

City of Biddeford
Staff Review Committee
August 10, 2022 1:00 PM City Hall Conference Room (Second Floor) & Zoom
<https://biddeford.zoom.us/j/93029473020?pwd=bXRWdXArWlIRaTVUbFUvdKxZcGtiQT09>
ID # 930 2947 3020 Code: 152485

Status: Staff Review Committee-Wednesday, August 10, 2022 1:00 PM City Hall Conference Room (Second Floor) & Zoom

1. New Business

- 1.1. 2022.10 Review a Site Plan application for Donald Jackson to construct a 6,120 square foot building along with 6,981 square feet of pavement for access and parking. The address of the property is 7 Digital Drive (Tax Map 15, Lot 7-9) in the Industrial 1 Zone.

Applicant: Donald Jackson

Agent: Paul Gadbois

Tax Map/Lot: 15/7-9

Zone: I-1

Overlay: N/A

Defined Land Use: Vacant Land

Application Type: Site Plan

Public Comments will be accepted for this item.

[2022.10 Jackson - 7 Digital Drive SRC SR.pdf](#)

[2022.10 7 Digital Drive draft FOF.pdf](#)

[1817-Documents Binder.pdf](#)

[Response to Comments.pdf](#)

[Civil Plans.pdf](#)

[1817-24 x 36 Plan Set Binder.pdf](#)

[Inspection and Maintenance Report.pdf](#)

[Stormwater Report.pdf](#)

[Inspection_Maintenance Appendices.pdf](#)

- 1.2. 2022.31 Review of a Conditional Use Permit Application for Hark House LLC at 58 Pike Street (Tax Map 39, Lot 253) in the R-2 Zone. The proposed use of the property is to operate their Therapeutic Massage Business from the home.

Applicant: Hark House LLC (Sean Hasey & Chrystina Gastelum)

Agent: N/A

Tax Map/Lot 39/253

Zone: Residential 2

Defined land Type: Single Family Home

Public Comments will be accepted for this item

Application: Conditional Use Permit-Final Approval

[Hark House CUP SRC SR.pdf](#)

[2022.31 Hark House Home Occupation draft FOF.pdf](#)

[2022.31 Application.pdf](#)



STAFF REVIEW COMMITTEE REPORT

TO: Biddeford Staff Review Committee

FROM: Hannah Bonine, Contract Planner

DATE: August 3, 2022

RE: 2022.10 Site Plan Review for Don Jackson at 7 Digital Drive (Tax Map 15, Lot 7-9) to construct a 6,120 SF building for office, light manufacturing, warehouse and storage uses in the Industrial-1 (I-1) zone.

MEETING DATE: Wednesday, August 10, 2022 at 1:00 pm

1. INTRODUCTION

The applicant, Don Jackson, proposes to construct a 6,120 square foot building at 7 Digital Drive, to be used for office, light manufacturing, warehouse, and storage space. These uses are permitted in the I-1 zone. The project also includes 4,102 square feet of pavement.

The proposed building will be accessed by a 15-ft wide driveway that connects to the existing structure on the neighboring lot. The new structure will be used for storage and other minor accessory uses by the existing business at 9 Digital Drive (Tax Map 15, Lot 7-8), also owned by the applicant. There will be no access to the new structure directly from Digital Drive.

2. PROJECT INFORMATION

	<u>SUBJECT</u>	<u>INFORMATION</u>
1.	Applicant	Donald Jackson 6 Banagher Way Scarborough, ME 04074
2.	Property Owner	Donald Jackson, Jr. and Molly Jackson 6 Banagher Way Scarborough, ME 04074
3.	Agent	Paul P. Gadbois P.O. Box 327 Saco, ME 04072
4.	Engineer/Surveyor	Same as Agent
5.	Project Location	7 Digital Drive
6.	Map/Lot	Map 15, Lot 7-9

7.	City Approvals Required	Minor Site Plan review
8.	Existing Zoning	I-1 (Industrial)
9.	Overlay Zoning	None
10.	Existing Use	Vacant
11.	Proposed Use	Office, light manufacturing, warehouse, and storage
12.	Uses in the Vicinity	Industrial
13.	Parcel Size	1.25 acres
14.	Water Supply	Public
15.	Sewerage Disposal	Public
16.	Solid Waste Disposal	Private
17.	Fire Protection	Public
18.	Parking Spaces Required	5
19.	Parking Spaces Provided	5
20.	Ownership of Road	Private
21.	Estimated Site Development Costs	
22.	Financial Capacity Letter	
23.	Waivers Needed/Requested	None
24.	Fees Paid (LDR Attachment A)	All fees paid

3. COMPLIANCE WITH CITY ORDINANCES

Per Article XI, Section 4.B, the total proposed impervious surface of 10,222 square feet classifies the proposal as a minor site plan and allows this application to be reviewed by the Staff Review Committee.

The application was reviewed by a 3rd party engineer, who provided comments to the applicant (attached). All comments have been addressed with the most recent submission.

Since the parcel is located within the Thatcher Brook watershed, a stormwater compensation fee must be paid to the city. The applicant is aware of this fee and has calculated the amount to be \$2,452.00.

4. WAIVER REQUESTS

None

5. OUTSTANDING ITEMS TO BE ADDRESSED PRIOR TO APPROVAL

Missing financial capacity letter and estimated site development costs.

6. RECOMMENDATIONS

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

1. **Prior to any ground disturbance or issuance of any permits:**
 - a. A stormwater mitigation fee of \$2,452.00 shall be paid to the Planning Department based on the Maine DEP Site Location of Development Act Urban Impaired Stream Compensation Fee Maine DEP Chapter 501 SS 3.A.{1} as follows:
 $\text{Pavement } .094 \text{ Ac} \times \$ 12,500 = \$ 1,175.00$
 $\text{Building } .140 \text{ Ac} \times \$ 5,000 = \$ 700.00$
 $\text{Lawn } .231 \text{ Ac} \times \$ 2,500 = \$ 577.00$
 $\text{Total Fee} = \$ 2,452.00$
 - b. The applicant must supply a letter demonstrating financial capacity to the Planning Department.
 - c. A pre-construction meeting with the contractor needs to be held with the Engineering Department to discuss inspection requirements.
 - d. An Erosion and Sedimentation Control Performance Guarantee (acceptable to the Planning Department) in the amount of \$XXX,XXX shall be submitted to the Planning Department.
 - e. Salt Management Plan to be provided for review and approval by the Planning Department.
2. **Prior to issuance of any occupancy permits:**
 - a. A compliance inspection needs to occur by the Engineering Department to determine that all site improvements as shown on the submitted plan were constructed in accordance with the approved plans.
 - b. A performance guarantee (acceptable to the Engineering Department) in the amount of 150% of any remaining site improvements shall be submitted to the Planning Department. Amount to be determined based on City inspections and the recommendation of the City Engineer.
3. **Prior to the issuance of any sign permits** proposed signage shall be approved by the Planning Department.
4. Outside storage and/or display is prohibited.
5. Snow storage (temporary or otherwise) is prohibited from stormwater management facilities.
6. Best management practices shall be adhered to during all ground disturbance operations. All Catch Basin's in the vicinity of earthwork operations shall have silt sacks installed & maintained for the duration of the work.
7. All erosion and sediment control measures need to be installed. Applicant shall notify the Engineering Department once installed so that Staff may inspect said installation, as necessary.
8. Copies of the maintenance logs for the stormwater facilities shall be submitted to the City for each calendar year no later than January 15th of the following year. If the Engineering Department does not receive these copies within 30 days after the

deadline, the applicant may be required to return to the Planning Board for further review.

9. The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc., prior to commencing business, unless authority issuing said permit allows for such actions.
10. Once completed, as-built drawings of the site shall be provided to the Planning Department.
11. Upon completion of the work the project engineer shall certify that the project has been completed as per the approved plans or shall note any deviations from the approved plans.
12. Standard Conditions of Approval apply.

7. SAMPLE MOTIONS

1. Motion to approve the Site Plan for Don Jackson at 7 Digital Drive (Tax Map 15, Lot 7-9) and approve the Findings of Fact based on the conditions recommended by the Contract Planner in the report dated August 3, 2022.
2. Motion to table to allow the applicant to address the outstanding issues identified by Committee.
3. Motion to deny the Site Plan based upon the following reasons:
 - a. _____
 - b. _____

8. ATTACHMENTS

1. Application Package and Plans
2. Comments by 3rd Party Review Engineer, Tom Saucier, dated 6/16/22
3. Applicant response to T. Saucier comments, dated 7/11/22
4. Stormwater report, dated 7/10/22
5. Stormwater inspection and maintenance report

FINDINGS OF FACT AND CONCLUSIONS OF LAW

SITE PLAN REVIEW

Project Number: 2022.10

New Industrial Building at 7 Digital Drive (Tax Map 15, Lot 7-9)

Pursuant to the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article XI (Site Plan Review), and Article VI (Performance Standards), the Biddeford Staff Review Committee has considered the application of **Donald Jackson** to construct an industrial building at 7 Digital Drive. Based on its review, including supportive data, public hearing testimony and related materials contained in the record, the Staff Review Committee makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT:

	<u>SUBJECT</u>	<u>INFORMATION</u>
1.	Applicant	Donald Jackson 6 Banagher Way Scarborough, ME 04074
2.	Property Owner	Donald Jackson, Jr. and Molly Jackson 6 Banagher Way Scarborough, ME 04074
3.	Agent	Paul P. Gadbois P.O. Box 327 Saco, ME 04072
4.	Engineer/Surveyor	Same as Agent
5.	Project Location	7 Digital Drive
6.	Map/Lot	Map 15, Lot 7-9
7.	City Approvals Required	Minor Site Plan review
8.	Existing Zoning	I-1 (Industrial)
9.	Overlay Zoning	None
10.	Existing Use	Vacant
11.	Proposed Use	Office, light manufacturing, warehouse, and storage
12.	Uses in the Vicinity	Industrial
13.	Parcel Size	1.25 acres
14.	Water Supply	Public
15.	Sewerage Disposal	Public
16.	Solid Waste Disposal	Private
17.	Fire Protection	Public

18.	Parking Spaces Required	5
19.	Parking Spaces Provided	5
20.	Ownership of Road	Private
21.	Estimated Site Development Costs	
22.	Financial Capacity Letter	
23.	Waivers Needed/Requested	None
24.	Fees Paid (LDR Attachment A)	All fees paid

CONCLUSIONS OF LAW:

1. The proposed use meets specific requirements set forth in this ordinance and would be in compliance with applicable state or federal laws;
2. The proposed use would not create fire safety hazards by providing adequate access to the site, or to the buildings on the site, for emergency vehicles and would not create hazards through the storage of chemicals and wastes;
3. The proposed exterior lighting, where allowed, would not create hazards to motorists traveling on adjacent public streets or is adequate for the safety of occupants or users of the site or would not damage the value and diminish the usability of adjacent properties;
4. The provisions for buffers and on-site landscaping provide adequate protection to neighboring properties from detrimental or unsightly features of the development;
5. The proposed use would not have a significant, detrimental effect on the use and peaceful enjoyment of abutting property as the result of noise, vibrations, fumes, odor, dust, glare, hours of operation, or other causes;
6. The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets would not create hazards to public safety or traffic congestion;
7. The proposed use would generate a volume of traffic that can reasonably be accommodated by the existing road network, or would not create unreasonable traffic hazards or would not exacerbate an existing traffic hazard, or would not create unreasonable traffic congestion;
8. The proposed use would not have a significant, detrimental effect on the value of adjacent properties which could be avoided by reasonable modification of the proposal;
9. The proposed use would not have an adverse impact on the privacy of the residents of the immediate area (within 500 feet) which could be avoided by reasonable modification of the proposal;

10. The proposed use would be in compliance with Biddeford's Comprehensive Plan;
11. The proposed use would not have an adverse impact on the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal;
12. The design of the site would not result in significant flood hazards or flood damage or would be in conformance with applicable flood hazard protection requirements;
13. Adequate provision has been made for disposal of wastewater or solid waste or for the prevention of ground or surface water contamination;
14. Adequate provision has been made to control erosion or sedimentation;
15. Adequate provision has been made to handle stormwater runoff or other drainage problems on the site; and the proposed development will not unduly burden off-site surface water systems;
16. The proposed water supply would meet the demands of the proposed use for fire protection purposes;
17. Adequate provision has been made for the transportation, storage, and disposal of hazardous substances and materials as defined by state law;
18. The proposed use would not have an adverse impact on scenic vistas or on significant wildlife habitat or wetland areas and water bodies which could be avoided by reasonable modification of the proposal;
19. When located in the Shoreland Zone, the proposed use would meet the purposes of Shoreland Zoning as identified in Article XIV, Section 1 (Purposes) of this ordinance.

1. Approval Granted

Based on the evidence available and the conclusions above, the Biddeford Staff Review Committee approves the minor site plan for the proposed project summarized above, located 7 Digital Drive (Tax Map 15, Lot 7-8) in accordance with the submitted application, supporting data, representations made, other related materials on file, and the following Conditions of Approval:

1. **Prior to any ground disturbance or issuance of any permits:**
 - a. **A stormwater mitigation fee of \$2,452.00 shall be paid to the Planning Department based on the Maine DEP Site Location of Development Act Urban**

Impaired Stream Compensation Fee Maine DEP Chapter 501 SS 3.A.{1} as follows:

Pavement .094 Ac x \$ 12,500 = \$ 1,175.00

Building .140 Ac x \$ 5,000 = \$ 700.00

Lawn .231 Ac x \$ 2,500 = \$ 577.00

Total Fee = \$ 2,452.00

- b. The applicant must submit a letter demonstrating financial capacity to the Planning Department.
 - c. A pre-construction meeting with the contractor needs to be held with the Engineering Department to discuss inspection requirements.
 - d. An Erosion and Sedimentation Control Performance Guarantee (acceptable to the Planning Department) in the amount of \$XXX,XXX shall be submitted to the Planning Department.
 - e. Salt Management Plan to be provided for review and approval by the Planning Department.
2. Prior to issuance of any occupancy permits:
- a. A compliance inspection needs to occur by the Engineering Department to determine that all site improvements as shown on the submitted plan were constructed in accordance with the approved plans.
 - b. A performance guarantee (acceptable to the Engineering Department) in the amount of 150% of any remaining site improvements shall be submitted to the Planning Department. Amount to be determined based on City inspections and the recommendation of the City Engineer.
3. Prior to the issuance of any sign permits proposed signage shall be approved by the Planning Department.
4. Outside storage and/or display is prohibited.
5. Snow storage (temporary or otherwise) is prohibited from stormwater management facilities.
6. Best management practices shall be adhered to during all ground disturbance operations. All Catch Basin's in the vicinity of earthwork operations shall have silt sacks installed & maintained for the duration of the work.
7. All erosion and sediment control measures need to be installed. Applicant shall notify the Engineering Department once installed so that Staff may inspect said installation, as necessary.
8. Copies of the maintenance logs for the stormwater facilities shall be submitted to the City for each calendar year no later than January 15th of the following year. If the Engineering Department does not receive these copies within 30 days after the deadline, the applicant may be required to return to the Planning Board for further review.
9. The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc., prior to commencing business, unless authority issuing said permit allows for such actions.
10. Once completed, as-built drawings of the site shall be provided to the Planning Department.

11. Upon completion of the work the project engineer shall certify that the project has been completed as per the approved plans or shall note any deviations from the approved plans.
12. Standard Conditions of Approval apply.

Staff Review Committee Chairperson

Date

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

APPLICATION FORM

Type of Application:

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

Applicant Information:

Applicant's Name: DONALD JACKSON

Applicant's Mailing Address: 6 BANAGHER WAY, SCARBOROUGH

Applicant's Telephone: (207) 730-2063

What is Applicant's legal interest in the property?

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

Owner's Name: DONALD JACKSON, JR. AND MOLLY JACKSON

Owner's Address: 6 BANAGHER WAY, SCARBOROUGH

Owner's Telephone: (207) 730-2063

Agent's Name: PAUL P. GADBOIS

Agent's Address: P.O. Box 327 SACO ME 04072

Telephone: (207) 283-3980

Engineer/Surveyor: SAME AS AGENT

Engineer/Surveyor's Address: _____

Telephone: _____

Project Location and Lot Information:

Street Address: 7 DIGITAL DRIVE

Tax Map: 15 Lot: 7-8 & 7-9

Current Zoning: I-1 Shoreland Zoning: SP

Size of lot: 1.25 ☒ acres ☐ s.f. Lot Frontage: 113'

Existing Use of Property: VACANT

Property currently serviced by:

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

Slope Conditions in Area of Construction (if applicable):

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

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

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

Description of proposed use of property:

Project/Proposed Use Description: CONSTRUCT 6,120 SF BUILDING FOR
STORAGE

Property to be serviced by:

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

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

☐ If in a Shoreland Zone:

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

- 0 -

Percent of structure expansion (Max. 30%):

- 0 -

☐ If Subdivision Review, number of lots proposed:

N/A

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

N/A

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

Total new square feet footprint of structures:

6,120 SF

Total new square feet paving/parking:

4,103 SF

Waiver Requests (attach details):

1. NONE
2. _____
3. _____
4. _____
5. _____

Attachments:

A. Letters of Approval

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

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

C. Photographs of site.

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

E. Engineered Plans, as required.

Fees (due at time of application):

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

Required Signatures:

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

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

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

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

Signature of applicant:

Donald Jackson

Date: 3-8-2022

Signature of owner of property:

Date: _____

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

**CHECKLIST FOR
SITE PLAN
REQUIREMENTS**

YES **NO**

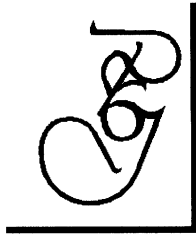
- | | | |
|-------------------------------------|--------------------------|--|
| ☒ | ☐ | Be on sheet size of 24 by 36 inches. |
| ☒ | ☐ | The scale of said plan shall be not less than one inch equals 50 feet and shall be indicated on the plat by use of a bar scale. |
| ☒ | ☐ | The plan shall bear the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

YES NO

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

YES **NO**

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



PAUL P. GADBOIS PE, PLS

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

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

March 4, 2022

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

Re: Donald Jackson 7 Digital Drive, Biddeford, Maine.

Dear Paul,

This letter will serve as authorization for Paul P. Gadbois Engineering to act as agent on the above referenced project with regards to various land use permitting requirements for the property (Tax Map 15, Lot 7-9) located at 7 Digital Drive in Biddeford. This will include any submissions to the DEP, ACOE, and the City.

Very Truly Yours,

Donald Jackson



PAUL P. GADBOIS PE, PLS

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

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

Hannah Bonine, Asst. City Planner
City of Biddeford
205 Main Street
Biddeford, Maine

May 17, 2022

Re: Don Jackson 7 Digital Drive Biddeford.

Dear Ms. Bonine,

Attached is a check in the amount of \$ 3,175.00 for the Engineering Review and Site Plan Fees. The engineering inspection fees are due before final approval.

Enclosed is the application for the Don Jackson project located at 7 Digital Drive Tax Map 15, Lot 7-8 and 7-9. The developer wishes to construct a 6,120 square foot cold storage building along with 4,102 square feet of pavement for access from the abutting lot owned by applicant. The applicant currently owns and runs a manufacturing business with a maximum of 4 employees and needs a storage facility for inventory.

The combine lots are 2.40 acres in size and the existing and proposed impervious area for the site is 21,691 square feet resulting in a lot coverage of 21%.

The site is currently serviced by a private road, public sewer (via a private force main), public water, and underground utilities.

The total area of the proposed development is 29,012 square feet; therefore, no DEP Permits are required to be submitted for the project.

The project is located in the Thatcher Brook Watershed; therefore, we are proposing to capture and treat 92 percent of the existing and proposed impervious areas. The pond will also control the stormwater runoff to maintain the predevelopment flows. A stormwater compensation fee will also be required for this project.

Stormwater Compensation Fee for this project is calculated as follows:

Pavement	0.094 Acres x \$12,500 =	\$ 1,177.00
Building	0.140 Acres x \$ 5,000 =	\$ 700.00
Lawn	0.23 Acres x \$ 2,500 =	\$ 575.00
	Total Fee =	\$ 2,452.00

The project is located in the I-1 Zone along with all the abutting properties. The site is not located in a FEMA flood zone. No new landscaping is proposed for this project, and we are proposing to keep the existing wooded buffer along Digital Drive. The project does not generate any liquid, gaseous or industrial waste. Solid waste is stored in a dumpster and hauled off by a private hauler.

The applicant met with the fire chief on April 28th to discuss the proposed layout.



PAUL P. GADBOIS PE, PLS

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

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

The owner intends to build a wood frame metal siding Morton Building. The colors to match the existing building green siding with white trim.

Should you have questions, please call.

Very truly yours,

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



PAUL P. GADBOIS PE, PLS

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

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

May 17, 2022

Hannah Bonine, Asst. City Planner
City of Biddeford
205 Main Street
Biddeford, Maine

Re: Don Jackson 7 Digital Drive Map 15 Lot 7-8 and 7-9.

Dear Ms. Bonine,

Enclosed please find the stormwater calculations for the Jackson project located at 7 Digital Drive Tax Map 15, Lot 7-8 and 7-9. The developer wishes to construct a 6,120 square foot building along with 4,102 square feet of pavement for access.

The stormwater management plan was developed to minimize the amount of stormwater leaving the site and provide for treatment of 92% of existing and proposed impervious areas.

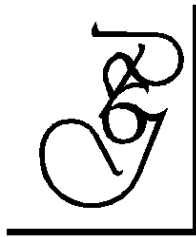
Water Quality

The existing detention basin will be expanded to treat the existing and proposed impervious areas by utilizing gutters and grading the runoff to the existing basin.

DEP recommends that the surface area of the filter must be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the filter. This project is not proposing to treat any landscape area.

Required Filter Pond Size

$.05 \times 20,084 = 1004$ square feet (Provided 3,245 square feet) The volume required to be treated is 1" x the impervious area draining to pond. ($.0833 \times 20,084 = 1,673$ cubic feet) Therefore the required storage depth is 0.52 feet. The existing 6" orifice is at a depth of .67 feet; therefore, the pond will store the volume required for treatment.



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Email: pgadbois@maine.rr.com

The quantity peak flow summary is shown below for each development condition. We have shown results for the 2-, 10-, 25- and 50-year events

FLOODING STANDARD RESULTS				
Storm	Reach 3R		Reach 4R	
	PRE	POST	PRE	POST
	C.F.S.	C.F.S.	C.F.S.	C.F.S.
2 YEAR	0.88	0.56	0.91	0.75
10 YEAR	2.63	1.55	1.99	1.64
25 YEAR	4.77	2.66	2.98	2.43
50 YEAR	6.46	5.30	3.82	3.02

The project reduces off site flows for all storm events.

In conclusion this project will not result in any downstream impacts and provide for water quality treatment.

Should you have questions, please call.

Very truly yours,

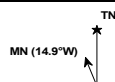
Paul P. Gadbois, P.E., P.L.S.



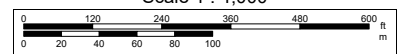
Data use subject to license.

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www.delorme.com



Scale 1 : 4,000



Doc# 2005025634
Bk 14461 Pg 0374 - 0376
Received York SS
05/16/2005 9:23AM
Debra L. Anderson
Register of Deeds

**ROADWAY, INFRASTRUCTURE AND UTILITY
MAINTENANCE AGREEMENT
(Digital Drive, Biddeford, Maine)**

THIS ROADWAY, INFRASTRUCTURE AND UTILITY MAINTENANCE AGREEMENT made this 6 day of April, 2005, by MD Associates, LLC, a Maine Limited Liability Company whose mailing address is 169 Port Road, Kennebunk, Maine 04043, (hereinafter referred to as "MD").

WHEREAS, "MD" is the owner of a certain real property located in Biddeford, Maine, as more fully described in a deed given by Warranty Deed of Microlife American Holding Corp. to MD Associates, LLC, dated February 06, 2004 and recorded in the York County Registry of Deeds in Book 13927, Page 063 on February 10, 2004.

WHEREAS, "MD" has subdivided the land under a Subdivision Plan prepared by Paul P. Gadbois Engineering Surveying and Planning.

WHEREAS, the City of Biddeford has approved said Plan and said Final Plan (approved) has been recorded in the York County Registry of Deeds in Book 300, Page 38.

WHEREAS, the City of Biddeford has approved said Plans, provided all lots ("A" - "H" as depicted on the final subdivision plan) are subject to a Roadway, Infrastructure and Utility Maintenance Agreement running with the land.

WHEREAS, all the lots ("A" - "H") either own portions of or abut the underlying fee in Digital Drive, a private road, which services their respective properties as well as other properties; and

WHEREAS, by virtue of the deeds, (lots "A" - "H"), provide that all lot owners have the right to cross that portion of Digital Drive which has been further defined in said deeds as a fifty foot (50') right-of-way; and

WHEREAS, "MD" and all subsequent owners of said lots each use said right-of-way and easement and desire to improve such right-of-way and easement and desire to establish the rights and obligations regarding the allocation of the costs and expenses of using, repairing and maintaining said right-of-way and easement and the costs and expenses of the shared infrastructure which shall include but not be limited to drainage, culverts, force mains, sidewalks, pavement and utilities (e.g. cable, electric, telephone) and all drainage ways and easements serving the subdivision.

NOW, THEREFORE, MD Associates, LLC covenant and agree and state as follows:

1. Commencing on April 06, 2005 "MD" and its respective successors and/or assigns in lots "A" - "H" shall commence use of said easement, it is agreed that all lots ("A" - "H") shall share (as set forth and detailed in Paragraph 1.d.iii below) in the

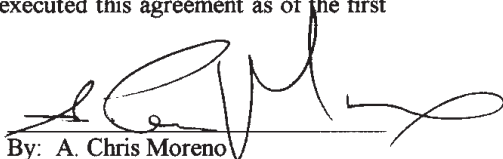
costs and expenses of maintaining, repairing and/or repaving the roadway and/or removing snow/ice from such right of way and easement and the costs and expenses of the shared infrastructure which shall include but not be limited to drainage, culverts, force mains, pavement and utilities (e.g. cable, electric, telephone) and all drainage ways and easements serving the subdivision and shall bear the cost and expense for all costs and expenses authorized pursuant to this agreement as follows:

- a. The repairs, maintenance and/or repaving and plowing to be undertaken and performed hereunder shall include, but not be limited to snow plowing, removal/sanding ice conditions, filling of pot holes, and any maintenance or repairs necessary to maintain said right of way in good repair and safe for vehicle passage. It shall also include the shared infrastructure as set forth above. Snow removal will be provided on demand of one or more of the property owners serviced by said road.
- b. The said maintenance and upkeep of the road will be limited to that required by ordinary wear and tear of the road condition and repaving at such time as it may be needed, or as required by the City of Biddeford so that the private road is in conformity with the minimum road standards set and/or established by the City of Biddeford.
- c. An annual meeting of all the property owners at which time one property owner will be elected by the remaining property owners to handle the details of this agreement. Written notice of said meeting will be sent to each owner at a later date with a least one month's notice prior to the scheduled meeting date.
- d. All costs and expenses shall be shared as follows:
 - i. The initial cost of constructing the private road known as Digital Drive and the infrastructure necessary to obtain subdivision approval shall be borne entirely by "MD".
 - ii. The private road and infrastructure shall be constructed such that it shall meet or exceed the minimum standards as set by the City of Biddeford.
 - iii. The cost of repairing and maintaining and/or repaving and plowing the roadway in the future including the repairing and maintaining of the shared infrastructure (as set forth in paragraph "1.a" above) is to be shared by each lot owner and their respective successors and/or assigns. Each owner shall be responsible for 12.50% of any and all costs of said maintenance.
- e. The terms and conditions contained in this agreement shall be considered as covenants running with the respective parcels of land hereinabove described and shall bind and inure to the benefit of each subsequent owner and their respective heirs, successors, administrators and assigns.

- f. If any lot owner does not pay their percentage within thirty (30) days of completion of work then a lien as against the property may be filed in the York County Registry of Deeds as against the non-paying lot owner.
- g. If an action or proceeding is necessary, to enforce payment of the monies owed from a lot owner, it shall be venued in York County Maine. In the event a lot owner is found to have violated the agreement then costs of suit/litigation, including attorney fees, shall be borne by said lot owner.

IN WITNESS WHEREOF the parties hereto have executed this agreement as of the first date mentioned above.



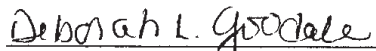
By: 
 Its: Manager

STATE OF MAINE
 COUNTY OF YORK: SS

May 13, 2005

Then personally appeared the above named A. Chris Moreno in his capacity as Manager of MD ASSOCIATES, LLC, a Maine Limited Liability Company, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Limited Liability Company.

Before me,



Notary Public/Attorney at Law

Print Name: _____

SEAL

DEBORAH L. GOODALE
 NOTARY PUBLIC, STATE OF MAINE
 MY COMMISSION EXPIRES
 MARCH 31, 2009

3pgs → KEVIN G. GRIMES PA
 82 PORTLAND RD
 KEVIN ME 04043

END OF DOCUMENT



QUITCLAIM DEED

KNOW ALL BY THESE PRESENTS, THAT

Donald Jackson, Jr. and Molly E. Jackson, ("Grantors"), of Scarborough, County of Cumberland, Maine, having a mailing address of 6 Banagher Way, Scarborough, Maine 04074, for consideration, grant to **Donald J. Jackson, Jr. and Molly Jackson, Trustees of the Jackson Family Revocable Living Trust dated August 29, 2020, and any amendments thereto**, of Scarborough, County of Cumberland, Maine, having a mailing address of 6 Banagher Way, Scarborough, Maine 04074, with quitclaim covenant, the land with any buildings thereon situated in Biddeford, County of York, and State of Maine described as follows:

SEE EXHIBIT "A" ATTACHED HERETO MADE
A PART HEREOF AND INCORPORATED BY REFERENCE HEREIN

IN WITNESS WHEREOF, the said Donald Jackson, Jr. and Molly E. Jackson have hereunto set their hands and seals this 31st day of August 2020.

Jenna M. Glenn

Jenna M. Glenn, Witness to both

Donald Jackson Jr.

Donald Jackson, Jr.

Molly E. Jackson

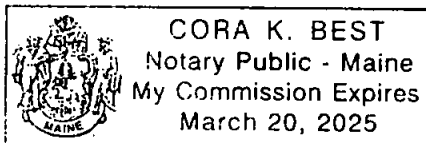
Molly E. Jackson

STATE OF MAINE

COUNTY OF CUMBERLAND, ss.

On this 31st day of August 2020, personally appeared before me the above-named **Donald Jackson, Jr. and Molly E. Jackson**, and each acknowledged the foregoing to be their free act and deed.

(Seal)



Cora Best

Notary Public

Cora K. Best, Esq.

1 Union Street, Ste. 501

Portland, Maine 04101

My commission expires: March 20, 2025

SEAL

3p → Donald & Molly Jackson
6 Banagher Way
Scarborough ME 04074
②

EXHIBIT A

(Lot D)

A certain lot or parcel of land on the easterly side of Route One in the said City of Biddeford, as shown as Lot D on the Final Subdivision Plan of Paul P. Gadbois Engineering, Surveying and Land Planning, as recorded in the York county Registry of Deeds in Plan Book 300 at Page 38-42 on April 20, 2005, said parcel being more particularly bounded and described as follows: Commencing at a found iron rod at the northwesterly corner of land now or formerly owned MD Associates, LLC as described in deed recorded in Book 13927, Page 063 at the York County Registry of Deeds.

Thence S 57° 19' 00" E, by and along the northerly sideline of said MD Associates, LLC land, a distance of 740.50 feet a point;

Thence turning and running S 54° 20' 00" E a distance of 164.25 feet to a set iron rod being the Northwesterly corner of the land described said point being the point of Beginning of the land herein described;

Thence turning and running S 54 ° 20' 00" E, a distance of 237.79 feet to a set iron rod being the Northeasterly corner of the land herein described;

Thence turning and running S 33° 33' 19" W, by and along the easterly sideline of the land herein described, a distance of 114.02 feet to a set iron rod;

Thence turning and running S 74° 55' 13" W a distance of 236.61 feet to a set iron rod;

Thence turning and running along an arc with a length of 113.47 feet and having a radius of 275.00 feet to a set iron rod; Thence turning and running N 35° 40' 00" E by and along the westerly sideline of the land herein described a distance of 232.50 feet to the POINT OF BEGINNING.

Said parcel being 1.25 acres more or less and having a 1.23 acre net area.

Together with a 50.00 foot easement/right of way for purposes of ingress and egress to the property described herein over the private way known as Digital Drive. Said Private way as depicted in the aforementioned Plan of Paul P. Gadbois.

The conveyance herein is made subject to the following:

1. Rights and easements granted by Joseph Alfred Webber Chasse, et al. to Central Maine Power Company by instrument dated July 29, 1952 and recorded in the York County Registry of Deeds in Book 1214, Page 168.
2. Rights and easements granted by Treffle Chasse, et al., to Central Maine Power Company by instrument dated July 11, 1952 and recorded in said Registry of Deeds in Book 1218, Page 179.
3. Rights and easements granted by Richard H. Howard and Sharlene G. Howard to Central Maine Power Company by instrument dated December 2, 1977 and recorded in said Registry of Deeds in Book 2322, Page 158.

Also conveying those easements rights set forth in the Deed of Real Estate Holdings, LLC to Briden, LLC recorded in the York County Registry of Deeds in Book 12899, Page 136 to which reference may be had for a more particular description.

This conveyance is made SUBJECT TO a Mutual Grading and Drainage Easement as more fully set forth in a Deed from Microlife American Holding Corp. recorded on May 20, 2003 in the York County Registry of Deeds in Book 12899, Page 138.

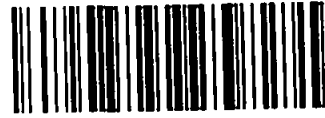
This conveyance is made SUBJECT TO all Notes as set forth in the Final Subdivision Plan approved by the City of Biddeford on April 06, 2005. Said Plan recorded in the York County Registry of Deeds on April 20, 2005 in Plan Book 300 at Page 38-42.

This conveyance is made SUBJECT to a drainage grading and utility EASEMENT for installation and maintenance of same and Right of Way 15 feet in width along all lot sidelines and rear lines and 30 feet in width along the front lines (Digital Drive).

This conveyance is made SUBJECT TO a Roadway, Infrastructure and Utility Maintenance Agreement recorded on May 16, 2005 in the York County Registry of Deeds in Book 14461 at Page 374.

Meaning and intending to convey the same premises conveyed to the Grantors herein by virtue of a Warranty Deed from Briden, LLC, dated December 30, 2015 and recorded in the York County Registry of Deeds in Book 17160, Page 240.

This deed has been prepared without the benefit of
title examination or opinion at the request of the parties.



QUITCLAIM DEED

KNOW ALL BY THESE PRESENTS, THAT

Donald Jackson, Jr. and Molly E. Jackson ("Grantors"), of Scarborough, County of Cumberland, Maine, having a mailing address of 6 Banagher Way, Scarborough, Maine 04074, for consideration, grant to **Donald J. Jackson, Jr. and Molly Jackson, Trustees of the Jackson Family Revocable Living Trust dated August 29, 2020, and any amendments thereto**, of Scarborough, County of Cumberland, Maine, having a mailing address of 6 Banagher Way, Scarborough, Maine 04074, with quitclaim covenant, the land with any buildings thereon situated in Biddeford, County of York, and State of Maine described as follows:

SEE EXHIBIT "A" ATTACHED HERETO MADE
A PART HEREOF AND INCORPORATED BY REFERENCE HEREIN

IN WITNESS WHEREOF, the said Donald Jackson, Jr. and Molly E. Jackson have hereunto set their hands and seals this 31st day of August 2020.

Jenna M. Glenn
Jenna M. Glenn, Witness to both

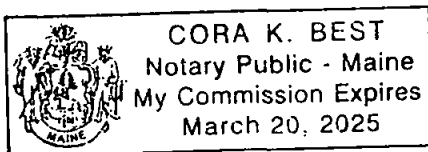
Donald Jackson Jr.
Donald Jackson, Jr.

Molly E. Jackson
Molly E. Jackson

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On this 31st day of August 2020, personally appeared before me the above-named **Donald Jackson, Jr. and Molly E. Jackson**, and each acknowledged the foregoing to be their free act and deed.

(Seal)



Cora Best
Notary Public
Cora K. Best, Esq.
1 Union Street, Ste. 501
Portland, Maine 04101
My commission expires: March 20, 2025

SEAL

NO R.E. TRANSFER TAX PAID

3p → Donald & Molly Jackson

② E

EXHIBIT A

(Lot E)

A certain lot or parcel of land on the easterly side of Route One in the said City of Biddeford, as shown as Lot E on the Final Subdivision Plan of Paul P. Gadbois Engineering, Surveying and Land Planning, as recorded in the York county Registry of Deeds in Plan Book 300 at Page 38-42 on April 20, 2005, said parcel being more particularly bounded and described as follows:

Commencing at a set iron rod at the southwesterly corner of land now or formerly owned by LUCA, LLC as described in a deed recorded in Book 10997, Page 291 at the York County Registry of Deeds. Said point also being the Northeasterly corner of Lot D as described in said Final Subdivision Plan deed.

Thence S 33° 33' 19" W, by and along the easterly sideline of said Lot "D", a distance of 114.02 feet a set iron rod. Said point being the Northerly corner of the land described herein. Said point being the point of Beginning of the land herein described;

Thence turning and running S 04° 39' 51" E, a distance of 337.90 feet to a set iron rod;

Thence turning and running N 53° 22' 30" W, a distance of 321.18 feet to a set iron rod along the southerly sideline of the land herein described;

Thence turning and running along an arc with a length of 83.97 feet and having a radius of 275.00 feet to a set iron rod;

Thence turning and running N 74° 55' 13" E by and along the northerly sideline of the land herein described a distance of 236.61 feet to the POINT OF BEGINNING.

Said parcel being 1.14 acres more or less and having a 1.14 acre net area.

Together with a 50.00 foot easement/right of way for purposes of ingress and egress to the property described herein over the private way known as Digital Drive. Said Private way as depicted in the aforementioned Plan of Paul P. Gadbois.

The conveyance herein is made subject to the following:

1. Rights and easements granted by Joseph Alfred Webber Chasse, et al. to Central Maine Power Company by instrument dated July 29, 1952 and recorded in the York County Registry of Deeds in Book 1214, Page 168.
2. Rights and easements granted by Treffle Chasse, et al., to Central Maine Power Company by instrument dated July 11, 1952 and recorded in said Registry of Deeds in Book 1218, Page 179.
3. Rights and easements granted by Richard H. Howard and Sharlene G. Howard to Central Maine Power Company by instrument dated December 2, 1977 and recorded in said Registry of Deeds in Book 2322, Page 158.

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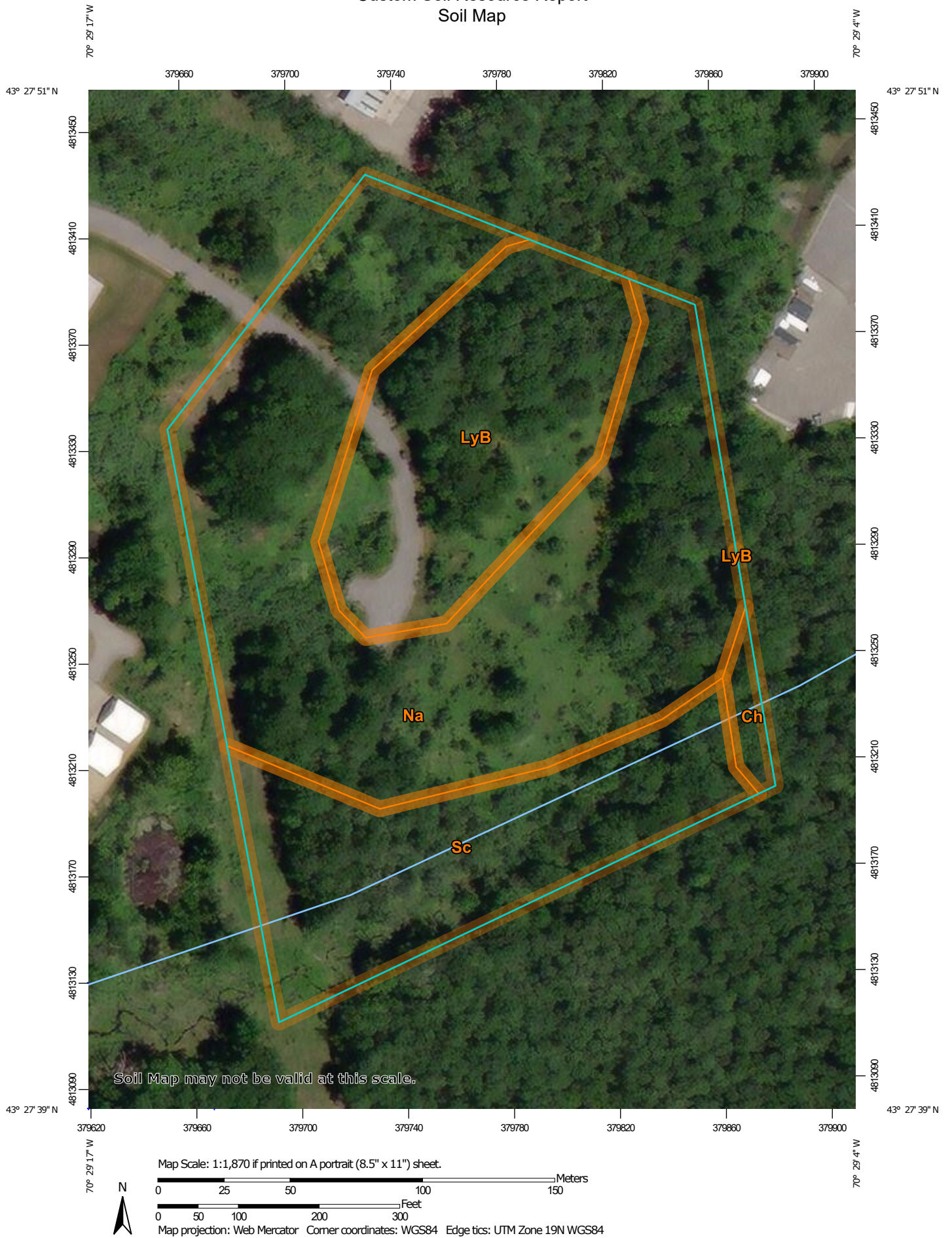
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This conveyance is made SUBJECT TO a Roadway, infrastructure and Utility Maintenance Agreement recorded on May 16, 2005 in the York County Registry of Deeds in Book 14461 at Page 374.

Meaning and intending to convey the same premises conveyed to the Grantors herein by virtue of a Warranty Deed from Briden, LLC, dated December 30, 2015 and recorded in the York County Registry of Deeds in Book 17160, Page 243.

This deed has been prepared without the benefit of
title examination or opinion at the request of the parties.

Custom Soil Resource Report Soil Map





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

Phone: (207) 469-7300 Fax: (207) 902-1588

<http://www.fws.gov/mainefieldoffice/index.html>



In Reply Refer To:
Project Code: 2022-0016070
Project Name: Donald Jackson

March 05, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

(207) 469-7300

Project Summary

Project Code: 2022-0016070

Event Code: None

Project Name: Donald Jackson

Project Type: Commercial Development

Project Description: Construct a 6,120 square foot commercial building along with 6,981 square feet of associated pavement for access, loading and parking.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.46359595,-70.48606953853434,14z>



Counties: York County, Maine

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Paul Gadbois Engineering

Name: Paul Gadbois

Address: P.O. Box 327

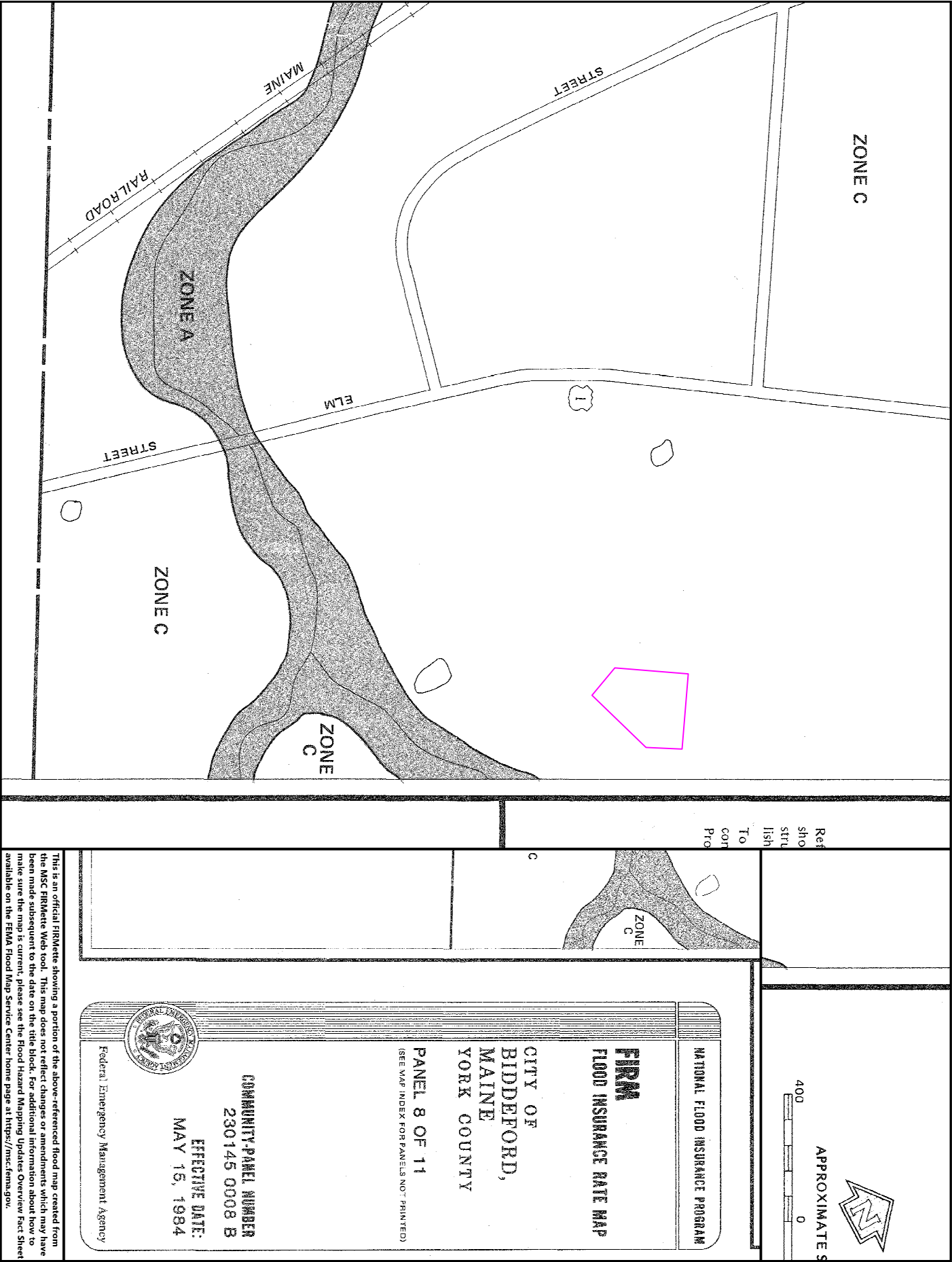
City: Saco

State: ME

Zip: 04072

Email: pgadbois53@gmail.com

Phone: 2072833980



**Sea Rose Trap Co.
Donald Jackson
Digital Drive**

Maintenance Narrative:

PART 1: RESPONSIBILITY FOR MAINTENANCE

Brimstone Inc. will be responsible for maintenance of the stormwater system.

PART 2: INSPECTIONS – During Construction and Post Construction

- Detention Facilities: Underdrained Filter Ponds
 - Embankment inspection and maintenance
 - Spillway maintenance
 - Sediment removal and disposal
- Ditches, Swales, or other open stormwater channels
 - Embankment inspection and maintenance
 - Channel inspection
 - Sediment removal and disposal
- Culverts, catch basins, stormwater control structures, Detention Pond
 - Embankment inspection and maintenance
 - Inlet and Outlet inspection
 - Debris removal and disposal

The owners representative will inspect the detention pond, swales, channels, stormwater structures to determine if the soil blockage or impaired capacity to pass flow exists. Inspections will be performed on a monthly basis from March to November, and quarterly during the remainder of the year. A record of inspections and maintenance or corrective measures shall be kept by the owner (see part 4).

PART 3: MAINTENANCE AND CLEANING

The owner will regularly inspect for sediment accumulation, obstructions, debris, and other potential causes for operational difficulty in the conveyance and detention system as described in Part 2. Immediate action shall be taken to remedy detrimental obstructions.

- Under drained filter Maintenance:
 - Soil Filter Inspection
 - Soil Filter replacement
 - Sediment removal and disposal
 - Mowing
 - Harvesting and Weeding

The owner will regularly inspect the soil filter after every major storm event in the first few months to ensure proper function. There after the filter should be inspected bi-annually to ensure that it is draining within 24 hours. The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Sediment shall be removed from the filter bed annually. The bed shall be hand raked and re-seeded as necessary. The removed sediment shall be hauled off site and disposed of in a stabilized area. Mowing of the filter area shall be limited to 2 times per year to maintain grass heights to less than 12". Weeding and pruning of growth within the filter zone will be completed as necessary.

- **Road and Parking Areas:**

Access and Parking areas will be maintained by the owner. Paved areas shall be swept in the spring once snow melt is complete. A record of who completed the work shall be recorded in the log. All sand, salt, etc. accumulated when sweeping the paved areas, shall be trucked off-site for disposal. Sand / Sediment will not be allowed to be dumped on site.

PART 4: RECORD KEEPING

The owner will maintain inspection records, with recordings of condition of basins, and pipes and annotation of substantial precipitation events or mitigating circumstances in the intervening time for trending to develop the anticipated preventive maintenance schedule.

PART 5: MAINTENANCE CONTRACT

Should proprietary devices be utilized, a maintenance contract will be established with the manufacturer for regular maintenance and cleaning of the device.

PART 6: RE-CERTIFICATION

The owner shall submit a certification to Maine DEP within three months of the expiration of each five year interval from the date of issuance of the permit. The owner shall submit the maintenance log which identifies inspections completed, erosion problems found, when corrective action was taken, and who completed the work. The certification will include a statement indicating that the stormwater system is working and is being maintained in working condition in accordance with the permit requirements.

Maintenance Log Sheet

7 Digital Drive

[illegible]

Maine DEP Chapter 500 Appendix C. Housekeeping – Updated 2019

These performance standards apply to all projects.

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 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 and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: 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 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.

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). 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.

**Don Jackson
7 Digital Drive**

**Oil SPCC Plan
Biddeford, Maine**

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Oil Spill Prevention Control and Countermeasure (SPCC) plan is to prevent oil spills from occurring, and to perform safe, efficient and timely response in the event of a spill or leak (both referred to as “spills” herein). In accordance with United States Environmental Protection Agency (EPA) oil pollution prevention regulations (40 CFR 112), the owner must prepare and implement an SPCC plan for facilities that could reasonably be expected to discharge oil into or upon navigable waters or adjoining shorelines; and, meet one of the following conditions:

- ◆ Above-ground oil storage capacity exceeds 1,320 gallons; or
- ◆ Underground oil storage capacity exceeds 42,000 gallons, unless the underground tanks are subject to all of the technical requirements of 40 CFR 280 or a state program approved under 40 CFR 281. (Maine’s approved program is Department of Environmental Protection, Chapter 691 – Rules for Underground Storage Facilities.)

As defined by 40 CFR Part 112, oil includes all grades of motor oil, hydraulic oil, lube oil, fuel oil, gasoline and diesel, automatic transmission fluid (ATF), waste oil, and transformer mineral oil. The definition of oil also includes non-petroleum oils such as animal or vegetable oils and synthetic oils.

1.1.1 *Using the Plan*

In addition to satisfying a regulatory requirement, this SPCC plan should be working document at the facility. The plan should be used frequently in the following ways:

- ◆ As a reference for oil storage and containment system information.
- ◆ As a tool for informing new employees and refreshing current employees on practices for preventing and responding to spills.
- ◆ As a guide to periodic training programs for employees.
- ◆ As a guide to facility inspections.
- ◆ As a resource during an emergency response.

1.1.2 SPCC Plan Revisions

The owner must revise this SPCC plan for any change in the facility design, construction, operation or maintenance that affects the facility's potential for discharging oil. Revisions must occur as soon as possible, but no later than six months after the change occurs. The Environmental Compliance Officer is responsible for initiating and coordinating such revisions.

Additionally, this SPCC plan must be reviewed at least once every five years. Revisions to the plan, if any, must be made within six months of the review. Facility information related to the SPCC plan must be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator whenever the facility discharges more than 1,000 gallons in a single event, or discharges more than 42 gallons of oil in each of two spill events within a 12-month period.

1.2 Facility Description [112.7(a)(3)]

1.2.1 Location & Use

The facility is located in a commercial area at 7 Digital Drive in Biddeford, Maine.

The site is comprised of approximately 1 acres of land. Improvements include construction of a 6,120 square foot building along with 6,981 square feet of pavement.

1.2.2 Waterways and Abutters

The nearest body of water to the site is an unnamed stream, and ultimately discharges to Thatcher Brook. Personnel at the facility must be made aware that spills leaving the site can impact downstream wetlands.

1.2.3 Site Drainage

The proposed impervious areas will be directed to a Grassed Underdrained Soil Filter Pond.

2.0 POTENTIAL SPILL SOURCES AND SPCC FEATURES

2.1 SPCC Compliance [112.7(a)(1) & 112.7(a)(2) & 112.8]

[Give a brief functional description of the oil storage, handling, containment, and drainage features of the facility. Include a description of the overfill prevention system for each tank (e.g., level gauges, high level alarms, automatic shutoff devices)]

[Discuss any compliance discrepancies, and how equivalent environmental protection is provided.]

2.2 Tables [112.7(a)(3)(i & iii) & 112.7(b) & 112.7(c)]

ABOVEGROUND STORAGE TANKS

TANK NO.	CAPACITY (gallons)	PRODUCT	HI-LEVEL ALARM	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

UNDERGROUND STORAGE TANKS

TANK NO.	CAPACITY (gallons)	PRODUCT	TANK MONITOR	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

ABOVEGROUND PIPING

TANK NO.		PRODUCT		ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

UNDERGROUND PIPING

TANK NO.		PRODUCT	LEAK DETECTION SYS.	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

MOTOR FUEL DISPENSERS

DISP. #	# OF HOSES	PRODUCT	NEAREST DRAIN	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

2.2 Tables [112.7(a)(3)(i & iii) & 112.7(b) & 112.7(c)] (Continued)

DRUM STORAGE

BLDG. or LOCATION	# OF DRUMS	PRODUCT & gal./drum	NEAREST DRAIN	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

LOADING/UNLOADING RACKS

LOCATION or NAME	PRODUCT	ISSUE or RECEIVE	NEAREST DRAIN or LOW POINT	ESTIMATED SPILL DIRECTION AND RATE	CONTAINMENT & SPILL CONTROL FEATURES

TANK TRUCK PARKING & PORTABLE TANK STORAGE

LOCATION	TRUCK or TANK TYPE & PRODUCT	MAX. COMPARTMENT SIZE (gallons)	ESTIMATED SPILL DIRECTION AND RATE (locate nearest drain)	CONTAINMENT & SPILL CONTROL FEATURES

3.0 SPILL PREVENTION AND RESPONSE

3.1 Discharge Prevention

3.1.1 SPCC Features and Operating Procedures [112.7(a)(3) & 112.8]

Personnel shall use common sense and rely on spill prevention practices at all times to minimize the potential for a release of oil.

For example, the following “common sense” practices are recommended:

- ◆ keep container lids securely fastened at all times;
- ◆ do not leave portable sources unattended (outside);
- ◆ return portable sources to their storage location after use;
- ◆ use pads, drip pans, and funnels when transferring petroleum products from a portable container;
- ◆ protect oil sources from damage by moving equipment;
- ◆ keep dike valves closed at all times except when discharging clean stormwater from the diked area;
- ◆ contaminated water within the diked area and piping and dispenser sumps shall be removed and disposed of by a licensed hazardous waste contractor;
- ◆ do not store oil sources near catch basins or floor drains; and
- ◆ loading and unloading of petroleum products shall be attended at all times.

Spill prevention during oil deliveries (offloading) is the primary responsibility of the supplier until the product is safely in the tank or vessel. Filling of tank trucks and tank cars (loading) is the responsibility of facility personnel. Vehicle filling is the responsibility of (customers)(facility personnel).

Supplier Approval

All suppliers must meet the minimum requirements and regulations for tank truck unloading as established by the United States Department of Transportation. The owner or his representative will also ensure that all suppliers understand the site layout, know the protocols for entering the site and unloading product, and have the necessary spill equipment on board to respond to a spill from the vehicle or fuel delivery hose.

Observation of Deliveries

The Facility Manager or designee will supervise deliveries for all new suppliers and will periodically observe deliveries for existing, approved suppliers. Delivery observations include:

- ◆ vehicle inspection prior to delivery and departure (*e.g.*, to make sure the driver does not drive away with the hose in the fill pipe);
- ◆ inquiry to ensure the truck contains the right product for the tank;
- ◆ assurance that the tank can hold what the supplier intends to deliver; and
- ◆ adequate spill response equipment is on board the vehicle.

Loading Tank Trucks and Tank Cars [, and Vehicle Filling]

Loading operations [and vehicle fueling operations] will be performed by facility personnel trained in the specific operation. The operators will:

- ◆ check that the vehicle is properly secured before making connections,
- ◆ inspect the storage and delivery system, hoses, connections and the receiving vessel before beginning operations,
- ◆ monitor the transfer operation in-person from beginning to end,
- ◆ check that the vehicle has been disconnected before departure, and
- ◆ secure the storage and delivery system after use.

Vehicle Filling (Dispensing)

Vehicle filling operations will be performed by customers [while trained facility personnel are on site] [while the station is unattended].

- ◆ Facility personnel will monitor the fueling area for safe and proper operation, and will take immediate action to correct any deficiencies.
- ◆ Operating instructions are posted for self-service customers.
- ◆ For unattended operation (no facility employee on-site), emergency instructions are also posted; and an emergency stop pushbutton, a manual activation method for the fire extinguisher system and a direct means of emergency communications are available.

Draining Stormwater from Containment Areas and Sumps

[Tank dikes, impoundments, piping/dispenser sumps] are drained only under the direct supervision of facility personnel.

- ◆ Dike drain valves are normally kept locked in a closed position except when draining the dike.
- ◆ Accumulated stormwater is inspected for sheen, and only water without a visible sheen is released. [If the discharge of stormwater is near a surface water and regulated by the Maine DEP, Bureau of Land and Water Quality, accumulated stormwater is treated through an oil/water separator to no more than 15 ppm of oil/grease prior to being released.]
- ◆ Contaminated stormwater is removed for transport off site by a licensed hazardous waste or waste oil contractor.

3.1.2 Tests and Inspections [112.7(e) & 112.8(c)(6)]

The personnel at the facility shall perform testing, inspection, and maintenance of all petroleum equipment to keep it performing in an efficient and environmentally sound manner. The tests and inspections shall be performed as discussed in the following subsections.

3.1.2.1 Inspecting ASTs, Piping and Dispensing Systems

Facility personnel periodically observe the ASTs during operating hours. The ASTs and associated piping and dispensing systems shall be inspected monthly, and the results shall be recorded on the *Monthly AST Inspection Report*, as included in Appendix E. Spill response kits kept on site shall also be checked during the monthly AST inspection, and restocked as necessary. The monthly inspection reports shall be kept for at least three years in a file maintained by the Facility Manager. Inspections of the tanks include observations of the exterior of the tank for signs of deterioration or spills (leaks), observations of the tank foundation and supports for signs of instability, and observations of the vent, fill and discharge pipes for signs of poor connection, that could cause a spill. In addition to these monthly inspections, the facility will periodically verify the integrity of each tank in accordance with an industry standard inspection procedure such as STI – SP001-03 or API 653. The frequency of such testing will be as specified by the selected industry standard procedure.

All underground piping and associated leak detection systems will be inspected annually by a Maine Certified Underground Tank Installer or Inspector, in accordance with the applicable State of Maine requirements.

3.1.2.2 Tank and Equipment Maintenance

All petroleum tank and piping problems shall be immediately reported to the Facility Manager. Visible oil spills (leaks) that cause a loss of oil from tank walls, piping or other components shall be repaired or replaced as soon as possible to prevent the potential for a major spill from the source. This is especially important for sources located outside containment or near drains or catch basins that discharge to the environment.

3.1.3 Training [112.7(f)]

The owner or his representative shall provide SPCC spill training for personnel involved with handling petroleum products. The Environmental Compliance Officer shall arrange for annual training, which shall include the following training topics:

- ◆ an introduction to pollution control laws;
- ◆ rules and regulations pertaining to the use and storage of petroleum products;
- ◆ inspection, operation and maintenance of spill equipment, and petroleum storage and dispensing equipment;
- ◆ spill response and cleanup;
- ◆ spill notification and record keeping; and
- ◆ spill prevention practices.

Records of attendance at training and topics covered shall be maintained by the Facility Manager.

3.1.3.1 Documentation for Training

The annual SPCC training shall be documented to include the instructor's name, course outline, date and duration of training, attendant's names and signatures, and corrective action list for areas in need of improvement, if any. This information shall be filed and maintained for at least 3 years at the office of the Environmental Compliance Officer.

3.1.4 Security [112.7(g)]

Lights.

3.1.5 Conformance with State of Maine and Local Requirements [112.7(j)]

[Discuss applicable State of Maine requirements pertaining to aboveground tank facilities. Such requirements may include:

- ◆ Maine State Fire Marshal's Office permitting requirements and fire codes
- ◆ Maine DEP requirements for installing, maintaining and registering underground piping systems at AST facilities
- ◆ Maine DEP requirements regarding the discharge of dike water near surface water bodies
- ◆ Maine Emergency Management Agency (MEMA) requirement for annual registration and inventory reporting

3.2 Emergency Response [112.7(a)(3)(iv), 112.7(a)(4) and 112.7(c)]

This section describes the cleanup response and protocols to follow in the event of an oil spill. The uncontrolled discharge of oil to groundwater, surface water or soil is prohibited by State or Federal laws. It is imperative that action be taken to respond to a spill once it has occurred. Depending on the volume and characteristics of the material released, the owner or his representative, has defined spill response as either a "Minor Spill Response" or "Major Spill Response" ("Spill Emergency"). A list of Emergency Contacts is included in Appendix A. A list of spill response materials kept at the facility is included in Appendix F.

3.2.1 Minor Spill Response [112.7(a)(3)(iv)]

A "Minor Spill Response" is defined as one that poses no significant harm to human health or the environment. These spills involve generally less than 5 gallons and can usually be cleaned up by personnel on site. Other characteristics of a minor spill include the following:

- ◆ the spilled material is easily stopped or controlled at the time of the spill;
- ◆ the spill is localized;
- ◆ the spilled material is not likely to reach surface water or groundwater;
- ◆ there is little danger to human health; and
- ◆ there is little danger of fire or explosion.

In the event of a minor spill the following guidelines shall apply:

- ◆ Stop the source if the spill is ongoing.
- ◆ Immediately notify the senior on-site person (i.e., Facility Manager).

- ◆ Call the Maine Department of Environmental Protection (1-800-482-0777) within two hours.
- ◆ Under the direction of a senior on-site person, contain the spill with spill response materials and equipment.
- ◆ Place spill debris in properly labeled waste containers.
- ◆ Complete the *Spill Notification Form* (Appendix B) and send to the Environmental Compliance Officer.

3.2.2 Major Spill Response (Spill Emergency) [112.7(a)(3)(iv)]

A “Spill Emergency” is defined as one involving a spill that cannot be safely controlled or cleaned up. Characteristics include the following:

- ◆ the spill is large enough to spread beyond the immediate spill area;
- ◆ the spilled material enters surface water or groundwater (regardless of spill size);
- ◆ the spill requires special training and equipment to cleanup;
- ◆ the spilled material is dangerous to human health; and/or
- ◆ there is a danger of fire or explosion.

In the event of a spill emergency, the following guidelines shall apply:

- ◆ Stop the source if the spill is ongoing only if safe to do so.
- ◆ All workers shall immediately evacuate the spill site and move to a safe distance away from the spill.
- ◆ A senior on-site person shall call for medical assistance if workers are injured (no worker shall engage in rescue operations unless they have been properly trained and equipped).
- ◆ A senior on-site person shall immediately contact the Maine Department of Environmental Protection (1-800-482-0777) and the National Response Center (1-800-424-8802). Document the telephone calls on the *Spill Notification Form* in Appendix B.
- ◆ Notify the local Fire Department or Police Department.
- ◆ A senior on-site person shall contact the Facility Manager and provide details regarding the spill.

- ◆ The Facility Manager or Environmental Compliance Officer will coordinate cleanup and seek assistance from a cleanup contractor as necessary.

3.2.3 Waste Disposal [112.7(a)(3)(v)]

Non-hazardous wastes resulting from a minor spill response will be containerized in impervious bags, drums or buckets. Unsaturated oil spill clean up debris will be disposed of as special waste by a licensed waste hauler within two weeks. Any saturated oil spill clean up debris or recovered free product will be stored in drums and either re-used as fuel or disposed of properly.

Wastes resulting from a major spill response will be removed and disposed by a cleanup contractor.

3.2.4 Notification and Reporting [112.4 and 112.7(a)(4)]

3.2.4.1 Spill Notification Forms [112.7(a)(4)]

After making the appropriate phone calls and the spill is contained, a *Spill Notification Form*, included in Appendix B, shall be completed and submitted to the Environmental Compliance Officer. The *Spill Notification Form* includes a checklist to document the proper notification of state and federal agencies. The form shall be filed by facility name and maintained as long as David Dube owns and/or operates this facility.

3.2.4.2 Submittal of Additional Information to the EPA and Maine DEP [112.4]

If a single spill greater than 1,000 gallons occurs, or two spills each greater than 42 gallons occur within any 12 month period, at this the owner of the facility, the Environmental Compliance Officer shall, in addition to the notification procedures above, provide written information to the EPA Regional Administrator as required by the federal SPCC rules. A copy of this information must be provided to the Maine Department of Environmental Protection.

3.2.5 Area Plans

The Environmental Protection Agency (EPA) and Coast Guard (USCG) administer Area Plans for spill contingency response by Region throughout the United States. The USCG covers coastal areas, and EPA covers inland areas. In a major spill event, contacting the National Response Center hotline will trigger assistance from the appropriate agency, if needed.

APPENDIX A

Emergency Contacts [112.7(a)(3)(vi)]

Emergency Contacts

Spill Reporting Hotlines

Agency	Telephone #
Maine Department of Environmental Protection Oil Spill Response	1-800-482-0777
National Response Center USCG/USEPA	1-800-424-8802

Local Emergency Agencies

Agency	Telephone #
[city] Fire Department	207-xxx-xxxx or 911
[city] Police Department	207-xxx-xxxx or 911

Local Publicly Operated Treatment Works (POTW)*

Agency	Telephone #
[city] POTW	207-xxx-xxxx
* Notify POTW only if oil has reached or threatens to reach sewer drains connected to the POTW	

Spill Response Contractors

Company/Location	Telephone #
	207-
	207-
	207-

Owner/Operator (XYZ Oil Co.)

Name/Title	Telephone #

See Appendix B for Emergency Response – Spill Notification Form

APPENDIX B

Spill Notification Form

&

Spill Records

Spill Notification Form

Part A: Basic Spill Data		
Type of Spilled Substance:	Notification Person:	
Quantity Released:	Spill Date and Time:	
Location of Spill:	Discovery Date and Time:	
	SPILL DURATION:	
Facility Name & Location: Donald Jackson 7 Digital Drive Biddeford, ME	Release to: ☐ air ☐ water ☐ ocean ☐ well ☐ soil ☐ sewer ☐ containment ☐ other _____	
Owner / Company Name: Donald Jackson 7 Digital Drive Biddeford, ME	Telephone: Facility: _____ 24 hr.: _____	
Nature of spill and any environmental or health effects: [] Injuries [] Fatalities		
Part B: Notification Checklist		
Spill Type	Notification Date and Time	Name of Person that Received Call
Spill is any amount of petroleum product:		
Maine Department of Environmental Protection 1-800-482-0777		
Spill reaches groundwater or surface water:		
Maine Department of Environmental Protection 1-800-482-0777		
National Response Center 1-800-424-8802		

Send a copy of this form to the XYZ Oil Co. Environmental Compliance Officer. This form shall be filed by facility name and maintained as long as XYZ Oil Co. owns and/or operates the facility.

APPENDIX C

Facility Site Plans [112.7(a)(3)]

APPENDIX D

Substantial Harm Criteria Checklist

[112.20(e)]

**SUBSTANTIAL HARM CRITERIA CHECKLIST (40 CFR 112.20 (e))
CERTIFICATION OF THE APPLICABILITY**

FACILITY NAME: _____

FACILITY ADDRESS: _____

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _____ No _____

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _____ No _____

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes _____ No _____

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No _____

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Name (please type or print)

Signature

Title

Date

APPENDIX E

Facility Inspection Checklist

&

Inspection Records

AST Facility Monthly Inspection Report

Eastwoods Development Corp.

Tank/Product Capacity	TK.1/ _____gals.	TK.2/ _____gals.	TK.3/ _____gals.	TK.4/ _____gals.	TK.5/ _____gals.
General Condition of Tank (Note any deformations, corrosion, staining, etc. Check for liquid in the interstitial space of double-walled tanks.)					
Tank Level Gauge and High Level Alarm Functional?					
General Condition of Secondary Containment (Note any cracks, drain valve closed/locked, accumulated stormwater.)					
Foundation/Tank Base (Note any staining, spills, water against base, etc.)					
Pumps, Piping & Dispensers (Check pumps, piping & dispensers for weeps or leaks; check sumps for water/product; and check piping leak detection systems .)					
Oil/Water Separator (Is separator full? Does effluent have a visible sheen?)					
Emergency Response Spill Kits	Location # Kit complete? ____ Kit restocked: ____	Location # Kit complete? ____ Kit restocked: ____	Location # Kit complete? ____ Kit restocked: ____		

Name: _____

Title: _____

Signature _____ Date: _____

This report shall be kept on file for at least three years.

APPENDIX F

Spill Response Kit List

Spill Response Kits

The following are some suggested items for on-site oil spill response kits. Spill kits should be well marked and kept in readily accessible locations. Facility personnel should be familiar with the location and contents of the spill kits. Note: The number and contents of oil spill response kits will vary with the nature, size and location of the facility. Response kits should be tailored to the site specific features of the facility.

Drum or other container to hold contents of spill kit

Drums or other containers to hold contaminated materials (specify number to be kept on site)

Loose absorbent for oil (specify amount to be kept on site)

Sorbent pads/wipes/pillows/booms/socks (specify amount to be kept on site)

Nitrile gloves (specify the number of pairs to be kept on site)

Neoprene gloves for cold weather use (specify the number of pairs to be kept on site)

Vinyl/PVC Pull-On Overboots (specify the number of pairs to be kept on site)

Nonsparking Shovels (specify the number to be kept on site)

Brooms (specify the number to be kept on site)

Drain seals/plugs/mats (specify the number to be kept on site)

Sand bags for dams or underflow weirs (specify number to be kept on site)

APPENDIX G

Employee Training Log

Employee Training Log

Note: New employees shall receive initial training in the contents and implementation of this SPCC plan upon start of their employment. All employees shall receive annual refresher training in the contents and implementation of this SPCC plan.

Date of Training	Topics Covered	Names of Employees Attending	Instructor(s)

APPENDIX H

Dike Water Drainage Log

Dike Water Drainage Log

This log is to be completed whenever water is discharged from a diked area. Only *clean* water may be discharged from the diked area. The dike valve must remain closed except when draining water from the diked area. The dike valve must be closed promptly after the diked area is drained.

Diked Area #	Date	Oil Sheen Present?*	Time Dike Valve Opened	Time Dike Valve Closed	Signature

* Note: **Water which has a sheen must not be discharged from the diked area.**

Contaminated water must be treated so that it does not have a sheen prior to being discharged from the diked area, or transported off site by a licensed hazardous waste or waste oil contractor for disposal. Discharge of dike water to a surface water, either directly or indirectly, is regulated by the DEP, Division of Water Resource Regulation.

APPENDIX I

Capacity Calculations and Permeability Determinations for Secondary Containment Structures

APPENDIX J

Results of Tank Integrity and Pressure Testing

SALT MANAGEMENT PLAN
Jackson
7 Digital Drive, Biddeford, ME

Introduction

Upon completion of the proposed development and during construction, the Owner (David Dube) shall be responsible for salt storage, handling, application, materials, equipment and disposal of all product utilized to minimize the impact of winter conditions on roadway, parking lots and sidewalk. The responsible party shall schedule contact services required to implement the program maintenance that complies with all Federal and State regulations regarding the storage and use of snow and ice control products. The responsible party shall use road salt in an environmentally responsible manner such that minimizes the negative environmental effects of handling, storage and application of salt on the environment.

The following plan outlines the salt management plan for the project site. These procedures should be followed in order to ensure the intended function and to prevent unreasonable adverse impacts to the surrounding environment. In some instances, additional measures may be required due to unexpected conditions.

Responsibility

The Owner is responsible for ensuring that the Salt Management Plan is maintained, and implemented consistently at the 9 Digital Drive property. The owner is responsible for ensuring that all site specific winter condition maintenance shall be conducted according to this plan. The following conditions shall be implemented as necessary:

- All salt mixtures stored on site will be covered or contained.
- Site drainage should be directed away from the stored materials to keep the stockpiles as dry as possible. This will prevent salt contamination of site drainage.
- Annual inspection and repairs of all application equipment shall be carried out prior to the start of each season. Ongoing inspection of storage containers and application equipment shall be carried out during the season.
- Spreaders/ applicators shall not be overloaded such that material spills off the vehicle.
- Spreaders/ applicators shall only be washed at a location where the wash water is properly managed.

- Sediment that collects in the bottom of mixing and storage tanks must be cleaned out periodically.

Salt Application

There are several factors affecting operational application of snow and ice control materials.

- Right Material - The right material will depend upon the conditions being treated. For this site, the right material includes plowing and minimal road salt use.
- Right Amount - The right amount of material is dependent upon the type of slippery condition being treated, the amount of residual product on the pavement surface, the expected pavement temperature and the amount of precipitation that is expected.
- Right Place - Precise placement of the material is important to keeping it in the right place to do the job rather than wasted to the environment. Proper material placement requires the right equipment and skilled operators.
- Right Time - The timing of salt placement is important to minimizing waste and maximizing chemical effectiveness. There are times when the pavement temperature is above freezing and therefore may not warrant salt application.

Materials

Road salt (i.e. sodium chloride, calcium chloride, magnesium chloride and potassium chloride) categorized as a freeze point depressant will be used on this location. Applying solid salt has the advantage of ensuring that there is a supply of salt to go into solution as more moisture is added through melting of snow or ice.

Salts can range from simple table salt to calcium chloride. Salts are used because they are able to decrease the freezing point of water. Whatever product you chose, make sure you know at what temperature it stops working. We recommend using the table below as labels may be misleading. Note that pavement temperatures are usually warmer than air temperatures.

Melting agent	Lowest pavement temperature at which product works
Calcium chloride (CaCl ₂)	-20° F
Potassium acetate (KAc)	-15° F
Magnesium chloride (MgCl ₂)	-10° F
Sodium chloride (NaCl)	15° F
Calcium magnesium acetate (CMA)	20° F
Blends	Check with manufacturer.
Sand	Never melts, provides traction only.

Materials Storage & Handling

Salt will be stored and/or maintained off site. If the owner wishes to store salt on site then properly maintained salt domes structure along with good housekeeping shall be implemented to safely keep salt in its structure, and avoid environmental impacts. All salt spilled in the vicinity of salt structure during loading and unloading operations shall be returned to the salt structure. Minimal salt is stored in closed containers on site to be used for walkways.

Equipment

Placement of the right amount of material in the right place requires proper equipment. To minimize salt use, as much snow as possible will be removed through plowing. Proper plowing can significantly reduce the amount of chemical needed to keep an area ice-free. Solid materials are applied using truck-mounted spreaders for roads and parking lots and hand spreaders for sidewalks. Continuous uncontrolled spreading can be wasteful. Spreaders that can be set to meter out the right amount of material for the conditions and that can be turned on and off from the truck cab help the operator to place the right amount of material that is needed.

The following considerations shall be taken in to account with respect to equipment:

- Owner and the contractor shall ensure that sufficient equipment and staff are available to properly plow snow then apply material.
- Ensure that plowing equipment can reach all areas required and that the blade is appropriate and in good shape to remove the maximum amount of snow and ice.
- Spreaders shall allow the operator to target material application so that materials are confined to the treatment area and not lost to adjacent areas;
- Operators shall be able to control the spreader so that the amount of material being applied can be increased, decreased or stopped when appropriate;
- Combination plows and spreaders are efficient for removing snow and spreading materials at the same time;
- Drop spreaders rather than broadcast spreaders shall be used on sidewalks to increase the amount of material retained on the sidewalks to work. This will also help to limit salt damage to vegetated areas adjacent to sidewalks;
- Broadcast spreaders shall be used on parking lots to provide for rapid coverage since traffic cannot be relied on to distribute the salt;
- Each spreader unit shall be thoroughly inspected and the mechanical spreader checked to ensure the spreading rate is correct.

Operational Considerations

The sequence by which snow and ice control techniques are applied will affect the amount of salt used. The following discusses some operational considerations to be taken in to account:

- Weather forecasts and radar images shall be monitored to determine when frost, freezing rain, and snow could be expected in order to predict the need to treat an area.
- Application rates will be monitored and recorded following each storm recording the intensity and duration of the storm. Bench marking shall be done separately for both mechanical spreading and hand spreading. Once the bench mark amounts are determined, they can be periodically compared to actual usage.
- The presence of residual product on the pavement surface shall be monitored to determine appropriateness of coverage and utilization.
- Snow shall be plowed from the treatment area prior to the application of road salt to minimize the amount of material needed, and the potential for dilution and refreeze.
- Only enough material shall be applied to do the job.

Operational Considerations

For the majority of the winter storms, plowed snow is stored on site. However, in some cases snow must be removed from the site and transported to a disposal site. Snow that has been cleared from parking lots may contain salt that has been applied to the pavement prior to the snow being plowed. When this snow needs to be removed and transported to centralized disposal sites, the contaminants are concentrated and then released to the environment when the snow melts. Disposal sites will be used that are properly located and designed for snow removal. Owner and its contractors shall determine the disposal locations prior to the start of the winter season.

Documentation

Good, thorough documentation is critical to the successful implementation of an effective salt management plan. Documentation is not limited to just collecting statistical information such as time spent and the amount of material used. It also includes documenting service expectations, describing how the expectations are to be met and having site maps available. The documentation record will include the following:

- Location.
- Date and time of treatment.
- Weather conditions (e.g. type of precipitation, air temperature) and pavement conditions (e.g. extent of snow cover,).
- Plowing activities.
- Type and quantity of material placed.
- Snow removal activities (e.g. amount removed, disposal location).
- Observed risk areas that could not be treated and why they could not be treated.

Contracts

In addition to the weather, the amount of salt used by a snow and ice management contractor is determined by the terms of the contract with the Owner. We retain control over what and when road salt products are to be applied to our site, and in what amounts. The following are considered when developing our snow and ice control contracts.

- The contract is developed to encourage mechanical removal thereby reducing the amount of salt needed to maintain safe and passable conditions.
- The service areas and application rates are reviewed and quantities established.
- Owner and its contractor agree to the detail and extent to which the contractor will document on the amount of salt used to aid the ongoing improvement in practices.

Training

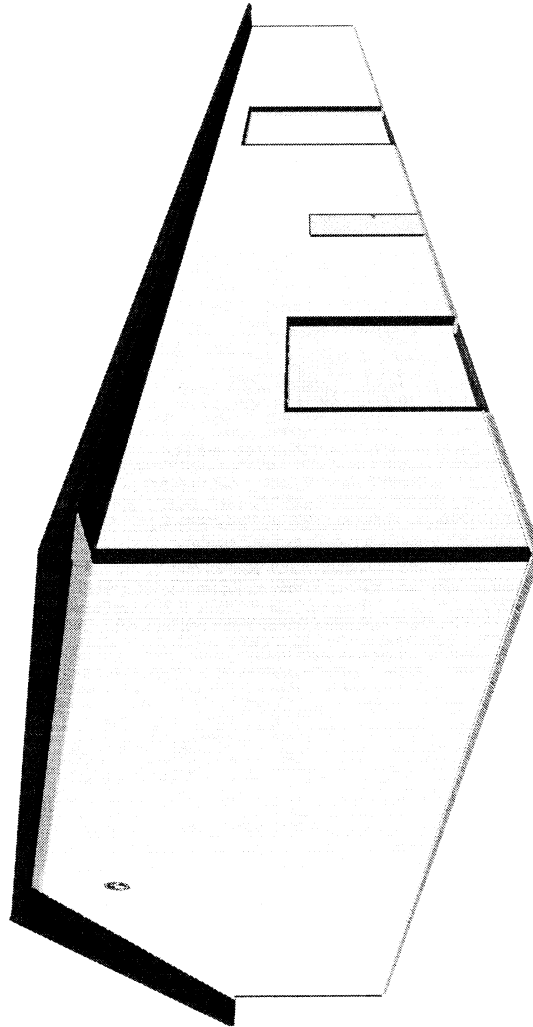
A successful salt management strategy requires effective procedures, practices and equipment. Success also requires adequate training of facility staff and our contracted snow and salting vendor for the site. Any changes in approach will require changes in behavior. Training helps to demonstrate the purpose and value of the new procedures and ensures that personnel are competent to carry out their duties.

The scope of training shall be as follows:

- Evaluate salt management program and update as necessary no less than every three years.
- Review the salt management program with staff and the contractor on an annual basis.
- Review records to determine salt utilization.
- Discuss methods and practices to evaluate areas of improvement and efficiencies.
- Discuss performance and areas for improvement.
- Discuss any challenges or variances and how to modify.



306 60'x14'x102' West and South Walls





12, 18 and 26 Watt SLIM wallpacks are ultra efficient and deliver impressive light distribution with a compact low-profile design that's super easy to install as a downlight or uplight.

Color: White

Weight: 4.5 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type: Constant Current
 120V: 0.12A
 208V: 0.08A
 240V: 0.07A
 277V: 0.06A
 Input Watts: 16W
 Efficiency: 76%

LED Info

Watts: 12W
 Color Temp: 5100K
 Color Accuracy: 71 CRI
 L70 Lifespan: 100000
 Lumens: 1978
 Efficacy: 125 LPW

Technical Specifications

Listings

UL Listing:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities.
 DLC Product Code: PMV178BC

ADA Compliant:

SLIM™ is ADA Compliant.

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label.

Construction

IP Rating:

Ingress Protection rating of IP66 for dust and water

Cold Weather Starting:

Minimum starting temperature is -40° F (-40° C)

Maximum Ambient Temperature:

Suitable for use in 104° F (40°C) ambient temperatures

Housing:

Precision die-cast aluminum housing.

Mounting:

Heavy-duty mounting bracket with hinged housing for easy installation.

Recommended Mounting Height:

Up to 8 ft.

Lens:

Tempered glass lens.

Reflector:

Specular thermoplastic.

Gaskets:

High-temperature silicone

Finish:

Formulated for high-durability and long lasting color.

Green Technology:

Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

LED Characteristics

LED:

Multi-chip, long-life LED.

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

Color Consistency:

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2015.

HID Replacement Range:

Replaces 70W Metal Halide.

Electrical

Driver:

Constant Current, Class 2, 100-277V, 50/60 Hz., 4KV surge protection, 350mA, 100-240VAC 0.3-0.15 Amps, 277VAC 0.15Amps, Power Factor 99%.

Other

California Title 24:

SLIM12 complies with 2013 California Title 24 building and electrical codes as a residential outdoor fixture. See SLIM12/PC for a model that complies as a commercial outdoor non-pole-mounted fixture ≤ 30 Watts.

Patents:

The design of the SLIM™ is protected by patents in U.S. Pat D681,864, and pending patents in Canada, China, Taiwan and Mexico.

Optical

BUG Rating:

B1 U0 G0

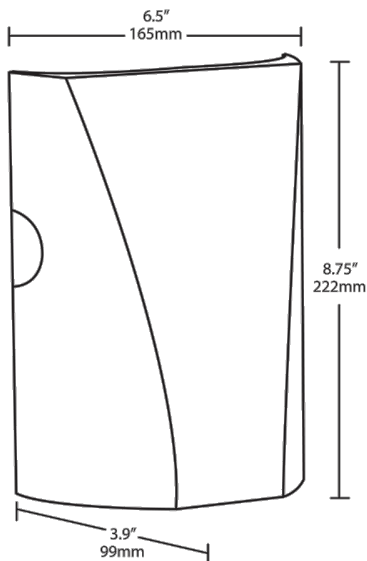
Technical Specifications (continued)

Optical

BUG Rating:

B1 U0 G0

Dimensions



Features

- Full cutoff, fully shielded LED wallpack
- Can be used as a downlight or uplight
- Contractor friendly features for easy installation
- 100,000-hour LED Life
- 5-Year Warranty

Ordering Matrix

Family	Watts	Color Temp	Finish	Photocell	Dimming
SLIM	26 = 26W 18 = 18W 12 = 12W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = Bronze W = White	Blank = No Photocell /PC = 120V Button /PC2 = 277V Button /PCT = 120-277V Twistlock	Blank = No Dimming /D10 = Dimmable

Date : 28 Aug 2018

Title : Enter the title here...

Desc : Enter the description here...

Luminaire

IES Filename : rab02338mod50.ies

Description : SLIM12
CAST BROWN PAINTED FINNED METAL
HOUSING, 1 CIRCUIT BOARD
ONE WHITE MULTI-CHIP LIGHT EMITTING

For : Client's name or company...

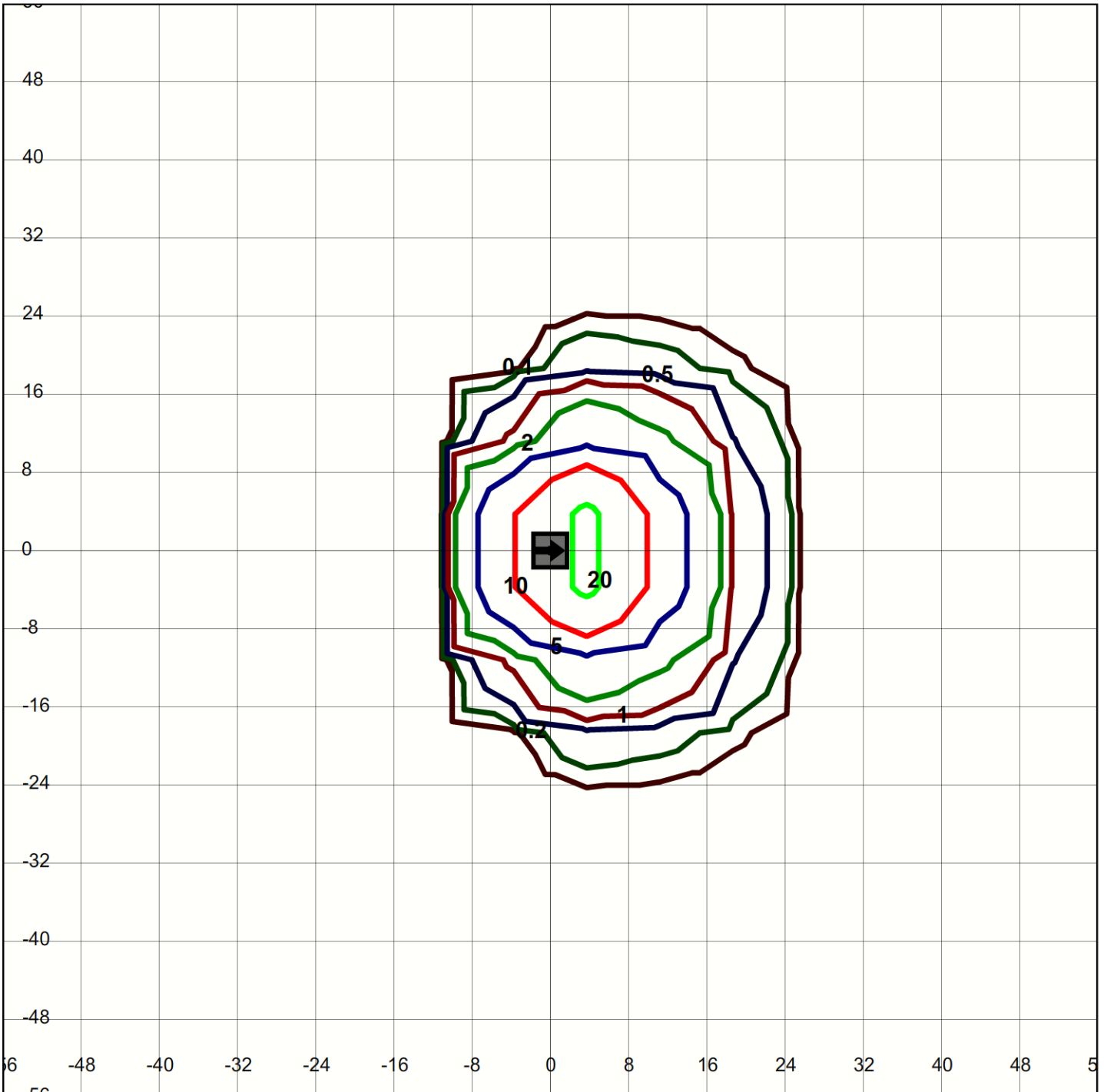
By : Your name or company...

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : -1 lms
Luminaire Watts : 12 W



Scale: feet

Arrangement Magnification: 100 %





12, 18 and 26 Watt SLIM wallpacks are ultra efficient and deliver impressive light distribution with a compact low-profile design that's super easy to install as a downlight or uplight.

Color: White

Weight: 4.5 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type: Constant Current
 120V: 0.27A
 208V: 0.17A
 240V: 0.15A
 277V: 0.13A
 Input Watts: 30W
 Efficiency: 87%

LED Info

Watts: 26W
 Color Temp: 5100K
 Color Accuracy: 71 CRI
 L70 Lifespan: 100000
 Lumens: 3516
 Efficacy: 118 LPW

Technical Specifications

Listings

UL Listing:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.
 DLC Product Code: P0000171S

ADA Compliant:

SLIM™ is ADA Compliant.

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label.

Construction

IP Rating:

Ingress Protection rating of IP66 for dust and water

Maximum Ambient Temperature:

Suitable for use in 104° F (40°C) ambient temperatures

Housing:

Precision die-cast aluminum housing.

Mounting:

Heavy-duty mounting bracket with hinged housing for easy installation.

Recommended Mounting Height:

Up to 22 ft.

Lens:

Tempered glass lens.

Reflector:

Specular thermoplastic.

Gaskets:

High-temperature silicone

Finish:

Formulated for high-durability and long lasting color.

Green Technology:

Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

LED Characteristics

LED:

Multi-chip, long-life LED.

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

Color Consistency:

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2015.

HID Replacement Range:

Replaces 175W Metal Halide.

Electrical

Driver:

Constant Current, Class 2, 100-277V, 50/60 Hz., 6KV surge protection, 720mA, 100-277VAC 0.4 Amps, Power Factor 99%.

Other

California Title 24:

See SLIM26/D10 for a 2013 California Title 24 compliant product. Any additional component requirements will be listed in the Title 24 section under technical specifications on the product page.

Patents:

The design of the SLIM™ is protected by patents in U.S. Pat D681,864, and pending patents in Canada, China, Taiwan and Mexico.

Optical

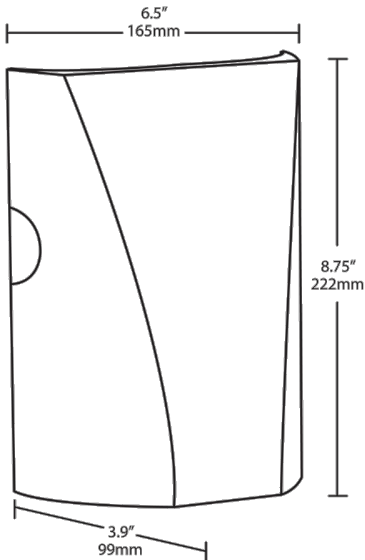
BUG Rating:

B1 U0 G0

BUG Rating:

B1 U0 G0

Dimensions



Features

- Full cutoff, fully shielded LED wallpack
- Can be used as a downlight or uplight
- Contractor friendly features for easy installation
- 100,000-hour LED Life
- 5-Year Warranty

Ordering Matrix

Family	Watts	Color Temp	Finish	Photocell	Dimming
SLIM	26 = 26W 18 = 18W 12 = 12W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = Bronze W = White	Blank = No Photocell /PC = 120V Button /PC2 = 277V Button /PCT = 120-277V Twistlock	Blank = No Dimming /D10 = Dimmable

Date : 29 Aug 2018

Title : Enter the title here...

Desc : Enter the description here...

For : Client's name or company...

By : Your name or company...

Luminaire

IES Filename : rab02322.ies

Description : SLIM26/D10, SLIM26
CAST BROWN PAINTED FINNED METAL
HOUSING, 1 CIRCUIT BOARD
ONE WHITE MULTI-CHIP LIGHT EMITTING

Light Loss Factor : 1.00

Number of Lamps : 1

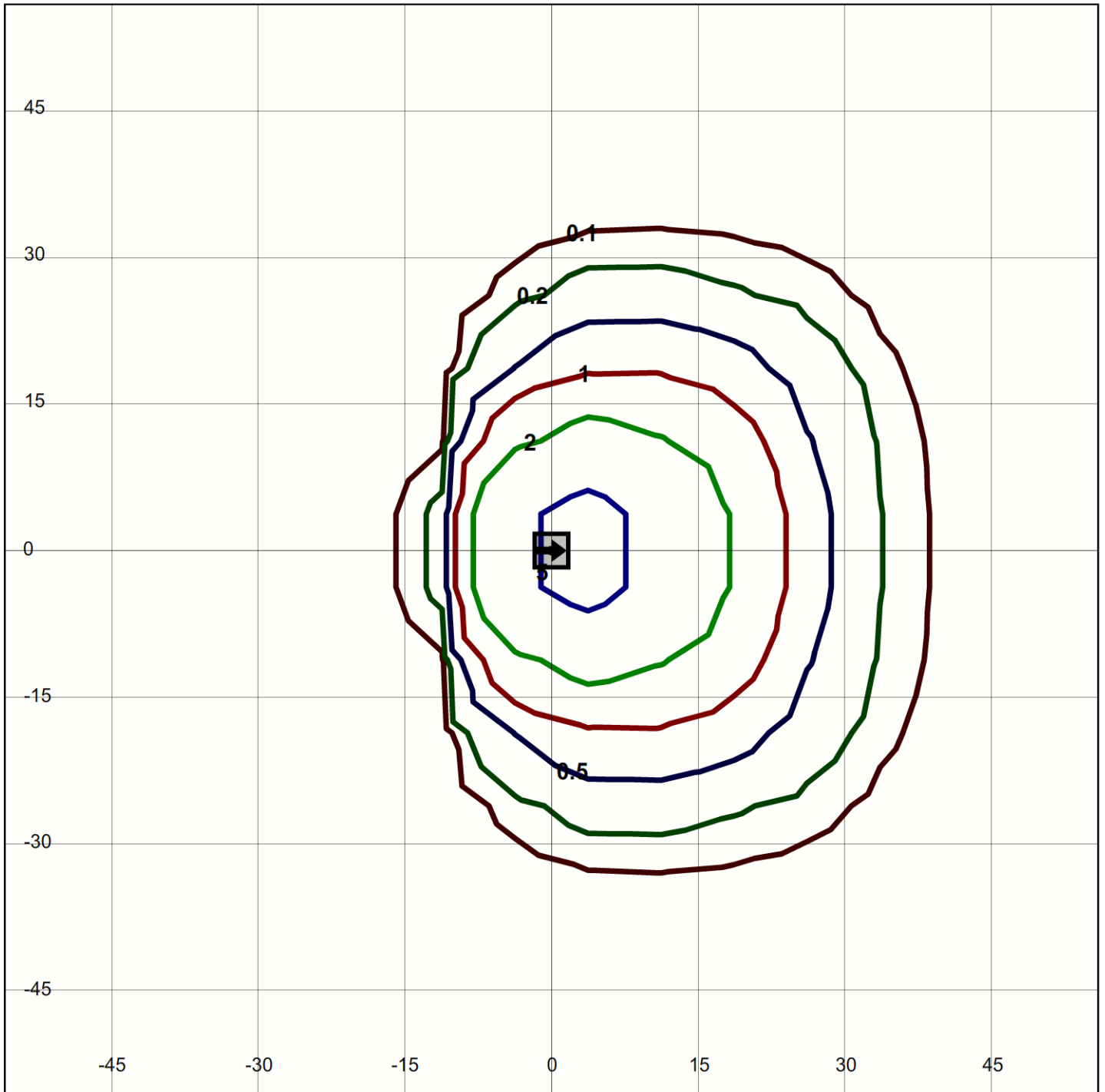
Lamp Lumens : -1 lms

Luminaire Watts : 26 W



Scale: 0 16 32 feet

Arrangement Magnification: 100 %





PAUL P. GADBOIS PE, PLS

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

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

July 11, 2022

Hannah Bonine, Asst. Planner
City of Biddeford
205 Main Street
Biddeford, Maine

Re: Donald Jackson, 9 Digital Drive, Map 15, Lots 7-8 and 7-9.

Dear Ms. Bonine,

The following is the response to staff comments:

Site Design letter Dated June 16, 2022:

A. General

1. Spill Prevention require by planning department on previous projects.
2. We have added a stand alone inspection and maintenance report.

B. Stormwater Management

1. A paper copy of the Hydro Cad calculations was submitted and should have been included in your packet and I have resubmitted with this response.
2. I am capturing the new building with gutters and the proposed pavement directed towards the new swale which discharges to pond. I have added spot elevations and drainage arrows to define runoff direction.
3. We have calculated the compensation fee for the project. Cost to applicant \$ 2,452.00.

C. Drawings

1) Existing Conditions Plan

- a) The existing conditions plan is the as built for the project.
- b) Actual field survey on NGVD 88 Datum and stated in note #10 of the site plan.
- c) The applicant agrees to remove the existing access drive. A note was added to the site plan.

2) Site Plan

- a) The applicant and I met with the Fire Chief, and the discussion was that a 15-foot access would be adequate.
- b) Materials will continue to be off loaded to the existing site and transported to the new storage building by forklift.



PAUL P. GADBOIS PE, PLS

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

P.O. Box 327
Saco, ME 04072
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Email: pgadbois53@gmail.com

3) Grading Plan

- a) Added spot grades as requested and lowered proposed slab elevation to Elevation 136.00. The pavement will slope 3% away from the building.
- b) Added inverts and erosion protection.
- c) The existing underdrain was revised to be shown in red.
- d) Added cleanouts on grading plan and to cross section on details.
- e) Elevations shown on detail sheet.
- f) Revised tree line.
- g) All slopes greater than 2:1 shall be riprap. All other slopes including slopes within the detention pond shall be loam and seeded or erosion control mix.

4) Erosion Control Plan

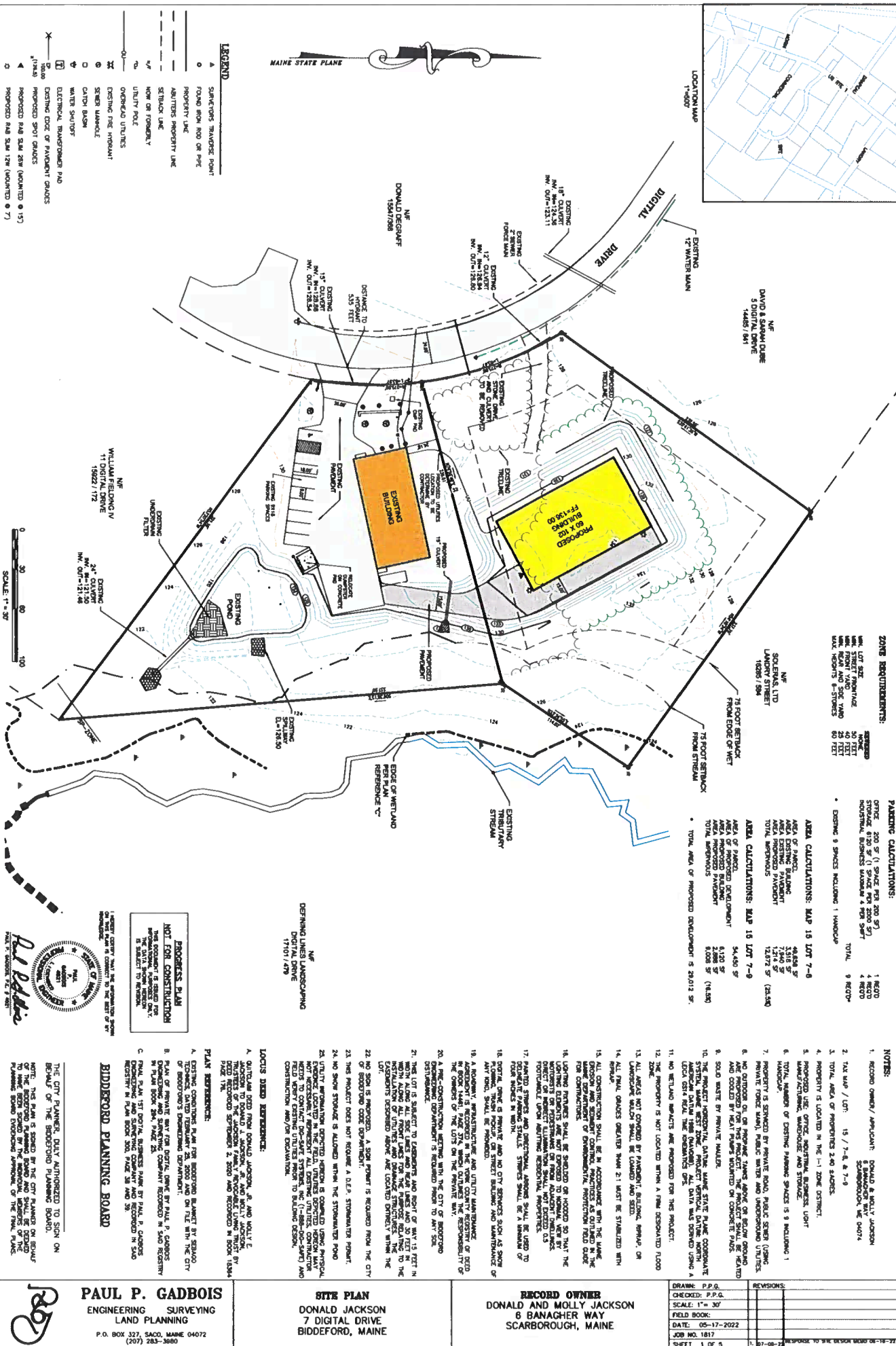
- a) Storm events added as requested to Erosion Control Plan Appendix B 1.(a) and 2.(b)(i)

5) Detention Pond Details

- a) I only found one conflict and revised. Changed the bottom of pond elevation to elevation 124.00
- b) The existing outlet control structure does not need any modifications.
- c) The existing spillway does not need any modifications.
- d) Added 30 mil to liner.
- e) Added new swale detail.
- f) Removed spillway detail.
- g) Riprap is to be used on slopes 2:1 or greater, all other slopes to be loam and seeded or erosion control mix as stated on plan.

Sincerely,

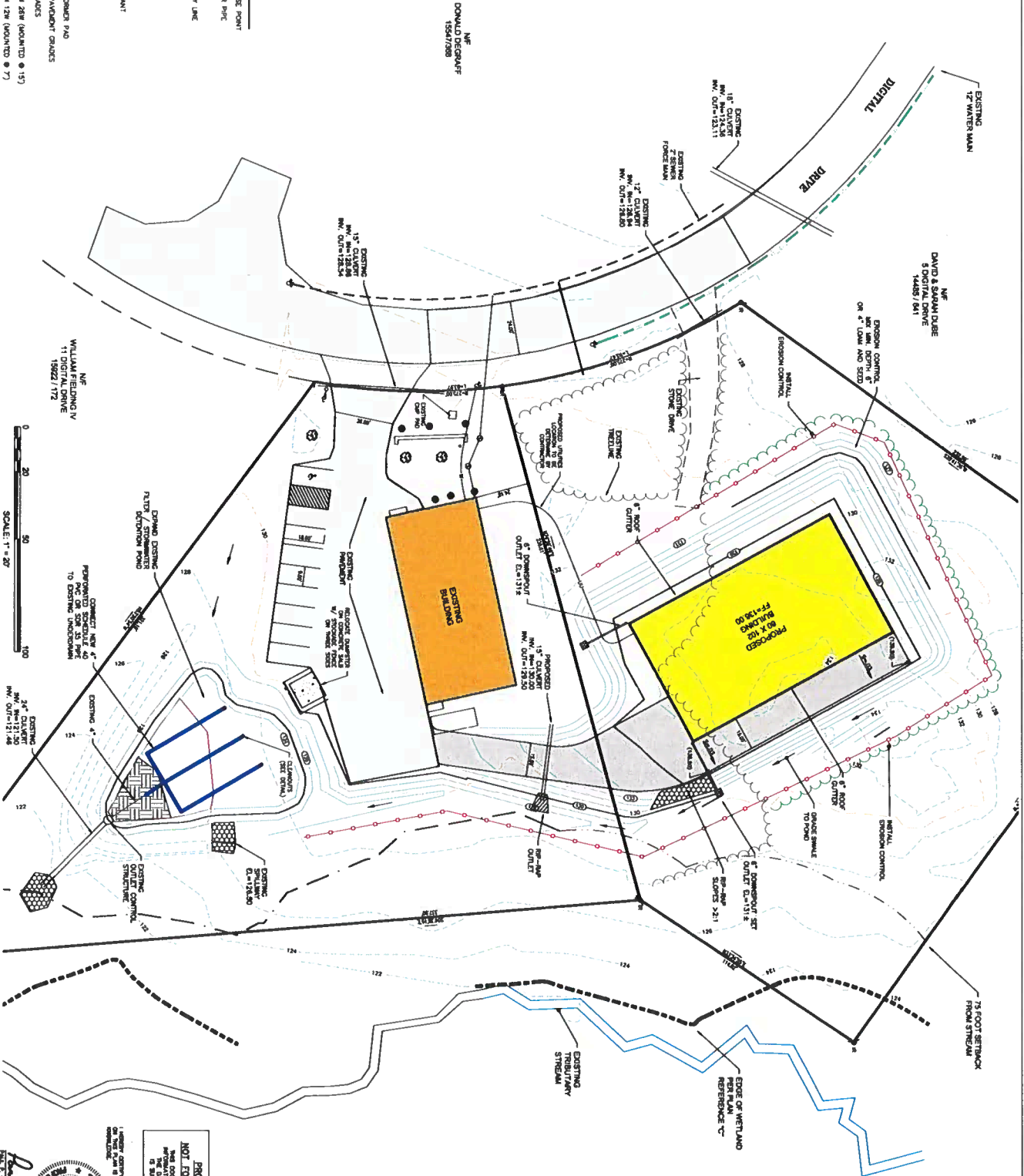
Paul P. Gadbois, P.E., P.L.S.





LEGEND

- ▲ SANCTIONS TRANSFER POINT
- FOUND RGN RD OR PIPE
- PROPERTY LINE
- ADJUTERS PROPERTY LINE
- STRUCK LINE
- NEW OR FORMERLY
- UTILITY POLE
- OVERHEAD UTILITIES
- EXISTING FIRE HYDRANT
- SEWER MANHOLE
- CATCH BASIN
- WATER SHEDD
- ELECTRICAL TRANSFORMER PAD
- EXISTING DICE OF PAVEMENT GRADES
- PROPOSED SPOT GRADES
- PROPOSED RAS SLAM 28W (MOUNTED @ 15')
- PROPOSED RAS SLAM 12W (MOUNTED @ 15')



PROGRESS PLAN
NOT FOR CONSTRUCTION
THIS DOCUMENT IS ISSUED FOR
YOUR INFORMATION ONLY.
IT IS SUBJECT TO REVISION.

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3880

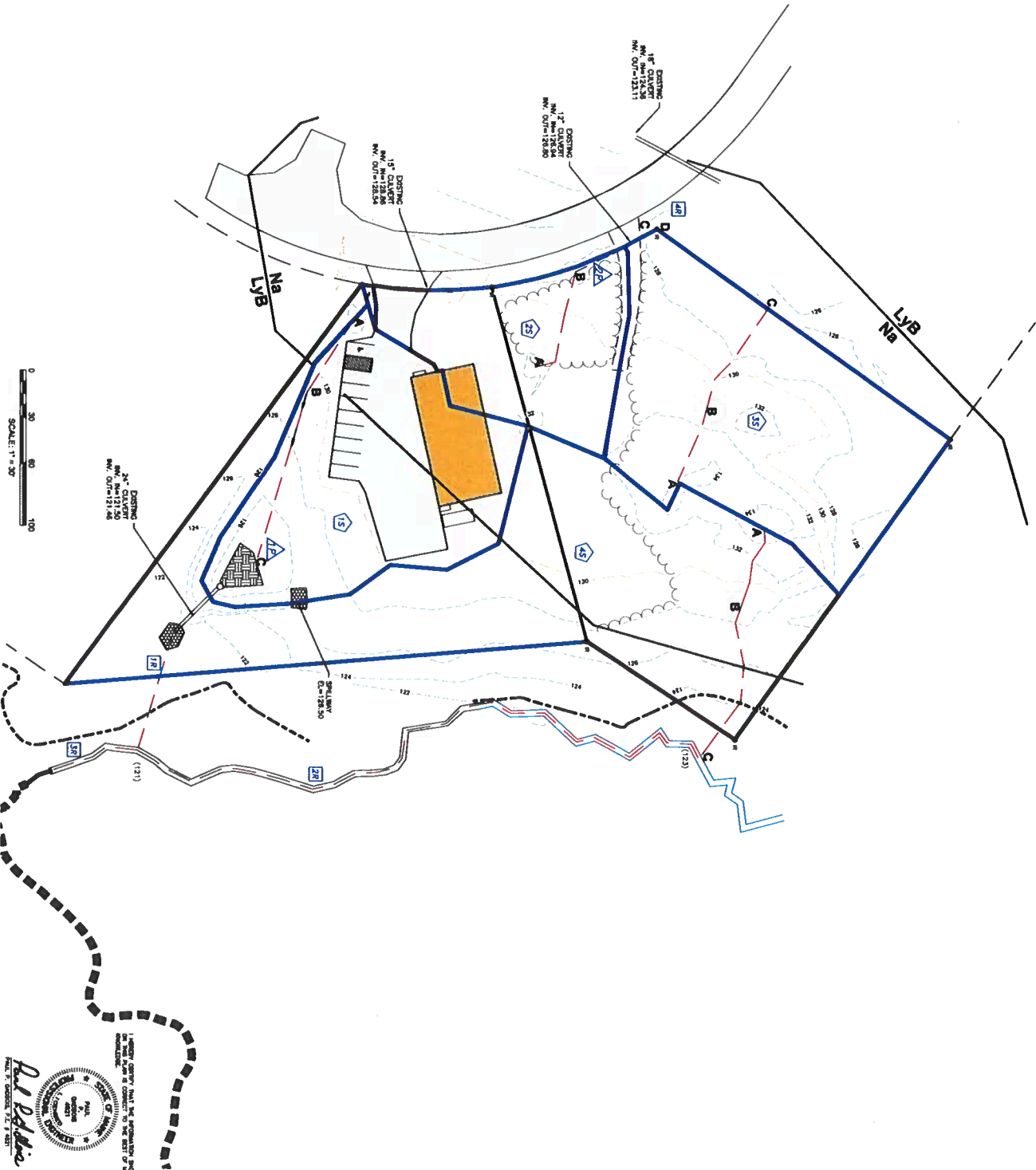
GRADING PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD AND MOLLY JACKSON
6 SANAGHER WAY
SCARBOROUGH, MAINE

DATE	REVISIONS
05-17-2022	1. 07-08-24
05-17-2022	2. 07-08-24
05-17-2022	3. 07-08-24
05-17-2022	4. 07-08-24
05-17-2022	5. 07-08-24

STORMWATER LEGEND

- HYDROLOGIC POOL
- HYDROLOGIC SUBAREA
- HYDROLOGIC REACH
- TC FLOW PATH
- REACH
- WATERSHED BOUNDARY



0 30 60 90 120
SCALE: 1" = 30'

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ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3880

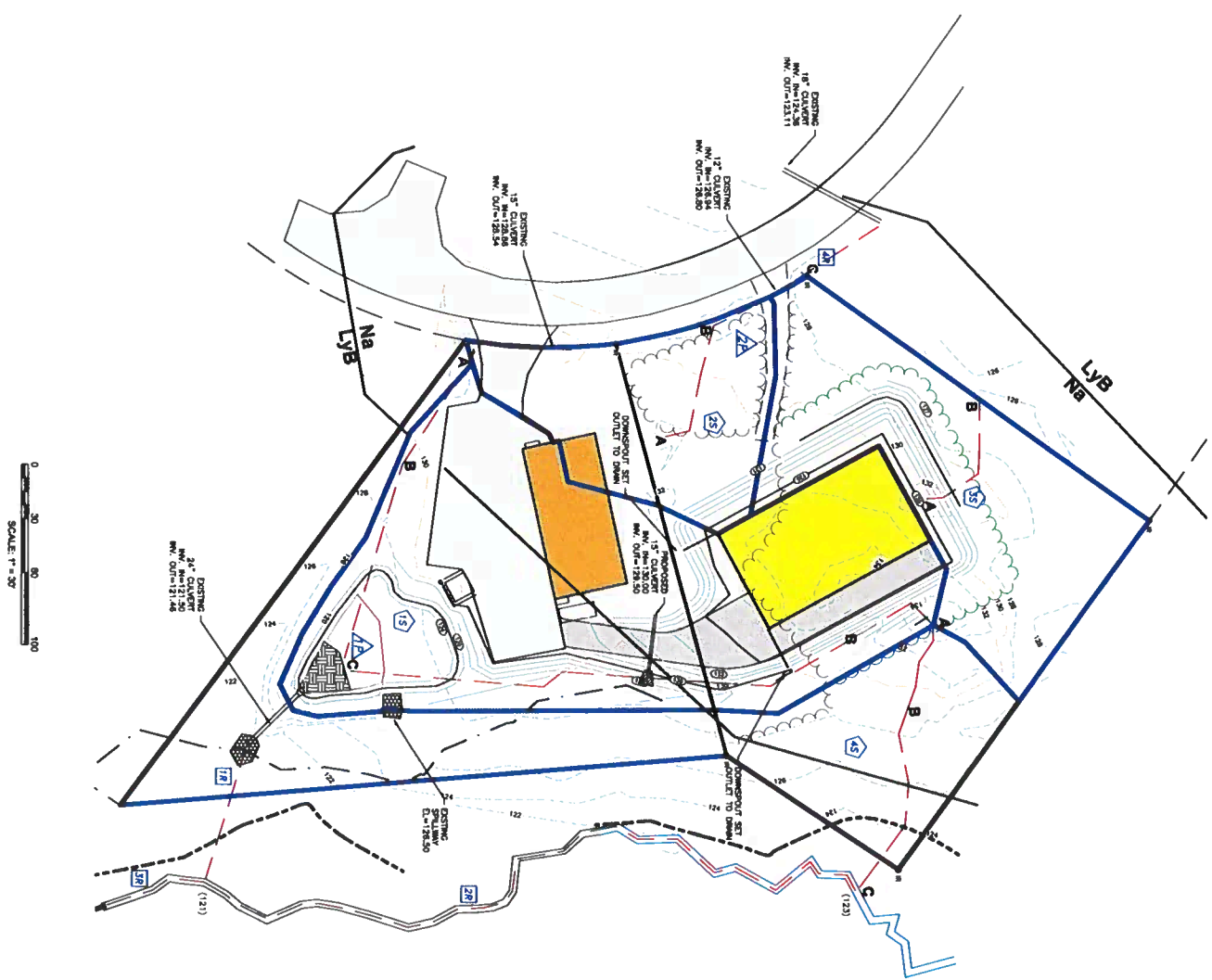
PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3880

PRE DEVELOPMENT PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD & MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE 04074

DRAWN: P.P.G.	REVISIONS:
CHECKED: P.P.G.	
SCALE: 1" = 30'	
FIELD BOOK:	
DATE: 05-17-2022	
JOB NO. 1817	
SHEET 1 OF 2	

- STORMWATER LEGEND**
- HYDROLOGIC POOL
 - HYDROLOGIC SUBAREA
 - HYDROLOGIC REACH
 - TO FLOW PATH
 - REACH
 - WATERSHED BOUNDARY



0 30 60 90 120
SCALE: 1" = 30'



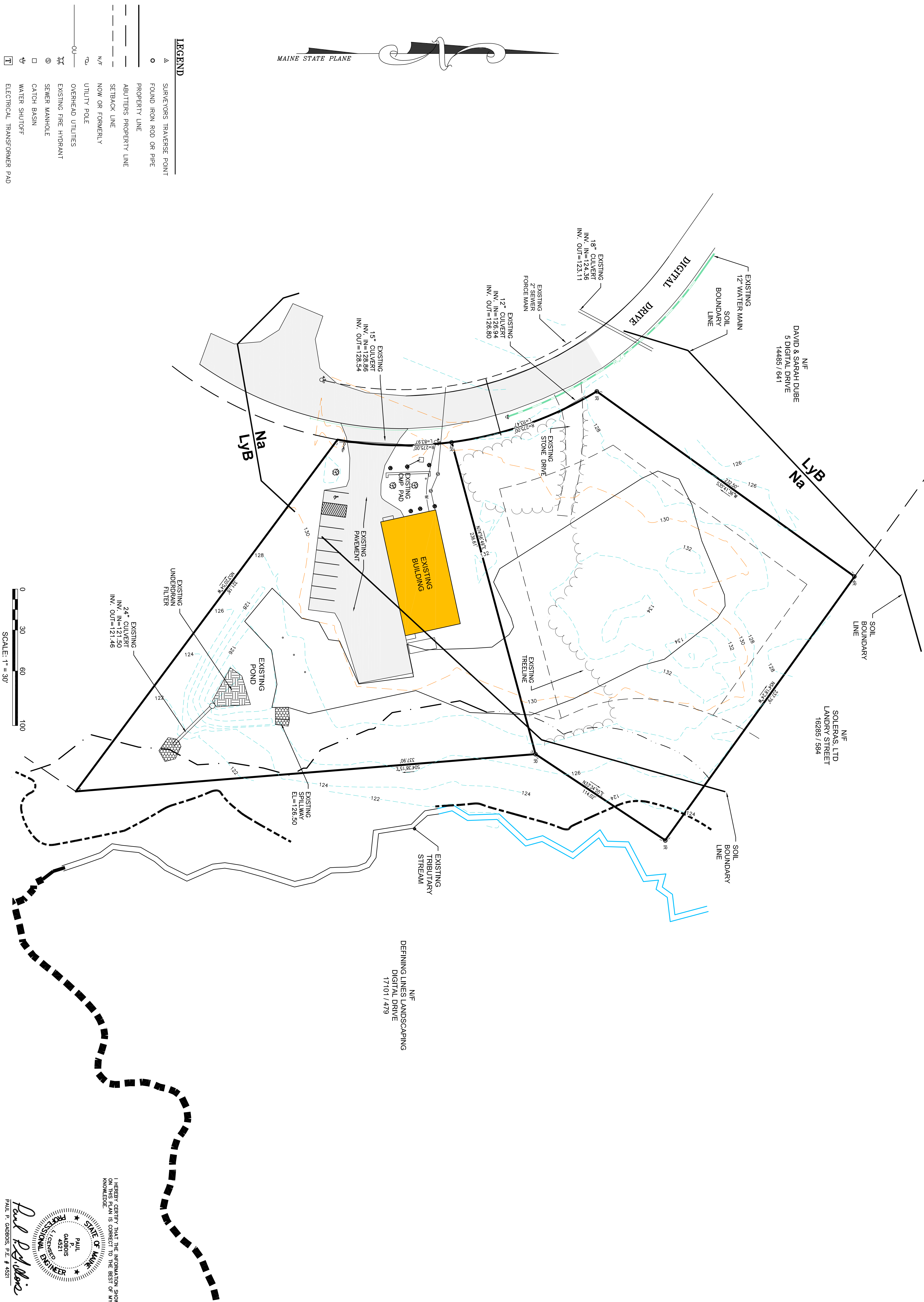
Paul P. Gadbois

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ENGINEERING SURVEYING
LAND PLANNING
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(207) 283-3980

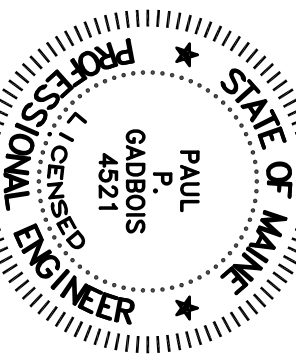
POST DEVELOPMENT PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD & MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE 04074

DATE: 05-17-2022	REVISIONS
JOB NO. 1817	
SHEET 2 OF 2	



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



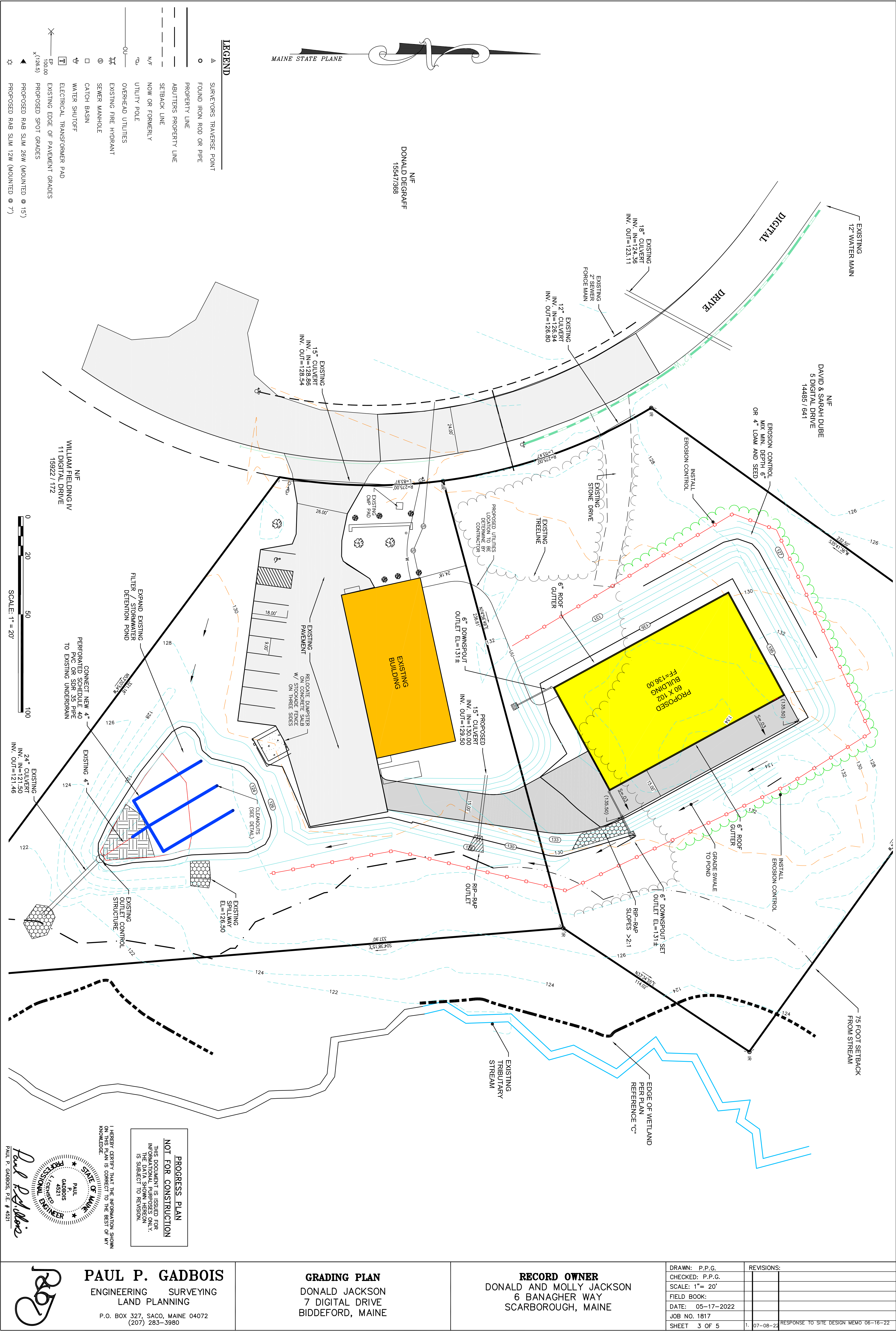
Paul P. Gadbois
PAUL P. GADBOIS, P.E. # 4521

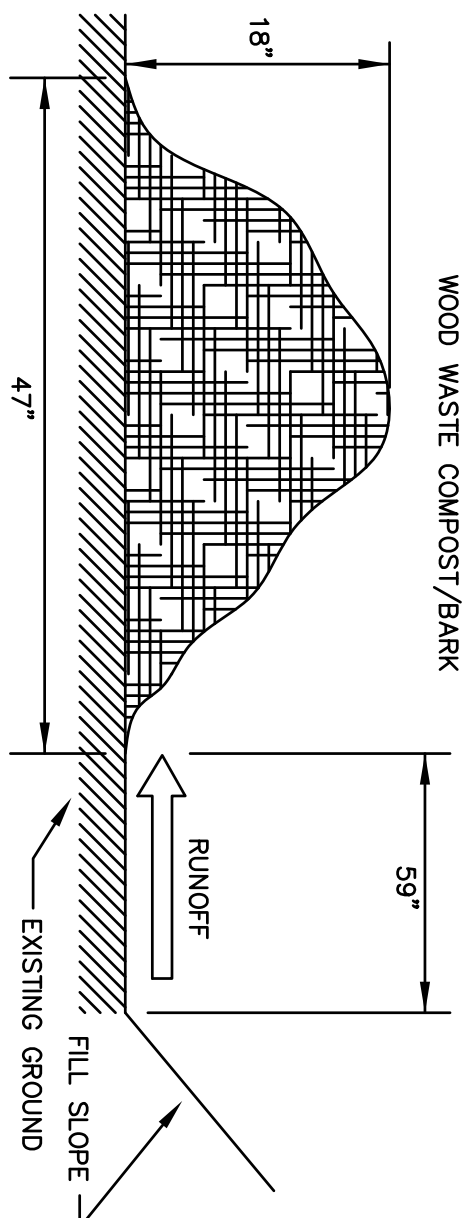
PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

EXISTING CONDITIONS PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD AND MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE

DRAWN: P.P.G.	REVISIONS:	
CHECKED: P.P.G.		
SCALE: 1"= 30'		
FIELD BOOK:		
DATE: 05-17-2022		
JOB NO. 1817		
SHEET 2 OF 5	1. 07-08-22	RESPONSE TO 'SITE DESIGN' MEMO 06-16-22





SPECIFICATIONS:

EROSION CONTROL. MIX CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GAIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE AS ORGANIC COMPONENT OF THE MIX.

EROSION CONTROL MIX CONTAINS A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.

COMPOSITION:

- 1) ORGANIC SLATE CONTENT IS 80 TO 100% DRY WEIGHT BASIS.
- 2) PARTICLE SIZE BY WEIGHT IS 100% PASSING A 6" SCREEN AND MINIMUM OF 70% MAXIMUM OF 85% PASSING A 0.75" SCREEN.
- 3) THE ORGANIC PORTION NEEDS TO BE PIEROUS AND ELONGATED.
- 4) LARGE PORTION OF SILTS, CLAYS OR FINE SAND ARE NOT ACCEPTABLE IN THE MIX.
- 5) SOLUBLE SALTS CONTENT IS LESS THAN 4.0 mmhos/cm.
- 6) THE pH SHOULD FALL BETWEEN 5.0 AND 8.0.

CONSIDERATIONS:

- * SEDIMENT BARRIERS SHOULD NOT BE USED IN STREAMS & LARGE DRAINAGE WAYS!
- * EXTEND BARRIERS UPHILL OR REPLACE WITH TEMPORARY CHECK DAMS WHERE EVIDENCE OF END FLOW AROUND BARRIES EXISTS.
- * SEDIMENT BARRIERS TO BE INSTALLED PRIOR TO SOIL DISTURBANCE IN DRAINAGE AREA ABOVE THEM.

NOTE:

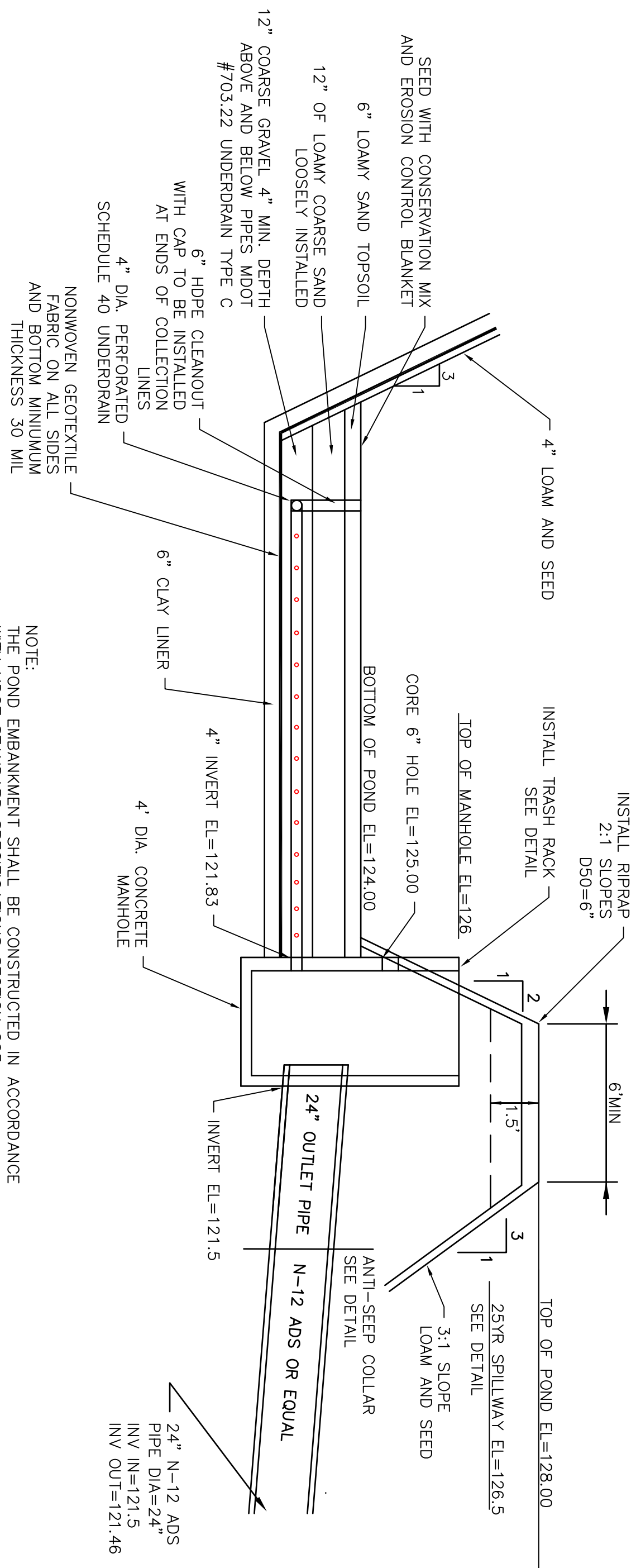
WOOD WASTE COMPOST/BARK FILTER BERMS MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE WOOD WASTE COMPOST/BARK BERM BY LARGER SEDIMENT PARTICLES. (SILT FENCE PLACED TO FILTER RUNOFF BEFORE WOOD WASTE COMPOST/BARK)

MAINTENANCE:

- INSPECT/REGULARLY W/ AFTER EACH LARGE ANIMAL. REMAINS SHALL BE DONE IMMEDIATELY W/ ADDITIONAL EROSION CONTROL MIX TO REACH DESIRED HEIGHT & WIDTH.
- IMPOUNDING LARGE VOLUMES OF WHITE BENTONITE BARRIER. REINFORCEMENT MIX MAY BE REQUIRED. SEDIMENT BARRIER, SUCH AS A TEMPORARY ROCK CHECK DAM MAY BE REQUIRED.
- SEDIMENT DEPOSITS TO BE REMOVED WHEN REACHING ONE HALF THE HEIGHT OF BARRIER.
- NEED BARRIERS DISCLOSED CLOSED W/ SEDIMENT ERODED OR NEEDED. EROSION CONTROL MIX REAPPLIED TO REPAIRS AS NEEDED.
- DEPOSITS REMAINING IN PLACE AFTER CONSTRUCTION SHOULD BE SPREAD TO CONFORM TO EXISTING GRADE. SEEDED & MULCHED.

INSTALLATION OF SEDIMENT BARRIERS

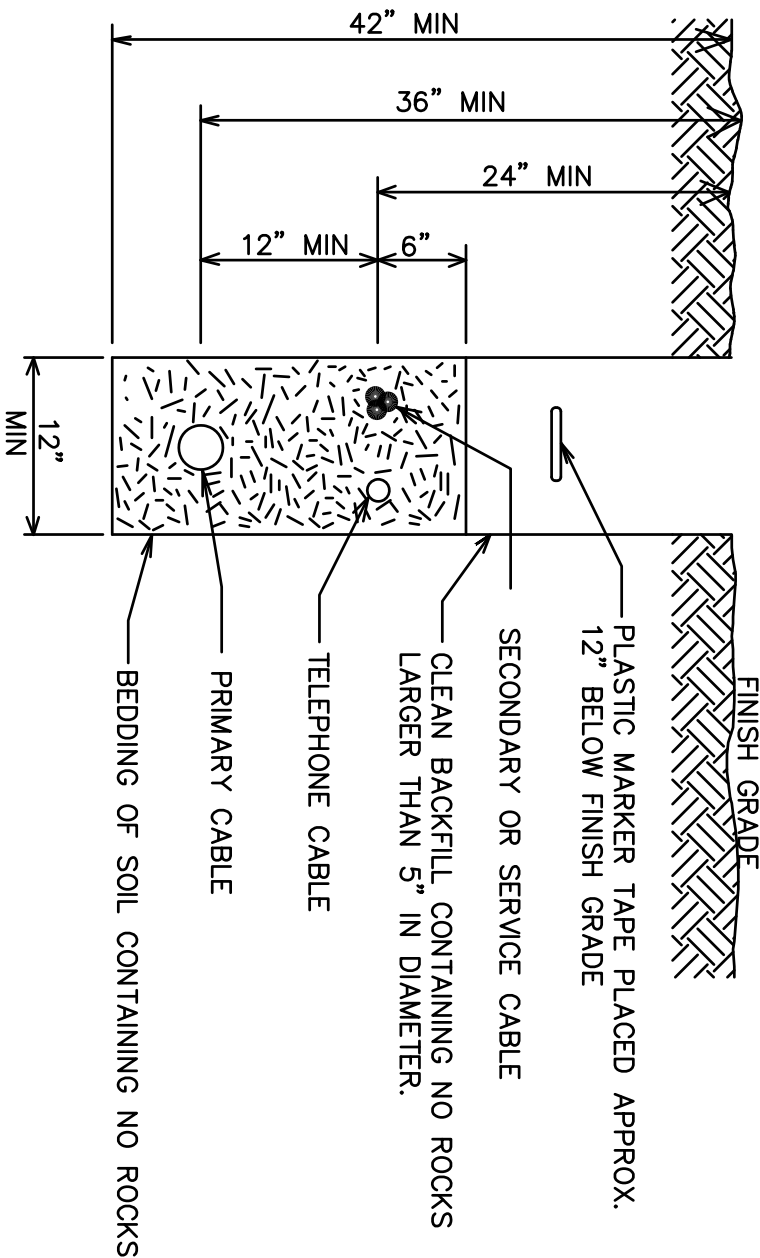
- * SLOPES LESS THAN 5% OR BOTTOM OF STEEPER SLOPES (<2:1) UP TO 20' LONG, BARRIER SHOULD BE MINIMUM OF 12" HIGH, MEASURED ON UPHILL SIDE OF BARRIER, MINIMUM OF 2 WIDE, LONGER/STEEPER SLOPES, BARRIER SHOULD BE WIDER TO ACCOMMODATE ADDITIONAL FLOW.
- * BARRIERS MUST BE LOCATED LONG RELATIVE TO DOWNHILL CULVERT OUT TAKE AND MUST BE LOCATED IN OPEN AREAS WITH NO TREES OR OTHER OBSTACLES THAT WOULD EMBLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
- * STAND-ALONE USE WITHOUT REINFORCEMENT BY BMP's:
 - AT TOP OF SHALLOW SLOPES,
 - ON FROZEN GROUND, OUTCROPS OF BEDROCK, VERY ROOTED FORESTED AREAS,
 - AT EDGE OF GRAVEL PARKING AREAS, AREAS UNDER CONSTRUCTION,
- * LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
 - AT LOW POINTS OF CONCENTRATED RUNOFF;
 - BELOW CULVERT OUTLET AREASONS;
 - WHERE STAND-ALONE'S FAIL,
 - BOTTOM OF STEEP PERMETER SLOPES W/ MORE THAN 50' TOP TO BOTTOM (*i.e.*, A LARGE UP-GRADE NOT CONTRIBUTING WATERSEED); AND
 - LARGE UP-GRADE + CLOSED STORM SYSTEMS.



NOTE: THE POND EMBANKMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH MDOT STANDARD SPECIFICATIONS SECTION 203.

DETENTION POND EMBANKMENT SECTION

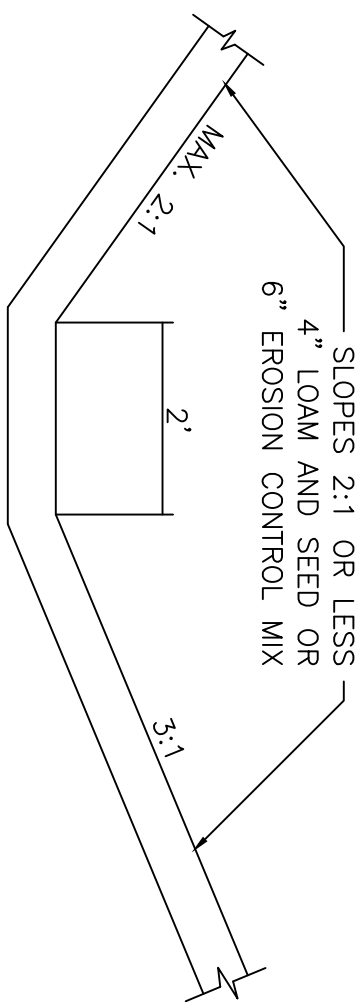
N.T.S.



NOTES:

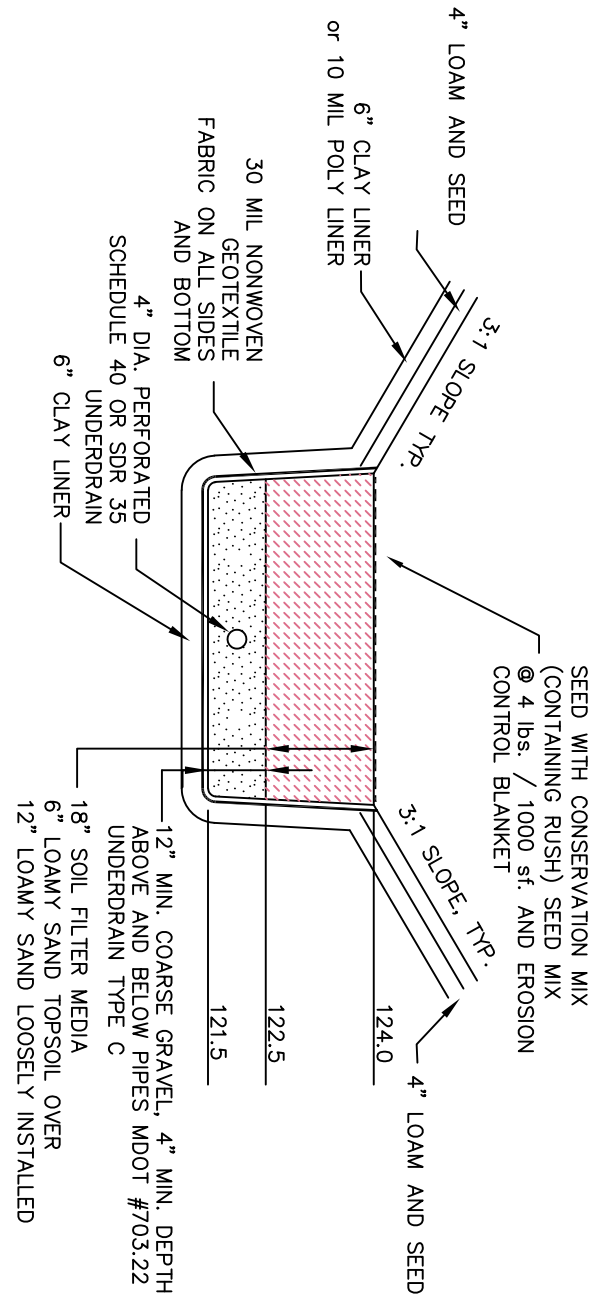
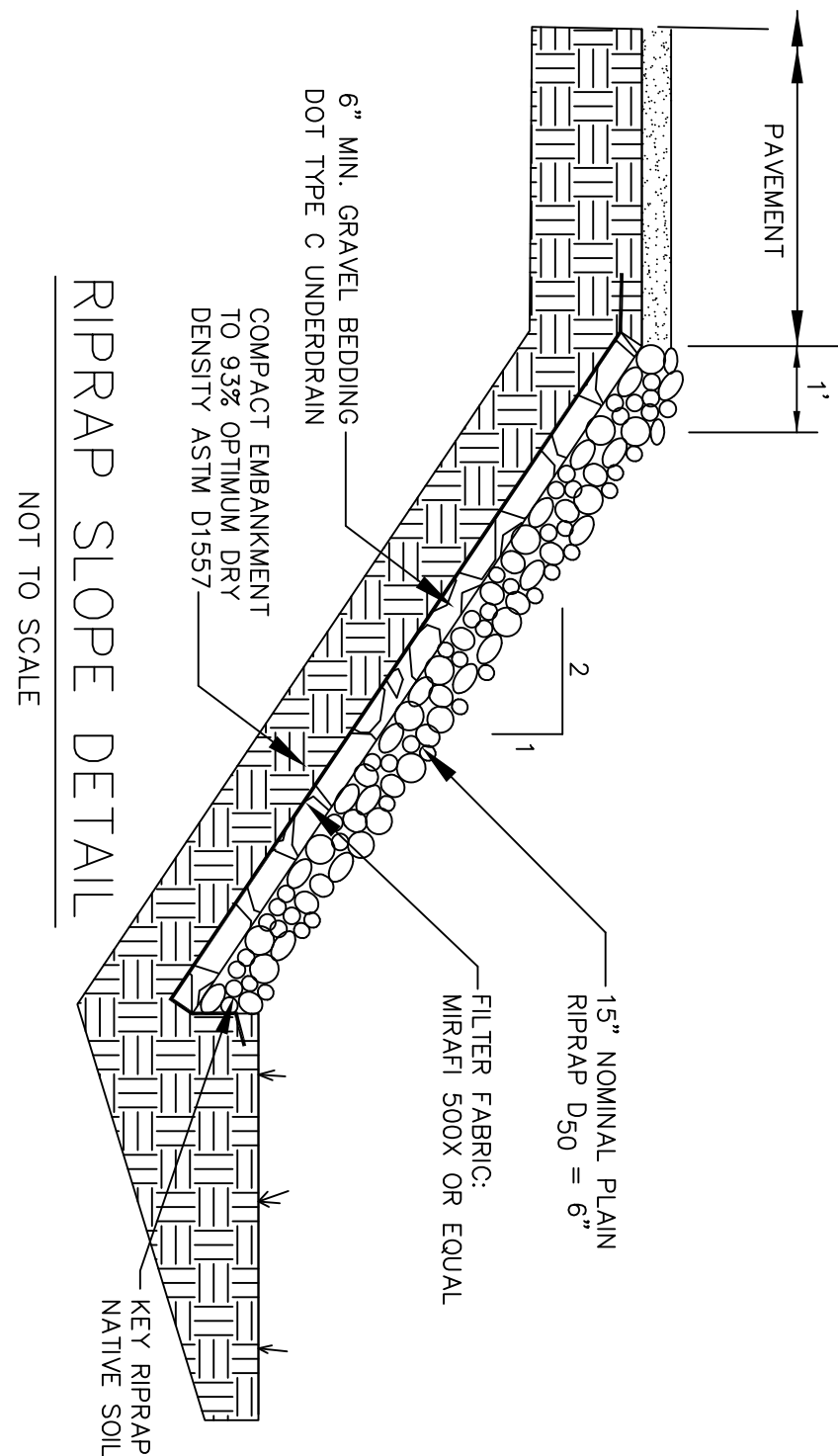
1. SECONDARY OR SERVICE CABLES AND COMMUNICATION CABLES MAY BE PLACED IN THE SAME TRENCH AT THE SAME DEPTH WITHOUT A REQUIRED CLEARANCE OR SEPARATION BETWEEN THE CABLES.
2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWINGING OF CABLES.
3. BEDDING AND BACKFILL SHALL BE FREE OF ROCKS, STUMPS AND OTHER DEBRIS.

TYPICAL ELECTRICAL TRENCH



TYPICAL SWALE DETAIL

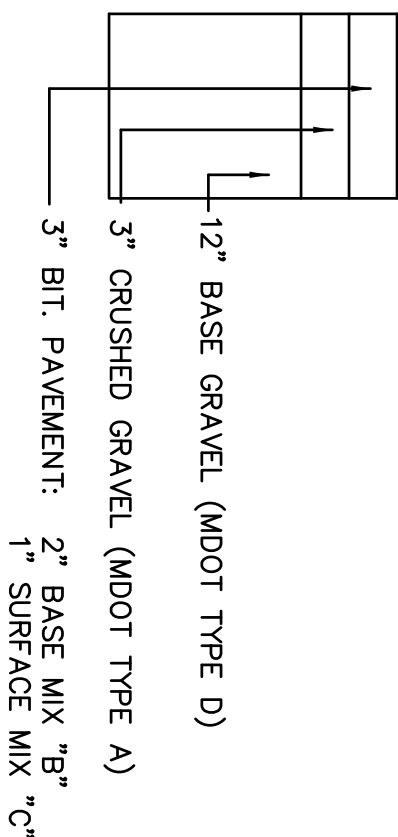
NOT TO SCALE



FILTER POND

SOIL FILTER DETAIL

(NOT TO SCALE)



TYPICAL PAVEMENT SECTION

N.T.S.

PROGRESS PLAN

THIS DOCUMENT IS ISSUED FOR
FORMATIONAL PURPOSES ONLY.
THE DATA SHOWN HEREON
IS SUBJECT TO REVISION.

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

PAUL P. GADBOIS

ENGINEERING SURVEYING
LAND PLANNING

P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

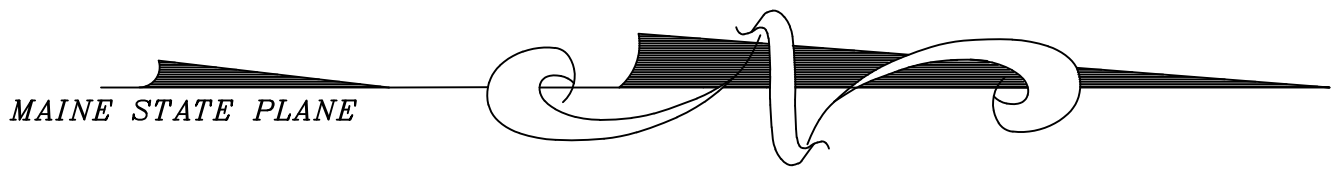
DETENTION POND DETAILS

DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

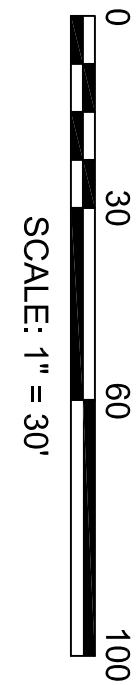
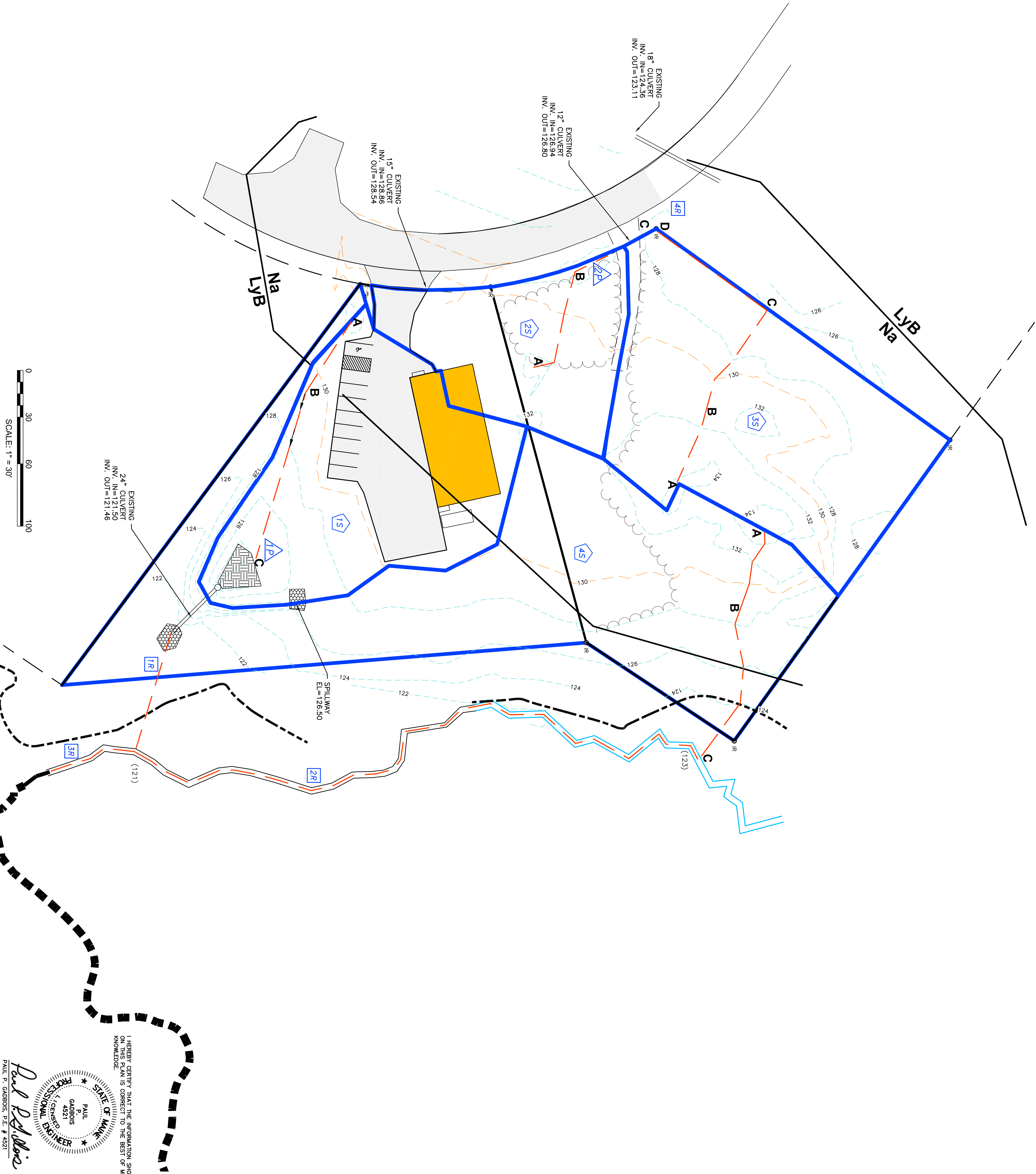
RECORD OWNER

DONALD & MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE 04074

DRAWN: P.P.G.	REVISONS:	
CHECKED: P.P.G.		
SCALE:		
FIELD BOOK:		
DATE: 05-17-2022		
JOB NO. 1602		
SHEET 4 OF 5	1. 07-08-22	RESPONSE TO SITE DESIGN MEMO 06-16-22



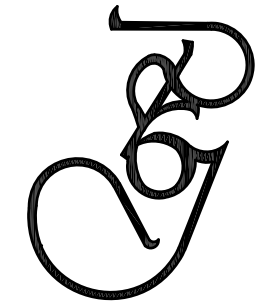
- STORMWATER LEGEND**
- HYDROCAD POND
 - HYDROCAD SUBAREA
 - HYDROCAD REACH
 - TC FLOW PATH
 - REACH
 - WATERSHED BOUNDARY



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

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

STATE OF MAINE
PAUL P. GADBOIS
LICENSED PROFESSIONAL ENGINEER
4521

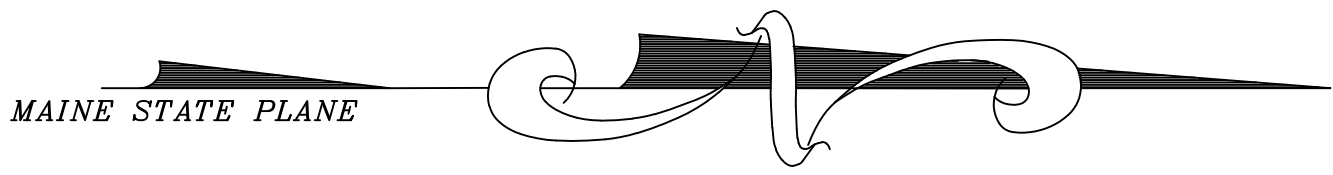


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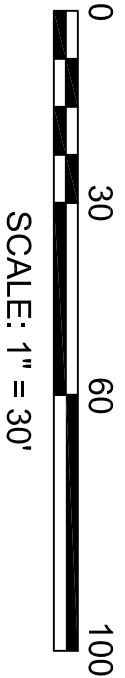
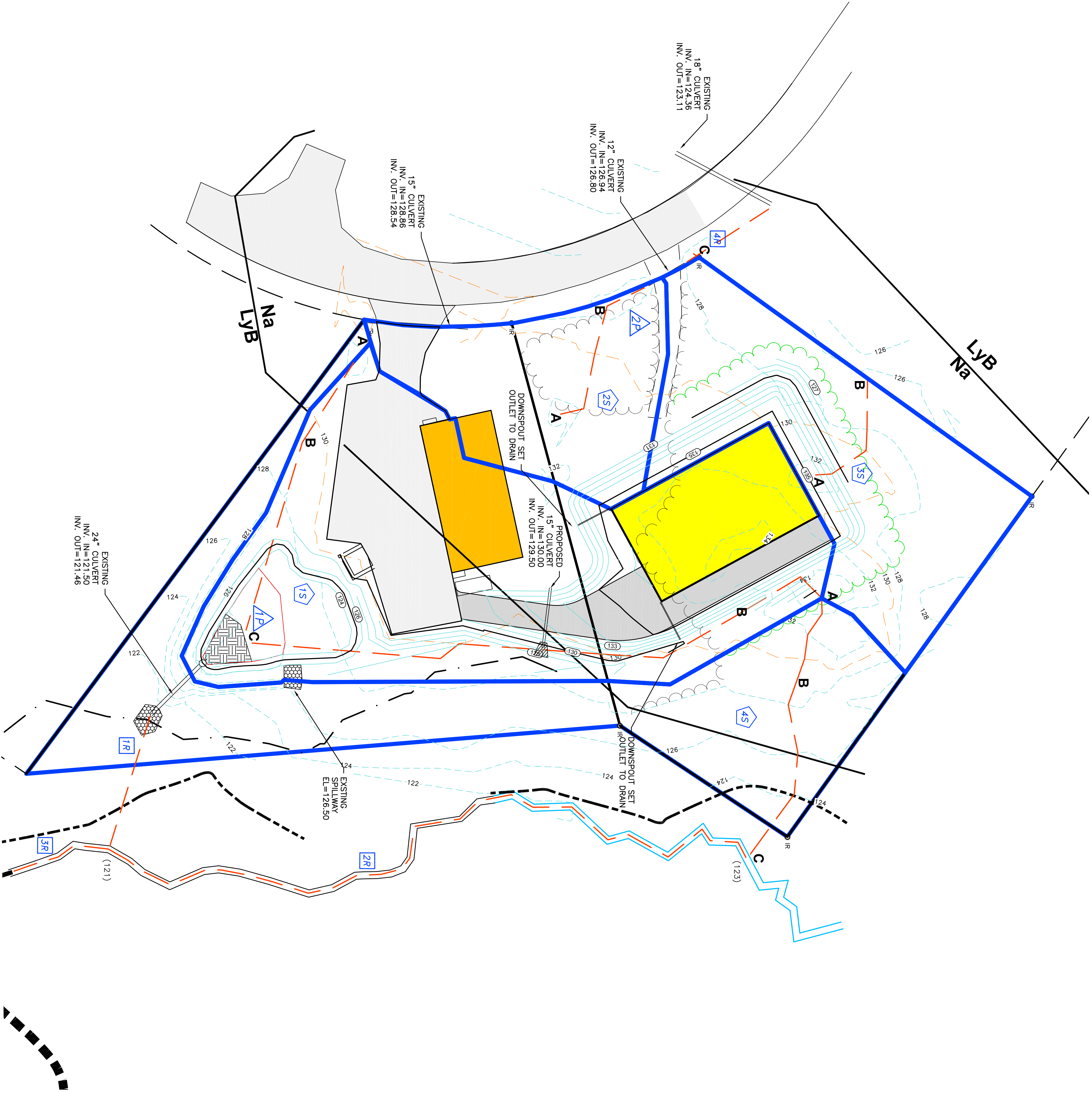
PRE DEVELOPMENT PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD & MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE 04074

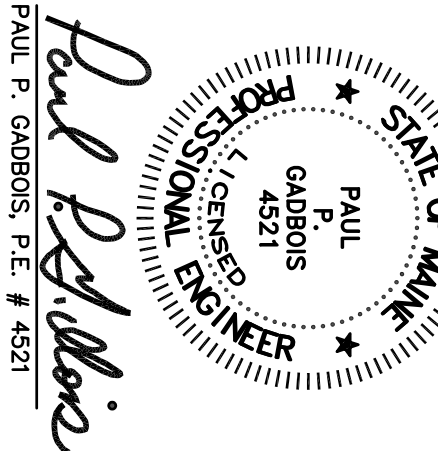
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SCALE: 1" = 30'			
FIELD BOOK:			
DATE: 05-17-2022			
JOB NO. 1817			
SHEET 1 OF 2			



- STORMWATER LEGEND
- HYDROCAD POND
 - HYDROCAD SUBAREA
 - HYDROCAD REACH
 - TO FLOW PATH
 - REACH
 - WATERSHED BOUNDARY



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



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

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LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
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POST DEVELOPMENT PLAN
DONALD JACKSON
7 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
DONALD & MOLLY JACKSON
6 BANAGHER WAY
SCARBOROUGH, MAINE 04074

DRAWN: P.P.G.	REVISIONS:		
CHECKED: P.P.G.			
SCALE: 1"= 30'			
FIELD BOOK:			
DATE: 05-17-2022			
JOB NO. 1817			
SHEET 2 OF 2			

**Sea Rose Trap Co.
Donald Jackson
Digital Drive
INSPECTION AND MAINTENANCE**

RESPONSIBILITY FOR MAINTENANCE

Sea Rose Trap will be responsible for maintenance of the stormwater system.

INSPECTIONS – During Construction Reference Appendix B

- Detention Facilities: Underdrained Filter Ponds
 - Embankment inspection and maintenance
 - Spillway maintenance
 - Sediment removal and disposal
- Ditches, Swales, or other open stormwater channels
 - Embankment inspection and maintenance
 - Channel inspection
 - Sediment removal and disposal
- Culverts, catch basins, stormwater control structures, Detention Pond
 - Embankment inspection and maintenance
 - Inlet and Outlet inspection
 - Debris removal and disposal

The owner's representative / a person with knowledge of erosion and stormwater control will inspect the detention pond, swales, channels, stormwater structures to determine if soil erosion, blockage, or impaired capacity to pass flow exists. Inspections will be performed at least once a week as well as before and within 24 hours after a storm event (rainfall 0.5 inches or greater). A record of inspections and maintenance or corrective measures shall be kept by the owner for a period of at least three years.

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 are needed or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event.

INSPECTIONS -Post Construction Reference Appendix B

All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control shall conduct the inspections. The following areas must be inspected and identified deficiencies must be corrected.

- Inspect vegetated areas, slopes, and embankments, early in the growing season or after heavy rains (rainfall of 1 inch or greater) to identify erosion problems.
- Inspect ditches, swales in the spring, in late fall, and after heavy rains and repair any erosion.
- Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris and repair any erosion damage at the culvert's inlet and outlet.
- Inspect and clean outlet control structure 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 structure and culvert; and repair any erosion damage at the culvert's inlet and outlet.
- Inspect at least once per year, each pond or basin, including the pond's embankment, outlet structure, and emergency spillway. Remove accumulated sediments in the pond and control woody vegetation on the pond's embankment.
- Inspect at least once per year the underdrain filter. Remove and dispose of accumulated sediments in the filter. The filter should drain within 24 hours the top several inches of the filter shall be replaced with fresh material and the underdrain pipes flushed when water ponds on the surface more than 72 hours.

MAINTENANCE

- Filter pond. Sediment shall be removed from the filter bed annually. The bed shall be hand raked and re-seeded as necessary. Mowing of the filter area shall be limited to 2 times per year to maintain grass heights to less than 12 inches. Weeding and pruning of growth within the filter zone will be completed as necessary.
- Road and Parking Areas: Access and Parking areas will be maintained by the owner. Paved areas shall be swept in the spring once snow melt is complete. A record of who completed the work shall be recorded in the log. All sand, salt, etc. accumulated when sweeping the paved areas, shall be trucked off-site for disposal. Sand / Sediment will not be allowed to be dumped on site.

RECORD KEEPING

The owner will maintain inspection records, maintenance log sheet, summarizing inspections, maintenance, and any corrective actions take. The log 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. If the maintenance task removal of any sediments or debris, indicate where the sediment and debris was disposed after removal. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. A copy of said log shall be provided to DEP upon request.

HOUSEKEEPING Reference Appendix C

- **Spill Prevention.** The site contractor must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.
- **Groundwater Protection.** During construction, liquid petroleum products and other hazardous materials with potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area.
- **Snow storage prohibited.** Snow removed from the site may not be stored over an infiltration area.
- **Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or escaping dust during or after construction.
- **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.**
- **Excavation de-watering.** The collected water removed from ponded areas must be spread through natural wooded buffers or removed to areas specifically designed to collect the maximum amount of sediment possible.
- **Authorized Non-stormwater discharges.**
 - a. Landscape irrigation.
- **Non-Authorized Non-stormwater discharges.**
 - a. Wastewater from washout or cleanout of concrete, 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.
 - d. Toxic or hazardous substances from a spill or release.

7 Digital Drive

[illegible]



PAUL P. GADBOIS PE, PLS

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

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Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois@maine.rr.com

July 10, 2022

Hannah Bonine, Asst. City Planner
City of Biddeford
205 Main Street
Biddeford, Maine

Re: Don Jackson 7 Digital Drive Map 15 Lot 7-8 and 7-9.

Dear Ms. Bonine,

Enclosed please find the stormwater calculations for the Jackson project located at 7 Digital Drive Tax Map 15, Lot 7-8 and 7-9. The developer wishes to construct a 6,120 square foot building along with 4,102 square feet of pavement for access.

The stormwater management plan was developed to minimize the amount of stormwater leaving the site and provide for treatment of 92% of existing and proposed impervious areas.

Water Quality

The existing detention basin will be expanded to treat the existing and proposed impervious areas by utilizing gutters and grading the runoff to the existing basin.

DEP recommends that the surface area of the filter must be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the filter. This project is not proposing to treat any landscape area.

Required Filter Pond Size

$.05 \times 20,084 = 1,004$ square feet (Provided 3,245 square feet) The volume required to be treated is 1" x the impervious area draining to pond. $(.0833 \times 20,084 = 1,673$ cubic feet) Therefore the required storage depth is 0.52 feet. The existing 6" orifice is at a depth of 1.0 feet; therefore, the pond will store the volume required for treatment plus additional volume for treating landscape area draining to pond.



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Email: pgadbois@maine.rr.com

The quantity peak flow summary is shown below for each development condition. We have shown results for the 2-, 10-, 25- and 50-year events

FLOODING STANDARD RESULTS				
Storm	Reach 3R		Reach 4R	
	PRE C.F.S.	POST C.F.S.	PRE C.F.S.	POST C.F.S.
2 YEAR	0.88	0.56	0.91	0.75
10 YEAR	2.63	1.55	1.99	1.64
25 YEAR	4.77	2.66	2.98	2.43
50 YEAR	6.46	5.30	3.82	3.02

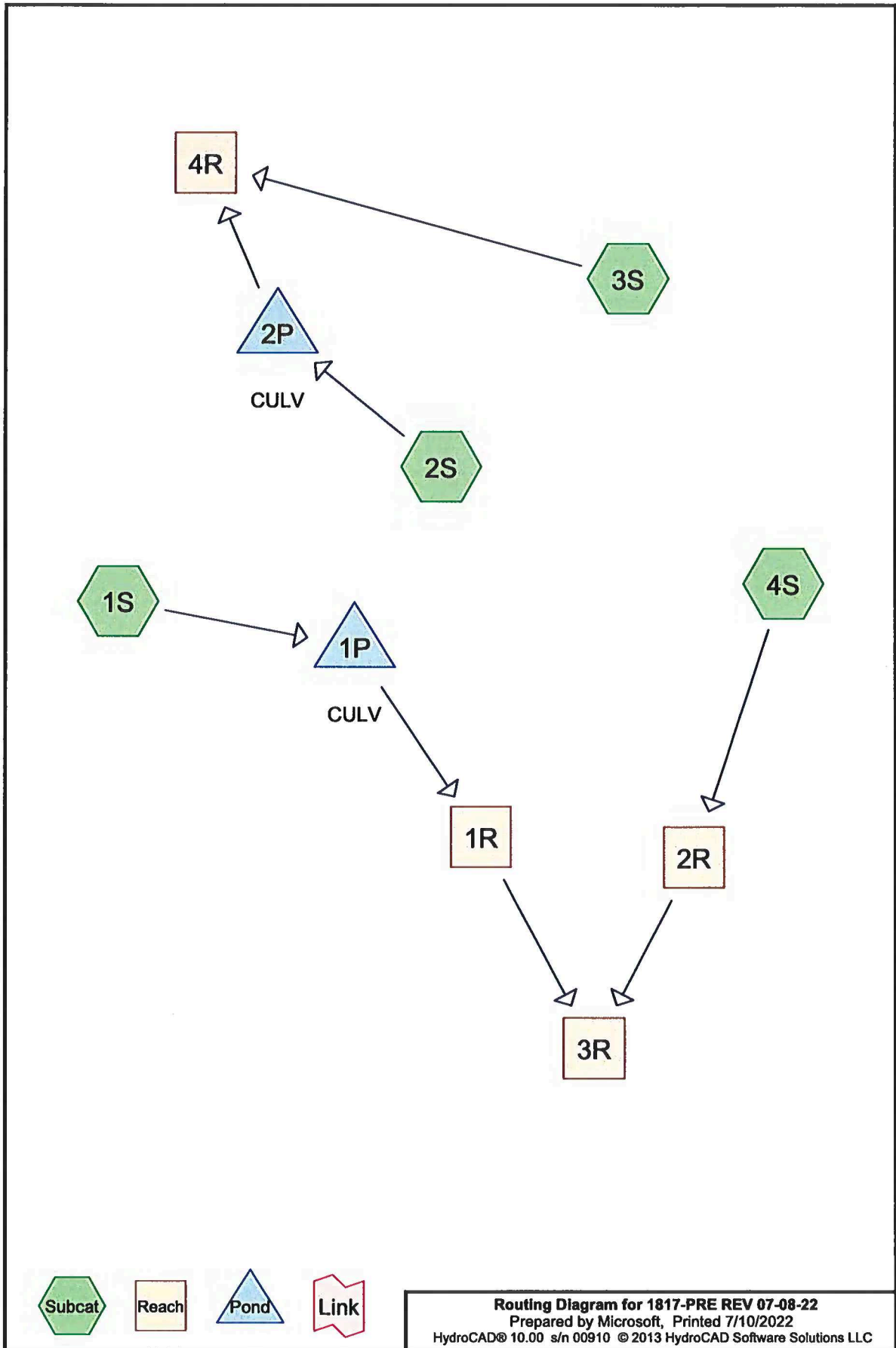
The project reduces off site flows for all storm events.

In conclusion this project will not result in any downstream impacts and provide for water quality treatment.

Should you have questions, please call.

Very truly yours,

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



Summary for Subcatchment 1S:

Runoff = 1.05 cfs @ 12.10 hrs, Volume= 0.073 af, Depth> 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
12,848	74	>75% Grass cover, Good, HSG C
* 2,932	98	Roofs
* 7,046	98	Pavement
22,826	84	Weighted Average
12,848		56.29% Pervious Area
9,978		43.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 0.37 cfs @ 12.16 hrs, Volume= 0.030 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
* 901	98	Pavement
8,059	74	>75% Grass cover, Good, HSG C
* 585	98	Roof
* 390	98	Gravel
3,098	73	Woods, Fair, HSG C
13,033	77	Weighted Average
11,157		85.61% Pervious Area
1,876		14.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 0.60 cfs @ 12.16 hrs, Volume= 0.050 af, Depth> 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
* 560	98	Gravel
26,152	72	Woods/grass comb., Good, HSG C
26,712	73	Weighted Average
26,152		97.90% Pervious Area
560		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.0700	0.11		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	75	0.0600	1.22		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
2.0	86	0.0100	0.70		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
10.7	211	Total			

Summary for Subcatchment 4S:

Runoff = 1.05 cfs @ 12.14 hrs, Volume= 0.083 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
15,000	73	Woods, Fair, HSG C
26,927	74	>75% Grass cover, Good, HSG C
41,927	74	Weighted Average
41,927		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 0.90" for 2 YEAR event
Inflow = 0.17 cfs @ 12.62 hrs, Volume= 0.039 af
Outflow = 0.17 cfs @ 12.75 hrs, Volume= 0.039 af, Atten= 1%, Lag= 7.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.35 fps, Min. Travel Time= 3.6 min
Avg. Velocity= 0.23 fps, Avg. Travel Time= 5.6 min

Peak Storage= 37 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 100.0 ' / ' Top Width= 30.00'
 Length= 77.0' Slope= 0.0060 ' / '
 Inlet Invert= 121.46', Outlet Invert= 121.00'



Summary for Reach 2R:

Inflow Area = 0.963 ac, 0.00% Impervious, Inflow Depth > 1.03" for 2 YEAR event
 Inflow = 1.05 cfs @ 12.14 hrs, Volume= 0.083 af
 Outflow = 0.90 cfs @ 12.32 hrs, Volume= 0.082 af, Atten= 15%, Lag= 10.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.10 fps, Min. Travel Time= 6.4 min
 Avg. Velocity = 0.41 fps, Avg. Travel Time= 17.3 min

Peak Storage= 349 cf @ 12.21 hrs
 Average Depth at Peak Storage= 0.20'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' / '
 Inlet Invert= 123.00', Outlet Invert= 121.00'



Summary for Reach 3R:

Inflow Area = 1.487 ac, 15.41% Impervious, Inflow Depth > 0.98" for 2 YEAR event
 Inflow = 0.90 cfs @ 12.32 hrs, Volume= 0.121 af
 Outflow = 0.88 cfs @ 12.35 hrs, Volume= 0.121 af, Atten= 2%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.97 fps, Min. Travel Time= 0.9 min
 Avg. Velocity = 0.43 fps, Avg. Travel Time= 1.9 min

Peak Storage= 46 cf @ 12.33 hrs
 Average Depth at Peak Storage= 0.15'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' / '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.912 ac, 6.13% Impervious, Inflow Depth > 1.05" for 2 YEAR event
 Inflow = 0.92 cfs @ 12.18 hrs, Volume= 0.079 af
 Outflow = 0.91 cfs @ 12.19 hrs, Volume= 0.079 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.57 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 1.03 fps, Avg. Travel Time= 0.9 min

Peak Storage= 20 cf @ 12.19 hrs
 Average Depth at Peak Storage= 0.15'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 1.68" for 2 YEAR event
 Inflow = 1.05 cfs @ 12.10 hrs, Volume= 0.073 af
 Outflow = 0.17 cfs @ 12.62 hrs, Volume= 0.039 af, Atten= 84%, Lag= 31.3 min
 Primary = 0.17 cfs @ 12.62 hrs, Volume= 0.039 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 125.25' @ 12.62 hrs Surf.Area= 1,596 sf Storage= 1,723 cf

Plug-Flow detention time= 190.2 min calculated for 0.039 af (53% of inflow)
 Center-of-Mass det. time= 102.3 min (904.0 - 801.7)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	2,750 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	500	0	0
126.00	2,250	2,750	2,750

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.17 cfs @ 12.62 hrs HW=125.25' (Free Discharge)

- 1=Culvert (Passes 0.17 cfs of 19.81 cfs potential flow)
 2=Orifice/Grate (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 0.17 cfs @ 1.71 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: CULV

Inflow Area = 0.299 ac, 14.39% Impervious, Inflow Depth > 1.21" for 2 YEAR event
 Inflow = 0.37 cfs @ 12.16 hrs, Volume= 0.030 af
 Outflow = 0.34 cfs @ 12.21 hrs, Volume= 0.029 af, Atten= 7%, Lag= 3.1 min
 Primary = 0.34 cfs @ 12.21 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.27' @ 12.21 hrs Surf.Area= 220 sf Storage= 112 cf

Plug-Flow detention time= 17.3 min calculated for 0.029 af (98% of inflow)
 Center-of-Mass det. time= 8.8 min (832.5 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 12.21 hrs HW=127.27' (Free Discharge)

- 1=Culvert (Barrel Controls 0.34 cfs @ 2.24 fps)

Summary for Subcatchment 1S:

Runoff = 1.87 cfs @ 12.10 hrs, Volume= 0.133 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
12,848	74	>75% Grass cover, Good, HSG C
* 2,932	98	Roofs
* 7,046	98	Pavement
22,826	84	Weighted Average
12,848		56.29% Pervious Area
9,978		43.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 0.75 cfs @ 12.16 hrs, Volume= 0.060 af, Depth> 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
* 901	98	Pavement
8,059	74	>75% Grass cover, Good, HSG C
* 585	98	Roof
* 390	98	Gravel
3,098	73	Woods, Fair, HSG C
13,033	77	Weighted Average
11,157		85.61% Pervious Area
1,876		14.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 1.33 cfs @ 12.16 hrs, Volume= 0.106 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
* 560	98	Gravel
26,152	72	Woods/grass comb., Good, HSG C
26,712	73	Weighted Average
26,152		97.90% Pervious Area
560		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.0700	0.11		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	75	0.0600	1.22		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
2.0	86	0.0100	0.70		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
10.7	211	Total			

Summary for Subcatchment 4S:

Runoff = 2.27 cfs @ 12.13 hrs, Volume= 0.173 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
15,000	73	Woods, Fair, HSG C
26,927	74	>75% Grass cover, Good, HSG C
41,927	74	Weighted Average
41,927		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 2.24" for 10 YEAR event
Inflow = 0.71 cfs @ 12.37 hrs, Volume= 0.098 af
Outflow = 0.70 cfs @ 12.44 hrs, Volume= 0.098 af, Atten= 0%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.54 fps, Min. Travel Time= 2.4 min
Avg. Velocity= 0.29 fps, Avg. Travel Time= 4.5 min

Peak Storage= 101 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 100.0 ' / ' Top Width= 30.00'
 Length= 77.0' Slope= 0.0060 ' / '
 Inlet Invert= 121.46', Outlet Invert= 121.00'



Summary for Reach 2R:

Inflow Area = 0.963 ac, 0.00% Impervious, Inflow Depth > 2.16" for 10 YEAR event
 Inflow = 2.27 cfs @ 12.13 hrs, Volume= 0.173 af
 Outflow = 2.03 cfs @ 12.27 hrs, Volume= 0.172 af, Atten= 11%, Lag= 8.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.49 fps, Min. Travel Time= 4.8 min
 Avg. Velocity= 0.50 fps, Avg. Travel Time= 14.2 min

Peak Storage= 586 cf @ 12.18 hrs
 Average Depth at Peak Storage= 0.33'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' / '
 Inlet Invert= 123.00', Outlet Invert= 121.00'



Summary for Reach 3R:

Inflow Area = 1.487 ac, 15.41% Impervious, Inflow Depth > 2.18" for 10 YEAR event
 Inflow = 2.64 cfs @ 12.28 hrs, Volume= 0.269 af
 Outflow = 2.63 cfs @ 12.30 hrs, Volume= 0.269 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.47 fps, Min. Travel Time= 0.6 min
 Avg. Velocity= 0.52 fps, Avg. Travel Time= 1.6 min

Peak Storage= 90 cf @ 12.29 hrs
 Average Depth at Peak Storage= 0.29'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' / '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.912 ac, 6.13% Impervious, Inflow Depth > 2.18" for 10 YEAR event
 Inflow = 2.02 cfs @ 12.17 hrs, Volume= 0.166 af
 Outflow = 1.99 cfs @ 12.18 hrs, Volume= 0.166 af, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.29 fps, Min. Travel Time= 0.3 min
 Avg. Velocity= 1.24 fps, Avg. Travel Time= 0.7 min

Peak Storage= 34 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.23'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 ' / '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 3.04" for 10 YEAR event
 Inflow = 1.87 cfs @ 12.10 hrs, Volume= 0.133 af
 Outflow = 0.71 cfs @ 12.37 hrs, Volume= 0.098 af, Atten= 62%, Lag= 16.3 min
 Primary = 0.71 cfs @ 12.37 hrs, Volume= 0.098 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 125.81' @ 12.37 hrs Surf.Area= 2,081 sf Storage= 2,484 cf

Plug-Flow detention time= 128.2 min calculated for 0.098 af (74% of inflow)
 Center-of-Mass det. time= 60.8 min (847.9 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	2,750 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	500	0	0
126.00	2,250	2,750	2,750

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.70 cfs @ 12.37 hrs HW=125.80' (Free Discharge)

- 1=Culvert (Passes 0.70 cfs of 21.71 cfs potential flow)
 2=Orifice/Grate (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 0.70 cfs @ 3.59 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: CULV

Inflow Area = 0.299 ac, 14.39% Impervious, Inflow Depth > 2.41" for 10 YEAR event
 Inflow = 0.75 cfs @ 12.16 hrs, Volume= 0.060 af
 Outflow = 0.72 cfs @ 12.19 hrs, Volume= 0.059 af, Atten= 5%, Lag= 2.4 min
 Primary = 0.72 cfs @ 12.19 hrs, Volume= 0.059 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.45' @ 12.19 hrs Surf.Area= 298 sf Storage= 164 cf

Plug-Flow detention time= 12.1 min calculated for 0.059 af (99% of inflow)
 Center-of-Mass det. time= 6.9 min (814.0 - 807.1)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.71 cfs @ 12.19 hrs HW=127.44' (Free Discharge)

- 1=Culvert (Barrel Controls 0.71 cfs @ 2.62 fps)

Summary for Subcatchment 1S:

Runoff = 2.55 cfs @ 12.10 hrs, Volume= 0.183 af, Depth> 4.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
12,848	74	>75% Grass cover, Good, HSG C
* 2,932	98	Roofs
* 7,046	98	Pavement
22,826	84	Weighted Average
12,848		56.29% Pervious Area
9,978		43.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 1.08 cfs @ 12.15 hrs, Volume= 0.087 af, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
* 901	98	Pavement
8,059	74	>75% Grass cover, Good, HSG C
* 585	98	Roof
* 390	98	Gravel
3,098	73	Woods, Fair, HSG C
13,033	77	Weighted Average
11,157		85.61% Pervious Area
1,876		14.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 1.98 cfs @ 12.15 hrs, Volume= 0.158 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
* 560	98	Gravel
26,152	72	Woods/grass comb., Good, HSG C
26,712	73	Weighted Average
26,152		97.90% Pervious Area
560		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.0700	0.11		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	75	0.0600	1.22		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
2.0	86	0.0100	0.70		Shallow Concentrated Flow, C-D
					Short Grass Pasture Kv= 7.0 fps
10.7	211	Total			

Summary for Subcatchment 4S:

Runoff = 3.36 cfs @ 12.13 hrs, Volume= 0.256 af, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
15,000	73	Woods, Fair, HSG C
26,927	74	>75% Grass cover, Good, HSG C
41,927	74	Weighted Average
41,927		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

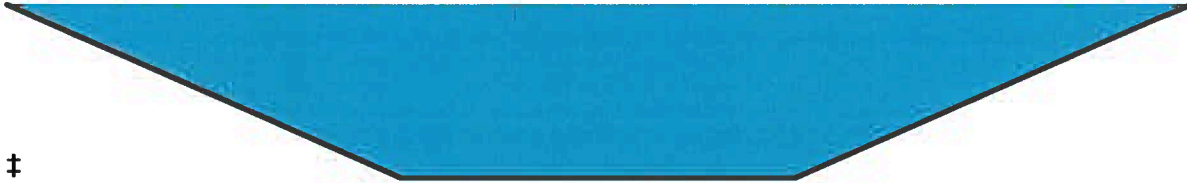
Summary for Reach 1R:

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 3.40" for 25 YEAR event
Inflow = 2.62 cfs @ 12.15 hrs, Volume= 0.148 af
Outflow = 1.83 cfs @ 12.22 hrs, Volume= 0.148 af, Atten= 30%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.69 fps, Min. Travel Time= 1.9 min
Avg. Velocity= 0.32 fps, Avg. Travel Time= 4.0 min

Peak Storage= 210 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 100.0 ' ' Top Width= 30.00'
 Length= 77.0' Slope= 0.0060 ' '
 Inlet Invert= 121.46', Outlet Invert= 121.00'



Summary for Reach 2R:

Inflow Area = 0.963 ac, 0.00% Impervious, Inflow Depth > 3.19" for 25 YEAR event
 Inflow = 3.36 cfs @ 12.13 hrs, Volume= 0.256 af
 Outflow = 3.05 cfs @ 12.25 hrs, Volume= 0.254 af, Atten= 9%, Lag= 7.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.72 fps, Min. Travel Time= 4.1 min
 Avg. Velocity = 0.55 fps, Avg. Travel Time= 12.8 min

Peak Storage= 766 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.43'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' '
 Inlet Invert= 123.00', Outlet Invert= 121.00'



Summary for Reach 3R:

Inflow Area = 1.487 ac, 15.41% Impervious, Inflow Depth > 3.24" for 25 YEAR event
 Inflow = 4.80 cfs @ 12.24 hrs, Volume= 0.402 af
 Outflow = 4.77 cfs @ 12.25 hrs, Volume= 0.401 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.83 fps, Min. Travel Time= 0.5 min
 Avg. Velocity = 0.58 fps, Avg. Travel Time= 1.4 min

Peak Storage= 132 cf @ 12.24 hrs
 Average Depth at Peak Storage= 0.42'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.912 ac, 6.13% Impervious, Inflow Depth > 3.21" for 25 YEAR event
 Inflow = 3.00 cfs @ 12.16 hrs, Volume= 0.244 af
 Outflow = 2.98 cfs @ 12.17 hrs, Volume= 0.244 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 3.71 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.36 fps, Avg. Travel Time= 0.7 min

Peak Storage= 44 cf @ 12.17 hrs

Average Depth at Peak Storage= 0.28'

Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 3.0 ' Top Width= 14.00'

Length= 55.0' Slope= 0.0444 'f

Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 4.20" for 25 YEAR event
 Inflow = 2.55 cfs @ 12.10 hrs, Volume= 0.183 af
 Outflow = 2.62 cfs @ 12.15 hrs, Volume= 0.148 af, Atten= 0%, Lag= 3.4 min
 Primary = 2.62 cfs @ 12.15 hrs, Volume= 0.148 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Peak Elev= 126.13' @ 12.16 hrs Surf.Area= 2,250 sf Storage= 2,750 cf

Plug-Flow detention time= 108.1 min calculated for 0.148 af (81% of inflow)

Center-of-Mass det. time= 52.0 min (831.0 - 779.0)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	2,750 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	500	0	0
126.00	2,250	2,750	2,750

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.51 cfs @ 12.15 hrs HW=126.12' (Free Discharge)

- 1=Culvert (Passes 2.51 cfs of 22.71 cfs potential flow)
 2=Orifice/Grate (Weir Controls 1.63 cfs @ 1.12 fps)
 3=Orifice/Grate (Orifice Controls 0.88 cfs @ 4.48 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: CULV

Inflow Area = 0.299 ac, 14.39% Impervious, Inflow Depth > 3.48" for 25 YEAR event
 Inflow = 1.08 cfs @ 12.15 hrs, Volume= 0.087 af
 Outflow = 1.04 cfs @ 12.19 hrs, Volume= 0.086 af, Atten= 4%, Lag= 2.1 min
 Primary = 1.04 cfs @ 12.19 hrs, Volume= 0.086 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.57' @ 12.19 hrs Surf.Area= 355 sf Storage= 202 cf

Plug-Flow detention time= 10.1 min calculated for 0.086 af (99% of inflow)
 Center-of-Mass det. time= 6.1 min (804.2 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.19 hrs HW=127.57' (Free Discharge)

- 1=Culvert (Barrel Controls 1.03 cfs @ 2.83 fps)

Summary for Subcatchment 1S:

Runoff = 3.13 cfs @ 12.10 hrs, Volume= 0.227 af, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
12,848	74	>75% Grass cover, Good, HSG C
* 2,932	98	Roofs
* 7,046	98	Pavement
22,826	84	Weighted Average
12,848		56.29% Pervious Area
9,978		43.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 1.37 cfs @ 12.15 hrs, Volume= 0.110 af, Depth> 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
* 901	98	Pavement
8,059	74	>75% Grass cover, Good, HSG C
* 585	98	Roof
* 390	98	Gravel
3,098	73	Woods, Fair, HSG C
13,033	77	Weighted Average
11,157		85.61% Pervious Area
1,876		14.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 2.56 cfs @ 12.15 hrs, Volume= 0.204 af, Depth> 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
* 560	98	Gravel
26,152	72	Woods/grass comb., Good, HSG C
26,712	73	Weighted Average
26,152		97.90% Pervious Area
560		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.0700	0.11		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	75	0.0600	1.22		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
2.0	86	0.0100	0.70		Shallow Concentrated Flow, C-D
					Short Grass Pasture Kv= 7.0 fps
10.7	211	Total			

Summary for Subcatchment 4S:

Runoff = 4.31 cfs @ 12.13 hrs, Volume= 0.329 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
15,000	73	Woods, Fair, HSG C
26,927	74	>75% Grass cover, Good, HSG C
41,927	74	Weighted Average
41,927		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 4.39" for 50 YEAR event
Inflow = 4.73 cfs @ 12.10 hrs, Volume= 0.192 af
Outflow = 2.90 cfs @ 12.17 hrs, Volume= 0.191 af, Atten= 39%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.74 fps, Min. Travel Time= 1.7 min
Avg. Velocity= 0.33 fps, Avg. Travel Time= 3.8 min

Peak Storage= 302 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 100.0 ' / ' Top Width= 30.00'
 Length= 77.0' Slope= 0.0060 ' / '
 Inlet Invert= 121.46', Outlet Invert= 121.00'



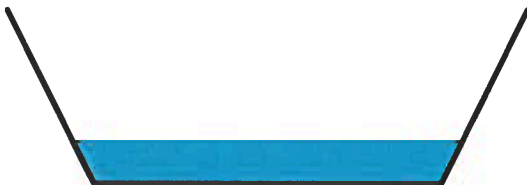
Summary for Reach 2R:

Inflow Area = 0.963 ac, 0.00% Impervious, Inflow Depth > 4.10" for 50 YEAR event
 Inflow = 4.31 cfs @ 12.13 hrs, Volume= 0.329 af
 Outflow = 3.95 cfs @ 12.24 hrs, Volume= 0.327 af, Atten= 8%, Lag= 6.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.89 fps, Min. Travel Time= 3.8 min
 Avg. Velocity= 0.59 fps, Avg. Travel Time= 12.0 min

Peak Storage= 907 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.50'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' / '
 Inlet Invert= 123.00', Outlet Invert= 121.00'



Summary for Reach 3R:

Inflow Area = 1.487 ac, 15.41% Impervious, Inflow Depth > 4.18" for 50 YEAR event
 Inflow = 6.46 cfs @ 12.21 hrs, Volume= 0.518 af
 Outflow = 6.46 cfs @ 12.22 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.04 fps, Min. Travel Time= 0.4 min
 Avg. Velocity= 0.61 fps, Avg. Travel Time= 1.4 min

Peak Storage= 159 cf @ 12.21 hrs
 Average Depth at Peak Storage= 0.51'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, $n = 0.030$ Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' / '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.912 ac, 6.13% Impervious, Inflow Depth > 4.12" for 50 YEAR event
 Inflow = 3.85 cfs @ 12.16 hrs, Volume= 0.313 af
 Outflow = 3.82 cfs @ 12.17 hrs, Volume= 0.313 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.00 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.44 fps, Avg. Travel Time= 0.6 min

Peak Storage= 53 cf @ 12.16 hrs
 Average Depth at Peak Storage= 0.32'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' / ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 ' / '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.524 ac, 43.71% Impervious, Inflow Depth > 5.21" for 50 YEAR event
 Inflow = 3.13 cfs @ 12.10 hrs, Volume= 0.227 af
 Outflow = 4.73 cfs @ 12.10 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.3 min
 Primary = 4.73 cfs @ 12.10 hrs, Volume= 0.192 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 126.21' @ 12.10 hrs Surf.Area= 2,250 sf Storage= 2,750 cf

Plug-Flow detention time= 97.2 min calculated for 0.192 af (84% of inflow)
 Center-of-Mass det. time= 47.3 min (820.9 - 773.7)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	2,750 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	500	0	0
126.00	2,250	2,750	2,750

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 ' S= 0.0010 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.66 cfs @ 12.10 hrs HW=126.20' (Free Discharge)

- 1=Culvert (Passes 4.66 cfs of 22.98 cfs potential flow)
 2=Orifice/Grate (Weir Controls 3.74 cfs @ 1.47 fps)
 3=Orifice/Grate (Orifice Controls 0.92 cfs @ 4.70 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: CULV

Inflow Area = 0.299 ac, 14.39% Impervious, Inflow Depth > 4.42" for 50 YEAR event
 Inflow = 1.37 cfs @ 12.15 hrs, Volume= 0.110 af
 Outflow = 1.32 cfs @ 12.18 hrs, Volume= 0.109 af, Atten= 4%, Lag= 1.9 min
 Primary = 1.32 cfs @ 12.18 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.67' @ 12.18 hrs Surf.Area= 401 sf Storage= 231 cf

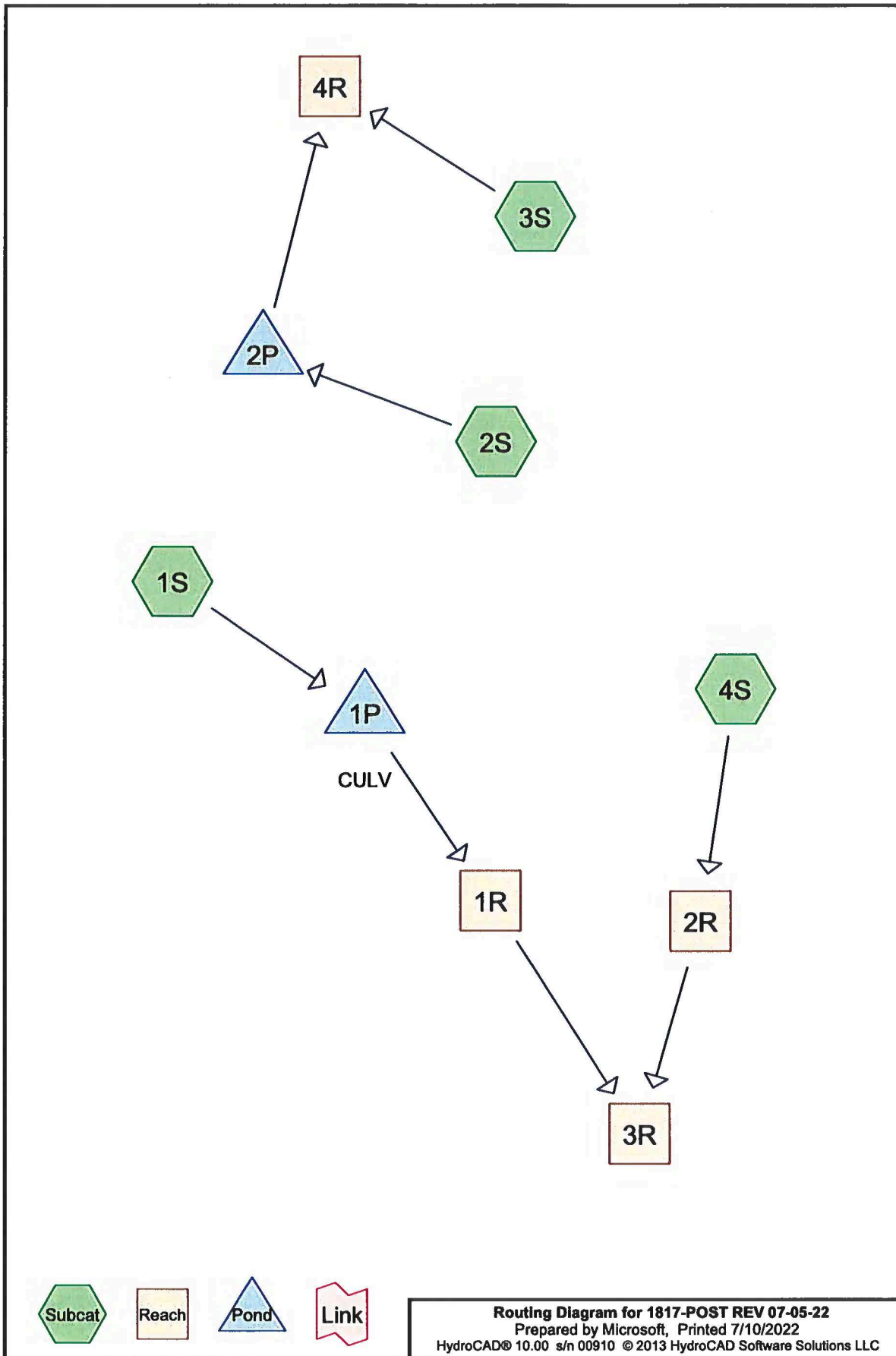
Plug-Flow detention time= 9.0 min calculated for 0.109 af (99% of inflow)
 Center-of-Mass det. time= 5.6 min (797.8 - 792.3)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 ' S= 0.0056 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.30 cfs @ 12.18 hrs HW=127.66' (Free Discharge)

- 1=Culvert (Barrel Controls 1.30 cfs @ 2.98 fps)



Summary for Subcatchment 1S:

Runoff = 2.05 cfs @ 12.10 hrs, Volume= 0.144 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
22,639	74	>75% Grass cover, Good, HSG C
* 11,148	98	Pavement, HSG C
* 9,051	98	Building
42,838	85	Weighted Average
22,639		52.85% Pervious Area
20,199		47.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 0.37 cfs @ 12.16 hrs, Volume= 0.030 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
* 1,291	98	Pavement
8,113	74	>75% Grass cover, Good, HSG C
585	98	Roofs, HSG C
3,098	73	Woods, Fair, HSG C
13,087	77	Weighted Average
11,211		85.67% Pervious Area
1,876		14.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 0.41 cfs @ 12.20 hrs, Volume= 0.037 af, Depth> 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
* 560	98	Gravel Drive
4,442	74	>75% Grass cover, Good, HSG C
15,740	70	Woods, Good, HSG C
20,742	72	Weighted Average
20,182		97.30% Pervious Area
560		2.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	73	0.0790	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	121	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
12.9	194	Total			

Summary for Subcatchment 4S:

Runoff = 0.70 cfs @ 12.14 hrs, Volume= 0.055 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
11,150	73	Woods, Fair, HSG C
16,807	74	>75% Grass cover, Good, HSG C
27,957	74	Weighted Average
27,957		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 0.50" for 2 YEAR event
Inflow = 0.09 cfs @ 15.42 hrs, Volume= 0.041 af
Outflow = 0.09 cfs @ 15.54 hrs, Volume= 0.040 af, Atten= 0%, Lag= 7.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.29 fps, Min. Travel Time= 4.4 min

Avg. Velocity = 0.24 fps, Avg. Travel Time= 5.2 min

Peak Storage= 24 cf @ 15.47 hrs

Average Depth at Peak Storage= 0.03'

Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 100.0 ' Top Width= 30.00'

Length= 77.0' Slope= 0.0060 'f

Inlet Invert= 121.46', Outlet Invert= 121.00'

**Summary for Reach 2R:**

Inflow Area = 0.642 ac, 0.00% Impervious, Inflow Depth > 1.03" for 2 YEAR event
 Inflow = 0.70 cfs @ 12.14 hrs, Volume= 0.055 af
 Outflow = 0.57 cfs @ 12.35 hrs, Volume= 0.054 af, Atten= 18%, Lag= 12.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.93 fps, Min. Travel Time= 7.6 min
 Avg. Velocity = 0.35 fps, Avg. Travel Time= 20.0 min

Peak Storage= 265 cf @ 12.22 hrs
 Average Depth at Peak Storage= 0.15'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' / '
 Inlet Invert= 123.00', Outlet Invert= 121.00'

**Summary for Reach 3R:**

Inflow Area = 1.625 ac, 28.53% Impervious, Inflow Depth > 0.70" for 2 YEAR event
 Inflow = 0.57 cfs @ 12.35 hrs, Volume= 0.095 af
 Outflow = 0.56 cfs @ 12.38 hrs, Volume= 0.094 af, Atten= 2%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.82 fps, Min. Travel Time= 1.0 min
 Avg. Velocity = 0.42 fps, Avg. Travel Time= 2.0 min

Peak Storage= 35 cf @ 12.36 hrs
 Average Depth at Peak Storage= 0.12'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' / '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.777 ac, 7.20% Impervious, Inflow Depth > 1.02" for 2 YEAR event
 Inflow = 0.75 cfs @ 12.20 hrs, Volume= 0.066 af
 Outflow = 0.75 cfs @ 12.21 hrs, Volume= 0.066 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.41 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 0.98 fps, Avg. Travel Time= 0.9 min

Peak Storage= 17 cf @ 12.21 hrs
 Average Depth at Peak Storage= 0.13'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' / ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 ' / '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 1.75" for 2 YEAR event
 Inflow = 2.05 cfs @ 12.10 hrs, Volume= 0.144 af
 Outflow = 0.09 cfs @ 15.42 hrs, Volume= 0.041 af, Atten= 96%, Lag= 199.1 min
 Primary = 0.09 cfs @ 15.42 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 125.18' @ 15.42 hrs Surf.Area= 4,153 sf Storage= 4,737 cf

Plug-Flow detention time= 321.9 min calculated for 0.041 af (28% of inflow)
 Center-of-Mass det. time= 214.5 min (1,013.2 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	10,528 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	3,245	0	0
126.00	4,785	8,030	8,030
126.50	5,208	2,498	10,528

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.09 cfs @ 15.42 hrs HW=125.18' (Free Discharge)

- 1=Culvert (Passes 0.09 cfs of 19.55 cfs potential flow)
 2=Orifice/Grate (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 0.09 cfs @ 1.44 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P:

Inflow Area = 0.300 ac, 14.33% Impervious, Inflow Depth > 1.21" for 2 YEAR event
 Inflow = 0.37 cfs @ 12.16 hrs, Volume= 0.030 af
 Outflow = 0.35 cfs @ 12.21 hrs, Volume= 0.030 af, Atten= 6%, Lag= 2.9 min
 Primary = 0.35 cfs @ 12.21 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.26' @ 12.21 hrs Surf.Area= 214 sf Storage= 108 cf

Plug-Flow detention time= 17.0 min calculated for 0.030 af (98% of inflow)
 Center-of-Mass det. time= 8.5 min (832.2 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 12.21 hrs HW=127.26' (Free Discharge)

- 1=Culvert (Barrel Controls 0.34 cfs @ 2.38 fps)

Summary for Subcatchment 1S:

Runoff = 3.61 cfs @ 12.10 hrs, Volume= 0.257 af, Depth> 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
22,639	74	>75% Grass cover, Good, HSG C
* 11,148	98	Pavement, HSG C
* 9,051	98	Building
42,838	85	Weighted Average
22,639		52.85% Pervious Area
20,199		47.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 0.76 cfs @ 12.16 hrs, Volume= 0.060 af, Depth> 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
* 1,291	98	Pavement
8,113	74	>75% Grass cover, Good, HSG C
585	98	Roofs, HSG C
3,098	73	Woods, Fair, HSG C
13,087	77	Weighted Average
11,211		85.67% Pervious Area
1,876		14.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 0.92 cfs @ 12.19 hrs, Volume= 0.079 af, Depth> 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
* 560	98	Gravel Drive
4,442	74	>75% Grass cover, Good, HSG C
15,740	70	Woods, Good, HSG C
20,742	72	Weighted Average
20,182		97.30% Pervious Area
560		2.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	73	0.0790	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	121	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
12.9	194	Total			

Summary for Subcatchment 4S:

Runoff = 1.52 cfs @ 12.13 hrs, Volume= 0.116 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
11,150	73	Woods, Fair, HSG C
16,807	74	>75% Grass cover, Good, HSG C
27,957	74	Weighted Average
27,957		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 1.84" for 10 YEAR event
Inflow = 0.54 cfs @ 12.62 hrs, Volume= 0.151 af
Outflow = 0.54 cfs @ 12.71 hrs, Volume= 0.150 af, Atten= 0%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.50 fps, Min. Travel Time= 2.6 min

Avg. Velocity= 0.35 fps, Avg. Travel Time= 3.7 min

Peak Storage= 83 cf @ 12.67 hrs

Average Depth at Peak Storage= 0.07'

Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 100.0 ' / Top Width= 30.00'

Length= 77.0' Slope= 0.0060 ' /

Inlet Invert= 121.46', Outlet Invert= 121.00'

**Summary for Reach 2R:**

Inflow Area = 0.642 ac, 0.00% Impervious, Inflow Depth > 2.16" for 10 YEAR event
 Inflow = 1.52 cfs @ 12.13 hrs, Volume= 0.116 af
 Outflow = 1.33 cfs @ 12.29 hrs, Volume= 0.114 af, Atten= 12%, Lag= 9.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.28 fps, Min. Travel Time= 5.5 min

Avg. Velocity = 0.43 fps, Avg. Travel Time= 16.4 min

Peak Storage= 447 cf @ 12.19 hrs

Average Depth at Peak Storage= 0.26'

Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'

Length= 425.0' Slope= 0.0047 ' / '

Inlet Invert= 123.00', Outlet Invert= 121.00'

**Summary for Reach 3R:**

Inflow Area = 1.625 ac, 28.53% Impervious, Inflow Depth > 1.96" for 10 YEAR event
 Inflow = 1.56 cfs @ 12.32 hrs, Volume= 0.265 af
 Outflow = 1.55 cfs @ 12.35 hrs, Volume= 0.265 af, Atten= 1%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.20 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 0.54 fps, Avg. Travel Time= 1.5 min

Peak Storage= 65 cf @ 12.33 hrs

Average Depth at Peak Storage= 0.21'

Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'

Length= 50.0' Slope= 0.0050 ' / '

Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.777 ac, 7.20% Impervious, Inflow Depth > 2.15" for 10 YEAR event
 Inflow = 1.65 cfs @ 12.19 hrs, Volume= 0.139 af
 Outflow = 1.64 cfs @ 12.20 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.10 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.8 min

Peak Storage= 29 cf @ 12.19 hrs
 Average Depth at Peak Storage= 0.20'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' / ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 ' / '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 3.13" for 10 YEAR event
 Inflow = 3.61 cfs @ 12.10 hrs, Volume= 0.257 af
 Outflow = 0.54 cfs @ 12.62 hrs, Volume= 0.151 af, Atten= 85%, Lag= 31.6 min
 Primary = 0.54 cfs @ 12.62 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 125.57' @ 12.62 hrs Surf.Area= 4,458 sf Storage= 6,323 cf

Plug-Flow detention time= 193.8 min calculated for 0.151 af (59% of inflow)
 Center-of-Mass det. time= 111.0 min (895.4 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	10,528 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	3,245	0	0
126.00	4,785	8,030	8,030
126.50	5,208	2,498	10,528

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 ' S Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 12.62 hrs HW=125.57' (Free Discharge)

- 1=Culvert (Passes 0.54 cfs of 20.94 cfs potential flow)
 2=Orifice/Grate (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 0.54 cfs @ 2.74 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P:

Inflow Area = 0.300 ac, 14.33% Impervious, Inflow Depth > 2.41" for 10 YEAR event
 Inflow = 0.76 cfs @ 12.16 hrs, Volume= 0.060 af
 Outflow = 0.72 cfs @ 12.19 hrs, Volume= 0.060 af, Atten= 4%, Lag= 2.2 min
 Primary = 0.72 cfs @ 12.19 hrs, Volume= 0.060 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.42' @ 12.19 hrs Surf.Area= 288 sf Storage= 157 cf

Plug-Flow detention time= 11.8 min calculated for 0.060 af (99% of inflow)
 Center-of-Mass det. time= 6.6 min (813.7 - 807.1)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 ' S Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.72 cfs @ 12.19 hrs HW=127.42' (Free Discharge)

- 1=Culvert (Barrel Controls 0.72 cfs @ 2.80 fps)

Summary for Subcatchment 1S:

Runoff = 4.89 cfs @ 12.10 hrs, Volume= 0.353 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
22,639	74	>75% Grass cover, Good, HSG C
* 11,148	98	Pavement, HSG C
* 9,051	98	Building
42,838	85	Weighted Average
22,639		52.85% Pervious Area
20,199		47.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 1.09 cfs @ 12.15 hrs, Volume= 0.087 af, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
* 1,291	98	Pavement
8,113	74	>75% Grass cover, Good, HSG C
585	98	Roofs, HSG C
3,098	73	Woods, Fair, HSG C
13,087	77	Weighted Average
11,211		85.67% Pervious Area
1,876		14.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 1.39 cfs @ 12.18 hrs, Volume= 0.119 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
* 560	98	Gravel Drive
4,442	74	>75% Grass cover, Good, HSG C
15,740	70	Woods, Good, HSG C
20,742	72	Weighted Average
20,182		97.30% Pervious Area
560		2.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	73	0.0790	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	121	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
12.9	194	Total			

Summary for Subcatchment 4S:

Runoff = 2.24 cfs @ 12.13 hrs, Volume= 0.170 af, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
11,150	73	Woods, Fair, HSG C
16,807	74	>75% Grass cover, Good, HSG C
27,957	74	Weighted Average
27,957		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 2.99" for 25 YEAR event
Inflow = 1.24 cfs @ 12.49 hrs, Volume= 0.245 af
Outflow = 1.22 cfs @ 12.55 hrs, Volume= 0.245 af, Atten= 2%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.62 fps, Min. Travel Time= 2.1 min

Avg. Velocity= 0.40 fps, Avg. Travel Time= 3.2 min

Peak Storage= 151 cf @ 12.52 hrs

Average Depth at Peak Storage= 0.10'

Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 100.0 ' / ' Top Width= 30.00'

Length= 77.0' Slope= 0.0060 ' / '

Inlet Invert= 121.46', Outlet Invert= 121.00'

**Summary for Reach 2R:**

Inflow Area = 0.642 ac, 0.00% Impervious, Inflow Depth > 3.19" for 25 YEAR event
 Inflow = 2.24 cfs @ 12.13 hrs, Volume= 0.170 af
 Outflow = 2.00 cfs @ 12.26 hrs, Volume= 0.169 af, Atten= 10%, Lag= 8.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.48 fps, Min. Travel Time= 4.8 min

Avg. Velocity = 0.48 fps, Avg. Travel Time= 14.8 min

Peak Storage= 581 cf @ 12.18 hrs

Average Depth at Peak Storage= 0.33'

Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'

Length= 425.0' Slope= 0.0047 ' / '

Inlet Invert= 123.00', Outlet Invert= 121.00'

**Summary for Reach 3R:**

Inflow Area = 1.625 ac, 28.53% Impervious, Inflow Depth > 3.05" for 25 YEAR event
 Inflow = 2.67 cfs @ 12.28 hrs, Volume= 0.414 af
 Outflow = 2.66 cfs @ 12.30 hrs, Volume= 0.413 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.47 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 0.61 fps, Avg. Travel Time= 1.4 min

Peak Storage= 91 cf @ 12.29 hrs

Average Depth at Peak Storage= 0.30'

Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight

Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'

Length= 50.0' Slope= 0.0050 ' / '

Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.777 ac, 7.20% Impervious, Inflow Depth > 3.17" for 25 YEAR event
 Inflow = 2.44 cfs @ 12.18 hrs, Volume= 0.205 af
 Outflow = 2.43 cfs @ 12.19 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.49 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 1.30 fps, Avg. Travel Time= 0.7 min

Peak Storage= 38 cf @ 12.19 hrs
 Average Depth at Peak Storage= 0.25'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' / ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 ' / '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 4.31" for 25 YEAR event
 Inflow = 4.89 cfs @ 12.10 hrs, Volume= 0.353 af
 Outflow = 1.24 cfs @ 12.49 hrs, Volume= 0.245 af, Atten= 75%, Lag= 23.5 min
 Primary = 1.24 cfs @ 12.49 hrs, Volume= 0.245 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 126.04' @ 12.49 hrs Surf.Area= 4,823 sf Storage= 8,253 cf

Plug-Flow detention time= 172.7 min calculated for 0.245 af (70% of inflow)
 Center-of-Mass det. time= 99.8 min (876.3 - 776.5)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	10,528 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	3,245	0	0
126.00	4,785	8,030	8,030
126.50	5,208	2,498	10,528

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 ' S= 0.0010 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.22 cfs @ 12.49 hrs HW=126.04' (Free Discharge)

- 1=Culvert (Passes 1.22 cfs of 22.48 cfs potential flow)
 2=Orifice/Grate (Weir Controls 0.38 cfs @ 0.69 fps)
 3=Orifice/Grate (Orifice Controls 0.84 cfs @ 4.29 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P:

Inflow Area = 0.300 ac, 14.33% Impervious, Inflow Depth > 3.48" for 25 YEAR event
 Inflow = 1.09 cfs @ 12.15 hrs, Volume= 0.087 af
 Outflow = 1.05 cfs @ 12.19 hrs, Volume= 0.086 af, Atten= 4%, Lag= 1.9 min
 Primary = 1.05 cfs @ 12.19 hrs, Volume= 0.086 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.54' @ 12.19 hrs Surf.Area= 341 sf Storage= 192 cf

Plug-Flow detention time= 9.8 min calculated for 0.086 af (99% of inflow)
 Center-of-Mass det. time= 5.8 min (804.0 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 ' S= 0.0056 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.19 hrs HW=127.54' (Free Discharge)

- 1=Culvert (Barrel Controls 1.03 cfs @ 3.04 fps)

Summary for Subcatchment 1S:

Runoff = 5.97 cfs @ 12.10 hrs, Volume= 0.436 af, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
22,639	74	>75% Grass cover, Good, HSG C
* 11,148	98	Pavement, HSG C
* 9,051	98	Building
42,838	85	Weighted Average
22,639		52.85% Pervious Area
20,199		47.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0660	0.16		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 3.00"
1.3	114	0.0430	1.45		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
6.6	164	Total			

Summary for Subcatchment 2S:

Runoff = 1.38 cfs @ 12.15 hrs, Volume= 0.111 af, Depth> 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
* 1,291	98	Pavement
8,113	74	>75% Grass cover, Good, HSG C
585	98	Roofs, HSG C
3,098	73	Woods, Fair, HSG C
13,087	77	Weighted Average
11,211		85.67% Pervious Area
1,876		14.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	73	0.0680	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	25	0.0220	2.22		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
10.8	98	Total			

Summary for Subcatchment 3S:

Runoff = 1.81 cfs @ 12.18 hrs, Volume= 0.154 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
* 560	98	Gravel Drive
4,442	74	>75% Grass cover, Good, HSG C
15,740	70	Woods, Good, HSG C
20,742	72	Weighted Average
20,182		97.30% Pervious Area
560		2.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	73	0.0790	0.12		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	121	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
12.9	194	Total			

Summary for Subcatchment 4S:

Runoff = 2.87 cfs @ 12.13 hrs, Volume= 0.219 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR Rainfall=7.30"

Area (sf)	CN	Description
11,150	73	Woods, Fair, HSG C
16,807	74	>75% Grass cover, Good, HSG C
27,957	74	Weighted Average
27,957		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.2	106	0.0500	0.56		Shallow Concentrated Flow, BC
					Forest w/Heavy Litter Kv= 2.5 fps
8.9	156	Total			

Summary for Reach 1R:

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 3.99" for 50 YEAR event
Inflow = 3.10 cfs @ 12.26 hrs, Volume= 0.327 af
Outflow = 3.00 cfs @ 12.32 hrs, Volume= 0.326 af, Atten= 3%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.75 fps, Min. Travel Time= 1.7 min
Avg. Velocity= 0.42 fps, Avg. Travel Time= 3.1 min

Peak Storage= 310 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 0.10' Flow Area= 2.0 sf, Capacity= 1.26 cfs

10.00' x 0.10' deep channel, n= 0.030 Stream, clean & straight
Side Slope Z-value= 100.0 'f' Top Width= 30.00'
Length= 77.0' Slope= 0.0060 'f'
Inlet Invert= 121.46', Outlet Invert= 121.00'

**Summary for Reach 2R:**

Inflow Area = 0.642 ac, 0.00% Impervious, Inflow Depth > 4.10" for 50 YEAR event
 Inflow = 2.87 cfs @ 12.13 hrs, Volume= 0.219 af
 Outflow = 2.59 cfs @ 12.25 hrs, Volume= 0.218 af, Atten= 10%, Lag= 7.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.62 fps, Min. Travel Time= 4.4 min
 Avg. Velocity= 0.51 fps, Avg. Travel Time= 13.9 min

Peak Storage= 690 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.39'
 Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 37.95 cfs

4.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 6.00'
 Length= 425.0' Slope= 0.0047 ' / '
 Inlet Invert= 123.00', Outlet Invert= 121.00'

**Summary for Reach 3R:**

Inflow Area = 1.625 ac, 28.53% Impervious, Inflow Depth > 4.02" for 50 YEAR event
 Inflow = 5.34 cfs @ 12.30 hrs, Volume= 0.544 af
 Outflow = 5.30 cfs @ 12.32 hrs, Volume= 0.543 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.90 fps, Min. Travel Time= 0.4 min
 Avg. Velocity= 0.64 fps, Avg. Travel Time= 1.3 min

Peak Storage= 141 cf @ 12.31 hrs
 Average Depth at Peak Storage= 0.45'
 Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 59.51 cfs

6.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 0.5 ' / ' Top Width= 8.00'
 Length= 50.0' Slope= 0.0050 ' / '
 Inlet Invert= 121.00', Outlet Invert= 120.75'

**Summary for Reach 4R:**

Inflow Area = 0.777 ac, 7.20% Impervious, Inflow Depth > 4.08" for 50 YEAR event
 Inflow = 3.13 cfs @ 12.18 hrs, Volume= 0.264 af
 Outflow = 3.12 cfs @ 12.19 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.76 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.38 fps, Avg. Travel Time= 0.7 min

Peak Storage= 46 cf @ 12.18 hrs
 Average Depth at Peak Storage= 0.29'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 177.04 cfs

2.00' x 2.00' deep channel, n= 0.030 Stream, clean & straight
 Side Slope Z-value= 3.0 ' Top Width= 14.00'
 Length= 55.0' Slope= 0.0444 '
 Inlet Invert= 126.80', Outlet Invert= 124.36'

**Summary for Pond 1P: CULV**

Inflow Area = 0.983 ac, 47.15% Impervious, Inflow Depth > 5.32" for 50 YEAR event
 Inflow = 5.97 cfs @ 12.10 hrs, Volume= 0.436 af
 Outflow = 3.10 cfs @ 12.26 hrs, Volume= 0.327 af, Atten= 48%, Lag= 10.0 min
 Primary = 3.10 cfs @ 12.26 hrs, Volume= 0.327 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 126.14' @ 12.26 hrs Surf.Area= 4,905 sf Storage= 8,739 cf

Plug-Flow detention time= 152.2 min calculated for 0.326 af (75% of inflow)
 Center-of-Mass det. time= 86.9 min (858.1 - 771.2)

Volume	Invert	Avail.Storage	Storage Description
#1	124.00'	10,528 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
124.00	3,245	0	0
126.00	4,785	8,030	8,030
126.50	5,208	2,498	10,528

Device	Routing	Invert	Outlet Devices
#1	Primary	121.50'	24.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.50' / 121.46' S= 0.0010 ' S= 0.0010 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#2	Device 1	126.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	125.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Primary	126.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.04 cfs @ 12.26 hrs HW=126.14' (Free Discharge)

- 1=Culvert (Passes 3.04 cfs of 22.78 cfs potential flow)
 2=Orifice/Grate (Weir Controls 2.14 cfs @ 1.22 fps)
 3=Orifice/Grate (Orifice Controls 0.89 cfs @ 4.54 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P:

Inflow Area = 0.300 ac, 14.33% Impervious, Inflow Depth > 4.42" for 50 YEAR event
 Inflow = 1.38 cfs @ 12.15 hrs, Volume= 0.111 af
 Outflow = 1.33 cfs @ 12.18 hrs, Volume= 0.110 af, Atten= 3%, Lag= 1.7 min
 Primary = 1.33 cfs @ 12.18 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 0.50-21.00 hrs, dt= 0.05 hrs
 Peak Elev= 127.63' @ 12.18 hrs Surf.Area= 383 sf Storage= 220 cf

Plug-Flow detention time= 8.8 min calculated for 0.110 af (99% of inflow)
 Center-of-Mass det. time= 5.4 min (797.6 - 792.3)

Volume	Invert	Avail.Storage	Storage Description
#1	126.90'	330 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
126.90	50	0	0
128.00	550	330	330

Device	Routing	Invert	Outlet Devices
#1	Primary	126.94'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.94' / 126.80' S= 0.0056 ' S= 0.0056 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.31 cfs @ 12.18 hrs HW=127.63' (Free Discharge)

- 1=Culvert (Barrel Controls 1.31 cfs @ 3.21 fps)

APPENDIX B. Inspection and maintenance

This appendix applies to all projects, except that a project that is eligible for stormwater PBR need only meet the standards in Section 1.

See Appendix D(5) for additional maintenance requirements related to infiltration of stormwater.

1. During construction. 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 vehicles 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 Department 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.

2. Post-construction. The following standards must be met after construction.

- (a) **Plan.** Carry out an approved inspection and maintenance plan that is consistent with the minimum requirements of this section. The plan must address inspection and maintenance of the project's permanent erosion control measures and stormwater management system. This plan may be combined with the plan listed in Section 2(a) of this appendix. See Section 7(C)(2) for submission requirements.
- (b) **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. Inspection or maintenance tasks other than those discussed below must be included in the maintenance plan developed for a specific site.

NOTE: Expanded and more-detailed descriptions for specific maintenance tasks may be found in the Maine DEP's "Stormwater Management for Maine: Best Management Practices."

- (i) Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains 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. See permanent stabilization standards in Appendix A(5).
- (ii) Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains 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 sideslopes.
- (iii) 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.
- (iv) Inspect and clean out catch basins. Clean-out must include the removal and legal disposal of any accumulated sediments and debris at the bottom of the basin, at any inlet grates, at any inflow channels to the basin, and at any pipes between basins. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).
- (v) Inspect resource and treatment buffers once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all spreaders and turn-outs for erosion. If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the spreader bays or turnout pools.
- (vi) Inspect at least once per year, each stormwater management pond or basin, including the pond's embankments, outlet structure, and emergency spillway. Remove and dispose of accumulated sediments in the pond. Control woody vegetation on the pond's embankments.
- (vii) Inspect at least one per year, each underdrained 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.
- (viii) Inspect each manufactured system installed on the site, including the system's inlet, treatment chamber(s), and outlet at least once per year, or in accordance with the maintenance

guidelines recommended by the manufacturer based on the estimated runoff and pollutant load expected to the system from the project. Remove and dispose of accumulated sediments, debris, and contaminated waters from the system and, if applicable, remove and replace any clogged or spent filter media.

(c) Regular maintenance

- (i) 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.
- (ii) Manage each buffer's vegetation consistently with the requirements in any deed restrictions for the buffer. Wooded buffers must remain fully wooded and have no disturbance to the duff layer. Vegetation in non-wooded buffers may not be cut more than three times per year, and may not be cut shorter than six inches.

NOTE: Contact the Department's Division of Watershed Management (Maine DEP) for assistance developing inspection and maintenance requirements for other drainage control and runoff treatment measures installed on the site. The maintenance needs for most measures may be found in the Maine DEP's "Stormwater Management for Maine: Best Management Practices."

- (d) **Documentation.** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log 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. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Department staff and a copy provided to the Department upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.
- 3. Re-certification.** Submit a certification of the following to the Department within three months of the expiration of each five-year interval from the date of issuance of the permit.
- (a) **Identification and repair of erosion problems.** All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
 - (b) **Inspection and repair of stormwater control system.** All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

- (c) **Maintenance.** The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Department, and the maintenance log is being maintained.

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.

4. **Duration of maintenance.** Perform maintenance as described and required in the permit unless and until the system is formally accepted by the municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the Department stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with Department standards. Upon such assumption of responsibility, and approval by the Department, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.
5. **Additional requirements.** Additional requirements may be applied on a site-specific basis.

APPENDIX C. Housekeeping

These performance standards apply to all projects except for stormwater PBR projects.

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 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 and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: 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 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.

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). 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.

5. Maintenance

- (a) **Snow storage prohibited.** Snow removed from any on-site or off-site areas may not be stored over an infiltration area.
 - (b) **Groundwater monitoring.** Groundwater quality monitoring may be required by the Department if necessary to demonstrate that the infiltration system will operate in compliance with the Water Classification Program. Groundwater quality monitoring will generally be required for activities infiltrating water from areas of heavy turf-chemical use, such as golf courses and certain athletic fields, and large connected impervious areas, such as parking lots and runways. Groundwater quality monitoring will generally not be required for activities infiltrating water from lawn areas and other vegetated areas, residential developments except for those with large parking areas, playing fields, low-use roads such as residential subdivision roads, and roofs of residential and commercial structures.
 - (c) **Pollution-control devices.** Pollution-control devices such as oil–water separators, skimmers, and booms must be inspected regularly to determine if they need to be cleaned or replaced.
 - (d) **Observation wells, measure of sediment accumulation, and points of access for sediment removal.** Observation wells to determine the system’s performance and access points to allow for the removal of accumulated sediment must be included in the design of subsurface fluid distribution systems. Dry wells and infiltration basins must have staff gauges, marked rods, or similar instrumentation to measure the accumulation of sediment and determine how quickly the system drains after a storm. The maintenance plan for the infiltration system prepared in accordance with Appendix B, Section 2 must indicate the expected rate of drainage of the infiltration system and provide for removal of sediment from the infiltration system.
 - (e) **Sediment removal and maintenance of system performance.** Sediment must be removed from the system to prevent deterioration of system performance. The system must be rehabilitated or replaced if its performance is degraded to the point that applicable stormwater standards are not met.
6. **Additional requirements.** Additional requirements may be applied on a site-specific basis.



STAFF REVIEW COMMITTEE REPORT

TO: Biddeford Staff Review Committee

FROM: Hannah Bonine, Contract Planner

DATE: August 3, 2022

RE: 2022.31 Conditional Use Permit request for Hark House, LLC (Chrystina Gastelum and Sean Hasey) to operate a massage business at their home at 58 Pike Street (Tax Map 39, Lot 253) in the R-2 Residential Zone.

MEETING DATE: Wednesday, August 10, 2022 at 1:00 pm

1. INTRODUCTION

The applicants and owners of Hark House LLC, Chrystina Gastelum and Sean Hasey, wish to operate their massage business out of their home, located at 58 Pike Street. Home Occupations that have a point of purchase for retail merchandise or consumer services must be reviewed as a Conditional Use by the Staff Review Committee.

2. PROJECT INFORMATION

	<u>SUBJECT</u>	<u>INFORMATION</u>
1.	Applicant	Hark House, LLC (Chrystina Gastelum and Sean Hasey) 180 Main Street Biddeford, ME 04005
2.	Property Owner	Chrystina Gastelum and Sean Hasey 58 Pike Street Biddeford, ME 04005
3.	Agent	N/A
4.	Engineer/Surveyor	N/A
5.	Project Location	180 Main Street
6.	Map/Lot	Map 39, Lot 253
7.	City Approvals Required	Conditional Use Permit (Home Occupation)
8.	Existing Zoning	R-2
9.	Overlay Zoning	None
10.	Existing Use	Residential
11.	Proposed Use	Home massage business

12.	Uses in the Vicinity	Residential
13.	Parcel Size	0.12 acres
14.	Water Supply	Public
15.	Sewerage Disposal	Public
16.	Solid Waste Disposal	Public
17.	Fire Protection	Public
18.	Parking Spaces Required	2
19.	Parking Spaces Provided	2
20.	Ownership of Road	Public
21.	Waivers Needed/Requested	Full Site Plan Review
22.	Fees Paid (LDR Attachment A)	All fees paid

3. COMPLIANCE WITH CITY ORDINANCES

Home Occupations are a Conditional Use in the R-2 zone.

To receive approval from the Staff Review Committee, the applicant must demonstrate compliance with the Conditional Use Standards (Article VII, Section 6). Performance Standards (Article VI, Section 38) and Site Plan Review (Article XI).

The business will occupy one room in the house, approximately 100 square feet. Since there is only one room, there will only be one client present at any given time.

Client parking will be located in the existing driveway, which has demonstrated capacity.

Expected hours of operation are 8am-7pm Tuesday through Saturday by appointment only. The applicant has explained that there are very rarely seeing clients all day, so it does not appear there will be a steady stream of traffic that would compromise the residential character of the neighborhood.

The applicant has indicated that they do not anticipate erecting a sign, but they would be permitted to put up one nonilluminated sign, no larger than two square feet, if they desired.

4. WAIVER REQUESTS

Full Site Plan Review

5. OUTSTANDING ITEMS TO BE ADDRESSED PRIOR TO APPROVAL

None

6. RECOMMENDATIONS

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

1. **The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc., prior to commencing business, unless authority issuing said permit allows for such actions.**
2. **Standard Conditions of Approval apply.**

7. SAMPLE MOTIONS

1. Motion to waive Article XI, II (Full Site Plan Review).
2. Motion to approve the Conditional Use Permit for Hark House, LLC at 58 Pike Street (Tax Map 39, Lot 253) and approve the Findings of Fact based on the conditions recommended by the Contract Planner in the report dated August 3, 2022.
3. Motion to table to allow the applicant to address the outstanding issues identified by Committee.
4. Motion to deny the Conditional Use Permit based upon the following reasons:
 - a. _____
 - b. _____

8. ATTACHMENTS

1. Application

FINDINGS OF FACT AND CONCLUSIONS OF LAW

CONDITIONAL USE PERMIT (CUP)

Project Number: 2022.31

Home Occupation

Pursuant to the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article VII (Conditional Use Permits), Article XI (Site Plan Review), and Article VI (Performance Standards), the Biddeford Planning Board has considered the application of **Hark House, LLC** to operate a massage therapy business as a home occupation at 58 Pike Street (Tax Map 39, Lot 253). Based on its review, including supportive data, public hearing testimony and related materials contained in the record, the Staff Review Committee makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT:

	<u>SUBJECT</u>	<u>INFORMATION</u>
1.	Applicant	Hark House, LLC (Chrystina Gastelum and Sean Hasey) 180 Main Street Biddeford, ME 04005
2.	Property Owner	Chrystina Gastelum and Sean Hasey 58 Pike Street Biddeford, ME 04005
3.	Agent	N/A
4.	Engineer/Surveyor	N/A
5.	Project Location	180 Main Street
6.	Map/Lot	Map 39, Lot 253
7.	City Approvals Required	Conditional Use Permit (Home Occupation)
8.	Existing Zoning	R-2
9.	Overlay Zoning	None
10.	Existing Use	Residential
11.	Proposed Use	Home massage business
12.	Uses in the Vicinity	Residential
13.	Parcel Size	0.12 acres
14.	Water Supply	Public
15.	Sewerage Disposal	Public
16.	Solid Waste Disposal	Public
17.	Fire Protection	Public
18.	Parking Spaces Required	2
19.	Parking Spaces Provided	2
20.	Ownership of Road	Public
21.	Waivers Needed/Requested	Full Site Plan Review

22.	Fees Paid (LDR Attachment A)	All fees paid
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CONCLUSIONS OF LAW:

1. The proposed use meets specific requirements set forth in this ordinance and would be in compliance with applicable state or federal laws;
2. The proposed use would not create fire safety hazards by providing adequate access to the site, or to the buildings on the site, for emergency vehicles and would not create hazards through the storage of chemicals and wastes;
3. The proposed exterior lighting, where allowed, would not create hazards to motorists traveling on adjacent public streets or is adequate for the safety of occupants or users of the site or would not damage the value and diminish the usability of adjacent properties;
4. The provisions for buffers and on-site landscaping provide adequate protection to neighboring properties from detrimental or unsightly features of the development;
5. The proposed use would not have a significant, detrimental effect on the use and peaceful enjoyment of abutting property as the result of noise, vibrations, fumes, odor, dust, glare, hours of operation, or other causes;
6. The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets would not create hazards to public safety or traffic congestion;
7. The proposed use would generate a volume of traffic that can reasonably be accommodated by the existing road network, or would not create unreasonable traffic hazards or would not exacerbate an existing traffic hazard, or would not create unreasonable traffic congestion;
8. The proposed use would not have a significant, detrimental effect on the value of adjacent properties which could be avoided by reasonable modification of the proposal;
9. The proposed use would not have an adverse impact on the privacy of the residents of the immediate area (within 500 feet) which could be avoided by reasonable modification of the proposal;
10. The proposed use would be in compliance with Biddeford's Comprehensive Plan;
11. The proposed use would not have an adverse impact on the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal;

12. The design of the site would not result in significant flood hazards or flood damage or would be in conformance with applicable flood hazard protection requirements;
13. Adequate provision has been made for disposal of wastewater or solid waste or for the prevention of ground or surface water contamination;
14. Adequate provision has been made to control erosion or sedimentation;
15. Adequate provision has been made to handle stormwater runoff or other drainage problems on the site; and the proposed development will not unduly burden off-site surface water systems;
16. The proposed water supply would meet the demands of the proposed use for fire protection purposes;
17. Adequate provision has been made for the transportation, storage, and disposal of hazardous substances and materials as defined by state law;
18. The proposed use would not have an adverse impact on scenic vistas or on significant wildlife habitat or wetland areas and water bodies which could be avoided by reasonable modification of the proposal;
19. When located in the Shoreland Zone, the proposed use would meet the purposes of Shoreland Zoning as identified in Article XIV, Section 1 (Purposes) of this ordinance.

APPROVAL GRANTED:

Based on the evidence available and the conclusions above, the Biddeford Staff Review Committee approves the Conditional Use Permit for the proposed project summarized above, located at 58 Pike Street (Tax Map 39, Lot 253) in accordance with the submitted application, supporting data, representations made, other related materials on file, and the following Conditions of Approval:

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

Staff Review Committee Chairperson

Date

Revised: May 17, 2022

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

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

207-284-9115

Type of Application:☐ Shoreland Zoning Permit☐ Site Plan Review☐ Extraction☒ Conditional Use Permit☐ Subdivision☐ Private Way☐ Other: _____**Applicant Information:**Name: Hark House LLC (Sean Hasey & Chrystina Gastelum)Mailing Address: 180 Main St. Biddeford ME 04005Telephone: 207 558 2766Email: chrystina@harkhouse.me

What is your legal interest in the property?

☐ Owner☐ Potential Buyer with Contract☐ Lease/Rental Agreement**Owner's Information:**Name: Sean Hasey & Chrystina GastelumMailing Address: 58 Pike St. Biddeford, ME 04005Telephone: 207 558 2766Email: chrystina@harkhouse.me**Agent's Information:**

Name: _____

Mailing Address: _____

Telephone: _____

Email: _____

Engineer/Surveyor's Information:

Name: _____

Mailing Address: _____

Telephone: _____

Email: _____

Project Location and Lot Information:Street Address: 58 Pike St Drainage Watershed: _____

Tax Map: _____

Lot: _____

Current Zoning: R2Shoreland Zoning: N/ASize of Lot: 0.12 Acres () s.f.

Lot Frontage: _____

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

Description of proposed use of property:

Project/Proposed Use:

TO conduct our business on site. Hark House LLC
is a therapeutic massage practice. Sean Hasey &
Christy Gostelum own & operate the business &
also co-own the house. No changes to the

Property to be Serviced by:

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

Limits of Disturbance: _____ () acres () s.f.

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

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

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

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

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

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

property will
be required to
house the business.

___ If in a Shoreland Zone:

Percent of residential lot coverage (Max 20%): N/A

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

___ If Subdivision Review, number of lots proposed: N/A

___ If a Private Way is proposed, number of lots served: N/A

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

Total new square feet footprint of structure: N/A

Total new square feet paving/parking: N/A

Waiver Requests (attach details):

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

Required Submittal Attachments:

A. Letters of Approval

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

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

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

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

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

C. Photographs of Site.

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

E. Engineering Plans, as required.

F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

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

Required Signatures:

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

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

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

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

Signature of Applicant: _____

Date

7/20/22

Signature of Property Owner: _____

Date

7/20/22

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

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

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

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

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

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

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

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

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION



58 PIKE ST

Location 58 PIKE ST

Mblu 39/ 253/ / /

Acct#

Owner HASEY, SEAN

Assessment \$134,100

Appraisal \$134,100

PID 4724

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$86,800	\$47,300	\$134,100
Assessment			
Valuation Year	Improvements	Land	Total
2021	\$86,800	\$47,300	\$134,100

Owner of Record

Owner HASEY, SEAN
Co-Owner GASTELUM, CHRYSTINA E
Address 58 PIKE ST
BIDDEFORD, ME 04005

Sale Price \$0
Certificate
Book & Page 18637/1
Sale Date 03/05/2021
Instrument 1A

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
HASEY, SEAN	\$0		18637/1	1A	03/05/2021
HASEY, SEAN	\$0		17007/0313	DI	04/27/2015
MICHAUD, KRISTEN & HASEY SEAN W	\$127,500		13413/0044	00	08/29/2003
REUILLARD DEREK W	\$80,500		12826/0162	1L	04/29/2003
NATIONS CREDIT HOME EQUITY	\$0		11789/0326	1L	07/11/2002

Building Information

Building 1 : Section 1

Year Built:	1900
Living Area:	1,608
Replacement Cost:	\$137,368
Building Percent Good:	55
Replacement Cost	
Less Depreciation:	\$75,600

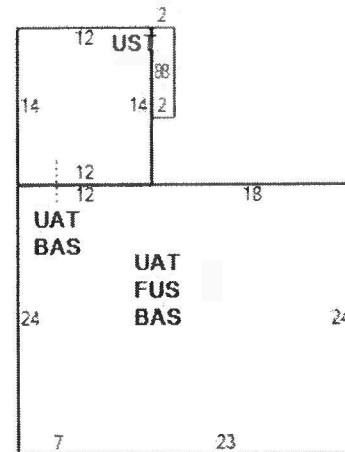
Building Photo



<https://images.vgsi.com/photos/BiddefordMEPhotos/\00\00\82\47.jpg>

Building Layout

UBM
(100 sf)



(ParcelSketch.ashx?pid=4724&bid=4891)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	888	888
FUS	Upper Story, Finished	720	720
UAT	Attic, Unfinished	888	0
UBM	Basement, Unfinished	100	0
UST	Utility, Storage, Unfinished	16	0
		2,612	1,608

Extra Features

Extra Features

Legend

17

Land

Land Use

Use Code 1010
Description SINGLE FAM MDL-01
Zone R2
Neighborhood 0003
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 0.12
Frontage 0
Depth 0
Assessed Value \$47,300
Appraised Value \$47,300

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FGR3	GARAGE-POOR			600.00 S.F.	\$5,700	1
SHD1	SHED FRAME			840.00 S.F.	\$5,500	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$80,000	\$36,700	\$116,700
2019	\$80,000	\$36,700	\$116,700
2018	\$80,000	\$36,700	\$116,700

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$80,000	\$36,700	\$116,700
2019	\$80,000	\$36,700	\$116,700
2018	\$80,000	\$36,700	\$116,700

Visit History

Visit History		
Visit Date	Purpose of Visit	Notes
5/17/2011	LETTER / STATE REQUIREMENT	
8/19/2003	Outside inspection only	
1/16/2003	PROPERTY REVIEW/TITLE 36 2005	
3/5/1997	DC 1997 UPDATE	
1/23/1990	MEAS & LISTD	

