invalid, illegal or unenforceable by a court, such term or provision shall be deemed stricken and the remainder of this Agreement, or the application of such provision to persons or circumstances other than those as to which this Agreement is held to be invalid or unenforceable, shall continue to be valid and binding upon the parties hereto, who agree that this Agreement shall be reformed to replace the stricken part with a valid and enforceable provision that comes as close as possible to expressing the intent of the stricken provision. This Agreement shall be governed by and construed and enforced in accordance with the laws in effect in the State of Maine.

IN WITNESS WHEREOF, the Buyer and Seller have caused this Option to Purchase Agreement to be executed by their undersigned representatives, thereunto duly authorized, as of the date first above written.

SELLER: CITY OF BIDDEFORD

By: _____
James A. Bennett, City Manager

BUYER: WESTBROOK DEVELOPMENT CORPORATION

By: _____
Christopher LaRoche, its Authorized Agent

SIGNATURE PAGE TO OPTION TO PURCHASE AGREEMENT
BARRA ROAD BIDDEFORD

ATTACHMENT C

June 24, 2024

City of Biddeford
Attn: Planning Board
205 Main Street
Biddeford, ME 04005

RE: Planning Board Application

To Whom It May Concern:

We have been working with Westbrook Development Corporation on their application for an upcoming approximately 80-unit affordable housing project (Thatcher Brooks Apartments) located at 37 Barra Road in Biddeford. Westbrook Development Corporation is an established and valued customer of Gorham Savings Bank. They have ample liquid funds and a long history of banking and lending with Gorham Savings Bank. Please be advised they have the cash resources, financial capacity, and track record to successfully complete this project.

Please feel free to contact me with any questions.

Sincerely,

Matthew W. Early
SVP, Commercial Banker
Gorham Savings Bank

MWE/JML

Company Profile

Westbrook Development Corporation

Unique housing initiatives are the hallmark of Westbrook Development Corporation (WDC). More than 30 years after our founding, WDC has grown from an extension of a government-funded local housing authority to a widely recognized leading non-profit developer of affordable and workforce housing.

Our diverse development portfolio showcases our versatility, including a 100-unit, multistory apartment building, a charming single-family townhouse community, luxurious market-rate condominiums fashioned from a historic schoolhouse, and contemporary industrial-style lofts converted from an abandoned riverside mill. From affordable rental communities catering to seniors and residents with disabilities to pioneering homeownership opportunities for first-time buyers, WDC takes pride in delivering distinctive housing solutions.

At our core, WDC is deeply committed to fostering sustainable long-term growth of affordable housing across Greater Portland and Southern Maine. Rather than imposing developments on cities and towns, we prioritize collaboration. We work hand in hand with city officials, civic leaders, neighborhoods, and residents to understand their needs and aspirations, ensuring that the housing solutions we create reflect their desires.

Our message to all communities is simple yet powerful: "Tell us what you want. We listen." By embracing this ethos, we consistently empower communities with the housing options they seek, making a lasting positive impact on the lives of countless individuals and families. With each project we undertake, WDC reaffirms its position as a leader in affordable and workforce housing development, dedicated to shaping a better, more inclusive future for all.

Tyler Norod – Development Director

Tyler joined WDC in 2021 as Development Director. Prior to WDC, Tyler worked as a Development Officer for Avesta Housing, where he lead the development efforts on a variety of large projects across Southern Maine and New Hampshire. These projects included historic rehabilitation, Passive House Certified buildings, and a multi-phased mixed-use urban development.

Over the course of his career, Tyler has overseen 13 affordable housing developments with a total development cost in excess of $160 million. In total, these projects represent approximately 500,000 square feet of development and 500 units of housing. Tyler's projects have been recognized by GrowSmart Maine and the Maine Real Estate Development Association (MEREDA) as well as the prestigious national Charles L. Edson award for Tax Credit Excellence.

Before working as a developer, Tyler was the Housing Planner for the City of Portland, where he implemented new housing policies and oversaw allocation of City resources to spur new affordable housing development. Tyler also served as a Senior Project Manager at the Boston Redevelopment Authority (BRA). While at the BRA, he managed the public review process and community benefit negotiations for several million square feet of development, including transitional housing for homeless veterans; housing for low-income seniors; and community-driven, mixed-income residential developments.

Tyler's academic background includes a BA in Political Science from St. Mary's College of Maryland, providing him with a strong foundation for his work in the housing development sector. With his wealth of experience and dedication to creating affordable housing solutions, Tyler continues to drive positive change and make a lasting impact in the communities he serves.

Maggie Stanley - Construction Services Director

As a Licensed Maine Architect, Maggie comes to WDC from a different side of the table from most in development. Her background is in the design and construction administration of multi-family and historic buildings in and around Southern Maine. She joined WDC in 2022 after several years working for CWS Architects where her focus was in senior and family housing developments and rehabs for Avesta, Portland Housing Authority and Community Housing of Maine. While at CWS, Maggie acted primarily as a Construction Administrator, working with contractors and owners to navigate unforeseen conditions and provide oversight that the projects were built as designed.

Prior to CWS Architects, Maggie spent much of her early career at Goduti/Thomas Architects where she became licensed while working on high end residential homes and ski resorts, although most of her time spent there was working in Historic Rehabilitation, converting historic buildings into affordable multi-family developments. These historic projects were reviewed by the National Park Service and received National Historic Registration upon completion. While at Goduti/Thomas Architects, numerous projects she worked on received Maine Preservations Awards and the Southgate House in Scarborough was recognized nationally for excellence due to its impactful use of Low-Income Housing Tax Credits.

She earned her Bachelors of Architecture from Syracuse University during which she spent her breaks working property maintenance turning apartments in Syracuse and as an electricians assistance at home on Mount Desert Island.

Maggie also is the former chair and current member of the Portland Planning Board. She is currently serving out her third, three-year term. It has been her time spent on the board, and the deep dive into urban planning, zoning and how policies can shape cities and our built environment that led to her passion for smart development. She hopes to continue to explore these ideas at WDC and act as a liaison between many parties involved from early design through construction, ultimately creating a product that best benefits the community and the end user of these spaces.

ATTACHMENT D

GORRILL PALMER

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

June 13, 2024

Craig Chekan
City of Biddeford – Engineering Department
205 Main Street
Biddeford, Maine 04005

Subject: Proposed Residential Development
37 Barra Road, Biddeford, Maine
Ability to Serve Request

Dear Mr. Chekan,

On behalf of **Westbrook Development Corp.**, we would like to verify the City of Biddeford's capacity to provide sewer services for a proposed 76-unit affordable senior and family housing residential development located at 37 Barra Road in Biddeford, ME. The project site is identified as Map 2/ Lot 42 on the City of Biddeford's Tax Assessor's Map. The property is currently owned by the City of Biddeford.

The project proposes two (2) multi-family buildings; (1) 36-unit senior building and (1) 40-unit family building. Each building will require domestic and fire services. Bedroom mixes will vary in the family housing building, however, the senior building will likely only include 1-bedroom units. The development includes parking and walkways within the site, as well as landscaped areas. We understand that a public sewer main spans across the property which provides good potential access points for the proposed buildings. The development includes parking and walkways within the site, as well as landscaped areas. The parking areas will be generally located in the south half of the site and located over the existing sewer for a portion of the site. We would request any available as-built or survey information to better understand and confirm size and inverts for the existing public sewer main to further our onsite sewer service design.

Concept Plan

ANTICIPATED FLOWS

For the purposes of this preliminary analysis, the anticipated water use for the development was computed based on Section 4.E.2 of the Maine Subsurface Wastewater Disposal Rules, which states that for multiple family dwelling units, the design flow is calculated at 120 gallons per day per 1-bedroom unit, and 90 gallons per day per bedroom, for multiple bedroom units. Based on the publication, *TR-16 Guides for the Design of Wastewater Treatment Works, 2011 Edition as Revised in 2016,* (New England Interstate Water Pollution Control Commission (NEIWPCC), 2016); the peak daily use can be considered to about three times the average daily use.

Flows were calculated assuming that all (36) senior units are 1-bedroom and that the affordable family housing will consist of (20) 1-bedroom, (12) 2-bedroom and (8) 3-bedroom units. The table below is a summary of the daily wastewater generation that is anticipated for the development.

Anticipated Daily Flows		
Building	Average Daily Flow (gpd)	Peak Daily Flow (gpd)
36-Unit Senior Housing Building	4,320 gpd	12,960 gpd
40-Unit Affordable Family Housing Building	6,720 gpd	20,160 gpd
Total:	10,740 gpd	32,220 gpd

ABILITY TO SERVE

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the City of Biddeford's ability to serve the proposed project. In addition, we are interested in receiving:

- An estimate for any work the City of Biddeford would perform to the public sewer main on site or within the right of way.
- Information as to any easement or maintenance agreements templates.
- Any connection service or impact fees.
- Any other information that you believe would be useful as this project proceeds.

We look forward to working with the City on this project and coordinating with you and your team further. Please contact me if you have any questions regarding the information in this letter.

Sincerely,

GORRILL PALMER

Kaleb Bourassa
Project Manager
Phone 207-772-2515 x297
kbourassa@gorrillpalmer.com

Attachments: Preliminary Utility Plans

\\gpstorage-srv\job_numbers\4303_wha barra road development_biddeford,me\h utilities\ability to serve\sewer\4303 - sewer ability to serve_kb edit.docx

June 20, 2024

Jacob Curtis
Gorrill Palmer
330 Southborough Drive, Suite 200
South Portland, ME 04106

Re: Ability to Serve Determination – 37 Barra Road, Biddeford

Greetings,

The Maine Water Company (MWC) has received your request on the behalf of your client, Westbrook Development Corporation, for an Ability to Serve Determination for the above-referenced project. The request specifies a plan to construct a 76-unit residential development and associated utility infrastructure improvements. The expected peak domestic service demand is 32,220 gallons per day. The expected fire service demand is currently unknown.

Domestic water is available for your project from the existing 12-inch ductile iron main in the Barra Road Right-of-Way to serve the project. Based on the criteria provided by the developer's agent, the expected increase in water usage is within the Biddeford Saco Division of MWC's available system capacity. The static pressure in the area is approximately **60 psi**. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- MWC has the understanding that fire service demand is unknown at this time, are not be included in this request, or accounted for in this Ability to Serve Determination.
- If fire service is required, a hydrant flow test at the nearest available hydrant will need to be conducted and analyzed by the sprinkler designer to ensure that adequate flows can be met during a peak fire demand event.
- The developer is required to pay for the cost of any modification, renewal of impacted service lines, and retirement of unused or discontinued services to MWC standards of best practice.
- Additional plan approval, paperwork, and fees associated with this project will require proper coordination with MWC. MWC requires upfront payment for inspection and paperwork to be fully completed before any construction on waterworks materials.
- Service lines must comply with MWC Cross Connection Control Program.
- Allow up to 30 days for the MWC utility review process once final plans are ready to be completed before any construction on waterworks materials will be approved.

Should a request for service or completion of the project 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 Patrick.Gere@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Patrick Gere, PE
Project Engineer

The Maine Water Company
93 Industrial Park Road
Saco, ME 04072

T: 1.800.287.1643
www.mainewater.com

ATTACHMENT E

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

WDC_B

37 Barra Rd. Biddeford, ME 04005

TOTAL FLOOR AREA:
10,852 sq ft

6 LEVEL 1
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

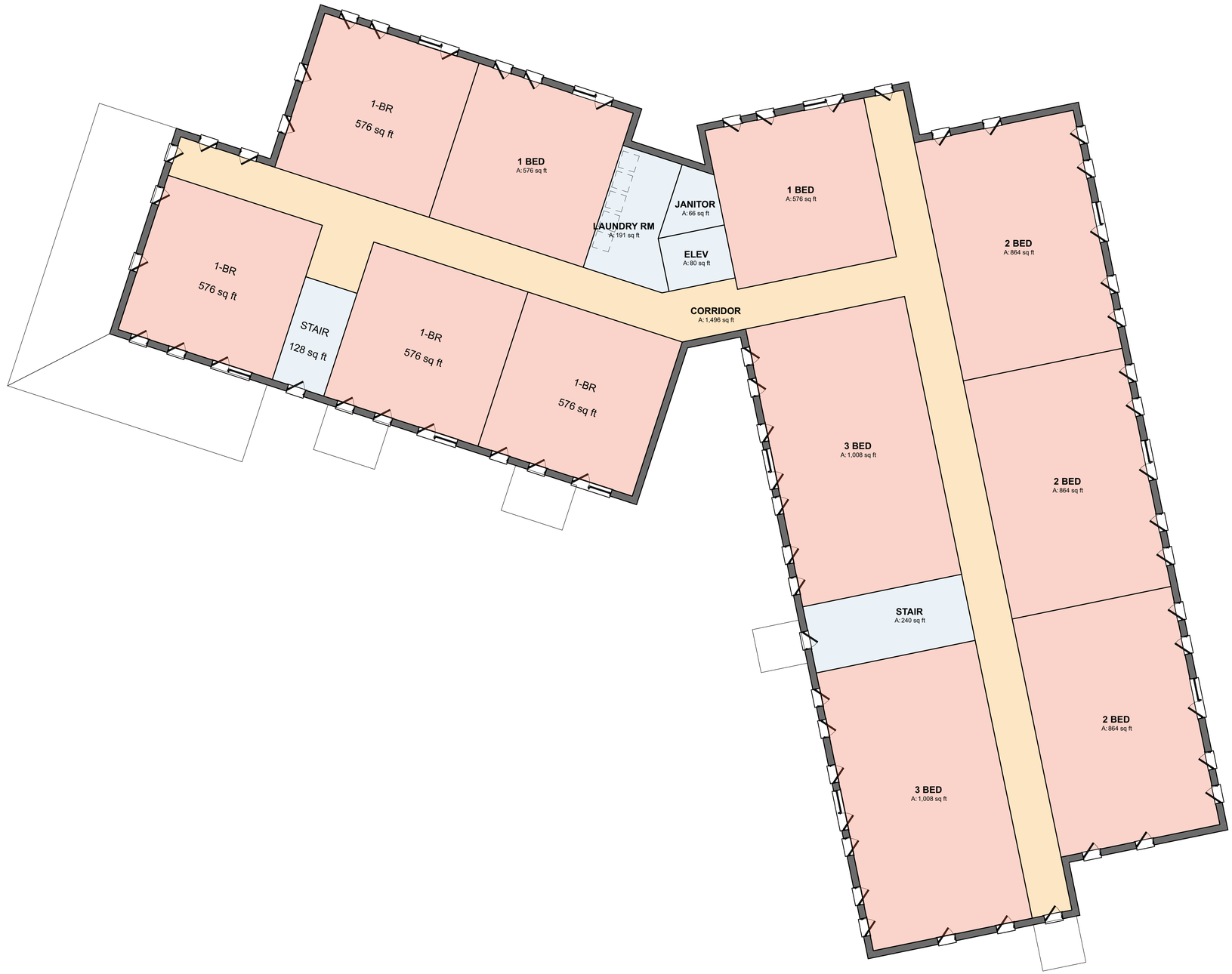
FAMILY BUILDING PLAN - GROUND LEVEL

WDC_B

37 Barra Rd. Biddeford, ME 04005

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com



TOTAL FLOOR AREA:
10,852 sq ft

1 LEVEL 2
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

FAMILY BUILDING PLAN - UPPER LEVELS

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

WDC_B

37 Barra Rd. Biddeford, ME 04005

TOTAL FLOOR AREA:
9,667 sq ft

7 LEVEL 1
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

SENIOR BUILDING PLAN - GROUND LEVEL

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

WDC_B

37 Barra Rd. Biddeford, ME 04005

TOTAL FLOOR AREA:
9,667 sq ft

1 LEVEL 2
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

SENIOR BUILDING PLAN - UPPER LEVELS

Kaplan Thompson Architects

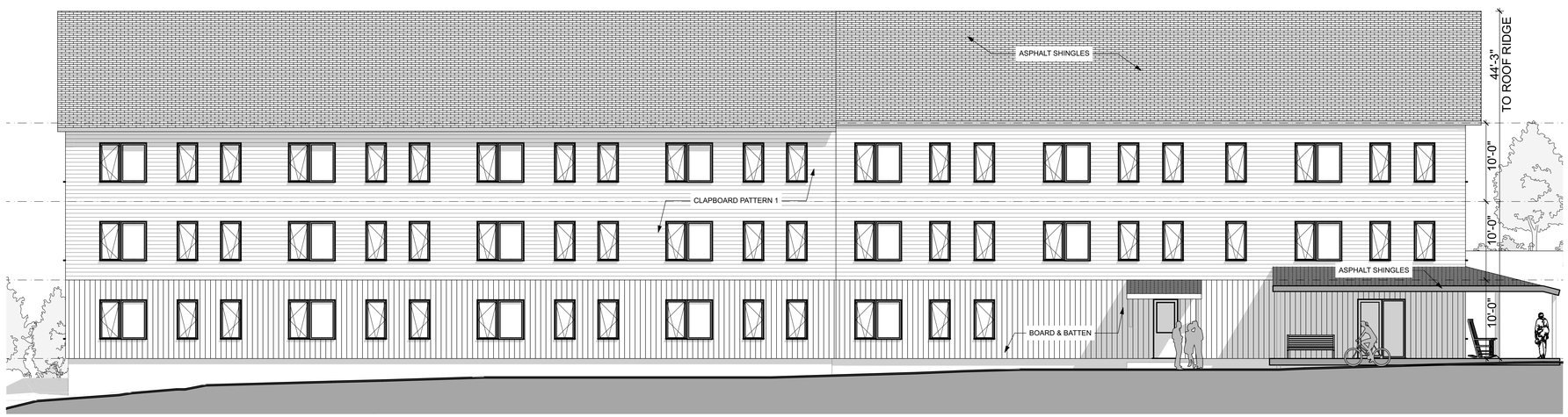
102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

WDC_B

37 Barra Rd. Biddeford, ME 04005

4 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

2 EAST ELEVATION
SCALE: 1/8" = 1'-0"



3 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

1 WEST ELEVATION
SCALE: 1/8" = 1'-0"

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

BUILDING ELEVATIONS

WDC_B

37 Barra Rd. Biddeford, ME 04005

2 NORTH ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

1 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

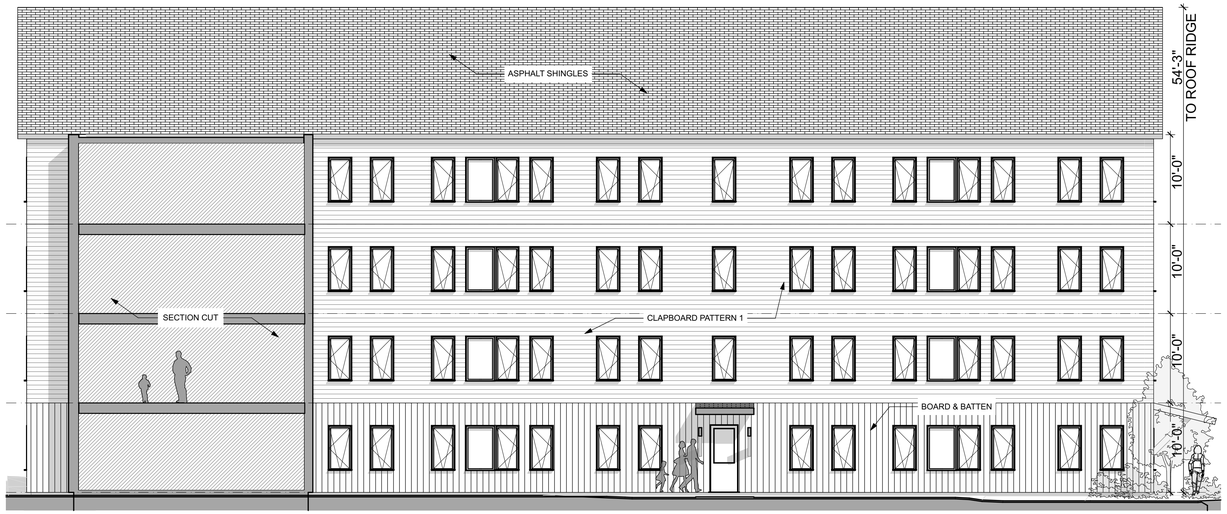
BUILDING ELEVATIONS

WDC_B

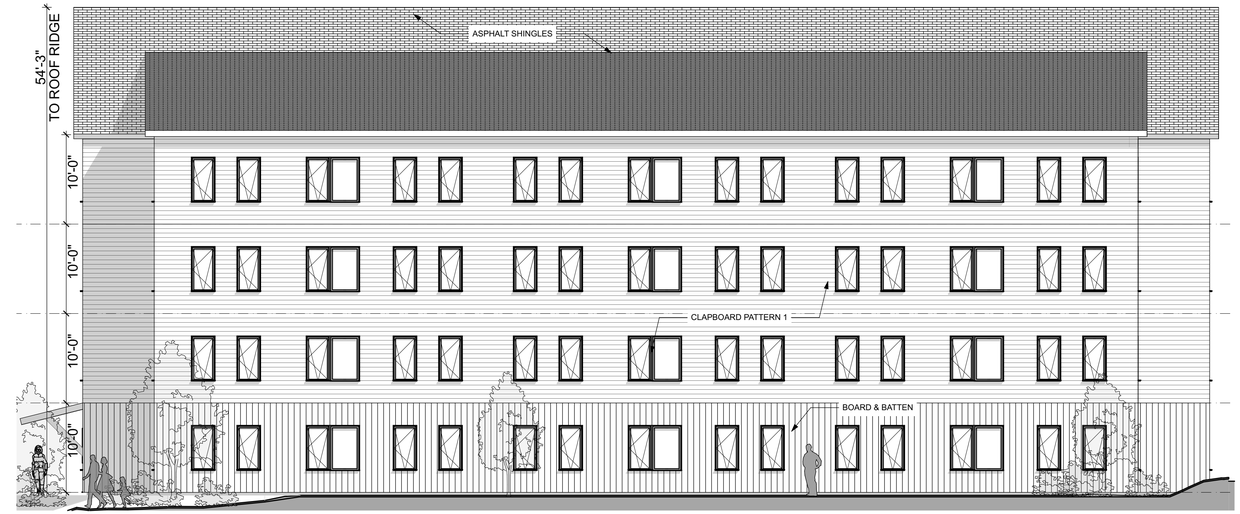
37 Barra Rd. Biddeford, ME 04005

4 SOUTHEAST ELEVATION
SCALE: 1/8" = 1'-0"

2 WEST ELEVATION
SCALE: 1/8" = 1'-0"



3 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



1 NORTHEAST ELEVATION
SCALE: 1/8" = 1'-0"

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

BUILDING ELEVATIONS

WDC_B

37 Barra Rd. Biddeford, ME 04005

ATTACHMENT F

Project Photos – Thatcher Brook Apartments I & II

Entrance to Lot 1 from Barra Road (Looking West)

Maine Water Pump Station Building (Looking Southwest)

Sewer Easement (Looking West)

Sewer Easement (Looking Northwest)

Sewer Easement (Looking)

Drive and Pump Station from Sewer Easement (Looking East)

Sewer Easement (Looking Northeast)

South Edge of Pond (Looking North)

Existing Pond (Looking North)

Existing Pond at Outlet (Looking Northeast)

Outlet of Pond (Looking South)

Pond Outflow into Wetland (Looking South)

ATTACHMENT G

GORRILL PALMER

300 Southborough Drive | Suite 200
South Portland, Maine 04106
207.772.2515

Stormwater Memo

To:	**Mr. David Galbraith, City Planner**	**From:**	**Kaleb Bourassa, PE**
Date:	**June 26, 2024**	**Re:**	**Proposed Residential Development 37 Barra Road, Biddeford, ME Westbrook Development Corporation**

Task:

Perform a stormwater management analysis for the proposed development of two (2) multi-family buildings at 37 Barra Road in Biddeford, ME.

References:

- Field reconnaissance by Gorrill Palmer
- Compiled Survey At 37 Barra Road, Biddeford, Maine dated May 24, 2024 prepared by Owen Haskell
- Civil Plans and permit materials for "MeDEP Site Location Permit Exit 4 Business Park" dated November 1998, and prepared by DeLuca-Hoffman Associates, Inc.
- MeDEP Site Location of Development Act Permit Order #L-19832-39-A-N
- Civil Plan Set dated June 26, 2024 prepared by Gorrill Palmer
- City of Biddeford Zoning Ordinance

Background:

Westbrook Development Corporation is currently seeking approval from the City of Biddeford Planning Board for the construction of two (2) new multi-family buildings; (1) 36-unit senior building and (1) 40-unit family building. The project site is approximately 3.64 acres as identified on the City of Biddeford's Assessor's Office Tax Map 2/Lot 42. The site is currently owned by the City of Biddeford. The subject lot was created and identified as Lot #1 in a City of Biddeford subdivision which was created in 1999 and received a MeDEP SLDA permit at that time. The existing SLDA permit for the subdivision permitted 76,302SF of lot coverage and 1,316SF of wetland impact. Additionally, Section 61 of the City of Biddeford Performance Standards require that stormwater management evaluations and design be based on a 24-hr, 25-year occurrence interval storm.

The project site is currently occupied by a Maine Water Company pump station at the southeast corner of the lot with an existing paved entrance. A City of Biddeford sewer easement is maintained as a grassed area that travels longitudinally through the site. A storm water attenuation and water quality pond designed and constructed as part of the 1999 subdivision is located in the northwest corner of the lot. The pond was designed using MeDEP "Stormwater Management for Maine: Best Management Practices" from 1997 and exceeded the TSS removal required at the time of permitting under 06-096 CMR Chapter 500. The total existing impervious

area is 7,676 SF which consists of the Maine Water pump station and a paved entrance to the lot. The remainder of the site is undeveloped with a combination of wetlands, fields, and shrubby vegetated areas.

Soil data for the project site from the high intensity soil survey conducted for the original subdivision plans identifies the site soils to be comprised of:

Soil Description	Map Symbol	Hydrologic Soil Group
Lamoine, 3-8% Slopes	LAB	D
Lamoine,8-15% Slopes	LAC	D
Turnbridge-Lyman-Rock Outcrop, 3-8% Slopes	T-L-R C	C/D
Scantic, 0-3% Slopes	SCA	D

Analysis:

The proposed project will generate 20,519 SF building area with parking and sidewalks for a total of 70,501 SF (1.62 acres) of impervious area. As noted previously, the allotted impervious area and wetland impacts for this property within the existing SLDA Permit were 76,302SF and 1,316SF, respectively. We find the proposed impervious area is less than that previously permitted. The wetland impacts previously permitted were executed as part of the Barra Road and driveway construction, therefore, no further wetland impacts may be incurred without additional permitting through the MeDEP. Accordingly, the current design proposes no wetland impacts.

The table below presents the original lot area/development characteristics designed for the subject parcel. This included the development of approximately 2.19 acres of developed area and 1.86 acres of impervious area. The prior approvals resulted in the design and construction of a wet pond in the northwest corner of the lot. The following table compares the permitted amounts allotted for lot #1 in the MeDEP SLDA Permit with the proposed amounts generated by the project.

Condition	Total Lot Area (Acres)	Total Development Area (Acres)	Total Impervious Area (Acres)	Total Wetland Impact (Acres)
Original SLDA Permit	3.65	2.19	1.86	0.03
Proposed	3.65	2.14	1.62	0.00

A comparison of the predevelopment and post development flows as modeled for the MeDEP Site Location Permit for Exit 4 Business Park is detailed below. The model divided the area of the business park into two larger subbasins for the predevelopment condition and a variety of smaller subbasins for the post-development condition. Table 2 shows the effects of development on Thatcher Brook assuming the permitted amounts of impervious surface for all lots in the business park.

Point of Analysis, Thatcher Brook				
Storm Event	**Predev. Peak Runoff Flow Rate (cfs)**	**Postdev. Peak Flow Rate (cfs)**	**Flow Change (cfs)**	**% Change**
2 Year	195.6	195.6	0.0	0%
10 Year	379.9	378.1	-1.8	-0.05%
25 Year	469.9	466.3	-3.6	-0.08%
100 Year	608.0	601.5	-6.5	-1.1%

The proposed stormwater system will utilize a series of storm drains and pipes in conjunction with the previously constructed storm water pond. The perimeter areas and fill slopes will be planted with wildflower seed mix and left unmaintained/undeveloped. Storm water will be collected and transported moving roughly east to west with an outfall located at the existing storm water pond. As required by § 61A.3 of the City of Biddeford Performance Standards, the system was designed for a 25-year storm, 24-hour duration storm. Storm data was obtained from the Cornell "Extreme Precipitation in New York & New England" tool as referenced in Appendix A-1 of the Maine Stormwater Management Design Manual, published May 2016. Preliminary pipe sizes for the proposed developed area were determined from flows modeled using a SCS TR-55 model within Autodesk Storm and Sanitary Analysis. The pipe sizes as well as their design and anticipated flows are attached with this memo.

Conclusion:

The proposed stormwater and drainage design maintains an overall impervious and development area below or equal to the designated thresholds for the site and utilizes the existing pond designed and constructed as part of the original business park development. Additionally, the project also does not intend to generate any additional wetland impacts. The onsite drainage infrastructure which conveys runoff to the existing pond has been sized for the 25-year storm to meet performance standards set by the City of Biddeford. Based on the information provided, we conclude the stormwater management for the property will be sufficiently handled per the original design to provide water quality and quantity treatment. It is therefore anticipated that the project will remain in compliance with the permit requirements as outlined in the MeDEP Site Law permit and the City's standards for water quantity treatment.

Attachments: Pipe Capacity Calcs

u:\4303_wha barra road development_biddeford,me\i stormwater\4303-stormwater-memo-jmc.docx

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	SD01	Pipe	MH1	Pond	62.00	91.37	91.00	0.6000	24.000	0.0150	8.39	15.15	0.55	4.49	1.15	0.57	0.00	Calculated
2	SD02	Pipe	MH2	MH1	185.00	92.58	91.47	0.6000	18.000	0.0150	5.28	7.07	0.75	3.78	1.10	0.74	0.00	Calculated
3	SD03	Pipe	CB01	MH2	90.00	93.22	92.68	0.6000	18.000	0.0150	4.05	6.83	0.59	3.48	0.94	0.63	0.00	Calculated
4	SD04	Pipe	CB02	CB01	21.00	93.45	93.32	0.6200	15.000	0.0150	3.56	4.40	0.81	3.53	0.96	0.77	0.00	Calculated
5	SD05	Pipe	CB03	CB02	80.00	94.03	93.55	0.6000	15.000	0.0150	3.13	4.39	0.71	3.18	0.94	0.75	0.00	Calculated
6	SD06	Pipe	CB04	CB03	82.00	94.62	94.13	0.6000	12.000	0.0150	1.56	2.34	0.66	2.53	0.74	0.74	0.00	Calculated
7	SD07	Pipe	CB05	CB04	49.00	95.01	94.72	0.5900	12.000	0.0150	1.60	2.38	0.67	3.17	0.62	0.62	0.00	Calculated
8	SD08	Pipe	CB06	CB05	78.00	95.58	95.11	0.6000	12.000	0.0150	0.81	2.40	0.34	2.15	0.49	0.49	0.00	Calculated
9	SD09	Pipe	CB07	MH1	56.00	91.81	91.47	0.6100	18.000	0.0150	3.43	7.09	0.48	3.08	1.06	0.71	0.00	Calculated
10	SD10	Pipe	CB08	CB07	42.00	92.16	91.91	0.6000	15.000	0.0150	1.74	4.32	0.40	2.26	0.79	0.63	0.00	Calculated
11	SD11	Pipe	CB09	CB08	70.00	92.68	92.26	0.6000	12.000	0.0150	0.96	2.36	0.41	2.25	0.54	0.54	0.00	Calculated
12	SD12	Pipe	CB10	CB09	75.00	93.16	92.78	0.5100	12.000	0.0150	0.35	2.21	0.16	1.66	0.31	0.31	0.00	Calculated
13	SD13	Pipe	CB11	CB07	63.00	92.29	91.91	0.6000	12.000	0.0150	0.49	2.40	0.21	1.43	0.68	0.68	0.00	Calculated
14	SD14	Pipe	CB12	MH2	40.00	92.92	92.68	0.6000	15.000	0.0150	1.55	4.00	0.39	2.46	0.85	0.68	0.00	Calculated
15	SD15	Pipe	CB14	Pond	53.00	91.32	91.00	0.6000	18.000	0.0150	1.54	7.05	0.22	3.06	0.49	0.33	0.00	Calculated

ATTACHMENT H

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

MEMORANDUM
TRAFFIC EVALUATION
BARRA ROAD DEVELOPMENT
BIDDEFORD, ME
June 24, 2024

INTRODUCTION

Per the request of Kaplan Thompson Architects, Gorrill Palmer (GP) has calculated and evaluated specific traffic information regarding a potential development including affordable senior apartments (36 units) and affordable family apartments (40 units). The current site is partially developed with an existing driveway and booster pump station. The site is located north of Bolduc Eye Care, south of Holiday Inn Express, west of Barra Road, and east of undeveloped land. The purpose of this memorandum is to provide the applicant with a traffic evaluation that can be submitted to the City of Biddeford. The City of Biddeford Ordinance provides the following guidance regarding traffic: Article VI. Performance Standards, Section 62. Studies and impact / development fees, C.

"…, the Board may require additional studies and reports when there is reason to believe that a given project may have unreasonable or adverse impact on a given neighborhood or the community as a whole."

If a traffic study is required under C.1.a, -

"Traffic study: To be completed by a traffic engineer; this study shall report the possible impact that a given project may have on the City's roadways. Besides meeting the standards established for professionally completed reports, this study shall include local traffic accident information for the last five years prior to development."

As part of this traffic evaluation, we have reviewed/evaluated the following;

- Trip Generation
- Safety Review: 3-year & 5-year
- Sight Distance Review

The following summarizes the data and information used, the methodology, and the results of the evaluation.

TRIP GENERATION

Trip generation for the affordable senior apartments (36 units) and affordable family apartments (40 units) have been calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation,* 11th Edition, the most recent edition accepted by MaineDOT. After

careful review of the Land Use Codes (LUCs) provided in the 11th Edition of *Trip Generation*, the following land use codes were used to calculate the trip generation for the proposed development:

Proposed Trip Generation

- LUC 221 – Multifamily Housing (Mid-Rise) – Not Close to Rail Transit – 40 units
- LUC 252 – Senior Adult Housing – Multifamily – 36 units

In calculating trip generation, MaineDOT methodology requires review of both the average rate and the fitted curve equation. If $r^2 \geq 0.80$ then the fitted curve equation is typically used, and if $r^2 < 0.80$ then the average rate is typically used. Trip generation calculations are provided in Attachment 1.

The following Table 1 summarizes the trip generation for multifamily housing (mid-rise).

Table 1 – Trip Generation (LUC 221 – 40 Units)

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	3.60	144
AM Peak Hour of Adjacent Street*	0.15	6
PM Peak Hour of Adjacent Street	0.40	16
AM Peak Hour Generator	0.48	19
PM Peak Hour Generator*	0.70	28
Saturday Peak Hour Generator*	0.40	16

*Rates based on using fitted curve equation.

As can be seen in Table 1, the multifamily housing (mid-rise) is forecast to generate 6 and 16 trips during the AM and PM peak hours of adjacent street respectively.

The following Table 2 summarizes the trip generation for senior adult housing – multifamily.

Table 2 – Trip Generation (LUC 252 – 36 Units)

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	3.58	129
AM Peak Hour of Adjacent Street*	0.22	8
PM Peak Hour of Adjacent Street	0.25	9
AM Peak Hour Generator	0.42	15
PM Peak Hour Generator*	0.31	11
Saturday Peak Hour Generator*	0.33	12

*Rates based on using fitted curve equation.

As can be seen in Table 2, the senior adult housing – multifamily is forecast to generate 8 and 9 trip ends during the AM and PM peak hours of adjacent street respectively.

The following Table 3 summarizes the trip generation for both apartment complexes.

Table 3 – Trip Generation Both Apartment Complexes

Time Period	Trip Generation (Trip Ends)
Weekday	273
AM Peak Hour of Adjacent Street	14
PM Peak Hour of Adjacent Street	25
AM Peak Hour Generator	34
PM Peak Hour Generator	39
Saturday Peak Hour Generator	28

As can be seen in Table 3, both apartment complexes together are forecast to generate 14 and 25 trip ends during the AM and PM peak hours of adjacent street respectively.

The trip generation threshold for requiring a MaineDOT Traffic Movement Permit is 100 or more trip ends during any peak hour of any day. After reviewing the trip generation in Table 3, the combined peak hours do not exceed 100+ trip ends. Therefore, this development does not require a MaineDOT Traffic Movement Permit and will be solely reviewed by the City.

The following Table 4 summarizes the trip distribution for multifamily housing (mid-rise) based on the ITE Trip Generation Manual, 11th Edition.

Table 4 – Trip Distribution (LUC 221)

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	72	72	144
AM Peak Hour of Adjacent Street	1	5	6
PM Peak Hour of Adjacent Street	10	6	16
AM Peak Hour Generator	5	14	19
PM Peak Hour Generator	17	11	28
Saturday Peak Hour	8	8	16

The following Table 5 summarizes the trip distribution for senior adult housing – multifamily based on the ITE Trip Generation Manual, 11th Edition.

Table 5 – Trip Distribution (LUC 252)

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	65	64	129
AM Peak Hour of Adjacent Street	3	5	8
PM Peak Hour of Adjacent Street	5	4	9
AM Peak Hour Generator	7	8	15
PM Peak Hour Generator	6	5	11
Saturday Peak Hour	6	6	12

The following Table 6 summarizes the combined trip distribution for the multifamily housing (mid-rise) and senior adult housing – multifamily based on the ITE Trip Generation Manual, 11th Edition.

Table 6 – Trip Distribution (LUC 252)

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	137	136	273
AM Peak Hour of Adjacent Street	4	10	14
PM Peak Hour of Adjacent Street	15	10	25
AM Peak Hour Generator	12	22	34
PM Peak Hour Generator	23	16	39
Saturday Peak Hour	14	14	28

SAFETY REVIEW

For the safety review, GP reviewed both a three-year crash history (2021-2023) and a five-year crash history (2019-2023) (Supporting information provided in Attachment B). The following identifies each evaluation in more detail:

Three-year crash history:

The three-year crash history was reviewed because this is the criteria used by MaineDOT to identify a location as a high crash location. HCL criteria is discussed in more detail as follows:

To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

A safety review was completed for Barra Road and the immediate area around the Barra Road / Alfred Street / West Cole Road intersection. The following summarizes those locations that met at least one of the above MaineDOT criteria.

Table 7 – Potential HCL Locations (3 year history)

Node	Location	Number of Crashes	Critical Rate Factor	HCL?
59168	Barra Road	1	1.76	No
59159	Alfred Street @ Barra Road / W Cole Road	34	1.25	Yes

As shown in Table 7, there is one location that meets the definition of a HCL (Node 59159). To identify potential mitigation, the collision diagram (Attachment B) was reviewed for potential crash patterns, which is typically considered three or more similar crashes. Based on a review of the collision diagram, there appear to be four crash patterns as follows:

- Alfred Street northbound rear-end (3 crashes)
- Alfred Street northbound angle crashes with southbound left turning traffic (3 crashes)
- Alfred Street southbound rear-end (11 crashes)
- Alfred Street southbound angle crashes with northbound left turning traffic (7 crashes)

Left turn angle crashes: Alfred Street left turning vehicles appear to have both a permissive & protected phase. This means that at some point in the signal cycle, the left turns can make a permissive left turn opposing two through lanes. This type of movement is discouraged by the MaineDOT because it has been shown to create these types of crash patterns, and only protected left turns are allowed when opposing two through lanes. It is our understanding that this intersection is part of a larger coordinated signal system along Alfred Street, and as such, any changes to timing and/or phasing will require evaluation of the entire system. In our opinion, this signal evaluation would be beyond the responsibility of this project given the minimal trip generation and impact this project will have on the intersection.

Rear-end crashes: The rear-end crashes could be a result of inadequate timing of the yellow and/or all red times for the through traffic. As identified in the previous "Left turn angle crashes" section, the timing and/or phasing of this intersection should not be changed unless the entire Alfred Street coordinated signal system is reviewed. It is our understanding that this intersection is part of a larger coordinated signal system along Alfred Street, and as such, any

changes to timing and/or phasing will require evaluation of the entire system. In our opinion, this signal evaluation would be beyond the responsibility of this project given the minimal trip generation and impact this project will have on the intersection.

Five-year crash history:

Per Biddeford City Ordinance, the five-year crash history was also reviewed. The following Table 8 summarizes the crash history for the same location identified as a HCL in the previous section for three-year review.

Table 8 – Five Year Crash History of Signalized Intersection

Node	Location	Number of Crashes	Critical Rate Factor
59159	Alfred Street @ Barra Road / W Cole Road	54	1.29

Based on the information in Table 8, the five-year crash history confirms the signalized intersection has historically had challenges when it comes to safety.

Pedestrian & Bicycle Crashes:

In addition to a review of the three & five-year crash histories, GP reviewed the latest three-year history to identify if there were reportable pedestrian or bicycle crashes. Based on information provided on the Maine Public Crash Query Tool, there were no reported bicycle crashes within the anticipated study area for the 2021-2023 time period. There was one reported pedestrian crash at the intersection of Alfred Street / Barra Road / W Cole Road. This crash occurred on 5/23/22 at 4:00 PM and was a non-fatal crash.

SIGHT DISTANCE REVIEW

The existing site currently has separate access driveway and fire truck access onto Barra Road. Gorrill Palmer completed a site visit on 6/20/2024 to evaluate sight distances for the proposed driveways. The City of Biddeford and MaineDOT have different standards for sight distance. The table below presents the standard distances for the City of Biddeford and MaineDOT.

Table 9 – MaineDOT Standards for Sight Distance

Speed Limit (mph)	MaineDOT Required (ft)	City of Biddeford (ft)
25	200	250
30	250	300
35	305	350
40	360	400
45	425	450

Since the City of Biddeford requirements for sight distance are greater than MaineDOT, the City of Biddeford criteria was used for this evaluation. The City of Biddeford and MaineDOT use the same evaluation methodology to measure sight distance. The City of Biddeford and MaineDOT method are as follows:

The City of Biddeford and MaineDOT uses the following evaluation methodology to measure sight distance:

Driveway Observation Point:	10 feet from traveled way
Height of Eye at Driveway:	3.5 feet above the ground
Height of Approaching vehicle:	4.25 feet above the ground

Based on the MaineDOT Map Viewer, Barra Road does not have a posted speed limit. In the field a speed limit of 25 mph was determined based on posted signs along Barra Road, the required sight distance for this road is 250 feet. The following Table 10 summarizes the required and measured sight distances at the existing driveway.

Table 10 – Available Sight Distance Summary

Approach	Sight Distance (ft)		
	Required for passenger vehicle (ft)	Available	
		Looking Left	Looking Right
Exiting Barra Road Driveway – (25 mph)	250	375+	375+
Fire Truck Access – (25 mph)	250	340	375+

As shown in Table 9, the available sight distances exceed required.

SUMMARY & CONCLUSIONS

Based on this evaluation we offer the following:

1. Trip Generation: The AM & PM peak hours of adjacent street are forecast to be 14 & 25 trip ends respectively.

2. Traffic Impacts: Given the relatively low trip generation, it is our opinion that the proposed development will not have an unreasonable or adverse impact on the neighborhood or community as a whole.

3. Safety Review: Based on a review of the three & five year crash history, the signalized intersection of Barra Road / Alfred Street / West Cole Road is classified as a high crash location, with four distinct crash patterns.

4. Sight Distance Review: Sight distances exceed requirements.

Attachments:

Attachment A – Trip Generation
Attachment B – Safety Review

u:\4303_wha barra road development_biddeford,me\n traffic\summary memo 6-24-24.doc

Attachment A

Trip Generation

Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (mid-rise) (Land Use 226), and mid-rise residential with ground-floor commercial (Land Use 231) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.5 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Utah, and Virginia.

Source Numbers

168, 188, 204, 305, 306, 321, 818, 857, 862, 866, 901, 904, 910, 949, 951, 959, 963, 964, 966, 967, 969, 970, 1004, 1014, 1022, 1023, 1025, 1031, 1032, 1035, 1047, 1056, 1057, 1058, 1071, 1076

Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

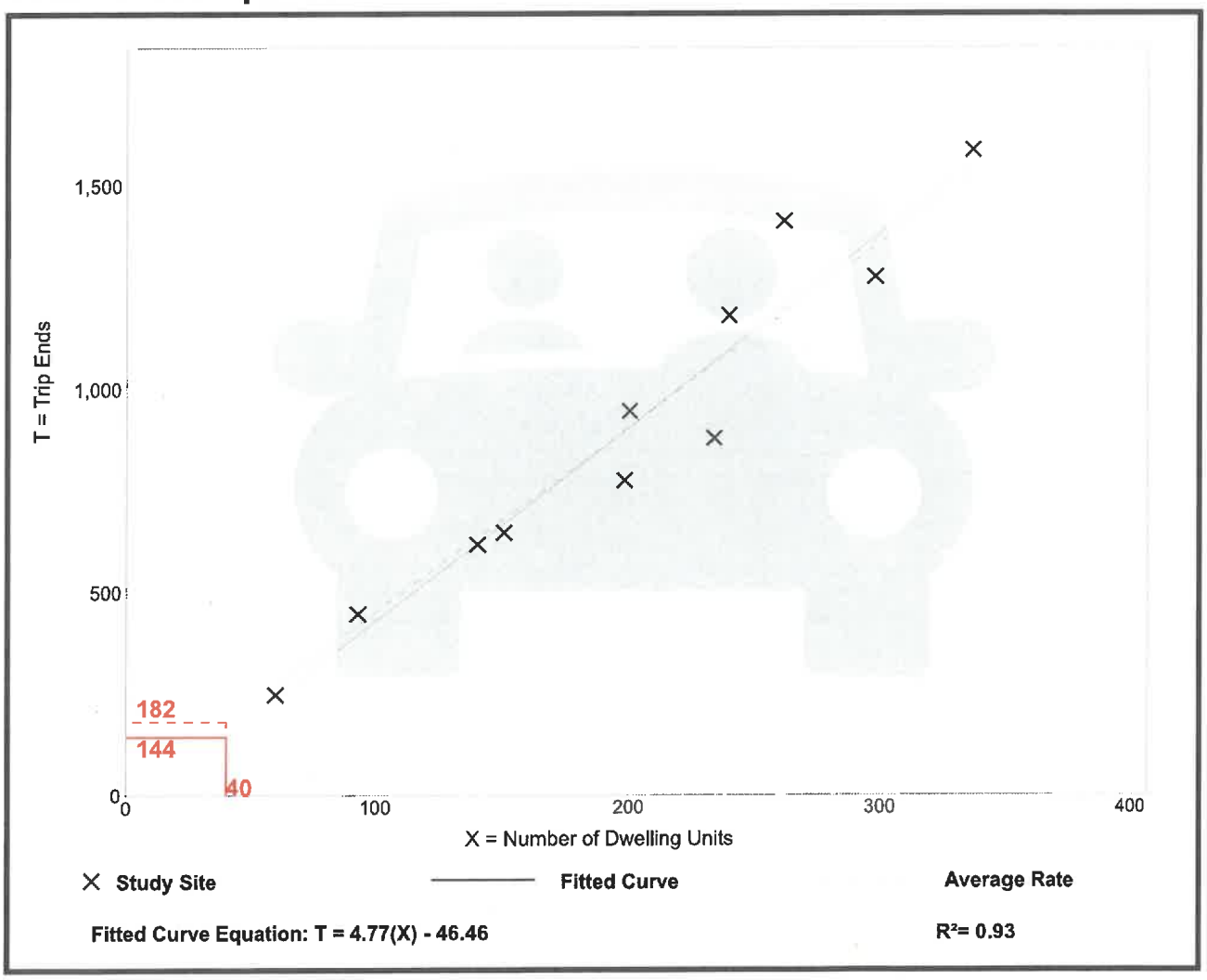
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



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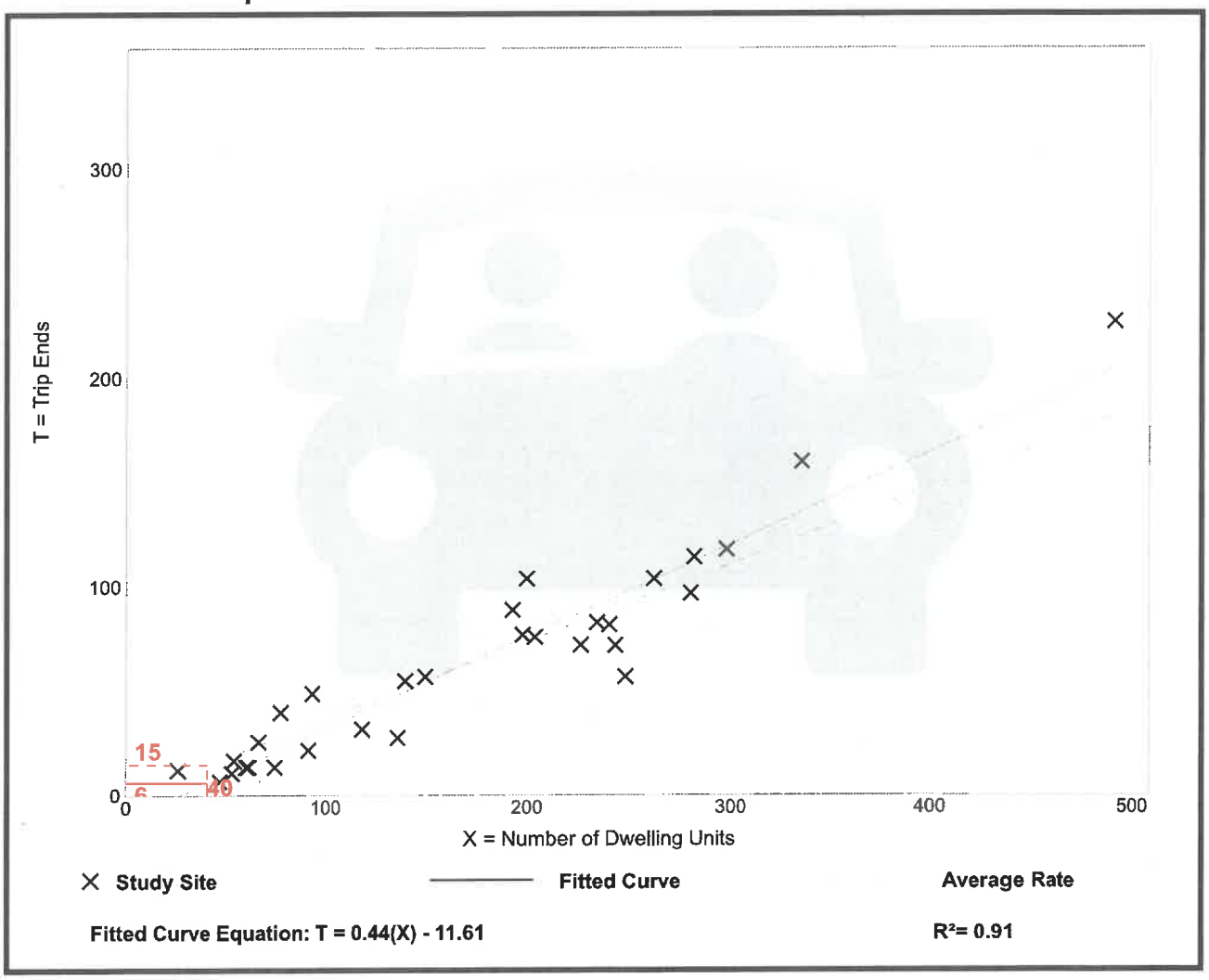
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	30
Avg. Num. of Dwelling Units:	173
Directional Distribution:	23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



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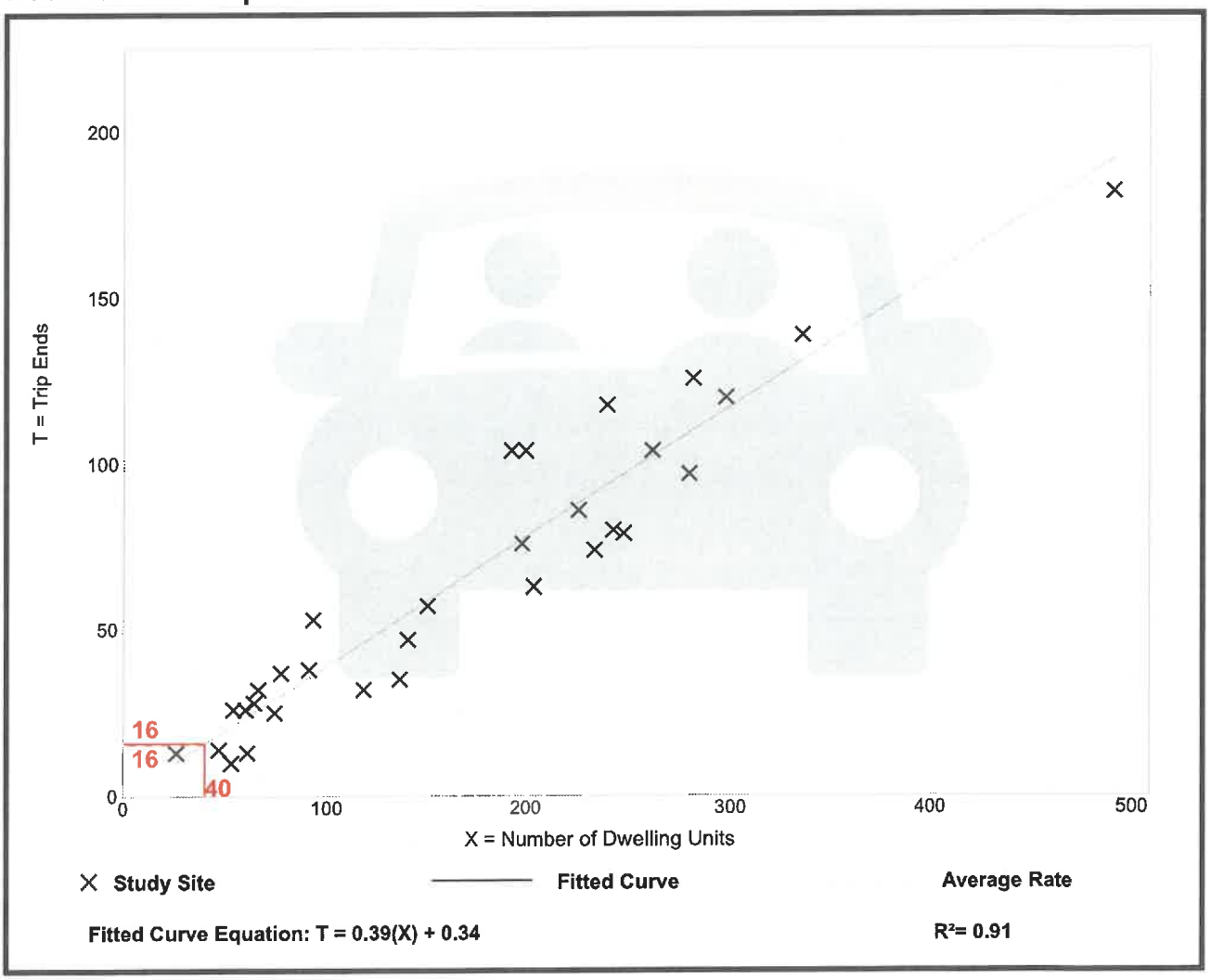
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	31
Avg. Num. of Dwelling Units:	169
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



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Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

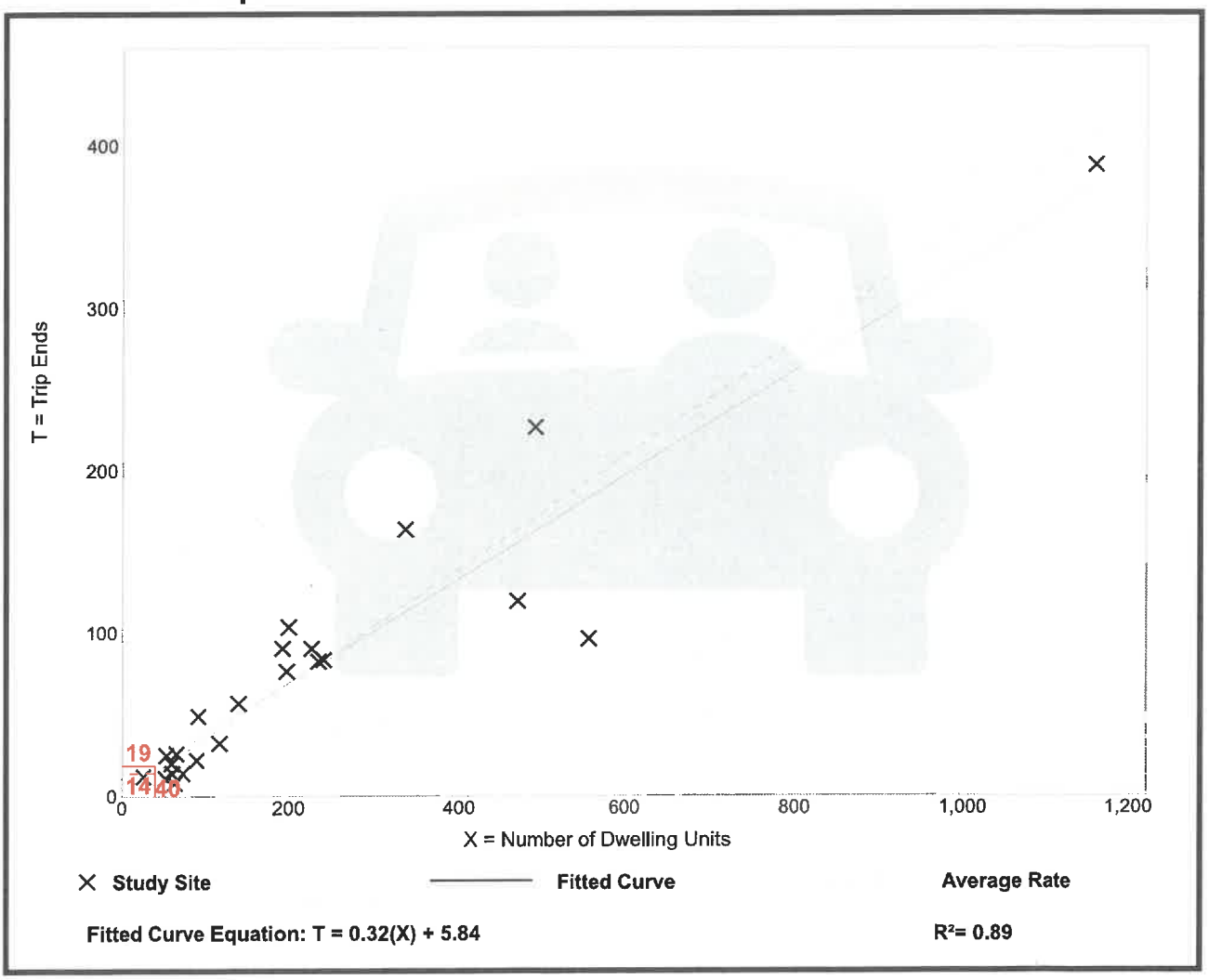
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 23
Avg. Num. of Dwelling Units: 226
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.35	0.13 - 0.53	0.11

Data Plot and Equation



Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

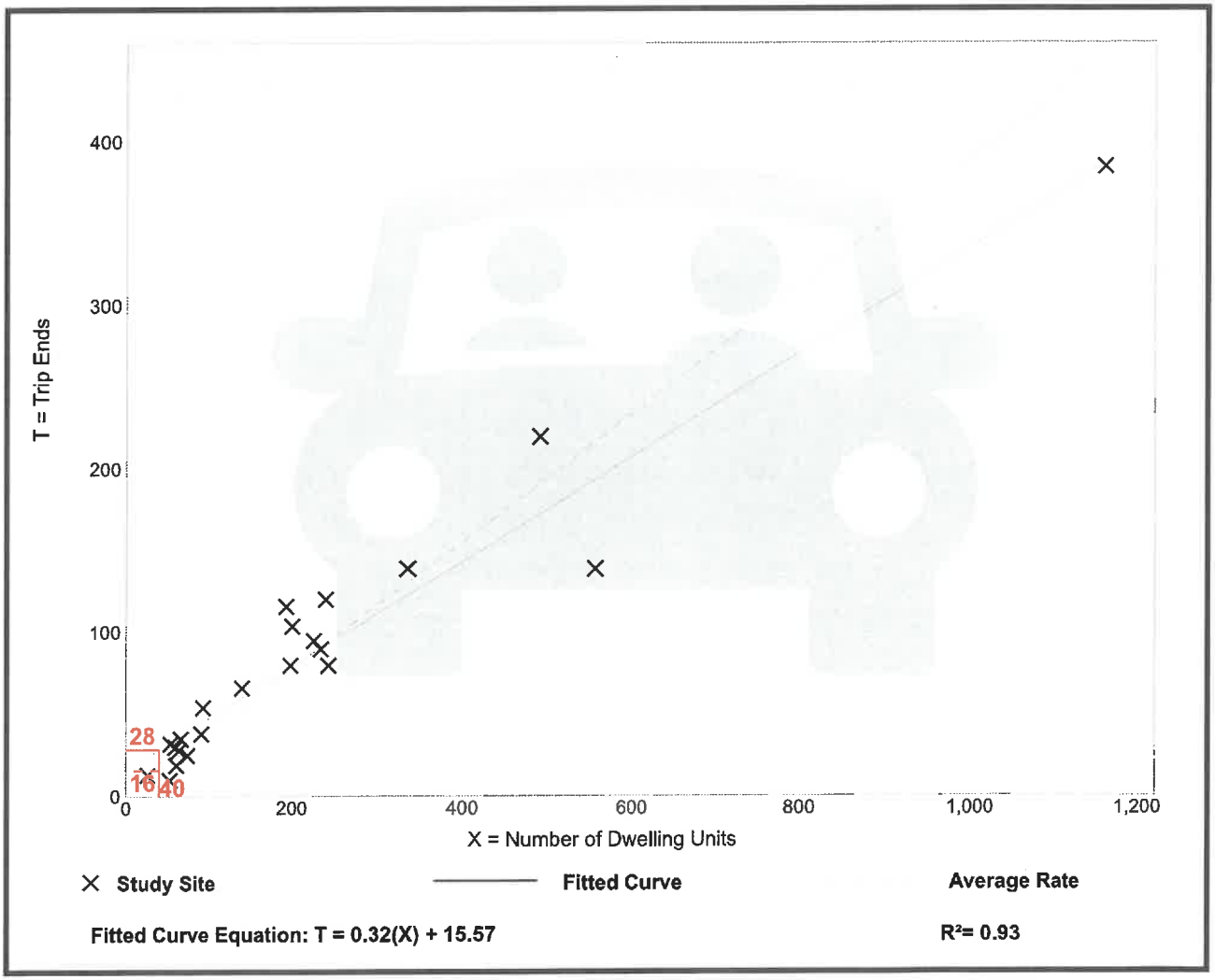
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 221
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.60	0.10

Data Plot and Equation



Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

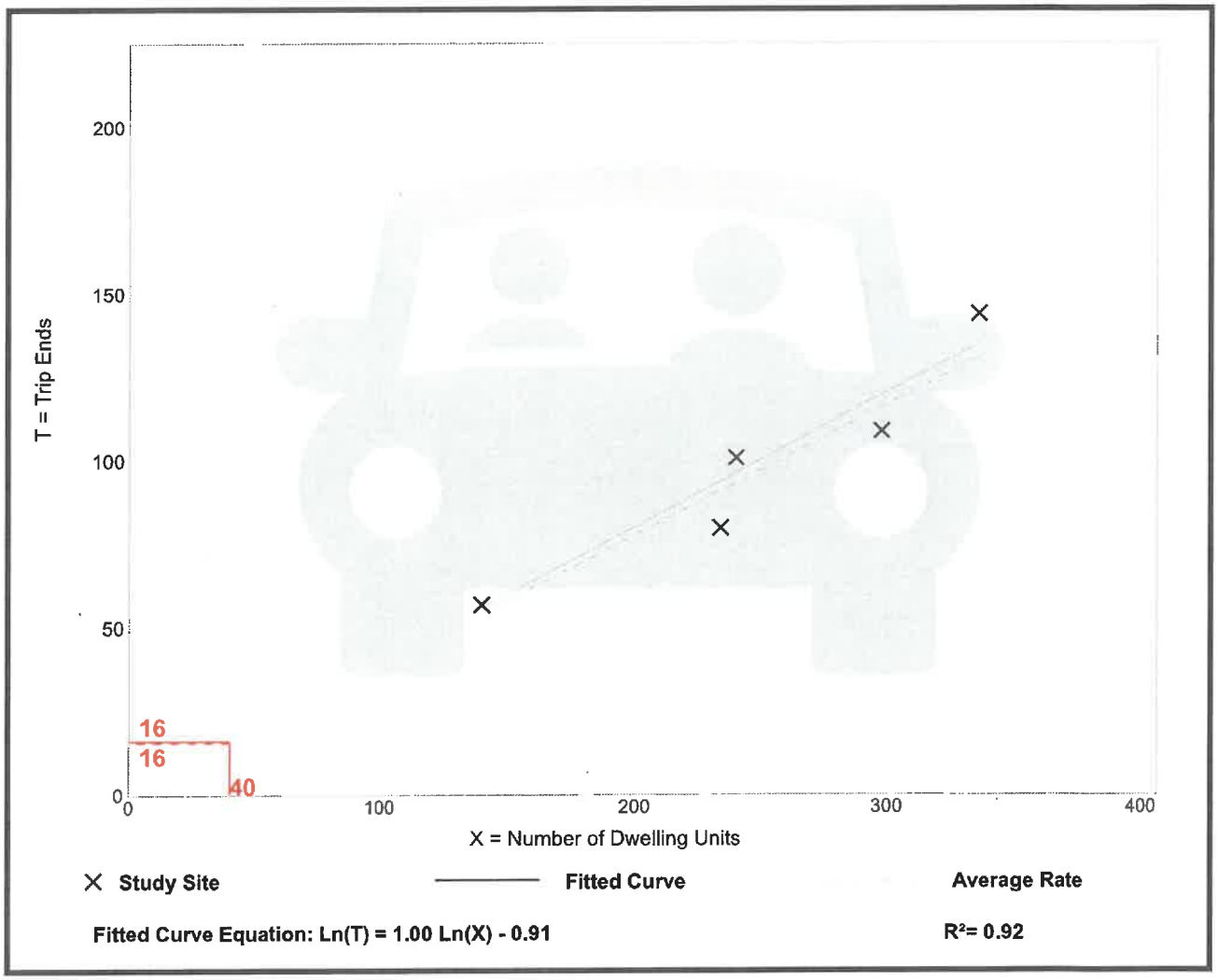
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Dwelling Units: 250
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.34 - 0.43	0.04

Data Plot and Equation

Caution – Small Sample Size



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Land Use: 252
Senior Adult Housing—Multifamily

Description

Senior adult housing—multifamily sites are independent living developments that are called various names including retirement communities, age-restricted housing, and active adult communities. The development has a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household.

Residents in these communities are typically considered active and requiring little to no medical supervision. The percentage of retired residents varies by development. The development may include amenities such as a golf course, swimming pool, 24-hour security, transportation, and common recreational facilities. They generally lack centralized dining and on-site health facilities.

The dwelling units share both floors and walls with other units in the residential building. Senior adult housing—single-family (Land Use 251), congregate care facility (Land Use 253), assisted living (Land Use 254), and continuing care retirement community (Land Use 255) are related land uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, and the 2000s in Alberta (CAN), California, Maryland, New Hampshire, New Jersey, Ontario (CAN), and Pennsylvania.

Source Numbers

237, 272, 576, 703, 734, 970, 1060

Senior Adult Housing - Multifamily
(252)

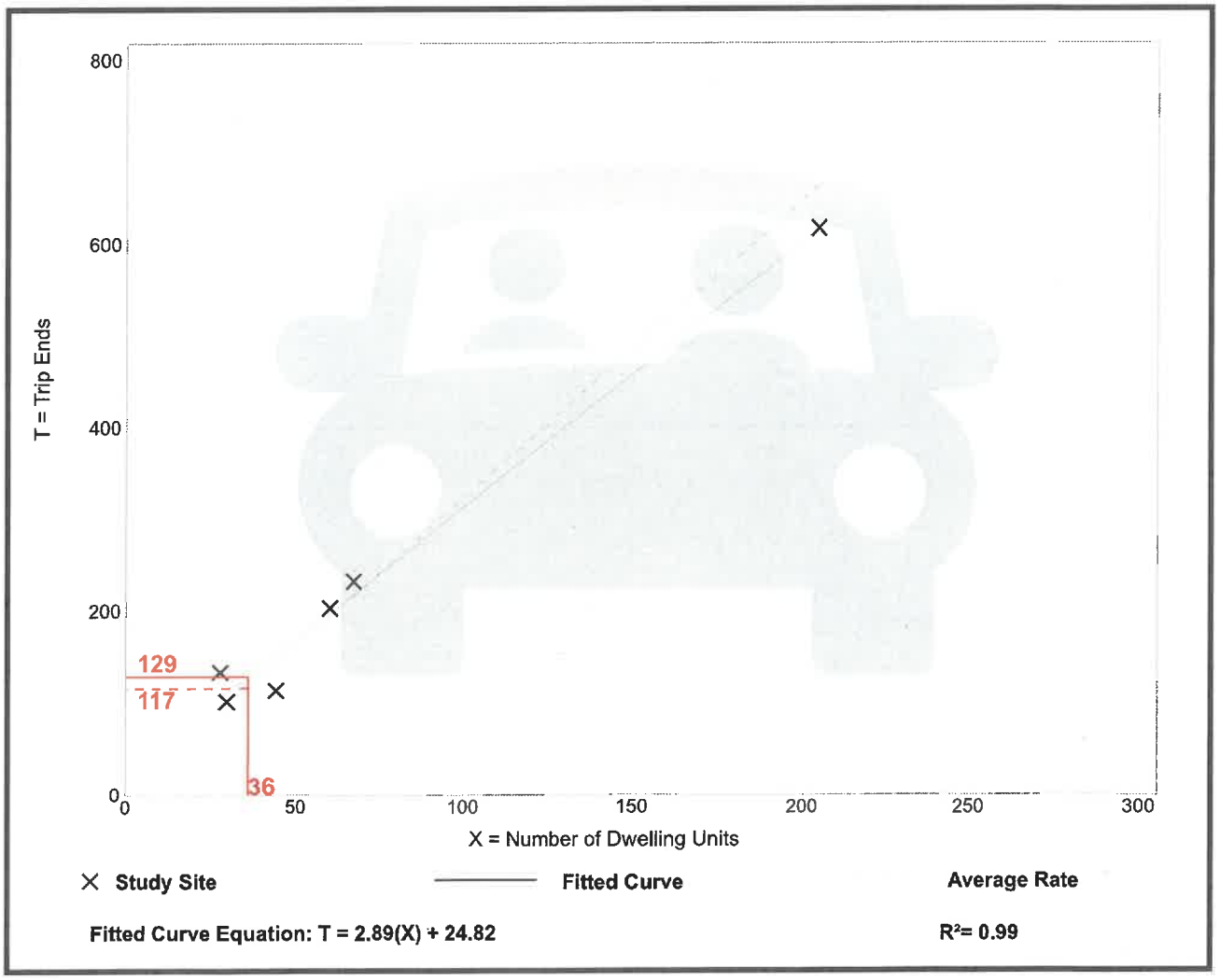
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 72
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.24	2.59 - 4.79	0.53

Data Plot and Equation



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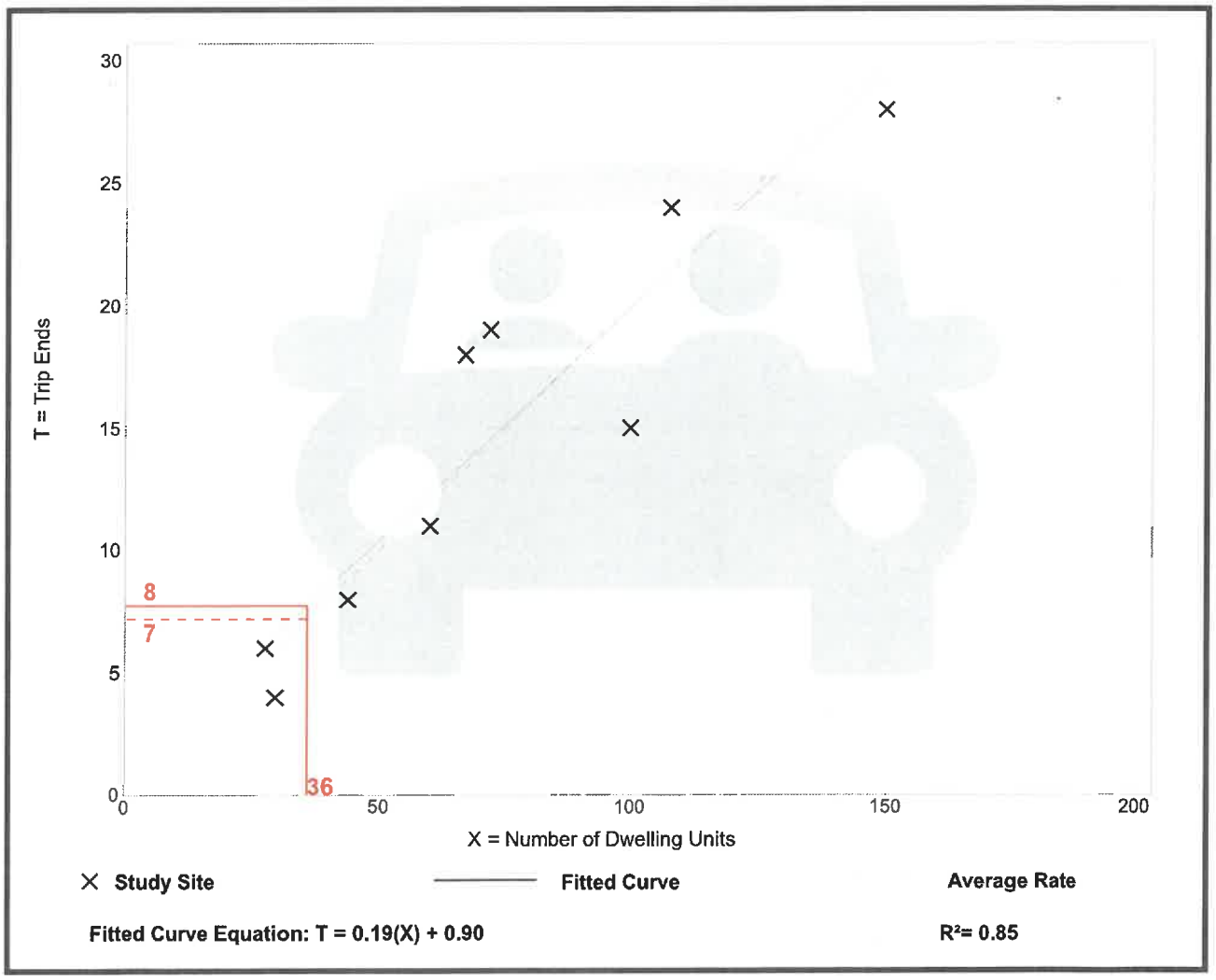
Senior Adult Housing - Multifamily
(252)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	9
Avg. Num. of Dwelling Units:	73
Directional Distribution:	34% entering, 66% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.13 - 0.27	0.04

Data Plot and Equation



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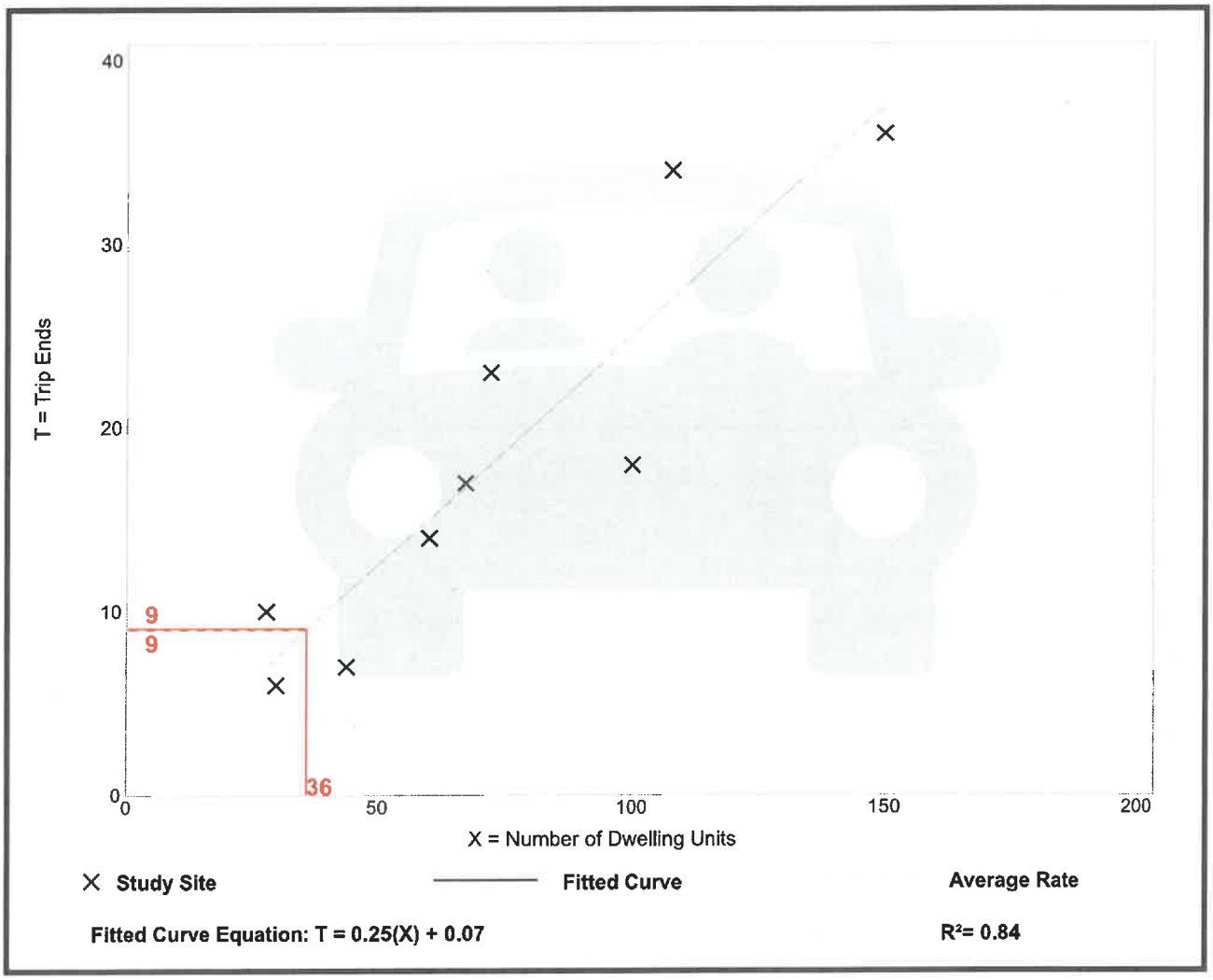
Senior Adult Housing - Multifamily
(252)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	9
Avg. Num. of Dwelling Units:	73
Directional Distribution:	56% entering, 44% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.25	0.16 - 0.36	0.06

Data Plot and Equation



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Senior Adult Housing - Multifamily
(252)

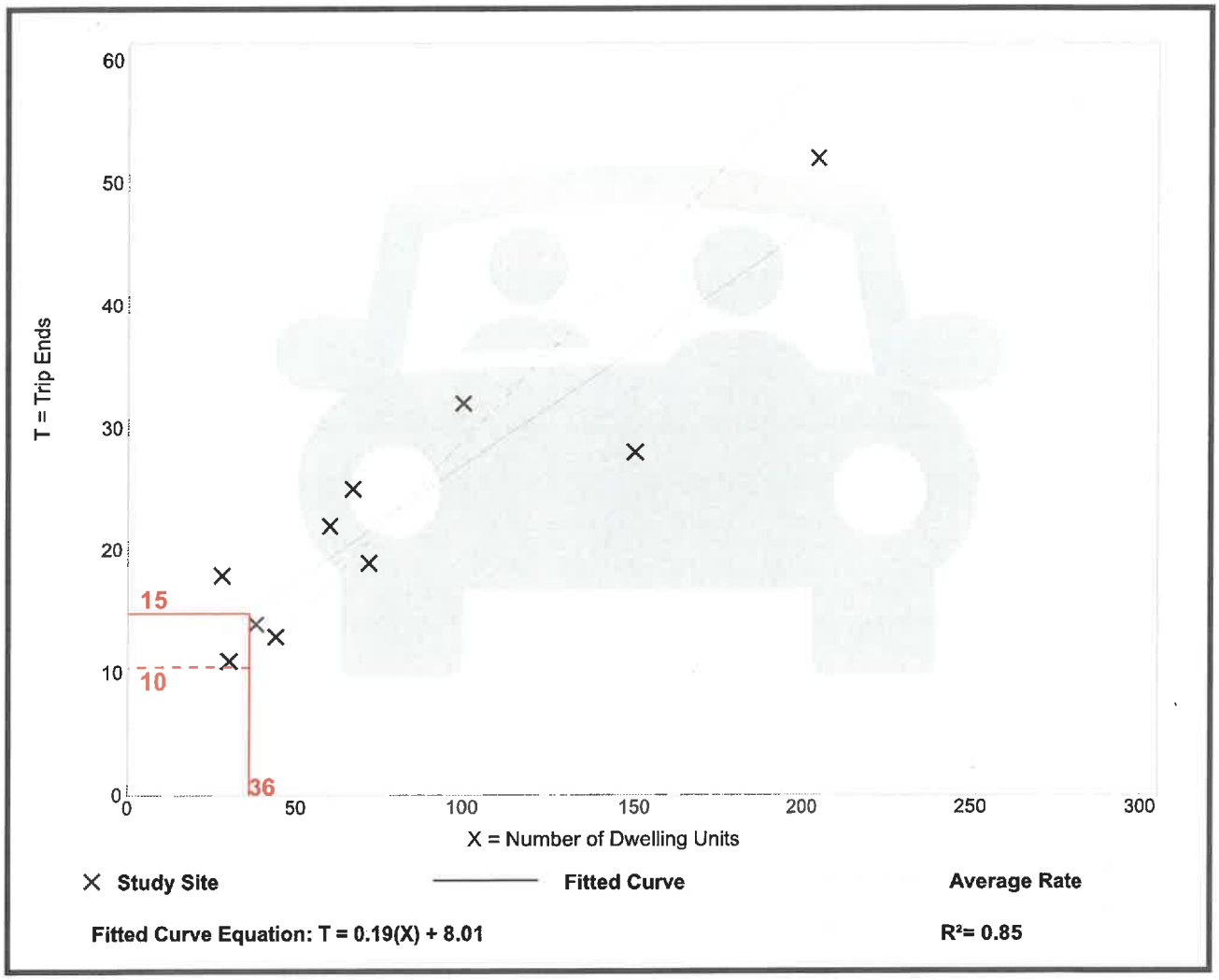
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. Num. of Dwelling Units: 79
Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.29	0.19 - 0.64	0.10

Data Plot and Equation



Senior Adult Housing - Multifamily
(252)

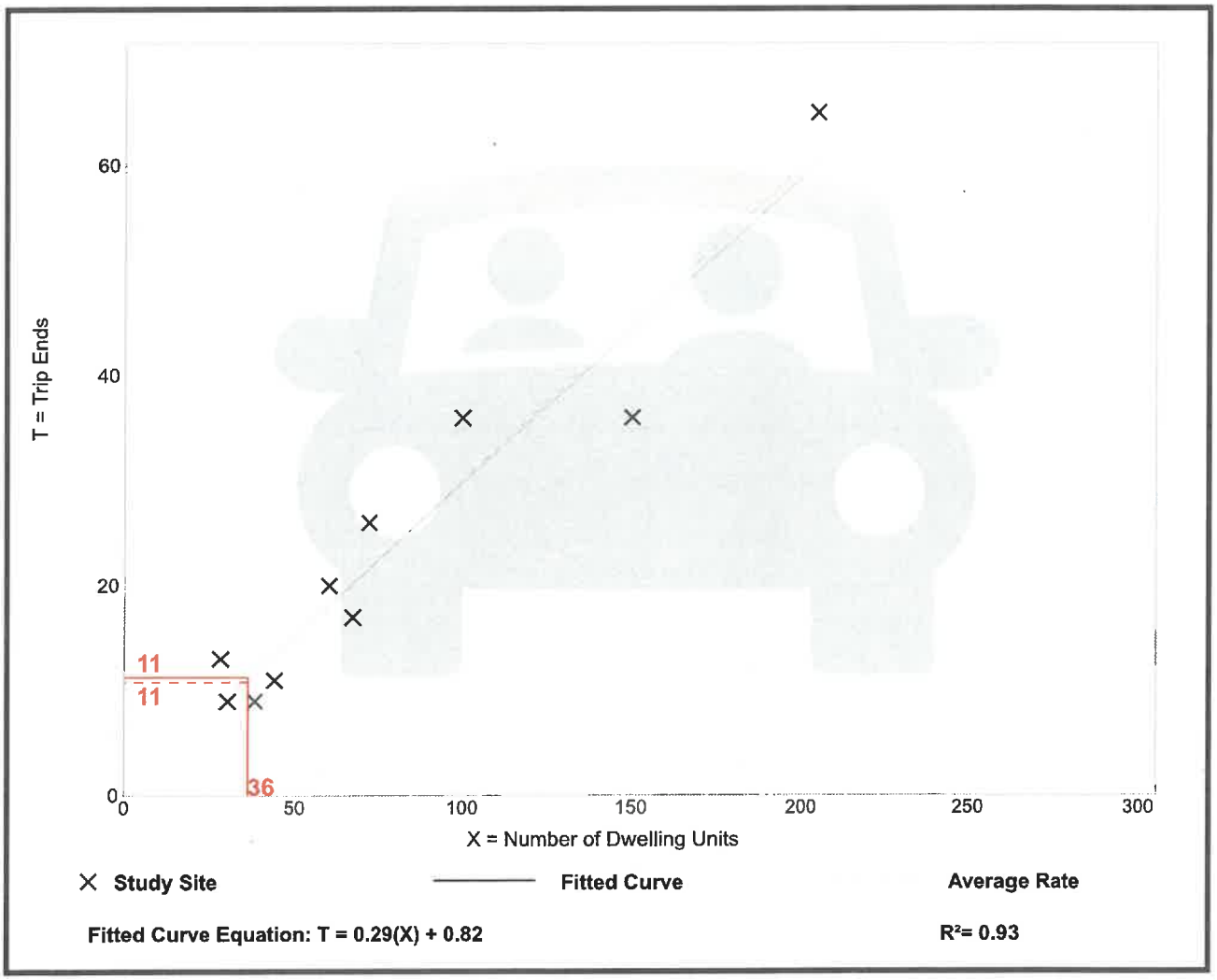
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. Num. of Dwelling Units: 79
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.30	0.24 - 0.46	0.06

Data Plot and Equation



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Senior Adult Housing - Multifamily
(252)

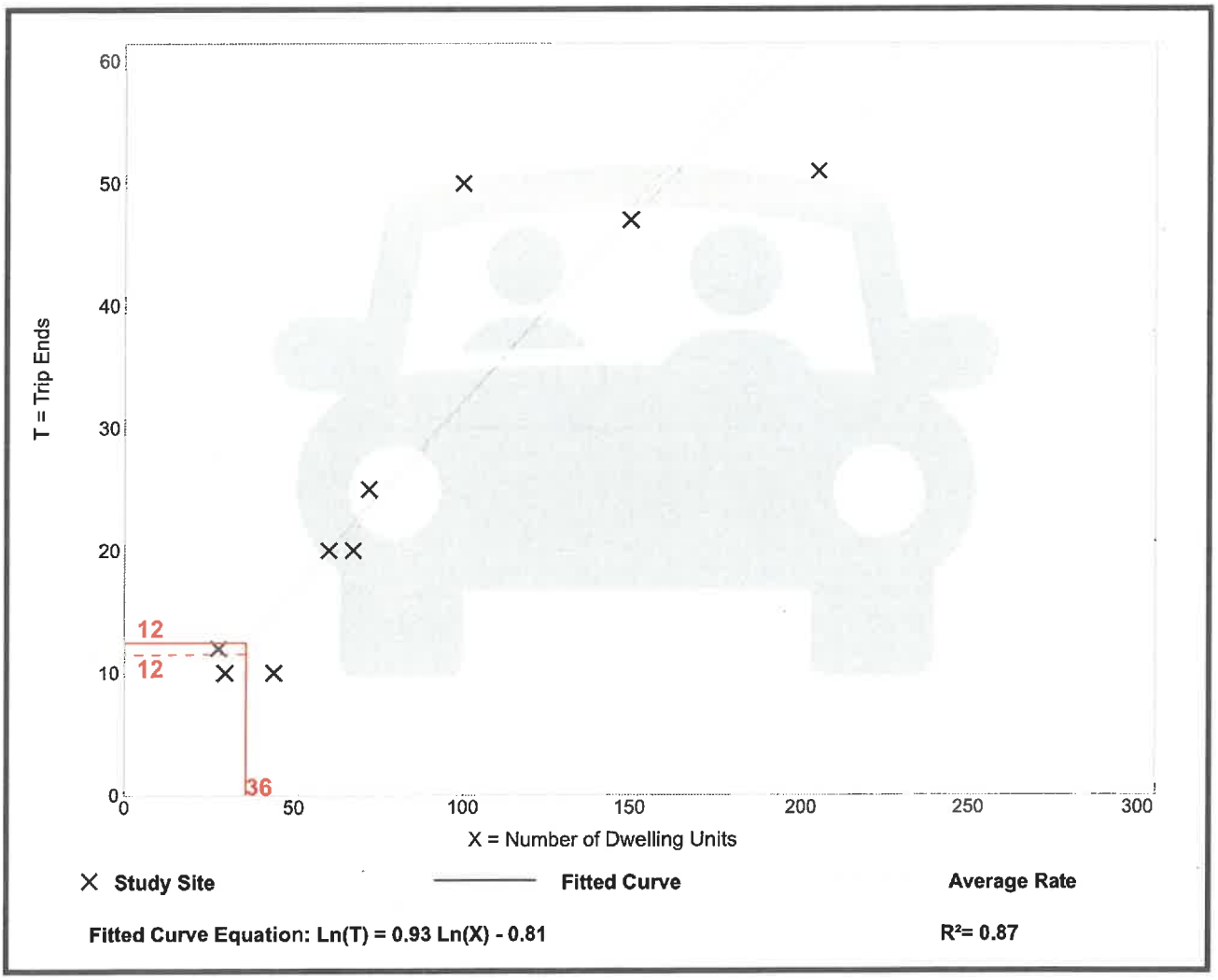
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Dwelling Units: 84
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.23 - 0.50	0.09

Data Plot and Equation



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Attachment B

Safety Review

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **59159** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

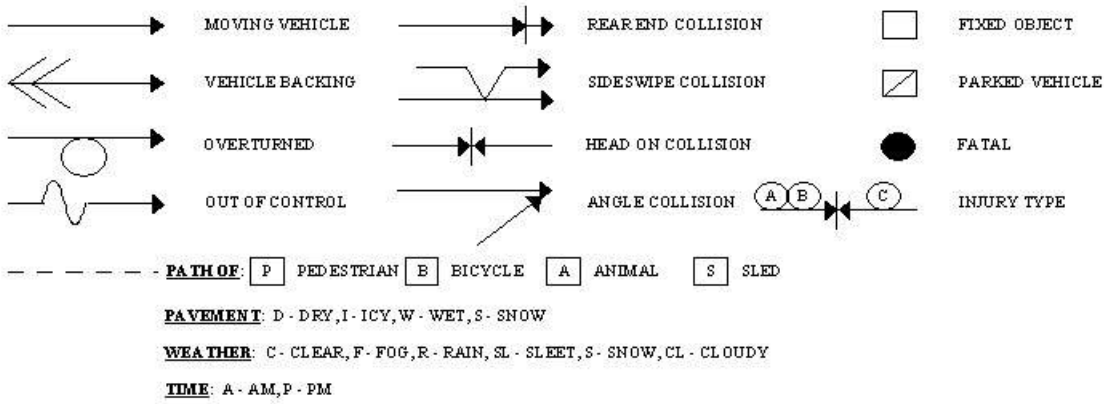
DESCRIPTION: **Int Alfred Rd & Barra Rd/West Cole Rd**

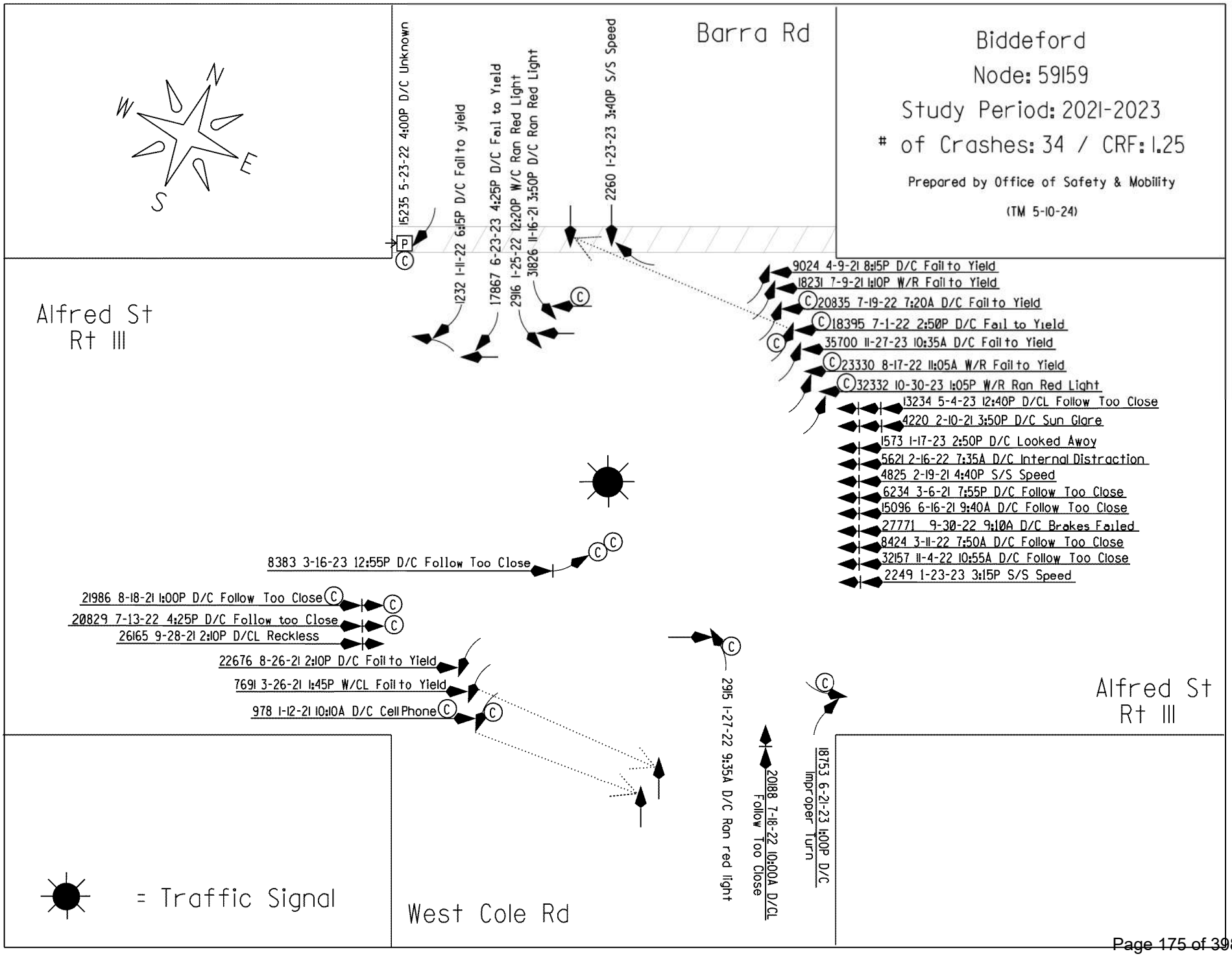
RTE # / RD #: **0111X** DATE DRAWN: **5/10/2024** DRAWN BY: **Tim**

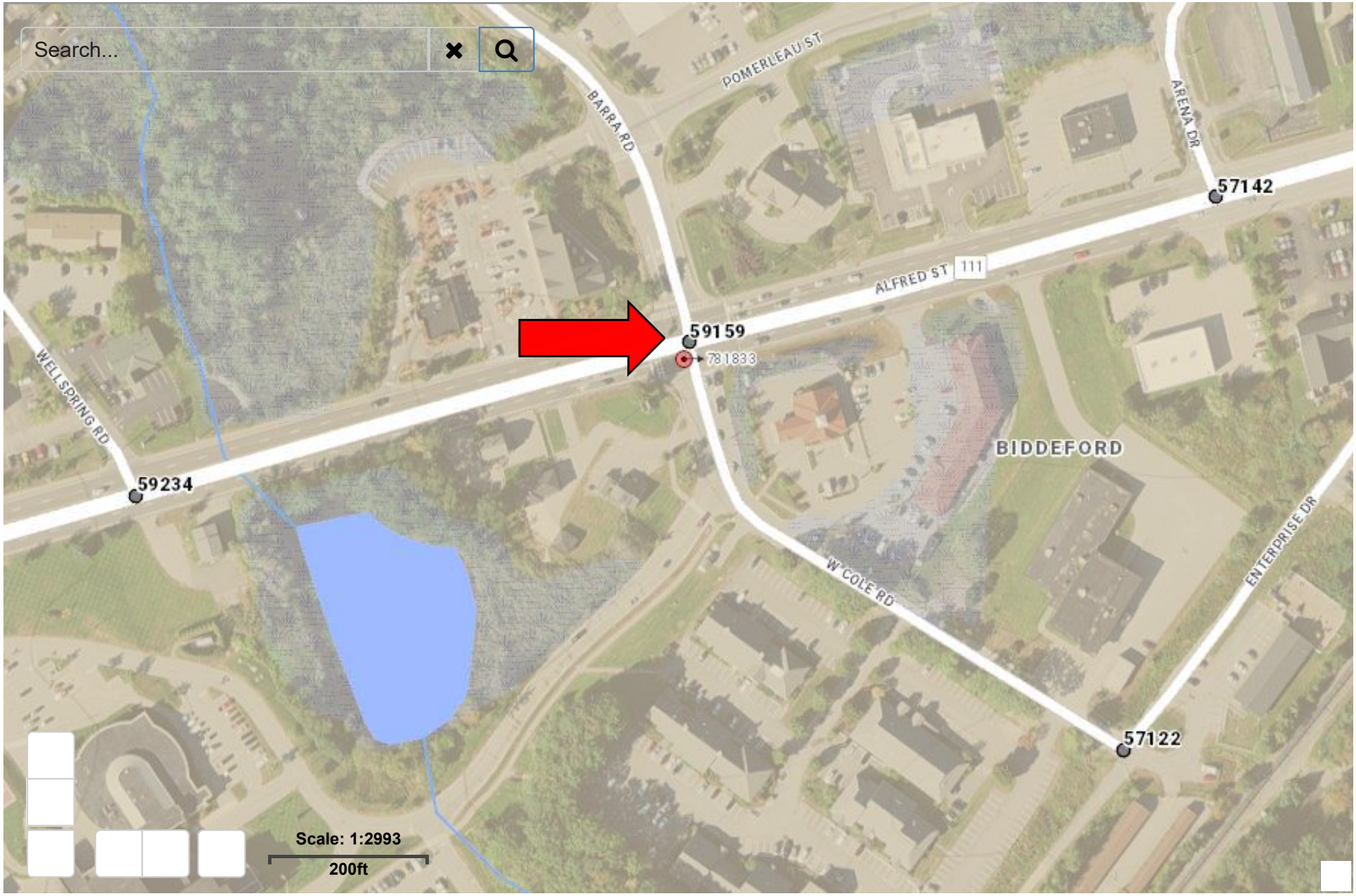
STUDY FROM: **1/1/2021** STUDY TO: **12/31/2023**

CRASH RATE: **1.41** CRF: **1.25** % INJURY: **35.3** TOTAL CRASHES: **34**

LEGEND




Biddeford
Node: 59159
Study Period: 2021-2023
# of Crashes: 34 / CRF: 1.25
Prepared by Office of Safety & Mobility
(TM 5-10-24)
Barra Rd
Alfred St
Rt III
West Cole Rd
N
S
E
W
15235 5-23-22 4:00P D/C Unknown
1232 1-11-22 6:15P D/C Fail to yield
17867 6-23-23 4:25P D/C Fail to Yield
2916 1-25-22 12:20P W/C Ran Red Light
31826 11-16-21 3:50P D/C Ran Red Light
2260 1-23-23 3:40P S/S Speed
9024 4-9-21 8:15P D/C Fail to Yield
18231 7-9-21 1:10P W/R Fail to Yield
20835 7-19-22 7:20A D/C Fail to Yield
18395 7-1-22 2:50P D/C Fail to Yield
35700 11-27-23 10:35A D/C Fail to Yield
23330 8-17-22 11:05A W/R Fail to Yield
32332 10-30-23 1:05P W/R Ran Red Light
13234 5-4-23 12:40P D/CL Follow Too Close
4220 2-10-21 3:50P D/C Sun Glare
1573 1-17-23 2:50P D/C Looked Away
5621 2-16-22 7:35A D/C Internal Distraction
4825 2-19-21 4:40P S/S Speed
6234 3-6-21 7:55P D/C Follow Too Close
15096 6-16-21 9:40A D/C Follow Too Close
27771 9-30-22 9:10A D/C Brakes Failed
8424 3-11-22 7:50A D/C Follow Too Close
32157 11-4-22 10:55A D/C Follow Too Close
2249 1-23-23 3:15P S/S Speed
8383 3-16-23 12:55P D/C Follow Too Close
21986 8-18-21 1:00P D/C Follow Too Close
20829 7-13-22 4:25P D/C Follow too Close
26165 9-28-21 2:10P D/CL Reckless
22676 8-26-21 2:10P D/C Fail to Yield
7691 3-26-21 1:45P W/CL Fail to Yield
978 1-12-21 10:10A D/C Cell Phone
2915 1-27-22 9:35A D/C Ran red light
20188 7-18-22 10:00A D/CL Follow Too Close
18753 6-21-23 1:00P D/C Improper Turn
= Traffic Signal


Search...
POMERLEAU ST
BARRA RD
ARENA DR
57142
ALFRED ST
111
59159
781833
WELLSPRING RD
59234
BIDDEFORD
W COLE RD
ENTERPRISE DR
57122
Scale: 1:2993
200ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

- [x] Crash Summary I - Single Node
- [ ] Section Detail
- [x] Crash Summary II
- [ ] 1320 Public
- [ ] 1320 Private
- [ ] 1320 Summary

REPORT DESCRIPTION

Biddeford
Int Alfred Rd & Barra Rd/West Cole Rd

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: 0111X	Start Node: 59159	Start Offset: 0	[ ] Exclude First Node
	End Node: 59159	End Offset: 0	[ ] Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
59159	0111X - 2.06	Int of ALFRED ST BARRA RD W COLE RD	9	34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25
											Statewide Crash Rate:	0.71		
Study Years:	3.00	NODE TOTALS:		34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	1	0	0	0	0	0	0	0	0	6
TUESDAY	0	0	0	0	0	0	0	1	0	0	1	0	1	0	2	1	0	0	1	0	0	0	0	0	0	7
WEDNESDAY	0	0	0	0	0	0	0	1	0	1	0	1	0	2	0	1	1	0	0	0	0	0	0	0	0	7
THURSDAY	0	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4
FRIDAY	0	0	0	0	0	0	0	1	0	1	1	0	0	2	1	0	2	0	0	0	1	0	0	0	0	9
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Totals	0	0	0	0	0	0	0	3	0	3	4	1	3	5	4	4	4	0	1	1	1	0	0	0	0	34

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	33	23-Bicyclist	0
2-(Sport) Utility Vehicle	24	24-Witness	6
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	12	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	Total	79
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	2		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	32	5	0	0	0	38
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	9	1	0	0	0	0	10
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	3	0	0	0	0	0	3
Improper Turn	1	0	0	0	0	0	1
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	10	0	0	0	0	0	10
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	3	0	0	0	0	0	3
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0
Total	34	33	5	0	0	0	72

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	33	33	5	0	0	0	71
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	1	0	0	0	0	1
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	34	34	5	0	0	0	73

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	11	0	0	0	0	11
20-24	8	0	0	0	0	8
25-29	2	0	0	0	0	2
30-39	10	0	0	0	0	10
40-49	4	0	0	0	0	4
50-59	12	0	0	0	0	12
60-69	12	0	0	0	0	12
70-79	7	0	0	0	0	7
80-Over	6	0	0	0	0	6
Unknown	0	0	0	1	0	1
Total	72	0	0	1	0	73

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total
1-Overturn / Rollover	0
2-Fire / Explosion	0
3-Immersion	0
4-Jackknife	0
5-Cargo / Equipment Loss Or Shift	0
6-Fell / Jumped from Motor Vehicle	0
7-Thrown or Falling Object	0
8-Other Non-Collision	0
9-Pedestrian	1
10-Pedalcycle	0
11-Railway Vehicle - Train, Engine	0
12-Animal	0
13-Motor Vehicle in Transport	68
14-Parked Motor Vehicle	3
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0
16-Work Zone / Maintenance Equipment	0
17-Other Non-Fixed Object	0
18-Impact Attenuator / Crash Cushion	0
19-Bridge Overhead Structure	0
20-Bridge Pier or Support	0
21-Bridge Rail	0
22-Cable Barrier	0
23-Culvert	0
24-Curb	0
25-Ditch	0
26-Embankment	0
27-Guardrail Face	0
28-Guardrail End	0
29-Concrete Traffic Barrier	0
30-Other Traffic Barrier	0
31-Tree (Standing)	0
32-Utility Pole / Light Support	0
33-Traffic Sign Support	0
34-Traffic Signal Support	0
35-Fence	0
36-Mailbox	0
37-Other Post, Pole, or Support	0
38-Other Fixed Object (wall, building, tunnel, etc.)	0
39-Unknown	0
40-Gate or Cable	0
41-Pressure Ridge	0
Total	72

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	34
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	0
14-Other	0
Total	34

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	12	16
PD	22	0
Total	34	16

Road Character

Road Grade	Total
1-Level	33
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	34

Light

Light Condition	Total
1-Daylight	30
2-Dawn	0
3-Dusk	1
4-Dark - Lighted	3
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	34

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	1	3	3	7
FEBRUARY	2	1	0	3
MARCH	2	1	1	4
APRIL	1	0	0	1
MAY	0	1	1	2
JUNE	1	0	2	3
JULY	1	4	0	5
AUGUST	2	1	0	3
SEPTEMBER	1	1	0	2
OCTOBER	0	0	1	1
NOVEMBER	1	1	1	3
DECEMBER	0	0	0	0
Total	12	13	9	34

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	17	0	0	0	0	0	0	0	0	0	0	17
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	34	0	0	0	0	0	0	0	0	0	0	34

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	20	0	0	0	0	0	0	0	0	0	1	21
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	0	0	0	1	4
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	3	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	0	2
Dusk	0	0	0	0	0	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	26	0	0	0	0	0	0	3	0	0	5	34

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Biddeford
Alfred St-Barra Rd area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: 3200025	Start Node:	59159	Start Offset:	0	☑ Exclude First Node
	End Node:	59168	End Offset:	0	☐ Exclude Last Node
Route: 0111X	Start Node:	57142	Start Offset:	0	☑ Exclude First Node
	End Node:	59234	End Offset:	0	☑ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
59168	3200025 - 0.32	Non Int BARRA RD	2	1	0	0	0	0	1	0.0	0.338	0.99	0.56	1.76
												Statewide Crash Rate:	0.13	
59159	0111X - 2.06	Int of ALFRED ST BARRA RD W COLE RD	9	34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25
												Statewide Crash Rate:	0.71	
Study Years:	3.00	NODE TOTALS:		35	0	0	0	12	23	34.3	8.355	1.40	1.09	1.28

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
59159	59168	5099102	0 - 0.32	3200025 - 0	0.32	2	3	0	0	0	0	3	0.0	0.00216	462.54	909.47	0.00
Int of ALFRED ST BARRA RD W COLE RD				RD INV 3200025											Statewide Crash Rate: 370.71		
59159	57142	3114974	0 - 0.13	0111X - 1.93	0.13	2	6	0	0	0	1	5	16.7	0.00953	209.84	412.20	0.00
Int of ALFRED ST BARRA RD W COLE RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	0.03	2	2	0	0	0	0	2	0.0	0.00237	281.28	580.94	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0 - 0.11	0111X - 2.06	0.11	2	4	0	0	0	1	3	25.0	0.00869	153.42	420.93	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
Study Years: 3.00				Section Totals:	0.59		15	0	0	0	2	13	13.3	0.02275	219.74	365.09	0.60
				Grand Totals:	0.59		50	0	0	0	14	36	28.0	0.02275	732.48	504.06	1.45

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
59159	59168	5099102	0 - 0.32	3200025 - 0	3	0	0	0	0	3	2022-14993	05/27/2022	0.05	PD
											2021-9515	04/16/2021	0.06	PD
											2023-3322	01/31/2023	0.23	PD
59159	57142	3114974	0 - 0.13	0111X - 1.93	6	0	0	0	1	5	2021-15006	06/10/2021	1.94	PD
											2022-19047	07/05/2022	1.97	PD
											2022-39406	12/14/2022	1.98	C
											2022-9295	03/18/2022	1.99	PD
											2021-16822	07/02/2021	1.99	PD
											2022-17495	06/20/2022	2.01	PD
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	2	0	0	0	0	2	2022-11788	04/27/2022	2.07	PD
											2022-26689	09/09/2022	2.07	PD
59234	59159	3118497	0 - 0.11	0111X - 2.06	4	0	0	0	1	3	2022-13541	05/10/2022	2.09	PD
											2021-22102	08/19/2021	2.10	C
											2023-24155	08/08/2023	2.10	PD
											2022-23332	08/15/2022	2.11	PD
				Totals:	15	0	0	0	2	13				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	3	1	0	0	0	0	0	0	0	0	8
TUESDAY	0	0	0	0	0	0	0	1	1	0	2	0	1	0	2	1	1	0	1	0	1	0	0	0	0	11
WEDNESDAY	0	0	0	0	0	0	0	1	0	1	0	1	1	3	0	1	1	0	0	0	0	0	0	0	0	9
THURSDAY	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	0	0	0	1	0	0	7
FRIDAY	0	0	0	0	0	0	0	2	1	1	2	0	1	2	1	1	2	0	0	0	1	0	0	0	0	14
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Totals	0	0	0	0	0	0	0	4	4	3	6	1	5	6	4	6	5	1	1	1	2	0	1	0	0	50

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	46	23-Bicyclist	0
2-(Sport) Utility Vehicle	34	24-Witness	8
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	20	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	Total	112
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	2		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	46	5	0	0	0	52
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	17	1	0	0	0	0	18
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	3	0	0	0	0	0	3
Improper Turn	3	0	0	0	0	0	3
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	13	0	0	0	0	0	13
Failed to Keep in Proper Lane	2	1	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	3	0	0	0	0	0	3
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0
Total	50	48	5	0	0	0	103

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	47	48	5	0	0	0	100
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	1	0	0	0	0	1
Ill (Sick)	1	0	0	0	0	0	1
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	50	49	5	0	0	0	104

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	13	0	0	0	0	13
20-24	10	0	0	0	0	10
25-29	3	0	0	0	0	3
30-39	19	0	0	0	0	19
40-49	10	0	0	0	0	10
50-59	16	0	0	0	0	16
60-69	16	0	0	0	0	16
70-79	8	0	0	0	0	8
80-Over	8	0	0	0	0	8
Unknown	0	0	0	1	0	1
Total	103	0	0	1	0	104

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total
1-Overturn / Rollover	0
2-Fire / Explosion	0
3-Immersion	0
4-Jackknife	0
5-Cargo / Equipment Loss Or Shift	0
6-Fell / Jumped from Motor Vehicle	0
7-Thrown or Falling Object	0
8-Other Non-Collision	0
9-Pedestrian	1
10-Pedalcycle	0
11-Railway Vehicle - Train, Engine	0
12-Animal	0
13-Motor Vehicle in Transport	98
14-Parked Motor Vehicle	3
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0
16-Work Zone / Maintenance Equipment	0
17-Other Non-Fixed Object	0
18-Impact Attenuator / Crash Cushion	0
19-Bridge Overhead Structure	0
20-Bridge Pier or Support	0
21-Bridge Rail	0
22-Cable Barrier	0
23-Culvert	0
24-Curb	0
25-Ditch	0
26-Embankment	0
27-Guardrail Face	0
28-Guardrail End	0
29-Concrete Traffic Barrier	0
30-Other Traffic Barrier	0
31-Tree (Standing)	1
32-Utility Pole / Light Support	0
33-Traffic Sign Support	0
34-Traffic Signal Support	0
35-Fence	0
36-Mailbox	0
37-Other Post, Pole, or Support	0
38-Other Fixed Object (wall, building, tunnel, etc.)	0
39-Unknown	0
40-Gate or Cable	0
41-Pressure Ridge	0
Total	103

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	38
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	5
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	7
14-Other	0
Total	50

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	14	18
PD	36	0
Total	50	18

Road Character

Road Grade	Total
1-Level	44
2-On Grade	6
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	50

Light

Light Condition	Total
1-Daylight	44
2-Dawn	0
3-Dusk	2
4-Dark - Lighted	4
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	50

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	1	3	4	8
FEBRUARY	2	1	0	3
MARCH	2	2	1	5
APRIL	2	1	0	3
MAY	0	3	1	4
JUNE	2	1	2	5
JULY	2	5	0	7
AUGUST	3	3	1	7
SEPTEMBER	1	2	0	3
OCTOBER	0	0	1	1
NOVEMBER	1	1	1	3
DECEMBER	0	1	0	1
Total	16	23	11	50

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	5	0	0	16	0	2	0	0	0	0	0	0	0	0	23
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	17	0	8	0	0	0	0	0	0	0	0	25
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	1	0	34	0	10	0	0	0	0	0	0	0	0	50

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	26	0	0	0	0	0	0	0	0	0	1	27
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	5	0	0	0	0	0	0	0	0	0	3	8
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

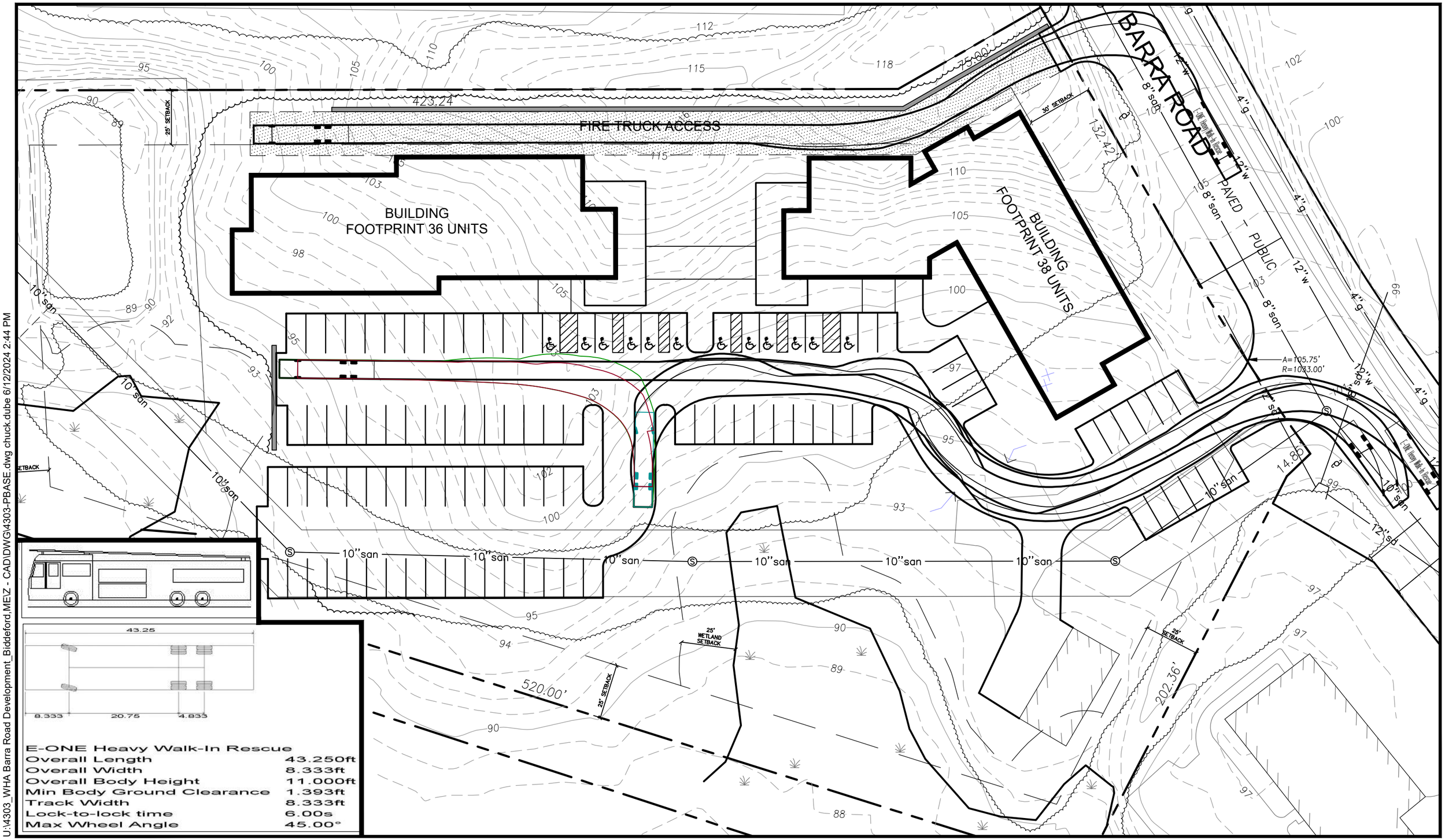
Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	7	7
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	0	2
Dusk	0	0	0	0	0	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	36	0	0	0	0	0	0	3	0	0	11	50

ATTACHMENT I



U:\4303_WHA Barra Road Development_Biddeford,ME\Z - CAD\DWG\4303-PBASE.dwg chuck.dube 6/12/2024 2:44 PM

GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Client/Project
PROPOSED RESIDENTIAL DEVELOPMENT
37 BARRA ROAD, BIDDEFORD, MAINE

File Name: 4303-PBASE

CDD	-	-	24.06.12
DWN.	CHKD.	DSGN.	DATE

Title
FIRE TRUCK TURNING MOVEMENTS

Figure No.
1

ATTACHMENT J

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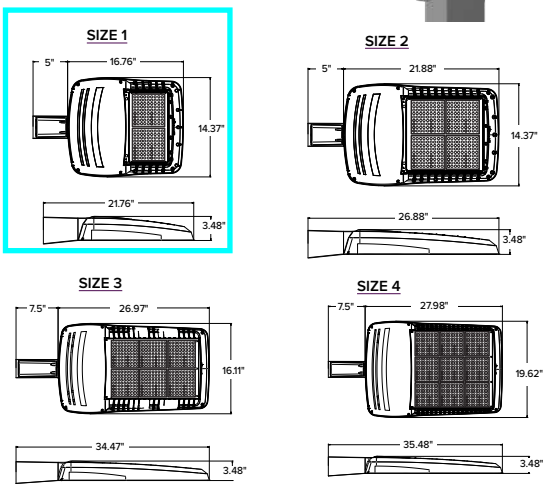
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE



FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 DLC LISTED DLC LISTED PREMIUM ida DARK SKY APPROVED 2016 BAA TAA

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SERVICE PROGRAMS

STOCK QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- ~~Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2~~
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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All values are design or typical values when measured under laboratory conditions.

BEACON
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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

VP	Viper

Optic Platform

ST	Strike

Size

1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine

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	49000 lumens
162L-445	52000 lumens
162L-485	55000 lumens
162L-545 [8]	60000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI

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

Distribution

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

Optic Rotation

BLANK	**No Rotation**
L	Optic rotation left
R	Optic rotation right

Voltage

UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting

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
VGT	Verde Green Textured

Color Option

CC	Custom Color

Options

F	Fusing
E	Battery Backup [1,2,7,8,9]
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control
TB	Terminal Block

Network Control Options

NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,4,5]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,4,5]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [4,5]
WIR	LightGRID+ In-Fixture Module [4,5]
WIRSC	LightGRID+ Module and Occupancy Sensor [4,5]

Stand Alone Sensors

BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]

Programmed Controls

SCP-_F	Sensor Control Programmable, 8F or 40F [11]
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

Photocontrols

PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option
9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size		Option	
SHD	Shield	**1**	Size 1	**HSS-90-B**	House Side Shield 90º Back
		2	Size 2	**HSS-90-F**	House Side Shield 90º Front
		3	Size 3	**HSS-90-S**	House Side Shield 90º Side
		4	Size 4	**HSS-270-BSS**	House Side Shield 270º Back/Side/Side
				HSS-270-FSS	House Side Shield 270º Front/Side/Side
				HSS-270-FSB	House Side Shield 270º Front/Side/Back
				HSS-360	House Side Shield 360º
				BC	Back Light Control
MTG	Mounting			**A**	Arm Mount for square pole/flat surface
				ASQU	Universal Arm Mount for square pole
				AAU	Adjustable Arm for pole mounting
				ADU	Decorative upswept Arm
				RPA	Round Pole Adapter
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm
				K	Knuckle
				T	Trunnion
				WB	Wall Bracket (compatible with universal arm mounts)

Accessory Type		Option	
MSC	Miscellaneous	**BIRD SPK**	Bird Spike

Color	
BLS	Black Gloss Smooth
BLT	Black Matte Textured
DBS	Dark Bronze Gloss Smooth
DBT	Dark Bronze Matte Textured
GTT	Graphite Matte Textured
LGS	Light Gray Gloss Smooth
PSS	Platinum Silver Smooth
WHS	White Gloss Smooth
WHT	White Matte Textured
VGT	Green Landscape Decorative
LEG	Legacy Colors
Color Option	
CC	Custom Color

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

☐ **NXOFM-1R1D-UNV** On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

☐ **WIR-RME-L** On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC

☐ **SCP-REMOTE** Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

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

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
NX Wireless	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
NX Wireless	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
NX Wireless	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
LightGRID+	WIR-RME-L	LightGRID+ On Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR-RME-L
LightGRID+	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
Independent	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
Independent	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

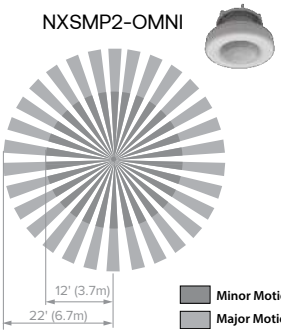
DEFAULT SETTINGS

NX Wireless	**Occupancy Sensor**	Enabled
NX Wireless	**Occupancy Sensor Sensitivity**	7
NX Wireless	**Occupancy Sensor Timeout**	15 Minutes
NX Wireless	**Occupied Dim Level**	100%
NX Wireless	**Unoccupied Dim Level**	0%
NX Wireless	**Daylight Sensor**	Disabled
NX Wireless	**Bluetooth**	Enabled
NX Wireless	**2.4GHz Wireless Mesh**	On
NX Wireless	**"Passcode Factory Passcode: HubbN3T!"**	Enabled

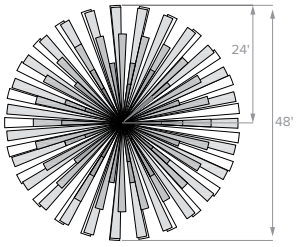
Stand Alone	**Occupancy Sensor**	Enabled
Stand Alone	**Occupancy Sensor Sensitivity**	7
Stand Alone	**Occupancy Sensor Timeout**	8 Minutes
Stand Alone	**Occupied Dim Level**	100%
Stand Alone	**Unoccupied Dim Level**	50%
Stand Alone	**Daylight Sensor**	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI

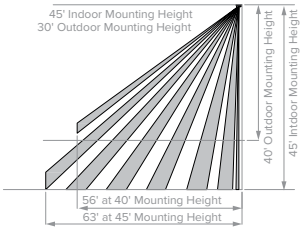


NXSMP2-LMO



Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

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VIPER Area/Site

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

NX LIGHTING CONTROLS FREE APP

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

Google Play

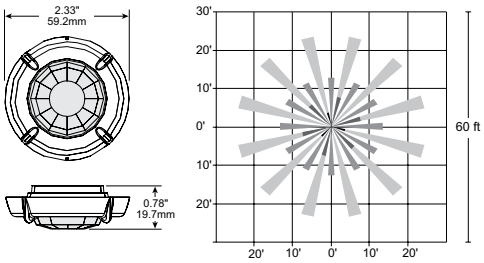
CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

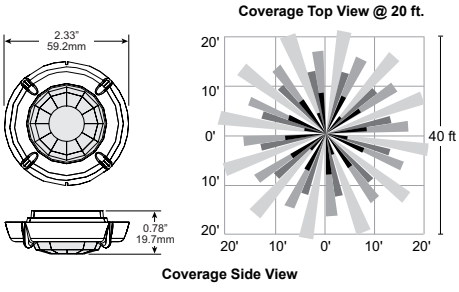
OUTDOOR LIGHTING CONTROLS OPTIONS

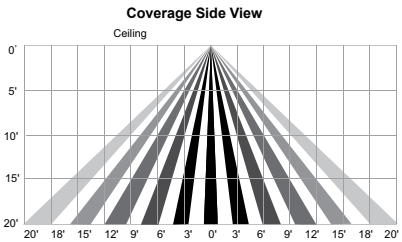
CONTROLS FUNCTIONALITY

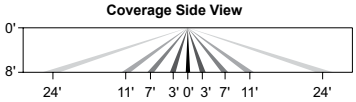
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	–	–	–	✓	✓	✓	✓	–	8ft or 40ft	SCP_F
Independent	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–	ADD
Independent	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–	ADT
Independent	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–	7PR
Independent	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–	7PR-SC
Independent	3PR	3-Pin twist lock	–	–	–	–	–	–	Paired with external control	–	–	3PR
Independent	3PR-SC	3-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–	3PR-SC
Independent	3PR-TL	3-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–	3PR-TL

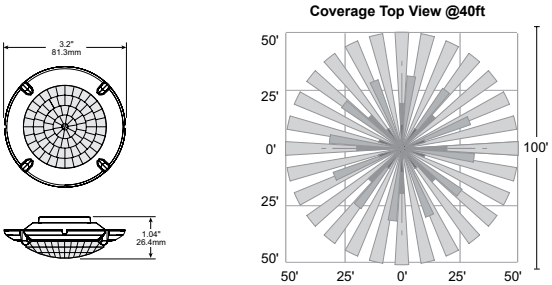
COVERAGE PATTERNS FOR SCP_F

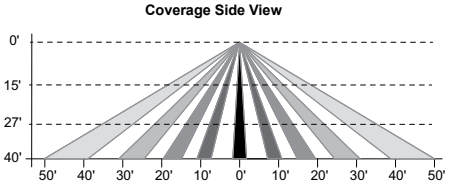












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VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
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
AP-Amber Phosphor Converted Multiplier			
Amber	0.710		

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	See Amber Spec Sheet		

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VIPER Area/Site

VIPER LUMINAIRE

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

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VIPER Area/Site

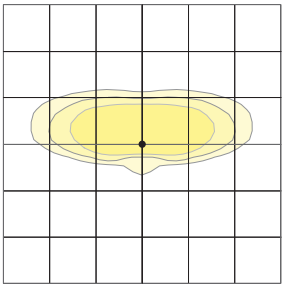
VIPER LUMINAIRE

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



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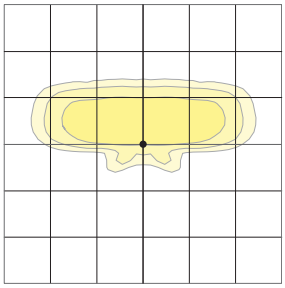
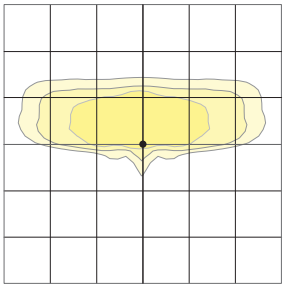
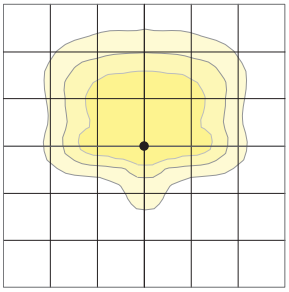


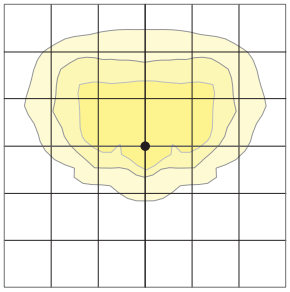
Type 3



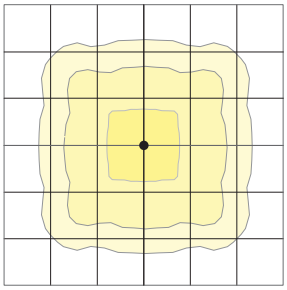
Type 4 Forward



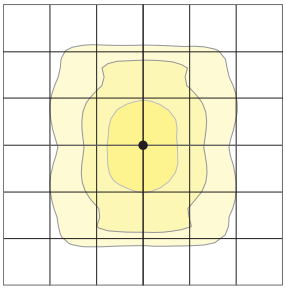
Type 4 Wide



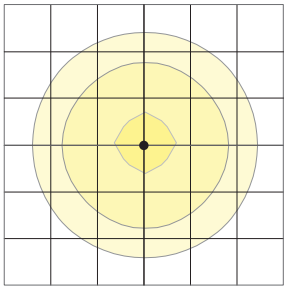
Type 5QM



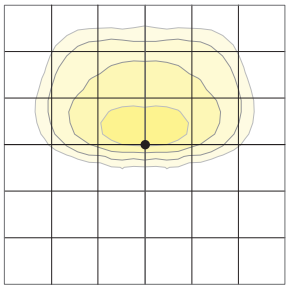
Type 5RW (rectangular)



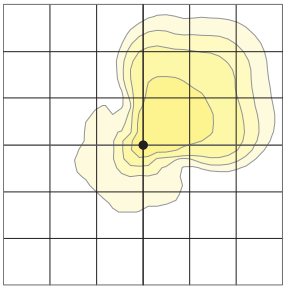
Type 5W (round wide)



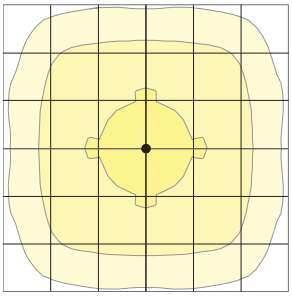
Type TC



Type Corner



Type 5QW



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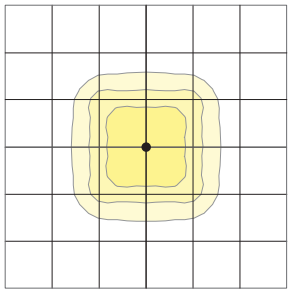

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All values are design or typical values when measured under laboratory conditions.

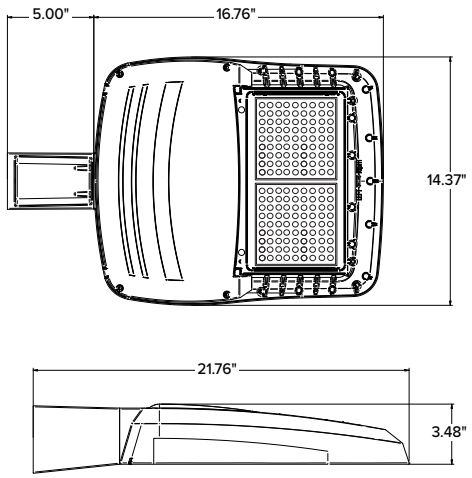
DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

DIMENSIONS

SIZE 1



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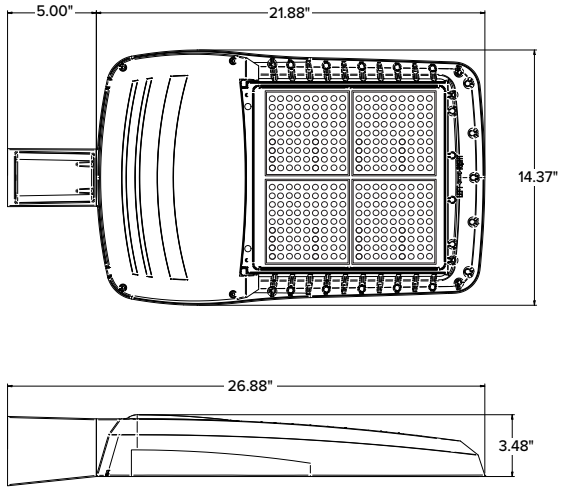

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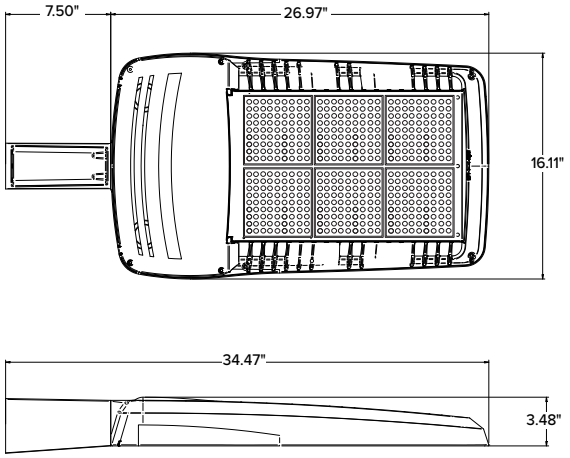
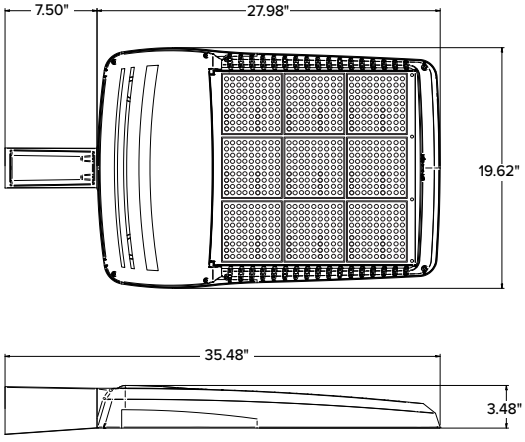


SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
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

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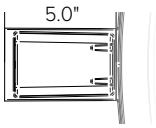
VIPER Area/Site

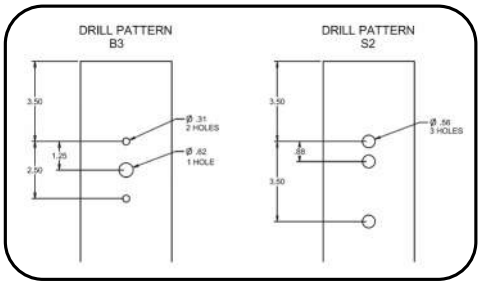
VIPER LUMINAIRE

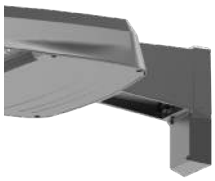
MOUNTING

A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

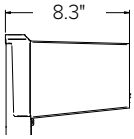


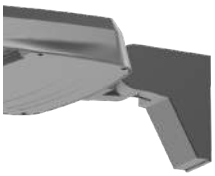




ASQU–UNIVERSAL ARM MOUNT

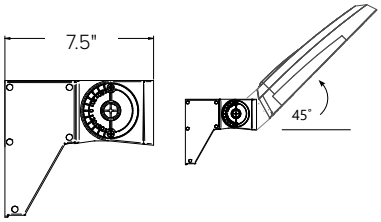
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)





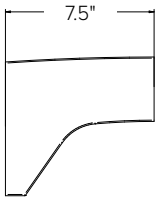
AAU–ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



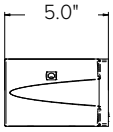
ADU–DECORATIVE UPSWEPT ARM

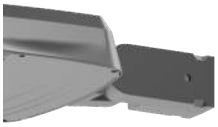
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



MAF–MAST ARM FITTER

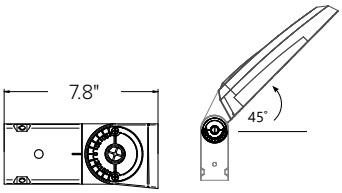
Fits 2-3/8" OD horizontal tenons.

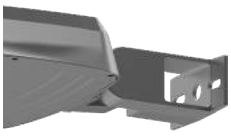




K–KNUCKLE

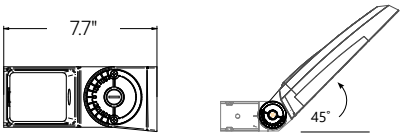
Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





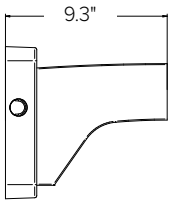
T–TRUNNION

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.



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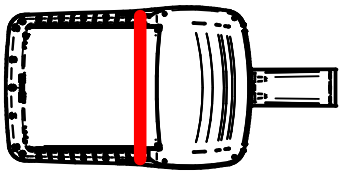
ADDITIONAL INFORMATION (CONTINUED)

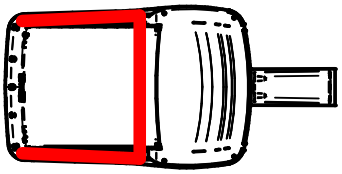
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

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.

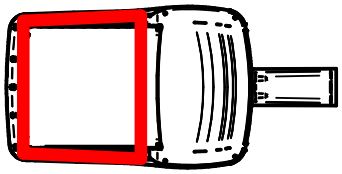
VPR2x HSS-90-B-xx



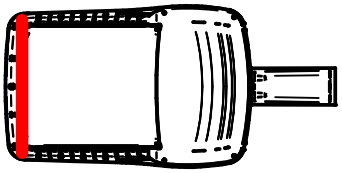
VPR2x HSS-270-BSS-xx



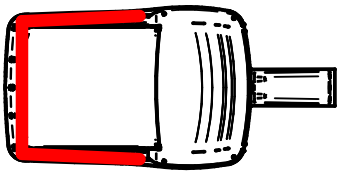
VPR2x HSS-360-xx



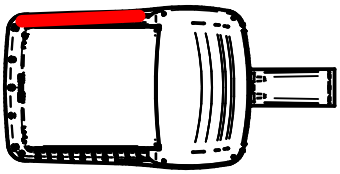
VPR2x HSS-90-F-xx



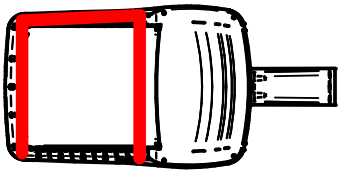
VPR2x HSS-270-FSS-xx



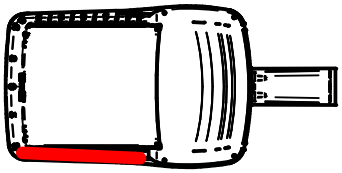
VPR2x HSS-90-S-xx



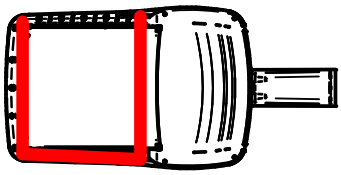
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

GEOPAK SERIES 1

SIZE 1 - TRP1/QSP1/RDI1

GEOPAK™

FEATURES

- GeoPak Series consists of three compact Geometric wall-pack shapes in four popular finishes
- 24 mid-power LEDs create 3115 lumens in AC and 1628 lumens in emergency mode
- Environmentally friendly, long-life Lithium Iron Phosphate battery
- Standard Battery Temperature Range: 0°C to 40°C, Optional Heater: -30°C to 40°C
- Zero uplight distributions

C US

SPECIFICATIONS

CONSTRUCTION

- Housing is made from die-cast aluminum with a hinged back-plate for ease of installation and maintenance
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.
- Wet Location Listed to UL924 and UL1598 Standard

OPTICS

- 24 mid power LEDs delivering up to 3,000 lumens
- Up to 118 lumens per watt
- Type III and IV distributions for a wide variety of applications
- Zero uplight (UO), dark sky, neighbor friendly

INSTALLATION

- Universal plate for mounting to standard 3 1/2" and 4" square electrical boxes. All connections are made from connections at the rear of the unit
- Optional back-box accessory available for surface conduit application.

ELECTRICAL

- 120-277 and 347-480V operation, 50/60Hz
- 0-10V dimming driver standard. Dimming leads are extended from the product.
- 10kA surge protector
- Photocell and occupancy sensor options available for complete on/off and dimming control
- Intergral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Includes a long-life Lithium Iron Phosphate battery with optional battery heater for cold temperature application
- Ambient operating temperature -40˚C to 40˚C
- Button photocontrol is suitable for 120-277V operation
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Drivers IP66 and RoHS compliant
- Listed to UL1598 and CSAC22.2#250.0-24 for wet location

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	1720-2896
Wattage Range	15-25
Efficacy Range (LPW)	107-131
Weights lbs. (kg)	10.5–11.5 (4.8–5.2)

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GEOPAK SERIES 1

SIZE 1 - TRP1/QSP1/RDI1

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: TRP1-24L-25-4K7-3-UNV-DBT

CATALOG # _____

ORDERING INFORMATION

Series		# LEDs		Wattage		CCT/CRI		Distribution		Voltage	
TRP1	Trapezoid	**24L**	24 LEDs	**15**	15 watts	**3K7**	3000K, 70 CRI	**3**	TYPE III	**UNV**	120-277V
RDI1	Radius			**20**	20 watts	**4K7**	4000K, 70 CRI	**4W**	TYPE IV	**120**	120V
QSP1	Qtr-sphere			**25**	25 watts	**5K7**	5000K, 70 CRI			**208**	208V
						3K8	3000K, 80 CRI			**240**	240V
						4K8	4000K, 80 CRI			**277**	277V
						5K8	5000K, 80 CRI			**347**	347V
										480	480V

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Brone 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

Control Options Network	
PC	Button Photocontrol
SCP[2,3]	Programmable occupancy sensor, factory default is 10% light output
Spec SCP/SCO & SWPM Mount Height	
-8F	Up to 8ft mount height
-20F	Up to 20ft mount height

Options	
F[4]	Fusing (only available with STD fixture configuration, 120-277V only)
E[1,5]	Battery pack (0°C)
EH[1,5]	Battery pack (-30°C) with heater

Notes:

1 Voltage specific (120 or 277V only)

2 Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings, 120-277V only

3 PCU option not applicable, included in sensor

4 Must specify input voltage (120, 208, 240 or 277)

5 PCU and EH cannot be combined in the QSP1 because of space constraints

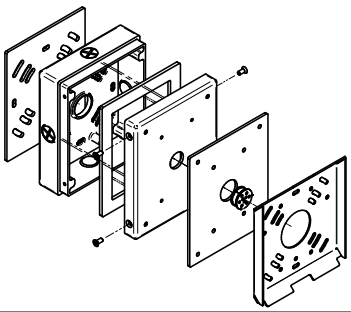
ACCESSORIES (ORDERED SEPARATELY)

	Catalog Number	Description
☐	**SCP-REMOTE***	Remote control for SCP option. Order at least one per
☐	**WP-BB-XXX**	Accessory for conduit entry, replace "xxx" with color option

Notes:

* Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings.

WB-BB Wallpack Back Box



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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

GEOPAK SERIES 1

SIZE 1 - TRP1/QSP1/RDI1

PERFORMANCE DATA

Description	Drive Current	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
24L	350 mA	15	3	1888	127	0	0	1	1879	126	0	0	1	1807	121	0	0	1
	350 mA	15	4W	1797	121	0	0	1	1789	120	0	0	1	1720	115	0	0	1
	500 mA	20	3	2607	131	1	0	1	2594	130	1	0	1	2495	125	1	0	1
	500 mA	20	4W	2481	125	1	0	1	2469	124	1	0	1	2374	119	1	0	1
	600 mA	25	3	2896	113	1	0	1	2884	112	1	0	1	2773	110	1	0	1
	600 mA	25	4W	2756	107	1	0	1	2754	107	1	0	1	2640	108	1	0	1

ELECTRICAL DATA

INPUT POWER CONSUMPTION

System Watts	Input Voltage (V)	System Power (W)	Current (Amps)
15W	120	14.9	0.125
	277		0.053
	347		0.043
	480		0.031
20W	120	20.6	0.172
	277		0.074
	347		0.059
	480		0.043
25W	120	25.3	0.216
	277		0.091
	347		0.073
	480		0.053

Battery backup units consume additional power during charging (maximum 32.2 watts for E, 50.7 watts for EH)

INPUT POWER CONSUMPTION

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	TM-21-11* L96 60,000	100,000	L70 (Hours)
25C	1	0.97	0.95	0.94	0.91	4,25,000
40C	0.99	0.96	0.94	0.93	0.9	3,70,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0C	32F	1.03
10C	50F	1.01
20C	68F	1
25C	77F	1
30C	86F	0.99
40C	104F	0.98

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

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

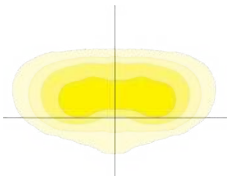
GEOPAK SERIES 1

SIZE 1 - TRP1/QSP1/RDI1

PHOTOMETRY

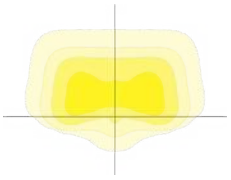
The following diagrams represent the general distribution options offered for this product.

Type III



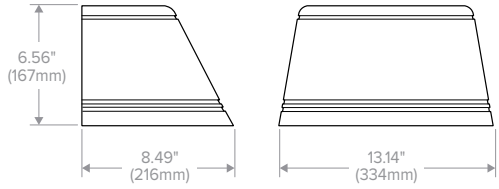
Mounting Height: 10'

Type IV (Forward throw)

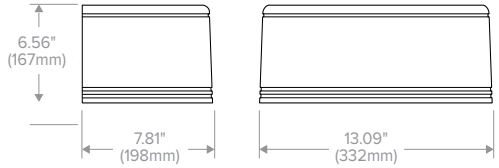


Mounting Height: 10'

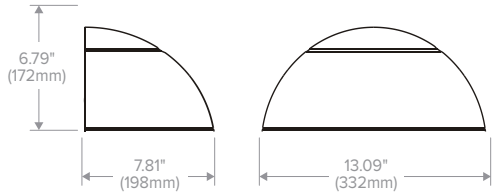
DIMENSIONS



Trapezoid
(TRP1)



Round
(RDI1)



Quartersphere
(QSP1)

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GEOPAK SERIES 1

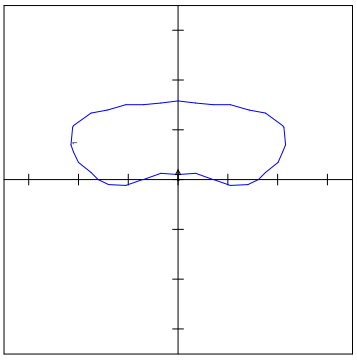
SIZE 1 - TRP1/QSP1/RDI1

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION

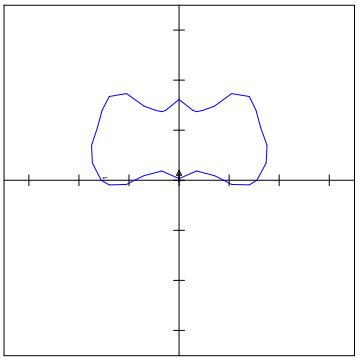
GEOPAK - BATTERY BACK UP

Type 3 Emergency Mode



13W battery when powered covers 20' throw to either side of fixture and 15' throw forward at a 10' mounting height.

Type 4 Emergency Mode



13W battery when powered covers 18' throw to either side of fixture and 15' throw forward at a 10' mounting height.

Provides Life Safety Code average illuminance of 1.0 fc. Assumes open space with no obstructions.

Diagrams for illustration purposes only, please consult factory for application layout.

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CITY OF BIDDEFORD

Planning and Development Department

Adi Iriqat
Assistant City Planner
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(207)-284-9115
adi.iriqat@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner

DATE: June 24, 2024

RE: 2024.31 Preliminary Plan Review for Mike Eon for a Commercial Dentist's Office Building at 25 Barra Road (Tax Map 2, Lot 43-10) in the I-3 Zone.

MEETING DATE: July 17, 2024 at 6:00 PM

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1. INTRODUCTION

This is the second time this application is being reviewed by the Planning Board. The project was originally permitted by the Biddeford City Planning Board on January 6, 2016. In November of 2017, a 1 year extension was granted to January 6, 2019, and an additional 1 year extension was granted in December of 2018 to January 6, 2020. Following the effects of Covid-19 on construction timeframes, market conditions, and availability of City staff, the second extension had lapsed before construction could begin. Mr. Eon is interested in continuing this approval and would like to request reinstatement and an additional 1 year extension to January 6, 2025. Given the statutory limitations, the City Staff does not have the authority to retroactively extend his approval especially that the request was made after the project has expired.

Initially, the applicant proposed the construction of a 5,850 square foot multi-tenant commercial building (restaurant and offices) on Barra Road (Tax Map 2, Lot 43-10) in the I-3 Zone. The building would be a single-story building with a daylight basement, possibly for storage for the owner. The applicant proposed improvements including storm water Management Facilities and 45 Parking Spaces (2 of which are handicap parking) plus a provision for 4 additional parking spaces.

The Lot is part of a 3-Lot Subdivision previously approved by the Planning Board. The two other lots have already been built on (Bolduc Eye Care and a York County Dialysis Center). The Lot already has 2 curb cuts on Barra Road which provide access to it. The lot gently slopes away from Barra Road towards the wetlands and a stream within the Thatcher Brook Watershed.

The proposed project is located in the Thatcher Brook Watershed. Thatcher Brook is listed in 06-096 Chapter 502 as an Urban Impaired Stream. However, because the project will not create over 3 acres of impervious area or 20 acres of disturbed area, the project is not required by DEP to meet the Urban Impaired Stream Standard, as it does not meet the requirements of Site Location of Development, and is less than 20,000 sf of impervious area, and does not meet the

requirements of Stormwater Law. However, as the project is being proposed in the City of Biddeford, the City does require that the projects within an Urban Impaired Stream Watershed pay into the Compensation Fee Utilization Plan (CFUP) managed by the City, at Maine DEP's prescribed rates, based on Table 1 found in 06-096 CMR 501 3.A.(1).

CFUP Fee Schedule – 25 Barra Road Commercial Development Project			
Type of Surface	**Compensation Fee (per acre)**	**Proposed Area (acres)**	**Compensation Fee**
Non-roof Impervious Area	$12,500	0.33	$4,125
Roof	$5,000	0.11	$550
Landscape Area	$2,500	0.59	$1,475
Total			**$6,150**

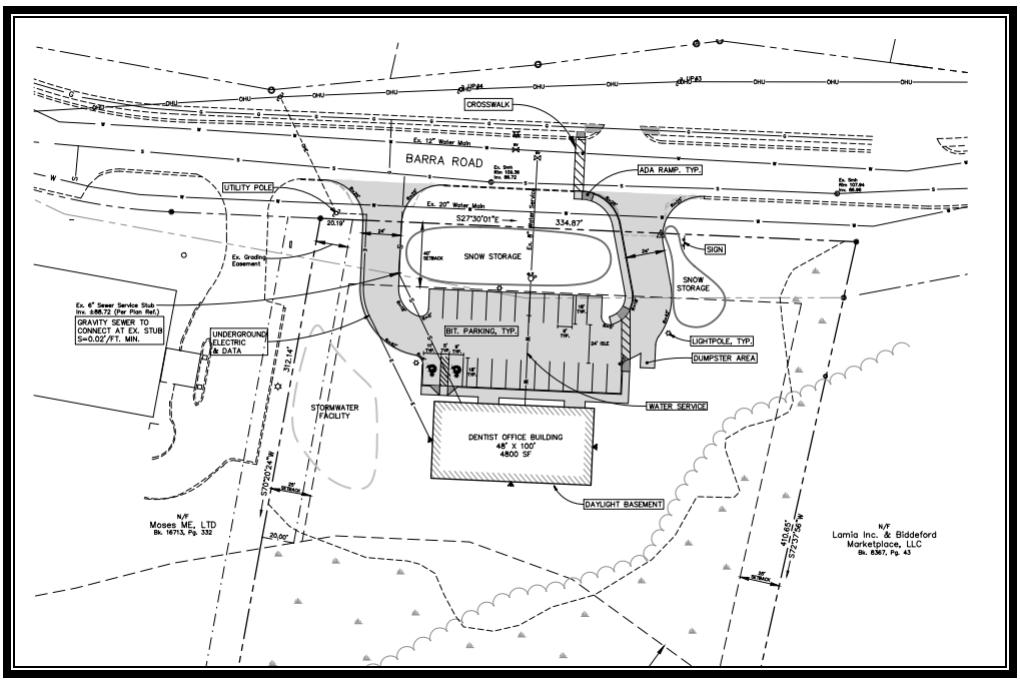
Utilities are already stubbed into the lot. The lot is serviced by natural gas, City Sewer, and Public Water. See the included materials for more information.

There has been slight changes to the previously approved project. The applicant now proposes to construct a 4,800 square foot building proposed as a dentist's office. To support this development, the project also proposes to create 25 parking spaces, in conformance with City Code, utility connections utilizing existing municipal service stubs on the property, and develop stormwater management systems in conformance with City standards.

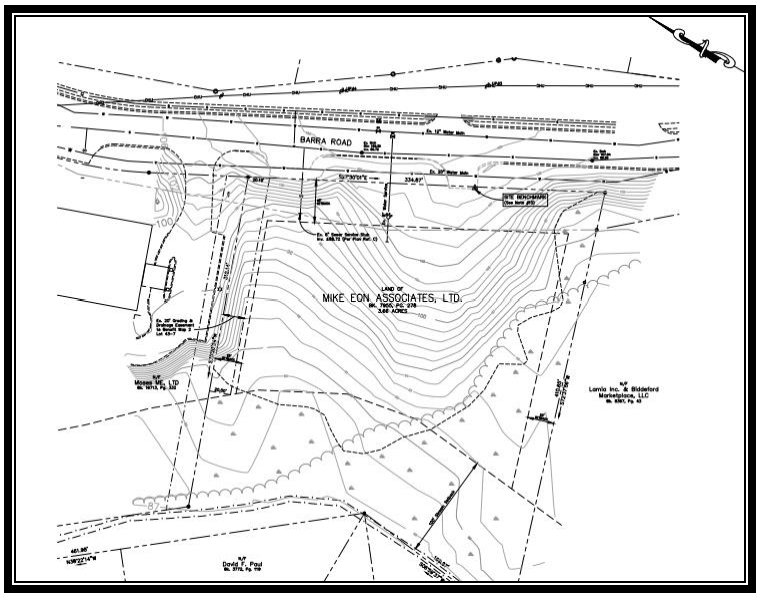
The project requires Major Site Plan Review Approval from the Board. Final Plan approval is required.

2024.31 Preliminary Plan Review for Mike Eon for a Commercial Dentist's Office Building at 25 Barra Road (Tax Map 2, Lot 43-10) in the I-3 Zone.

Planning Board Meeting Date: July 17, 2024 at 6:00 PM

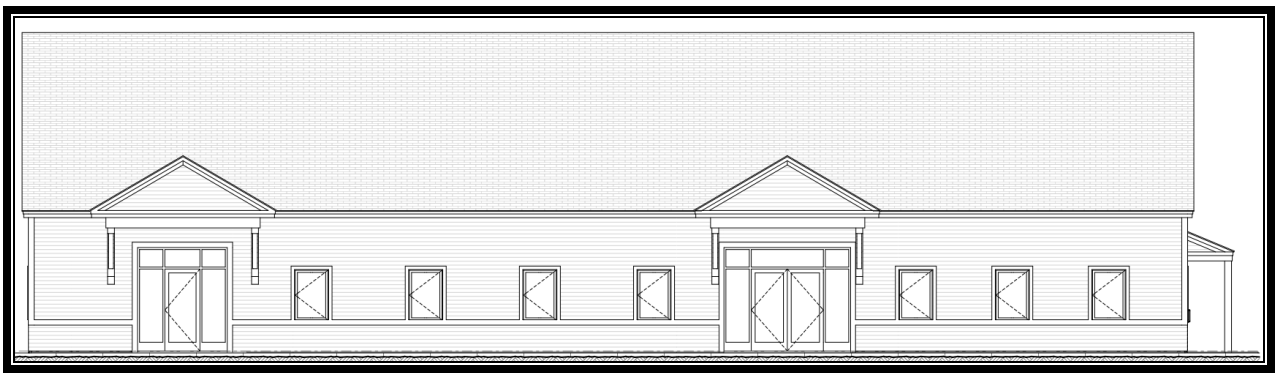


The project is located on Map 2 Lot 43-10. The site is bounded by commercial development and Barra Road, and a wetland to the southwest or rear of the property. The wetland was delineated by Mark Hampton Associates per the letter as included in Attachment 7. These are not wetlands of special significance, and no direct impacts are proposed. The project is also not part of a mapped flood zone, as shown on a Firmette of the site also included in Attachment 7.

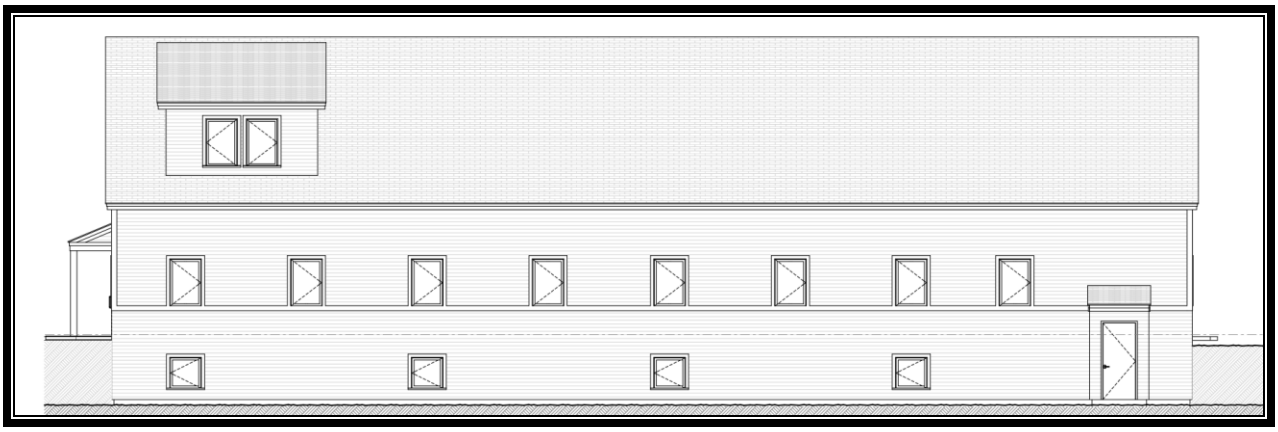


Given that this project is currently requesting a preliminary approval, certain aspects are still under development. Lighting plans are currently being developed and will be available for review with the final plan submission. A traffic report is also currently under development and will be

available for final submission. Given our recent experience along Barra Road, and volumes of other current uses, we are confident that the traffic report will show little to no impact on current conditions along Barra Road given the comparatively small size of this project.



Front Elevation- North



Back Elevation-South

Side Elevation-West

Side Elevation-East

2024.31 Preliminary Plan Review for Mike Eon for a Commercial Dentist's Office Building at 25 Barra Road (Tax Map 2, Lot 43-10) in the I-3 Zone.

Planning Board Meeting Date: July 17, 2024 at 6:00 PM

This is the first time this revised application is being reviewed by the Planning Board. Final Plan approval is required.

2. PROJECT DATA/INFORMATION

1.	Applicant:	Mike Eon Associates LTD 260 Main Street Biddeford, ME 04005
2.	Owner of Property:	Same as applicant
3.	Agent:	Christopher McDonald BH2M Engineers 380b Maine Street Gorham, ME 04038
4.	Engineer:	Same as Agent
5.	Project Location:	25 Barra Road
6.	Project Tax Map #/Lot #:	Tax Map 2, Lot 43-10
7.	Lot Size:	3.66 Acres
8.	Base Zoning:	I-3
9.	Overlay Zoning:	Stream Protection (to the rear of the property) – No development is proposed in the SP Zone.
10.	Existing Use:	Vacant land
11.	Proposed Use:	Commercial building (dentist's office)
12.	Approvals Required:	Preliminary Plan Review Final Plan Review
13.	Uses in the Vicinity:	Commercial
14.	Waivers Needed:	N/A
18.	Waivers Granted:	N/A
22.	Other Non-City Permits Required:	
23.	Fees Paid:	Yes
25.	Planning Board Review History: July 17, 2024-Preliminary Plan	

3. REVIEW PROCESS

Per City ordinance, this application is subject to Site Plan (Land Development Regulations, Article XI) review and approval by the Planning Board.

4. DEPARTMENTAL REVIEW COMMENTS:

A. Planning:

Staff has reviewed the submitted plans and is supportive of the dentist's office. The project is currently being assessed by our Engineering Peer Reviewer. Comments shall be addressed prior to final plan review.

5. STAFF RECOMMENDATION

2024.31 Preliminary Plan Review for Mike Eon for a Commercial Dentist's Office Building at 25 Barra Road (Tax Map 2, Lot 43-10) in the I-3 Zone.

Planning Board Meeting Date: July 17, 2024 at 6:00 PM

Staff is supportive of the project and does not anticipate any insurmountable issues with the peer review of the stormwater application / analysis. Therefore, is requesting that the Planning Board approve the preliminary site plan review, with the following Conditions of Approval:

1. Standard Conditions of Approval.

2. All conditions previously approved for Mike Eon Associates, by the Planning Board, are hereby reaffirmed.

6. SAMPLE MOTIONS:

A. Motion to approve Case # 2024.31 Preliminary Plan Review for Mike Eon Associates to construct a dentist office located at 25 Barra Road (Tax Map 2, Lot 43-10), with the recommended Conditions of Approval.

B. Motion to Table Case # 2024.31 Preliminary Plan Review for Mike Eon Associates to construct a dentist office located at 25 Barra Road (Tax Map 2, Lot 43-10), based upon the following reasons:

a)_____

b)_____

c)_____

C. Motion to Deny Case # 2024.31 Preliminary Plan Review for Mike Eon Associates to construct a dentist office located at 25 Barra Road (Tax Map 2, Lot 43-10), based upon the following reasons:

a)_____

b)_____

c)_____

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST *LAST REVISED: 04/18/23*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing submittal information with non-acceptable reasoning will be rejected.
4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	25 Barra Road
Planning Board # (if available):	(Not Yet Avalible)
Applicant Name/Info:	Mike Eon Associates LTD
Submittal #/Type (Prelim/Final):	Preliminary Site Plan
Submittal Date:	12-Jun-24

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	**DESCRIPTION**	**INFORMATION PROVIDED (YES/NO)**	**REASON NOT PROVIDED/COMMENT**	**ACCEPTABLE (YES/NO-REVISE & RESUBMIT)**	**COMMENT**
1	**GENERAL PLAN REQUIREMENTS**				
A	Drawing specific legends (linetypes, hatches, etc.)	Yes			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	Yes			
C	North arrows, standard engineering scale viewports, dated revision blocks	Yes			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	No	Project survey was performed in a local assumed site datum, See plans sheet 2		
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	Yes			
2	**COVER SHEET**				
A	Project Name & Property Address	Yes			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Yes			
C	Site Location Map	Yes			
D	Sheet Set List of Drawings	Yes			
E	Tax Map and Lot ID	Yes			
F	Zoning & Shoreland Zone Information	Yes			
G	Existing Use Description	Yes	Vacant Lot in existing conditions, mostly grassed		
H	Proposed Use Description	Yes	Commercial Development, proposed as dentist's office		
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	No	No waivers proposed		
J	Name of Drainage Watershed	Yes	Thatcher Brook		
K	Within the MS4 Urbanized Area (Yes/No)	Yes			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	Yes			
M	Within the 100-year Flood Zone (Yes/No)	No			
N	Public Road Proposed (Yes/No)	No	Frontage along Existing Barra Road		
O	Private Road Proposed (Yes/No)	No			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	Yes	Proposed to be serviced by existing gravity sewer from previously installed service stub, City engineering dept. has determined there is capacity		
Q	Public Storm Drain Connection (Yes/No)	No	No public storm drain connections proposed		
R	Limits of Disturbance in acres	Yes	Provided in Stormwater Report		
S	Pervious Land Cover square footage, existing and proposed	Yes	Provided in Stormwater Report		
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Yes	Provided in Stormwater Report		
U	Building Roof square footage, existing and proposed	Yes	proposed 4,800 sqft as shown on plans		
V	Assigned Planning Board Number	No	No Planning Board number yet assigned; sketch plan waived by planning department		
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
3	**EXISTING CONDITIONS PLAN**				
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Yes	As noted on plans, assumed local datum, shift to NAVD 88 noted		
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	Yes			
C	Property & Right-of-Way Lines	Yes			
D	Boundary line information (bearings, distances, etc.)	Yes			
E	Property pin and monumentation locations	Yes			
F	Existing easements with proper ownership identified	Yes			
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Yes			
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
I	100-year Flood Zone Limits & Elevation	Yes	Not within 100-yr flood zone		
J	USDA-NRCS Soil Boundaries and Labels	Yes	See Stormwater Plans		
K	Existing contours with adequate contour labelling; minimum 1' contour interval	Yes			
L	Existing building FFEs annotated	No	No existing buildings on proposed project area		
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	No	No existing buildings on proposed project area		
N	Existing buildings & structures	No	No existing buildings on proposed project area		
O	Existing pavement areas & number of parking spaces	No	No existing buildings on proposed project area		
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	No	No existing buildings on proposed project area		
Q	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	Yes			
R	Existing signage and striping	Yes			
S	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	Yes			

T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
U	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Yes			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Yes			
W	Location of any borings, drinking wells, and monitoring wells	Yes			
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**				
A	Limits-of-disturbance outlined and acreage annotated	Yes			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
C	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
D	Callout existing site features to be demolished/removed/replaced	Yes			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Yes			
F	Hatch existing buildings and pavement to be removed	Yes			
G	Construction Entrance location(s)	Yes			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Yes			
I	Stockpile and staging area(s) identified (with proper perimeter control)	Yes			
J	Inlet protection location(s)	Yes			
K	Note requiring contractor to implement dust control measures throughout construction	Yes			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	Yes			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing				
N	If large development is proposed with an extensive underground stormwater conveyance network, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations				
5	**SITE PLAN/SUBDIVISION PLAN**				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	No	1" = 30' scale plans appropriate for project detail		
B	Existing property and right-of-way lines	Yes			
C	Proposed subdivision lot lines and labels	Yes			
D	Required Zoning Setbacks shown with dimensions and annotation	Yes			
E	Bulk requirement summary table (zoning/parking calculations)	Yes			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
G	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
H	Proposed building outlines, door entrances and loading docks	Yes	See Architectural Plans		
I	Proposed building labels	Yes			
J	Proposed road extents; provide clear annotation if roads will be public or private	Yes			
K	Proposed parking and accessible parking locations; annotate parking space counts	Yes			
L	Proposed signage, parking striping, and traffic striping	Yes			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	Yes			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Yes			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	Yes			
P	Proposed landscaping; detailed landscaping design should be on separate plans	Yes			
Q	Designated snow storage areas	Yes			
R	Proposed dumpster locations and trash removal access	Yes			
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	Yes			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	Yes			
U	Road centerline stationing shown, labelled every 0+50' with curve data	No	Not Applicable		
V	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	No	Not Applicable		
W	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	No	Not Applicable		
X	Planning Board signature block for final recording	Yes			
6	**GRADING PLAN**				
A	Partial Grading Plans needed for any viewport greater than 1"=20'	No	1" = 30' scale plans appropriate for project detail		
B	Limits-of-disturbance outlined and acreage annotated	Yes			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	Yes			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	Yes			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	Yes			
F	Detailed grading for all ditches, swales, outfalls, and riprap	Yes			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	Yes			
H	Existing spot elevations for all asphalt and curb tie-in locations	Yes			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
J	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval: low/high points, PC/PT, road centerline, edge-of-asphalt	No	Not Applicable		
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks	Yes			
M	Proposed spot elevations for all parking and drive aisle geometry points	Yes			
N	Proposed spot elevations for all building corners and door-entry locations	Yes			
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)	No	Not Applicable		
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	Yes			

Q	Proposed % slope arrows for all ADA parking spaces and sidewalks	Yes			
R	Proposed longitudinal % slope arrows for drainage ditch centerlines	Yes			
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	Yes			
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
7	**ROAD PROFILES (if public/private road proposed)**	No	Not Applicable, no roads proposed		
A	Existing surface; dashed and screened				
B	Proposed surface; continuous and bold				
C	Corresponding centerline stationing and curve data annotation				
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)				
E	Horizontal and vertical scale bars				
F	Clear annotation if proposed road will be public or private				
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance				
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads				
8	**UTILITY PLAN**				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	Yes			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	Yes			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Yes			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	Yes			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	Yes			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	Yes			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	Yes			
I	Flow directional arrows for storm & sewer pipes	Yes			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	Yes			
K	All storm drains must be sized to convey the 25-year storm	Yes			
L	Sewer force main sizes and invert elevations	Yes			
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W)	No	Not Applicable		
N	Grease trap & oil-water separator locations, sizes, elevations	No	Not Applicable		
O	Water, gas, electric, and telecom sizes labelled	Yes			
9	**UTILITY PROFILES**	No	All Gravity Information shown on plans, only services proposed		
A	Utility profiles for **all** gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)				
B	Existing surface; dashed and screened				
C	Proposed surface; continuous and bold				
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)				
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope				
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated				
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated				
H	Known ledge or groundwater elevations				
I	For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified				
J	For storm outfalls, include riprap sizing and grading extents				
K	Horizontal and vertical scale bars				
10	**DETAILS**				
A	Road section detail, including pavement & gravel depths	Yes			
B	Sidewalk, paver, crosswalk, and any other pavement section details	Yes			
C	Pavement sawcut detail	Yes			
D	Utility trench/backfill detail	Yes			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	Yes			
F	Signage, striping, and ADA details	Yes			
G	E&S notes and details; only show applicable/proposed measures	Yes			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	Yes			
I	Storm outfall & riprap details	Yes			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	Yes			
K	Pump station, grease trap, and oil-water separator details	No	Not Applicable		
L	Conduit section details	Yes			
M	Miscellaneous details (as needed)	Yes			

11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**				
A	As required by ordinance; at a minimum: locations, counts, and species/models must be identified	No	Photometric plans will be provided for final		
B	Landscaping & lighting details	Yes	Intial landscape design provided for comment		
12	**DOCUMENTS/REPORTS/CALCULATIONS**				
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built Inspections post-construction	No	Per discussions with Planning, fees will be assessed after the project is submitted for preminary review. Fees will be paid ASAP or before the planning board meeting		
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. Four City-standardized stormwater summary tables	Yes			
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	Yes	See Application		
D	A Performance Guarantee Cost Estimate utilizing Planning's template				
E	25-year hydraulic calculations for all storm conveyance piping (rational method), including starting tailwater conditions/documentation	Yes	See Stormwater Report		
F	If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies	Yes	See Stormwater Report		
G	Sizing calculations for any SWM water quality BMP or detention facility	Yes	See Stormwater Report		
H	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed iii. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes	See Stormwater Report		
I	Salt Management Plan	Yes			
J	Sewer pump station sizing calculations	No	Not applicable		
K	Sewer pump station maintenance plan	No	Not applicable		
L	Grease trap sizing calculations	No	Not Applicable		
M	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	No	Not applicable		
N	Summary list & copy of any required DOT/DEP/USACE permits & approvals	No	Agency approvals are not required given the size of the project and no resource impacts		

City of Biddeford

Site Plan Application

25 BARRA ROAD COMMERCIAL DEVELOPMENT

25 Barra Road, Biddeford, Maine

June 2024

Applicant

Mike Eon Associates LTD
260 Main Street
P.O, Box 444
Biddeford, ME 04005

Agent

BH2M
380B Main Street
Gorham, Maine 04038

BH2M

Civil Engineering | Surveying

David Galbraith
City Planner of Biddeford, Maine
205 Main Street
P.O. Box 586
Biddeford, ME 04005

June 12, 2024

Re: 25 Barra Road Commercial Development
Preliminary Site Plan Application

Dear David;

BH2M has been retained by Mike Eon Associates LTD to provide Engineering, Surveying, and Permitting services for development of commercial project proposed at 25 Barra Road in Biddeford.

The project proposes to construct a 4,800 square foot building proposed as a Dentist's Office. To support this development, the project also proposes to create 25 parking spaces, in conformance with City Code, utility connections utilizing existing municipal service stubs on the property, and develop stormwater management systems in conformance with City standards. This property was previously granted a Site Plan approval by the Planning Board for development of a restaurant and office building in 2016, under planning number 2015.42, and was extended through November 2021, but given the market effects of covid, the original project could not move forward. The previously approved project was larger in scope (5,850 sqft building and 50 parking spots).

The project is located on Map 2 Lot 43-10. The site is bounded by commercial development and Barra Road, and a wetland to the southwest or rear of the property. The wetland was delineated by Mark Hampton Associates per the letter as included in Attachment 7. These are not wetlands of special significance, and no direct impacts are proposed. The project is also not part of a mapped flood zone, as shown on a Firmette of the site also included in Attachment 7.

Given that this project is currently requesting a preliminary approval, certain aspects are still under development. Lighting plans are currently being developed and will be available for review with the final plan submission. A traffic report is also currently under development and will be available for final submission. Given our recent experience along Barra Road, and volumes of other current uses, we are confident that the traffic report will show little to no impact on current conditions along Barra Road given the comparatively small size of this project.

In support of these permit applications, we are including the following attachments:

Attachment 1 - City of Biddeford Planning Department Forms and Checklists
Attachment 2 - Agent Authorization Letter
Attachment 3 – Property Deed

Attachment 4 - Financial Capacity
Attachment 5 – Certificate of Good Standing
Attachment 6 - Technical Capacity
Attachment 7 – Wetlands Report and FIRM Mapping
Attachment 8 – Maine Water and City Engineering Department Letters for Water and Sewer Ability to Service
Attachment 9 – Salt Management Plan
Attachment 10 - Stormwater Management Report

We trust that this Site Plan application provides you with the necessary information to bring the applications to the Planning Board for preliminary review. If you need any additional information, feel free to contact me directly.

Sincerely,

Christopher MacDonald, P.E.
Civil Engineer

Cc Mike Eon – Mike Eon Associates LTD

ATTACHMENT 1
CITY OF BIDDEFORD PLANNING DEPARTMENT FORMS AND CHECKLISTS

BH2M

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 X Site Plan Review __ Extraction
__ Conditional Use Permit __ Subdivision __ Private Way
__ Other: _____

Applicant Information:
Name: Mike Eon Associates LTD, Mike Eon, President
Mailing Address: 260 Main Street. P.O. Box 444. Biddeford. Maine 04005
Telephone: (207)283-3000
Email: meon@mikeeonassoc.com
What is your legal interest in the property?
X Owner __ Potential Buyer with Contract __ Lease/Rental Agreement

Owner's Information:
Name: Mike Eon Associates LTD, Mike Eon, President
Mailing Address: 260 Main Street. P.O. Box 444. Biddeford. Maine 04005
Telephone: (207)283-3000
Email: meon@mikeeonassoc.com

Agent's Information:
Name: BH2M, Christopher MacDonald, PE, Civil Engineer
Mailing Address: 380B Main Street, Gorham, Maine 04038
Telephone: (207)839-2771
Email: cmacdonald@bh2m.com

Engineer/Surveyor's Information:
Name: BH2M, Christopher MacDonald, PE, Civil Engineer
Mailing Address: 380B Main Street, Gorham, Maine 04038
Telephone: (207)839-2771
Email: cmacdonald@bh2m.com

Project Location and Lot Information:
Street Address: 25 Barra Road Drainage Watershed: Thatcher Brook
Tax Map: 2 Lot: 43-10
Current Zoning: I-3 Shoreland Zoning: N/A
Size of Lot: 3.66 +/- (X)acres ( )s.f. Lot Frontage: 334.87'
Existing Use of Property: Undeveloped, Primarily grassed

Property currently serviced by:
X City Road X Public Sewer X Public Water __ Public Trash
__ Private Road __ Septic System __ Private Well __ Private Hauler

Slope Conditions in Area of Construction (if applicable):
__Flat (0-3% slope) X Rolling (3-8% slope) X Hilly (8-15% slope) __Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? X (Yes)__(No) if yes attach information
Is the project within the 100-year floodplain? __ (Yes) X (No) if yes attach information
Do you plan to bring fill onto the lot? X (Yes) __(No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

Mike Eon Associates LTD proposes to develop their lot at 25 Barra Road to create a commercial building, proposed as a Dentists Office. This property was subject to an earlier approval of a larger development.

Property to be Serviced by:

X City Road X Public Sewer X Public Water __ Public Trash

__ Private Road __ Septic System __ Private Well __ Private Hauler

Limits of Disturbance: 1.23 +/- (X)acres ( )s.f.

Net change in impervious cover: 0.44 +/- (X)acres ( )s.f.

Is this project part of a larger project? __(Yes) X(No)

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

Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) X(Yes) __(No)

Is the project proposing any Stormwater facilities/BMPs? X(Yes) __(No)

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

__ **If in a Shoreland Zone:**

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

Percent of structure expansion (Max 30%): _____

__ **If Subdivision Review, number of lots proposed:** _____

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

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

Total new square feet footprint of structure: 4800

Total new square feet paving/parking: 14,462

Waiver Requests (attach details):

1. To Be Determined
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval
   - __ Fire Department – Contact Chief or Deputy Chief – 282-9986
   - X Ability to Serve for Water Service – Maine Water – 282-1543
   - X 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. See Cover Letter

C. Photographs of Site.

D. Architectural renderings/drawings of proposed buildings, as required. See Submitted Plan Set

E. Engineering Plans, as required. See Submitted Plan Set

F. Stormwater Management Report, as required. See Submitted Stormwater Report

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.

As discussed with Planning, fees will be assessed after the project is submitted and paid ASAP or before the Planning Board Meeting

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** 6/11/24

Signature of Property Owner: _____ **Date** 6/11/24

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

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

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL 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 INDIVIUDAL 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

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST *LAST REVISED: 04/18/23*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing submittal information with non-acceptable reasoning will be rejected.
4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	25 Barra Road
Planning Board # (if available):	(Not Yet Avalible)
Applicant Name/Info:	Mike Eon Associates LTD
Submittal #/Type (Prelim/Final):	Preliminary Site Plan
Submittal Date:	12-Jun-24

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	**GENERAL PLAN REQUIREMENTS**				
A	Drawing specific legends (linetypes, hatches, etc.)	Yes			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	Yes			
C	North arrows, standard engineering scale viewports, dated revision blocks	Yes			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	No	Project survey was performed in a local assumed site datum, See plans sheet 2		
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	Yes			
2	**COVER SHEET**				
A	Project Name & Property Address	Yes			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Yes			
C	Site Location Map	Yes			
D	Sheet Set List of Drawings	Yes			
E	Tax Map and Lot ID	Yes			
F	Zoning & Shoreland Zone Information	Yes			
G	Existing Use Description	Yes	Vacant Lot in existing conditions, mostly grassed		
H	Proposed Use Description	Yes	Commercial Development, proposed as dentist's office		
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	No	No waivers proposed		
J	Name of Drainage Watershed	Yes	Thatcher Brook		
K	Within the MS4 Urbanized Area (Yes/No)	Yes			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	Yes			
M	Within the 100-year Flood Zone (Yes/No)	No			
N	Public Road Proposed (Yes/No)	No	Frontage along Existing Barra Road		
O	Private Road Proposed (Yes/No)	No			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	Yes	Proposed to be serviced by existing gravity sewer from previously installed service stub, City engineering dept. has determined there is capacity		
Q	Public Storm Drain Connection (Yes/No)	No	No public storm drain connections proposed		
R	Limits of Disturbance in acres	Yes	Provided in Stormwater Report		
S	Pervious Land Cover square footage, existing and proposed	Yes	Provided in Stormwater Report		
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Yes	Provided in Stormwater Report		
U	Building Roof square footage, existing and proposed	Yes	proposed 4,800 sqft as shown on plans		
V	Assigned Planning Board Number	No	No Planning Board number yet assigned; sketch plan waived by planning department		
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
3	**EXISTING CONDITIONS PLAN**				
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Yes	As noted on plans, assumed local datum, shift to NAVD 88 noted		
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	Yes			
C	Property & Right-of-Way Lines	Yes			
D	Boundary line information (bearings, distances, etc.)	Yes			
E	Property pin and monumentation locations	Yes			
F	Existing easements with proper ownership identified	Yes			
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Yes			
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
I	100-year Flood Zone Limits & Elevation	Yes	Not within 100-yr flood zone		
J	USDA-NRCS Soil Boundaries and Labels	Yes	See Stormwater Plans		
K	Existing contours with adequate contour labelling; minimum 1' contour interval	Yes			
L	Existing building FFEs annotated	No	No existing buildings on proposed project area		
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	No	No existing buildings on proposed project area		
N	Existing buildings & structures	No	No existing buildings on proposed project area		
O	Existing pavement areas & number of parking spaces	No	No existing buildings on proposed project area		
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	No	No existing buildings on proposed project area		
Q	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	Yes			
R	Existing signage and striping	Yes			
S	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	Yes			

T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
U	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Yes			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Yes			
W	Location of any borings, drinking wells, and monitoring wells	Yes			
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**				
A	Limits-of-disturbance outlined and acreage annotated	Yes			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
C	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
D	Callout existing site features to be demolished/removed/replaced	Yes			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Yes			
F	Hatch existing buildings and pavement to be removed	Yes			
G	Construction Entrance location(s)	Yes			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Yes			
I	Stockpile and staging area(s) identified (with proper perimeter control)	Yes			
J	Inlet protection location(s)	Yes			
K	Note requiring contractor to implement dust control measures throughout construction	Yes			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	Yes			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing				
N	If large development is proposed with an extensive underground stormwater conveyance network, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations				
5	**SITE PLAN/SUBDIVISION PLAN**				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	No	1" = 30' scale plans appropriate for project detail		
B	Existing property and right-of-way lines	Yes			
C	Proposed subdivision lot lines and labels	Yes			
D	Required Zoning Setbacks shown with dimensions and annotation	Yes			
E	Bulk requirement summary table (zoning/parking calculations)	Yes			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
G	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
H	Proposed building outlines, door entrances and loading docks	Yes	See Architectural Plans		
I	Proposed building labels	Yes			
J	Proposed road extents; provide clear annotation if roads will be public or private	Yes			
K	Proposed parking and accessible parking locations; annotate parking space counts	Yes			
L	Proposed signage, parking striping, and traffic striping	Yes			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	Yes			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Yes			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	Yes			
P	Proposed landscaping; detailed landscaping design should be on separate plans	Yes			
Q	Designated snow storage areas	Yes			
R	Proposed dumpster locations and trash removal access	Yes			
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	Yes			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	Yes			
U	Road centerline stationing shown, labelled every 0+50' with curve data	No	Not Applicable		
V	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	No	Not Applicable		
W	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	No	Not Applicable		
X	Planning Board signature block for final recording	Yes			
6	**GRADING PLAN**				
A	Partial Grading Plans needed for any viewport greater than 1"=20'	No	1" = 30' scale plans appropriate for project detail		
B	Limits-of-disturbance outlined and acreage annotated	Yes			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	Yes			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	Yes			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	Yes			
F	Detailed grading for all ditches, swales, outfalls, and riprap	Yes			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	Yes			
H	Existing spot elevations for all asphalt and curb tie-in locations	Yes			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
J	100-year Flood Zone Limits	No	Not within 100-yr flood zone		
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval: low/high points, PC/PT, road centerline, edge-of-asphalt	No	Not Applicable		
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks	Yes			
M	Proposed spot elevations for all parking and drive aisle geometry points	Yes			
N	Proposed spot elevations for all building corners and door-entry locations	Yes			
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)	No	Not Applicable		
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	Yes			
Q	Proposed % slope arrows for all ADA parking spaces and sidewalks	Yes			

R	Proposed longitudinal % slope arrows for drainage ditch centerlines	Yes			
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	Yes			
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
7	**ROAD PROFILES (if public/private road proposed)**	No	Not Applicable, no roads proposed		
A	Existing surface; dashed and screened				
B	Proposed surface; continuous and bold				
C	Corresponding centerline stationing and curve data annotation				
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)				
E	Horizontal and vertical scale bars				
F	Clear annotation if proposed road will be public or private				
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance				
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads				
8	**UTILITY PLAN**				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	Yes			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	Yes			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	Yes			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	Yes			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	Yes			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	Yes			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	Yes			
I	Flow directional arrows for storm & sewer pipes	Yes			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	Yes			
K	All storm drains must be sized to convey the 25-year storm	Yes			
L	Sewer force main sizes and invert elevations	Yes			
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W)	No	Not Applicable		
N	Grease trap & oil-water separator locations, sizes, elevations	No	Not Applicable		
O	Water, gas, electric, and telecom sizes labelled	Yes			
9	**UTILITY PROFILES**	No	All Gravity Information shown on plans, only services proposed		
A	Utility profiles for **all** gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)				
B	Existing surface; dashed and screened				
C	Proposed surface; continuous and bold				
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)				
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope				
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated				
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated				
H	Known ledge or groundwater elevations				
I	For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified				
J	For storm outfalls, include riprap sizing and grading extents				
K	Horizontal and vertical scale bars				
10	**DETAILS**				
A	Road section detail, including pavement & gravel depths	Yes			
B	Sidewalk, paver, crosswalk, and any other pavement section details	Yes			
C	Pavement sawcut detail	Yes			
D	Utility trench/backfill detail	Yes			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	Yes			
F	Signage, striping, and ADA details	Yes			
G	E&S notes and details; only show applicable/proposed measures	Yes			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	Yes			
I	Storm outfall & riprap details	Yes			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	Yes			
K	Pump station, grease trap, and oil-water separator details	No	Not Applicable		
L	Conduit section details	Yes			
M	Miscellaneous details (as needed)	Yes			
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**				

A	As required by ordinance; at a minimum: locations, counts, and species/models must be identified	No	Photometric plans will be provided for final		
B	Landscaping & lighting details	Yes	Intial landscape design provided for comment		
12	**DOCUMENTS/REPORTS/CALCULATIONS**				
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built inspections post-construction	No	Per discussions with Planning, fees will be assessed after the project is submitted for preminary review. Fees will be paid ASAP or before the planning board meeting		
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. Four City-standardized stormwater summary tables	Yes			
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	Yes	See Application		
D	A Performance Guarantee Cost Estimate utilizing Planning's template				
E	25-year hydraulic calculations for all storm conveyance piping (rational method), including starting tailwater conditions/documentation	Yes	See Stormwater Report		
F	If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies	Yes	See Stormwater Report		
G	Sizing calculations for any SWM water quality BMP or detention facility	Yes	See Stormwater Report		
H	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed iii. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes	See Stormwater Report		
I	Salt Management Plan	Yes			
J	Sewer pump station sizing calculations	No	Not applicable		
K	Sewer pump station maintenance plan	No	Not applicable		
L	Grease trap sizing calculations	No	Not Applicable		
M	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	No	Not applicable		
N	Summary list & copy of any required DOT/DEP/USACE permits & approvals	No	Agency approvals are not required given the size of the project and no resource impacts		

ATTACHMENT 2
AGENT AUTHORIZATION LETTER

BH2M

To Whom It May Concern,

By this letter, the undersigned authorizes Berry Huff McDonald Milligan Inc. (BH2M) to act as the agent for the undersigned, Mike Eon Associates LTD in the preparation and submission of all Federal, State, and Local permit applications and relevant documents and correspondence for all necessary permits for the construction of the 25 Barra Road Commercial Site project located on Barra Road in the City of Biddeford, to attend meetings and site visits; to appear before all boards, commissions, and committees, and to provide such other services as are necessary and appropriate in furtherance of the aforementioned project.

Sincerely,

Signature

MICHAEL R. EON PRES

Printed Name and Title

6/4/24

Date

ATTACHMENT 3
PROPERTY DEED

035640

WARRANTY DEED

Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS, That I, **GERMAINE A. COTE**, having a mailing address of Barra Road, Biddeford, Maine 04005, for consideration paid, grants to **MIKE EON ASSOCIATES, LTD.**, having a mailing address of P.O. Box 444, Biddeford, Maine 04005, with *WARRANTY COVENANTS, AS JOINT TENANTS*, the land in Biddeford, in the County of York and State of Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated in said Biddeford, and bounded and described as follows:

BEGINNING at an iron rod in the ground on the edge of a Private Road (now called Barra Road) at a point about sixty (60) feet easterly from the brook which crosses said Private Road;

THENCE southerly to an iron rod in the ground and to land formerly of one Gedeon Roberge;

THENCE westerly by land of said Gedeon Roberge to the brook;

THENCE northerly by the brook to the said private way;

THENCE easterly from the brook by said private way to the point begun at.

Also another certain lot of land situated in said Biddeford formerly part of the John H. Gordon farm and bounded as follows:

COMMENCING at land now or formerly of Samuel Merrill;

THENCE running northerly by said land and land now or formerly of Luther Bryand and Rishworth Jordan to an old fence and stone wall;

THENCE by said old fence and stone wall and land now or formerly of Margaret Bemis easterly to land of Joseph Dearborn;

THENCE southerly by land of said Dearborn, land of Nathaniel Kimball, and land of Moses Milliken to land of Edward Staples;

THENCE westerly by land of said Staples to the point of beginning containing forty (40) acres, more or less.

Also another certain lot or parcel of land situated in said Biddeford off the northerly side

MAINE REAL ESTATE TRANSFER TAX PAID

of the Alfred Road, so-called, bounded and described as follows:

Southerly by land now or formerly of J. M. Hill;

Westerly by land formerly of Asa L. Ricker;

Northerly by land formerly of James A. Strout and of owner unknown;

Easterly by land of owner unknown;

Containing twenty-five (25) acres, more or less.

Also a strip of land twenty-five (25) feet wide extending from "Alfred Road" so-called to the above described lot along the westerly line of land formerly of Moses Milliken.

Also another certain lot of land situated in said Biddeford, bounded as follows:

BEGINNING at the northerly corner of said lot, at land of the heirs of the late Jesse Page, and land now or formerly of David Roberge;

THENCE by said Page land, southwesterly, twenty rods;

THENCE at right angles south easterly by land of Joseph Hill, eighty (80) rods to land formerly of Samuel Bradbury;

THENCE at right angles, northeasterly by land last named, twenty rods to land of said David Roberge;

THENCE northwesterly by land of said Roberge, eighty rods to the point of beginning.

Also a certain lot or parcel of land with the buildings thereon, situated in said Biddeford, lying northeasterly from the road leading from Biddeford to Alfred and bounded and described as follows:

BEGINNING at the northeasterly corner of land conveyed by Adrien Roberge to one Barra, at an iron pipe driven into the ground, said iron being two hundred seventy-seven and 2/10 (277.2) feet northerly from said road measured along said Barra line;

THENCE N 81° 10' E three hundred twenty-five and 6/10 (325.6) feet to an iron pipe driven into the ground;

THENCE S 37° 40' E, one hundred sixty-two and 85/100 (162.85) feet to an iron pipe driven into the ground and land one Eon;

THENCE N 48° 20' E by said land of Eon four hundred thirty-eight and 1/10 (438.1) feet;

THENCE N 47° 15' E by said land of Eon , four hundred (400) feet to land formerly of Joseph Dearborn;

THENCE northwesterly by said Dearborn land thirty-seven (37) rods and fifteen (15) links to land formerly of John H. Gordon;

THENCE by said Gordon land fifty-nine (59) rods and eighteen (18) links to land now or formerly of Adrien Roberge;

THENCE S 10° 30' E by said land of Adrien Roberge to the point of beginning.

Together with a right of way to pass and repass at any and all times for any and all purposes over a strip of land 20 feet in width, the center line of said strip being the center line of the present travelled way between the above-described premises and the Alfred Road, over and adjoining premises of one Joseph Havey and Harry B. Center, but provided that a more convenient right of way may be established by agreement between the owner of the above described premises, their heirs and assigns, and the owners of the premises of said Havey and Center, their heirs and assigns, by mutual agreement, and provided further that if either party shall decline to agree upon a reestablishment of the right of way, either party, their heirs and assigns may refer the question of relocation to three referees, one to be appointed by each party and the third to be chosen by the two so appointed, and the decision of said referees shall be final and shall be enforceable by either of the interested parties, their heirs and assigns.

Including in this conveyance such land described in and by the following deeds recorded in said Registry of Deeds; Book 1290, Page 460; Book 1060, Page 552; Book 1370, Page 439 and 440, but excepting however from the foregoing, various parcels conveyed therefrom by Adrien Roberge, by the following deeds recorded in said Registry of Deeds; Book 1290, Page 457; Book 1085, Page 194; Book 1060, Page 553; Book 1094, Page 508; Book 1064, Page 296; Book 1370, Page 441 and 442; Book 1378, Page 479; Book 1670, Page 416 and 419; Book 1377, Page 555, and subject to any rights of way over the above described premises as provided in said Deeds.

Being the same premises conveyed to Leo Paul Cote and Germaine A. Cote as joint tenants by deed of Adrien Roberge dated November 27, 1970 and recorded in the York County Registry of Deeds in Book 1892, Page 867. The said Leo Paul Cote died on April 26, 1990 and title passed to the within Grantor by operation of law.

Excepting, herefrom, however the parcels of land described in the following deeds:

A. Deed from Leo Paul Cote and Germaine A. Cote to the City of Biddeford being dated July 13, 1973 and recorded in the York County Registry of Deeds in Book 2002, Page 329.

B. Deed from Leo Paul Cote and Germaine A. Cote to Guy Fecteau being dated March 15, 1985 and recorded in the York County Registry of Deeds in Book 3481, Page 319.

C. Deed from Leo Paul Cote and Germaine Cote to Kennebunk Savings Bank being dated August 15, 1986 and recorded in the York County Registry of Deeds in Book 3980, Page 123.

D. Deed of Leo Paul Cote and Germaine Cote to The Inhabitants of the City of Biddeford, Maine being dated September 17, 1986 and recorded in the York County Registry of Deeds in Book 4008, Page 133.

E. Deed of Leo Paul Cote and Germaine Cote to The Inhabitants of the City of Biddeford being dated October 22, 1988 and recorded in the York County Registry of Deeds in Book 4886, Page 145.

The above described premises are conveyed subject to the following easements to the extent they affect the same:

A. Easement Deed from Adrien O. Roberge and Lillian R. Roberge to Central Maine Power Company and New England Telephone and Telegraph Company being dated September 4, 1958 and recorded in the York County Registry of Deeds in Book 1377, Page 555.

B. Agreement of Easement and Indenture between Leo Paul Cote and Germaine Cote and Biddeford and Saco Water Company dated September 26, 1978 and recorded in the York County Registry of Deeds in Book 2423, Page 287.

C. Easement granted to Maine Turnpike Authority recorded in the York County Registry of Deeds in Book 1094, Page 09.

WITNESS my hand this 15th day of August, 1996.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF:

Germaine A. Cote

STATE OF MAINE
YORK, SS.

August 15, 1996

Personally appeared the above named **GERMAINE A. COTE** and acknowledged the foregoing instrument to be her free act and deed.

Before me,

Richard A. Hutter

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

Print Name: RICHARD A. HUTTER

deed/0270-020/tmb

RECEIVED YORK S.S.
96 AUG 16 AM 8:56
ATTEST: Lois M. Muse
REGISTER OF DEEDS

Ret to:
Mike Cox Associates, Ltd.
P.O. Box 444
Biddeford, ME 04005

(Lewis & Hull)

5pgs

ATTACHMENT 4
FINANCIAL CAPACITY

BH2M

June 11, 2024

City of Biddeford
Planning Office
205 Main Street
Biddeford, ME 04005

RE: Mike Eon Associates Ltd.
25 Barra Road Project

To Whom It May Concern,

This letter is intended as support for Mike Eon Associates Ltd.'s submission for approvals regarding the intended 25 Barra Road, Biddeford site for a dental office. Maine Community Bank has worked with Mike Eon, President of Mike Eon Associates Ltd., on development projects like the project referenced herein. We have found that the projects the Bank has financed for Mr. Eon and/or his related entities have been completed on time, on budget, and with all financial obligations being met, complied with, and in an excellent manner.

Although we have not fully underwritten the loan for the proposed project, the Bank has done a preliminary review of the project and is in receipt of Mr. Eon's financial information. After our review, it is believed that the project is viable, and that the entity and its principals have the ability to satisfactorily undertake and complete the proposed project. Based on our review to date, the Bank has an interest in moving forward with Mike Eon Associates Ltd. regarding funding completion of the project. Any formal commitment to lend from the Bank will be contingent upon full underwriting, due diligence and Bank approval, as well as receipt of final approvals for the project.

Should you need additional information, please do not hesitate to contact me directly.

Sincerely,

Jennifer Sirois

Jennifer Sirois
Regional Vice President, Commercial Banking
(207) 571-5614
jsirois@mainecb.com

ATTACHMENT 5
CERTIFICATE OF GOOD STANDING

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and of the records of organization, amendment, and dissolution of corporations and annual reports filed by the same.

I further certify that MIKE EON ASSOCIATES, LTD. is a duly organized business corporation under the laws of the State of Maine and that the date of incorporation is December 23, 1987.

I further certify that on:

December 23, 1987	ARTICLES OF INCORPORATION were filed.
May 1, 2002	CHANGE OF REGISTERED OFFICE was filed.

No further amendments have been filed to date.

I further certify that said business corporation has filed annual reports due to this Department, and that no action is now pending by or on behalf of the State of Maine to forfeit the articles of incorporation and that according to the records in the Department of the Secretary of State, said corporation is a legally existing business corporation in good standing under the laws of the State of Maine at the present time.

In testimony whereof, *I have caused the Great Seal of the State of Maine to be hereunto affixed, given under my hand at Augusta, Maine, this sixth day of June 2024.*

Shenna Bellows

Shenna Bellows
Secretary of State

Authentication: 8004621

ATTACHMENT 6
TECHNICAL CAPACITY

BH2M

INTRODUCTION TO BH2M

Berry Huff McDonald Milligan Inc. (BH2M) is a locally owned civil engineering, planning and surveying firm, founded in 1978. BH2M is headquartered in Gorham, Maine. Our multifaceted staff of 16 includes engineers, planners, project managers, construction managers, and land surveyors. Over the past 44 years BH2M has provided a broad spectrum of services including:

Surveying

- Boundary Surveys
- Topographic Surveys
- Existing Condition Surveys
- Utility Surveys
- As-Built Surveys
- Construction Stakeout
- Elevation Certificates and Letters of Map Amendment
- ALTA/NSPS Surveys
- Mortgage Loan Inspections

Engineering and Planning

- Municipal Engineering
- Roadway Design
- Pedestrian and Bicycle Enhancement
- Shared Use Paths
- Athletic Facilities
- Vehicular Access and Parking
- Site Planning
- Comprehensive Land Planning
- Construction Cost Estimating
- Environmental and Local Permitting
- Stormwater Management
- Erosion Control
- Wastewater Collection and Pumping Systems
- ADA Accessibility

BH2M is a small firm mostly comprised of staff members that have been with the firm for 20 years or more. Our size, ability to offer a variety of services in-house, and experience working with one another enables us to provide efficient and cost-effective solutions to municipal infrastructure projects.

CAPABILITIES

Surveying

BH2M has the benefit of offering a full-service survey department. Our survey department provides the foundation for each project we undertake. Having the ability to self-perform survey services provides us with a cohesive transition from field reconnaissance to design and then to construction. Typically, our Project Managers will accompany the survey crew early in the process. We've found this be an effective approach that reduces the time needed for field survey and guarantees that designers will have the critical information needed for an accurate design. Our survey staff is highly trained in property line, existing conditions, utility and topographic surveys as well as construction layout.

Civil Engineering

BH2M has provided developers, contractors, and municipalities with civil engineering services since our inception in 1978. Our Staff includes four Maine licensed professional engineers. We have provided civil engineering services for residential, commercial, municipal, institutional, and utility projects. Our Staff is highly skilled in roadway design, utility design, stormwater management design, and erosion & sedimentation control design

BH2M routinely supports developers, contractors, institutions, and municipalities by providing construction documents, contract documents, technical specifications, bidding support, assistance with bid selection, RFI responses, shop drawing reviews, value engineering, construction inspections, and stormwater compliance inspections. Our ability to lead a project from conceptual planning through construction is highly valued by our clients.

Planning and Permitting

Most of our projects require some level of environmental permitting. BH2M has a long history of managing regulatory constraints for municipal projects. Our Staff has a constant dialogue with regulators at the State and Federal Levels. Our environmental and municipal permitting expertise includes:

- Stormwater Management Law
- Site Location of Development (Site Law)
- Maine Construction General Permits
- Natural Resource Protection Act (NRPA)
- Municipal Site Plan, Subdivision, and Conditional Use
- Traffic Movement, Driveway/Entrance, and Utility Location Permits

ATTACHMENT 7
WETLANDS REPORT AND FIRM MAPPING

BH2M

MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

2577

June 24, 2013

Mr. Bill Thompson
BH2M Engineers
28 State Street
Gorham, ME 04038

Re: Wetland Delineation, Eon parcel, Barra Road Biddeford, Maine

Dear Bill,

I completed a delineation of wetlands on the Eon parcel located on Barra Road Biddeford, Maine. The wetland delineation was conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual. This manual requires the presence of three parameters for a wetland to be present, wetland hydrology, hydrophytic vegetation, and hydric soils.

The wetlands I found on the parcel were flagged with yellow pin flags The flags are labeled in an alphanumeric sequence. The wetland flags were located by survey by personnel from your office. The wetland delineation information has been placed on a development concept plan dated March 2013. The wetlands found onsite are wet meadow wetlands. The wetlands found on the parcel are associated with drainage which moves across the parcel from east to west and are adjacent to a stream by not associated with the stream. The wetlands found on the parcel do not meet the definition of wetlands of special significance as defined by Maine Department of Environmental Protection.

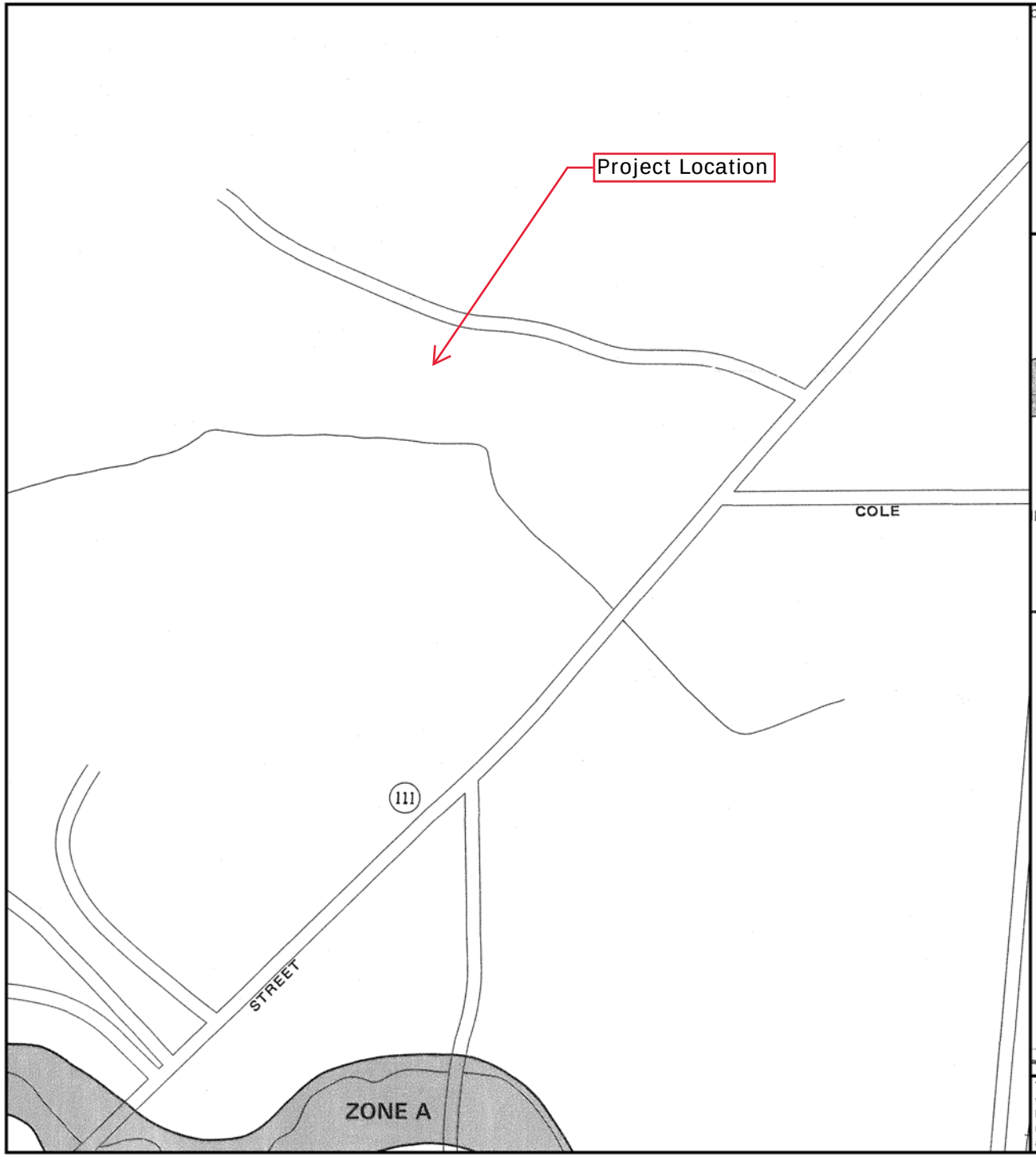
If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263

P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

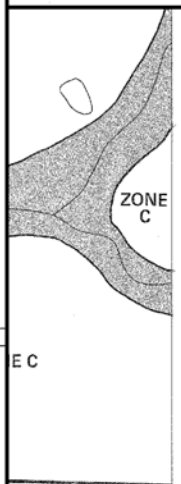
Quality services that meet your deadline



bgram, at (800) 638-6620.

APPROXIMATE SCALE

400 0 400 FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
BIDDEFORD,
MAINE
YORK COUNTY

PANEL 8 OF 11
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230145 0008 B

EFFECTIVE DATE:
MAY 15, 1984

Federal Emergency Management Agency

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

ATTACHMENT 8
MAINE WATER AND CITY ENGINEERING DEPARTMENT LETTERS FOR WATER AND SEWER ABILITY TO SERVICE

BH2M

June 9, 2024

ATTN: Christopher MacDonald, PE
BH2M
380B Main Street
Gorham, ME 04038

Re: Ability to Serve Determination – 25 Barra Road, Biddeford

Greetings,

The Maine Water Company (MWC) has received your request on the behalf of your client, Mike Eon Associates LTD, for an Ability to Serve Determination for the above-referenced project. The request specifies a plan to construct a dental office building and associated utility infrastructure improvements. The expected domestic service demand is 1,000 gallons per day. The expected fire service demand is currently unknown.

Domestic water is available for your project from the existing 12-inch ductile iron main in the Barra Road Right-of-Way to serve the project. Based on the criteria provided by the developer's agent, the expected increase in water usage is within the Biddeford Saco Division of MWC's available system capacity. The static pressure in the area is approximately **60 psi**. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- MWC has the understanding that fire service demand is unknown at this time, are not be included in this request, or accounted for in this Ability to Serve Determination.
- If fire service is required, ap hydrant flow test at the nearest available hydrant will need to be conducted and analyzed by the sprinkler designer to ensure that adequate flows can be met during a peak fire demand event.
- The developer is required to pay for the cost of any modification, renewal of impacted service lines, and retirement of unused or discontinued services to MWC standards of best practice.
- Additional plan approval, paperwork, and fees associated with this project will require proper coordination with MWC. MWC requires upfront payment for inspection and paperwork to be fully completed before any construction on waterworks materials.
- Service lines must comply with MWC Cross Connection Control Program.
- Allow up to 30 days for the MWC utility review process once final plans are ready to be completed before any construction on waterworks materials will be approved.

Should a request for service or completion of the project 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 Patrick.Gere@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Patrick Gere, PE
Project Engineer

The Maine Water Company
93 Industrial Park Road
Saco, ME 04072

T: 1.800.287.1643
www.mainewater.com

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
Residential Use Development
Barra Road

Indian Cliff Development
Main Street
Biddeford, Maine 04005

May 7, 2024

Brief description of project: **Proposed Senior Housing Project off Barra Road, Indian Cliff Development/Avesta Housing, Biddeford, Maine-** Estimated flows: **4622 gpd**.

Determination

The applicant is proposing a senior residential housing development off Barra Road. Based on the information provided in the most recent e-mail received from you, dated May 6, 2024, it is currently projected that the proposed development project will add an additional 4622 gallons per day of flow to the system. The above 4622 gpd flow is part of the modelled total flow of 10,000-GPD for development on Barra Road. (1,000-GPD for the 25 Barra Road dentist office, and 9,000-GPD for his Barra Road developments). Changes to the project from that presented to this department will 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.

The City of Biddeford Wastewater Department has reviewed the request for the ability to serve the above described project. It has been determined that at this time, once the flow reaches the wastewater treatment facility, the City's treatment facility has sufficient capacity to treat the estimated flows from the above described project. However, it should be noted, based on studies performed by the City's engineering consultant, there are sewer and pump station capacity issues in many of the City's sewershed areas that must be addressed in order to allow any additional or new flow into the collection and conveyance system. Such sewer capacity deficits were identified in the Thatcher Brook sewershed resulting from this new development. Upgrades at the Main Street Pump Station will be required to include larger pumps and controls, a new suction line from the wet well, increased wet well capacity, and larger pressure force main piping.

The applicant will not be allowed to send more than 10,000-GPD total to the Thatcher Brook Pump Station without incurring additional infrastructure upgrades (above what upgrades would already be required at the Main Street Pump Station).

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. Final building floor plans shall be submitted at the time of application. 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. No roof drains shall be connected into the sewer system.

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 required 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
Roby Fecteau, Code Enforcement
David Galbraith, City Planner
Alex Buechner, Wastewater Superintendent
Craig Chekan, City Engineer
Mike Eon, Eon Entities

ATTACHMENT 9
SALT MANAGEMENT PLAN

BH2M

SALT MANAGEMENT PLAN

For: 25 Barra Road, a commercial development located at 25 Barra Road Biddeford, Maine

Owner/Responsible Party:

Mike Eon Associates, LTD
260 Main Street
Biddeford, ME 04005
(207) 283-3000 (Tel.)

Purpose

The following Management Plan provides a guide for monitoring and documenting winter salt storage and application as well as snow storage and disposal.

Applicability

Paved driveways and sidewalks for the proposed project at 25 Barra Road.

Responsibility

The owner of the facility will have primary responsibility for ensuring that winter maintenance activities are conducted in accordance with this plan. The owner may elect to subcontract winter maintenance responsibilities. A copy of this plan shall be provided to any subcontractors providing winter maintenance services.

Material Storage, Handling and Application

Minimal salt will be stored onsite. Salt that is stored on site will primarily be used for sidewalk and walkway applications. Salt that is stored onsite will be contained in covered, portable and water tight structures. The structures will be periodically inspected to ensure that they are operating as intended. When the structures show signs of deterioration that limit their effectiveness they will be replaced. Any salt that is spilled during loading and unloading operations will be collected and returned to the salt containment structure.

Plowing of snow in parking areas and removal of snow from walking areas will be completed prior to applying salt. Care will be taken to remove as much snow as possible from these areas prior to application of salt materials or as safety conditions dictate. Application of salt in parking and access drives will primarily be performed mechanically by truck mounted spreaders. Hand spreading of walkway areas will be permitted.

Snow Storage and Disposal

For the majority of the winter storms, plowed snow will be stored onsite. Care will be taken to avoid storage of plowed snow within stormwater management facilities. When accumulated plowed snow exceeds the capacity of the site for storage it will be removed by a subcontractor employed by the owner. The owner and subcontractor shall discuss the selected disposal location at the start of the winter season.

ATTACHMENT 10
STORMWATER MANAGEMENT REPORT

BH2M

STORMWATER MANAGEMENT REPORT

25 BARRA ROAD COMMERCIAL SITE PLAN

25 Barra Road
Biddeford, Maine

Submitted by:

Mike Eon Associates, Ltd.

Prepared by:

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

STATE OF MAINE
AUSTIN G.
FAGAN
No. 16523
LICENSED
PROFESSIONAL ENGINEER

Date:
June 2024

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APPENDIX B SOILS REPORT
APPENDIX C PRE-DEVELOPMENT CALCULATIONS
APPENDIX D POST DEVELOPMENT CALCULATIONS
APPENDIX E INSPECTION AND MAINTENANCE MANUAL

1.0 INTRODUCTION

Mike Eon Associates, Ltd. is proposing to develop a commercial building, proposed as a Dental Practice, with associated parking, grading, utilities, and stormwater management systems (the project) located at 25 Barra Road. The parcel is known as Tax Map 2, Block 43, Lot 10 and is approximately 3.66 acres.

The scope of work includes but is not limited to:

- Clearing and grubbing
- Construction of commercial building
- Construction of a paved parking area
- Construction of 5' paved sidewalk
- Installation of underground electric and communications
- Installation of water and sewer services
- Installation of stormdrain system

The proposed infrastructure improvements will create approximately 19,262 sf (0.44 acres) of new onsite impervious area.

The Stormwater Management Plan has been prepared to satisfy the requirements of the Maine Department of Environmental Protections "Stormwater Management Rules" Chapters 500, 501 and 502 as well as the most recent version of the "Maine Stormwater Best Management Practices Manual".

The Stormwater Management BMP's have also been designed in conformance with the City of Biddeford Land Use Ordinance and Subdivision Regulations.

1.1 OVERVIEW OF MODELING METHODOGY AND SOURCE INFORMATION

Hydrologic Analysis: The pre- and post-development conditions have been modeled using modeling software (Hydrocad Version 10) which is based upon the methodology contained within the USDA Soil Conservation Service Technical Release 55. Type III 24-hour storm distributions for York County were used for the analysis. The following return periods and 24-hour rainfall depths were used for the analysis:

Return Period	24-Hour Rainfall Depth
2-Year Storm	3.30 inches
10-Year Storm	4.90 inches
25-Year Storm	6.20 inches

Soils: The soils used for the stormwater analysis were digitized from the Natural Resource Conservation Service (NRCS), web soil survey website. The source of the data is the York County Soil Survey (Class D). Refer to the following for additional documentation regarding the soils used for modelling:

- Appendix B of this Report
- Pre and Post Development Watershed Plans (Sheets A and B)

The soils include:

Soil Map Unit	Unit Description	Hydrologic Soil Group
BuC	Buxton silt loam, 3-8% slopes	C
LyC	Lyman-Rock outcrop complex, 8-15% slopes	D
Sc	Scantic silt loam, 0-3% slopes	D

*Assumed D

Topography: On ground survey by BH2M

Natural Resources: Wetland delineations performed by Mark Hampton Associates

1.2 DESCRIPTION OF POINTS OF ANALYSIS

The watershed model analyzes the discharge of runoff at one Analysis Point as described below:

Analysis Point #1
Description: Flow to unnamed tributary of Thatcher Brook near the southwest corner of the parcel.
Pre-Development Tributary Drainage Areas: 122,723 sf
Post Development Tributary Drainage Areas: 122,723 sf

1.3 PRE DEVELOPMENT CONDITIONS

The Existing Conditions are shown on Sheet 2 and Sheet A of the accompanying plans. The parcel to be developed encompasses an area of approximately 3.66 acres and is located at 25 Barra Road in Biddeford. The parcel is mostly open field and lies within the Thatcher Brook Watershed.

The watershed that was analyzed for this project is approximately 2.8 acres. The analysis point is described in Section 1.2 of this report. The watershed generally flows from north to southwest across the site.

The Pre-Development Watershed Map is included as Sheet A of the accompanying plans and the Calculations are attached as Appendix C.

The Pre-Development Watershed Model predicts the following peak flow rates:

Pre-Development Peak Flows (cu. ft./sec)			
Analysis Point	**2-Year**	**10-Year**	**25-Year**
AP-1	2.61	5.30	7.65

1.4 POST DEVELOPMENT CONDITIONS

The proposed project will include construction of a proposed paved road intended to support development of a commercial property. Below is a summary of the proposed developed area associated with construction of the infrastructure.

Proposed Impervious Area	=	19,262 sf
Proposed Landscaped Area	=	34,563 sf
Proposed Developed Area	=	53,825 sf

The proposed project will include a soil filter to control the flows created by the proposed drainage system before it enters the existing stream onsite.

The Post Development Watershed Map is included as Sheet B of the accompanying plan set and the Calculations are attached as Appendix D.

The Post-Development Watershed Model predicts the following peak flow rates:

Post Development Peak Flows (cu. ft./sec)			
Analysis Point	**2-Year**	**10-Year**	**25-Year**
AP-1	1.66	4.17	7.63

1.5 BASIC STANDARDS

The proposed project is required to meet the Basic Standards. To meet the Basic Standards the project design must demonstrate that the erosion and sedimentation control, inspection and maintenance, and housekeeping standards specified in Appendices A, B, and C of 06-096 Chapter 500 are met, and that the grading or other

construction activity will not impede or otherwise alter drainageways so as to have an unreasonable adverse impact on a wetland or waterbody, or an adjacent downslope parcel.

The proposed project will provide temporary (during construction) BMP's and post-construction BMP's. Refer to Sheet 4 of the Project Plans for erosion and sedimentation control narratives and details. The project requirements for inspection and maintenance during construction and post-construction are described in the Erosion and Sedimentation Control - Inspection and Maintenance Plan found in Appendix E of this Report. The housekeeping standards can also be found in the Inspection and Maintenance Plan.

1.6 GENERAL STANDARDS

The proposed project is required to meet the General Standards. To meet the general standards, the project design must demonstrate that the stormwater management system includes treatment measures that will provide pollutant removal or treatment and mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms and potential temperature impacts. This must be achieved by providing treatment of no less than 95% of the impervious area and no less than 80% of the developed area.

The stormwater management system includes a grassed underdrained soil filter. The proposed BMP has been designed in accordance with the design requirements outlined in the Maine Stormwater Best Management Practices Manual, Volume III. Below is a summary of the treatment areas associated with the proposed infrastructure. Refer to Appendix F for detailed calculations.

Stormwater Treatment Summary (Linear Project)	
Total Proposed/Allocated Impervious Area	19,262 sf
Total Proposed Developed Area	53,825 sf
Total Treated Impervious Area	19,262 sf
Total Treated Developed Area and Credits	44,046 sf
Impervious Area Treatment %	**100.00% (95% required)**
Developed Area Treatment %	**81.8% (80% required)**

1.7 PHOSPHORUS STANDARD

The proposed project is located in the Thatcher Brook Watershed. The proposed project is not located within the direct watershed of a lake or lake most-at-risk listed in 06-096 Chapter 502. The Phosphorus Standard does not apply to this project.

1.8 URBAN IMPAIRED STREAM STANDARD

The proposed project is located in the Thatcher Brook Watershed. Thatcher Brook is listed in 06-096 Chapter 502 as an Urban Impaired Stream. However, because the project will not create over 3 acres of impervious area or 20 acres of disturbed area, the project is not required by DEP to meet the Urban Impaired Stream Standard, as it does not meet the requirements of Site Location of Development, and is less than 20,000 sf of impervious area, and does not meet the requirements of Stormwater Law.

However, as the project is being proposed in the City of Biddeford, the City does require that the projects within an Urban Impaired Stream Watershed pay into the Compensation Fee Utilization Plan (CFUP) managed by the City, at Maine DEP's prescribed rates, based on Table 1 found in 06-096 CMR 501 3.A.(1).

CFUP Fee Schedule – 25 Barra Road Commercial Development Project			
Type of Surface	**Compensation Fee (per acre)**	**Proposed Area (acres)**	**Compensation Fee**
Non-roof Impervious Area	$12,500	0.33	$4,125
Roof	$5,000	0.11	$550
Landscape Area	$2,500	0.59	$1,475
Total			**$6,150**

1.9 TOWN OF BIDDEFORD PERFORMANCE STANDARDS

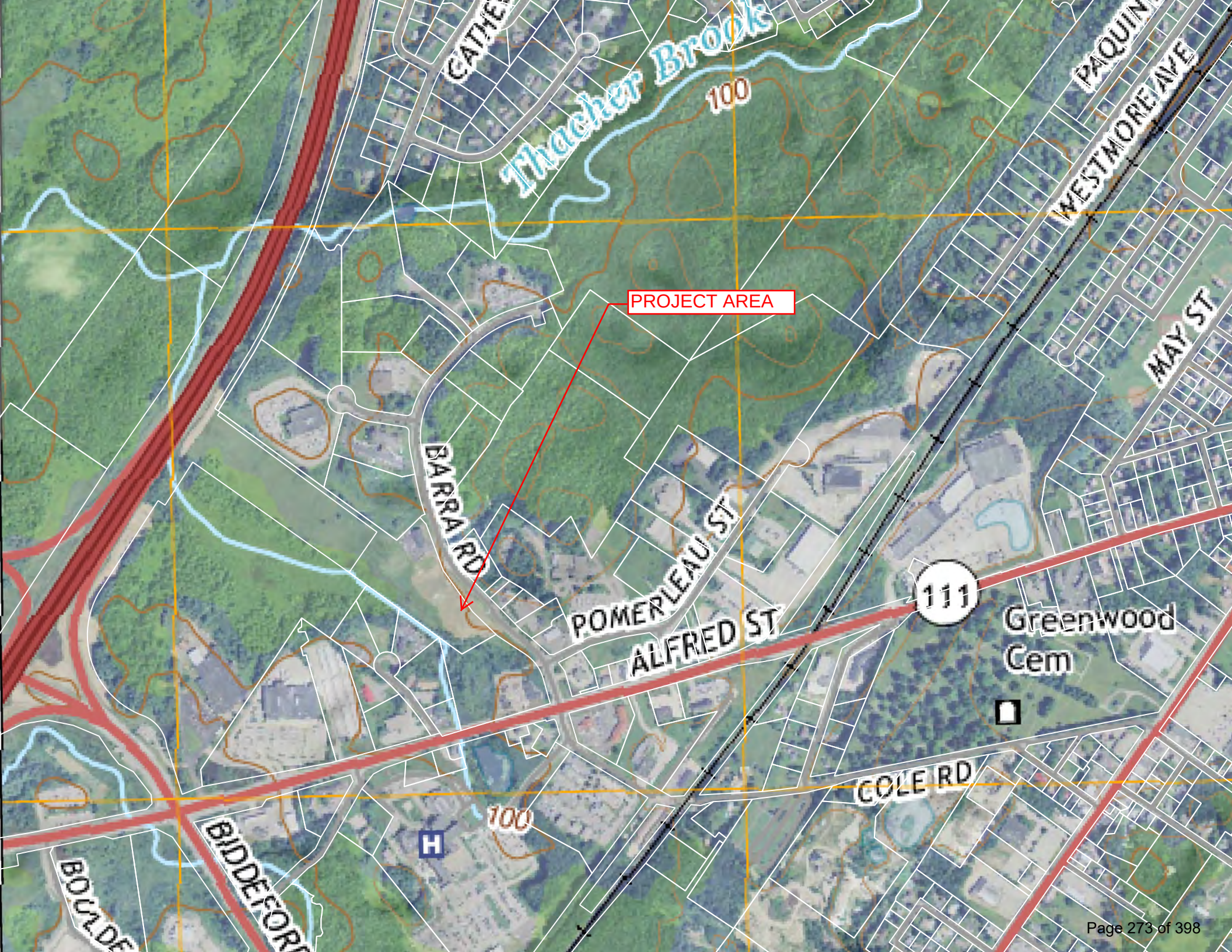
The proposed project is not required to meet the Flooding Standards. However, the City of Biddeford requires that pre- and post-development runoff modelling be evaluated. To meet the Flooding Standard, the project design must demonstrate that the stormwater management systems will accomplish the following:

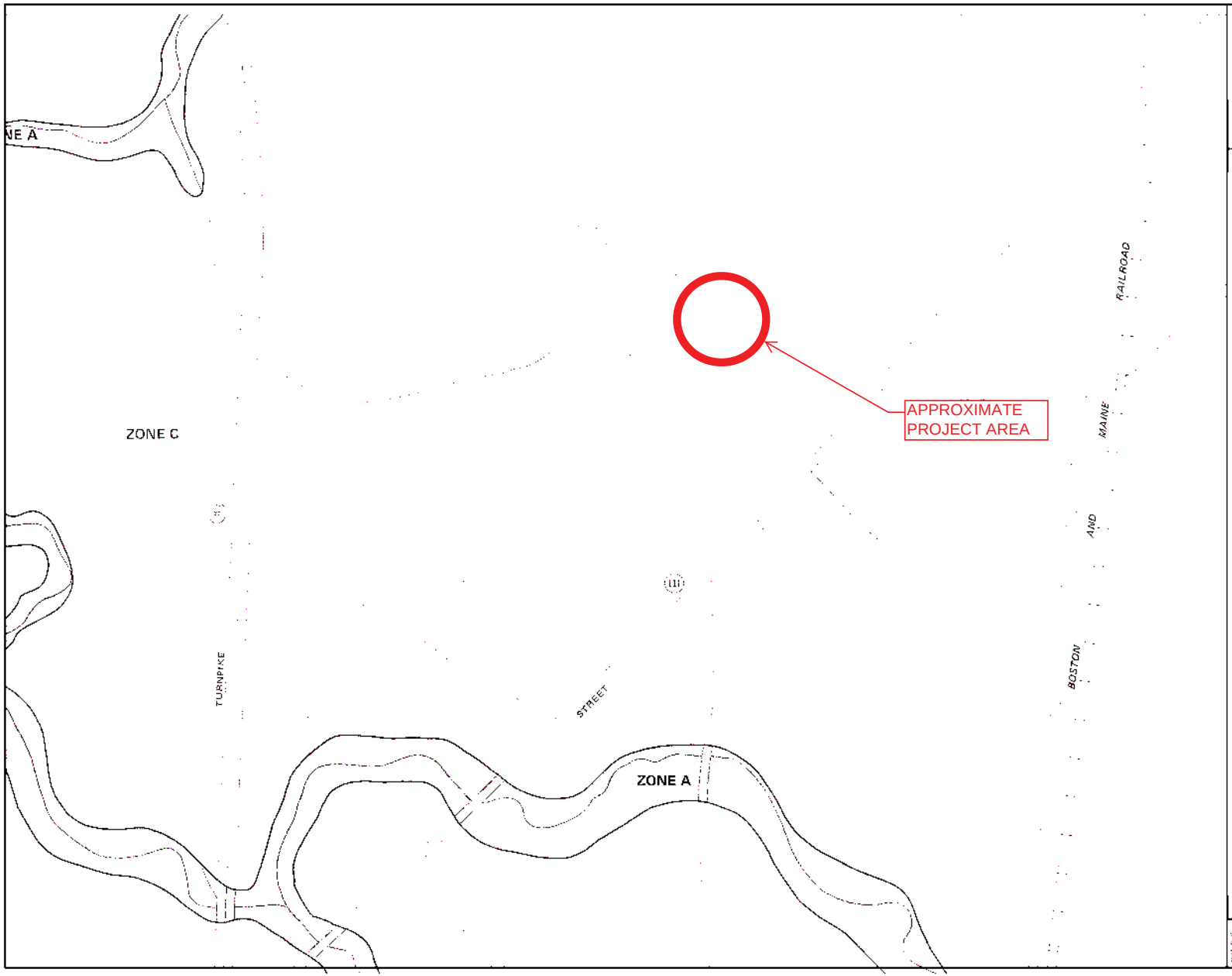
Peak Flow Comparison (cu. ft./sec)						
Analysis Point	**2-Year**		**10-Year**		**25-Year**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
AP-1	2.61	1.66	5.30	4.17	7.65	7.63

1.10 CLOSURE

The proposed stormwater management facilities have been designed to mitigate stormwater impacts associated with development of the proposed project. The proposed stormwater management facilities have been designed to meet the Town of Biddeford Site and Performance Standards.

Appendix A
Figures


PROJECT AREA
Thacher Brook
100
CATHE
PAQUIN
WESTMORE AVE
MAY ST
BARRA RD
POMERLEAU ST
ALFRED ST
111
Greenwood
Cem
COLE RD
100
BIDDEFORD
BOULDE



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
BIDDEFORD,
MAINE
YORK COUNTY

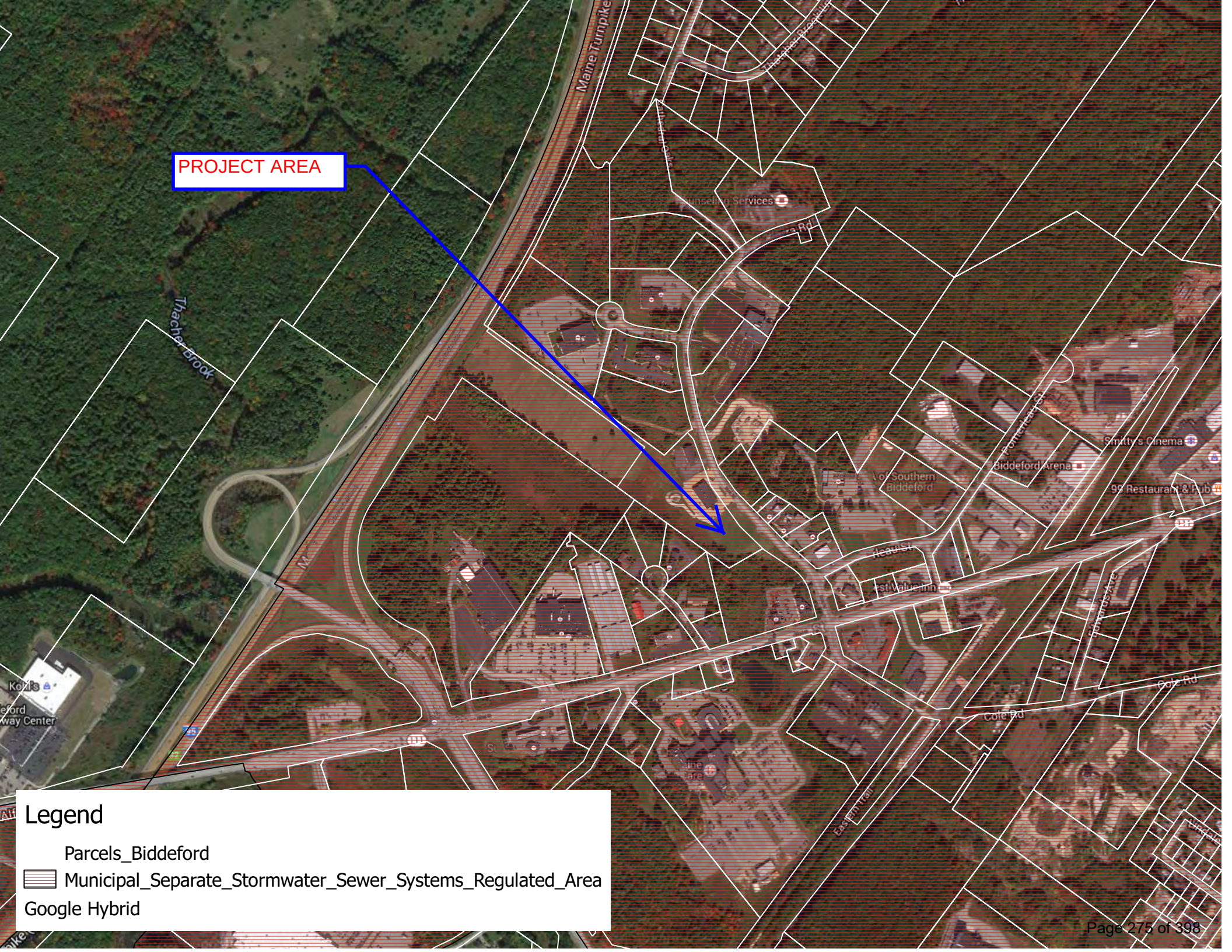
PANEL 8 OF 11
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230145 0008 B

EFFECTIVE DATE:
MAY 15, 1984

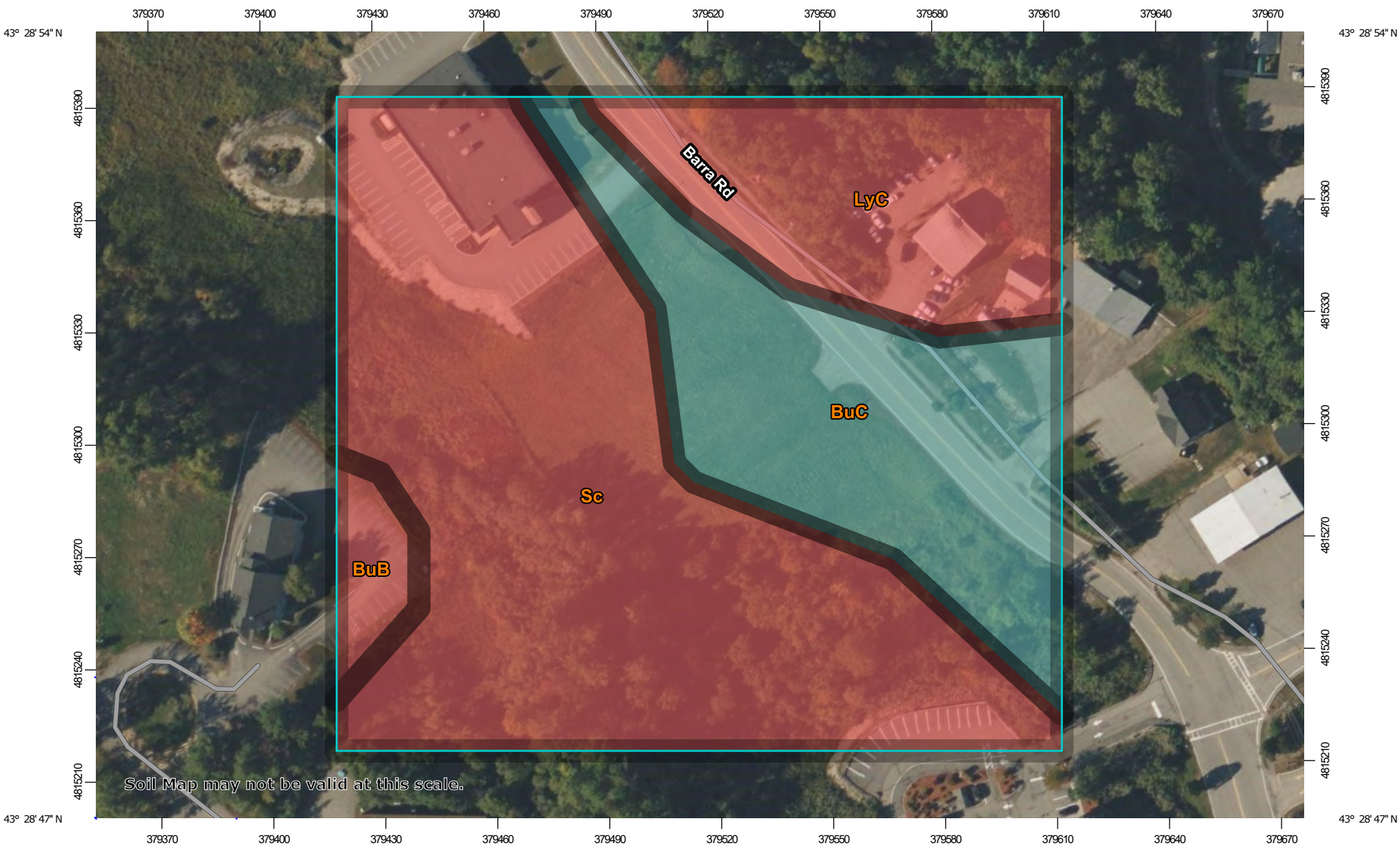
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT Online. 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


PROJECT AREA
Thacher Brook
Maine Turnpike
Counseling Services
Southern Biddeford
Biddeford Arena
Smitty's Cinema
99 Restaurant & Pub
Ideal St
Cole Rd
Eastern Trail
Legend
Parcels_Biddeford
Municipal_Separate_Stormwater_Sewer_Systems_Regulated_Area
Google Hybrid

Appendix B
Soils Report

Hydrologic Soil Group—York County, Maine
(25 Barra Road)



Map Scale: 1:1,480 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

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

Background

Aerial Photography

MAP INFORMATION

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

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 22, Sep 5, 2023

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

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

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Buxton silt loam, 3 to 8 percent slopes	D	0.3	3.0%
BuC	Buxton silt loam, 8 to 15 percent slopes	C	2.1	25.1%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	D	1.5	17.7%
Sc	Scantic silt loam, 0 to 3 percent slopes	D	4.6	54.2%
Totals for Area of Interest			**8.4**	**100.0%**

Description

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

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

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

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

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

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

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

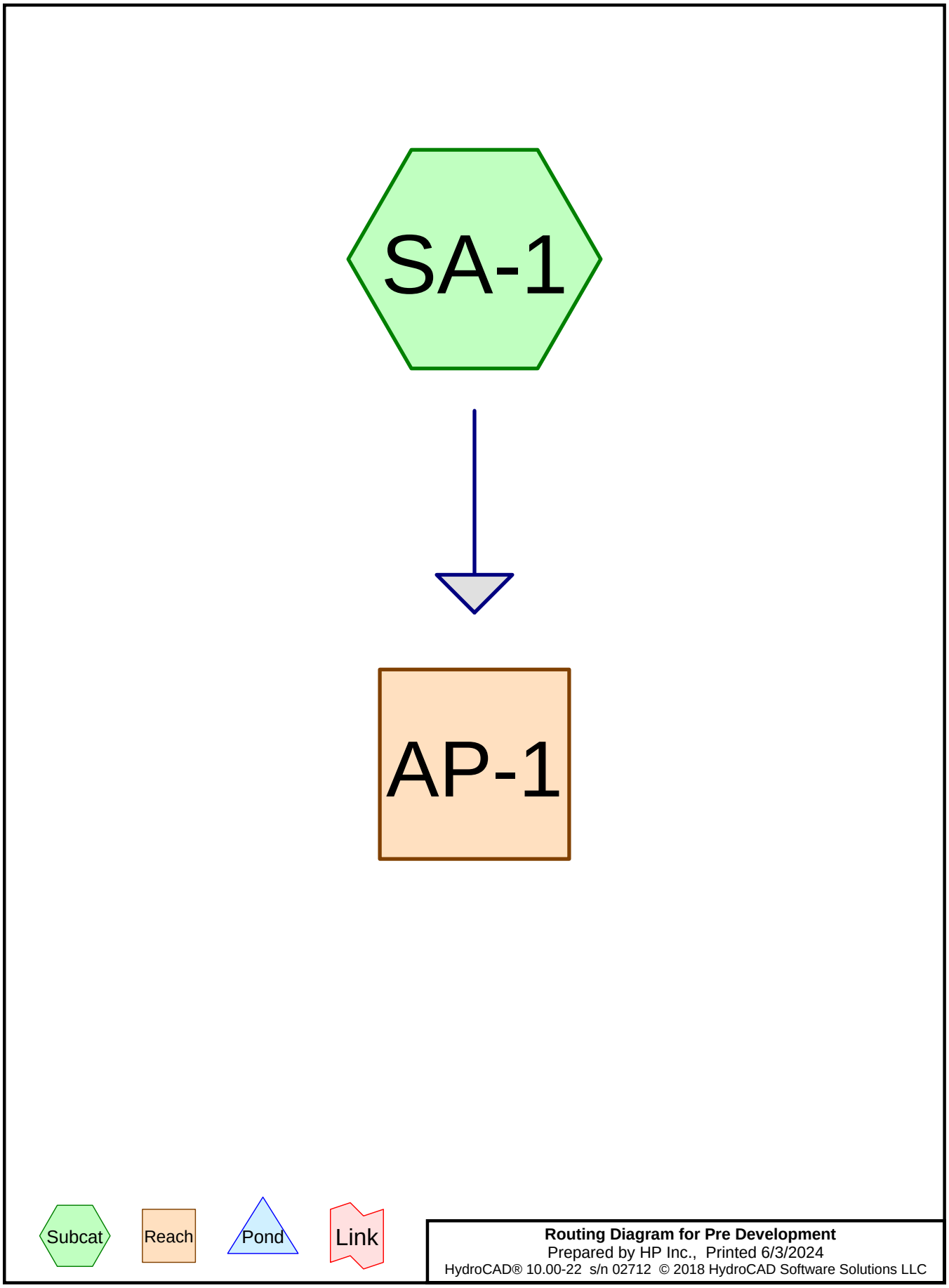
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix C
Pre-Development Calculations


SA-1
AP-1
Subcat
Reach
Pond
Link
Routing Diagram for Pre Development
Prepared by HP Inc., Printed 6/3/2024
HydroCAD® 10.00-22 s/n 02712 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.964	74	>75% Grass cover, Good, HSG C (SA-1)
0.939	80	>75% Grass cover, Good, HSG D (SA-1)
0.044	98	Ex. Curb Cuts (SA-1)
0.871	77	Woods, Good, HSG D (SA-1)
2.817	**77**	**TOTAL AREA**

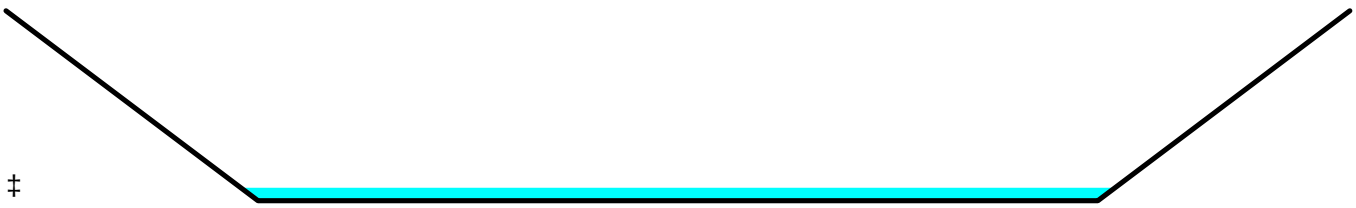
Summary for Reach AP-1:

Inflow Area = 2.817 ac, 1.57% Impervious, Inflow Depth > 1.17" for 2-Year Storm Event event
Inflow = 2.61 cfs @ 12.34 hrs, Volume= 0.275 af
Outflow = 2.60 cfs @ 12.36 hrs, Volume= 0.274 af, Atten= 0%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.93 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 4.5 min

Peak Storage= 279 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'



‡

Summary for Subcatchment SA-1:

Runoff = 2.61 cfs @ 12.34 hrs, Volume= 0.275 af, Depth> 1.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Event Rainfall=3.30"

	Area (sf)	CN	Description
*	1,923	98	Ex. Curb Cuts
	41,974	74	>75% Grass cover, Good, HSG C
	40,898	80	>75% Grass cover, Good, HSG D
	37,928	77	Woods, Good, HSG D
	122,723	77	Weighted Average
	120,800		98.43% Pervious Area
	1,923		1.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
12.4	455	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	605	Total			

Summary for Reach AP-1:

Inflow Area = 2.817 ac, 1.57% Impervious, Inflow Depth > 2.35" for 10-Year Storm Event event
Inflow = 5.30 cfs @ 12.32 hrs, Volume= 0.551 af
Outflow = 5.29 cfs @ 12.34 hrs, Volume= 0.550 af, Atten= 0%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.23 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.45 fps, Avg. Travel Time= 3.7 min

Peak Storage= 431 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'

‡

Summary for Subcatchment SA-1:

Runoff = 5.30 cfs @ 12.32 hrs, Volume= 0.551 af, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Event Rainfall=4.90"

	Area (sf)	CN	Description
*	1,923	98	Ex. Curb Cuts
	41,974	74	>75% Grass cover, Good, HSG C
	40,898	80	>75% Grass cover, Good, HSG D
	37,928	77	Woods, Good, HSG D
	122,723	77	Weighted Average
	120,800		98.43% Pervious Area
	1,923		1.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
12.4	455	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	605	Total			

Summary for Reach AP-1:

Inflow Area = 2.817 ac, 1.57% Impervious, Inflow Depth > 3.40" for 25-Year Storm Event event
Inflow = 7.65 cfs @ 12.32 hrs, Volume= 0.798 af
Outflow = 7.62 cfs @ 12.33 hrs, Volume= 0.796 af, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.41 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 3.4 min

Peak Storage= 541 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'

‡

Summary for Subcatchment SA-1:

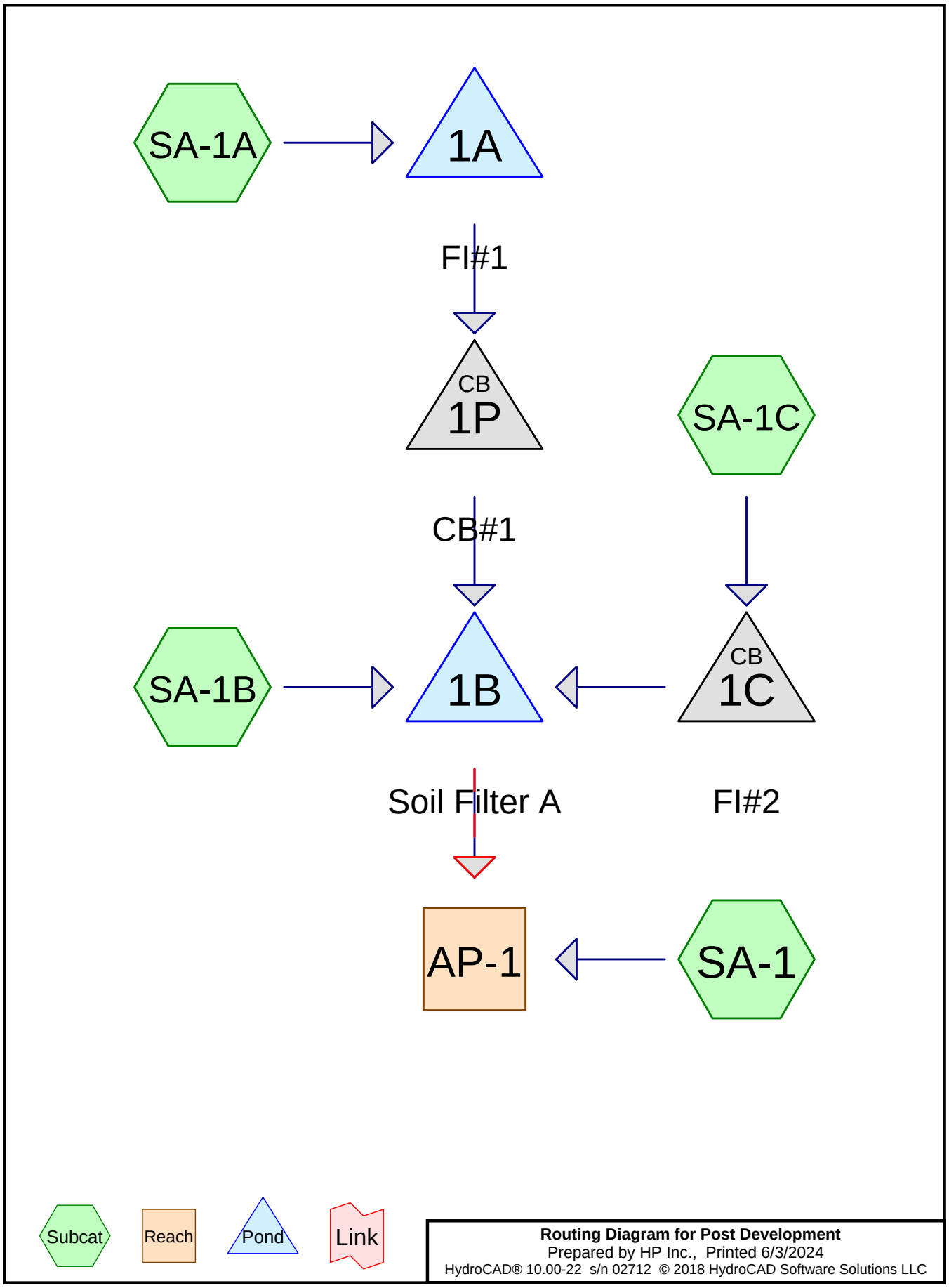
Runoff = 7.65 cfs @ 12.32 hrs, Volume= 0.798 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Event Rainfall=6.20"

	Area (sf)	CN	Description
*	1,923	98	Ex. Curb Cuts
	41,974	74	>75% Grass cover, Good, HSG C
	40,898	80	>75% Grass cover, Good, HSG D
	37,928	77	Woods, Good, HSG D
	122,723	77	Weighted Average
	120,800		98.43% Pervious Area
	1,923		1.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
12.4	455	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	605	Total			

Appendix D
Post Development Calculations


SA-1A
1A
FI#1
CB
1P
SA-1C
CB#1
SA-1B
1B
CB
1C
Soil Filter A
FI#2
AP-1
SA-1
Subcat
Reach
Pond
Link
Routing Diagram for Post Development
Prepared by HP Inc., Printed 6/3/2024
HydroCAD® 10.00-22 s/n 02712 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.330	74	>75% Grass cover, Good, HSG C (SA-1, SA-1B)
0.381	80	>75% Grass cover, Good, HSG D (SA-1, SA-1B)
0.342	74	Proposed Grass (C) (SA-1, SA-1A, SA-1B, SA-1C)
0.452	80	Proposed Grass (D) (SA-1, SA-1A, SA-1B, SA-1C)
0.442	98	Proposed Impervious (SA-1A, SA-1C)
0.871	77	Woods, Good, HSG D (SA-1)
2.817	**80**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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

Pond 1A: FI#1 Peak Elev=103.00' Storage=0 cf Inflow=1.52 cfs 0.107 af
15.0" Round Culvert n=0.012 L=12.0' S=0.0050 '/' Outflow=1.52 cfs 0.107 af

Pond 1B: Soil Filter A Peak Elev=95.70' Storage=5,016 cf Inflow=2.35 cfs 0.162 af
Primary=0.06 cfs 0.049 af Secondary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.049 af

Pond 1C: FI#2 Peak Elev=96.77' Inflow=0.35 cfs 0.024 af
15.0" Round Culvert n=0.012 L=96.0' S=0.0100 '/' Outflow=0.35 cfs 0.024 af

Pond 1P: CB#1 Peak Elev=100.19' Inflow=1.52 cfs 0.107 af
15.0" Round Culvert n=0.012 L=120.0' S=0.0180 '/' Outflow=1.52 cfs 0.107 af

Reach AP-1: Avg. Flow Depth=0.10' Max Vel=0.78 fps Inflow=1.66 cfs 0.219 af
n=0.035 L=100.0' S=0.0070 '/' Capacity=251.92 cfs Outflow=1.66 cfs 0.218 af

Subcatchment SA-1: Runoff Area=75,824 sf 0.00% Impervious Runoff Depth>1.17"
Flow Length=605' Tc=23.1 min CN=77 Runoff=1.61 cfs 0.170 af

Subcatchment SA-1A: Runoff Area=26,223 sf 64.30% Impervious Runoff Depth>2.13"
Flow Length=97' Slope=0.0570 '/' Tc=6.5 min CN=90 Runoff=1.52 cfs 0.107 af

Subcatchment SA-1B: Runoff Area=13,443 sf 0.00% Impervious Runoff Depth>1.24"
Tc=6.0 min CN=78 Runoff=0.47 cfs 0.032 af

Subcatchment SA-1C: Runoff Area=7,233 sf 33.18% Impervious Runoff Depth>1.72"
Tc=6.0 min CN=85 Runoff=0.35 cfs 0.024 af

Total Runoff Area = 2.817 ac Runoff Volume = 0.332 af Average Runoff Depth = 1.42"
84.30% Pervious = 2.375 ac 15.70% Impervious = 0.442 ac

Summary for Reach AP-1:

Inflow Area = 2.817 ac, 15.70% Impervious, Inflow Depth > 0.93" for 2-Year Storm Event event
Inflow = 1.66 cfs @ 12.34 hrs, Volume= 0.219 af
Outflow = 1.66 cfs @ 12.36 hrs, Volume= 0.218 af, Atten= 0%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.78 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.33 fps, Avg. Travel Time= 5.1 min

Peak Storage= 212 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'

‡

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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

Pond 1A: FI#1 Peak Elev=103.00' Storage=0 cf Inflow=2.49 cfs 0.179 af
15.0" Round Culvert n=0.012 L=12.0' S=0.0050 '/' Outflow=2.49 cfs 0.179 af

Pond 1B: Soil Filter A Peak Elev=96.12' Storage=6,296 cf Inflow=4.04 cfs 0.285 af
Primary=0.06 cfs 0.057 af Secondary=1.10 cfs 0.092 af Outflow=1.16 cfs 0.148 af

Pond 1C: FI#2 Peak Elev=96.87' Inflow=0.62 cfs 0.043 af
15.0" Round Culvert n=0.012 L=96.0' S=0.0100 '/' Outflow=0.62 cfs 0.043 af

Pond 1P: CB#1 Peak Elev=100.38' Inflow=2.49 cfs 0.179 af
15.0" Round Culvert n=0.012 L=120.0' S=0.0180 '/' Outflow=2.49 cfs 0.179 af

Reach AP-1: Avg. Flow Depth=0.18' Max Vel=1.11 fps Inflow=4.17 cfs 0.489 af
n=0.035 L=100.0' S=0.0070 '/' Capacity=251.92 cfs Outflow=4.16 cfs 0.488 af

Subcatchment SA-1: Runoff Area=75,824 sf 0.00% Impervious Runoff Depth>2.35"
Flow Length=605' Tc=23.1 min CN=77 Runoff=3.28 cfs 0.341 af

Subcatchment SA-1A: Runoff Area=26,223 sf 64.30% Impervious Runoff Depth>3.57"
Flow Length=97' Slope=0.0570 '/' Tc=6.5 min CN=90 Runoff=2.49 cfs 0.179 af

Subcatchment SA-1B: Runoff Area=13,443 sf 0.00% Impervious Runoff Depth>2.45"
Tc=6.0 min CN=78 Runoff=0.93 cfs 0.063 af

Subcatchment SA-1C: Runoff Area=7,233 sf 33.18% Impervious Runoff Depth>3.08"
Tc=6.0 min CN=85 Runoff=0.62 cfs 0.043 af

Total Runoff Area = 2.817 ac Runoff Volume = 0.625 af Average Runoff Depth = 2.66"
84.30% Pervious = 2.375 ac 15.70% Impervious = 0.442 ac

Summary for Reach AP-1:

Inflow Area = 2.817 ac, 15.70% Impervious, Inflow Depth > 2.08" for 10-Year Storm Event event
Inflow = 4.17 cfs @ 12.41 hrs, Volume= 0.489 af
Outflow = 4.16 cfs @ 12.42 hrs, Volume= 0.488 af, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.11 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.40 fps, Avg. Travel Time= 4.2 min

Peak Storage= 373 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'

‡

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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

Pond 1A: FI#1 Peak Elev=103.00' Storage=0 cf Inflow=3.27 cfs 0.239 af
15.0" Round Culvert n=0.012 L=12.0' S=0.0050 '/' Outflow=3.27 cfs 0.239 af

Pond 1B: Soil Filter A Peak Elev=96.26' Storage=6,747 cf Inflow=5.43 cfs 0.388 af
Primary=0.06 cfs 0.060 af Secondary=3.49 cfs 0.191 af Outflow=3.55 cfs 0.251 af

Pond 1C: FI#2 Peak Elev=96.93' Inflow=0.84 cfs 0.059 af
15.0" Round Culvert n=0.012 L=96.0' S=0.0100 '/' Outflow=0.84 cfs 0.059 af

Pond 1P: CB#1 Peak Elev=100.53' Inflow=3.27 cfs 0.239 af
15.0" Round Culvert n=0.012 L=120.0' S=0.0180 '/' Outflow=3.27 cfs 0.239 af

Reach AP-1: Avg. Flow Depth=0.26' Max Vel=1.41 fps Inflow=7.63 cfs 0.744 af
n=0.035 L=100.0' S=0.0070 '/' Capacity=251.92 cfs Outflow=7.63 cfs 0.743 af

Subcatchment SA-1: Runoff Area=75,824 sf 0.00% Impervious Runoff Depth>3.40"
Flow Length=605' Tc=23.1 min CN=77 Runoff=4.72 cfs 0.493 af

Subcatchment SA-1A: Runoff Area=26,223 sf 64.30% Impervious Runoff Depth>4.76"
Flow Length=97' Slope=0.0570 '/' Tc=6.5 min CN=90 Runoff=3.27 cfs 0.239 af

Subcatchment SA-1B: Runoff Area=13,443 sf 0.00% Impervious Runoff Depth>3.52"
Tc=6.0 min CN=78 Runoff=1.33 cfs 0.090 af

Subcatchment SA-1C: Runoff Area=7,233 sf 33.18% Impervious Runoff Depth>4.23"
Tc=6.0 min CN=85 Runoff=0.84 cfs 0.059 af

Total Runoff Area = 2.817 ac Runoff Volume = 0.881 af Average Runoff Depth = 3.75"
84.30% Pervious = 2.375 ac 15.70% Impervious = 0.442 ac

Summary for Pond 1A: FI#1

Inflow Area = 0.602 ac, 64.30% Impervious, Inflow Depth > 4.76" for 25-Year Storm Event event
Inflow = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af
Outflow = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 103.00' @ 5.00 hrs Surf.Area= 1,428 sf Storage= 0 cf
Flood Elev= 104.50' Surf.Area= 2,592 sf Storage= 3,005 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	3,005 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	1,428	0	0
104.00	2,190	1,809	1,809
104.50	2,592	1,196	3,005

Device	Routing	Invert	Outlet Devices
#1	Primary	99.75'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 99.75' / 99.69' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=103.00' TW=100.52' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 9.30 cfs potential flow)

Summary for Pond 1B: Soil Filter A

Inflow Area = 1.077 ac, 41.07% Impervious, Inflow Depth > 4.32" for 25-Year Storm Event event
Inflow = 5.43 cfs @ 12.09 hrs, Volume= 0.388 af
Outflow = 3.55 cfs @ 12.21 hrs, Volume= 0.251 af, Atten= 35%, Lag= 6.9 min
Primary = 0.06 cfs @ 12.21 hrs, Volume= 0.060 af
Secondary = 3.49 cfs @ 12.21 hrs, Volume= 0.191 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.26' @ 12.21 hrs Surf.Area= 3,339 sf Storage= 6,747 cf
Flood Elev= 97.50' Surf.Area= 3,951 sf Storage= 9,456 cf

Plug-Flow detention time= 117.5 min calculated for 0.251 af (65% of inflow)
Center-of-Mass det. time= 46.7 min (810.8 - 764.1)

Volume	Invert	Avail.Storage	Storage Description
#1	93.50'	9,456 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.50	1,583	0	0
94.00	1,938	880	880
95.00	2,504	2,221	3,101
96.00	3,127	2,816	5,917
97.00	3,951	3,539	9,456

Device	Routing	Invert	Outlet Devices
#1	Primary	91.00'	**15.0" Round Culvert** L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.00' / 90.83' S= 0.0049 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	91.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#3	Secondary	96.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.06 cfs @ 12.21 hrs HW=96.25' TW=87.26' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.06 cfs of 12.71 cfs potential flow)
└─**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.99 fps)

Secondary OutFlow Max=3.41 cfs @ 12.21 hrs HW=96.25' TW=87.26' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 3.41 cfs @ 1.35 fps)

Summary for Pond 1C: FI#2

Inflow Area = 0.166 ac, 33.18% Impervious, Inflow Depth > 4.23" for 25-Year Storm Event event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.059 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.93' @ 12.09 hrs
Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	96.50'	**15.0" Round Culvert** L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 96.50' / 95.54' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.82 cfs @ 12.09 hrs HW=96.93' TW=95.96' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.82 cfs @ 2.22 fps)

Summary for Pond 1P: CB#1

Inflow Area = 0.602 ac, 64.30% Impervious, Inflow Depth > 4.76" for 25-Year Storm Event event
Inflow = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af
Outflow = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.53' @ 12.09 hrs
Flood Elev= 104.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	99.59'	**15.0" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 99.59' / 97.43' S= 0.0180 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=3.22 cfs @ 12.09 hrs HW=100.52' TW=95.99' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.22 cfs @ 3.29 fps)

Summary for Reach AP-1:

Inflow Area = 2.817 ac, 15.70% Impervious, Inflow Depth > 3.17" for 25-Year Storm Event event
Inflow = 7.63 cfs @ 12.25 hrs, Volume= 0.744 af
Outflow = 7.63 cfs @ 12.26 hrs, Volume= 0.743 af, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.41 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 3.8 min

Peak Storage= 541 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 2.00' Flow Area= 52.0 sf, Capacity= 251.92 cfs

20.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 3.0 '/' Top Width= 32.00'
Length= 100.0' Slope= 0.0070 '/'
Inlet Invert= 87.00', Outlet Invert= 86.30'

‡

Summary for Subcatchment SA-1:

Runoff = 4.72 cfs @ 12.32 hrs, Volume= 0.493 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Event Rainfall=6.20"

	Area (sf)	CN	Description
*	3,338	74	Proposed Grass (C)
*	6,441	80	Proposed Grass (D)
	13,056	74	>75% Grass cover, Good, HSG C
	15,061	80	>75% Grass cover, Good, HSG D
	37,928	77	Woods, Good, HSG D
	75,824	77	Weighted Average
	75,824		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
12.4	455	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	605	Total			

Summary for Subcatchment SA-1A:

Runoff = 3.27 cfs @ 12.09 hrs, Volume= 0.239 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Event Rainfall=6.20"

	Area (sf)	CN	Description
*	16,862	98	Proposed Impervious
*	8,606	74	Proposed Grass (C)
*	755	80	Proposed Grass (D)
	26,223	90	Weighted Average
	9,361		35.70% Pervious Area
	16,862		64.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	97	0.0570	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"

Summary for Subcatchment SA-1B:

Runoff = 1.33 cfs @ 12.09 hrs, Volume= 0.090 af, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Event Rainfall=6.20"

	Area (sf)	CN	Description
*	2,210	74	Proposed Grass (C)
*	8,380	80	Proposed Grass (D)
	1,328	74	>75% Grass cover, Good, HSG C
	1,525	80	>75% Grass cover, Good, HSG D
	13,443	78	Weighted Average
	13,443		100.00% Pervious Area

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

Summary for Subcatchment SA-1C:

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.059 af, Depth> 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Event Rainfall=6.20"

	Area (sf)	CN	Description
*	2,400	98	Proposed Impervious
*	738	74	Proposed Grass (C)
*	4,095	80	Proposed Grass (D)
	7,233	85	Weighted Average
	4,833		66.82% Pervious Area
	2,400		33.18% Impervious Area

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

Appendix E
Inspection and Maintenance Manual

EROSION AND SEDIMENTATION CONTROL

INSPECTION AND MAINTENANCE PLAN

25 Barra Road
Biddeford, Maine

Submitted by:

Mike Eon Associates, LTD.

Prepared by:

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

STATE OF MAINE
AUSTIN G.
FAGAN
No. 16523
LICENSED
PROFESSIONAL ENGINEER

Date:
June 2024

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LIST OF APPENDICES

APPENDIX A Plans
APPENDIX B Construction Inspection Forms
APPENDIX C Post-Construction Inspection Forms
APPENDIX D Inspection Frequency Checklist and Long-Term Inspection & Maintenance Plan

1.0 INTRODUCTION

The intent of this plan is to establish inspection and maintenance procedures to be implemented for erosion and sediment control best management practices (BMP's) during construction, as well as for post-construction stormwater BMP's, for the Commercial Site Plan for Mike Eon Associates, LTD. This plan has been prepared in conformance with the requirements set forth in 06-096 Chapter 500 – Stormwater Management, and the City of Biddeford Post-Construction Stormwater Management requirements.

1.1 PROJECT DESCRIPTION

Mike Eon Associates, LTD. is proposing to develop a commercial building with associated parking located at Tax Map 2, Block 43, Lot 10 (the project). The Project is proposed to occupy approximately 3.66 acres on a parcel located at 25 Barra Road.

The scope of work includes but is not limited to:

- Clearing and grubbing
- Construction of commercial building
- Construction of a paved parking area
- Construction of 5' paved sidewalk
- Installation of underground electric and communications
- Installation of water and sewer services
- Installation of stormdrain system

1.2 REQUIRED PERMITS

The following is a list of Municipal, State, and Federal permits that are required for the Project:

Municipal
Biddeford Site Plan Permit

State of Maine
None

Federal
None

1.3 REFERENCES

This plan has been developed in accordance with the following:

- Stormwater Management Law 38 M.R.S. §420-C and §420-D
  http://legislature.maine.gov/statutes/38/title38sec420-C.html
  http://legislature.maine.gov/statutes/38/title38sec420-D.html

- 06-096 Chapter 500 – Stormwater Management
  http://www.maine.gov/sos/cec/rules/06/096/096c500.docx

- General Permit – Construction Activity
  Maine Pollutant Discharge Elimination System (MPDES)
  https://www.maine.gov/dep/land/stormwater/construction.html

- Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers
  https://www.maine.gov/dep/land/erosion/escbmps/esc_bmp_engineers.pdf

- Maine Erosion and Sediment Control Practices Field Guide for Contractors
  https://www.maine.gov/dep/land/erosion/escbmps/esc_bmp_field.pdf

- MaineDOT Best Management Practices for Erosion and Sedimentation Control
  https://www.maine.gov/mdot/env/documents/bmp/BMP2008full.pdf

1.4 RESPONSIBLE PARTIES

Preparer/Design Engineer:	Austin G. Fagan PE BH2M 380B Main Street Gorham, ME 04038 (207) 839-2771
Developer/Applicant:	Mike Eon Associates, LTD. 260 Main Street Biddeford, ME
Site Contractor:	_____ _____ _____ _____
Owner:	Mike Eon Associates, LTD. 260 Main Street Biddeford, ME
Post Construction Stormwater Inspector:	Christopher MacDonald, PE BH2M 380B Main Street Gorham, ME 04038 (207) 839-2771
Stormwater Maintenance:	
During Construction:	Mike Eon Associates, LTD. 260 Main Street Biddeford, ME
Post Construction:	_____ _____ _____

During construction, the Developer/Applicant or their representatives will be responsible for implementing the erosion and sediment control BMP's as well routine inspections and maintenance of the BMP's.

Post-construction stormwater BMP inspection, maintenance, reporting, and required recertifications will be the responsibility of the property owner.

1.5 INSPECTION AND MAINTENANCE – DURING CONSTRUCTION

Anyone who conducts or directs an activity that involves exposing, filling or displacing soil or other earthen materials should take appropriate measures to prevent erosion and the loss of sediment beyond the project site or into a sensitive resource. Erosion and sediment control measures should be in place before the activity begins and should remain functional until the site is permanently stabilized. All measures should remain effective until all areas are permanently stabilized. Any disturbed area should be regularly inspected until the site is fully stabilized with either 90% grass cover or a permanent impervious surface such as pavement. A person who has the knowledge of erosion and sediment control measures and of stormwater management practices should inspect the site at a minimum once a week, and before and after a storm event. Any failing measure should be repaired or modified to adequately stabilize the site prior to the next storm event or no later than 7 calendar days. The inspection frequency table found in Appendix D shall be used as a guide for inspecting each specific BMP. The inspection form found in Appendix B shall be used to record the inspection, its outcome, and the required maintenance.

Refer to the Plans found in Appendix A for additional erosion and sediment control details and narratives.

General Inspection, Maintenance, and Documentation Requirements

1. Inspection and corrective action: Inspect disturbed and impervious areas, erosion control measures, and material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. Maintenance: If BMP's need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event. All measures must be maintained in effective operating condition until areas are permanently stabilized.

3. Documentation: Maintain a binder with construction inspection forms summarizing the inspections and any corrective action taken. The forms must include the name and qualifications of the person making the inspections, the date of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Refer to Appendix B for the construction inspection form.

Major observations must include BMP's that need maintenance, BMP's 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 inspection form what corrective action was taken and when it was taken. The owner shall retain a copy of the inspection forms for a period of at least five years from the completion of permanent stabilization.

Site-Specific BMP's

Refer to Appendix D for inspection and maintenance requirements and frequencies of site-specific BMP's. Refer to the Plans found in Appendix A for narratives and details of the site-specific BMP's. The following is a list of the site-specific BMP's that will require routine inspection and maintenance:

- Sedimentation Barriers (Silt Fence or Erosions Control Mix Berm)
- Stabilized Construction Entrance
- Construction Limit Barrier Fence
- Stone Check Dam
- Temporary Sediment Trap
- Temporary Grass/Stone Lined Swale
- Roadways
- Snow Storage Areas
- Sediment Forebays
- Pipe Outlets
- Grassed Underdrained Soil Filter

Winter Construction

Winter construction is any construction activity performed during the period from November 1 through April 15. If disturbed areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by additional measures and restrictions.

1. Site Stabilization: For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.

2. Sediment Barriers: All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

3. Ditches: All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by Maine DEP.

4. Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes.

   Refer to the Plans contained in Appendix A for additional winter construction erosion and sediment control requirements.

1.6 INSPECTION AND MAINTENANCE – POST-CONSTRUCTION

The long-term operation and maintenance of a stormwater management system is as critical to its performance as its design and construction. Proper operation and maintenance practices ensure that stormwater BMP's continue to improve water quality by removing pollutants effectively over the long-term and decreasing the risk of re-suspending sediment. Without proper maintenance, BMPs are likely to fail and will no longer provide treatment of stormwater. The following includes a summary of the inspection, maintenance, and documentation requirements for post-construction stormwater BMP's.

Refer to the Plans contained in Appendix A for details and locations of site-specific post-construction BMP's.

General Inspection, Maintenance, and Documentation Requirements

1. Inspection and maintenance: All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   a) Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after significant rainfall events (1 inch in 24-hour period) 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) Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after significant rainfall events (1 inch in 24-hour period) to remove any obstructions to flow, remove accumulated sediments and debris,

to control vegetated growth that could obstruct flow, and to 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 on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

c) Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

d) Inspect at least once per year, each underdrained soil filter, including the filter embankments, vegetation, underdrain piping, and overflow spillway. Remove and dispose of accumulated sediments in the filter. If needed, rehabilitate any clogged surface linings, and flush underdrain piping.

2. Regular maintenance

   1. 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. Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder. If water bars or open-top culverts are used to divert runoff from road surfaces, clean-out any sediments within or at the outlet of these structures to restore their function.

3. Documentation: Maintain a binder of inspection forms summarizing inspection, maintenance, and any corrective actions taken. The inspection forms must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. Refer to Appendix C for inspection forms. If a maintenance task requires the clean-out of any sediments or debris,

indicate where the sediment and debris was disposed of after removal. The log must be made accessible to Department staff and a copy provided to the Department upon request. The Owner shall retain a copy of the logs for a period of at least five years from the completion of permanent stabilization.

4. The site-specific post-construction BMP's for the project include the following:

   - Vegetated swales
   - Roadways and shoulders
   - Storm Drain System
   - Snow storage areas
   - Rip rap inlet and outlet aprons
   - Sediment forebay
   - Pipe outlets
   - Grassed Underdrained Soil Filter

1.7 HOUSEKEEPING

The following performance standards shall apply:

1. Spill prevention: Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop and implement as necessary appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at : http://www.maine.gov/dep/spills/emergspillresp/

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.

See 06-096 Chapter 500 - Appendix D for license by rule standards for infiltration of stormwater.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

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 (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately, 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.

NOTE: Take care in sourcing water. Dewatering a stream without a permit from the Department may violate state water quality standards and the *Natural Resources Protection Act*.

4. Debris and other materials: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post- construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste

management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

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.

NOTE: Dewatering controls are discussed in the "Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection."

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:

   a) Discharges from firefighting activity;
   b) Fire hydrant flushings;
   c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
   d) Dust control runoff in accordance with permit conditions;
   e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
   f) 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;
   g) Uncontaminated air conditioning or compressor condensate;
   h) Uncontaminated groundwater or spring water;
   i) Foundation or footer drain-water where flows are not contaminated;
   j) Uncontaminated excavation dewatering;
   k) Potable water sources including waterline flushings; and
   l) Landscape irrigation.

7. Unauthorized non-stormwater discharges: The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with 06-096 Chapter 500 - Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:
   a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
   b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
   c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
   d) Toxic or hazardous substances from a spill or other release.

8. Additional requirements: Additional requirements may be applied on a site-specific basis.

Appendix A
Plans

Appendix B
Construction Inspection Forms

CONSTRUCTION INSPECTION FORM FOR EROSION AND SEDIMENT CONTROL					
General Information:					
Site Name:	Date:		Inspected by:		
Owner:					
Retained 3PI:	Last Rain Date:			Amount:	
Reason for Inspection:	Weekly	Winter	Final	Rain Event	Complaint
Description of disturbed area:					
Photos:					

	YES/NO/NA	COMMENTS
1. Is an Erosion and Sediment Control Plan available?		
ESC plan on-site and followed		
Other:		
2. Are all erosion control practices installed properly, maintained and functioning?		
Disturbed areas stable		
Concentrated flow inlet/outlet protection		
All areas at final grade		
Disturbed dormant areas stabilized		
Access roads and parking		
Hillsides and stockpiles		
Other:		
3. Are all sedimentation control practices installed properly, maintained and functioning?		
Construction entrance		
Sedimentation basins/traps/diversions		
Perimeter controls		
Check dams		
Other:		
4. Is maintenance of ESC measures, construction activities and housekeeping kept-up?		
Sedimentation/erosion in ditches		
Tracked Sediment or dust at exits		
Hazardous material storage and spill control practices		
Waste management (concrete, hazardous material, etc.)		
Other:		
5. Violation, Corrective Actions, Recommendations		
Sediment discharged from site?		
Corrective action required?		
Site compliant with all permits?		
Notice of violation or stop work order issued?		
Comments/Corrective Actions (complete corrective actions before the next rain event and within 7 day)		

Appendix C
Post-Construction Inspection Forms

Barra Road Commercial Site Plan Project **Post-Construction Inspection Form (Ditches, Swales and Open Stormwater Channels)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition/recent maintenance performed:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
Obstructions, sediment or debris noticeable in ditch line?		
Mowing required?		
Woody vegetation apparent in ditches?		
Side slopes stable? Signs of slumping?		
Rip rap stable? Underlying filter fabric visible?		

Additional Comments:

Barra Road Commercial Site Plan Project **Post-Construction Inspection Form (Roadway and Parking Areas)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition/recent maintenance performed:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
Winter sand accumulation apparent?		
Pavement Sweeping required?		
Gravel shoulders graded appropriately?		
Gravel road grading required?		
Low spots causing puddling?		

Additional Comments:

Barra Road Commercial Site Plan Project **Post-Construction Inspection Form (Storm Drain System including catch basins and culverts)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition/recent maintenance performed:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
Accumulated debris or sediment at inlet, outlet, or within culvert/storm drain?		
Flow obstructions present?		
Erosion apparent at culvert inlet/outlet?		
Accumulated debris around catch basin grate?		
Accumulated debris in catch basin sump?		
Floating debris or oils found in catch basins?		

Additional Comments:

Barra Road Commercial Site Plan Project **Post-Construction Inspection Form (Underdrain Filter)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition/recent maintenance performed:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
Debris apparent in basin bottom?		
Vegetation established in basin bottom?		
Basin draining within 72 hours?		
Inlet forebay rip rap stable and free of debris?		
Embankment and side slopes stable? Sloughs or unvegetated areas apparent?		
Outlet free of debris? Rip rap stable?		
Valve in operating condition?		
Outlet control structure operational free of debris?		
Orifice free of debris and operational?		
Additional Comments:		

Barra Road Commercial Site Plan Project **Post-Construction Inspection Form (Vegetated Area)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition/recent maintenance performed:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
All slopes and embankments well vegetated? Signs of sparse growth?		
Rill erosion apparent in vegetated areas?		
Downs slope of level spreaders/ditch turnouts stable?		
Mowing of vegetated areas appropriate?		

Additional Comments:

Appendix D

Inspection Frequency Checklist and Long-Term Inspection & Maintenance Plan

EROSION AND SEDIMENT CONTROL MEASURES AND ACTIVITY	INSPECTION FREQUENCY		
	Weekly	Before and After a Storm	After Construction
SEDIMENT BARRIERS			
Sediment barriers are installed prior to soil disturbances	X	X	
Silt fences are keyed in and tight	X	X	
Barriers are repaired and replaced as necessary	X	X	
Barriers are removed when the site is stabilized - Silt fence should be cut at the ground surface			X
TEMPORARY STABILIZATION			
Areas are stabilized if idle for 14 days or more	X	X	
Daily stabilization within 100 ft of a natural resource	X	X	
MULCH			
Seed and mulch within 7 days of final grading. Ground is not visible	X	X	
Erosion control mix is 4-6 inch thick	X	X	
Erosion control blankets or hay mulch are anchored	X	X	
VEGETATION			
Vegetation provides 90% soil cover	X		X
Loam or soil amendment were provided	X		X
New seeded areas are mulched and protected from vehicle, foot traffic and runoff	X	X	X
Areas that will remain unworked for more than 1 year are vegetated with grass	X		
SLOPES AND EMBANKMENTS			
Final graded slopes and embankments are stabilized	X	X	X
Diversions are provided for areas with rill erosion	X	X	X
Areas steeper than 2:1 are riprapped	X		
Stones are angular, durable and various in size	X		
Riprap is underlain with a gravel layer or filter fabric	X		
STORMWATER CHANNELS AND CULVERTS			
Ditches and swales are permanently stabilized–channels that will be riprapped have been over-excavated	X	X	X
Ditches are clear of obstructions, accumulated sediments or debris	X	X	X
Ditch lining/bottoms are free of erosion	X	X	X
Check dams are spaced correctly to slow flow velocity	X		
Underlying filter fabric or gravel is not visible	X	X	X
Culvert aprons and plunge pools are sized for expected flows volume and velocity	X		
Stones are angular, durable and various in size	X		
Culverts are sized to avoid upgradient flooding	X	X	
Culvert protection extends to the maximum flow elevation within the ditch	X	X	X
Culvert is embedded, not hanging	X	X	X

CATCH BASIN SYSTEMS			
Catch basins are built properly	X		
Accumulated sediments and debris are removed from sump, grate and collection area		X	X
Floating debris and floating oils are removed from trap			X
ROADWAYS AND PARKING SURFACES			
The gravel pad at the construction entrance is clear from sediments	X	X	
Roads are crowned		X	X
Cross drainage (culvert) is provided	X		
False ditches (from winter sand) are graded		X	X
BUFFERS			
Buffers are free of erosion or concentrated flows		X	X
The downgradient of spreaders and turnouts is stable		X	X
Level spreaders are on the contour			X
The number of spreaders and ditch turnouts is adequate for flow distribution		X	X
Any sediment accumulation is removed from within spreader or turnouts		X	X
STORMWATER BASINS AND TRAPS			
Embankments are free of settlement, slope erosion, internal piping, and downstream swamping		X	X
All flow control structure or orifices are operational and clear of debris or sediments		X	X
Any pre-treatment structure that collects sediment or hydrocarbons is clean or maintained		X	X
Vegetated filters and infiltration basins have adequate grass growth			X
Any impoundment or forebay is free of sediment		X	X
WINTER CONSTRUCTION (November 1st-April15th)			
Final graded areas are mulched daily at twice the normal rate with hay, and anchor (not on snow)	Daily		
A double row of sediment barrier is provided for all areas within 100 ft of a sensitive resource (use erosion control mix on frozen ground)	Daily		
Newly constructed ditches are riprapped	Daily		
Slopes greater than 8% are covered with an erosion control blanket or a 4-inch layer of erosion control mix	Daily		
HOUSEKEEPING PUNCH LIST			
All disturbed areas are permanently stabilized, and plantings are established (grass seeds have germinated with 90% vegetative cover)			X
All trash, sediments, debris or any solid waste have been removed from stormwater channels, catch basins, detention structures, discharge points, etc.			X
All ESC devices have been removed: (silt fence and posts, diversions and sediment structures, etc.)			X
All deliverables (certifications, survey information, as-built plans, reports, notice of termination (NOT), etc.) in accordance with all permit requirements have been submitted to town, Maine DEP, association, owner, etc.			X

INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)

	INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
		Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodge
CULVERTS	Spring and late fall and after heavy rains	Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
		Repair any erosion damage at the culvert's inlet and outlet
CATCH BASINS	Annually in the spring	Remove sediments and debris from the bottom of the basin and inlet grates
		Remove floating debris and oils (using oil absorptive pads) from any trap
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean out the sediment within water bars or open-top culverts
		Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
RESOURCE AND TREATMENT BUFFERS	Annually in the spring	Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
		Clean out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
		Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
		Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
		Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
PROPRIETARY DEVICES	As specified by manufacturer	Contract with a third-party for inspection and maintenance
		Follow the manufacturer's plan for cleaning of devices
OTHER PRACTICES	As specified for devices	Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.

Appendix E

Post Construction – Maintenance of Stormwater Management Systems

City of Biddeford

Appendix 1

Annual Stormwater Management Facilities Certification (to be sent to City's Enforcement Authority)
[Amended 6-20-2023 by Ord. No. 2023.61[1]]

I, _____ (print or type name), certify the following:

1. I am making this Annual Stormwater Management Facilities Certification for the following property: _____ (print or type name of subdivision, condominium or other development) located at _____ (print or type address), (the "Property");
2. The owner, operator, tenant, lessee or homeowners' association of the Property is: _____ (name(s) of owner, operator, tenant, lessee, homeowners' association or other party having control over the Property);
3. I am (check one)
   a. _____ the owner, operator, tenant, lessee or president of the homeowners' association and have hired a Qualified Post Construction Stormwater Inspector; or
   b. _____ am a Qualified Post-Construction Stormwater Inspector hired by the person identified in item two of this form;
4. I have knowledge of erosion and stormwater control and have reviewed the approved Post-Construction Stormwater Management Plan for the Property;
5. On _____, 20 _____, I inspected or had inspected by a Qualified Post-Construction Stormwater Inspector, the Stormwater Management Facilities, including but not limited to parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures required by the approved Post-Construction Stormwater Management Plan for the Property;
6. I have attached a copy of the Annual Inspection Report. At the time of the inspection (check one and complete any required information):
   a. The Stormwater Management Facilities were adequately maintained and functioning as intended; or
   b. The Stormwater Management Facilities required maintenance, which was completed within the required sixty-day time period, and were functioning as intended after maintenance was completed; or
   c. The Stormwater Management Facilities required maintenance which was not completed within the required sixty-day time period. (Attach additional sheets as necessary to describe the maintenance required, proposed schedule for completion, and an appropriate contact person. The City will contact them to confirm or adjust the schedule to complete the maintenance and any needed further course of action. You will be required to show proof of final maintenance.)

[1] Editor's Note: This ordinance also repealed former Appendix 1, Maintenance Agreement for Stormwater Management Facilities, and redesignated former Appendix 2 as Appendix 1.

Date: _____, 20.

By: _____

Signature

_____

Print Name

Mail this certification to the City's Enforcement Authority at the following address [to be completed by the municipality]: _____
_____
_____
_____

City of Biddeford, Maine

City of Biddeford
Public Works Department / Engineering 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 Treat, 25 Barra Road, Commercial Building

Mike Eon Associates
260 Main Street
Biddeford, Maine 04005

April 29, 2024

Brief description of project: **Commercial Building Project, 25 Barra Road, Estimated flows: 1000 gpd.**

Determination

You are proposing to construct a new commercial building (Dentist Office) on the subject parcel, 25 Barra Road.

The City of Biddeford Wastewater Department has reviewed the request to serve the above described project and the supporting information provided by your team. It has been determined that at this time the City has sufficient capacity at the City's Wastewater Treatment Facilities to serve the above described project. It is estimated that 1000 gpd of new flow will be generated from the project. Changes to the project from that presented to this department will require a new review of the request for ability to serve. This determination will be effective for a period of one year from the updated date above. No roof drains shall be connected into the system.

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 including all impact fees based on the flow amount calculated at the time application is made and prior to the issuance of any building permits.

This Capacity to Serve Letter is intended only to state that the City of Biddeford Wastewater Treatment Plant Facility has the ability to 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. System upgrades may be required in order to address any impacts this project may have on the City's sewage 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, Superintendent WWTF

25 BARRA ROAD

A
DENTAL OFFICE COMMERCIAL SITE PLAN DEVELOPMENT
25 BARRA ROAD
BIDDEFORD, MAINE

FOR
MIKE EON ASSOCIATES LTD
260 MAIN STREET
BIDDEFORD, MAINE

PLAN INDEX

1	SITE PLAN
2	EXISTING CONDITIONS
3	GRADING PLAN
4	EROSION CONTROL DETAILS
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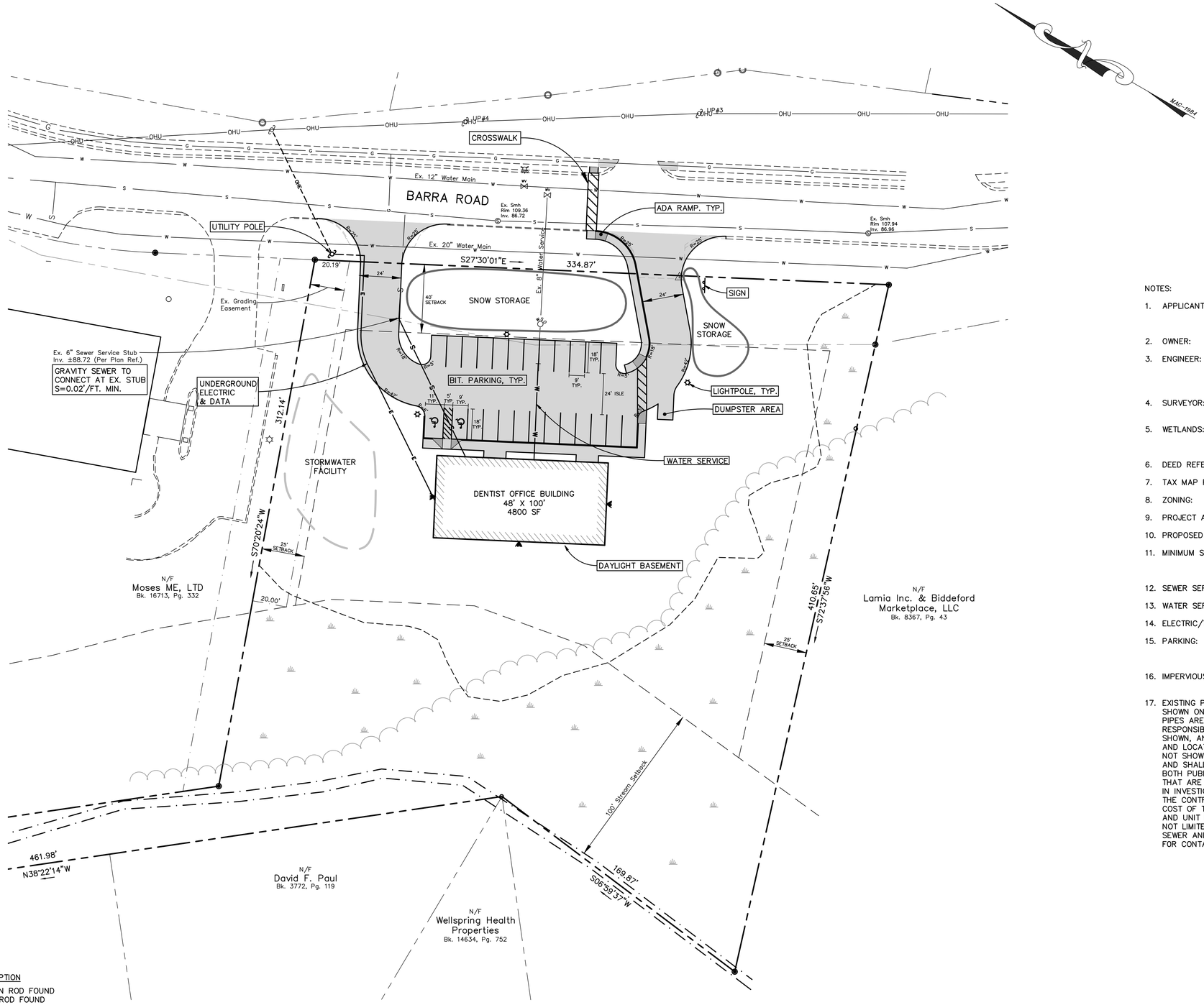
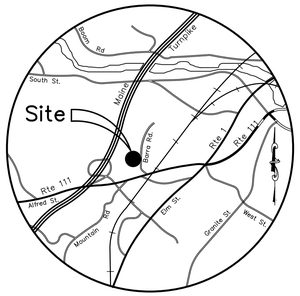
7	DETAILS B
A	PRE-DEVELOPMENT PLAN
B	POST DEVELOPMENT PLAN
L1	LANDSCAPING PLAN
A1.2	FIRST FLOOR PLAN
A2.1	ELEVATIONS - FRONT & SIDE ELEVATIONS
A2.2	ELEVATIONS - BACK AND SIDE

BH2M

Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250





LOCATION MAP

SCALE: 1" = 2 MILES

NOTES:

1. APPLICANT: MIKE EON ASSOCIATES, LTD.
   260 MAIN STREET
   BIDDEFORD, MAINE
2. OWNER: MIKE EON ASSOCIATES, LTD.
3. ENGINEER: CHRISTOPHER MacDONALD, PE#11985
   BH2M
   380B MAINE STREET
   GORHAM, MAINE
4. SURVEYOR: ROBERT C. LIBBY JR., PLS #2190
   BH2M
5. WETLANDS: MARK HAMPTON
   MARK HAMPTON ASSOCIATES
   PORTLAND, MAINE
6. DEED REFERENCE: BK. 7955, PG. 278
7. TAX MAP REFERENCE: MAP 2, LOT 43-10
8. ZONING: I-3
9. PROJECT AREA: 3.66 ACRES
10. PROPOSED USE: DENTAL PROFESSIONALS (MEDICAL OFFICES)
11. MINIMUM STANDARDS: LOT SIZE - NONE
    FRONTAGE - 50'
    SETBACKS - 40' FRONT, 25' SIDE/REAR
12. SEWER SERVICE: PUBLIC
13. WATER SERVICE: PUBLIC
14. ELECTRIC/TELEPHONE: UNDERGROUND
15. PARKING: 5 SPACES PER EACH DOCTOR / DENTIST
    ASSUME 5 DENTISTS - 25 SPACES REQ'D
    SPACES PROVIDED - 25 (INCL. 2 ACCESSIBLE)
16. IMPERVIOUS AREA: APPROX. 19,262 SF NEW PROPOSED
    APPROX. 53,825 SF PROPOSED DEVELOPED
17. EXISTING PUBLIC AND PRIVATE UTILITY AND UNDERGROUND LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ALL UTILITIES AND PIPES ARE NOT NECESSARILY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING IN FIELD THE LOCATIONS OF UTILITIES SHOWN, AND FOR INVESTIGATING AND IDENTIFYING THE EXISTENCE AND LOCATIONS OF ANY ADDITIONAL PUBLIC AND PRIVATE UTILITES NOT SHOWN ON THE PLANS, BEFORE COMMENCING ANY EXCAVATIONS, AND SHALL BE RESPONSIBLE FOR REPAIRING ALL UTILITIES AND PIPES, BOTH PUBLIC AND PRIVATE, WHETHER SHOWN ON PLANS OR NOT, THAT ARE DISTURBED DURING CONSTRUCTION. ALL COSTS INCURRED IN INVESTIGATING AND REPAIRING SAID UTILITIES SHALL BE BORNE BY THE CONTRACTOR, AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WORK PAID FOR UNDER THE APPLICABLE LUMP SUM AND UNIT PRICES IN THE CONTRACT. UTILITIES INCLUDE BUT ARE NOT LIMITED TO ELECTRIC, TELEPHONE, NATURAL GAS, WATER, SEWER AND STORM DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE.

PLAN REVIEWED AND APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD.

DATE

CHAIR

LEGEND

SYMBOL	DESCRIPTION
IPF/IRF	IRON PIPE/IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND
IRS	5/8" IRON ROD W/ CAP TO BE SET
	UTILITY POLE
	HYDRANT
	PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	WETLANDS
	EDGE OF EXISTING PAVEMENT
W	WATER MAIN
E	UNDERGROUND ELECTRIC
G	GAS MAIN
OHU	OVERHEAD UTILITIES
	STORM DRAIN

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Site Plan Review

STATE OF MAINE
CHRISTOPHER R. MACDONALD
No. 11985
LICENSED PROFESSIONAL ENGINEER

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

SITE PLAN
25 BARRA ROAD
25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Staff	1" = 30'
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
1

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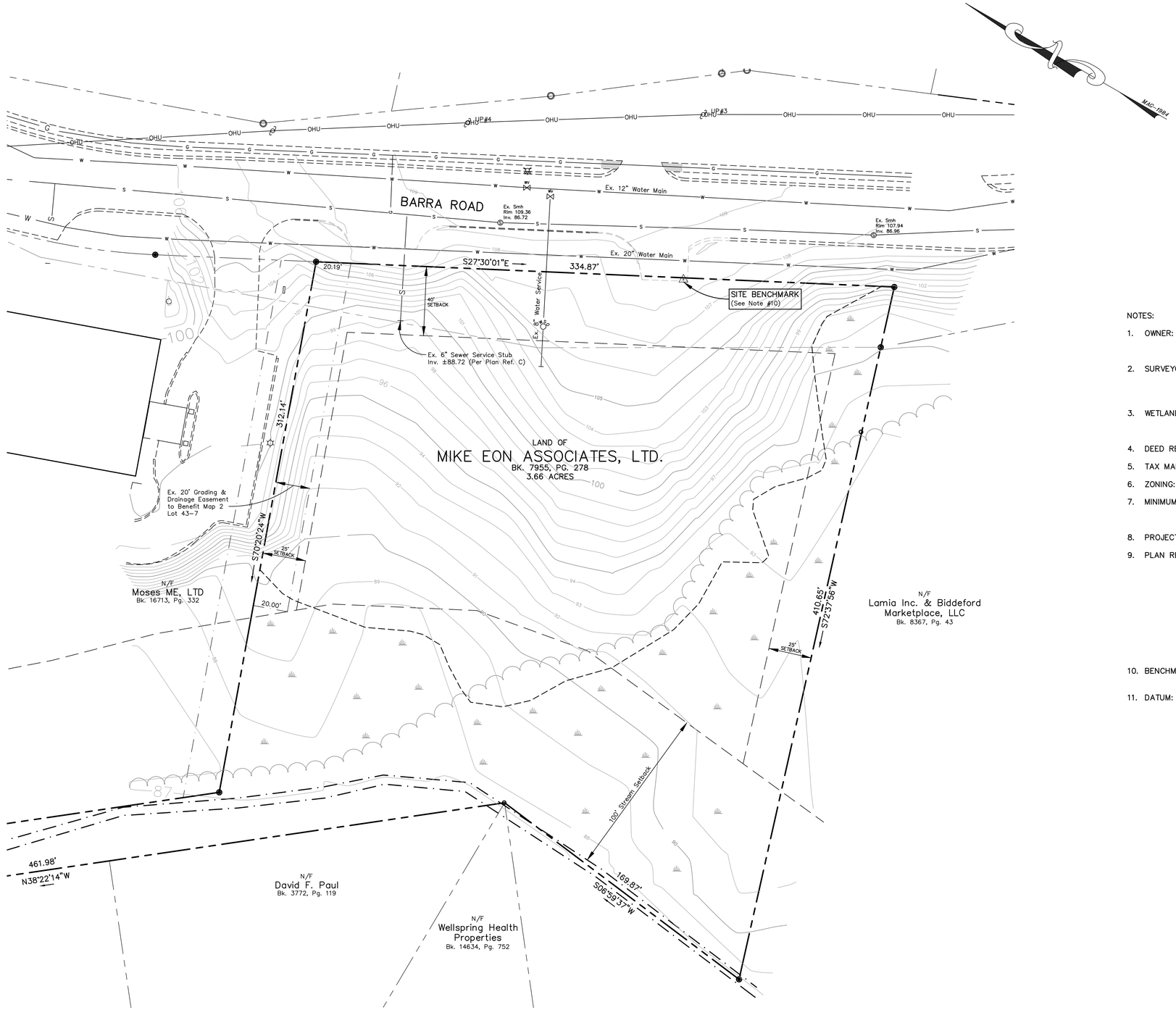

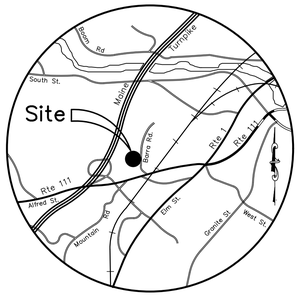

LOCATION MAP
SCALE: 1" = 2 MILES

NOTES:

1. OWNER: MIKE EON ASSOCIATES, LTD.
260 MAIN STREET
BIDDEFORD, MAINE

2. SURVEYOR: ROBERT C. LIBBY JR., PLS #2190
BH2M
380B MAIN STREET
GORHAM, MAINE

3. WETLANDS: MARK HAMPTON
MARK HAMPTON ASSOCIATES
PORTLAND, MAINE

4. DEED REFERENCE: BK. 7955, PG. 278

5. TAX MAP REFERENCE: MAP 2, LOT 43-10

6. ZONING: I-3

7. MINIMUM STANDARDS: LOT SIZE - NONE
FRONTAGE - 50'
SETBACKS - 40' FRONT, 25' SIDE/REAR

8. PROJECT AREA: 3.66 ACRES

9. PLAN REFERENCE:
A. "BARRA ROAD EXISTING CONDITIONS", BY BH2M, JOB #08029 DATED SEPT. 2008.
B. "SUBDIVISION PLAN 3 LOT SUBDIVISION BARRA ROAD FOR MIKE EON ASSOCIATES LTD. BY BH2M JOB #13062, DATED JUNE 2013.
C. "BARRA ROAD RECONSTRUCTION AS BUILT PLANS", EXIT FOUR BUSINESS PARK, FOR CITY OF BIDDEFORD, DATED JAN. 2001.

10. BENCHMARK: MAG NAIL SET IN PAVEMENT
ELEV. 108.72 (SITE DATUM)

11. DATUM: PROJECT SURVEY CONDUCTED ON AN ASSUMED MAGNETIC NORTH ORIENTATED HORIZONTAL DATUM. VERTICAL DATUM ON AN ASSUMED LOCAL DATUM THAT IS AN APPROXIMATE DATUM SHIFT OF 0.86' ABOVE NAVD 88.

LEGEND

SYMBOL	DESCRIPTION
N/F	NOW OR FORMERLY
IPF/IRF	IRON PIPE/IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND
IRS	5/8" IRON ROD W/ CAP TO BE SET
	UTILITY POLE
	HYDRANT
	PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	WETLANDS
	EDGE OF EXISTING PAVEMENT
W	WATER MAIN
G	GAS MAIN
OHU	OVERHEAD UTILITIES

I CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS TECHNICAL STANDARDS OF PRACTICE FOR A STANDARD BOUNDARY SURVEY WITH THE FOLLOWING EXCEPTIONS:

1. NO SURVEYORS REPORT

STATE OF MAINE
ROBERT C. LIBBY JR.
2190
LICENSED
PROFESSIONAL
SURVEYOR

ROBERT C. LIBBY JR. PLS #2190

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Site Plan Review

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

EXISTING CONDITIONS
25 BARRA ROAD
25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Dept.	1" = 30'
CHECKED	JOB. NO.
R. Libby	23214

SHEET
2

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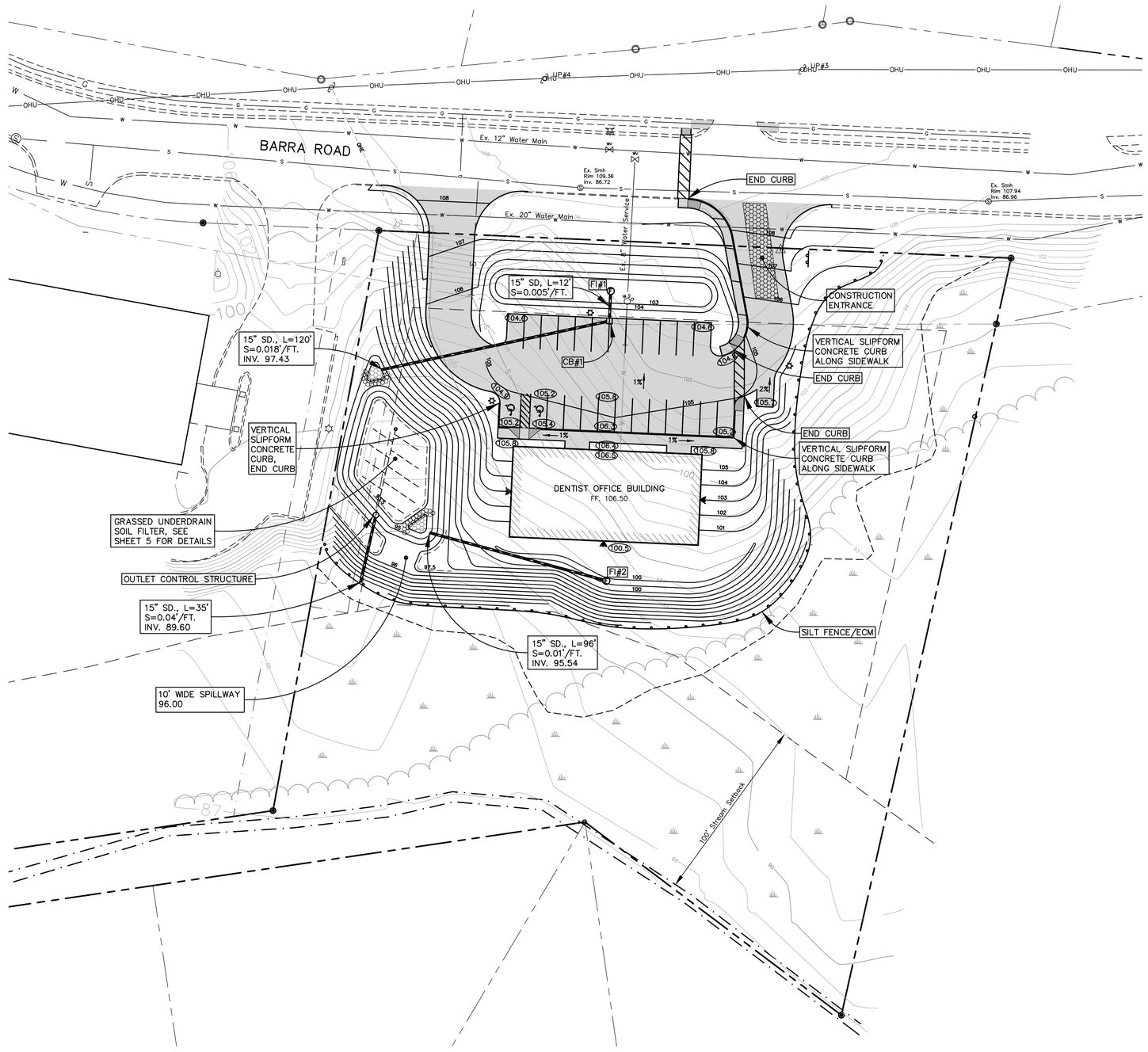

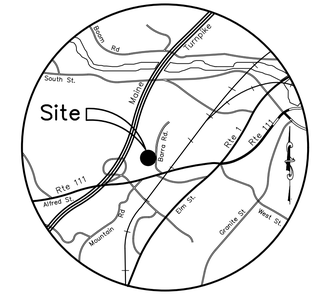

LOCATION MAP
SCALE: 1" = 2 MILES

STORMDRAIN/SEWER STRUCTURES

CB#1 — RIM 104.3; 15" INV. IN 99.69; 15" INV. OUT 99.59

FI#1 (TYPE F) — RIM 103.3; 15" INV. OUT 99.75

FI#2 (TYPE F) — RIM 99.5; 15" INV. OUT 96.5

NOTES:

1. STOCKPILE AREAS TO BE IDENTIFIED PRIOR BY CONTRACTOR PRIOR TO CONSTRUCTION ALONG WITH EROSION AND SEDIMENTATION CONTROLS.
2. CONTRACTOR TO IMPLEMENT DUST CONTROL MEASUREMENTS THROUGHOUT CONSTRUCTION.
3. PAVE UTILITY TRENCHES WITHIN THE CITY R.O.W. WITHIN 3 DAYS OF EXCAVATION OR PRIOR TO THE NEXT RAIN EVENT.
4. EXISTING PUBLIC AND PRIVATE UTILITY AND UNDERGROUND LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE, AND ALL UTILITIES AND PIPES ARE NOT NECESSARILY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING IN FIELD THE LOCATIONS OF UTILITIES SHOWN, AND FOR INVESTIGATING AND IDENTIFYING THE EXISTENCE AND LOCATIONS OF ANY ADDITIONAL PUBLIC AND PRIVATE UTILITIES NOT SHOWN ON THE PLANS, BEFORE COMMENCING ANY EXCAVATIONS, AND SHALL BE RESPONSIBLE FOR REPAIRING ALL UTILITIES AND PIPES, BOTH PUBLIC AND PRIVATE, WHETHER SHOWN ON PLANS OR NOT, THAT ARE DISTURBED DURING CONSTRUCTION. ALL COSTS INCURRED IN INVESTIGATING AND REPAIRING SAID UTILITIES SHALL BE BORNE BY THE CONTRACTOR, AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WORK PAID FOR UNDER THE APPLICABLE LUMP SUM AND UNIT PRICES IN THE CONTRACT. UTILITIES INCLUDE BUT ARE NOT LIMITED TO ELECTRIC, TELEPHONE, NATURAL GAS, WATER, SEWER AND STORM DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE.

LEGEND

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	HYDRANT
	PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	WETLANDS
W	WATER MAIN
E	UNDERGROUND ELECTRIC
G	GAS MAIN
OHU	OVERHEAD UTILITIES
	STORM DRAIN

Scale: 1" = 30'
30' 0 30' 60'

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
CHRISTOPHER R. MACDONALD
No. 11985
LICENSED PROFESSIONAL ENGINEER

BH2M
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380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
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FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

GRADING PLAN

25 BARRA ROAD

25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Staff	1" = 30'
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
3

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EROSION AND SEDIMENT CONTROL PLAN

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE LATEST REVISION OF TO THE 2016 MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL FOR DESIGNERS AND ENGINEERS, AND THE LATEST REVISION TO THE 2014 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS. SEE MANUALS FOR ADDITIONAL INFORMATION AND DETAILS.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL CONSTRUCTION INSPECTIONS SHALL BE CONDUCTED BY SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING STANDARDS AND PERMIT CONDITIONS. CONSTRUCTION INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK, AND PRIOR TO AND 24 HOURS AFTER A WET WEATHER EVENT (0.5 INCHES OR MORE IN A 24 HOUR PERIOD). CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 5 YEARS.
2. THE SCOPE OF CONSTRUCTION INSPECTIONS INCLUDE THE EROSION AND SEDIMENTATION CONTROL MEASURES AS WELL AS DISTURBED AREAS, MATERIAL STORAGE AREAS, AND LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S", DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION.
4. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE AREA SHALL BE STABILIZED WITHIN 2 DAYS OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
5. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 10 ACRES OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
6. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
7. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO MORE THAN ONE ACRE OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION.
8. SEDIMENT BARRIERS (EROSION CONTROL MIX, STONE CHECK DAMS, STABILIZED CONSTRUCTION ENTRANCE, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
9. INSTALL EROSION CONTROL MIX AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE E.C. MIX DETAIL FOR PROPER INSTALLATION. EROSION CONTROL MIX WILL REMAIN IN PLACE PER NOTE #7. THE USE OF AN EROSION CONTROL MIX BERM IS PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER.
10. ALL ERSOION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY BEFORE AND FOLLOWING ANY SIGNIFICANT RAINFALL (0.5 INCH OR MORE IN A 24-HOUR PERIOD) OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF. EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS 90% GRASS CATCH IN VEGETATED AREAS.
11. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN ONE AND ONE HALF TO ONE (1.5 TO 1).
12. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
13. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUG. 15 OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.
14. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
15. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
    a. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SQ. FT.).
    b. HAY MULCH AT THE RATE OF 70-90 LBS PER 1000 SQUARE FEET FOR OVER 75% COVERAGE. FOR UNPROTECTED OR WINDY AREAS, ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD./BLOCK). HYDRAULIC MULCHES MAY ALSO BE USED, APPLIED AT A RATE OF 5 LBS PER 1000 SQUARE FEET FOR PAPER MULCH OR 40 LBS PER 1000 SQUARE FEET OR AS DIRECTED BY THE MANUFACTURER. ON SLOPES GREATER THAN 3:1 EROSION CONTROL MIX MAY BE USED, SEE EROSION CONTROL MIX NOTES BELOW.
    c. FOR DISTURBED AREAS TO BE MAINTAINED IN POST-CONSTRUCTION AS A MEADOW BUFFER, APPLY A 50-50 MIX OF ERNST FUZZ N' BUZZ PREMIUM AND NATIVE CLOVER MIX AT SUPPLIERS RECOMMENDED APPLICATION RATES.
16. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ONCE THE SITE IS STABILIZED WITH 90% GRASS CATCH IN VEGETATED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKET SHALL BE USED IN ALL DITCHES AND SWALES AS SHOWN IN DETAILS.
17. WETLANDS WILL BE PROTECTED WITH EROSION CONTROL MIX OR SILT FENCE INSTALLED AT THE EDGE FOR THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION.
18. ALL STORMWATER WILL BE PREVENTED FROM RUNNING ONTO STOCKPILES. SEDIMENT BARRIERS WILL BE INSTALLED DOWNGRADIENT OF ALL STOCKPILES.
19. PERMANENT POST-CONSTRUCTION BMP'S (VEGETATED SWALES, WET PONDS, ETC.) WILL NOT BE USED TO MANAGE FLOWS DURING CONSTRUCTION WITHOUT SPECIAL PROTECTION AND/OR RESTORATION.

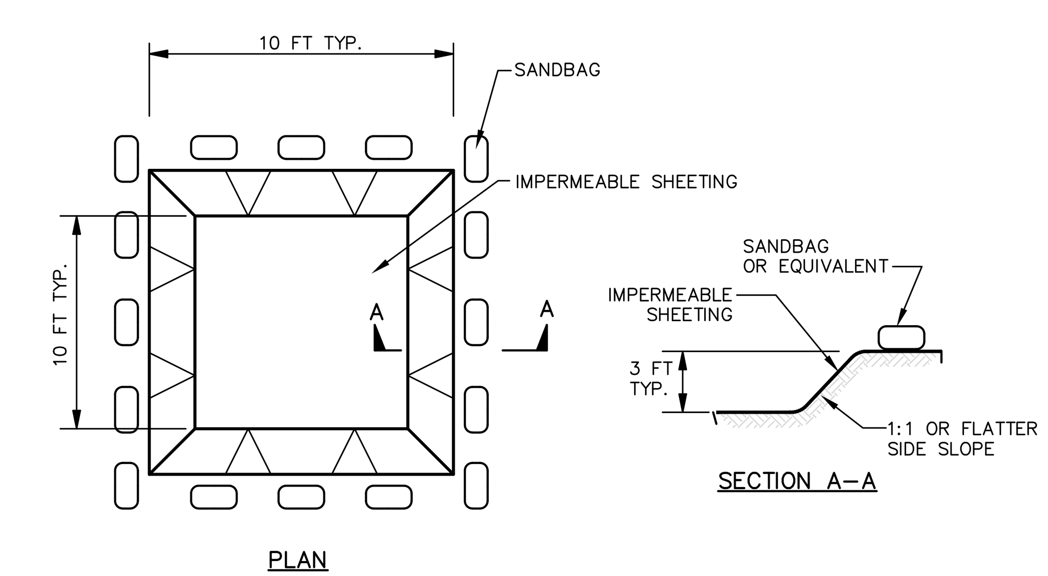
ADDITIONAL TEMPORARY SEED MIXTURE (FOR PERIODS LESS THAN 12 MONTHS):

SEED	RATE
ERNST WINTER RYEGRASS	112 LBS/ACRE

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 – 100% OF DRY WEIGHT, AND COMPRISED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE FROM REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR CONSTRUCTION DEBRIS. ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.



CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT STRUCTURE

N.T.S.

EROSION CONTROL DURING CONSTRUCTION

WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15
2. OVERWINTER STABILIZATION OF DITCHES AND CHANNELS:
ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
    A. INSTALL A SOD LINING IN THE DITCH:
    A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS. SEE THE PERMANENT VEGETATION BMP SECTION.
    B. INSTALL A STONE LINING IN THE DITCH:
    A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST BE HIRED TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
3. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
    A. STABILIZE THE SOIL WITH SOD:
    THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR 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 CONTRACTOR WILL NOT USE LATE SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
    B. STABILIZE THE SOIL WITH EROSION CONTROL MIX:
    EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. SEE THE EROSION CONTROL MIX NOTES FOR ADDITIONAL CRITERIA.
    C. STABILIZE THE SOIL WITH STONE RIPRAP:
    PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
4. OVERWINTER STABILIZATION OF DISTURBED SOILS:
BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
    A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION:
    BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 90% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.
    B. STABILIZE THE SOIL WITH SOD:
    STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLINIG THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
    C. STABILIZE THE SOIL WITH MULCH:
    BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL. PROVIDE NETTING ON ALL SLOPES GREATER THAN 8%.
5. MAINTENANCE:
IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. ONCE A WEEK AND BEFORE AND 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 FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85 TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

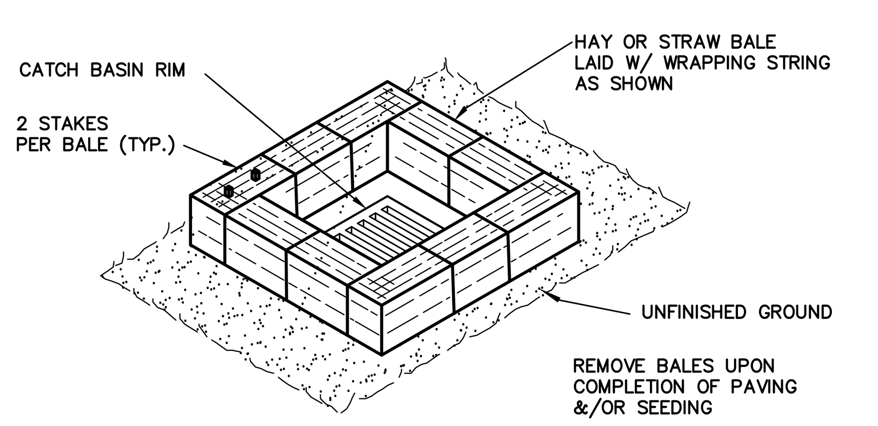
STABILIZATION SCHEDULE BEFORE WINTER:

SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET
OCTOBER 1	IF THE SLOPE IS STABILIZED WITH AN EROSION CONTROL BLANKET AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND MULCHED.
NOVEMBER 15	ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.

6. DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
7. AREAS WITHIN 75 FEET OF STREAMS, WETLANDS, AND OTHER PROTECTED NATURAL RESOURCES THAT ARE NOT STABILIZED WITH VEGETATION BY DEC. 1 SHALL BE MULCHED AND ANCHORED WITH NETTING. IF WORK CONTINUES IN THIS AREA DURING THE WINTER, A DOUBLE LINE OF SEDIMENT BARRIERS MUST BE USED.

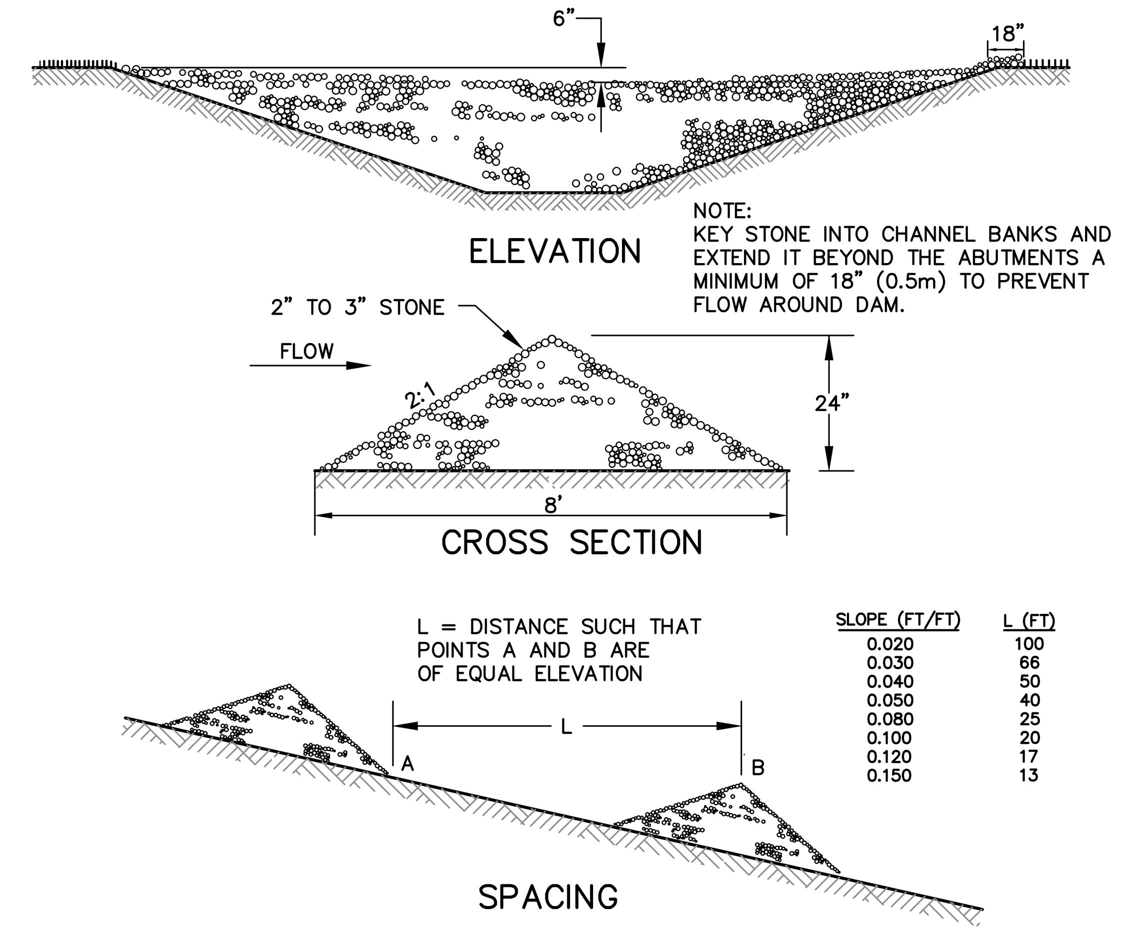
HOUSEKEEPING

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS 1. ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
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.
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 MY NOT BE USED FOR DUST CONTROL. ANY OFFSITE TRACKING OF MUD OR SEDIMENT SHALL BE VACUUMED IMMEDIATELY AND PRIOR TO THE NEXT SIGNIFICANT STORM EVENT.
4. DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING: TRENCH 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 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 BY THE DEPARTMENT.
6. 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 FIREFIGHTING 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 AND APPENDIX (C)(3) OF MAINE DEP 06-096 CHAPTER 500;
    - ROUTINE EXTERNAL 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 (SEE REQUIREMENTS IN APPENDIX C(5) MAINE DEP 06-096 CHAPTER 500);
    - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
    - LANDSCAPE IRRIGATION.
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C(6) MAINE DEP 06-096 CHAPTER 500. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
    - WASTEWATER FROM THE WASHOUT OR CLEANOUT 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 DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
    - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



LOW POINT SEDIMENT CONTROL BARRIER

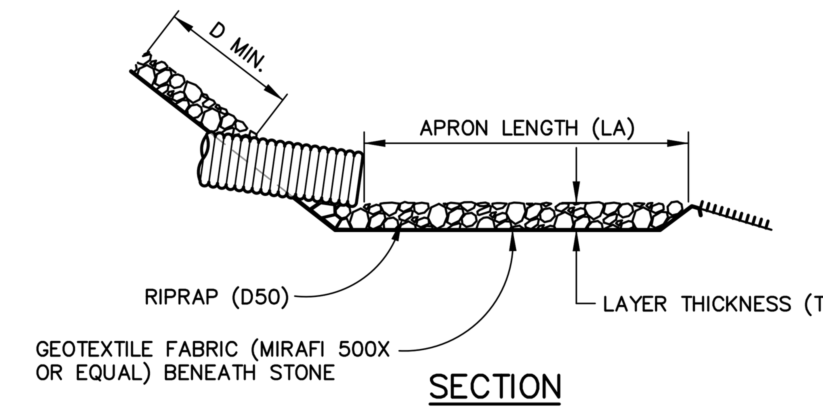
N.T.S.

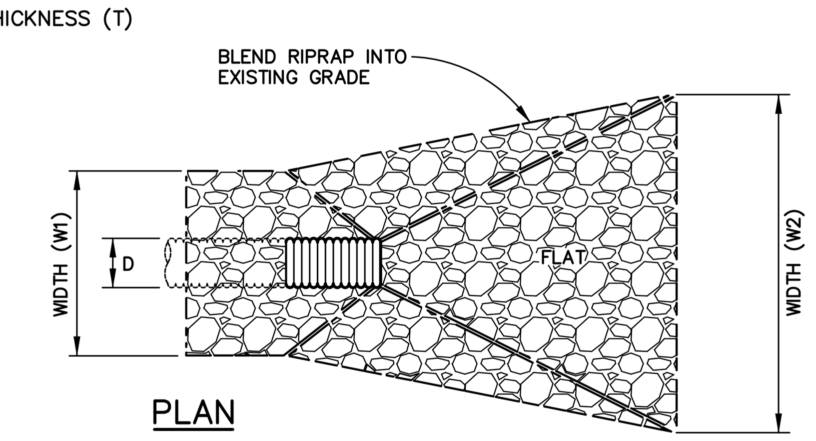


SLOPE (FT/FT)	L (FT)
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20
0.120	17
0.150	13

STONE CHECK DAM DETAIL

NTS





APRON SCHEDULE

CULV. DIA. (D)	D50 (IN.)	T (IN.)	LA (FT.)	W1 (FT.)	W2 (FT.)
12" OR LESS	6"	15"	10'	3'	13'
15"	6"	15"	10'	3.75'	14'
18"	6"	15"	12'	4.5'	17'
24"	6"	15"	14'	6'	20'
30"	6"	15"	18'	7.5'	26'
36"	6"	18"	24'	9'	33'
42"	12"	24"	30'	10.5'	41'
48"	12"	24"	34'	12'	46'
60"	18"	32"	38'	15'	53'

PIPE OUTLET PROTECTION

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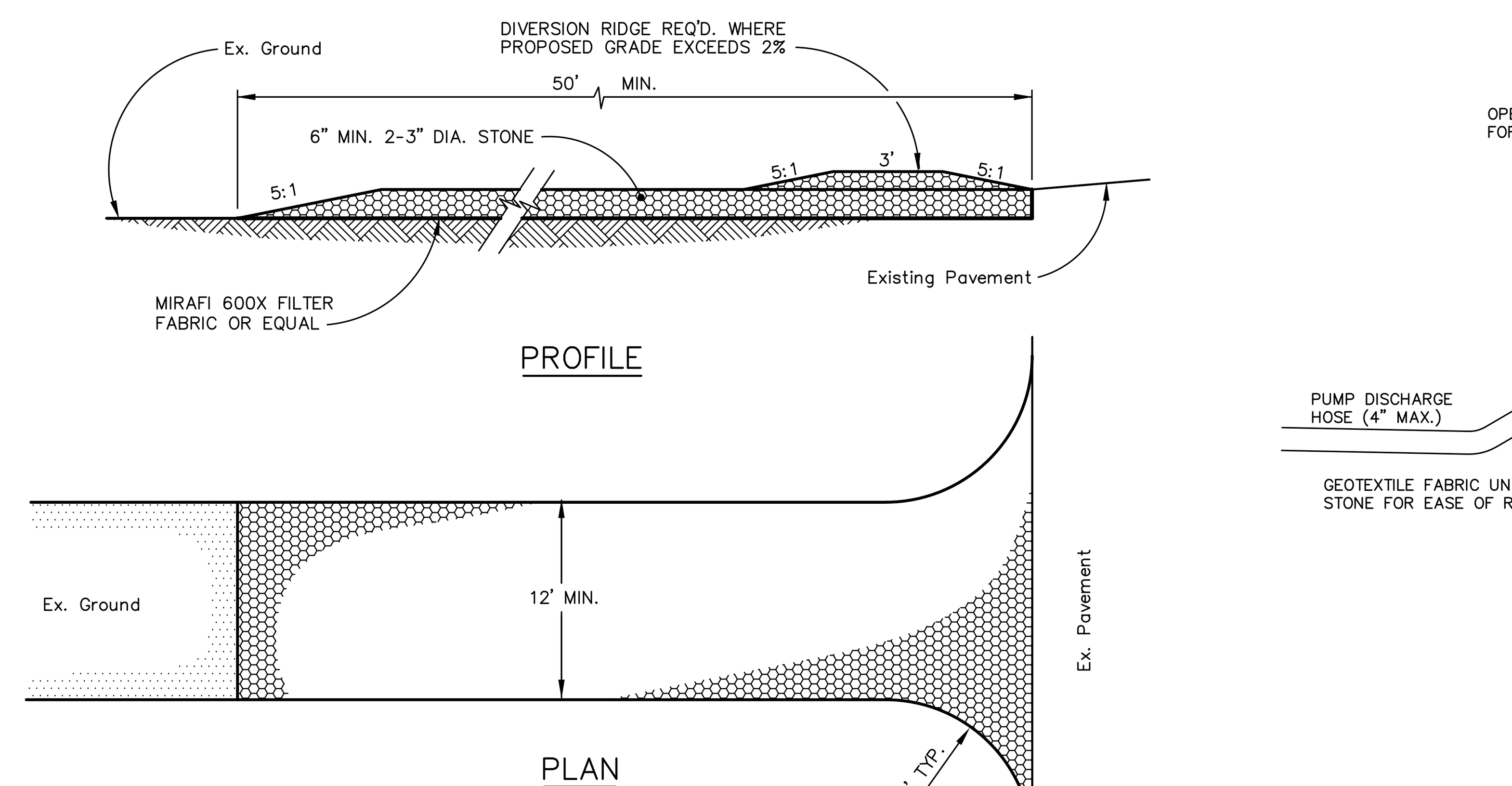

NOTES:

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY.

WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

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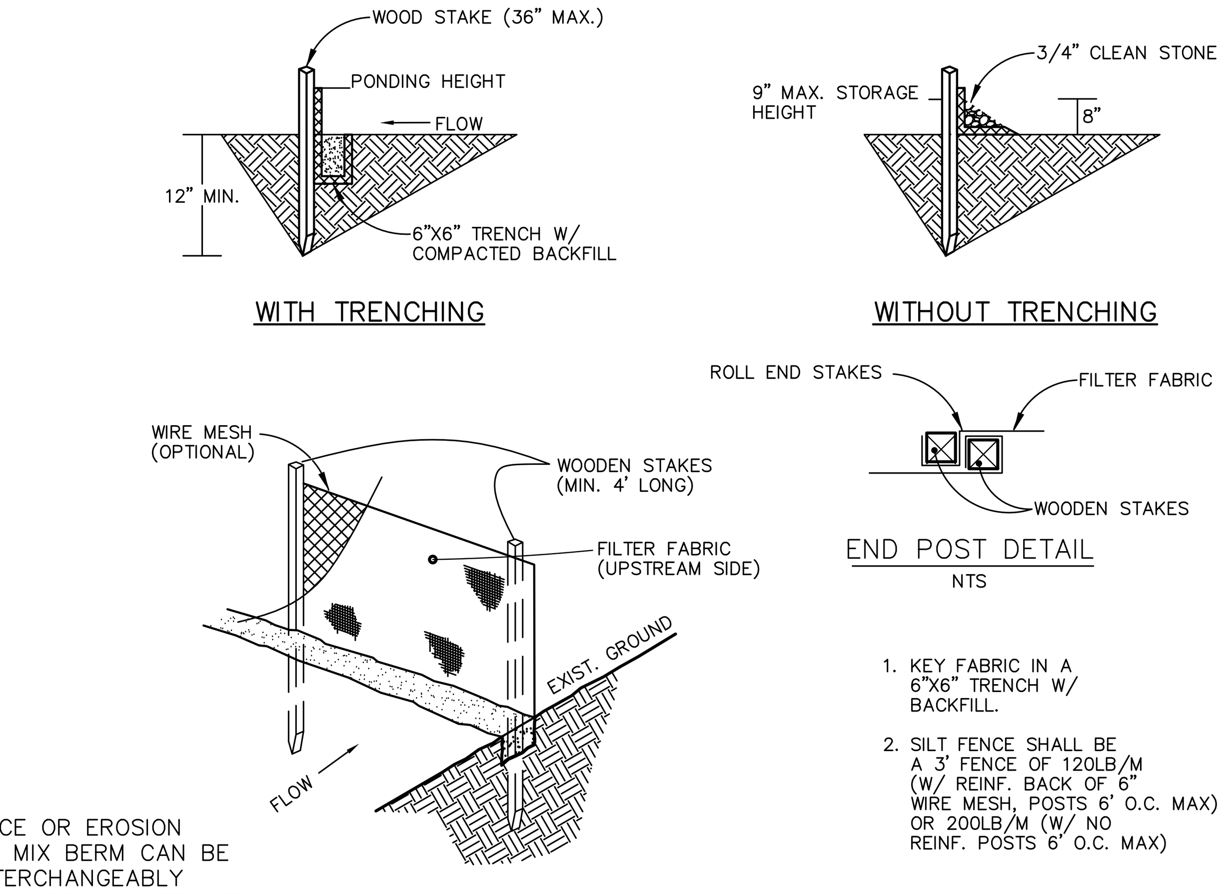


NOTE:

SILT FENCE OR EROSION CONTROL MIX BERM CAN BE USED INTERCHANGEABLY BASED ON APPROPRIATE SITE CONDITIONS AND MATERIAL AVAILABILITY.

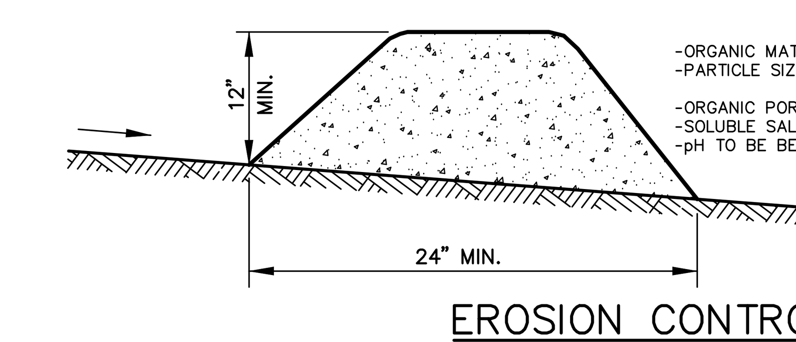
1. KEY FABRIC IN A 6"X6" TRENCH W/ BACKFILL.
2. SILT FENCE SHALL BE A 3' FENCE OF 120LB/M (W/ REINF. BACK OF 6" WIRE MESH, POSTS 6' O.C. MAX) OR 200LB/M (W/ NO REINF. POSTS 6' O.C. MAX)

SILT FENCE DETAIL

N.T.S.

PLACE BARRIER ALONG RELATIVELY LEVEL CONTOUR.
ECM BERM PROHIBITED AT THE BASE OF SLOPES > 8% OR WHERE THERE IS FLOWING WATER.
SEE MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS FOR INSTALLATION INSTRUCTIONS.

EROSION CONTROL MIX SHOULD CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. ECM SHOULD BE FREE OF REFUSE, PHYSICAL CONTAMINATES, AND MATERIAL TOXIC TO PLANT GROWTH.



- -ORGANIC MATTER > 80% DRY WEIGHT
- -PARTICLE SIZE BY WEIGHT: 100% PASSING 6" SCREEN
  75-85% PASSING 0.75" SCREEN
- -ORGANIC PORTION TO BE FIBROUS & ELONGATED
- -SOLUBLE SALT CONTENT < 4.0 MMOHS/CM.
- -pH TO BE BETWEEN 5.0 & 8.0

EROSION CONTROL MIX BERM

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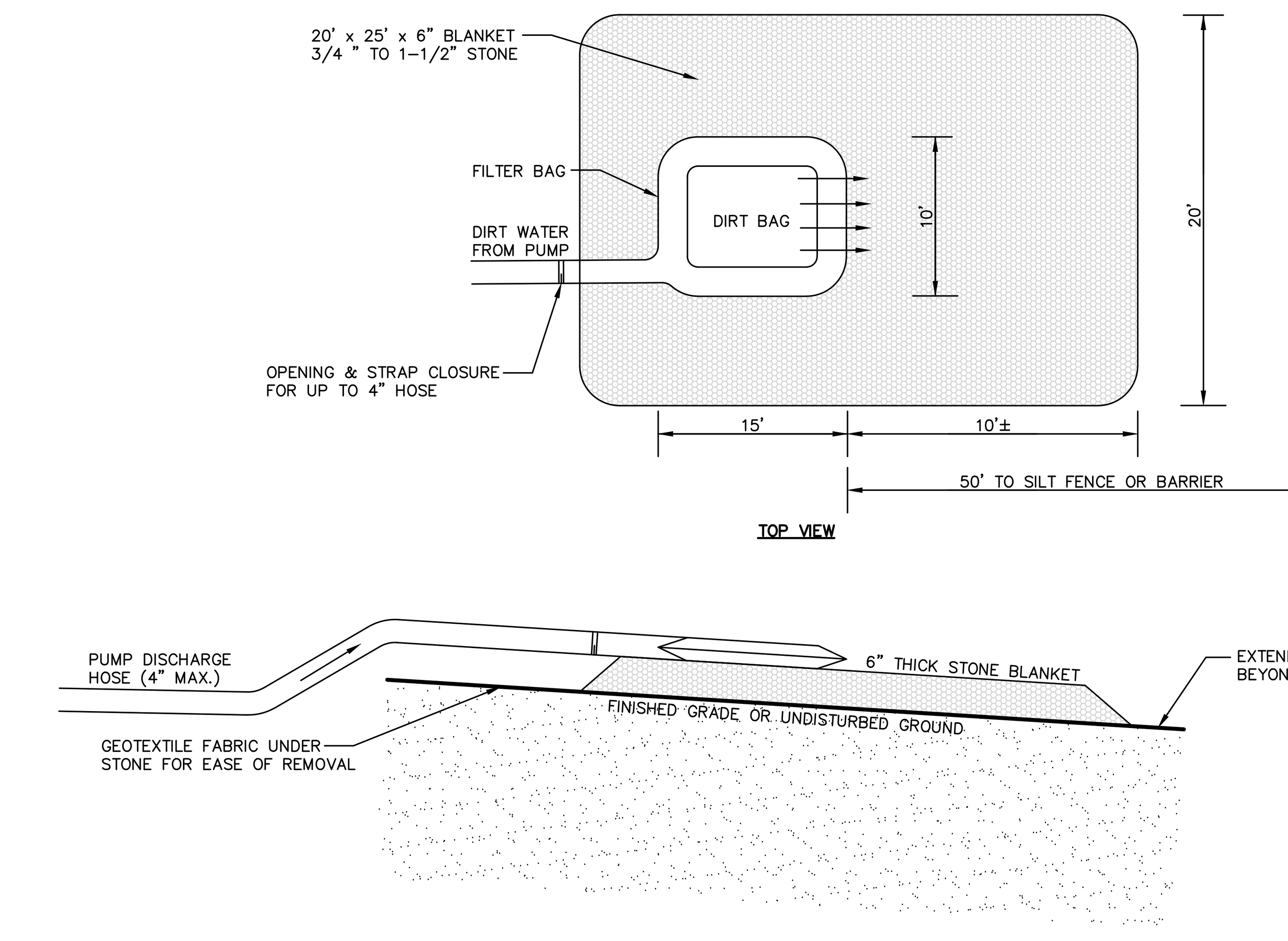

NOTES:

1. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E. FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWN GRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G. FOREST FLOOR OR COARSE GRAVEL/STONE.
5. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. CONSULT DEP IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY. SECONDARY CONTAINMENT MAY BE REQUIRED.
6. THE LOCATION OF THE DIRT BAG SHALL BE SELECTED SO THAT IT CAN BE EASILY REMOVED AT THE END OF CONSTRUCTION.

PUMPED DISCHARGE SEDIMENT CONTROL DEVICE ("DIRT BAG")

NTS

REVISION

NO.	DATE	DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE – CHRISTOPHER RYAN MacDONALD – No. 11985 – LICENSED PROFESSIONAL ENGINEER

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

EROSION CONTROL DETAILS

25 BARRA ROAD

25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Dept.	As Noted
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET

4

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GRASSED UNDERDRAIN SOIL FILTER NOTES

REFERENCES

1. MAINE STORMWATER BEST MANAGEMENT PRACTICES (BMP), VOLUME III BMP TECHNICAL DESIGN MANUAL, CHAPTER 7 FILTRATION BMP'S (LATEST REVISION).

CONSTRUCTION METHODS

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MATERIALS, INSTALLATION, MEANS, METHODS, AND SCHEDULING.
2. ALL WORK SHALL BE IN CONFORMANCE WITH THE PROJECT PLANS AND BMP'S REFERENCED ABOVE.
3. THE SOIL FILTER MEDIA AND VEGETATION SHALL NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURES, 90% VEGETATION COVER OR PERMANENT STABILIZATION.

DE-WATERING PLAN

1. DURING CONSTRUCTION OF THE SITE AND VEGETATED SOIL FILTER, THE CONTRACTOR SHALL BE PREPARED TO IMPLEMENT A DEWATERING PLAN IN ANTICIPATION OF HEAVY RAIN EVENTS.
2. THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND MAY BE USED FOR A SEDIMENT TRAP FOR THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM SHALL BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

SOIL MEDIA

1. THE SOIL MEDIA SHALL CONSIST OF SILTY SANDY SOIL OR SOIL MIXTURE COMBINED WITH 20% TO 25% BY VOLUME (NO LESS THAN 10% BY DRY WEIGHT) OF MODERATELY SHREDDED BARK OR WOOD FIBER MULCH.
2. THE SOIL FILTER MEDIA SAND SHALL MEET THE GRADATION IN TABLE 7-2 (MDOT 703.01) WITH ADDITIONAL FINES ADDED IF NECESSARY.
3. THE RESULTING SOIL FILTER MEDIA SHALL HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%
4. THE COARSE GRAVEL MATERIAL SHALL MEET THE GRADATION OF TABLE 7.1 (MDOT 703.22 UNDERDRAIN, TYPE B).
5. THE FILTER MEDIA SHALL BE LIGHTLY COMPACTED BY SATURATING THE MEDIA IN 6" TO 9" LIFTS AND SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR.
6. THE CLAY CONTENT SHALL BE < 2%

CONSTRUCTION

1. SOIL FILTER MEDIA, COARSE GRAVEL, AND UNDERDRAIN BEDDING MATERIAL SHALL BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR.
2. PERFORATED UNDERDRAIN PIPE SHALL BE 4" AND 6" SCHEDULE 40 OR SDR 35 PVC PIPE. SPACED 8 FEET AND 4 FEET ON CENTER AS SHOWN ON PLANS.
3. TRIBUTARY AREAS SHALL BE STABILIZED PRIOR TO INSTALLATION OF THE SOIL FILTER MEDIA MIXTURE AND UNDERDRAIN. STABILIZED IS DEFINED AS PAVED IF IN A PARKING AREA OR ROADWAY AND 90% GRASS CATCH IF IN A VEGETATED AREA.
4. OUTFLOW OF THE VEGETATED SOIL FILTER SHALL BE CONTROLLED BY A 2" PLASTIC TYPE 34-6 BALL VALVE WITH TYPE 615 BALL VALVE HANDLE EXTENSION (AVAILABLE FROM E.J. PRESCOTT OR EQUIVALENT). A THREE-PIECE VALVE BOX (AVILABLE FROM E.J. PRESCOTT OR EQUIVALENT) SHALL BE INSTALLED OVER THE VALVE.
5. ALL EQUIPMENT USED WITHIN THE LIMITS OF THE VEGETATED SOIL FILTER SHALL BE LOW GROUND PRESSURE VEHICLES (LESS THAN 2.0 PSI) WHEN FULLY LOADED.
6. IF VEGETATION IS NOT ESTABLISHED WITHIN THE FIRST YEAR, THE CONTRACTOR SHALL INSTALL A 2-3 INCH LAYER OF LOAM (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ON THE SURFACE OF THE GRASS FILTER AND RE-SEED/MULCH.
7. THE SURFACE OF THE VEGETATED SOIL FILTER SHALL BE PLANTED WITH A GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL-DRAINED SOILS. UPON SEEDING, THE SURFACES SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET BUT SHALL NOT BE FERTILIZED. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN EQUIVALENT CONSERVATION TYPE MIX:

CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
BIRDSFOOT TREFOIL	8 LBS/ACRE
TOTAL	48 LBS/ACRE

TESTING AND SUBMITTALS

1. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL TESTING RESULTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER.
2. SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILLER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE WILL BE DETERMINED BY TESTING LABORATORY.
3. THE CONTRACTOR SHALL PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHODS FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES, 1996A) ON EACH TYPE OF SAMPLE MATERIAL INCLUDING A HYDROMETER TEST FOR CLAY CONTENT.
4. THE CONTRACTOR SHALL PERFORM A PERMEABILITY TEST ON THE SOIL MEDIA MIXTURE CONFORMING TO ASTM D2434.
5. THE CONTRACTOR SHALL PERFORM ONE COMPACTION DENSITY TEST ON THE IN-PLACE SOIL FILTER MEDIA FOR EVERY 1,500 S.F. OF BED OR FRACTION THEREOF. THE TEST SHALL CONFORM TO ASTM 2922.
6. UPON COMPLETION OF THE VEGETATED SOIL FILTER MEDIA AND THE ESTABLISHMENT OF 90% CATCH OF GRASS OVER THE FILTER MEDIA, THE CONTRACTOR SHALL FLOOD THE VEGETATED BASIN TO THE SPILLWAY WITH CLEAR WATER AND ADJUST THE OUTFLOW TO OBTAIN A 24-HOUR TO 32-HOUR RELEASE TIME.

CONSTRUCTION OVERSIGHT

1. THE CONTRACTOR SHALL MEET THE "CONSTRUCTION OVERSIGHT" SECTION OF CHAPTER 7, FILTRATION BMP'S (REVISED MAY 2016) OF THE STORMWATER MANAGEMENT FOR MAINE, VOLUME III, BMP'S TECHNICAL DESIGN MANUAL.
2. THE DESIGN ENGINEER SHALL BE CONDUCTING PERIODIC SITE OVERSIGHT OF THE CONSTRUCTION AS DESCRIBED BELOW AND IN COMPLIANCE WITH THE PERMITS.
3. THE ENGINEER SHALL REVIEW AND APPROVE ALL CONTRACTOR SUBMITTALS.
4. THE CONTRACTOR SHALL GIVE THE ENGINEER A PROPOSED CONSTRUCTION SCHEDULE AND A 48-HOUR NOTICE FOR ALL SITE VISITS.
5. INSPECTIONS SHALL INCLUDE:
   - PRE-CONSTRUCTION MEETING WITH CONTRACTOR
   - INSPECTION OF EXCAVATION IF USED FOR SEDIMENT TRAP
   - INSPECTION OF EXCAVATED HOLE.
   - AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND
   - ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT
   - BACK-FILLED.
   - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO
   - INSTALLATION OF THE FILTER MEDIA.
   - AFTER FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
   - AFTER ONE YEAR TO INSPECT VEGETATION UPTAKE AND OBSERVE
   - FLOODING TEST.

LEVEL SPREADER STONE SIZE

SIEVE DISIGNATION METRIC	SIEVE DISIGNATION US CUSTOMARY	% BY WEIGHT PASSING SQUARE MESH SIEVES
300 MM	12"	100
150 MM	6"	84–100
75 MM	3"	68–83
25.4 MM	1"	42–55
4.75 MM	NO. 4	8–12

TABLE 7-1
UNDERDRAIN SPECS.
MDOT #703.22

SIEVE SIZE	% BY WEIGHT
UNDERDRAIN TYPE B	
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

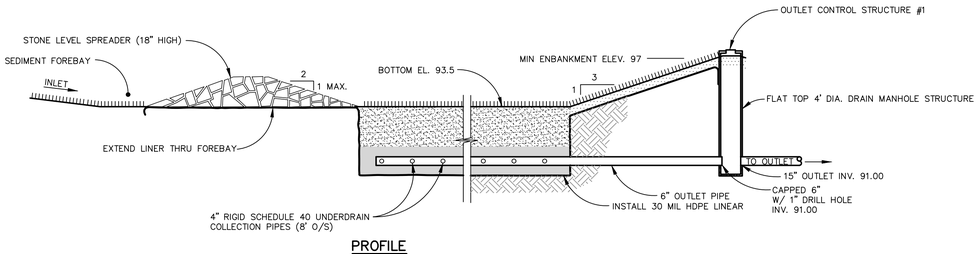
SIEVE SIZE	% BY WEIGHT
UNDERDRAIN TYPE C	
1"	100
3/4"	90-100
3/8"	0-75
#4	0-25
#10	0-5

TABLE 7-2
AGGREGATE SPECS.
MDOT #703.01

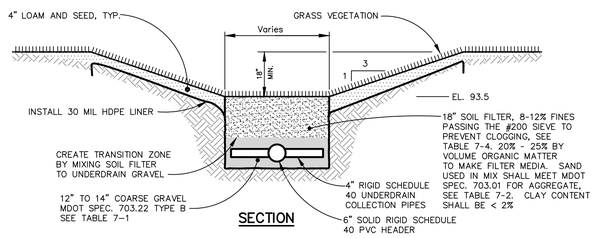
SIEVE SIZE	% BY WEIGHT
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	10-30
#100	2-10
#200	0-5

TABLE 7-4
COARSE LOAMY SAND SIEVE
ANALYSIS SPECIFICATION

SIEVE #	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15



PROFILE



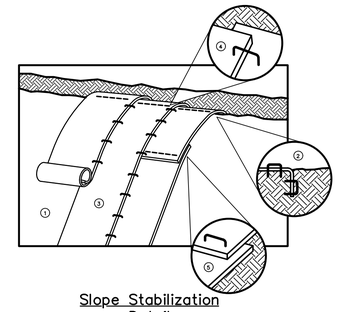
SECTION

GRASSED UNDERDRAIN SOIL FILTER

NTS

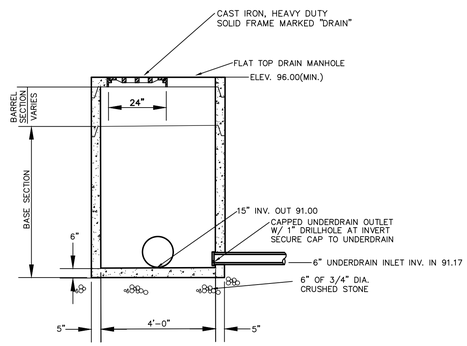
1. Prepare soil before installing blankets, including lime, fertilzer & seed.
2. Begin at top of slope by anchoring blanket in 6" x 6" trench. Backfill & compact trench after stapling.
3. Roll blankets down or horizontally across slope.
4. The edges of parallel blankets must be stapled with approx. 2" overlap.
5. When blankets must be spliced down the slope, place blankets end over end (shingle style) with approx. 4" overlap. Staple through overlapped area, approx. 12" apart.

Slope Stabilization:
Erosion Control Blanket shall be in accordance with M.D.O.T. standard specifications, Section 6.13, Temporary Erosion Control Blankets and Extended Use Erosion Control Blankets.



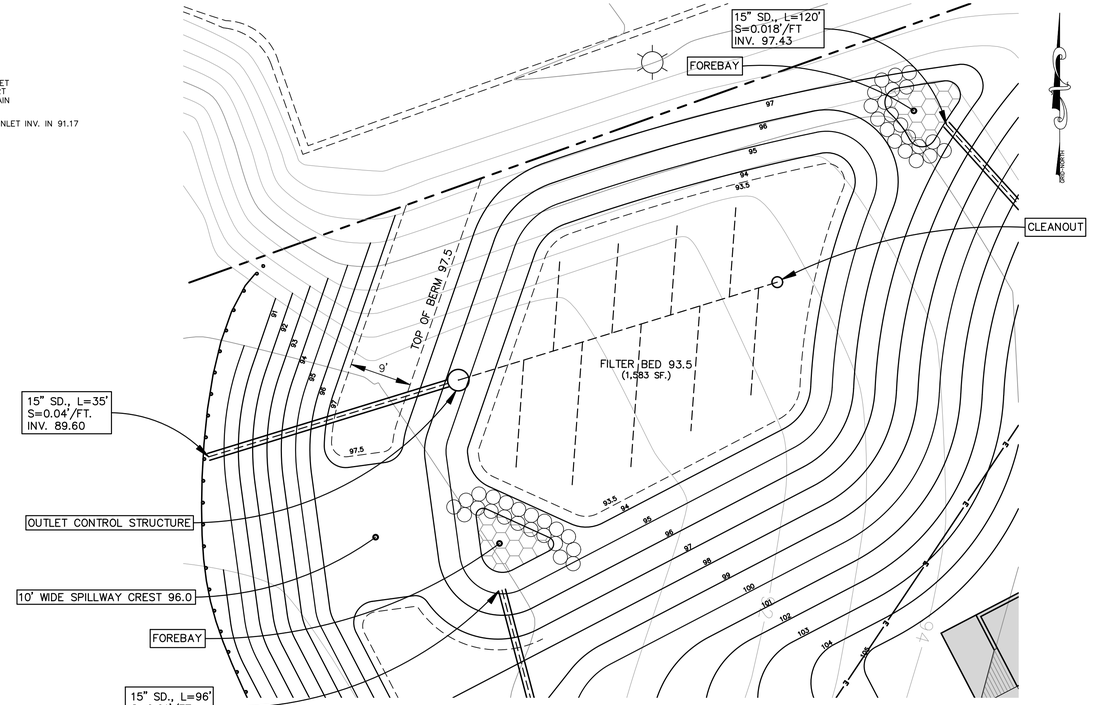
Slope Stabilization Detail

N.T.S.



OUTLET CONTROL STRUCTURE

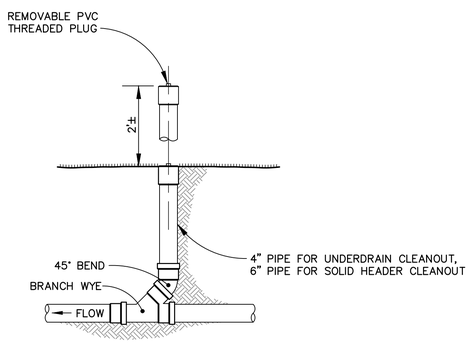
N.T.S.



GRASSED UNDERDRAINED SOIL FILTER PLAN

Scale: 1" = 10'

10' 0 10' 20'



CLEANOUT DETAIL

N.T.S.

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
CHRISTOPHER RYAN MACDONALD
No. 11985
LICENSED PROFESSIONAL ENGINEER

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

GRASSED UNDERDRAIN SOIL FILTER DETAILS

25 BARRA ROAD

25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Staff	As Noted
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
5

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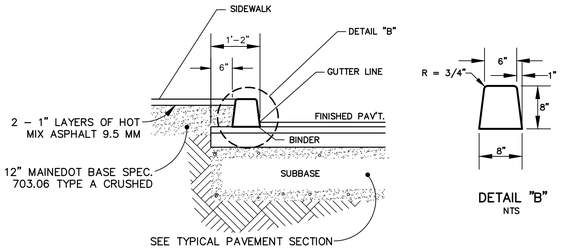


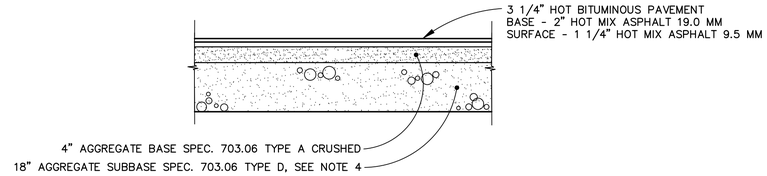
DETAIL "B"
NTS

VERTICAL CURB
NTS

NOTES:

1. 1 LB. FIBER MESH SHALL BE ADDED TO EVERY CUBIC YARD OF CONCRETE. THE CONCRETE WILL CONTAIN THE MAXIMUM AMOUNT OF WATER TO BE OF A CONSISTENCY THAT THE CONCRETE WILL MAINTAIN THE SHAPE OF THE CURB SECTION WITHOUT SUPPORT. THIS MIX ALSO MEETS THE READY MIX REQUIREMENTS OF ASTM C94 AND WILL MEET OR EXCEED 4,000 PSI IN 28 DAYS.
2. THE PAVEMENT SHALL BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT AND OIL BEFORE APPROVED ADHESIVE IS APPLIED PER MANUFACTURERS SPECIFICATIONS.
3. THE FIBER REINFORCED MIX SHALL BE FED INTO THE VIBRATING HOPPER WHERE IT IS COMPACTED INTO THE DESIRED MOLD PROFILE.
4. FRESHLY EXTRUDED CURB SHALL BE LIGHTLY TOUCHED UP WITH A STEEL HAND TROWEL. CONTROL JOINTS SHALL BE TOOLED AS SOON AS POSSIBLE AT 9' INTERVALS. ADDITIONAL CONTROL JOINTS ADDED ON RADIUS AS NECESSARY.
5. THE FINISHED CURB WILL BE COATED WITH AN APPROVED CURING COMPOUND.
6. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS AND TEMPERATURE RESTRICTIONS.
7. USE VERTICAL CURB FOR ALL AREAS ADJACENT TO SIDEWALK. USE SLOPED CURB IN ALL OTHER AREAS.

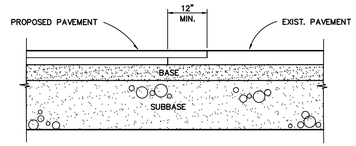
EXTRUDED CONCRETE CURB
NTS



NOTES:

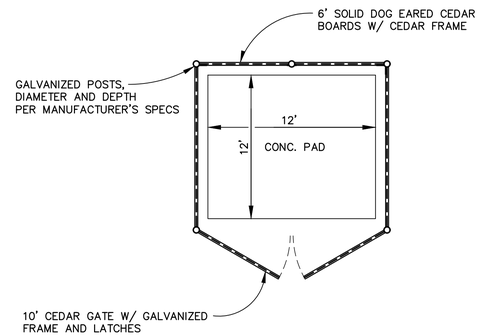
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO MDOT STANDARDS SPECIFICATIONS, REVISED MARCH 2020, AND MOST RECENT SUPPLEMENTAL SPECIFICATIONS.
2. SEE MDOT 401 FOR MATERIALS AND MDOT 413 FOR INSTALLATION.
3. ALL MATERIALS SHALL BE COMPACTED TO ACHIEVE 95% OF MAXIMUM DENSITY.
4. AGGREGATE SUBBASE SHALL MEET THE REQUIREMENTS OF MAINE DOT SPECIFICATION 703.06 TYPE D, WITH THE EXCEPTION THAT THE AGGREGATE SUBBASE SHALL NOT CONTAIN PARTICLES OF ROCK THAT WILL NOT PASS THE 4 INCH SQUARE MESH SIEVE.

TYPICAL PAVEMENT SECTION
N.T.S.

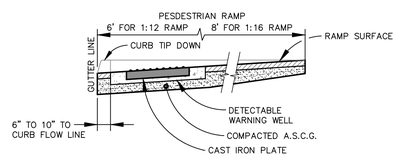


SAWCUT EXIST. PAVEMENT ALONG A SMOOTH LINE TO A NEAT EVEN VERTICAL JOINT, APPLY TACK PRIOR TO PROPOSED PAVING (AS REQ'D)

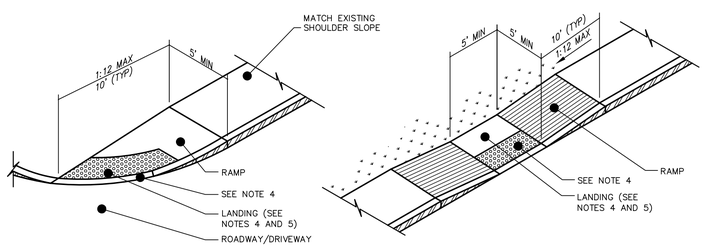
PAVEMENT JOINT DETAIL
N.T.S.



DUMPSTER ENCLOSURE
NTS



SIDE SECTION OF DETECTABLE WARNING, WELL, CURB AND GUTTER

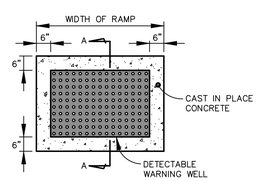


TYPE 1 TYPE 2

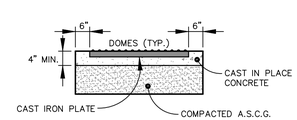
ADA RAMPS
N.T.S.

NOTE:

1. CURB RAMP LENGTHS ARE BASED ON SIX (6) INCH CURB REVEAL HEIGHT AND NO RUNNING SLOPE. RAMP LENGTHS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE VARYING CURB REVEAL HEIGHTS AND TO MATCH RUNNING SLOPES OF ADJACENT ROADWAY AND SIDEWALK SLOPES TO MAINTAIN A RAMP THAT DOES NOT EXCEED THE MAXIMUM RAMP SLOPE OF 1:12.
2. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES AND SHALL HAVE A BASE DIAMETER OF 0.9 INCHES (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM; A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 INCHES (5.1 mm), A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41mm) MINIMUM AND 2.4 INCHES (61mm) MAXIMUM; AND A BASE-TO-BASE SPACING OF 0.65 INCHES (17mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
3. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
4. ALL ACCESSIBLE ROUTE SIDEWALKS INTERSECTING ROADWAYS, DRIVEWAYS, OR OTHER VEHICULAR CROSSINGS REQUIRE DETECTABLE WARNINGS. DETECTABLE WARNING ZONES SHALL BE INSTALLED SIX (6) INCHES (OR THE HORIZONTAL THICKNESS OF THE ADJACENT CURB) FROM THE FLOW LINE OF THE CURB, EXTEND INTO THE SIDEWALK FOR A 24" DEPTH, AND COVER THE COMPLETE WIDTH OF THE SIDEWALK OR RAMP AREA. DETECTABLE WARNING ZONES SHALL CONFORM TO THE SLOPE REQUIREMENTS OF THE RAMP, LANDING, OR ACCESSIBLE ROUTE AS DEFINED IN THE SPECIFIED DETAIL. DETECTABLE WARNINGS SHALL NOT BE INSTALLED IN FLARED SIDES, IF THE RAMP INCLUDES FLARED SIDES.
5. ALL LANDING AREAS SHALL BE 4 FEET WIDE BY 4 FEET LONG (MINIMUM DIMENSIONS). THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED A 1:48 IN ANY DIRECTION.
6. ALL ACCESSIBLE ROUTE SLOPES ADJOINING THE LANDING AREA, EXCLUDING THE CURB RAMP, SHALL NOT EXCEED A SLOPE OF 1:20 UNLESS OTHERWISE NOTED.



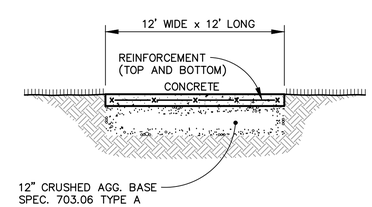
PLAN VIEW OF DETECTABLE WARNING WELL



SECTION A-A

NOTE: ALL DETECTABLE WARNING AREAS SHALL START 6-10" FROM THE FLOW LINE OF THE CURB, BE 24" IN DEPTH AND COVER THE COMPLETE WIDTH OF THE RAMP AREA ONLY.

DETECTABLE WARNING MAT EMBEDDING
NTS



CONCRETE	-	8" THICK 4,000 PSI @ 28 DAYS, 3/4" MAX. AGGRIGATE, 3-5% AIR ENTRAINMENT, 4" MAX. SLUMP
REINFORCEMENT	-	#4 BARS AT 12" O.C. EACH WAY, TOP AND BOTTOM
FINISH	-	SCREED AND BULL FLOAT, BROOM FINISH PERPENDICULAR TO TRAVEL DIRECTION
JOINTS	-	SAWCUT TO 1/3 DEPTH AT 5'-6' O.C.
SEALING	-	APPLY POLY SULFIDE LIQUID SEALANT, GRAY PER MANUFACTURER'S SPEC'S.

DUMPSTER PAD
NTS

REVISION		
NO.	DATE	DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
CHRISTOPHER RYAN MACDONALD
No. 11985
LICENSED PROFESSIONAL ENGINEER

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

DETAILS A
25 BARRA ROAD
25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Dept.	As Noted
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
6

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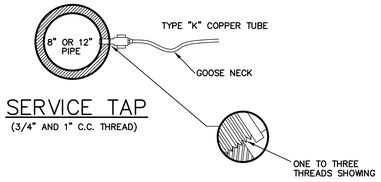
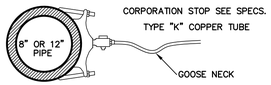
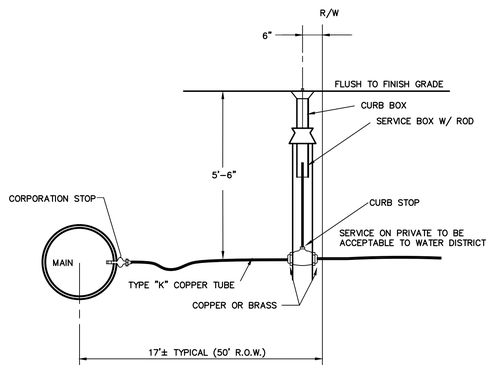


SERVICE TAP
(3/4" AND 1" C.C. THREAD)



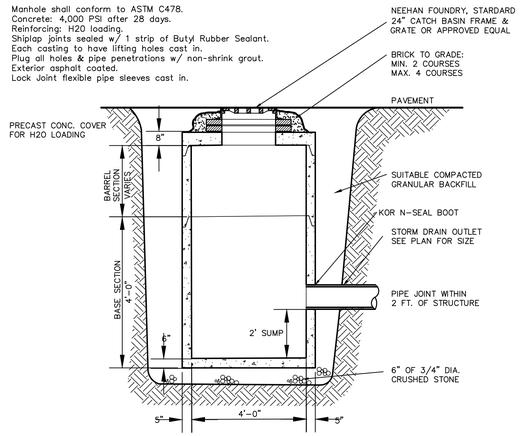
SERVICE SADDLE
(1-1/2" & 2" C.C. OR IRON PIPE THREAD)

NOTE: SERVICE CONNECTIONS (DIRECT TAPS AND SERVICE CLAMPS) WILL BE INSTALLED SO THAT THE OUTLET IS AT AN ANGLE OF NOT MORE THAN 45° ABOVE THE HORIZONTAL. ALWAYS PUT A BEND OR "GOOSENECK" IN THE SERVICE LINE PRIOR TO CONNECTING TO PROVIDE FLEXIBILITY AND "GIVE" TO COUNTERACT THE EFFECTS OF A LOAD DUE TO SETTLEMENT OR EXPANSON AND/OR CONTRACTION (SEE DETAILS).

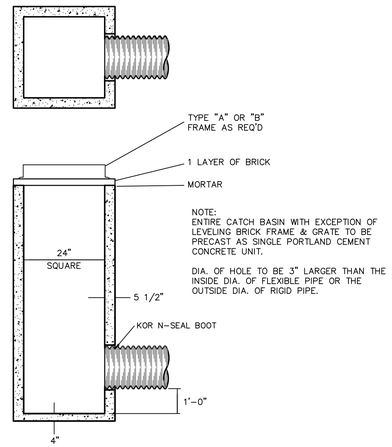


TYPICAL SERVICE CONNECTION
N.T.S.

Manhole shall conform to ASTM C478.
Concrete: 4,000 PSI after 28 days.
Reinforcing: H20 loading.
Shiplap joints sealed w/ 1 strip of Butyl Rubber Sealant.
Each casting to have lifting holes cast in.
Plug all holes & pipe penetrations w/ non-shrink grout.
Exterior asphalt coated.
Lock Joint flexible pipe sleeves cast in.



PRECAST CONCRETE CATCH BASIN DETAIL
N.T.S.



NOTE:
ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME & GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.

DIA. OF HOLE TO BE 3" LARGER THAN THE INSIDE DIA. OF FLEXIBLE PIPE OR THE OUTSIDE DIA. OF RIGID PIPE.

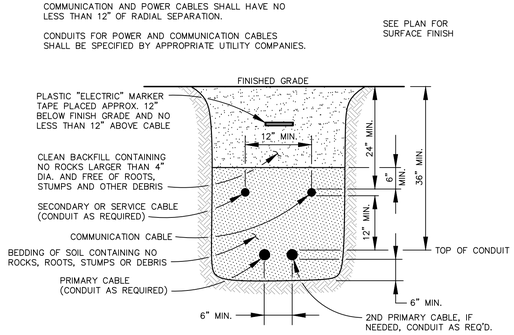
CATCH BASIN TYPE "F"
N.T.S.

NOTES:

INSTALLATION SHOULD NOT ALLOW THE INTER-TWINING OF CABLES.

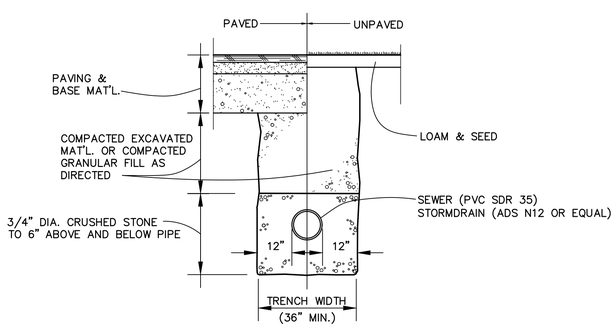
COMMUNICATION AND POWER CABLES SHALL HAVE NO LESS THAN 12" OF RADIAL SEPARATION.

CONDUITS FOR POWER AND COMMUNICATION CABLES SHALL BE SPECIFIED BY APPROPRIATE UTILITY COMPANIES.



UNDERGROUND CABLE TRENCH
NTS

NOTES:
1. Trench width shown is payment width for rockexcavation & replacement of unsuitable material.
2. Do not mechanically compact directly over flexible pipe (e.g. PVC, Poltyethylene)
3. Concrete pipe shall have sand bedding.



TRENCH DETAIL
NTS

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
CHRISTOPHER RYAN MACDONALD
No. 11985
LICENSED PROFESSIONAL ENGINEER

BH2M
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Gorham, Maine 04038
Tel. (207) 839-2771
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FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

DETAILS B
25 BARRA ROAD
25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	June 2024
DRAWN	SCALE
Dept.	As Noted
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
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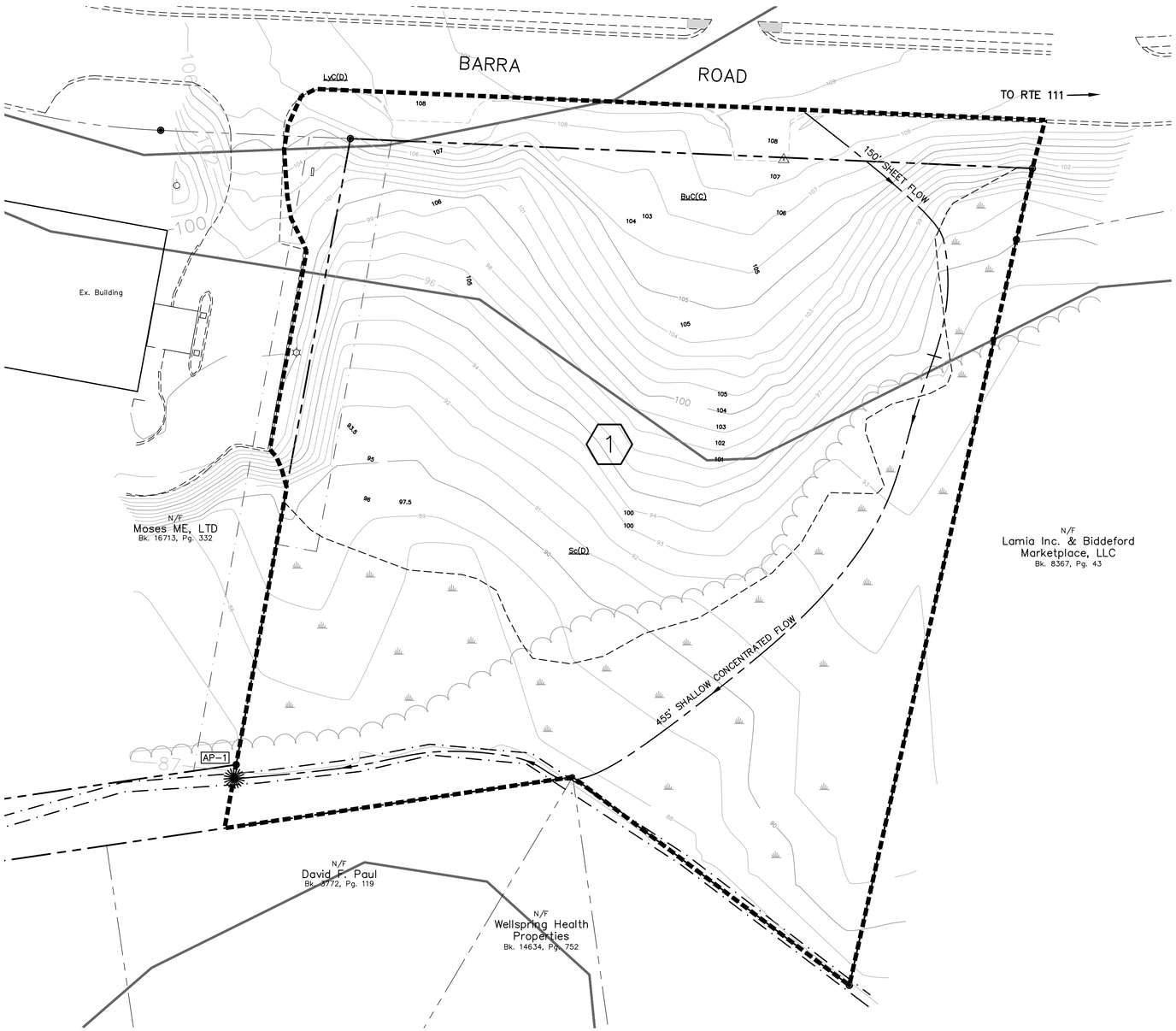

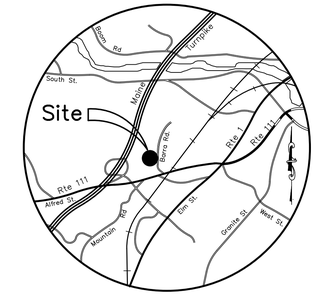

LOCATION MAP
SCALE: 1" = 2 MILES

NOTES:

1. BOUNDARY: BH2M
ROBERT C. LIBBY JR. PLS#2190
380B MAIN STREET
GORHAM, MAINE

2. SOILS MAPPING: YORK COUNTY MEDIUM INTENSITY SOILS MAPS

3. WETLANDS: MARK HAMPTON ASSOCIATES
PORTLAND, MAINE

4. SEE STORMWATER MANAGEMENT REPORT FOR ADDITIONAL INFORMATION.

5. TOPOGRAPHY: GROUND SURVEY BY BH2M

PREDEVELOPMENT FLOWS

ANALYSIS POINT	2 YR. STORM	10 YR. STORM	25 YR. STORM
AP-1	2.61 CFS	5.30 CFS	7.65 CFS

LEGEND

SYMBOL	DESCRIPTION
12	POND
12	DRAINAGE SUB AREA
R12	REACH
	DRAINAGE AREA BOUNDARY
	TIME OF CONCENTRATION ROUTE
	LIMIT OF WETLANDS
64	EXISTING CONTOUR
64	PROPOSED CONTOUR

Scale: 1" = 30'
30' 0 30' 60'

OFFSITE SOIL LEGEND

SYMBOL	DESCRIPTION
	SOIL BOUNDARY LINES
	LIMIT OF WETLANDS

SLOPE DESIGNATION
A = 0 – 3%
B = 3– 8%
C = 8 – 20%
D = 20%+

HYDROLOGIC SOIL GROUP

SOIL	GROUP
BUXTON (BuC)	C
LYMAN-ROCK (LyC)	D
SCANTIC (Sc)	D

SOIL DESIGNATION
AdB(A)
SLOPE DESIGNATION
HYDROLOGIC SOIL GROUP
HYDROLOGIC SOIL

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
AUSTIN C. FAGAN
PROFESSIONAL ENGINEER
LICENSED

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

PRE-DEVELOPMENT PLAN

25 BARRA ROAD

25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
A. Fagan	June 2024
DRAWN	SCALE
Dept.	1" = 30'
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
A

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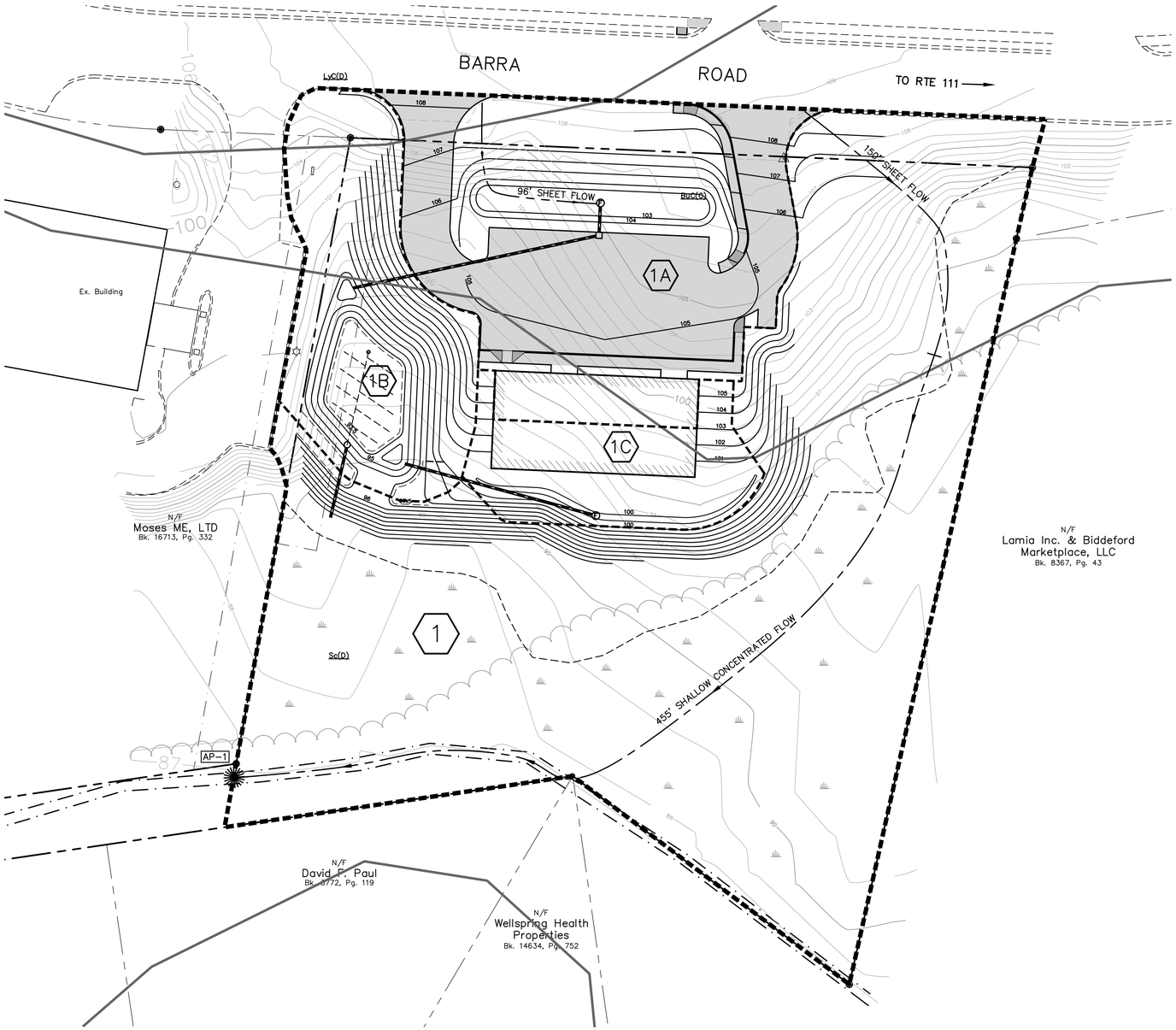

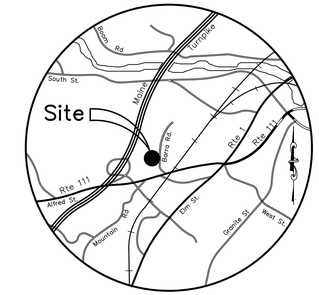

LOCATION MAP
SCALE: 1" = 2 MILES

NOTES:

1. BOUNDARY: BH2M
ROBERT C. LIBBY JR. PLS#2190
380B MAIN STREET
GORHAM, MAINE

2. SOILS MAPPING: YORK COUNTY MEDIUM INTENSITY SOILS MAPS

3. WETLANDS: MARK HAMPTON ASSOCIATES
PORTLAND, MAINE

4. SEE STORMWATER MANAGEMENT REPORT FOR ADDITIONAL INFORMATION.

5. TOPOGRAPHY: GROUND SURVEY BY BH2M

POST DEVELOPMENT FLOWS
FLOW RATE = POST (PRE)

ANALYSIS POINT	2 YR. STORM	10 YR. STORM	25 YR. STORM
AP-1	1.66 (2.61) CFS	4.17 (5.30) CFS	7.63 (7.65) CFS

LEGEND

SYMBOL	DESCRIPTION
12	POND
12	DRAINAGE SUB AREA
R12	REACH
	DRAINAGE AREA BOUNDARY
	TIME OF CONCENTRATION ROUTE
	LIMIT OF WETLANDS
64	EXISTING CONTOUR
64	PROPOSED CONTOUR

Scale: 1" = 30'
30' 0 30' 60'

OFFSITE SOIL LEGEND

SYMBOL	DESCRIPTION
	SOIL BOUNDARY LINES
	LIMIT OF WETLANDS

SLOPE DESIGNATION
A = 0 – 3%
B = 3– 8%
C = 8 – 20%
D = 20%+

HYDROLOGIC SOIL GROUP

SOIL	GROUP
BUXTON (BuC)	C
LYMAN-ROCK (LyC)	D
SCANTIC (Sc)	D

SOIL DESIGNATION
AdB(A)
SLOPE DESIGNATION
HYDROLOGIC SOIL GROUP
HYDROLOGIC SOIL

NO.	DATE	REVISION DESCRIPTION
1	6/12/24	Submitted for Preliminary Permit Application

STATE OF MAINE
AUSTIN C. FAGAN
PROFESSIONAL ENGINEER
LICENSED

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

POST DEVELOPMENT
25 BARRA ROAD
25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
A. Fagan	June 2024
DRAWN	SCALE
Dept.	1" = 30'
CHECKED	JOB. NO.
C. MacDonald	23214

SHEET
B

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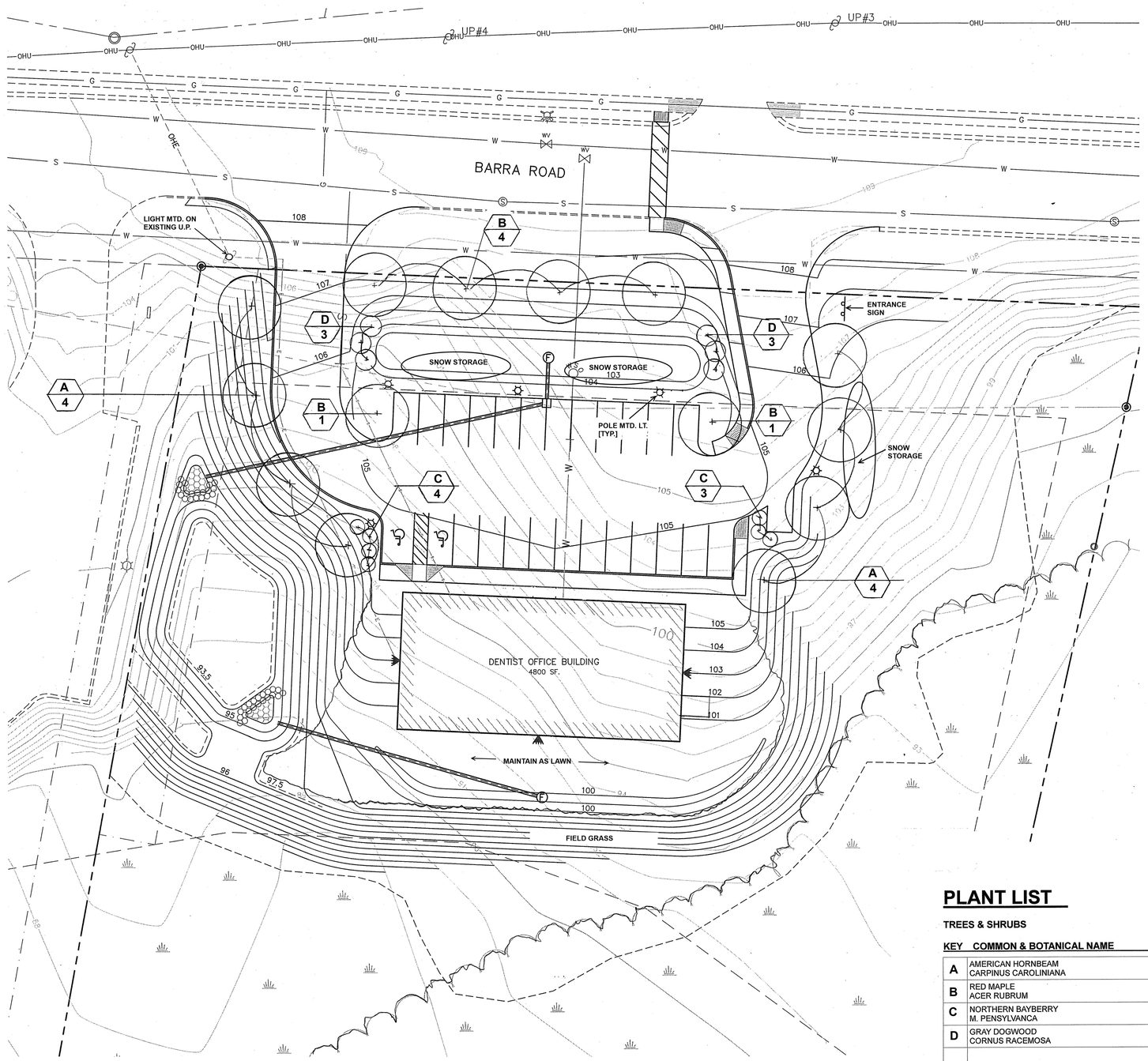

PLANT LIST

TREES & SHRUBS

KEY	COMMON & BOTANICAL NAME	SIZE	ROOT	QTY	NOTES
A	AMERICAN HORNBEAM CARPINUS CAROLINIANA	2 ½ " Cal.	B&B		Trim for 8' clear under branches
B	RED MAPLE ACER RUBRUM	2 ½ " Cal.	B&B		Trim for 8' clear Under branches
C	NORTHERN BAYBERRY M. PENSYLVANCA	3'-4' HT.	CONT		
D	GRAY DOGWOOD CORNUS RACEMOSA	3'-4' HT.	CONT		

BY: ANTHONY MUENCH LANDSCAPE ARCHITECT
94 COMMERCIAL STREET
PORTLAND, MAINE

LEGEND

SYMBOL	DESCRIPTION
IPF/IRF	IRON PIPE/IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND
IRS	5/8" IRON ROD W/ CAP TO BE SET
	UTILITY POLE
	HYDRANT
	PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	WETLANDS
W	WATER MAIN
E	UNDERGROUND ELECTRIC
G	GAS MAIN
OHU	OVERHEAD UTILITIES
	STORM DRAIN

Scale: 1" = 20'
20' 0 20' 40'

NO.	DATE	REVISION DESCRIPTION

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
3809 Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
Mike Eon Associates LTD
260 Main Street
Biddeford, Maine

LANDSCAPING PLAN

25 BARRA ROAD

25 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
-	June 2024
DRAWN	SCALE
Staff	1" = 20'
CHECKED	JOB. NO.
-	23214

SHEET
L1

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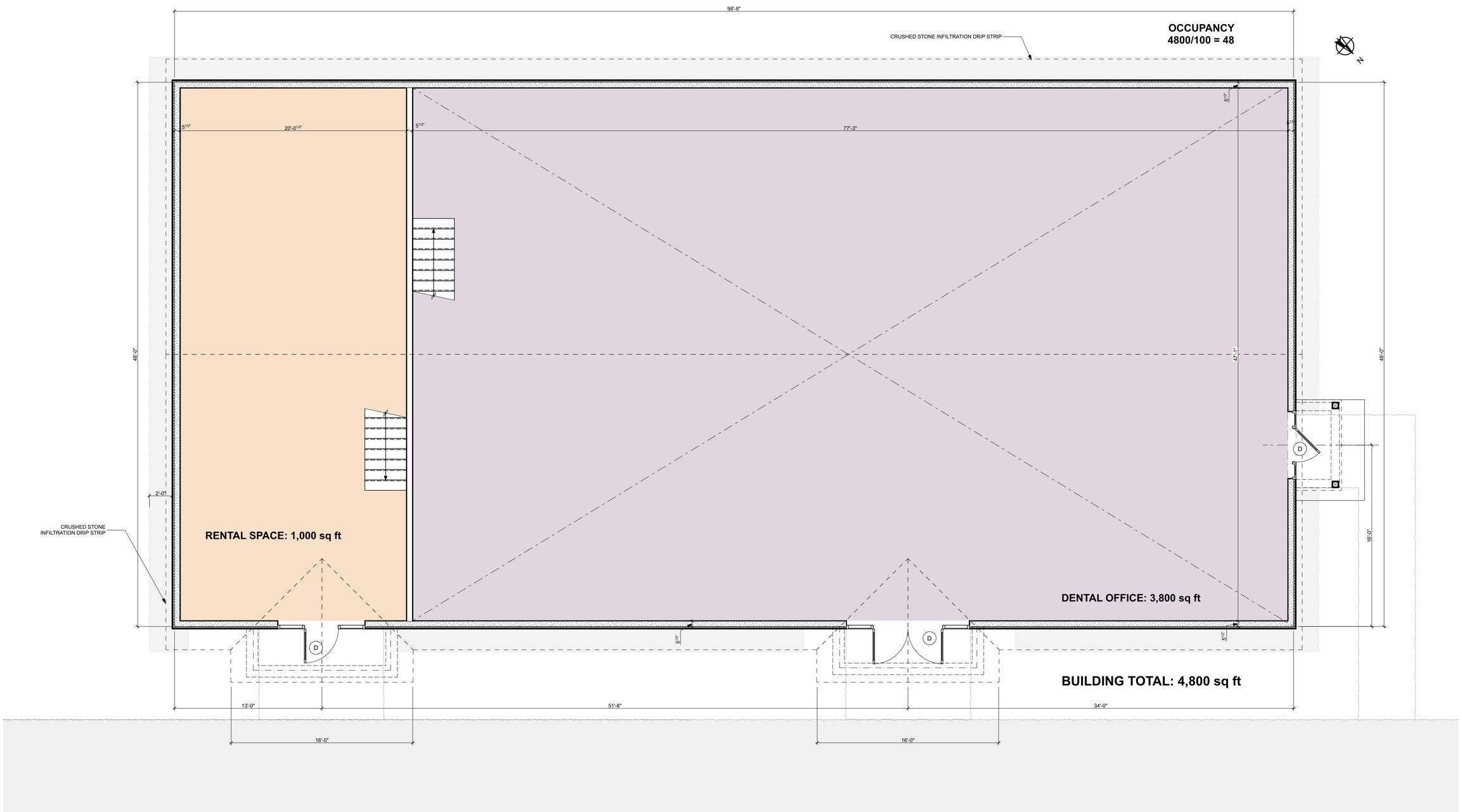

1
A1.2

FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

DENTAL OFFICE

25 BARRA ROAD, BIDDEFORD, MAINE

WHIPPLE
CALLENDER
ARCHITECTS

136 PLEASANT AVE.
PORTLAND, ME 04103
P 207.775.2696
F 207.775.3631
www.whipplecallender.com

MARK	DATE	DESCRIPTION

DATE: 6/10/24
CHECKED BY: JAD
DRAWN BY: CLBC
JOB: #Pln
SHEET TITLE: FIRST FLOOR PLAN

A1.2

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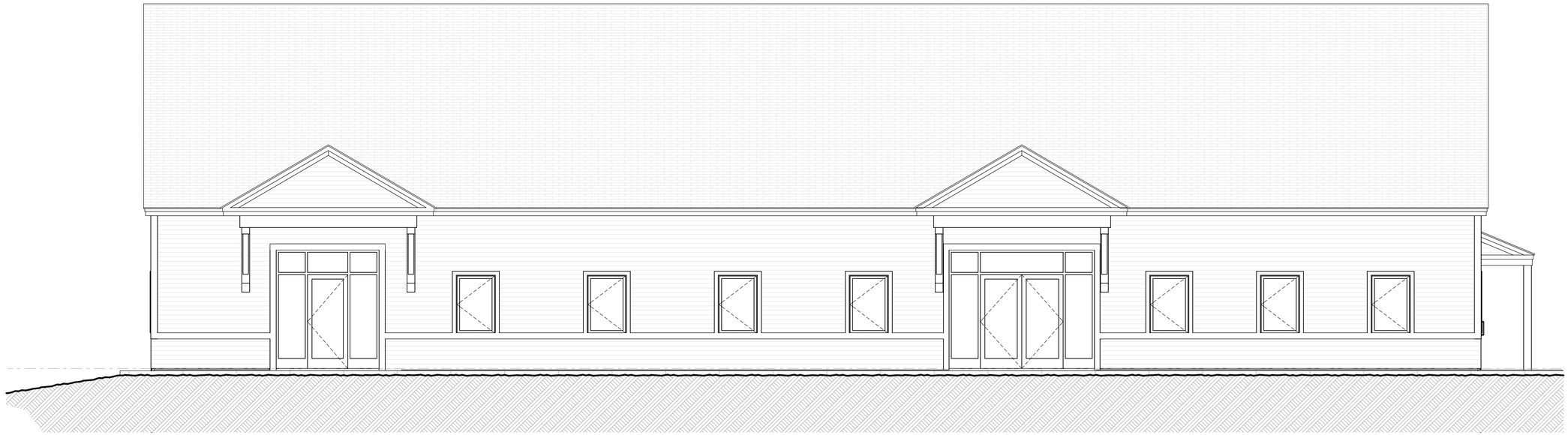

1 A2.1 **FRONT ELEVATION - NORTH**

SCALE: 1/4" = 1'-0"

2 A2.1 **SIDE ELEVATION - EAST**

SCALE: 1/4" = 1'-0"

DENTAL OFFICE

25 BARRA ROAD, BIDDEFORD, MAINE

WHIPPLE CALLENDER ARCHITECTS

136 PLEASANT AVE.
PORTLAND, ME 04103
P 207.775.2696
F 207.775.3631
www.whipplecallender.com

MARK	DATE	DESCRIPTION

DATE: 6/11/24

CHECKED BY: JAD

DRAWN BY: CLBC

JOB: #Pln

SHEET TITLE: ELEVATIONS - FRONT & SIDE ENTRANCE

A2.1

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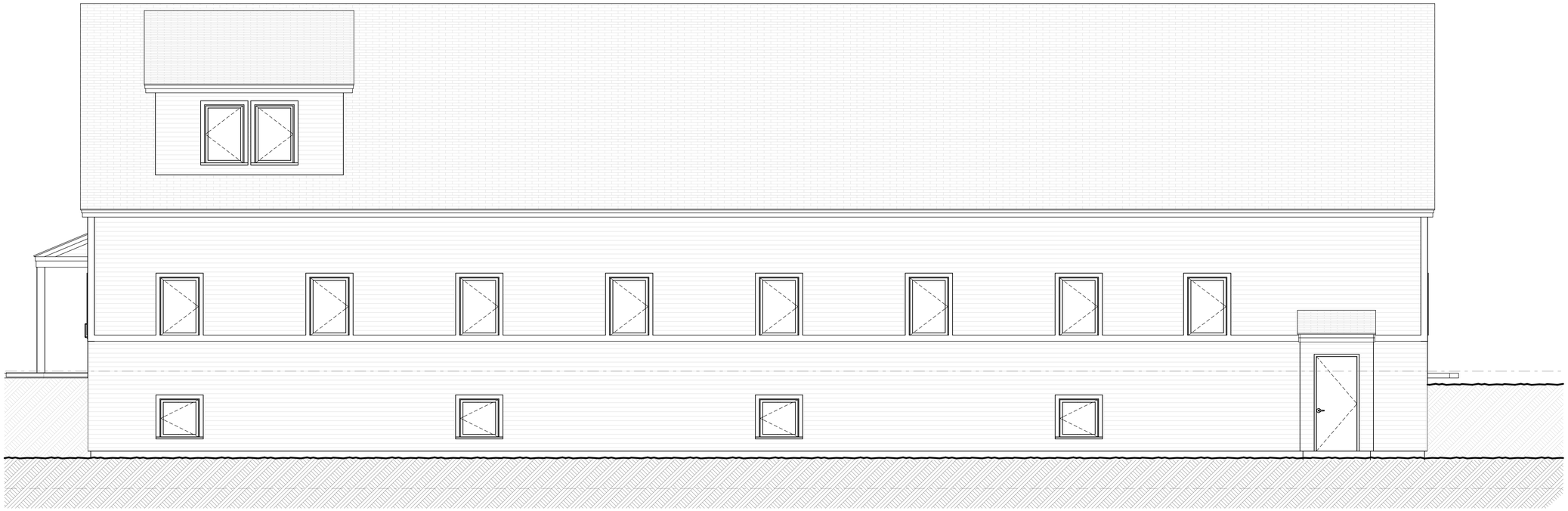

3
A2.2

BACK ELEVATION - SOUTH

SCALE: 1/4" = 1'-0"

4
A2.2

SIDE ELEVATION - WEST

SCALE: 1/4" = 1'-0"

DENTAL OFFICE

25 BARRA ROAD, BIDDEFORD, MAINE

WHIPPLE
CALLENDER
ARCHITECTS

136 PLEASANT AVE.
PORTLAND, ME 04103
P 207.775.2696
F 207.775.3631
www.whipplecallender.com

MARK	DATE	DESCRIPTION

DATE: 6/11/24

CHECKED BY: JAD

DRAWN BY: CLBC

JOB: #Pln

SHEET TITLE: ELEVATIONS - BACK AND SIDE

A2.2

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GORRILL PALMER

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

MEMORANDUM
TRAFFIC EVALUATION
DENTIST OFFICE
BARRA ROAD - BIDDEFORD, ME
June 24, 2024

INTRODUCTION

Per the request of Mike Eon Associates LTD, Gorrill Palmer (GP) has calculated and evaluated specific traffic information regarding a potential 4,800 SF dentist office. The current site is undeveloped and located north of Dunkin Donuts, east of Canuvo Recreational Cannabis, and south of York County Dialysis. The purpose of this memorandum is to provide the applicant with a traffic evaluation that can be submitted to the City of Biddeford. The City of Biddeford Ordinance provides the following guidance regarding traffic: Article VI. Performance Standards, Section 62. Studies and impact / development fees, C.

"…, the Board may require additional studies and reports when there is reason to believe that a given project may have unreasonable or adverse impact on a given neighborhood or the community as a whole."

If a traffic study is required under C.1.a, -

"Traffic study: To be completed by a traffic engineer; this study shall report the possible impact that a given project may have on the City's roadways. Besides meeting the standards established for professionally completed reports, this study shall include local traffic accident information for the last five years prior to development."

As part of this traffic evaluation, we have reviewed/evaluated the following;

- Trip Generation
- Safety Review: 3-year & 5-year
- Sight Distance Review

The following summarizes the data and information used, the methodology, and the results of the evaluation.

TRIP GENERATION

Trip generation for the Dentist Office has been calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation,* 11th Edition, the most recent edition accepted by MaineDOT. After careful review of the Land Use Codes (LUCs) provided in the 11th Edition of *Trip Generation*, the following land use codes were used to calculate the trip generation for the proposed development:

Proposed Trip Generation

- LUC 720 – Medical-Dental Office Building – Stand-Alone

In calculating trip generation, MaineDOT methodology requires review of both the average rate and the fitted curve equation. If $r^2 \geq 0.80$ then the fitted curve equation is typically used, and if $r^2 < 0.80$ then the average rate is typically used. Trip generation calculations are provided in Attachment 1.

The following Table 1 summarizes the trip generation for a medical-dental office building.

Table 1 – Trip Generation (LUC 720 – 4,800 SF)

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	20.42	98
AM Peak Hour of Adjacent Street*	3.33	16
PM Peak Hour of Adjacent Street	3.93	19
AM Peak Hour Generator	3.74	18
PM Peak Hour Generator*	3.13	15
Saturday Peak Hour Generator	3.02	14

*Rates based on using fitted curve equation.

As can be seen in Table 1, the medical-dental office building is forecast to generate 16 and 19 trips during the AM and PM peak hours of adjacent street respectively.

The trip generation threshold for requiring a MaineDOT Traffic Movement Permit is 100 or more trip ends during any peak hour of any day. After reviewing the trip generation in Table 1, none of the peak hours exceed 100+ trip ends. Therefore, this development does not require a MaineDOT Traffic Movement Permit and will be solely reviewed by the City.

The following Table 2 summarizes the trip distribution for a medical-dental office building based on the ITE Trip Generation Manual, 11th Edition.

Table 2 – Trip Distribution (LUC 720)

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	49	49	98
AM Peak Hour of Adjacent Street	13	3	16
PM Peak Hour of Adjacent Street	6	13	19
AM Peak Hour Generator	11	7	18

PM Peak Hour Generator	6	9	15
Saturday Peak Hour	8	6	14

SAFETY REVIEW

For the safety review, GP reviewed both a three-year crash history (2021-2023) and a five-year crash history (2019-2023) (Supporting information provided in Attachment B). The following identifies each evaluation in more detail:

Three-year crash history:

The three-year crash history was reviewed because this is the criteria used by MaineDOT to identify a location as a high crash location. HCL criteria is discussed in more detail as follows:

To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

A safety review was completed for Barra Road and the immediate area around the Barra Road / Alfred Street / West Cole Road intersection. The following Table 3 summarizes those locations that met at least one of the above MaineDOT criteria.

Table 3 – Potential HCL Locations (3-year history)

Node	Location	Number of Crashes	Critical Rate Factor	HCL?
59168	Barra Road	1	1.76	No
59159	Alfred Street @ Barra Road / W Cole Road	34	1.25	Yes

As shown in Table 3, there is one location that meets the definition of a HCL (Node 59159). To identify potential mitigation, the collision diagram (Attachment B) was reviewed for potential crash patterns, which is typically considered three or more similar crashes. Based on a review of the collision diagram, there appear to be four crash patterns as follows:

- Alfred Street northbound rear-end (3 crashes)
- Alfred Street northbound angle crashes with southbound left turning traffic (3 crashes)
- Alfred Street southbound rear-end (11 crashes)
- Alfred Street southbound angle crashes with northbound left turning traffic (7 crashes)

Left turn angle crashes: Alfred Street left turning vehicles appear to have both a permissive & protected phase. This means that at some point in the signal cycle, the left turns can make a permissive left turn opposing two through lanes. This type of movement is discouraged by the MaineDOT because it has been shown to create these types of crash patterns, and only protected left turns are allowed when opposing two through lanes. It is our understanding that this intersection is part of a larger coordinated signal system along Alfred Street, and as such, any changes to timing and/or phasing will require evaluation of the entire system. In our opinion, this signal evaluation would be beyond the responsibility of this project given the minimal trip generation and impact this project will have on the intersection.

Rear-end crashes: The rear-end crashes could be a result of inadequate timing of the yellow and/or all red times for the through traffic. As identified in the previous "Left turn angle crashes" section, the timing and/or phasing of this intersection should not be changed unless the entire Alfred Street coordinated signal system is reviewed. It is our understanding that this intersection is part of a larger coordinated signal system along Alfred Street, and as such, any changes to timing and/or phasing will require evaluation of the entire system. In our opinion, this signal evaluation would be beyond the responsibility of this project given the minimal trip generation and impact this project will have on the intersection.

Five-year crash history:

Per Biddeford City Ordinance, the five-year crash history was also reviewed. The following Table 4 summarizes the crash history for the same location identified as a HCL in the previous section for three-year review.

Table 4 – Five-Year Crash History of Signalized Intersection

Node	Location	Number of Crashes	Critical Rate Factor
59159	Alfred Street @ Barra Road / W Cole Road	54	1.29

Based on the information in Table 4, the five-year crash history confirms the signalized intersection has historically had challenges when it comes to safety.

Pedestrian & Bicycle Crashes:

In addition to a review of the three & five-year crash histories, GP reviewed the latest three-year history to identify if there were reportable pedestrian or bicycle crashes. Based on information provided on the Maine Public Crash Query Tool, there were no reported bicycle crashes within the anticipated study area for the 2021-2023 time period. There was one reported pedestrian crash at the intersection of Alfred Street / Barra Road / W Cole Road. This crash occurred on 5/23/22 at 4:00 PM and was a non-fatal crash.

SIGHT DISTANCE REVIEW

The existing site currently has two curb cuts onto Barra Road that will be utilized for the proposed project. Gorrill Palmer completed a site visit on 6/20/2024 to evaluate sight distances for the proposed driveways. The City of Biddeford and MaineDOT have different standards for sight distance. Table 5 below presents the standard distances for the City of Biddeford and MaineDOT.

Table 5 – Standards for Sight Distance

Speed Limit (mph)	MaineDOT Required (ft)	City of Biddeford (ft)
25	200	250
30	250	300
35	305	350
40	360	400
45	425	450

Since the City of Biddeford requirements for sight distance are greater than MaineDOT, the City of Biddeford criteria was used for this evaluation. The City of Biddeford and MaineDOT use the same evaluation methodology to measure sight distance. The City of Biddeford and MaineDOT method are as follows:

The City of Biddeford and MaineDOT uses the following evaluation methodology to measure sight distance:

Driveway Observation Point:	10 feet from traveled way
Height of Eye at Driveway:	3.5 feet above the ground
Height of Approaching vehicle:	4.25 feet above the ground

Based on the MaineDOT Map Viewer, Barra Road does not have a legal speed limit. For the purposes of this evaluation, a 25-mph speed limit was assumed, which requires a sight distance of 250 feet. The following Table 6 summarizes the required and measured sight distances at the existing curb cuts.

Table 6 – Sight Distance Summary

Approach	Sight Distance (ft)		
	Required for passenger vehicle (ft)	Available (ft)	
		Looking Left	Looking Right
Exiting Northerly Barra Road Driveway (25 mph)	250	375+	375+
Exiting Southerly Barra Road Driveway (25 mph)	250	375+	375+

As shown in Table 6, the available sight distance exceeds required, even for a speed limit of 35-mph.

SUMMARY & CONCLUSIONS

Based on this evaluation we offer the following:

1. Trip Generation: The AM & PM peak hours of adjacent street are forecast to be 16 & 19 trip ends respectively.

2. Traffic Impacts: Given the relatively low trip generation, it is our opinion that the proposed development will not have an unreasonable or adverse impact on the neighborhood or community as a whole.

3. Safety Review: Based on a review of the three & five-year crash history, the signalized intersection of Barra Road / Alfred Street / West Cole Road is classified as a high crash location, with four distinct crash patterns.

4. Sight Distance Review: Sight distance exceeds requirements.

Attachments:

Attachment A – Trip Generation
Attachment B – Safety Review

u:\4326_25 barra road_biddeford\n traffic\summary memo 6-24-24.doc

STATE OF MAINE
RANDALL E. DUNTON
No. 8686
LICENSED
PROFESSIONAL ENGINEER
6-24-24

Attachment A

Trip Generation

Land Use: 720
Medical-Dental Office Building

Description

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. General office building (Land Use 710) and clinic (Land Use 630) are related uses.

Land Use Subcategory

Analysis of medical-dental office building data found that trip generation rates are measurably different for sites located within or adjacent to a hospital campus and sites that are stand-alone. Data plots are presented for these two land use subcategories.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Connecticut, Kentucky, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Virginia, Washington, and Wisconsin.

Source Numbers

104, 109, 120, 157, 184, 209, 211, 253, 287, 294, 295, 304, 357, 384, 404, 407, 423, 444, 509, 601, 715, 867, 879, 901, 902, 908, 959, 972

Medical-Dental Office Building - Stand-Alone
(720)

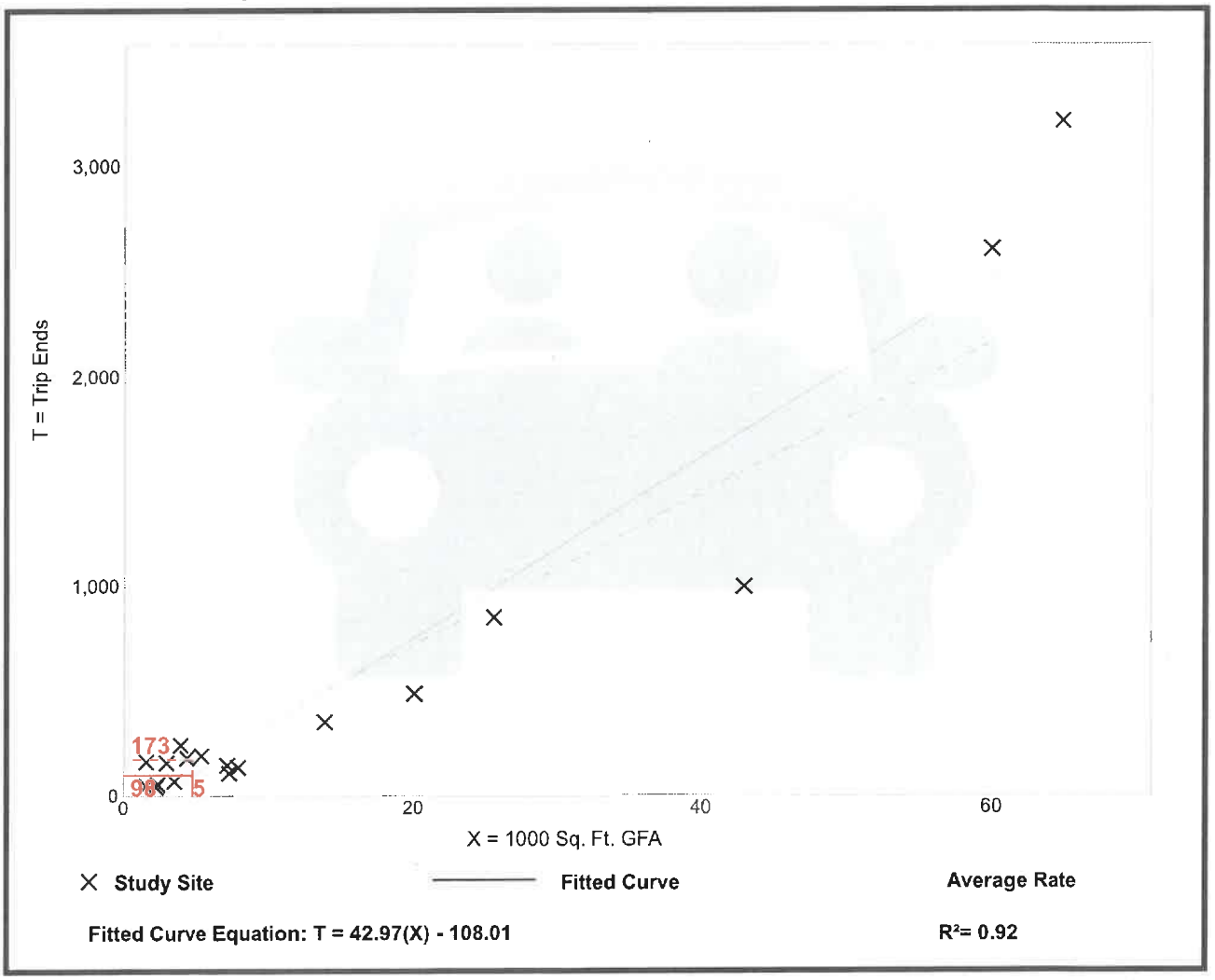
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



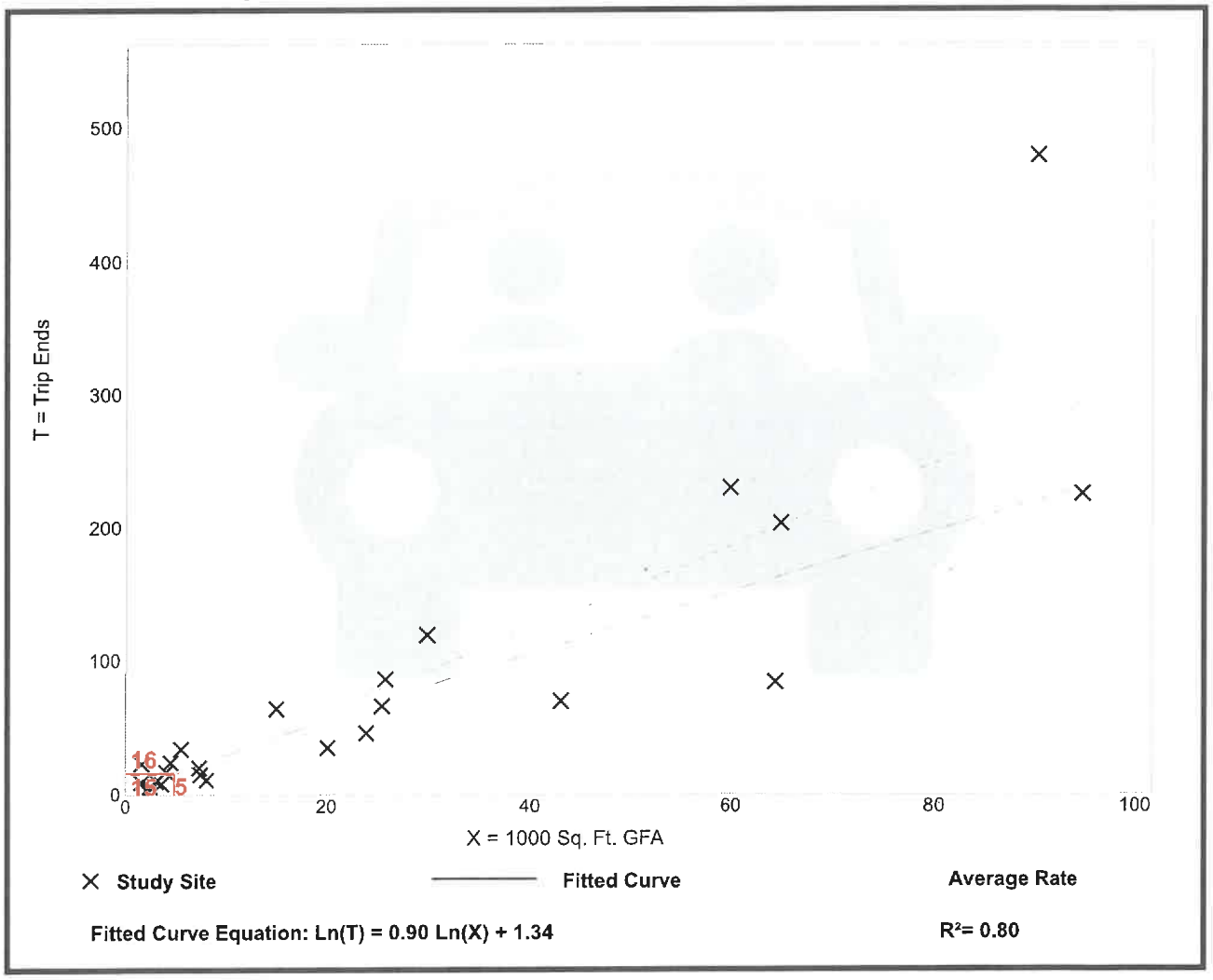
Medical-Dental Office Building - Stand-Alone
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	24
Avg. 1000 Sq. Ft. GFA:	25
Directional Distribution:	79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	0.87 - 14.30	1.49

Data Plot and Equation



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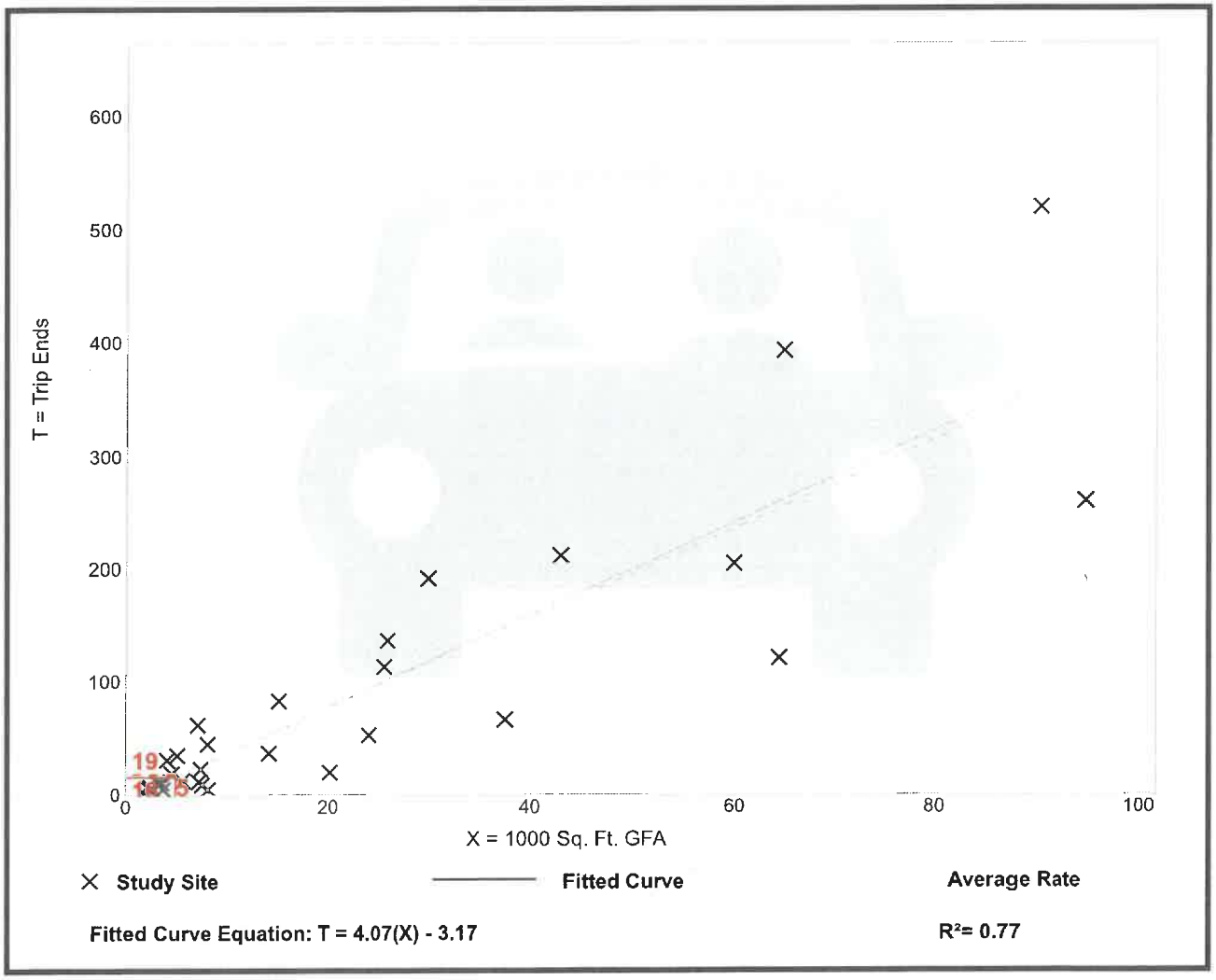
Medical-Dental Office Building - Stand-Alone
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	30
Avg. 1000 Sq. Ft. GFA:	23
Directional Distribution:	30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation



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Medical-Dental Office Building - Stand-Alone
(720)

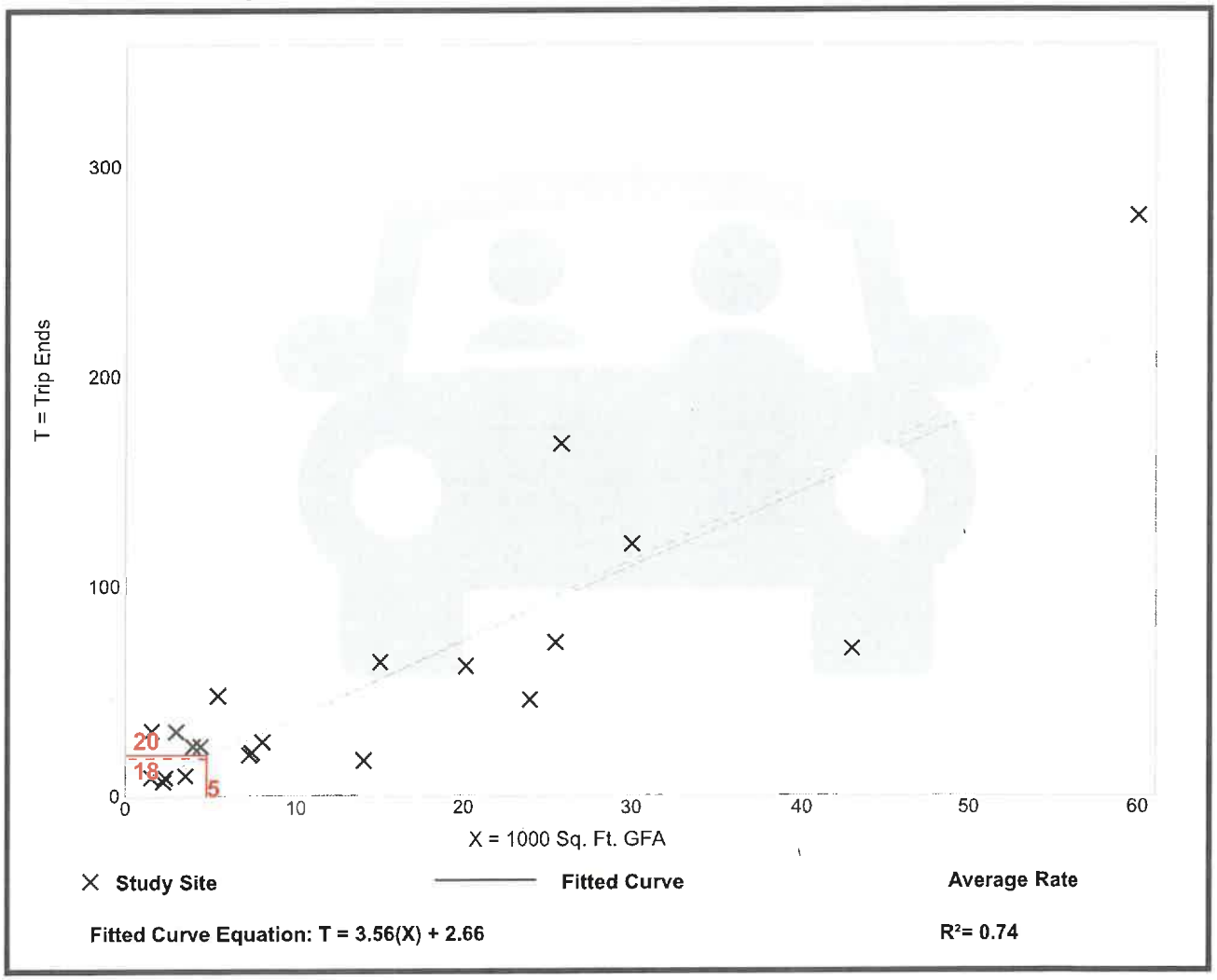
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 21
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.74	1.21 - 19.28	2.14

Data Plot and Equation



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Medical-Dental Office Building - Stand-Alone
(720)

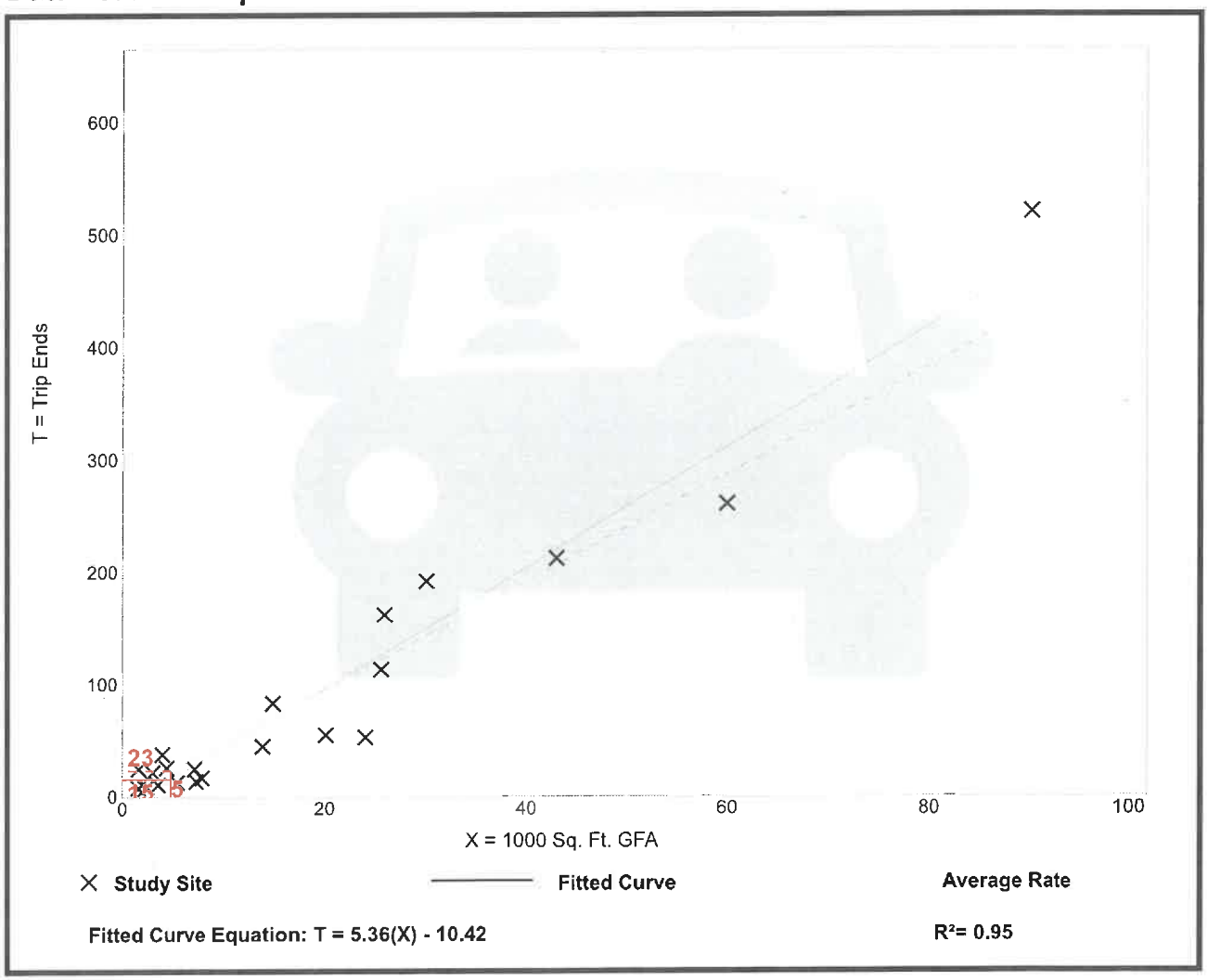
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. 1000 Sq. Ft. GFA: 18
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.79	1.88 - 15.55	1.62

Data Plot and Equation



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Medical-Dental Office Building - Stand-Alone
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

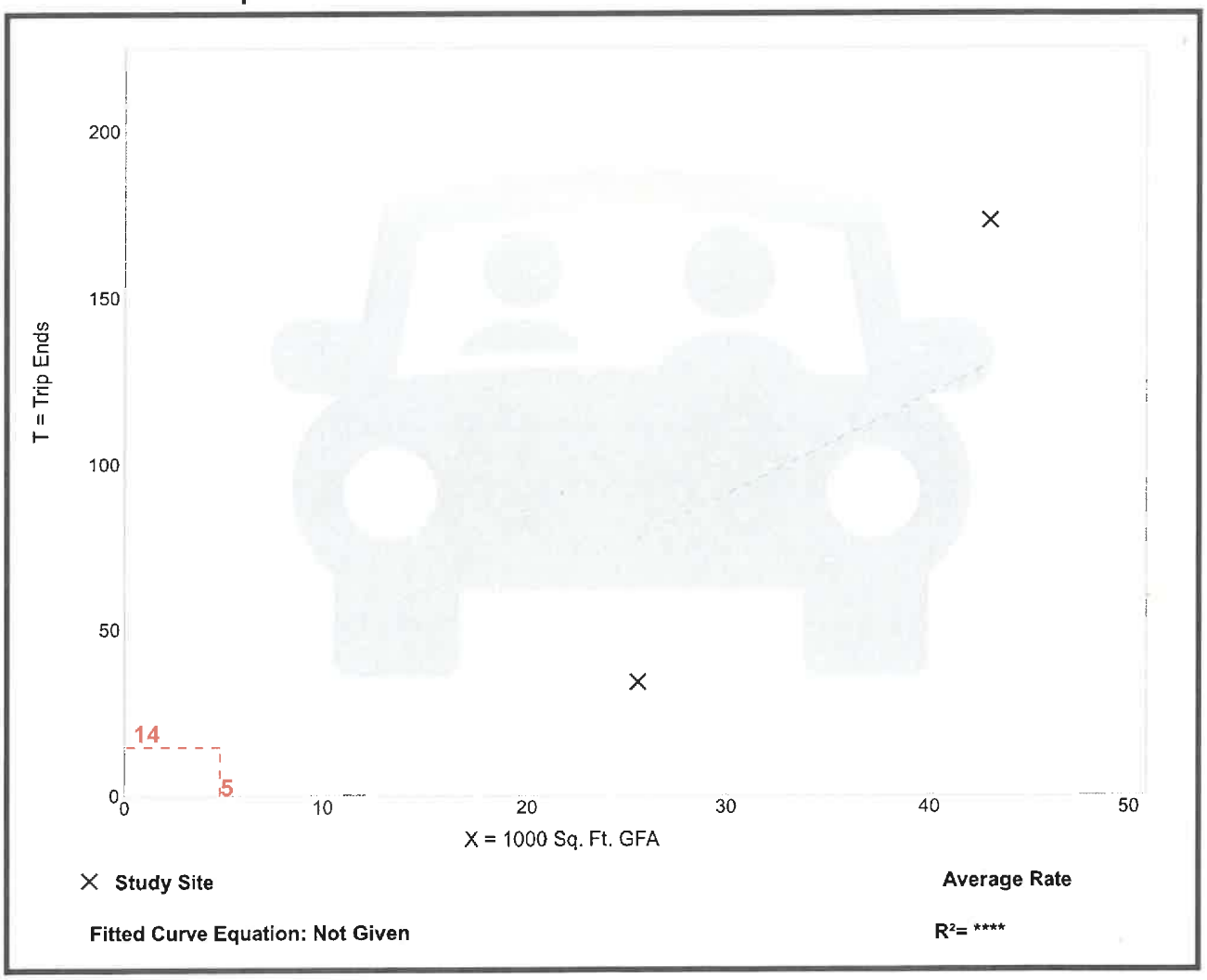
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 34
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.02	1.33 - 4.02	*

Data Plot and Equation

Caution – Small Sample Size



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Attachment B

Safety Review

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **59159** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

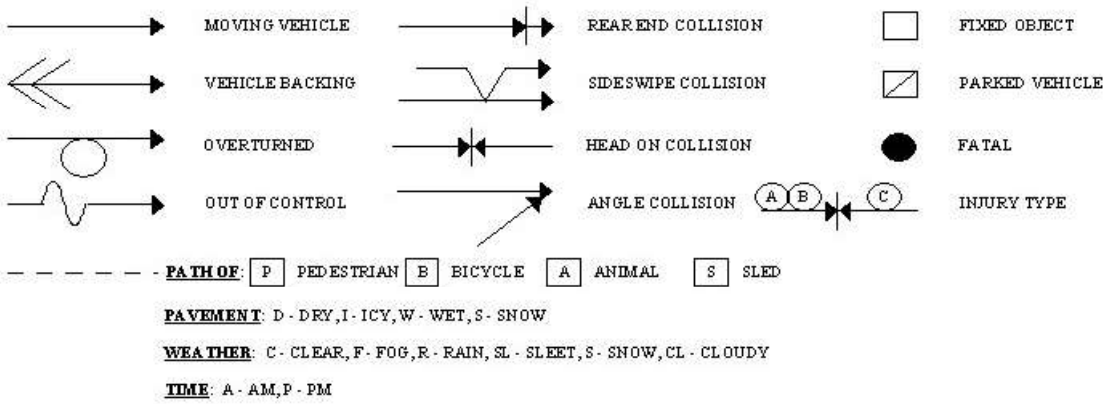
DESCRIPTION: **Int Alfred Rd & Barra Rd/West Cole Rd**

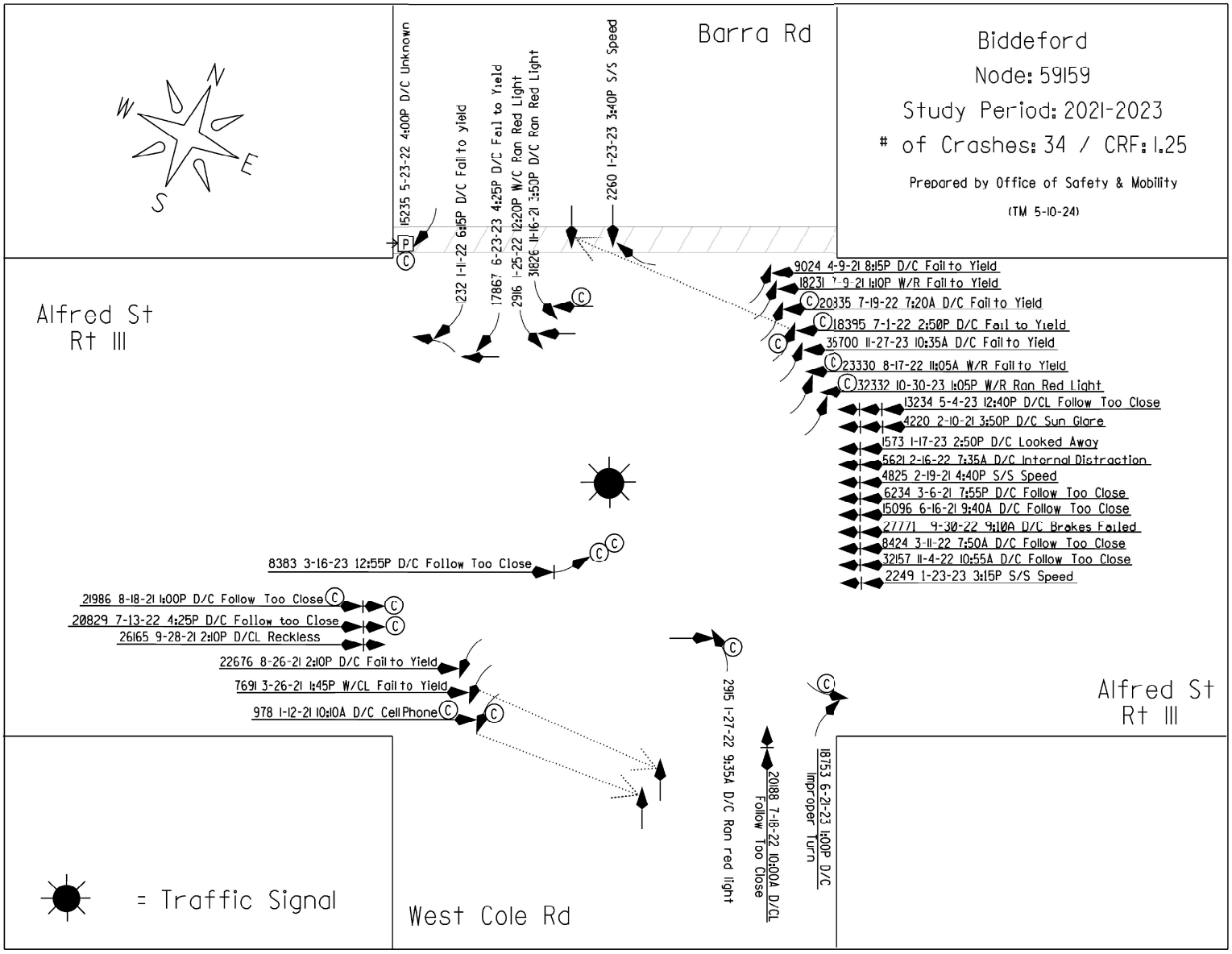
RTE # / RD #: **0111X** DATE DRAWN: **5/10/2024** DRAWN BY: **Tim**

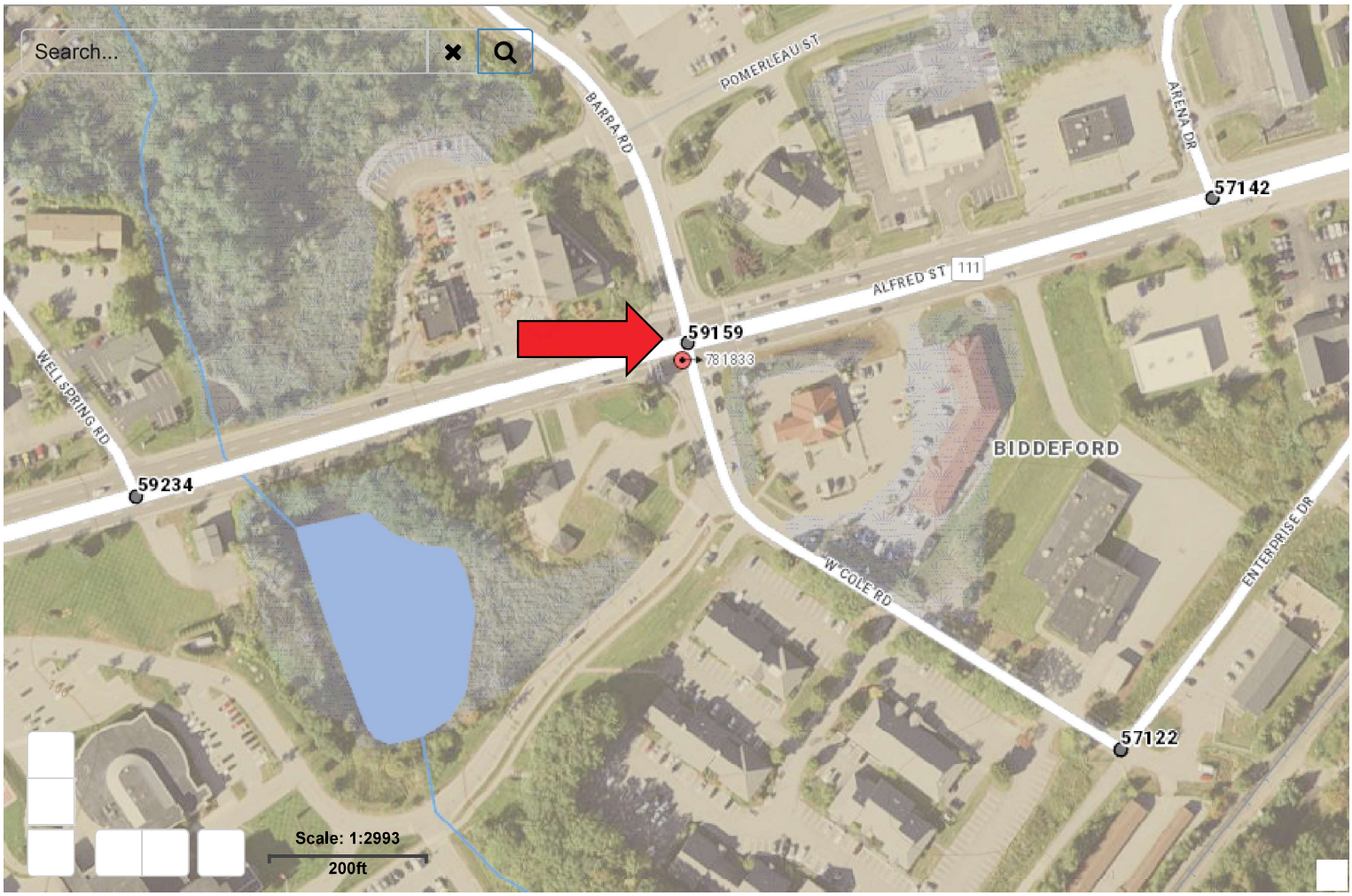
STUDY FROM: **1/1/2021** STUDY TO: **12/31/2023**

CRASH RATE: **1.41** CRF: **1.25** % INJURY: **35.3** TOTAL CRASHES: **34**

LEGEND




Biddeford
Node: 59159
Study Period: 2021-2023
# of Crashes: 34 / CRF: 1.25
Prepared by Office of Safety & Mobility
(TM 5-10-24)
Barra Rd
Alfred St
Rt III
West Cole Rd
15235 5-23-22 4:00P D/C Unknown
232 1-11-22 6:15P D/C Fail to yield
17867 6-23-23 4:25P D/C Fail to Yield
2916 1-25-22 12:20P W/C Ran Red Light
31826 11-16-21 3:50P D/C Ran Red Light
2260 1-23-23 3:40P S/S Speed
9024 4-9-21 8:15P D/C Fail to Yield
18231 7-9-21 1:10P W/R Fail to Yield
20335 7-19-22 7:20A D/C Fail to Yield
18395 7-1-22 2:50P D/C Fail to Yield
35700 11-27-23 10:35A D/C Fail to Yield
23330 8-17-22 11:05A W/R Fail to Yield
32332 10-30-23 1:05P W/R Ran Red Light
13234 5-4-23 12:40P D/CL Follow Too Close
4220 2-10-21 3:50P D/C Sun Glare
1573 1-17-23 2:50P D/C Looked Away
5621 2-16-22 7:35A D/C Internal Distraction
4825 2-19-21 4:40P S/S Speed
6234 3-6-21 7:55P D/C Follow Too Close
15096 6-16-21 9:40A D/C Follow Too Close
27771 9-30-22 9:10A D/C Brakes Failed
8424 3-11-22 7:50A D/C Follow Too Close
32157 11-4-22 10:55A D/C Follow Too Close
2249 1-23-23 3:15P S/S Speed
8383 3-16-23 12:55P D/C Follow Too Close
21986 8-18-21 1:00P D/C Follow Too Close
20829 7-13-22 4:25P D/C Follow too Close
26165 9-28-21 2:10P D/CL Reckless
22676 8-26-21 2:10P D/C Fail to Yield
7691 3-26-21 1:45P W/CL Fail to Yield
978 1-12-21 10:10A D/C Cell Phone
2915 1-27-22 9:35A D/C Ran red light
20188 7-18-22 10:00A D/CL Follow Too Close
18753 6-21-23 1:00P D/C Improper Turn
Alfred St
Rt III
= Traffic Signal


Search...
POMERLEAU ST
BARRA RD
ARENA DR
57142
ALFRED ST
111
59159
781833
WELLSPRING RD
59234
BIDDEFORD
W COLE RD
ENTERPRISE DR
57122
Scale: 1:2993
200ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I - Single Node** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Biddeford
Int Alfred Rd & Barra Rd/West Cole Rd

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: **0111X**	Start Node: **59159**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **59159**	End Offset: **0**	☐ **Exclude Last Node**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary I

Nodes															
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
59159	0111X - 2.06	Int of ALFRED ST BARRA RD W COLE RD	9	34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25
												Statewide Crash Rate:	0.71	
Study Years:	3.00	**NODE TOTALS:**		34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	1	0	0	0	0	0	0	0	0	6
TUESDAY	0	0	0	0	0	0	0	1	0	0	1	0	1	0	2	1	0	0	1	0	0	0	0	0	0	7
WEDNESDAY	0	0	0	0	0	0	0	1	0	1	0	1	0	2	0	1	1	0	0	0	0	0	0	0	0	7
THURSDAY	0	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4
FRIDAY	0	0	0	0	0	0	0	1	0	1	1	0	0	2	1	0	2	0	0	0	1	0	0	0	0	9
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Totals	0	0	0	0	0	0	0	3	0	3	4	1	3	5	4	4	4	0	1	1	1	0	0	0	0	**34**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	33	23-Bicyclist	0
2-(Sport) Utility Vehicle	24	24-Witness	6
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	12	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	**Total**	**79**
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	2		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	32	5	0	0	0	38
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	9	1	0	0	0	0	10
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	3	0	0	0	0	0	3
Improper Turn	1	0	0	0	0	0	1
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	10	0	0	0	0	0	10
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	3	0	0	0	0	0	3
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0
Total	**34**	**33**	**5**	**0**	**0**	**0**	**72**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	33	33	5	0	0	0	71
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	1	0	0	0	0	1
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	**34**	**34**	**5**	**0**	**0**	**0**	**73**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	11	0	0	0	0	11
20-24	8	0	0	0	0	8
25-29	2	0	0	0	0	2
30-39	10	0	0	0	0	10
40-49	4	0	0	0	0	4
50-59	12	0	0	0	0	12
60-69	12	0	0	0	0	12
70-79	7	0	0	0	0	7
80-Over	6	0	0	0	0	6
Unknown	0	0	0	1	0	1
Total	**72**	**0**	**0**	**1**	**0**	**73**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**72**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	68		
14-Parked Motor Vehicle	3		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	34
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	0
14-Other	0
Total	**34**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	12	16
PD	22	0
Total	**34**	**16**

Road Character

Road Grade	Total
1-Level	33
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**34**

Light

Light Condition	Total
1-Daylight	30
2-Dawn	0
3-Dusk	1
4-Dark - Lighted	3
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**34**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	1	3	3	7
FEBRUARY	2	1	0	3
MARCH	2	1	1	4
APRIL	1	0	0	1
MAY	0	1	1	2
JUNE	1	0	2	3
JULY	1	4	0	5
AUGUST	2	1	0	3
SEPTEMBER	1	1	0	2
OCTOBER	0	0	1	1
NOVEMBER	1	1	1	3
DECEMBER	0	0	0	0
Total	**12**	**13**	**9**	**34**

Report is limited to the last 10 years of data.

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	17	0	0	0	0	0	0	0	0	0	0	17
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	20	0	0	0	0	0	0	0	0	0	1	21
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	0	0	0	1	4
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	3	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	0	2
Dusk	0	0	0	0	0	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**5**	**34**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Biddeford
Alfred St-Barra Rd area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: 3200025	Start Node:	59159	Start Offset:	0	☑ Exclude First Node
	End Node:	59168	End Offset:	0	☐ Exclude Last Node
Route: 0111X	Start Node:	57142	Start Offset:	0	☑ Exclude First Node
	End Node:	59234	End Offset:	0	☑ Exclude Last Node

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary I

Nodes															
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
59168	3200025 - 0.32	Non Int BARRA RD	2	1	0	0	0	0	1	0.0	0.338	0.99	0.56	1.76
												Statewide Crash Rate:	0.13	
59159	0111X - 2.06	Int of ALFRED ST BARRA RD W COLE RD	9	34	0	0	0	12	22	35.3	8.017	1.41	1.13	1.25
												Statewide Crash Rate:	0.71	
Study Years:	3.00	NODE TOTALS:		35	0	0	0	12	23	34.3	8.355	1.40	1.09	1.28

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
59159	59168	5099102	0 - 0.32	3200025 - 0	0.32	2	3	0	0	0	0	3	0.0	0.00216	462.54	909.47	0.00
Int of ALFRED ST BARRA RD W COLE RD				RD INV 3200025											Statewide Crash Rate: 370.71		
59159	57142	3114974	0 - 0.13	0111X - 1.93	0.13	2	6	0	0	0	1	5	16.7	0.00953	209.84	412.20	0.00
Int of ALFRED ST BARRA RD W COLE RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	0.03	2	2	0	0	0	0	2	0.0	0.00237	281.28	580.94	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0 - 0.11	0111X - 2.06	0.11	2	4	0	0	0	1	3	25.0	0.00869	153.42	420.93	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
Study Years: 3.00				Section Totals:	0.59		15	0	0	0	2	13	13.3	0.02275	219.74	365.09	0.60
				Grand Totals:	0.59		50	0	0	0	14	36	28.0	0.02275	732.48	504.06	1.45

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
59159	59168	5099102	0 - 0.32	3200025 - 0	3	0	0	0	0	3	2022-14993	05/27/2022	0.05	PD
											2021-9515	04/16/2021	0.06	PD
											2023-3322	01/31/2023	0.23	PD
59159	57142	3114974	0 - 0.13	0111X - 1.93	6	0	0	0	1	5	2021-15006	06/10/2021	1.94	PD
											2022-19047	07/05/2022	1.97	PD
											2022-39406	12/14/2022	1.98	C
											2022-9295	03/18/2022	1.99	PD
											2021-16822	07/02/2021	1.99	PD
											2022-17495	06/20/2022	2.01	PD
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	2	0	0	0	0	2	2022-11788	04/27/2022	2.07	PD
											2022-26689	09/09/2022	2.07	PD
59234	59159	3118497	0 - 0.11	0111X - 2.06	4	0	0	0	1	3	2022-13541	05/10/2022	2.09	PD
											2021-22102	08/19/2021	2.10	C
											2023-24155	08/08/2023	2.10	PD
											2022-23332	08/15/2022	2.11	PD
				Totals:	15	0	0	0	2	13				

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	3	1	0	0	0	0	0	0	0	0	8
TUESDAY	0	0	0	0	0	0	0	1	1	0	2	0	1	0	2	1	1	0	1	0	1	0	0	0	0	11
WEDNESDAY	0	0	0	0	0	0	0	1	0	1	0	1	1	3	0	1	1	0	0	0	0	0	0	0	0	9
THURSDAY	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	0	0	0	1	0	0	7
FRIDAY	0	0	0	0	0	0	0	2	1	1	2	0	1	2	1	1	2	0	0	0	1	0	0	0	0	14
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Totals	0	0	0	0	0	0	0	4	4	3	6	1	5	6	4	6	5	1	1	1	2	0	1	0	0	50

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	46	23-Bicyclist	0
2-(Sport) Utility Vehicle	34	24-Witness	8
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	20	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	Total	112
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	2		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	46	5	0	0	0	52
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	17	1	0	0	0	0	18
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	3	0	0	0	0	0	3
Improper Turn	3	0	0	0	0	0	3
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	13	0	0	0	0	0	13
Failed to Keep in Proper Lane	2	1	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	3	0	0	0	0	0	3
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0
Total	50	48	5	0	0	0	103

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	47	48	5	0	0	0	100
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	1	0	0	0	0	1
Ill (Sick)	1	0	0	0	0	0	1
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	50	49	5	0	0	0	104

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	13	0	0	0	0	13
20-24	10	0	0	0	0	10
25-29	3	0	0	0	0	3
30-39	19	0	0	0	0	19
40-49	10	0	0	0	0	10
50-59	16	0	0	0	0	16
60-69	16	0	0	0	0	16
70-79	8	0	0	0	0	8
80-Over	8	0	0	0	0	8
Unknown	0	0	0	1	0	1
Total	103	0	0	1	0	104

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	103
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	98		
14-Parked Motor Vehicle	3		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	14	18
PD	36	0
Total	50	18

Road Character

Road Grade	Total
1-Level	44
2-On Grade	6
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	50

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	38
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	5
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	7
14-Other	0
Total	50

Light

Light Condition	Total
1-Daylight	44
2-Dawn	0
3-Dusk	2
4-Dark - Lighted	4
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	50

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	1	3	4	8
FEBRUARY	2	1	0	3
MARCH	2	2	1	5
APRIL	2	1	0	3
MAY	0	3	1	4
JUNE	2	1	2	5
JULY	2	5	0	7
AUGUST	3	3	1	7
SEPTEMBER	1	2	0	3
OCTOBER	0	0	1	1
NOVEMBER	1	1	1	3
DECEMBER	0	1	0	1
Total	16	23	11	50

Report is limited to the last 10 years of data.

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	5	0	0	16	0	2	0	0	0	0	0	0	0	0	23
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	17	0	8	0	0	0	0	0	0	0	0	25
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	1	0	34	0	10	0	0	0	0	0	0	0	0	50

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	26	0	0	0	0	0	0	0	0	0	1	27
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	5	0	0	0	0	0	0	0	0	0	3	8
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	7	7
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	0	2
Dusk	0	0	0	0	0	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	36	0	0	0	0	0	0	3	0	0	11	50

HEALTHCARE DR
59168
BARRA RD
BIDDEFORD
57143
POMERLEAU ST
56881
ARENA DR
57142
ALFRED ST
111
59236
WELLSPRING RD
59159
63953
59234
ENTERPRISE DR
W COLE RD
56879
58887
Scale: 1:4197
300ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Biddeford
Alfred St-Barra Rd area - 5 Year

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2023 End Month: 12

Route: 3200025	Start Node:	59159	Start Offset:	0	☑ Exclude First Node
	End Node:	59168	End Offset:	0	☐ Exclude Last Node
Route: 0111X	Start Node:	57142	Start Offset:	0	☑ Exclude First Node
	End Node:	59234	End Offset:	0	☑ Exclude Last Node

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary I

Nodes															
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
59168	3200025 - 0.32	Non Int BARRA RD	2	1	0	0	0	0	1	0.0	0.338	0.59	0.55	1.08
												Statewide Crash Rate:	0.13	
59159	0111X - 2.06	Int of ALFRED ST BARRA RD W COLE RD	9	54	0	0	2	16	36	33.3	8.017	1.35	1.04	1.29
												Statewide Crash Rate:	0.71	
Study Years:	5.00	NODE TOTALS:		55	0	0	2	16	37	32.7	8.355	1.32	1.00	1.31

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
59159	59168	5099102	0 - 0.32	3200025 - 0	0.32	2	4	0	0	0	0	4	0.0	0.00216	370.03	801.49	0.00
Int of ALFRED ST BARRA RD W COLE RD				RD INV 3200025											Statewide Crash Rate: 370.71		
59159	57142	3114974	0 - 0.13	0111X - 1.93	0.13	2	9	0	0	0	1	8	11.1	0.00953	188.85	369.52	0.00
Int of ALFRED ST BARRA RD W COLE RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0 - 0.11	0111X - 2.06	0.11	2	6	0	0	0	1	5	16.7	0.00869	138.08	376.58	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	0.03	2	4	0	0	0	1	3	25.0	0.00237	337.53	509.45	0.00
Int of ALFRED ST WELLSPRING RD				ST RTE 111											Statewide Crash Rate: 209.30		
Study Years: 5.00				Section Totals:	0.59		23	0	0	0	3	20	13.0	0.02275	202.16	334.71	0.60
				Grand Totals:	0.59		78	0	0	2	19	57	26.9	0.02275	685.60	466.51	1.47

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
59159	59168	5099102	0 - 0.32	3200025 - 0	4	0	0	0	0	4	2022-14993	05/27/2022	0.05	PD
											2019-75621	10/28/2019	0.05	PD
											2021-9515	04/16/2021	0.06	PD
											2023-3322	01/31/2023	0.23	PD
59159	57142	3114974	0 - 0.13	0111X - 1.93	9	0	0	0	1	8	2021-15006	06/10/2021	1.94	PD
											2019-64180	09/06/2019	1.96	PD
											2022-19047	07/05/2022	1.97	PD
											2022-39406	12/14/2022	1.98	C
											2019-49604	04/19/2019	1.99	PD
											2021-16822	07/02/2021	1.99	PD
											2022-9295	03/18/2022	1.99	PD
											2020-3278	01/27/2020	1.99	PD
											2022-17495	06/20/2022	2.01	PD
59234	59159	3118497	0.11 - 0.14	0111X - 2.06	4	0	0	0	1	3	2019-43557	02/23/2019	2.07	C
											2020-22019	09/15/2020	2.07	PD
											2022-26689	09/09/2022	2.07	PD
											2022-11788	04/27/2022	2.07	PD
59234	59159	3118497	0 - 0.11	0111X - 2.06	6	0	0	0	1	5	2022-13541	05/10/2022	2.09	PD
											2019-52338	05/22/2019	2.09	PD
											2021-22102	08/19/2021	2.10	C
											2023-24155	08/08/2023	2.10	PD
											2022-23332	08/15/2022	2.11	PD
											2019-54678	06/12/2019	2.13	PD
				Totals:	23	0	0	0	3	20				

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	1	0	2	1	1	1	0	4	1	1	0	0	0	0	0	0	0	12
TUESDAY	0	0	0	0	0	0	0	1	2	0	3	0	3	0	2	2	1	0	2	0	1	0	0	0	0	17
WEDNESDAY	0	0	0	0	0	0	0	1	1	2	0	2	1	4	0	1	1	0	0	0	0	0	0	0	0	13
THURSDAY	0	0	0	0	0	0	0	1	1	1	0	1	2	0	3	1	0	2	0	0	0	0	1	0	0	13
FRIDAY	0	0	0	0	0	1	0	3	1	1	3	0	1	3	1	2	2	2	0	0	1	0	0	0	0	21
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Totals	0	0	0	0	0	1	0	6	6	4	8	4	8	8	6	11	5	5	2	1	2	0	1	0	0	78

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	74	23-Bicyclist	0
2-(Sport) Utility Vehicle	53	24-Witness	18
3-Passenger Van	3	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	28	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	Total	180
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	3		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	72	7	0	0	0	80
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	33	1	0	0	0	0	34
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	1	0	0	0	0	0	1
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	4	0	0	0	0	0	4
Improper Turn	5	0	0	0	0	0	5
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	15	0	0	0	0	0	15
Failed to Keep in Proper Lane	4	1	0	0	0	0	5
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	5	0	0	0	0	0	5
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	4	1	0	0	0	0	5
Unknown	1	1	0	0	0	0	2
Total	78	76	7	0	0	0	161

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	75	76	7	0	0	0	158
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	1	0	0	0	0	1
Ill (Sick)	1	0	0	0	0	0	1
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	78	77	7	0	0	0	162

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	16	0	0	0	0	16
20-24	17	0	0	0	0	17
25-29	10	0	0	0	0	10
30-39	25	0	0	0	0	25
40-49	15	0	0	0	0	15
50-59	28	0	0	0	0	28
60-69	24	0	0	0	0	24
70-79	14	0	0	0	0	14
80-Over	12	0	0	0	0	12
Unknown	0	0	0	1	0	1
Total	161	0	0	1	0	162

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	161
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	155		
14-Parked Motor Vehicle	3		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	1		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	60
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	7
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	10
14-Other	1
Total	78

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	2	2
C	19	25
PD	57	0
Total	78	27

Road Character

Road Grade	Total
1-Level	70
2-On Grade	8
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	78

Light

Light Condition	Total
1-Daylight	68
2-Dawn	0
3-Dusk	2
4-Dark - Lighted	8
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	78

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	2022	2023	Total
JANUARY	1	2	1	3	4	11
FEBRUARY	2	3	2	1	0	8
MARCH	1	0	2	2	1	6
APRIL	1	0	2	1	0	4
MAY	1	0	0	3	1	5
JUNE	1	0	2	1	2	6
JULY	1	1	2	5	0	9
AUGUST	0	1	3	3	1	8
SEPTEMBER	2	1	1	2	0	6
OCTOBER	5	1	0	0	1	7
NOVEMBER	1	1	1	1	1	5
DECEMBER	2	0	0	1	0	3
Total	18	10	16	23	11	78

Report is limited to the last 10 years of data.

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	9	0	0	22	0	2	0	0	0	0	0	0	0	0	33
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	31	0	12	0	0	0	0	0	0	0	0	43
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	1	0	54	0	14	0	0	0	0	0	0	0	0	78

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Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	5	0	0	0	0	0	0	0	0	0	0	5
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	37	0	0	0	0	0	0	0	0	0	3	40
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	12	0	0	0	0	0	0	0	0	0	4	16
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	2	2
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	8	8
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	4	0	0	0	4
Dusk	0	0	0	0	0	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	55	0	0	0	0	0	0	6	0	0	17	78