Town of Windham

Town Offices
8 School Road
Windham, Maine

Meeting Agenda

Planning Board

Monday, August 24, 2026 | **6:00 PM** | **Council Chambers**

Draft Agenda - Subject to Change

Call To Order

Roll Call and Declaration of Quorum

Approval of Minutes

PB 26-061

Approval of Minutes - The meeting of August 10, 2026

Public Hearings

After the Planning Board chair opens the public comment period, members of the public may present evidence or statements relevant to the project under consideration. The Planning Board reserves the right to limit testimony to a specific period. Please send written comments by mail or email to PlanningBoard@windhammaine.us.

PB 26-062

#25-12 Legacy Village Retirement Community - Major Subdivision & Site Plan - Preliminary Plan Review - Webb Road - Robie Holdings, LLC

The application is to divide a 21.43-acre vacant parcel into two lots. Lot 1 (15.31 acres) is proposed to be developed as Legacy Village Retirement Community, a 30-unit detached dwelling retirement condominium served by a new private access drive (Legacy Drive, approximately 1,100 feet), a public 8-inch water main extension along Webb Road, and a shared on-site engineered wastewater disposal system. Lot 2 (6.12 acres) is proposed as a Country Subdivision lot for future single-family residential use served by a private well and septic system. Subject property is identified as Tax Map: 6; Lot: 33-F; Zone: Farm (F) and Retirement Community Care Facility Overlay (RCCFO) in the Black Brook/Presumpscot River watershed.

Attachments:

25-09_MJR_SUB_PRLM_AC&SR_MEMO_WebbRd_062526

25-12_MJR_SUB_SP_PRLM_RTC_WebbRdRetirement_LegacyVill_08-03-202

25-12_MJR_SUB_SP_PRLM_APP_WebbRdRetirement_LegacyVill_05-19-202

25-12_MJR_SUB_SP_PRLM_PLANS_WebbRdRetirement_LegacyVill_08-03-2

25-12_MJR_SUB_SP_PRLM_AbilityToServe_WebbRdRetirement_LegacyVill

PB 26-063

#25-27 100 River Road Eventide Subdivision- Major Subdivision & Site Plan - Preliminary Plan Review - 100 River Road- Row Even LLC

The application is to develop a 17-lot conservation subdivision on 27.92 acres with a new road built to public standards. Lots will be 30,000 square feet, with the remaining 13.87 acres as open space. Lots will be served by private subsurface wastewater disposal systems, on-site wells and underground utilities. Subject property is identified as Tax Map: 1; Lots: 8 (portion), 8-1, 8-2; Zone: Farm (F) in the Presumpscot River watershed

Attachments:

25-27_MJR_SUB_PP_APPL_SW_100RiverRoad_04-06-26

25-27_MJR_SUB_PP_PLANS_100RiverRoad

25-27_MJR_SUB_PRLM_AC&SR_MEMO_EventideSub_060226

Town Engineer Comments_060526

25-27_EventideSub_Traffic_MJR_SUB_PRLM_08-05-2026

New Business

PB 26-064

#26-19-Sandbar Apartments- Major Subdivision & Site Plan-Sketch Plan Review- Sandbar Road-Mayberry Associates LLC
The application is to construct 24 residential apartment units in two 3-story, 12-unit buildings on a 1.62-acre property. Each building contains eight 2-bedroom units and four 1-bedroom units. Site improvements include 20 parking spaces, sidewalks, a dumpster pad with fenced enclosure, snow storage area, and stormwater management facilities. The development will be served by public water from the existing 8-inch main in Sandbar Road, underground electrical service, and two private on-site subsurface wastewater disposal fields designed for 1,920 gpd each. Access is proposed via a new driveway onto Sandbar Road, an existing private road. Subject property is identified as Tax Map: 18; Lot: 32 A-3; Zone: Commercial 1 (C1) in the Tarkill Pond/Little Sebago Lake watershed.

Attachments:
26-18_MJR_SUB-SP_SKP_SR&C_SandbarApt_080426
26-19_MJR_SUB-SP_SKP_ SandbarApt _APP_2026_7_27
26-19_MJR_SUB-SP_SKP_ SandbarApt_PLANS_2026_7_27

Other Business

PB 26-065

Minor Changes Approved by Staff - Informational; No Board Action Required
Pursuant to §120-815F, the following minor changes to approved plans have been approved administratively. Approval letters attached.
a. #23-18 - Windham Village Apartments - 10 Stillwater Drive - Windham Village Phase 1 Condominium LLC
b. #24-25 - Andrew School Redevelopment / WDCJCS Subdivision - 55 High Street - Tyler Norod

Attachments:
23-18_24-25_MNR_CHNG_Summary_Memo
23-18_2nd_Approval_Letter_MNR_CH_SP_WindhamVillageApts_073026
24-25_MNR_CHNG_APPR_LTTR_AndrewSchoolRedev_WDCJCS_071526

Town of Windham

Town Offices
8 School Road
Windham, Maine

Cover Sheet

File Number: PB 26-061

Agenda Date: 8/24/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Planning Board **File Type:** Planning Board Document

Agenda Number:

Approval of Minutes - The meeting of August 10, 2026

Town of Windham

Town Offices
8 School Road
Windham, Maine

Cover Sheet

File Number: PB 26-062

Agenda Date: 8/24/2026 **Version:** 2 **Status:** Agenda Ready

In Control: Planning Board **File Type:** Planning Board Document

#25-12 Legacy Village Retirement Community - Major Subdivision & Site Plan - Preliminary Plan Review - Webb Road - Robie Holdings, LLC

The application is to divide a 21.43-acre vacant parcel into two lots. Lot 1 (15.31 acres) is proposed to be developed as Legacy Village Retirement Community, a 30-unit detached dwelling retirement condominium served by a new private access drive (Legacy Drive, approximately 1,100 feet), a public 8-inch water main extension along Webb Road, and a shared on-site engineered wastewater disposal system. Lot 2 (6.12 acres) is proposed as a Country Subdivision lot for future single-family residential use served by a private well and septic system. Subject property is identified as Tax Map: 6; Lot: 33-F; Zone: Farm (F) and Retirement Community Care Facility Overlay (RCCFO) in the Black Brook/Presumpscot River watershed.

TOWN OF WINDHAM MAINE

Planning Department
8 School Road
Windham, Maine 04062
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www.windhammaine.us

APPLICATION COMPLETENESS & STAFF REVIEW COMMENTS MEMO

DATE: June 25, 2026

TO: Dustin Roma PE, DM Roma Consulting Engineers
Jarod Robie, Robie Holdings, LLC
FROM: Natalie Thomsen, Town Planner
Cc: Steve Puleo, Planning Director
Windham Planning Board

RE: 25-12 – MJR SUB SP – Legacy Village Retirement Community – Webb Road – Preliminary Plan Review – Robie Holdings, LLC

Scheduled for Planning Board meeting**: July 13, 2026**

Thank you for submitting your application on May 19, 2026. The application status is **complete/incomplete**. The staff has reviewed the application and found several outstanding items that need your attention before the Planning Board sketch plan review. Your application is **scheduled for review** on **July 13,2026**. The Planning Board meeting is an "in-person meeting" at the Town Council Chambers in the Town Hall located at 8 School Street. The meeting begins at 6:30pm, and your attendance is required.

Project Information:

The applicant proposes to divide a 21.43-acre vacant parcel into two lots. Lot 1 (15.31 acres) is proposed to be developed as Legacy Village Retirement Community, a 30-unit detached dwelling retirement community served by a new private access drive (Legacy Drive, approximately 1,100 linear feet), a public 8-inch water main extension of approximately 1,000 linear feet along Webb Road connecting to the existing main at Gray Road, and a shared on-site wastewater disposal system utilizing FujiClean CEN Advanced Treatment Units. Lot 2 (6.12 acres) is proposed as a country subdivision lot for future single-family residential use with an on-site well and individual septic system. The project also includes three underdrained stormwater filter basins, curbed roadway with 5-foot sidewalk, street trees, six common parking spaces, and a mailbox/water meter shed structure at the Legacy Drive entrance on Webb Road.. Tax Map: 6; Lot: 33-F; Zone: Farm (F) / Retirement Community + Care Facility Overlay (RCCF) zoning districts in the Black Brook to Presumpscot River watershed.

Preliminary Subdivision Application Completeness

Staff has reviewed the application for Project 25-12, Legacy Village Retirement Community, submitted by Robie Holdings, LLC on May 19, 2026. The application includes a 24-section narrative, a 13-sheet plan set prepared by DM Roma Consulting Engineers (dated May 18, 2026), a Stormwater Management Report, a Class A High Intensity Soil Survey, a wetland delineation, watershed maps, and supporting agency correspondence. Staff has identified the following items requiring applicant response prior to or at the Planning Board preliminary review:

2. WAIVER REQUESTS

The applicant has submitted two waiver requests with the preliminary application:

Waiver 1 – Performance Standard §120-911(B)(1): Public Water System Connection for Lot 2. The applicant requests a waiver to allow Lot 2 to be served by a private on-site well rather than a public water main connection, citing that extending the 8-inch main an additional 600 feet solely to serve one house lot is not economically feasible. A new public hydrant will be installed at the Legacy Drive/Webb Road intersection and will be located within 1,000 feet of the proposed Lot 2 structure, providing adequate fire protection. Staff requests that the Planning Board confirm whether this justification is sufficient and note that this waiver will carry forward to final plan review.

Waiver 2 – Submission Requirement §120-910(C)(3)(C): Hydrogeological Assessment. The applicant requests a waiver of the hydrogeological assessment requirement, noting that (a) Lot 1 will be served by FujiClean CEN Advanced Treatment Units designed to reduce nitrate-nitrogen to below 10 mg/L before discharge to the leach field, eliminating the need for a property-line nitrate calculation, and (b) Lot 2 is a 6.12-acre country subdivision lot sized to provide ample separation between on-site well and wastewater systems. Staff finds this justification reasonable at the preliminary stage, pending MDHHS approval of the engineered wastewater system for Lot 1.

Planning Department

§120-910C(1)(f) – Proposed Covenants or Deed Restrictions. Partially satisfied. Section 8 states that Legacy Village is intended to be developed as a condominium and that a Condominium Declaration will be submitted with the Final Plan application. The Declaration is required prior to final plan approval and must address maintenance responsibilities for Legacy Drive, the stormwater BMPs, common parking, and landscaping; transfer of stormwater maintenance to the condominium association; and unit owner roofline drip edge obligations. No response required at preliminary stage, but applicant should confirm this timeline at the hearing.

§120-910C(1)(k)[1] – PWD Capacity Letter (Water). Outstanding. The application states a Portland Water District Ability to Serve Letter is pending and will be provided upon receipt. This letter is required prior to final plan approval. The applicant should provide a status update at the preliminary hearing.

§120-910C(3)(d)/(e) – Traffic Impact Analysis. The application includes a trip generation analysis in Section 14 using ITE Trip Generation Manual (10th edition). The combined project is projected to generate 138 total daily vehicle trips, 11 AM peak hour trips, and 13 PM peak hour trips. The trigger threshold for a formal traffic impact analysis under §120-910C(3)(e) is 28 or more parking spaces or more than 140 vehicle trips per day. The proposed project includes parking for a minimum of 96 vehicles (30 units x 2 driveway spaces + 30 garage spaces + 6 common spaces) and projects 138 daily trips, which is just below the 140-trip threshold. Staff notes the parking count exceeds 28 spaces and recommends the Planning Board discuss with the applicant whether a formal traffic impact analysis is warranted, particularly given the unresolved sight distance concern at the Legacy Drive/Webb Road intersection

- §120-910C(3)(b) A landscape plan, including a list of proposed plant species and their size at the time of installation and maturity. The plan should include street trees required by §120-911E(1)(b).
    - The site plans (Sheets S-1 and S-2) show 26 street trees along Legacy Drive and 4 evergreen screening trees (minimum 6 feet tall) near the common parking area. That's it. What the plans do not include:
        - Species names for any of the trees
        - Sizes at time of installation
        - Sizes at maturity
        - Any foundation or ornamental plantings (Section 13 of the narrative says landscaping preference is "left to the individual unit owners")
        - A formal landscape plan sheet

Staff Review Comments

The memo will be updated as staff comments are provided.

As staff review comments related to compliance with any applicable review criteria become available, I will send them to you ASAP. We will need your response by July 8, 2025 or earlier to be included in the Planning Board agenda. Thank you for your attention to these matters. Provide one copy of your response to staff comments with all revised application materials and one (1) plan set. Email an electronic copy of your response letter, supporting documentation, and plan set. Please feel free to call me with any questions or concerns.

Natalie E. Thomsen
Town Planner
nethomsen@windhammaine.us |
Office: 207-894-5960 x6121 Fax: 207-892-1916

DM ROMA
CONSULTING ENGINEERS

August 4, 2026

Natalie Thomsen, Town Planner
Town of Windham
8 School Road
Windham, ME 04062

Re: Response to Review Comments - Major Subdivision Preliminary Plan Application
Legacy Village Retirement Community on Webb Road
Robie Holdings, LLC - Applicant

Dear Natalie:

Attached are revised plans and supplemental information for the above referenced project in response to review comments received from the Town Staff, Planning Board, Portland Water District and the Town's Engineering Consultant. The following is a summary of the enclosed documents:

Wastewater Disposal System for Retirement Community

Enclosed is the design for the Engineered Wastewater Disposal System to accommodate a design flow of 6,750 gallons per day (up to 75 bedrooms). We have included a complete copy of the application submitted to the Maine Department of Health and Human Services (DHHS), and a copy of the Approval Letter from DHHS.

Portland Water District Coordination

The Portland Water District has reviewed the project plans and provided comments. The enclosed plans have been revised to address the review comments from PWD and these plans have been provided to PWD for approval. An Ability to Serve Approval Letter, including approval of the off-site water main extension, will be included with the Final Plan application.

Traffic Engineering

Enclosed is a Vehicle Traffic Analysis Report prepared by Barton & Loguidice.

Landscaping Plan and Buffer Yards

The plans have been revised to designate retained natural buffer yard and supplemental landscaping in the perimeter buffer and street buffer as required in §120-511. A table has been added to the Site & Landscaping Plans to designate the species and size of street trees and buffer yard plantings. We are not proposing to specify landscaping around the individual home foundations because each homeowner will have a

preference as to the amount and type of landscaping that they would prefer to maintain in direct vicinity to their unit.

Basement Entry

Based on the current proposed grading, we anticipate that Units 7, 8 and 9 will be constructed with a basement that would require a bulkhead or doghouse entry. We have added bulkheads to those units on the project plans. The remaining units we anticipate will be constructed on a slab with no basement, or built with a full walk-out basement. This information will be further detailed on the Condominium Plat that will be submitted with the Final Plan.

Maine Historic Preservation Commission

Enclosed is a letter from the MHPC indicating that the project will not impact any properties of historical significance.

Exterior Lighting

Exterior light fixtures will be installed over the garage doors on each of the dwelling units, and on the porches adjacent to the driveways. These building-mounted lights will provide sufficient ambient lighting for the adjacent parking areas. A light pole has been proposed at the project entrance. The light pole will be metered privately by the Condominium Association. We have included photometrics and spec sheets for the proposed light fixture mounted on a pole.

Multifamily Development Standards and Open Space

We are proposing to install a network of walking trails through the woods that will extend off the end of the paved sidewalk and follow the utility line where the sewer force main will convey wastewater to the proposed leach field area, and then loop back through the woods. We are proposing to cut the trees on a high knoll at the end of the road and run the walking trail through this area, and install two picnic tables for sitting/congregating. The project is a Condominium, so all land outside of the Limited Common Elements and Units will be Common Land. The limits of the Common Land will be delineated on the Condominium Plat that will be submitted with the Final Plan.

MDEP Stormwater Permit Review Comments

The following is a list of the review comments contained in the Delegated Review Stormwater Application Checklist prepared by LJB Engineering dated June 15, 2026 followed by our response.

Comment #1 – Provide a construction schedule/sequence within the Erosion and Sediment Control Notes within the Plan Set.

Response #1 – The Construction Sequencing notes associated with the Stormwater BMPs are shown on Plan Sheet 10 (Stormwater Ponds Plan) as part of the Section Detail.

Comment #2 – A Class-A High Intensity Soil Survey of the site was completed by Mark Hampton Associates, Inc. and included in the application. Test pit logs were provided, however we could not determine the locations of these test pits to see if they aligned with the proposed UDSFs. Provide soil test pit symbols on the plans. All UDSFs propose to use a 30 mil HDPE liner, and no infiltration is proposed. Provide a test pit summary table within the detail sheets of the plan set for all test pits associated with a stormwater BMP.

Response #2 – We have added the Test Pit symbols to the plans, with notes on the Pond Plan indicating the test pit number for each test pit that is located near the UDSFs. Test Pits SS-6 and SS-8 are in the vicinity of FB-1&2, and Test Pit SS-20 is located in the vicinity of FB-3. All three test pits were excavated to a depth of at least 36" and all three encountered groundwater at a depth of 16" below existing grade. Based on the encountered depth to groundwater we are proposing a liner in all of the filter basins. If ledge is encountered during the construction of the filter basins, we will remove the ledge to a depth that will allow at least 4 inches of sand to be installed between the ledge and the pond liner.

Comment #3 – For FB-2 and FB-3 provide 20 feet of horizontal separation between the principal outlet pipe of the UDSFs and the emergency spillways in accordance with Chapter 500, Appendix E, 3.B – Emergency Spillways.

Response #3 – The emergency spillway was moved to provide the required separation distance.

Comment #4 – Provide a note on the Subdivision Plan requiring roof drip edges along rooflines as stated in the Stormwater Treatment Table.

Response #4 – The requested note was added as Note 17 to the Subdivision Plan.

Comment #5 – The Stormwater Treatment Table references a wetpond in the table's footnotes. Revise to only refer to the proposed BMPs.

Response #5 – A revised Stormwater Treatment Table is attached which removes the reference to a Wet Pond.

Comment #6 – Provide a detail for the 24-inch wide diversion berm.

Response #6 – A section detail has been added to sheet D-3 for the diversion berm and associated riprap swale.

Comment #7 – It appears that an underdrain outlet orifice is modeled in HydroCAD for FB 1 & 2 and FB 3. Provide details of the underdrain outlet orifice on the Stormwater Ponds Plan (Sheet P-1).

Response #7 – There is a note and leader on the Outlet Control Structure Detail which reads "INSTALL SOLID CAP AND CORE A HOLE AT PIPE INVERT, CORE HOLE DIAM=D" with a corresponding hole diameter in the Structure Data table for each of the Outlet Control Structures 1 & 2.

Comment #8 – The emergency spillway of UDSF's FB-1&2 is activated during the 25-year, 24-hour storm event. The 2-, 10- and 25-year, 24-hour storm events shall be directed through the principal outlet without activating the emergency spillway per Appendix E.3.(a) – Principal Spillways.

Response #8 – The elevation of the emergency spillway crest was raised from 235.0 to 235.10 so that the 25-year storm is directed through the principal outlet without activating the emergency spillway. We have enclosed an updated HydroCAD node printout for the Filter Basin 1&2 for review.

Upon your review of the enclosed documents, please let us know if you have any questions or require any additional information.

Sincerely,

DM ROMA CONSULTING ENGINEERS

Dustin Roma

Dustin M. Roma, P.E.
President

DM ROMA
CONSULTING ENGINEERS

RECEIVED
APR 03 2025
By 0626-25

April 2, 2025

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065

Re: Review of Project Area
Residential Subdivision, Webb Road, Windham
Robie Holdings, LLC, Applicant

Dear Mr. Mohney:

On behalf of our client Robie Holdings, LLC, DM Roma Consulting Engineers is submitting a request to have a proposed residential development off Webb Road in Windham be reviewed by the Maine Historic Preservation Commission for potential impacts to resources of historical significance.

The 28± acre property is identified as being Lot 33 on the Town of Windham Assessors Map 6 and is located in the Farm (F) zoning district. The applicant intends to develop a residential subdivision and will also include a roadway, private and public utility connections and stormwater infrastructure. The property is generally bounded by residential properties, utility corridor (CMP), and undeveloped woodland.

Based on available property information, there appears to be 4 houses in the vicinity of the project site that are over 50 years old. Photographs of each of the properties with structures older than 50 years and a map indicating locations of these structures have been included for review.

Enclosed is a vicinity map depicting the subject parcel and photographs and a location map for each abutting property over 50 years old. Upon your review of the material, please provide a letter indicating the findings of your initial screening and do not hesitate to contact us with any questions.

Sincerely,

DM Roma Consulting Engineers

J.P. Connolly
Senior Project Engineer

Cc: Robie Holdings, LLC, Applicant
Town of Windham
Maine Department of Environmental Protection
US Army Corps of Engineers

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney 4/23/25
State Historic Preservation Officer Date
Maine Historic Preservation Commission

Barton & Loguidice

Traffic Assessment

Date: August 4, 2026

To: **Dustin M. Roma, P.E.**
DM Roma Consulting Engineers

From:
Jacob W. Sirois, P.E.
Project Engineer
Barton & Loguidice, LLC

John Q. Adams, P.E., PTOE
Senior Associate
Barton & Loguidice, LLC

Re: **Legacy Village**
Webb Road, Windham, Maine

1 Introduction

The applicant is proposing the development of 30 age-restricted (55+) single-family homes on Webb Road in the town of Windham. Refer to Image 1 for the approximate location of the development. Access to the site will be provided by a proposed driveway entrance that intersects with the southwest side of Webb Road, approximately 325 feet southeast of the Read Road intersection,

Image 1 – Site Location



The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of MaineDOT's latest crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the proposed driveway entrance.

2 Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the 30 proposed age-restricted single-family homes based on the trip generation tables presented in the 12th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUCs) and the volume of site-generated trips produced by each category.

Trip generation estimates for the subdivision have been prepared using LUC #251 – Senior Adult Housing-Single Family, described by ITE as "*independent living developments that are called by various names including retirement communities, age-restricted housing, and active adult communities. The development has a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household.*"

In the Trip Generation Manual, for LUC #251, ITE provides the "Average" trip generation rate and the "Fitted Curve" trip generation rates. MaineDOT guidelines state that when $R^2 \geq 0.80$, the "Fitted Curve" trip generation rate shall be used. For the PM peak hour of the generator, and the Saturday peak hour, the y-intercept in the fitted curve equation (+44.56 and +42.98) artificially inflates the peak hour trip generation. Accordingly, the average rates were used for these hours. The trip generation calculations are provided below:

Table 1.1
ITE Trip Generation Calculations

Land Use	Multifamily Housing (Low-Rise) Not Close to Rail Transit - LUC 220						
Time Period	**Dwelling Units (X)**	**R^2**	**Fitted Curve Equation/Avg. Rate**	**Trips Generated (T)**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	30	0.88	Ln(T) = 0.80 Ln(X) + 2.71	228	50% / 50%	114	114
AM Weekday Peak Hour (Street)	30	0.85	Ln(T) = 0.71 Ln(X) + 0.40	17	34% / 66%	6	11
PM Weekday Peak Hour (Street)	30	0.86	Ln(T) = 0.79 Ln(X) + 0.15	17	61% / 39%	10	7
AM Weekday Peak Hour (Generator)*	30	0.82	0.35	11	43% / 57%	5	6
PM Weekday Peak Hour (Generator)	30	0.81	Ln(T) = 0.78 Ln(X) + 0.39	21	55% / 45%	12	9
Saturday Peak Hour*	30	0.98	0.22	7	53% / 47%	4	3
Sunday Peak Hour	30	0.99	Ln(T) = 0.80 Ln(X) - 0.05	16	58% / 42%	9	7

*The average rate has been used instead of the fitted curve equation. Due to the relatively small size of the development, the y-intercepts (+44.56) and (+42.98) overestimate the peak hour trip generation for these hours.

Table 1 shows that the proposed development is expected to generate 17 trips during the AM and PM peak hours of the street (a.k.a. the commuter peak hour). During the AM and PM peak hours of the generator, the site is expected to produce 11 trips and 21 trips, respectively. On the weekend, the trip generation calculations show that the site will produce 7 trips during the Saturday peak hour and 16 trips during the Sunday peak hour.

3 Intersection Sight Distance

Intersection sight distances were recorded at the site's proposed intersection with Webb Road in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which requires the following minimum sight distance for non-mobility roadways based on the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 ft.
30 mph	250 ft.
35 mph	305 ft.
40 mph	**360 ft.**
45 mph	425 ft.
50 mph	495 ft.

The section of Webb Road fronting the development site is posted at 40 mph, requiring a minimum sight distance of 360 feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

Our field measurements, looking left and right along Webb Road from the site approach, indicate that the existing sight distances exceed the requirements for the 40 mph speed limit. Looking left, we recorded a measurement in excess of 400 feet. Looking right, we recorded a measurement in excess of 600 feet. Refer to Image 2 and Image 3, attached below:

Image 2 - Sight Distance – Looking Left



Image 3 - Sight Distance – Looking Right



4 Existing Road Safety Conditions

Crash data for the latest three-year time period (2023-2025) was provided by MaineDOT's Crash Records Section for sections of Webb Road, Gray Road, River Road, Chute Road, and Read Road, within the vicinity of the site. A summary of crash data is provided below in Table 2. Intersections and sections with no recorded crashes were omitted from the table.

Table 2
2023 - 2025 Crash Summary

#	Location		Total Crashes	Critical Rate Factor
1	Main St @	Newhall Rd	3	0.93
2	Main St @	River Rd	14	0.79
3	**River Rd @**	**Chute Rd/Depot St**	**16**	**4.74**
4	River Rd @	Victoria Ln	2	0.68
5	Chute Rd @	Montgomery Rd/Webb Rd	2	1.57
6	Main St btw.	River Rd and Gate Wy	1	0.17
7	Main St btw.	Gate Wy and Barnes Rd	2	0.37
8	Main St btw.	Barnes Rd and Node 13830 (non-intersection on Main St)	3	0.50
9	Main St btw.	Node 13830 (non-intersection on Main St) and Newhall Rd	1	0.19
10	Main St btw.	Newhall Rd and Neighborly Wy	3	1.31
11	Gray Rd btw.	Neighborly Wy and Read Rd	4	0.38
12	Gray Rd btw.	Read Rd and Fall Ridge Rd	6	0.77
13	Gray Rd btw.	Fall Ridge Rd and Webb Rd	1	0.22
14	River Rd btw.	Median south of Main St and Victoria Ln	7	0.86
15	River Rd btw.	Victoria Ln and Chute Rd/Depot St	3	0.45
16	Chute Rd btw.	River Rd and Montgomery Rd/Webb Rd	4	0.31
17	Webb Rd btw.	Chute Rd and Read Rd	4	0.72

MaineDOT considers any roadway intersection or segment a high crash location (HCL) if both of the following criteria are met:

- ***8 or more crashes in the latest three-year period, and***
- ***A Critical Rate Factor (CRF) greater than or equal to 1.00***

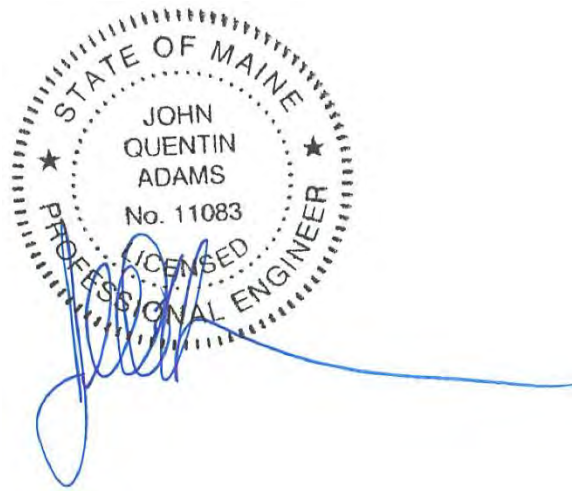
As the data presented in the table shows, Location #3, River Road at Chute Road and Depot Street, meets MaineDOT's dual HCL criteria with 16 total crashes and a CRF of 4.74. This HCL is located more than 2 miles from the site.

5 Summary

The proposed age-restricted residential development is expected to generate 17 trips during the AM and PM peak hours of the street (a.k.a. the commuter peak hour). During the AM and PM peak hours of the generator, the site is expected to produce 11 trips and 21 trips, respectively. On the weekend, the trip generation calculations show that the site will produce 7 trips during the Saturday peak hour and 16 trips during the Sunday peak hour. Overall, the project will remain well below the 100-trip threshold required to trigger a MaineDOT Traffic Movement Permit.

- Vehicle sight distance measurements were field recorded from the proposed site entrance, looking left and right directionally onto Webb Road. Our field measurements showed that the existing sightlines exceed MaineDOT's minimum requirement for a 40 mph roadway (360 feet)

- Crash data for the latest 3-year time period (2023 to 2025) was provided by MaineDOT's Crash Records Section for Webb Road, Gray Road, River Road, and Chute Road around the site. Our review of the crash data showed that there are no high crash locations on Webb Road or within the general vicinity of the site. There is a high crash location at the intersection of River Road, Chute Road, and Depot Street, over 2 miles away from the site.



John Q. Adams, P.E., PTOE
Date: 8/4/2026

APPENDIX

- **MAINEDOT CRASH DATA**


WINDHAM
Fall Ridge Rd
Reed Hill
Gray Rd
Timmons Hill
Albion Rd
Roosevelt Trl
Jones Hill
Sweet Rd
Pope Rd
Webb Rd
Chute Rd
Colby Wright Brook
Highland Cliff Rd
Land Of Nod Rd
River Rd
Newhall
Black Brook
Main St
Presumpscot River
Small Brook
Canada Hill
Small Hill
Ishlom Brook
Scale: 1:22492
0.3mi
15728
11033
59515
10186
15727
59516
0234
0300
6386
74435
16906
59523
59522
11038
11031
11030
16905
74442
74441
74445
11032
74447
11028
11027
19552
19553
15726
11019
13830
19541
59476
19540
59475
15961
74431
15725
11026
19557
19556
59505
59504
59501
74438
202
59506
66693
15724
66697
66694
65412
74437
6243
62683
15723
0233
11025
72416
1060473
15960
11018
12472
Windham

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Windham
Webb Rd-Chute Rd-Gray Rd-Main St-Read Rd-River Rd area

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0202X**	Start Node: **15724**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15728**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3209658**	Start Node: **66694**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15724**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0500782**	Start Node: **15724**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15960**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0500711**	Start Node: **11026**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15960**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0500708**	Start Node: **11026**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15728**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0501175**	Start Node: **11033**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15727**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15728	0202X - 46.47	Int of GRAY RD WEBB RD	2	0	0	0	0	0	0	0.0	2.463	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
13830	0202X - 45.52	Non-Int MAIN ST	2	0	0	0	0	0	0	0.0	2.112	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
15726	0202X - 45.68	Int of MAIN ST NEWHALL RD	2	3	0	0	1	0	2	33.3	2.300	0.43	0.46	0.00
												Statewide Crash Rate:	0.15	
15727	0202X - 46.10	Int of GRAY RD READ RD	2	0	0	0	0	0	0	0.0	2.358	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
P15724	0202X - 44.92	Int of MAIN ST RIVER RD	9	14	0	0	0	2	12	14.3	4.844	0.96	1.22	0.79
												Statewide Crash Rate:	0.69	
19552	0202X - 45.73	Int of GRAY RD MAIN ST NEIGHBORLY WY	2	0	0	0	0	0	0	0.0	2.326	0.00	0.46	0.00
												Statewide Crash Rate:	0.15	
59501	0202X - 45.14	Int of GATE WY MAIN ST	2	0	0	0	0	0	0	0.0	1.972	0.00	0.48	0.00
												Statewide Crash Rate:	0.15	
59515	0202X - 46.35	Int of FALL RIDGE RD GRAY RD	2	0	0	0	0	0	0	0.0	2.395	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
15725	0202X - 45.32	Int of BARNES RD MAIN ST	2	0	0	0	0	0	0	0.0	2.098	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
15960	0500782 - 6.60	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
												Statewide Crash Rate:	0.13	
62683	0500782 - 6.35	Int of RIVER RD VICTORIA LN	2	2	0	0	0	0	2	0.0	2.369	0.28	0.41	0.00
												Statewide Crash Rate:	0.13	
A66694	0500782 - 6.02	Int of RD INV 3142105 RIVER RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.15	
11026	0500711 - 1.33	Int of CHUTE RD MONTGOMERY RD WEBB RD	2	2	0	0	0	0	2	0.0	0.762	0.88	0.56	1.57
												Statewide Crash Rate:	0.14	
11033	0500708 - 2.14	Int of READ RD WEBB RD	2	0	0	0	0	0	0	0.0	0.181	0.00	0.53	0.00
												Statewide Crash Rate:	0.14	
10186	0501175 - 0.15	Non Int READ RD	2	0	0	0	0	0	0	0.0	0.017	0.00	-5.33	0.00
												Statewide Crash Rate:	0.14	
Study Years:	3.00	**NODE TOTALS:**		37	0	0	3	5	29	21.6	29.101	0.42	0.36	1.16

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
15724	59501	3142036	0 - 0.22	0202X - 44.92	0.22	2	1	0	0	0	0	1	0.0	0.00422	79.07	477.51	0.00
Int of MAIN ST RIVER RD				US 202											Statewide Crash Rate: 196.20		
59501	15725	3115029	0 - 0.18	0202X - 45.14	0.18	2	2	0	0	0	1	1	50.0	0.00360	185.17	497.09	0.00
Int of GATE WY MAIN ST				US 202											Statewide Crash Rate: 196.20		
13830	15725	3106320	0 - 0.20	0202X - 45.32	0.20	2	3	0	0	0	1	2	33.3	0.00417	239.95	478.90	0.00
Non-Int MAIN ST				US 202											Statewide Crash Rate: 196.20		
13830	15726	3106321	0 - 0.16	0202X - 45.52	0.16	2	1	0	0	0	0	1	0.0	0.00342	97.35	503.54	0.00
Non-Int MAIN ST				US 202											Statewide Crash Rate: 196.20		
15726	19552	3122251	0 - 0.05	0202X - 45.68	0.05	2	3	0	0	1	2	0	100.0	0.00115	871.14	665.87	1.31
Int of MAIN ST NEWHALL RD				US 202											Statewide Crash Rate: 196.20		
15727	19552	3105844	0 - 0.37	0202X - 45.73	0.37	2	4	0	0	1	0	3	25.0	0.00869	153.50	400.53	0.00
Int of GRAY RD READ RD				US 202											Statewide Crash Rate: 196.20		
15727	59515	3138986	0 - 0.25	0202X - 46.10	0.25	2	6	0	0	0	0	6	0.0	0.00588	340.34	439.59	0.00
Int of GRAY RD READ RD				US 202											Statewide Crash Rate: 196.20		
59515	15728	3115030	0 - 0.12	0202X - 46.35	0.12	2	1	0	0	0	0	1	0.0	0.00286	116.56	527.48	0.00
Int of FALL RIDGE RD GRAY RD				US 202											Statewide Crash Rate: 196.20		
66694	15724	3142048	0 - 0.03	3209658 - 0	0.03	2	0	0	0	0	0	0	0.0	0.00029	0.00	695.55	0.00
Int of RD INV 3142105 RIVER RD				RD INV 3209658											Statewide Crash Rate: 161.30		
15724	66694	3142046	0 - 0.02	0500782 - 6	0.02	2	0	0	0	0	0	0	0.0	0.00025	0.00	689.10	0.00
Int of MAIN ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
62683	66694	3939595	0 - 0.33	0500782 - 6.02	0.33	2	7	0	0	1	1	5	28.6	0.00768	303.63	355.08	0.86
Int of RIVER RD VICTORIA LN				RD INV 05 00782											Statewide Crash Rate: 161.30		
15960	62683	3139268	0 - 0.25	0500782 - 6.35	0.25	2	3	0	0	0	0	3	0.0	0.00590	169.38	378.90	0.00
Int of CHUTE RD DEPOT ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
11026	15960	5087745	0 - 1.11	0500711 - 1.33	1.11	2	4	0	0	0	2	2	50.0	0.00652	204.41	665.16	0.00
Int of CHUTE RD MONTGOMERY RD WEBB RD				RD INV 05 00711											Statewide Crash Rate: 347.46		
11026	11033	5087742	0 - 1.21	0500708 - 0.93	1.21	2	4	0	0	0	0	4	0.0	0.00212	628.95	870.95	0.00
Int of CHUTE RD MONTGOMERY RD WEBB RD				RD INV 05 00708											Statewide Crash Rate: 347.46		
11033	15728	5087743	0 - 0.15	0500708 - 2.14	0.15	2	0	0	0	0	0	0	0.0	0.00025	0.00	1430.74	0.00
Int of READ RD WEBB RD				RD INV 05 00708											Statewide Crash Rate: 347.46		
10186	11033	5096588	0 - 0.15	0501175 - 0	0.15	2	0	0	0	0	0	0	0.0	0.00003	0.00	-664.35	0.00
Non Int READ RD				RD INV 05 01175											Statewide Crash Rate: 347.46		
10186	15727	5096587	0 - 0.16	0501175 - 0.15	0.16	2	0	0	0	0	0	0	0.0	0.00003	0.00	-433.09	0.00
Non Int READ RD				RD INV 05 01175											Statewide Crash Rate: 347.46		
Study Years: 3.00				**Section Totals:**	4.96		39	0	0	3	7	29	25.6	0.05705	227.86	298.87	0.76
				Grand Totals:	4.96		76	0	0	6	12	58	23.7	0.05705	444.03	412.39	1.08

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15724	59501	3142036	0 - 0.22	0202X - 44.92	1	0	0	0	0	1	2024-26474	09/25/2024	45.01	PD
59501	15725	3115029	0 - 0.18	0202X - 45.14	2	0	0	0	1	1	2025-24455	08/26/2025	45.24	C
											2025-26602	09/16/2025	45.30	PD
13830	15725	3106320	0 - 0.20	0202X - 45.32	3	0	0	0	1	2	2025-2114	01/21/2025	45.33	PD
											2024-5864	02/26/2024	45.42	PD
											2023-7063	03/02/2023	45.47	C
13830	15726	3106321	0 - 0.16	0202X - 45.52	1	0	0	0	0	1	2025-38089	12/16/2025	45.67	PD
15726	19552	3122251	0 - 0.05	0202X - 45.68	3	0	0	1	2	0	2023-28965	10/06/2023	45.72	B
											2025-32585	11/07/2025	45.72	C
											2025-27544	09/26/2025	45.72	C
15727	19552	3105844	0 - 0.37	0202X - 45.73	4	0	0	1	0	3	2025-6396	02/25/2025	45.79	B
											2023-35746	11/30/2023	45.84	PD
											2025-33096	11/13/2025	45.94	PD
											2024-5923	02/26/2024	46.07	PD
15727	59515	3138986	0 - 0.25	0202X - 46.10	6	0	0	0	0	6	2025-37735	12/15/2025	46.11	PD
											2024-11552	03/21/2024	46.16	PD
											2023-23	01/02/2023	46.23	PD
											2024-31262	11/06/2024	46.25	PD
											2023-30303	10/17/2023	46.26	PD
											2024-34007	11/30/2024	46.29	PD
59515	15728	3115030	0 - 0.12	0202X - 46.35	1	0	0	0	0	1	2023-29725	10/14/2023	46.40	PD
66694	15724	3142048	0 - 0.03	3209658 - 0	0	0	0	0	0	0				
15724	66694	3142046	0 - 0.02	0500782 - 6	0	0	0	0	0	0				
62683	66694	3939595	0 - 0.33	0500782 - 6.02	7	0	0	1	1	5	2025-37176	12/11/2025	6.04	B
											2023-30283	10/18/2023	6.07	PD
											2025-13321	05/13/2025	6.14	PD
											2025-9218	03/24/2025	6.16	PD
											2023-16747	06/09/2023	6.17	C
											2024-31543	11/10/2024	6.24	PD
											2025-14521	05/27/2025	6.24	PD
15960	62683	3139268	0 - 0.25	0500782 - 6.35	3	0	0	0	0	3	2023-37025	12/09/2023	6.43	PD
											2025-2012	01/19/2025	6.49	PD
											2023-34720	11/24/2023	6.51	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
11026	15960	5087745	0 - 1.11	0500711 - 1.33	4	0	0	0	2	2	2025-27235	09/24/2025	1.83	PD
											2023-10696	04/08/2023	1.86	C
											2024-11533	03/04/2024	1.97	C
											2024-28262	10/13/2024	2.22	PD
11026	11033	5087742	0 - 1.21	0500708 - 0.93	4	0	0	0	0	4	2024-11536	03/05/2024	1.15	PD
											2023-28860	10/05/2023	1.69	PD
											2023-10205	04/03/2023	1.77	PD
											2024-24589	09/03/2024	1.95	PD
11033	15728	5087743	0 - 0.15	0500708 - 2.14	0	0	0	0	0	0				
10186	11033	5096588	0 - 0.15	0501175 - 0	0	0	0	0	0	0				
10186	15727	5096587	0 - 0.16	0501175 - 0.15	0	0	0	0	0	0				
				Totals:	39	0	0	3	7	29				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	7
MONDAY	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	3	0	0	2	0	0	0	1	0	9
TUESDAY	0	1	0	0	0	0	0	2	0	0	0	1	0	3	2	1	0	1	1	1	2	0	0	0	0	15
WEDNESDAY	0	1	0	0	0	0	0	2	0	1	0	1	1	0	1	1	0	3	1	0	0	0	1	0	0	13
THURSDAY	0	0	0	0	0	2	1	0	0	1	0	0	1	0	0	1	0	1	1	1	0	0	0	1	0	10
FRIDAY	0	0	0	0	0	0	0	1	0	0	2	0	0	1	1	0	1	2	0	1	0	0	0	0	0	9
SATURDAY	1	0	0	0	0	1	1	0	0	0	0	0	2	1	1	1	0	1	2	1	0	0	1	0	0	13
Totals	1	2	0	0	0	4	2	6	1	2	2	3	4	6	6	6	4	9	5	7	2	0	2	2	0	**76**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	42	23-Bicyclist	0
2-(Sport) Utility Vehicle	51	24-Witness	9
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	1	26-Construction	0
5-Pickup	27	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	**Total**	**133**
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	1		
17-Medium/Heavy Trucks (More than 10,000 lbs)	1		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	31	32	2	1	0	0	66
Ran Off Roadway	4	0	0	0	0	0	4
Failed to Yield Right-of-Way	13	6	0	0	0	0	19
Ran Red Light	3	0	0	0	0	0	3
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	2	0	0	0	0	0	2
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	13	1	0	0	0	0	14
Failed to Keep in Proper Lane	0	1	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	2	0	0	0	0	0	2
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	4	1	0	0	0	0	5
Unknown	3	2	0	0	0	0	5
Total	**75**	**43**	**2**	**1**	**0**	**0**	**121**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	71	43	2	1	0	0	117
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	1	0	0	0	0	0	1
Total	**75**	**43**	**2**	**1**	**0**	**0**	**121**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	16	0	0	0	0	16
20-24	17	0	0	0	0	17
25-29	12	0	0	0	0	12
30-39	22	0	0	0	0	22
40-49	16	0	0	0	0	16
50-59	18	0	0	0	0	18
60-69	13	0	0	0	0	13
70-79	7	0	0	0	0	7
80-Over	2	0	0	0	0	2
Unknown	1	0	0	0	0	1
Total	**124**	**0**	**0**	**0**	**0**	**124**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**123**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	19		
13-Motor Vehicle in Transport	96		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	3		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	2		
32-Utility Pole / Light Support	2		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	16
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	1
5-Stop Signs - Other	10
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	43
14-Other	1
Total	**76**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	6	6
C	12	14
PD	58	0
Total	**76**	**20**

Road Character

Road Grade	Total
1-Level	64
2-On Grade	9
3-Top of Hill	2
4-Bottom of Hill	1
5-Other	0
Total	**76**

Light

Light Condition	Total
1-Daylight	44
2-Dawn	1
3-Dusk	3
4-Dark - Lighted	9
5-Dark - Not Lighted	19
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**76**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	2	0	3	5
FEBRUARY	3	5	5	13
MARCH	1	4	2	7
APRIL	3	0	1	4
MAY	0	0	3	3
JUNE	2	1	1	4
JULY	1	0	1	2
AUGUST	0	4	1	5
SEPTEMBER	0	2	3	5
OCTOBER	5	3	1	9
NOVEMBER	2	5	3	10
DECEMBER	3	0	6	9
Total	**22**	**24**	**30**	**76**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	3	0	1	12	0	6	0	0	0	0	0	0	0	0	22
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	2	19	0	1	0	0	0	0	0	0	0	0	22
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	7	1	2	0	0	0	0	0	0	0	0	0	0	0	10
All Other Animal	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**30**	**2**	**5**	**32**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**76**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	7	0	0	0	0	0	0	0	0	0	0	7
Dark - Not Lighted	14	0	0	0	0	0	0	0	0	0	1	15
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	26	2	0	0	0	0	0	0	0	0	2	30
Dusk	3	0	0	0	0	0	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	7	0	0	0	0	0	0	0	0	0	1	8
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	1	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	3	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	1	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**60**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**11**	**76**

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **WINDHAM**

LOW NODE: **15960** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

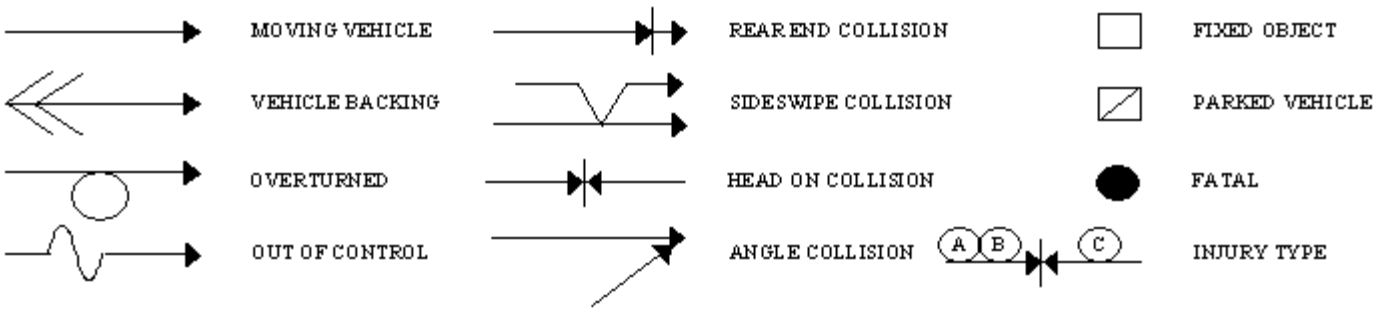
DESCRIPTION: **Int of River Rd, Chute Rd, and Depot St**

RTE # / RD #: **0500711** DATE DRAWN: **7/22/2026** DRAWN BY: **Duncan**

STUDY FROM: **1/1/2023** STUDY TO: **12/31/2025**

CRASH RATE: **1.84** CRF: **4.75** % INJURY: **31.3** TOTAL CRASHES: **16**

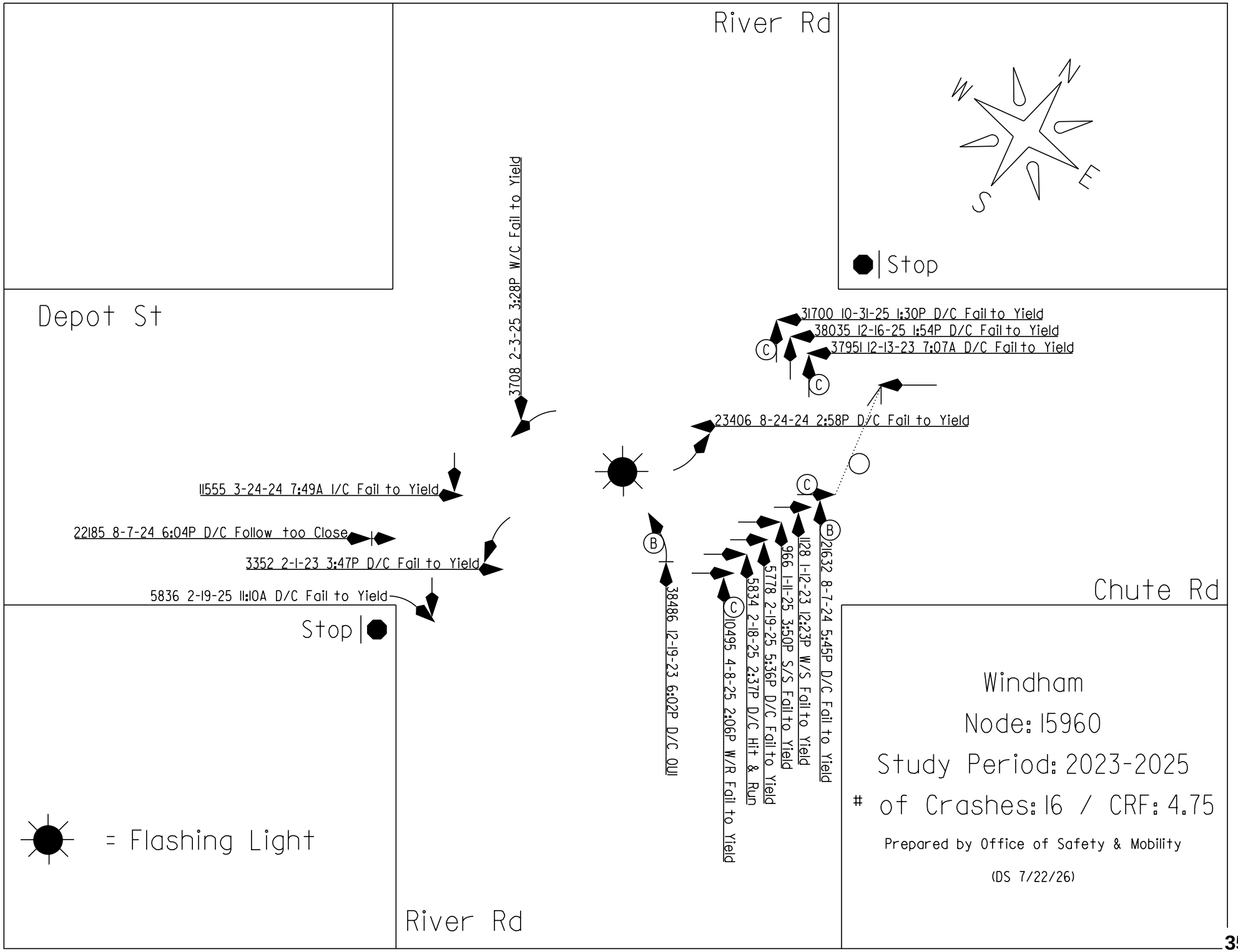
LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


River Rd
Depot St
Chute Rd
River Rd
Stop
Stop
= Flashing Light
3708 2-3-25 3:28P W/C Fail to Yield
31700 10-31-25 1:30P D/C Fail to Yield
38035 12-16-25 1:54P D/C Fail to Yield
37951 12-13-23 7:07A D/C Fail to Yield
23406 8-24-24 2:58P D/C Fail to Yield
11555 3-24-24 7:49A I/C Fail to Yield
22185 8-7-24 6:04P D/C Follow too Close
3352 2-1-23 3:47P D/C Fail to Yield
5836 2-19-25 11:10A D/C Fail to Yield
38486 12-19-23 6:02P D/C OUI
10495 4-8-25 2:06P W/R Fail to Yield
5834 2-18-25 2:37P D/C Hit & Run
5778 2-19-25 5:36P D/C Fail to Yield
966 1-11-25 3:50P S/S Fail to Yield
1128 1-12-23 12:23P W/S Fail to Yield
21632 8-7-24 5:45P D/C Fail to Yield
Windham
Node: 15960
Study Period: 2023-2025
# of Crashes: 16 / CRF: 4.75
Prepared by Office of Safety & Mobility
(DS 7/22/26)


Search...
River Rd
Chute Rd
15960
WINDHAM
Depot St
River Rd
Scale: 1:826
60ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I - Single Node	☐ Section Detail	☑ Crash Summary II	☐ 1320 Public	☐ 1320 Private	☐ 1320 Summary

REPORT DESCRIPTION

Windham

Int of River Rd, Chute Rd, and Depot St

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: 0500711	Start Node: 15960	Start Offset: 0	☐ Exclude First Node
	End Node: 15960	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15960	0500711 - 2.44	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
												Statewide Crash Rate:	0.13	
Study Years:	3.00	NODE TOTALS:		16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.75

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	4
WEDNESDAY	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	2	1	0	0	0	0	0	0	6
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Totals	0	0	0	0	0	0	0	2	0	0	0	1	1	2	3	3	0	2	2	0	0	0	0	0	0	16

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	9	23-Bicyclist	0
2-(Sport) Utility Vehicle	12	24-Witness	5
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	11	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	Total	38
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	2	12	1	0	0	0	15
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	11	4	0	0	0	0	15
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	1	0	0	0	0	0	1
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	0	0	0	0	0	1
Total	15	16	1	0	0	0	32

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	14	16	1	0	0	0	31
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0
Total	15	16	1	0	0	0	32

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	3	0	0	0	0	3
20-24	2	0	0	0	0	2
25-29	3	0	0	0	0	3
30-39	8	0	0	0	0	8
40-49	4	0	0	0	0	4
50-59	5	0	0	0	0	5
60-69	4	0	0	0	0	4
70-79	2	0	0	0	0	2
80-Over	1	0	0	0	0	1
Unknown	1	0	0	0	0	1
Total	33	0	0	0	0	33

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	32
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	32		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	2	2
C	3	4
PD	11	0
Total	16	6

Road Character

Road Grade	Total
1-Level	14
2-On Grade	2
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	16

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	2
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	7
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	1
14-Other	1
Total	16

Light

Light Condition	Total
1-Daylight	13
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	2
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	16

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	1	0	1	2
FEBRUARY	1	0	4	5
MARCH	0	1	0	1
APRIL	0	0	1	1
MAY	0	0	0	0
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	3	0	3
SEPTEMBER	0	0	0	0
OCTOBER	0	0	1	1
NOVEMBER	0	0	0	0
DECEMBER	2	0	1	3
Total	4	4	8	16

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	9	1	0	0	0	0	0	0	0	0	1	11
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11	1	0	0	0	0	0	1	0	0	3	16

Janet T. Mills
Governor

Sara Gagné-Holmes
Commissioner



Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-2887
TTY: Dial 711 (Maine Relay)

July 22, 2026

Robie Holdings
PO Box 1508
Windham, ME 04062
c/o Mr. Jayson Haskell, P.E.

Subject: Approval, proposed SWW for Legacy Village Retirement Community, Webb Road, Windham, ME

Dear Mr. Haskell:

The Division of Environmental and Community Health has completed a review of a design for an engineered subsurface wastewater disposal system design, to serve this proposed 75-bedroom retirement facility. The HHE-200 Form dated July 13, 2026, was prepared by Scott Dixon, S.E. The system was designed by Main Land Development Consultants, Inc., with plans signed and stamped by Scott Dixon, P.E.

Hereinafter, the term "design engineer" shall refer collectively to Main Land Development Consultants, Inc., its staff, and its representatives unless otherwise specified; and the term "owner" shall refer collectively to Robie Holdings, its staff, and its representatives unless otherwise specified.

Design Flow

The design flow is 6,750 gallons per day (gpd), based upon Table 5C of the Maine State Plumbing Code, Subsurface Wastewater Disposal Rules (Rules). The design flow of 6,750 gpd is approved with the notation that the suitability of the design flow is the responsibility of the design engineer.

Treatment Tank(s)

Wastewater from the residences is collected in two tank-treatment locations. At one location near the northern end of the line of cottages, two 1,500-gallon septic tanks in series feed two FujiClean CEN 14 Advanced Wastewater Treatment Units in parallel before the pump station and force main pumps the effluent to the disposal area. At the southern end of the row of cottages, two 2,000-gallon septic tanks in series feed three FujiClean CEN 14 Advanced Wastewater Treatment Units in parallel before the pump station and force main transports the effluent to the disposal area.

Disposal Areas

A 1,000-gallon septic tank stills the flow from the force main. The water then distributed between two beds of 70 4-foot by 8-foot concrete chambers (140 chambers total). The chambered portion of each bed is 40 feet wide by 56 feet long. The fill extension is reported to be 38 feet long and the lower third is designed to be composed of a loamy material.

Soils

The soils have been identified as 4C per the Rules by Scott Dixon, S.E. Reduced conditions were observed near the base of the thin ablation till layer. Seasonal high groundwater was therefore assumed to occur within the weathered bedrock.

Mounding Analysis

The proposed system has been designed such that the calculated groundwater mounding will not result in a compromise of the separation specified in Table 5F of the Rules, according to the report dated July 15, 2026, by Scott Dixon, L.G.

Site Transmission Analysis

The proposed system design demonstrates that the native soil and/or fill material will have sufficient capacity to prevent wastewater from surfacing downgradient of the disposal field, according to the report dated July 15, 2026, by Scott Dixon, L.G.

Well Setback

There are no potable water supply wells reported within 300 feet of the proposal. The HHE-200 reports that the project is served by public water.

Interagency Review

This project was reviewed by The Maine Department of Environmental Protection (MDEP) pursuant to the Site Memorandum of Understanding between DHHS and DEP, dated in May 2023. Review of the proposed on-site engineered subsurface wastewater disposal system included: (1) the geology of the project area and vicinity, (2) effects of the project on groundwater and surface water quality, and (3) public and private uses of groundwater and surface water resources in the project area and vicinity. The review found no reason to believe that normal operation of the proposed engineered subsurface wastewater disposal system will result in unreasonable adverse impact on the natural environment or other uses of groundwater and surface water, and provided that the system is properly constructed and maintained.

The DEP reviewer made the following comments:

- The project site is *not* located on a significant sand and gravel aquifer (MGS), in a watershed of a waterbody most at risk from development (Chapter 502, DEP Regulations), *or* within a flood zone as mapped by FEMA.
- The nearest wetlands are more than 500 feet to the southwest of the proposed disposal field as mapped by the National Wetlands Inventory (NWI).

Miscellaneous

No variance to the Subsurface Wastewater Rules is required.

The design engineer and the Division met and discussed the proposal on October 9, 2025, pursuant to Section 11.2.a of the Rules.

Findings

The system meets the Rules, unless otherwise noted. Therefore, the design is approved with the following conditions and comments:

1. The owner must retain the design engineer to oversee construction. The constructed system may not be used unless all pertinent requirements of the Rules have been met.

2. Construction must not commence until the owner has obtained the necessary plumbing permit from the Local Plumbing Inspector (LPI).

3. The design engineer must provide sufficient supervision to assure that the system is constructed as designed and in accordance with the code and other regulations. Attention must be given to site preparation, fill selection and placement, installation of pipes, mechanical and electrical systems.

4. The design engineer must provide the owner and this office with a brief report on the construction including any unexpected conditions encountered and any changes made to the approved drawings. The LPI must not issue the Certificate of Approval until the LPI has received the aforementioned report from the design engineer.

5. The design engineer must test all systems prior to acceptance by the owner. The testing must determine whether the components were correctly installed and whether they function as designed. This includes confirmation that flow dividing devices or configurations function as intended.

6. The design engineer, with the concurrence of the LPI must determine when the site conditions are suitable for construction.

7. Construction must cease whenever the design engineer determines that the site conditions, or workmanship, or materials are unacceptable.

8. The owner and design engineer must inform the LPI of the proposed construction schedule and must also inform the LPI of the progress of construction. They must cooperate fully with the LPI in scheduling any inspections and providing any equipment necessary for the inspection.

9. The design engineer must provide the owner with an Operations and Maintenance Manual containing written recommendations for the operation and maintenance of the system including inspection and pumping schedules and record keeping procedures.

10. The owner must operate the system within the requirements of the Rules and the limitations of this design.

11. The owner must inform the LPI and the design engineer of any operational problem and/or malfunction.

12. The Local Plumbing Inspector must inspect the engineered disposal system in accordance with Section 11 Letter I of the Rules. In addition, the property owner must retain the design engineer to inspect the construction of the system. The inspection must be sufficient for the design engineer to determine that the system was installed as designed.

13. The five FujiClean CEN 14 Advanced Treatment Units are to be installed and maintained by the appropriate professionals according to the manufacturer's recommendations. Biannual inspections of these units are to include laboratory analysis of the effluent for at least Nitrate Nitrogen, TKN, BOD and TSS. These concentrations are to be compared with the manufacturer's claims of performance. Both the Department of Health and Human Services and the Department of Environmental Protection must be notified within five business days if any effluent quality data fail to meet a wastewater strength of 30 mg/l, or if either the nitrate-nitrogen or TKN concentrations in the effluent exceed 15 mg/L. All records of the sampling and all effluent quality data must be maintained on site and must be provided to the Town of Winham, the Department of Health and Human Services and the Department of Environmental Protection on demand. This requirement should be added to the Operations and Maintenance Manual for the System. A revised copy of the manual including the effluent sampling, data retention and notification requirements should be sent in PDF form to the Department and used by the maintenance staff.

14. This approval is only for the rules administered by this office, and it does not consider other federal, state or local regulations. The owner is responsible for compliance with any other pertinent regulations.

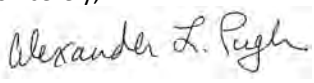
15. By accepting this approval and the associated plumbing permit, the owner agrees to comply fully with the conditions of approval and the Subsurface Wastewater Disposal Rules.

Based upon this approval of the design, the LPI may issue the permit required for an engineered system.

Because installation and owner maintenance have a significant effect on the working order of onsite sewage disposal systems, including their components, the Division makes no representation or guarantee as to the efficiency and/or operation of the system.

Should you have any questions, please feel free to contact me at (207) 592-2086, or by e-mail at alex.l.pugh@maine.gov.

Sincerely,



Alexander L. Pugh
Senior Environmental Hydrogeologist
Division of Environmental and Community Health
Drinking Water Program

Electronic copies to:

Jon Rioux, L.P.I.
Scott Dixon, P.E.
William Noble, MDEP

Application for Engineered Septic System

Serving The Proposed Legacy Village Retirement Community Webb Road, Windham, Maine

Prepared for: Robie Holdings, LLC

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
PO BOX Q, 69 MAIN STREET, LIVERMORE FALLS, MAINE 04254
367 U.S. ROUTE 1, N. BUILDING, FALMOUTH, MAINE 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
(207) 897-6752

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

P.O. BOX Q LIVERMORE FALLS, ME 04254
367 US ROUTE 1, N. BUILDING, FALMOUTH, ME 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

July 13, 2026

Division of Environmental and Community Health
286 Water Street, 3rd Floor
11 State House Station
Augusta, Maine 04333-0011

SUBJECT: Engineered Wastewater Disposal System Design
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

Dear Engineering and Water Resources Team,

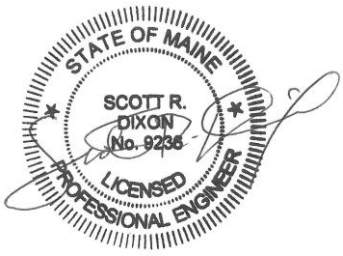
Enclosed please find one copy of the application package for the proposed Engineered Leachfield serving the proposed Woodlands residential development in Standish, Maine. The $100 application fee has been sent via regular mail along with two copies of the full-size project drawings.

The package follows the requirements of the HHE-220 form, which is also enclosed as part of this application. Please do not hesitate to contact Main-Land if we can provide additional information relevant to your review of this application.

As discussed during our Pre-Application meeting on 10/9/25, the Owner, Site Civil Engineer, and Main-Land appreciate your review of this submittal. Please note that the design flow for the current project (6,750 gpd) is lower than the design flow discussed during our 10/9/25 pre-app meeting (9,810 gpd).

Sincerely,

Main-Land Development Consultants, Inc.



Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist

Attachment: Application

DATE: July 13, 2026
PROJECT:

Application for Engineered Subsurface Wastewater Disposal System
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

TABLE OF CONTENTS

TAB NUMBER	ITEM
1	Application Form – HHE 220
2	Exhibit A – USGS Site Plan
3	Exhibit B and C – Combined Mounding and Transmissivity Report
4	Exhibit D – HHE 200 form
5	Exhibit E – Operations and Maintenance Manual
6	Exhibit F – Soil Logs
7	Exhibit G – Design Plan

Janet T. Mills
Governor

Jeanne M. Lambrew, Ph.D.
Commissioner

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-9058
TTY: Dial 711 (Maine Relay)

APPLICATION FOR ENGINEERED SUBSURFACE WASTEWATER DISPOSAL SYSTEM

Please complete the following Sections. Please print or type.

Applicant/Owner

Company Name: Robie Holdings
Contact Person: c/o Mr. Jayson Haskell, P.E. (DM Roma Engineers)
Address: (Robie Holdings) P.O. Box 1508
Town/City: Windham State/Province: ME Zip/Postal Code: 04062
Country: U.S.
Telephone: c/o Mr. Haskell 207-591-5055 Fax:
e-mail: jayson@dmroma.com

Design Engineer

Company Name: Main-Land Development Consultants, Inc.
Contact Person: Scott R. Dixon
Address: P.O. Box Q
Town/City: Livermore Falls State: ME Zip Code: 04254
Telephone: 207-897-6752 Fax:
e-mail: scott@main-landdci.com

1. Property Location

Town/City: Windham, ME County: Cumberland

Tax Map and Lot Number: Map 6 Lot 33 (21.4+/- acres)

Attach as "Exhibit A" a copy of the relevant section of the USGS 7.5' topographic map, if available, or 15' topographic map showing the location of the proposed engineered disposal system.

2. Project Description

Provide a brief written description of the proposal. Use a separate sheet if necessary.

The proposed engineered leachfield will serve up to 75 bedrooms within the development. The leachfield will consist of two separate beds of 70 concrete chambers each, for140 total units. Five FujiClean CEN 14 Advanced Treatment Units will be employed to allow a 50% reduction in the leachfield size/number of chamber units.

3. Design Flow

The design flow for this project is: 6,750 gpd gallons per day. Provide design flow calculations and assumptions used in the calculations. Use a separate sheet if necessary.

75 bedrooms x 90 gpd/bedroom = 6,750 gpd

4. Mounding Analysis

Submit as "Exhibit B" an analysis of the proposed system design showing that there is adequate vertical separation between the bottom of the disposal field and any mounded water table. Include all calculations and assumptions used.

5. Transmissivity Analysis

Submit as "Exhibit C" an analysis of the proposed system design showing that there are sufficient suitable soils down-gradient to prevent the effluent from surfacing within 50 feet of the disposal field. Include all calculations and assumptions used.

6. HHE-200 and Variance Form(s)

Submit as "Exhibit D" a complete HHE-200 Form, and variance forms if applicable, signed by a Professional Engineer. The design engineer may reference associated plans and soil test pit logs on pages 2 and 3 of the HHE-200 Form.

This project requires:

- ☐ a First Time System Variance to the Maine Subsurface Wastewater Disposal Rules.
- ☐ a Replacement System Variance to the Maine Subsurface Wastewater Disposal Rules.
- ☑ no variance to the Maine Subsurface Wastewater Disposal Rules.

7. Operations and Maintenance Manual

Submit as "Exhibit E" an operations and maintenance manual for the owner with written recommendations for the operation and maintenance of the system, including inspection schedules, pumping schedules, and record keeping procedures.

8. Soil and Site Conditions

Submit as "Exhibit F" soil test pit logs prepared by a licensed Site Evaluator. The test pits shall be of sufficient number to accurately describe the site conditions under the proposed disposal area and the down gradient fill extension.

9. Plans

Submit as "Exhibit G" plans for the proposed engineered disposal system meeting provisions of Section 1102 of the Maine Subsurface Wastewater Disposal Rules. Two sets of plans are required, or one set of plans and one set of copies no larger than 11" x 17". Plans may be submitted for review purposes in digital format.

The plans must specify the latitude and longitude of the center of the disposal area(s), expressed as degrees, minutes, and seconds. If this data is obtained from an electronic GIS device, provide the device's margin of error.

10. Review Fee

Submit a check or money order in the amount of $100.00 U.S. made payable to the Treasurer of the State of Maine.

I, Scott R. Dixon, am the design engineer for the subject design.
(print name)

I state that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department to deny the project.

Signature of Design Engineer

PE 9236
P.E. License Number

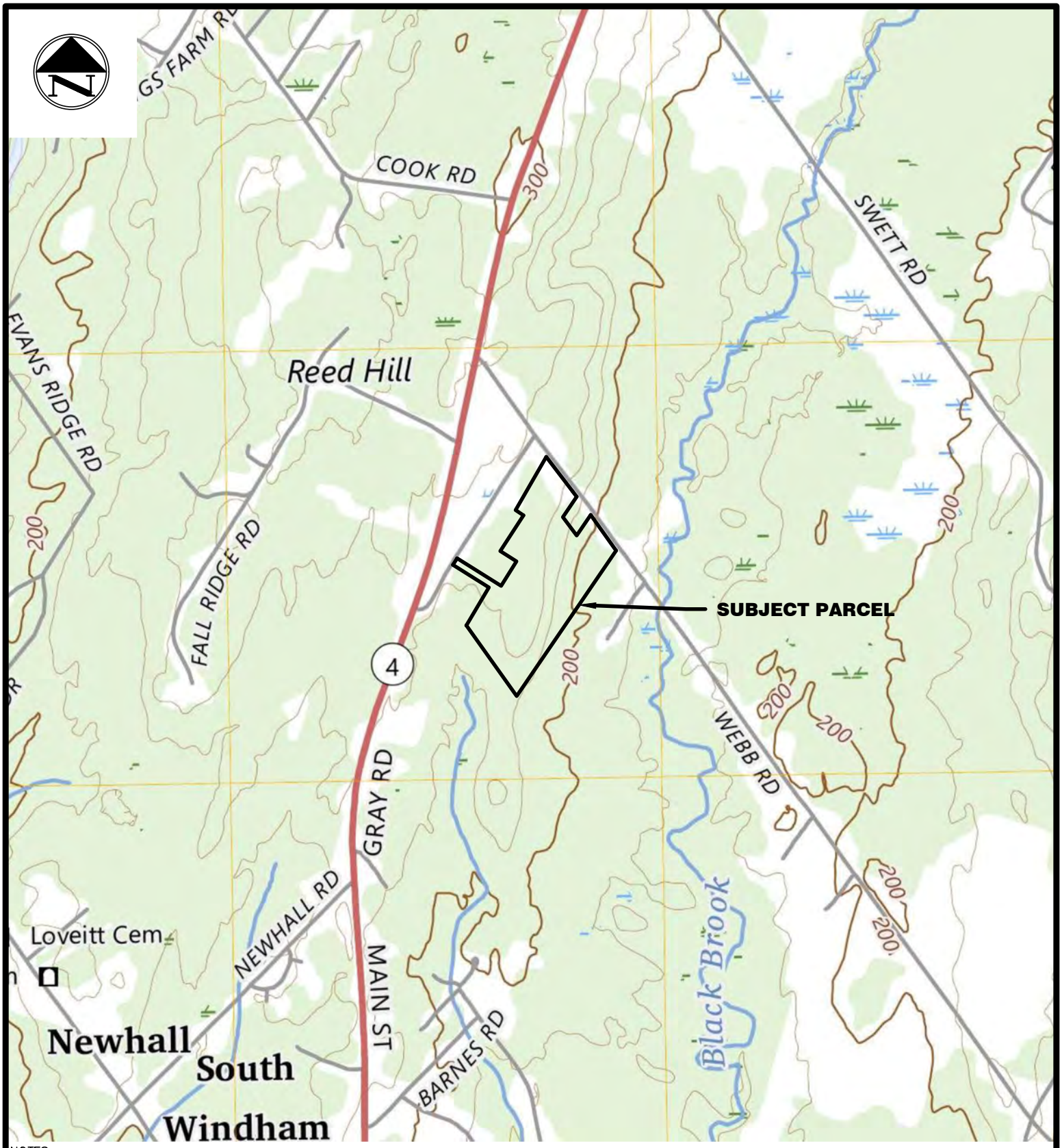
7 /13/26
Date



HHE-220
04/2019

EXHIBIT A

USGS Site Plan



NOTES

1. TOWN OF WINDHAM: TAX MAP 6, LOT 33.
2. TOPOGRAPHY SHOWN IS BASED ON MAP DOWNLOADED FROM USGS "TOPOVIEW" AND DEPICTS MAP ENTITLED "NORTH WINDHAM, ME" DATED 2024.

NOT FOR CONSTRUCTION

PROJECT:

ENGINEERED SYSTEM
WEBB ROAD, WINDHAM, ME

DRAWING:

USGS SITE MAP

SCALE: 1" =1000'

MLDC NO.	25-328
PROJ. MGR:	SRD
DRAWN BY:	HRD
CHECKED BY:	SRD
REVISION NO.	N/A
ISSUE DATE:	2026-07-13
ISSUED FOR:	APPLICATION

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

1PLN-SITE MAPS 25-328.dwg - 7/10/2026 3:09 PM - PLOTTED BY: EMILY LUCAS

EXHIBIT B and C

Combined Mounding and Transmissivity Report

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

P.O. BOX Q LIVERMORE FALLS, ME 04254
367 US ROUTE 1, N. BUILDING, FALMOUTH, ME 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

July 13, 2026

Robie Holdings, LLC
c/o Mr. Jayson Haskell, P.E.
D.M. Roma Consulting Engineers
P.O. Box 1116, Windham, ME 04062

SUBJECT: Mounding and Transmissivity Analyses
Engineered Wastewater Disposal System Design
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

Dear Jayson,

As part of the application for Engineered Subsurface Wastewater Disposal System permitting for the subject project, Main-Land Development Consultants, Inc. (Main-Land) is pleased to provide the following analyses of wastewater Mounding and Transmissivity. These analyses are for the proposed new Engineered Leachfield to serve the proposed Legacy Village Retirement Community development located off Webb Road in Windham, Maine. These analyses are provided as combined Exhibits B and C of the Engineered System permit application.

INTRODUCTION

The proposed Engineered Leachfield is to serve up to 75 bedrooms within the single-family housing development. Per the Maine Subsurface Wastewater Disposal Rules, updated 9/23/23 (i.e., the *Rules*), the design flow is:

90 gpd/bedroom x 75 bedrooms = 6,750 gpd

The site will be served by private water supply wells; site civil and infrastructure design is by DM Roma Consulting Engineers.

Based on the above design flow, the proposed system design must meet current engineered system design and permitting standards. Main-Land provides the following evaluation of site hydrogeology, as well as mounding and transmissivity analyses, in support of engineered system design and permitting.

SITE AND LOCAL HYDROGEOLOGY

Characteristics of the groundwater aquifer underlying the project site are based on Main-Land's evaluation of project test pits and other site observations, and laboratory grain size analysis. Main-Land performed laboratory grain size analysis by ASTM D422 on a representative sample of native ablation glacial till soils collected from Test Pit TP-3 on the project site. The grain size analysis sheet and

permeability estimate are attached (see Attachment B). The grain size distributions were evaluated using the Kozeny-Carmen approach to estimate soil permeability, as summarized in the following table:

Soil sample	Estimated permeability, k
TP-3, 2'-3' depth	20 feet/day

The project site is located in a moderately sloping area off the southeastern side of Webb Road. The ablation glacial till soils observed in the test pits suggest the general upland character of the geographic setting. Weathered bedrock was encountered underlying ablation till soils at depths of about 3 to 4 feet. Owing to the shallower bedrock and the location along the crest of a gentle ridge (at the top of the local watershed), free groundwater was not observed in the test pits at the time of the explorations (8/27/25). Reduced conditions were observed near the base of the till layer and extending down into the underlying weathered rock zone. Therefore, seasonal high groundwater was taken as occurring within the weathered rock zone near below the base of the ablation till soil layer.

Based on site observations and available data, Main-Land estimated the aquifer thickness beneath the leachfield area as about 3.5-feet thick, which includes soil deposits and the upper zone of fractured and permeable weathered rock above the harder bedrock surface. Reduced conditions were typically observed in the bottom 6 inches of this profile above the harder bedrock. Therefore, seasonal high groundwater has been taken as occurring at 3 feet deep in the soil/weathered rock profile underlying the leachfield bed footprints.

GROUNDWATER MOUNDING AND TRANSMISSIVITY ANALYSIS

Based on the underlying 4 soil profile (ablation glacial till with about 36% gravel, 42% sand, and 22% silt – 2.6 ft^2/gpd sizing factor) identified by Main-Land's Licensed Site Evaluator, the leachfield would need to be a minimum of 2.6 x 6,750 effective gpd = 17,550 ft^2 in total treatment area needed.

To reduce the footprint size and reduce nitrates for property line considerations, five FujiClean Tertiary Advanced Treatment Units (CEN 14 ATUs) are proposed to treat the domestic wastewater and allow a 50% reduction in leachfield treatment area. Therefore, this results in:

17,550 ft^2 total treatment area/2 for 50% ATU reduction = 8,775 ft^2 treatment area

18,775 ft^2 total treatment area/64 ft^2 per concrete chamber in cluster = 137 chambers, minimum (use 140 units)

The chambers will be arranged in two beds (Bed 1 and Bed 2) of 70 units each, with a configuration of 40-feet wide by 56-feet long per bed; this results in 5 rows of 14 side-feed chambers per bed (i.e., 70 units per bed x 2 beds = 140 units). It is noted that, without pretreatment, the 4 profile soils/AIII bedrock condition requires a minimum of 24 inches vertical separation between base of leachfield and predicted groundwater mound. Per FujiClean Modified Approval for General Use, CEN Series (dated 10/12/16), with the FujiClean pretreatment the minimum separation distance above bedrock can be reduced to 12 inches.

Mounding - Wastewater mounding analysis was performed for the proposed Engineered Leachfield. The purpose of the mounding analysis is to determine the potential rise in the groundwater level due to

wastewater infiltration through the unsaturated zone to the groundwater surface or base of aquifer below the leachfield.

The mounding analysis used was developed by M.S. Hantush in 1967 to predict rises in groundwater from external recharge sources. The model incorporates assumptions including infinite aquifer area with homogeneous and isotropic conditions over a horizontal impermeable base, constant formation coefficients, and constant recharge rate and uniform distribution over the leachfield footprint, to simplify the model. Required input includes leachfield area, recharge rate, time of interest, and aquifer characteristics (hydraulic conductivity and specific yield). Main-Land used a mounding calculator for the Hantush equation created by Glenn M. Duffield and found on Hydrosolve, Inc.'s website.

Based on review of available hydrogeologic data, Main-Land selected the following input to model conditions for the analysis of mounding beneath each bed:

h_i = 0.5 feet* = initial height of water surface above base of aquifer (based on review of Main-Land test pit information)
*equivalent to 6" of seasonal high groundwater occurring in the reduced soil/weathered rock zone above harder bedrock; note that the groundwater height is low due to leachfield's location near top of local watershed.

W = recharge rate = ((3,375 gpd/bed)/7.48 ft^3 per gallon)/((40 x 56) = 451.2 ft^3/2,240 ft^2 = 0.201 ft./day/bed

S_y = Specific Yield = 0.25*
*Value derived for coarse to fine sand soil from Domenico & Schwartz, 1990.

K, composite hydraulic conductivity = 35 ft/day*
*composite of 20 ft/day for native soil from Kozeny-Carmen analysis and estimated 60 ft/day for clean gravelly sand backfill constituting fill below and around chambers

*$K_{composite}$ = ([20 ft/day x 3.5'stratum thickness] + [60 ft/day x 2' backfill average thickness])/5.5 feet total thickness of transmitting medium = 35 ft/day

For an individual leachfield bed with base dimensions: x = 40', leachfield width and y = 56', leachfield length

Time = days of interest (modeled 365 days)

The estimated mound height calculated below the center of the leachfield beds is on the order of 3.5 feet (see Attachment B). The estimated base of aquifer/top of hard bedrock beneath the centers of each leachfield is about El. 237 feet existing grade – 3.5 feet thick aquifer = El. 233.5 feet. With an estimated seasonal high groundwater height of 6" above top of hard bedrock based on reduced conditions observed, the seasonal high groundwater would then occur near El. 234 feet. With this, the mound is estimated to occur up to about El. 234 + 3.5 = El. 237.5 feet beneath the centers of the beds, or about 0.5 foot above existing grade of El. 237 feet at the centers of the beds. The bottom of the 3-inch thick stone layer elevation

is designed as El. 239 feet and bottom of chamber as El. 239.3 feet (Note: Bottom of stone El. 239 – Existing Grade El. 237 = 2 feet of fill beneath center of bed, which is the average fill thickness in the $K_{composite}$ calculation above). The bottom of stone elevation is roughly:

El. 239 feet bottom of stone – El 237.5 feet top of mound = 1.5 feet or

18" above the estimated mound, which meets the minimum 12" vertical separation for a 4-profile soil and/or an AIII bedrock condition with pretreatment. The estimated mounding is depicted on Drawing E1.1, attached to the overall application package.

Because the top of bedrock slopes gently southwestward with the ground surface, and the clustered chambers are placed flat, the elevation of the seasonal high groundwater limiting factor becomes deeper in the downgradient direction. The separation between the limiting factor and the bottom of the flat chamber layout also increases, which in turn increases the depth and subsequent infiltration/treatment time for the wastewater to the limiting factor. In addition, the wastewater is being pre-treated by the tertiary FujiClean ATUs, and impacts to groundwater are anticipated to be minimal due to the near runoff quality of the ATU effluent.

Transmissivity - The estimated mound elevation beneath the center of the leachfield beds is on the order of 0.5 foot above existing grade, and in the general direction of groundwater flow southwestward. Based on the mounding data, approximately 40 feet from the centers of the beds and southwestward in the direction of groundwater flow, the mound degrades in height to about 3.5 feet above the limiting factor. Since the soil/weathered rock zone is on the order of 3.5 feet thick, then the mound is anticipated to be at or below ground surface about 40 feet from the centers of the beds; this distance equates to about 20 feet beyond the downslope edges of the beds. Since the downslope fill extensions are on the order of 38 feet long, then break out above ground surface within the 50 feet of interest downgradient of the leachfield is not anticipated, i.e., the mound is anticipated to be below ground surface beneath the fill extension length of approximately 38 feet.

ATUs AND SEPTIC TANK VOLUME

It has been indicated by the FujiClean ATU design and distribution team that the volume of septic tanks upstream of the ATUs should not exceed the equivalent of 1-day of liquid retention time. In other words, for this project, the septic tank volume should not exceed 7,000 gallons for the 6,750 gpd design flow. This design requirement is based on FujiClean not wanting excessive liquid retention time whereby ammonization can begin to take place in the wastewater with longer retention; excess ammonization of nitrates impacts the effectiveness of treatment within the ATUs.

This ATU Manufacturer's tank volume requirement differs from what the *Rules* would call for, which is a minimum total tank volume of 1.5 times the daily design flow. For this project, that would equate to about 10,000 gallons of septic tanks. Main-Land and the State have discussed and addressed this Manufacturer's requirement on previous engineered system projects requiring FujiClean ATUs. Main-Land's design for the subject project includes 7,000 gallons of septic tank volume upstream of the ATUs, as depicted conceptually on attached Drawing E1.1.

SUMMARY

Based on aquifer characteristics evaluated from field observations and laboratory grain size analysis, Main-Land selected representative values to model groundwater mounding and transmissivity beneath the proposed replacement engineered leachfield. Groundwater mounding is anticipated to meet the minimum 1-foot vertical separation from the proposed base of leachfield, and our review of transmissivity characteristics indicates that effluent will not surface within 50 feet downgradient of the leachfield.

Please do not hesitate to contact Main-Land if we can provide additional information relevant to mounding and transmissivity for the proposed engineered leachfield.

Sincerely,

Main-Land Development Consultants, Inc.



Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist

Attachments: Attachment A. Grain Size Analysis for TP-3 sample of native ablation glacial till and Kozeny-Carmen Hydraulic Conductivity Estimate

Attachment B. Mounding Results

REFERENCES

Department of Health and Human Services, et al., *State of Maine Subsurface Wastewater Disposal Rules*, 1-144, Chapter 241 (Effective Date 9/23/23).

Domenico, P., and Schwartz, F., *Physical and Chemical Hydrogeology*, John Wiley & Sons, 1990, page 118.

ATTACHMENT A

Grain Size Analysis for test pit sample of native ablation glacial till
and Kozeny-Carmen Hydraulic Conductivity Estimate

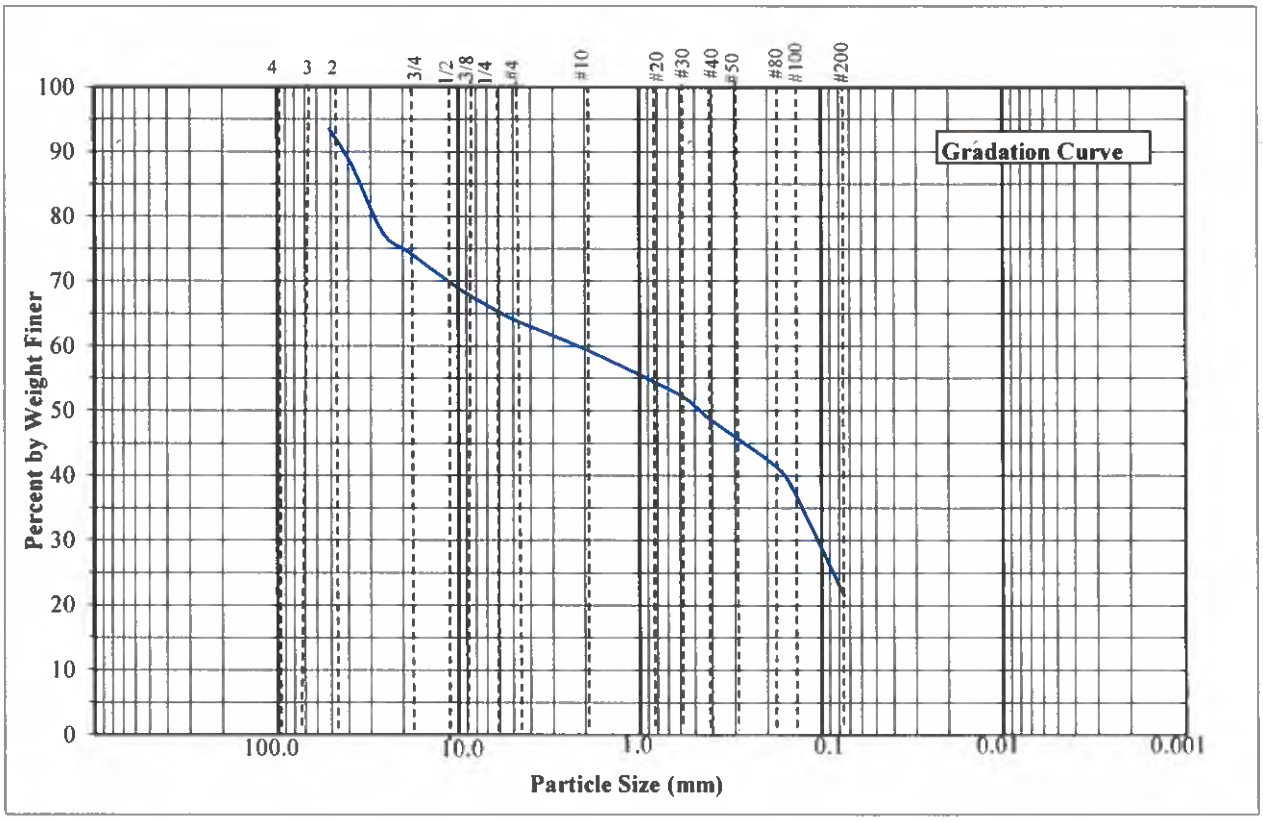
Main-Land Development Consultants, INC.
P.O. BOX Q LIVERMORE FALLS, ME 04254
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

GRAIN SIZE ANALYSIS - ASTM D422

PROJECT NAME:	Windham Eng. System	PROJECT #:	25-320
CLIENT:	DM Roma	MAIN LAND SAMPLE	N/A
M-L SOIL DES:		INTENDED USE:	Gradation
SOURCE:	TP-3, 2'-3'	SPECIFICATION:	N/A
DATE:	September 3, 2025	TECHNICIAN:	TLB

DATA

PARTICLE SIZE mm		% BY WT FINER	STRUCTURAL FILL SPECIFICATION	COMMENTS
50.80	(2 in)	93.6	N/A	N/A
38.10	(1-1/2 in)	88		
25.40	(1 in)	77.3		
19.05	(3/4 in)	74.8		
12.70	(1/2 in)	71.1		
9.53	(3/8 in)	68.6		
6.35	(1/4 in)	65.7		
4.75	(No. 4)	63.9		
2.00	(No. 10)	59.6		
0.60	(No. 30)	52.5		
0.43	(No. 40)	49.2		
0.30	(No. 50)	46.1		
0.18	(No. 80)	41.6		
0.15	(No. 100)	39.1		
0.075	(No. 200)	21.6		



REMARKS:

Reviewed Scott R Dixon, P E
Date 9/3/25

For TP3 at Webb Rd./Windham

Sieve Sizes		
Sieve size	U.S. Standar	D_{ave}
metric	Sieve No.	cm
10	4	
7.5	3	8.407395
5	2	5.880468
3.75	1.5	4.206612
2.5	1	2.942273
1.9	3/4	2.121418
1.25	1/2	1.480055
0.95	3/8	1.061444
0.63	1/4	0.74406
0.475	#4	0.532803
0.2	#10	0.284117
0.085	#20	0.120398
0.0425	#40	0.056413
0.018	#80	0.025572
0.0106	#140	0.013188
0.0075	#200	0.008667
0.00325	hyd #1	0.004582
0.00207	Hyd#2	0.002499
0.0012	Hyd#3	0.001506
0.00085	hyd#4	0.000984
0.0006	hyd#5	0.000696
0.0003	hyd#6	0.0004
0.00012	hyd#7	0.000175

Gradation Results

% Pass	Fi	Fi/D_{ave}
100		
100	0	0
93.6	6.4	1.088349
88	5.6	1.331237
77.3	10.7	3.636644
74.8	2.5	1.178457
71.1	3.7	2.499907
68.6	2.5	2.355281
65.7	2.9	3.897535
63.9	1.8	3.378362
59.6	4.3	15.13462
54.5	5.1	42.3594
49.2	5.3	93.95052
42	7.2	281.5634
29	13	985.7261
21.6	7.4	853.7814
0	21.6	4713.662
	0	0
	0	0
	0	0
	0	0
	0	0
0	21.6	3272.872

D_o est (cm)
0.006

Sum= 10278.41
porosity, n= 0.39
void ratio, e= 0.639344

Shape Factor							
Shape	SF						
Spherical	6	k=	0.008325	cm/sec	k=	23.59703	feet/day
Rounded	6.1	k=	0.008054	cm/sec	k=	22.8297	feet/day
Worn	6.4	k=	0.007316	cm/sec	k=	20.73958	feet/day
Sharp	7.4	k=	0.005473	cm/sec	k=	15.51302	feet/day
Angular	7.7	k=	0.005055	cm/sec	k=	14.32776	feet/day

use 20 ft/day

Backfill K at Webb Rd./Windham

Sieve Sizes			Gradation Results		
Sieve size metric	I.S. Standar Sieve No.	D_{ave} cm	% Pass	Fi	Fi/D_{ave}
10	4		100		
7.5	3	8.407395	100	0	0
5	2	5.880468	100	0	0
3.75	1.5	4.206612	98	2	0.475442
2.5	1	2.942273	96	2	0.679747
1.9	3/4	2.121418	95	1	0.471383
1.25	1/2	1.480055	94	1	0.67565
0.95	3/8	1.061444	92	2	1.884225
0.63	1/4	0.74406	89	3	4.031933
0.475	#4	0.532803	87	2	3.753736
0.2	#10	0.284117	75	12	42.23614
0.085	#20	0.120398	55	20	166.1153
0.0425	#40	0.056413	29	26	460.8894
0.018	#80	0.025572	13	16	625.6965
0.0106	#140	0.013188	7	6	454.9505
0.0075	#200	0.008667	5	2	230.7517
0.00325	hyd #1	0.004582	0	5	1091.125
0.00207	Hyd#2	0.002499		0	0
0.0012	Hyd#3	0.001506		0	0
0.00085	hyd#4	0.000984		0	0
0.0006	hyd#5	0.000696		0	0
0.0003	hyd#6	0.0004		0	0
0.00012	hyd#7	0.000175	0	5	1144.348

D_o est (cm)
0.003

Sum= 4228.085
porosity, n= 0.38
void ratio, e= 0.612903

Shape Factor	
Shape	SF
Spherical	6
Rounded	6.1
Worn	6.4
Sharp	7.4
Angular	7.7

k=	0.044051	cm/sec	k=	124.8693	feet/day
k=	0.042619	cm/sec	k=	120.8087	feet/day
k=	0.038717	cm/sec	k=	109.7484	feet/day
k=	0.02896	cm/sec	k=	82.09082	feet/day
k=	0.026747	cm/sec	k=	75.81874	feet/day

use 110 ft/day

(used 60 ft/d in Kcomposite)

ATTACHMENT B

Mounding Results

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

Cells highlighted in yellow are values that can be changed by the user. Cells highlighted in red are output values based on user-specified inputs. The user MUST click the blue "Re-Calculate Now" button each time ANY of the user specified inputs are changed otherwise necessary iterations to converge on the correct solution will not be done and values shown will be incorrect. Use consistent units for all input values (for example, feet and days)

use consistent units (e.g. feet & days or inches & hours)

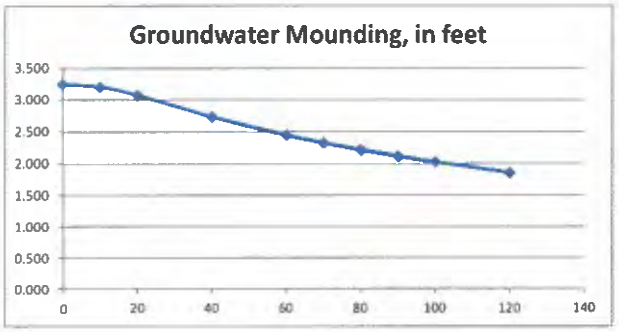
Input Values		
0.2010	*R*	Recharge (infiltration) rate (feet/day)
0.250	Sy	Specific yield, Sy (dimensionless, between 0 and 1)
35.00	K	Horizontal hydraulic conductivity, Kh (feet/day)*
20.000	x	1/2 length of basin (x direction, in feet)
28.000	y	1/2 width of basin (y direction, in feet)
365.000	t	duration of infiltration period (days)
0.500	hi(0)	initial thickness of saturated zone (feet)
[illegible]	h(max)	maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
[illegible]	Δh(max)	maximum groundwater mounding (beneath center of basin at end of infiltration period)

Conversion Table		
Inch/hour	feet/day	
0.67	1.33	
2.00	4.00	
hours	days	
36	1.50	

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
[illegible]	0
[illegible]	10
[illegible]	20
[illegible]	40
[illegible]	60
[illegible]	70
[illegible]	80
[illegible]	90
[illegible]	100
[illegible]	120

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

EXHIBIT D

HHE 200 Form

SUBSURFACE WASTEWATER DISPOSAL APPLICATION

Maine Dept. Health & Human Services
Div. Environmental Health, HSIS
(207) 287-2070 Fax (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	Windham, Maine
Street or Road	Webb Road
Subdivision, Lot #	"Webb Road Property"

OWNER/APPLICANT INFORMATION

Name (last, first, MI)	Roble Holdings, LLC — Owner ☑ Applicant ☐
Mailing Address of Owner/Applicant	P.O. Box 1508 Windham, ME 04062
Daytime Tel. #	c/o DM Roma Engineers 207-591-5055

OWNER OR APPLICANT STATEMENT
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a permit.

Jason Hall — Agent — 7-10-2026
Signature of Owner or Applicant — Date

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit # _____
Date Permit Issued ___/___/___ Fee. $_____ Double Fee Charged ☐
_____ L.P.I. # _____
Local Plumbing Inspector Signature
Fee: $_____ state min fee $_____ Locally adopted fee
Copy: ☐ Owner ☐ Town ☐ State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules

Municipal Tax Map # _____ Lot # _____

CAUTION: INSPECTION REQUIRED
I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved

_____ _____ (2nd) date approved
Local Plumbing Inspector Signature

PERMIT INFORMATION

TYPE OF APPLICATION
☑ 1. First Time System
☐ 2. Replacement System
Type replaced. _____
Year installed _____
☐ 3. Expanded System
☐ a. <25% Expansion
☐ b. ≥25% Expansion
☐ 4. Experimental System
☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES
☑ 1. No Rule Variance
☐ 2. First Time System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 3. Replacement System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 4. Minimum Lot Size Variance
☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS
○ 1. Complete Non-engineered System
○ 2. Primitive System (graywater & alt. toilet)
○ 3. Alternative Toilet, specify: _____
○ 4. Non-engineered Treatment Tank (only)
○ 5. Holding Tank, _____ gallons
○ 6. Non-engineered Disposal Field (only)
○ 7. Separated Laundry System
☑ 8. Complete Engineered System (2000 gpd or more)
○ 9. Engineered Treatment Tank (only)
○ 10. Engineered Disposal Field (only)
☑ 11. Pre-treatment, specify: (5) Fujiclean CEN 14ATUs
○ 12. Miscellaneous Components

SIZE OF PROPERTY
21.4± ☐ SQ. FT. ☑ ACRES

DISPOSAL SYSTEM TO SERVE
☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ___
☐ 2. Multiple Family Dwelling, No. of Units. ___
☑ 3. Other: Multiple Dwellings – 75 BR total
(specify)
Current Use ☐ Seasonal ☑ Year Round ☑ Undeveloped

TYPE OF WATER SUPPLY
☐ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private
☑ 4. Public ☐ 5. Other

SHORELAND ZONING
☐ Yes ☑ No

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK
☑ 1. Concrete
☑ a. Regular
☐ b. Low Profile
☐ 2. Plastic
☑ 3. Others See Dr. El.1
CAPACITY 7,000* GAL
*1-day retention time

DISPOSAL FIELD TYPE & SIZE
☐ 1. Stone Bed ☐ 2. Stone Trench
☑ 3. Proprietary Device
☑ a. cluster array ☐ c. Linear
☑ b. regular load ☐ d. H-20 load
☐ 4. Other: _____
SIZE: _____ ☐ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT
☐ 1. No ☐ 2 Yes ☑ 3. Maybe
If Yes or Maybe, specify one below:
☐ a. multi-compartment tank
☐ b. ___ tanks in series
☐ c. increase in tank capacity
☐ d. Filter on Tank Outlet

DESIGN FLOW
6,750 gallons per day *
BASED ON:
☑ 1. Table 5A (dwelling unit(s))
☐ 2. Table 5C(other facilities)
SHOW CALCULATIONS for other facilites
*75 BR x 90 gpd/BR = 6,750 gpd
☐ 3. Section 5G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS
PROFILE CONDITION
4 / C
at Observation Hole # TP-4 TP-6
Depth varies
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING
☑ 1. Medium---2 6 sq. ft. / gpd
☐ 2 Medium---Large 3.3 sq. f.t / gpd
☐ 3. Large---4.1 sq ft / gpd
☐ 4. Extra Large---5.0 sq ft. / gpd

EFFLUENT/EJECTOR PUMP
☐ 1. Not Required
☐ 2. May Be Required
☑ 3. Required
Specify only for engineered systems
DOSE _____ gallons

LATITUDE AND LONGITUDE
at center of disposal area
Lat. 43 d 45 m 37.52 s N
Lon. 70 d 25 m 16.02 s W
if g.p.s. state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 8/27/25 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241)

Scott R. Dixon — 406 — 7/13/26
Site Evaluator Signature — SE # — Date

STATE OF MAINE SCOTT R. DIXON LSE 406 SITE EVALUATOR

Scott R. Dixon — 207-899-6752 — scott2main-landdci.com
Site Evaluator Name Printed — Telephone Number — E-mail Address

Note : Changes to or deviations from the design should be communicated with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Servic
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

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Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

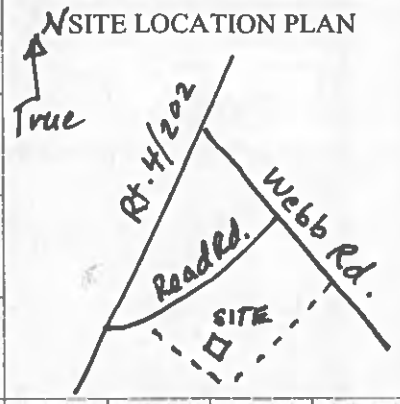
Owner's Name: Robie Holdings, LLC

SITE PLAN

Scale 1" = _____ ft. or as shown

See Drawing E1.1 a Hached for Site Plan

SITE LOCATION PLAN

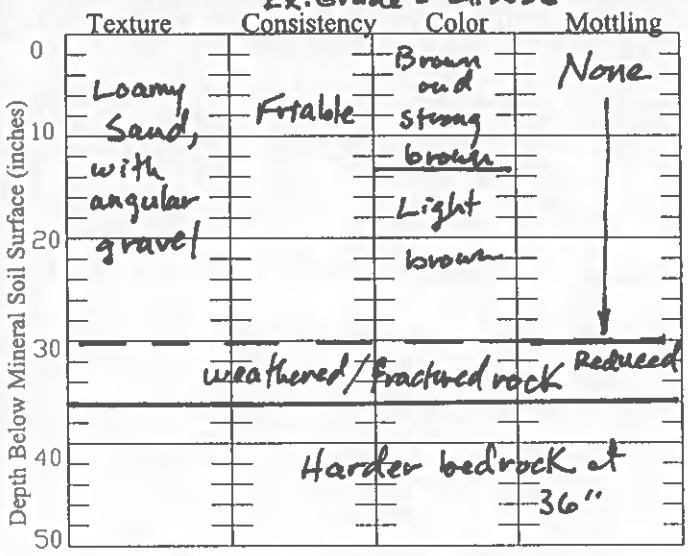


SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236

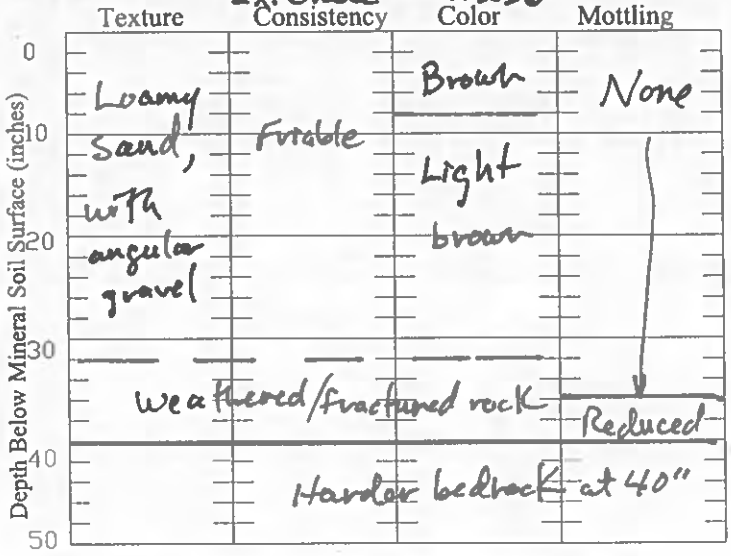


Soil Classification	Slope	Limiting Factor	
4C Profile / AIII Condition	4-6 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-2 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236'



Soil Classification	Slope	Limiting Factor	
4C Profile / AIII Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. — Site Evaluator Signature

406 — SE #

7/13/26 — Date

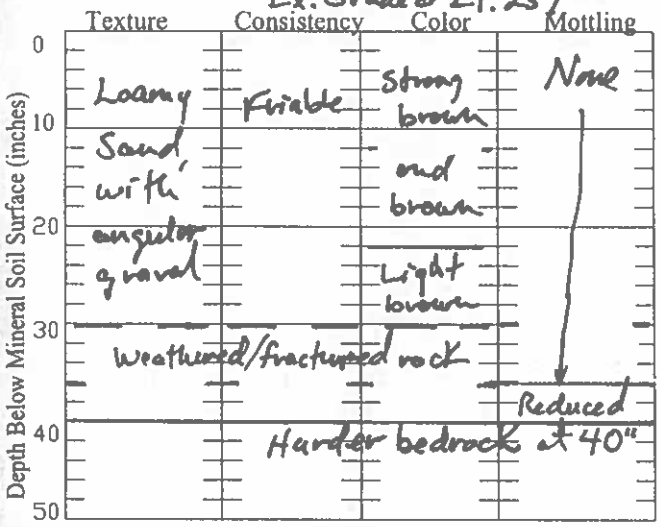
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

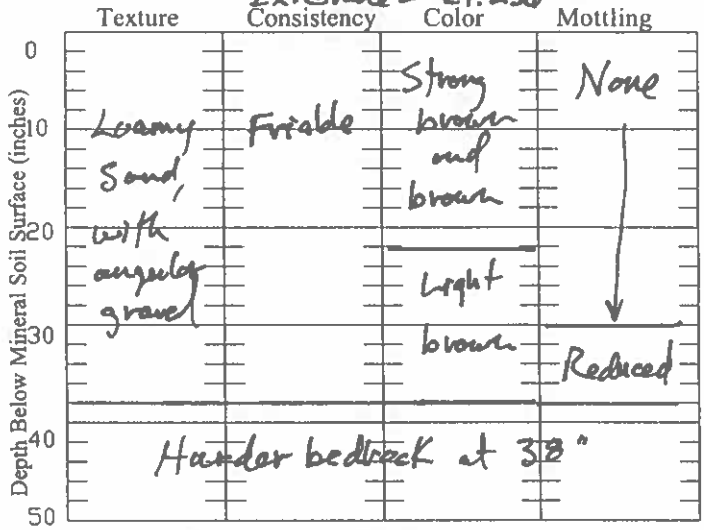
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-3 ☑ Test Pit ☐ Boring
____ " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 237'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

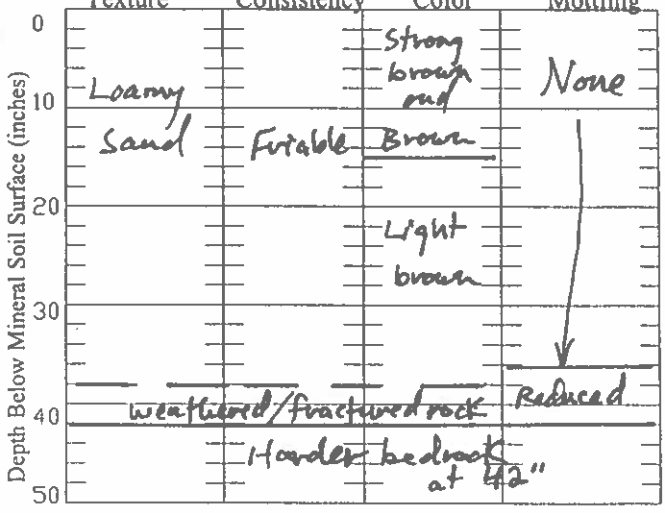
Observation Hole TP-4 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 236'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	2-4 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

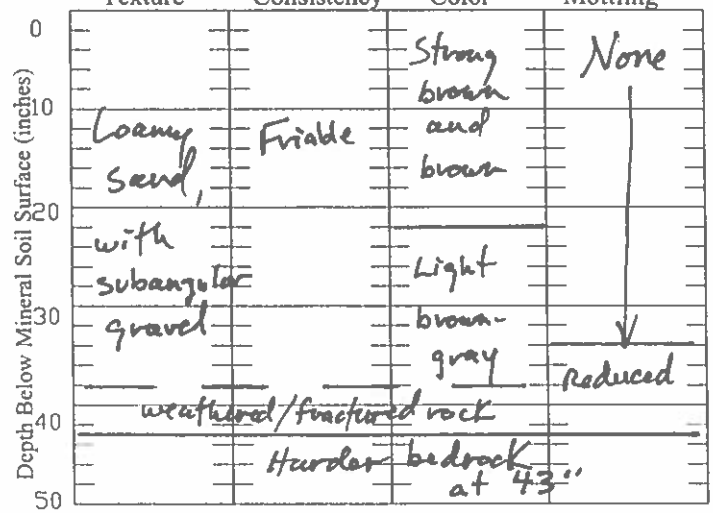
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-5 ☑ Test Pit ☐ Boring
2 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 236.5'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-6 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 238'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	34 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. [illegible] — Site Evaluator Signature
406 — SE #
7/13/24 — Date

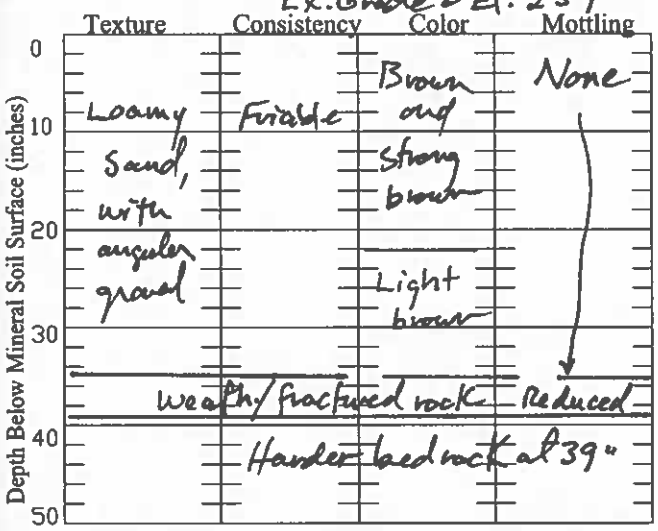
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

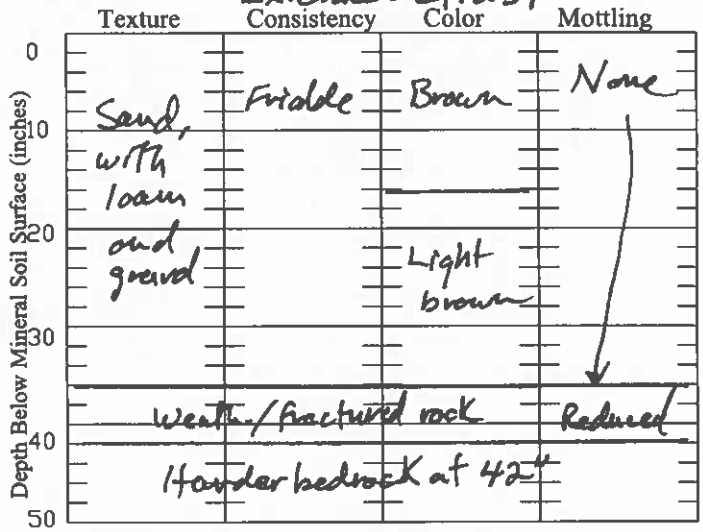
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-7 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C Profile / ATT Condition	3-5 %	35"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

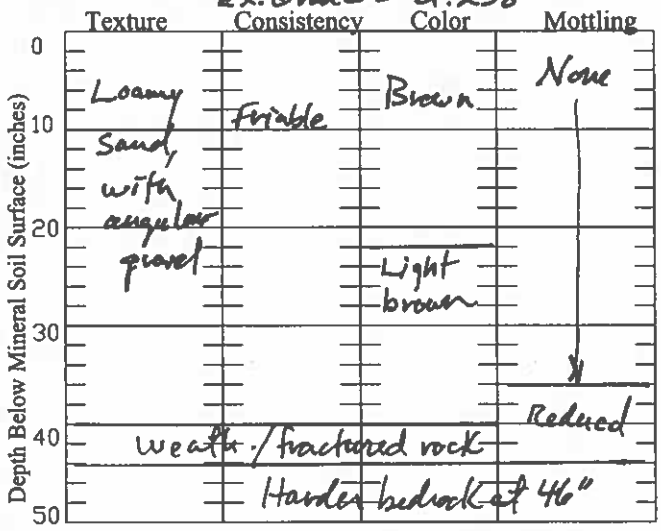
Observation Hole TP-8 ☑ Test Pit ☐ Boring
2 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C Profile / ATT Condition	4-6 %	36"	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

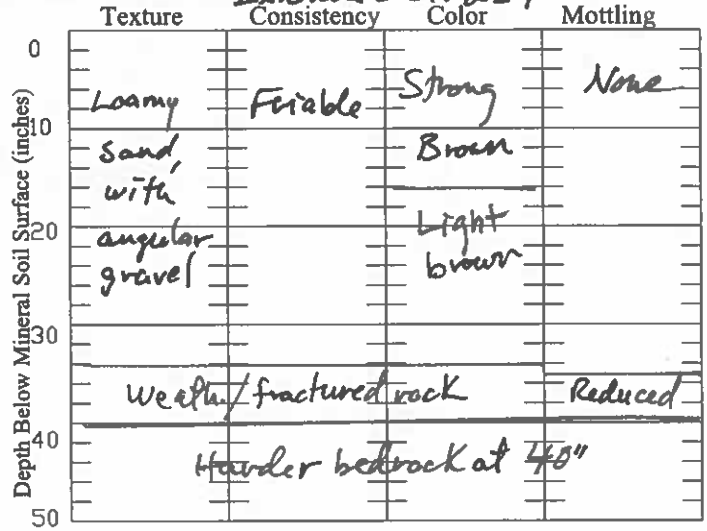
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-9 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 238



Soil Classification	Slope	Limiting Factor	
4C Profile / ATT Condition	3-5 %	36"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-10 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C Profile / ATT Condition	3-5 %	35"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Site Evaluator Signature | SE # | 7/13/26 Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

Owner's Name: Robie Holdings, LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = _____ FT.

See Drawing E1.1 attached for Disposal Plan

FILL REQUIREMENTS

Depth of Fill (Upslope) _____

Depth of Fill (Downslope) _____

CONSTRUCTION ELEVATIONS (SEE DRAWING E1.1)

Finished Grade Elevation _____

Top of Distribution Pipe or Proprietary Device _____

Bottom of Disposal Area _____

ELEVATION REFERENCE POINT

Location & Description:

Reference Elevation: _____

DISPOSAL AREA CROSS SECTION

Scale

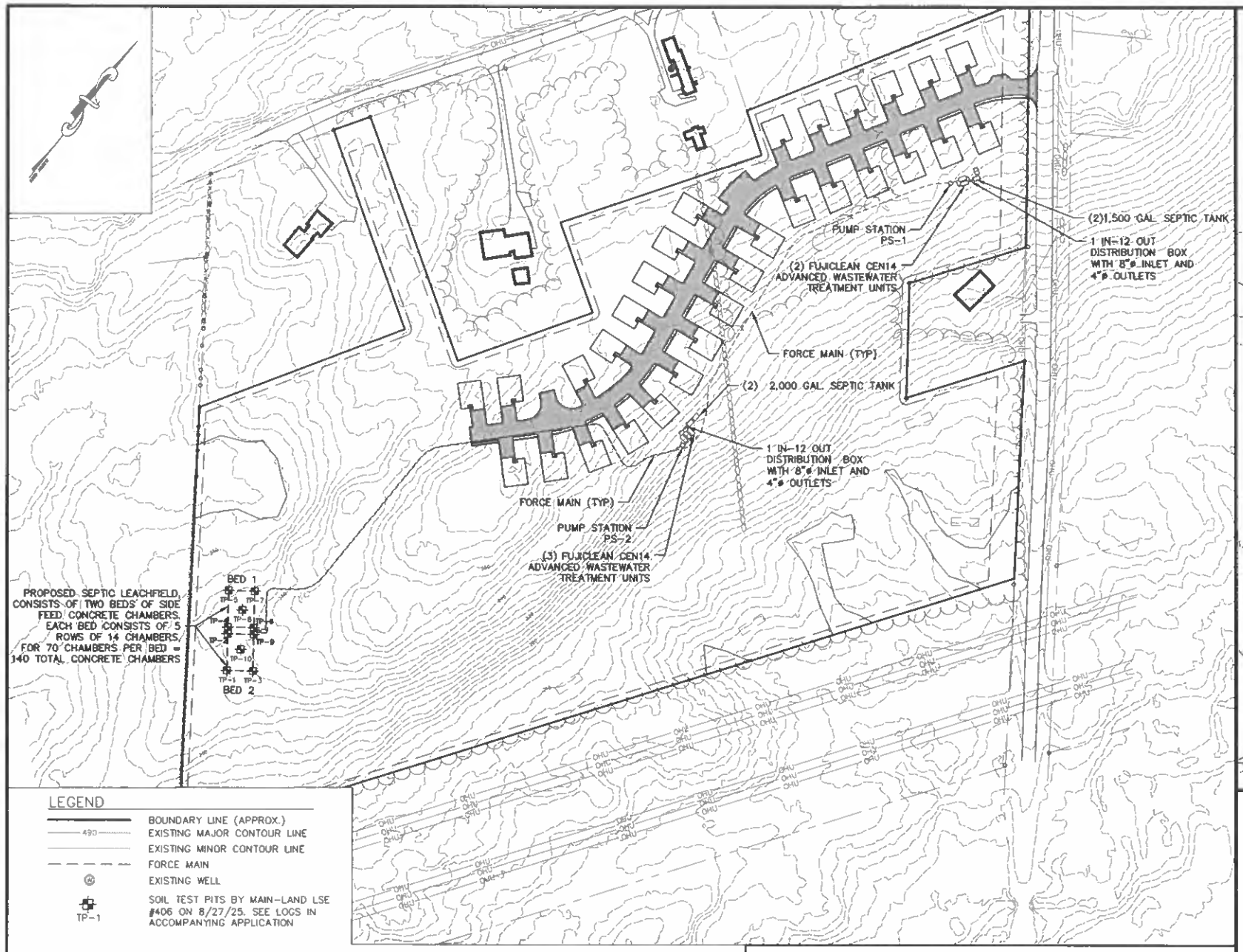
Horizontal 1" = _____ ft.

Vertical 1" = _____ ft.

See Drawing E1.1 attached for Cross Section

Scott R. [signature] 4006 7/13/26

Site Evaluator Signature SE # Date



SITE PLAN

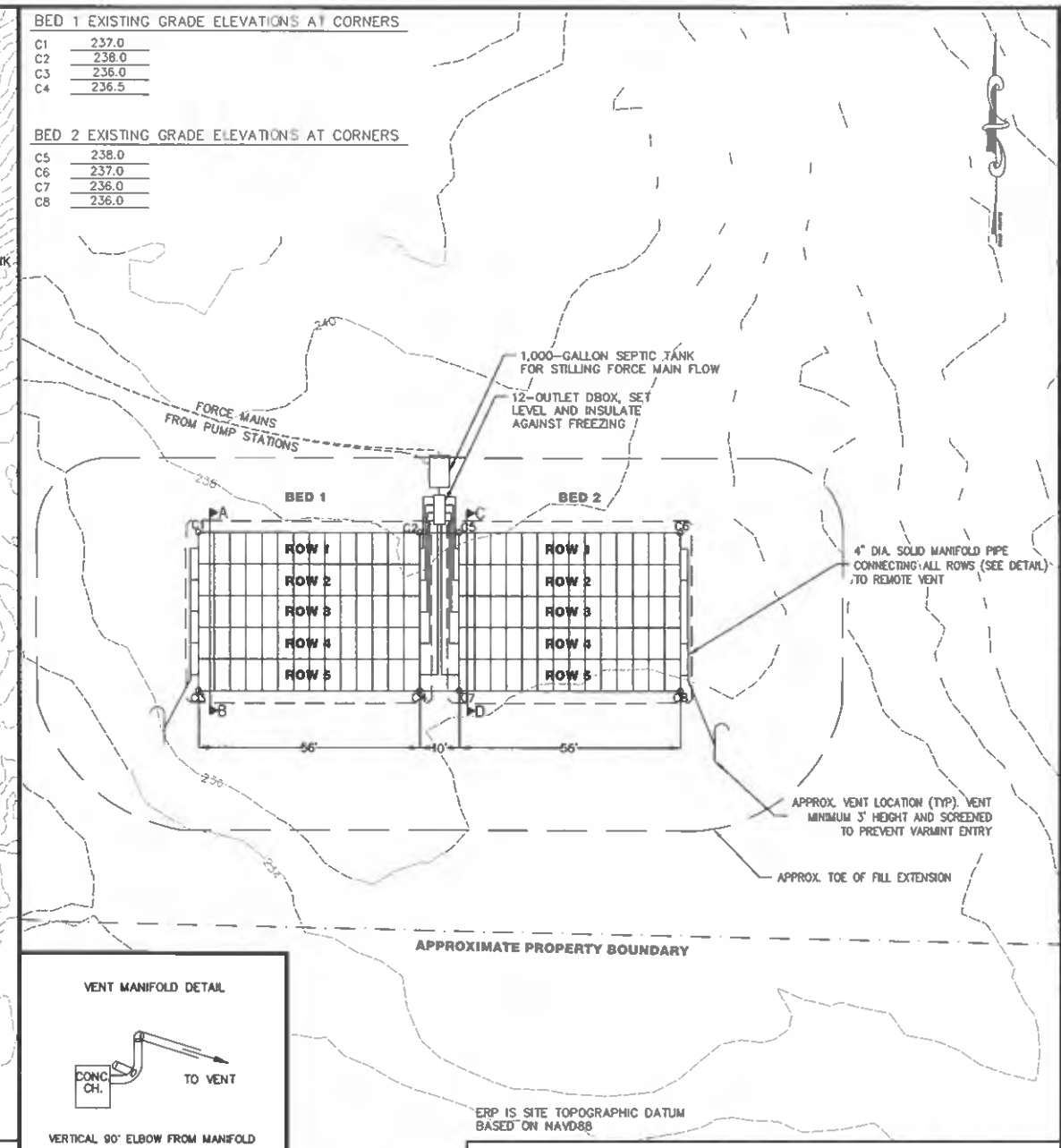
SCALE: 1" = 100'

BED 1 EXISTING GRADE ELEVATIONS AT CORNERS

C1	237.0
C2	238.0
C3	236.0
C4	236.5

BED 2 EXISTING GRADE ELEVATIONS AT CORNERS

C5	238.0
C6	237.0
C7	236.0
C8	236.0



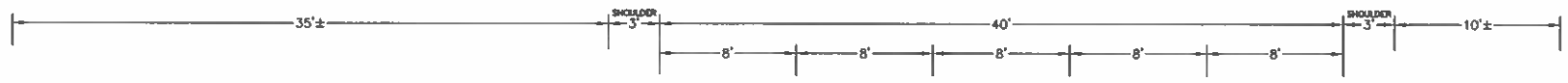
VENT MANIFOLD DETAIL

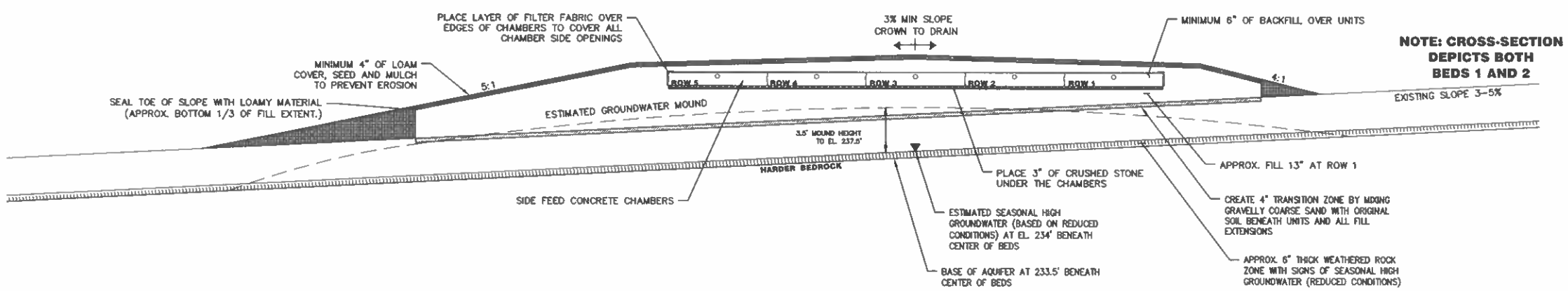
VERTICAL 90° ELBOW FROM MANIFOLD UP TO SOLID PIPE TO VENT

ERP IS SITE TOPOGRAPHIC DATUM BASED ON NAVD88

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 20'





NOTE: CROSS-SECTION DEPICTS BOTH BEDS 1 AND 2

NOTE: BACKFILL MEANS GRAVELLY COARSE SAND

EXISTING ELEVATIONS (BOTH BEDS)

FINAL GRADE	241.2'±(AT ROW 3)
TOP OF CHAMBER	240.4'
BOTTOM OF CHAMBER	239.3'
BOTTOM OF STONE	239.0'
BOTTOM OF BACKFILL	VARIES, EXTENDS DOWN TO TRANSITION ZONE NEAR EXISTING GRADE

CROSS-SECTION (A-B AND C-D)

SCALE: 1" = 5'

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJECT
ENGINEERED WASTEWATER DISPOSAL SYSTEM

WEBB ROAD
WINDHAM, ME

OWNER OF RECORD
ROBIE HOLDINGS, LLC

MADE FOR
D.M. ROMA CONSULTING ENGINEERS

PO BOX 1116
WINDHAM, ME 04062

DRAWING SCALE:
VARIES

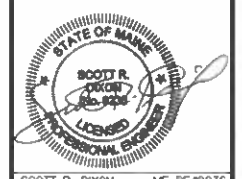
SUBMISSION NOTES:
SUBMISSION 1: 2026-07-13 ERL
THIS SUBMISSION IS FOR APPLICATION.

PROJ. MGR:	SRD
DRAWN BY:	DRP/MRD
CHECKED BY:	SRD
SUBMISSION NO.	N/A
SUBMISSION DATE:	2026-07-13
SUBMITTED FOR:	APPLICATION

NOT FOR CONSTRUCTION

WASTEWATER DISPOSAL DESIGN

SEAL:



SCOTT R. DIXON ME PE#9236

DRAWING NO.
E1.1

MLDC NO. 25-328 1 OF 1

EXHIBIT E

Operations and Maintenance Manual

OPERATIONS AND MAINTENANCE

ENGINEERED LEACHFIELD

Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

INTRODUCTION:

The proposed engineered leachfield for the proposed residential development is designed to dispose of a maximum of approximately 6,750 gallons per day of domestic wastewater. This wastewater is comprised of discharge from up to 75 bedrooms. The system includes 7,000 gallons of regular septic tanks and a Tertiary Advanced Treatment Unit (five Fujiclean CEN 14 units planned) for wastewater treatment prior to the leachfield.

OPERATION:

Operation of the system is the responsibility of the Project Owner.

The most important Operation item is ensuring that no unauthorized wastes enter the system. No harsh chemicals should be allowed into the system, particularly those chemicals that kill bacteria, such as chlorine, at high concentrations above those associated with normal household use. Cleaning products should be used in moderation and should be diluted when entering the system.

MAINTENANCE:

Maintenance of the system, including inspection and pumping of the individual septic tanks and the ATUs, is the responsibility of the Owner.

The septic system does require periodic maintenance. First, all water fixtures shall be kept in working order. Leaky toilets, showers, and sinks can overtax a septic system.

Second, the septic tanks should be inspected annually. Septic tanks should be cleaned when the sludge and scum occupies ***no more than one-third*** the tank liquid capacity, or once every two to three years, whichever comes first. Cleaning means the removal of all contents in the tanks.

Records of all tank pumping should be kept in the event an issue arises. Records should include volumes pumped and the frequency of the pumping.

The ATUs should be inspected per the Manufacturer's instructions. Records should include inspection results and results of water quality testing, when performed.

Third, the ground around the leachfield should also be inspected for wet spots, or for odors on an on-going basis. If odors or wet spots are apparent, the Design Engineer shall be contacted immediately.

The area for a distance of 30 feet around the leachfield should be inspected at least twice annually and woody vegetation in this area removed to prevent roots from growing into the system.

If, at any time, any portion of this system does not appear to be functioning as designed, notify the Design Engineer as soon as possible.

EXHIBIT F

Soil Logs

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Servic
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

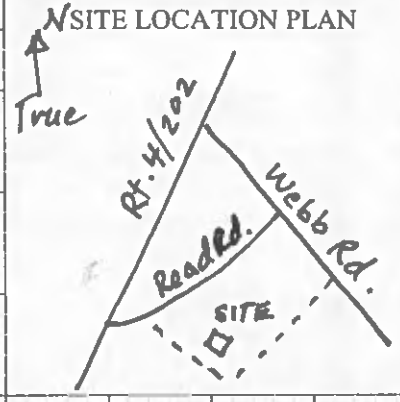
Owner's Name: Robie Holdings, LLC

SITE PLAN

Scale 1" = _____ ft. or as shown

See Drawing E1.1 attached for Site Plan

SITE LOCATION PLAN



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown and strong brown	None
10–20			Light brown	
20–30				
30–40	Weathered/fractured rock			Reduced
40–50	Harder bedrock at 36"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-2 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236'

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown	None
10–20			Light brown	
20–30				
30–40	Weathered/fractured rock			Reduced
40–50	Harder bedrock at 40"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R [signature] — Site Evaluator Signature

406 — SE #

7/13/26 — Date

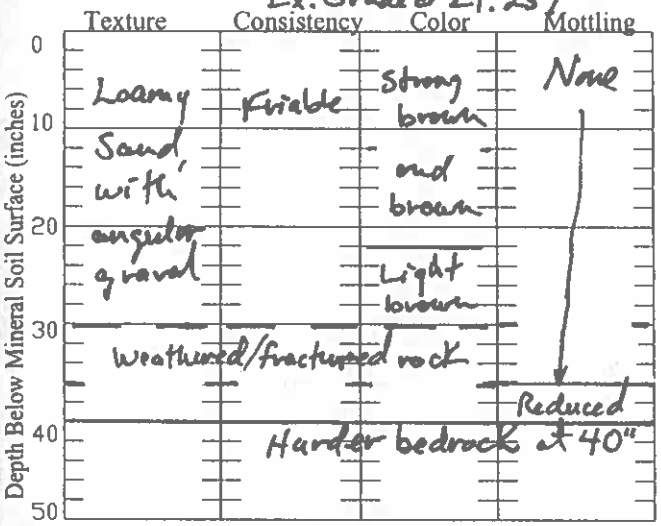
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

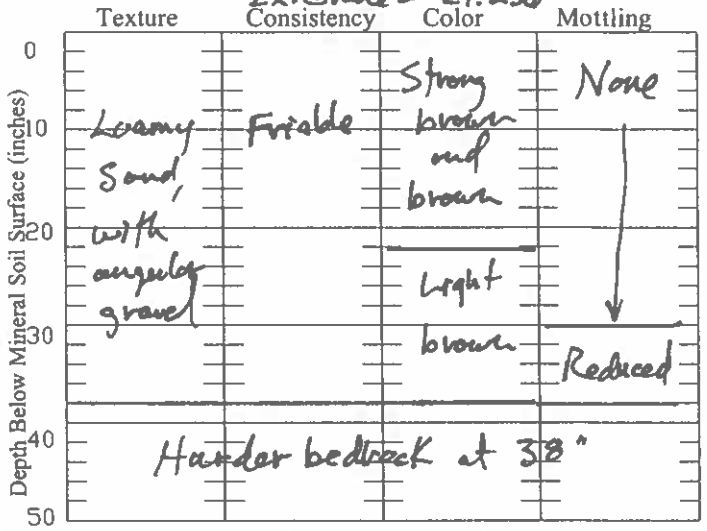
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-3 ☑ Test Pit ☐ Boring
____ " Depth of Organic Horizon Above Mineral Soil
Ex. Grade ≈ El. 237'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

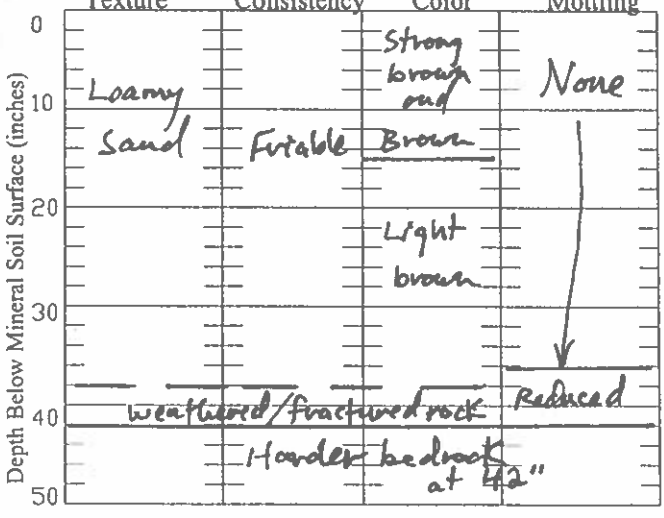
Observation Hole TP-4 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade ≈ El. 236'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	2-4 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

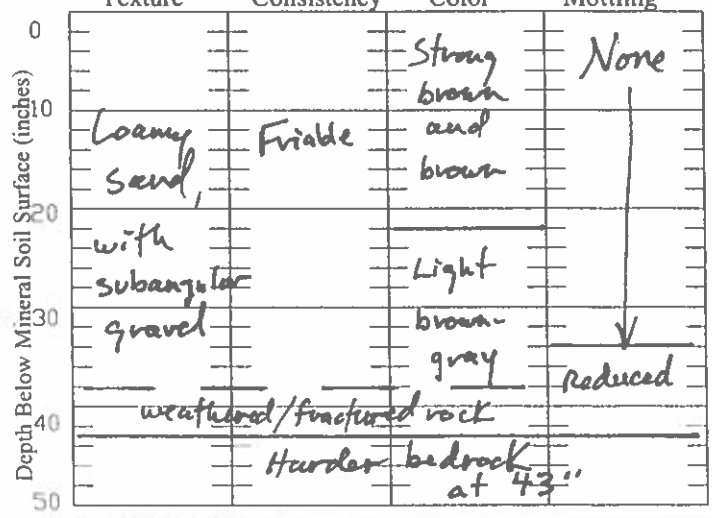
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-5 ☑ Test Pit ☐ Boring
2 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade ≈ El. 236.5'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-6 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade ≈ El. 238'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	34 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. D. — Site Evaluator Signature
406 — SE #
7/13/24 — Date

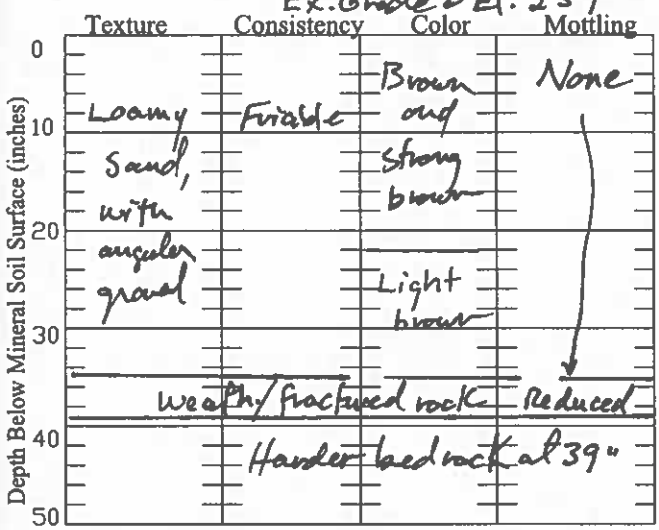
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

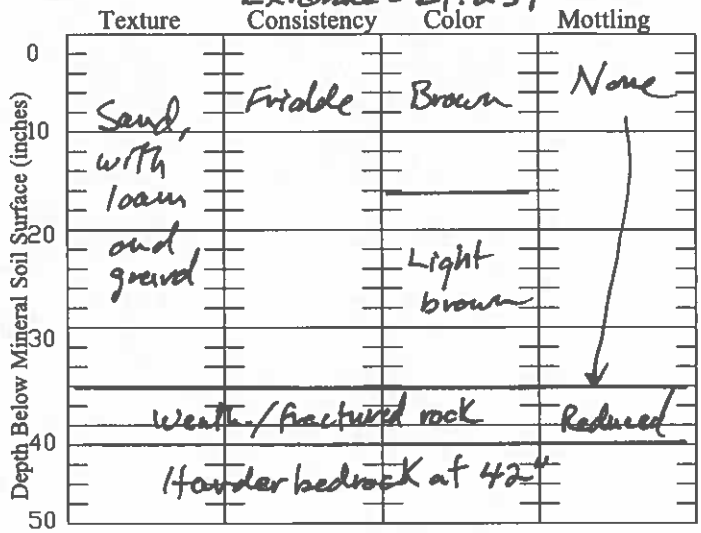
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-7 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 237



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	35"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

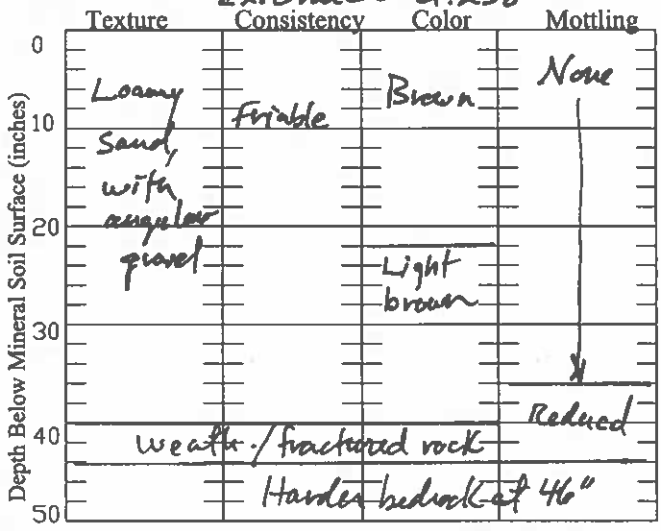
Observation Hole TP-8 ☑ Test Pit ☐ Boring
2 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 237



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	36"	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

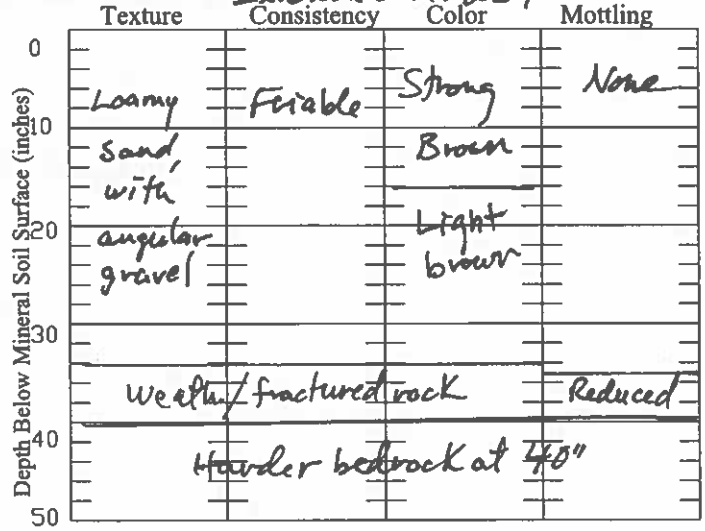
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-9 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 238



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-10 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade @ El. 237

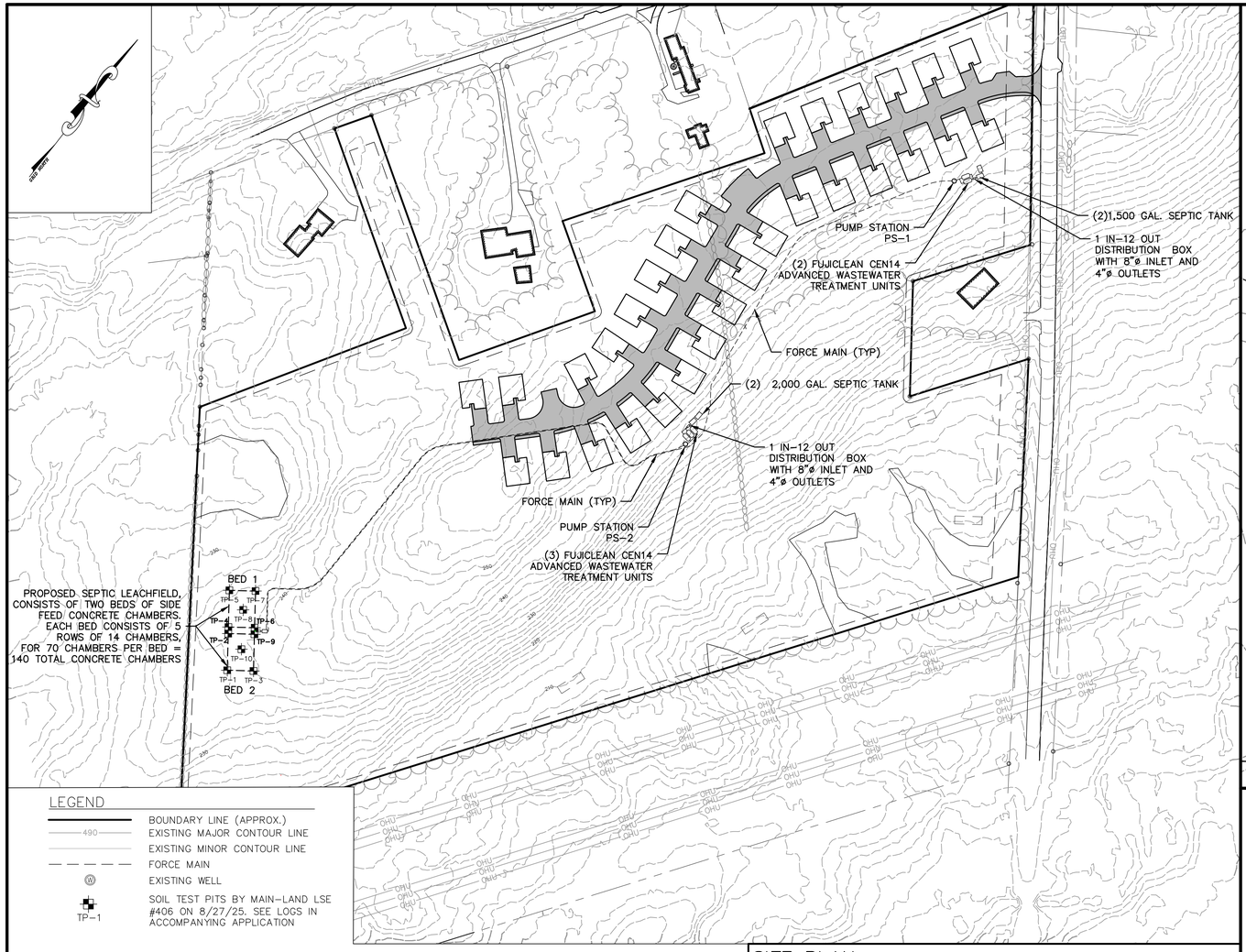


Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	35"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Site Evaluator Signature | SE # | 7/13/26 Date

EXHIBIT G

Design Plan



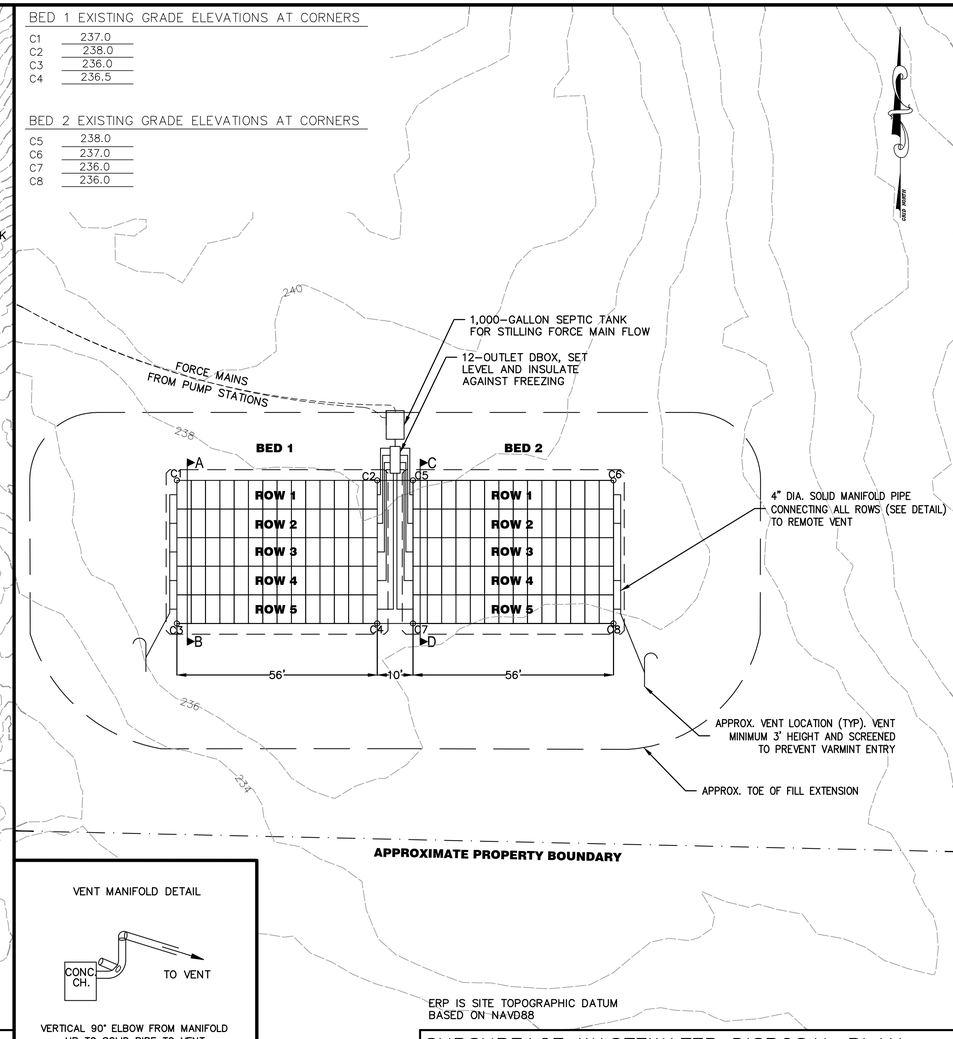
SITE PLAN
SCALE: 1" = 100'

BED 1 EXISTING GRADE ELEVATIONS AT CORNERS

C1	237.0
C2	238.0
C3	236.0
C4	236.5

BED 2 EXISTING GRADE ELEVATIONS AT CORNERS

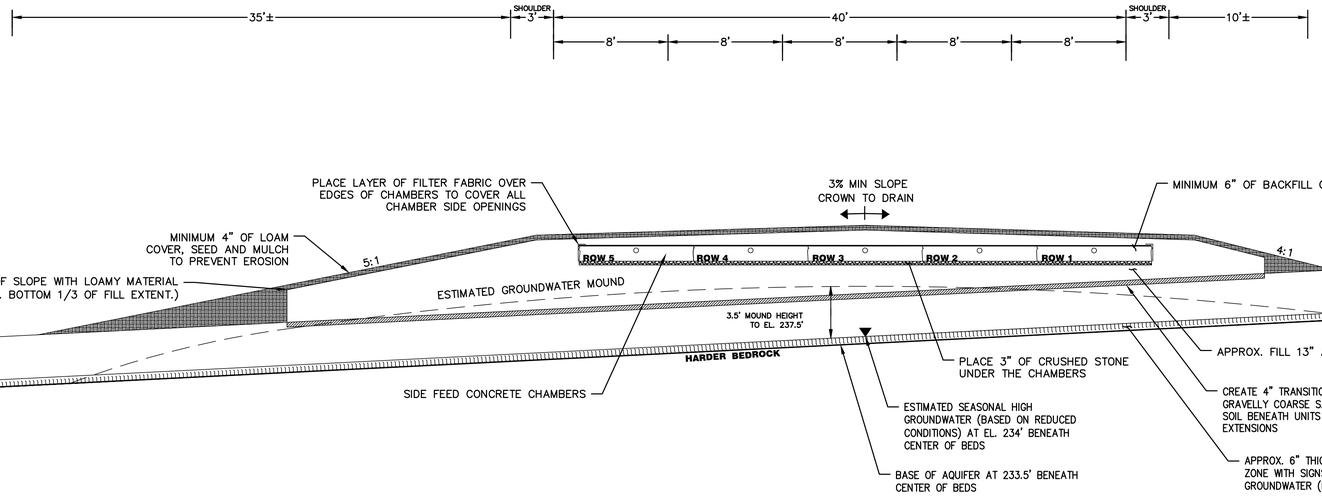
C5	238.0
C6	237.0
C7	236.0
C8	236.0



SUBSURFACE WASTEWATER DISPOSAL PLAN
SCALE: 1" = 20'

VENT MANIFOLD DETAIL

VERTICAL 90° ELBOW FROM MANIFOLD UP TO SOLID PIPE TO VENT



NOTE: CROSS-SECTION DEPICTS BOTH BEDS 1 AND 2

NOTE: BACKFILL MEANS GRAVELLY COARSE SAND

EXISTING ELEVATIONS (BOTH BEDS)

FINAL GRADE	241.2'±(AT ROW 3)
TOP OF CHAMBER	240.4'
BOTTOM OF CHAMBER	239.3'
BOTTOM OF STONE	239.0'
BOTTOM OF BACKFILL	VARIES, EXTENDS DOWN TO TRANSITION ZONE NEAR EXISTING GRADE

CROSS-SECTION (A-B AND C-D)
SCALE: 1" = 5'

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL, NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJECT
ENGINEERED WASTEWATER DISPOSAL SYSTEM
WEBB ROAD
WINDHAM, ME

OWNER OF RECORD
ROBIE HOLDINGS, LLC

MADE FOR
D.M. ROMA CONSULTING ENGINEERS
PO BOX 1116
WINDHAM, ME 04062

DRAWING SCALE:
VARIES

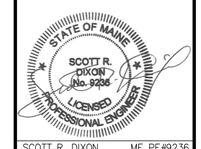
SUBMISSION NOTES:
SUBMISSION 1: 2026-07-13 ERL
THIS SUBMISSION IS FOR APPLICATION.

PROJ. MGR:	SRD
DRAWN BY:	DRP/HRD
CHECKED BY:	SRD
SUBMISSION NO.	N/A
SUBMISSION DATE:	2026-07-13
SUBMITTED FOR:	APPLICATION

NOT FOR CONSTRUCTION

WASTEWATER DISPOSAL DESIGN

SEAL:



SCOTT R. DIXON ME PE#9236

DRAWING NO.
E1.1
MLDC NO. 25-328 1 OF 1

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VIPER Floodlight

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

MICRO STRIKE | OPTICS STRIKE

FEATURES

- Low profile LED floodlighting luminaire with a variety of NEMA distributions for lighting applications such as accent lighting, sign lighting, distribution center, and general area lighting.
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Vibration rated for high vibration applications including bridges and overpasses. All housing sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls, Wiscape and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

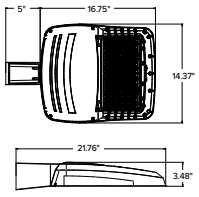
c UL us IP65 BAA TAA DLC LISTED DLC LISTED PREMIUM

CONTROL TECHNOLOGY

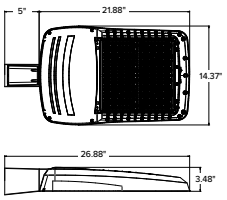
NX CONNECT NX WIRELESS LIGHTGRID



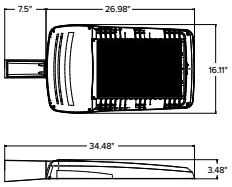
SIZE 1



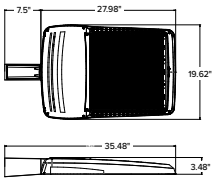
SIZE 2



SIZE 3



SIZE 4



	EPA			
	Size 1	Size 2	Size 3	Size 4
30°	0.827	1.023	1.423	1.850
60°	1.419	1.837	2.419	3.080

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (132, 264, 360, or 540 LED counts) maximize uniformity in retrofit applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new construction applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- One-piece silicone gasket ensures a weatherproof seal

INSTALLATION

- Mounting patterns for each arm can be found on page 8
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- Control options are only available on the knuckle mount option and must be installed on a vertical tenon
- Micro Strike flood configurations may be aimed up, but must have at least a 30° to allow for water to shed.

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor programmable controls and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions)
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year warranty

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VIPER Floodlight

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

MICRO STRIKE OPTICS – ORDERING GUIDE

Example: VP-F–2-132L–39 –3K8–4x4–UNV–AAU–BLT

CATALOG #

VP-F –

Series		Optic Platform	Size		Light Engine		CCT/CRI		Distribution		Voltage	
VP-F	Viper Flood	Microstrike	**1**	Size 1 [6]	**132L-39**	5500 lumens	**AP**	AP-Amber Phosphor Converted	**2X2**	Narrow Spot	**UNV**	120-277V
					132L-55	7500 lumens	**27K8**	2700K, 80 CRI	**4X4**	Medium Spot	**120**	120V
					132L-75	10000 lumens	**3K7**	3000K, 70 CRI	**6X6**	Wide Flood	**208**	208V
					132L-100	12500 lumens	**3K8**	3000K, 80 CRI			**240**	240V
					132L-120	15000 lumens	**35K8**	3500K, 80 CRI			**277**	277V
					132L-135	18000 lumens	**3K9**	3000K, 90 CRI			**347**	347V
			2	Size 2	**264L-130**	18000 lumens	**4K7**	4000K, 70 CRI			**480**	480V
					264L-155	21000 lumens	**4K8**	4000K, 80 CRI				
					264L-175	24000 lumens	**4K9**	4000K, 90 CRI				
					264L-205	27000 lumens	**5K7**	5000K, 70 CRI				
					264L-235	30000 lumens	**5K8**	5000K, 80 CRI				
					264L-260	33000 lumens						
			3	Size 3	**360L-270**	36000 lumens						
					360L-310	40000 lumens						
					360L-345	44000 lumens						
			4	Size 4	**540L-350**	48000 lumens						
					540L-390	52000 lumens						
					540L-415	55000 lumens						
					540L-460	60000 lumens [7]						
					CLO	Custom Lumen Output [1]						

–

Mounting		Color		Options		Network Control Options	
AAU	Adjustable Arm	**BLT**	Black Matte Textured	**F**	Fusing	**NXWS16F**	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,8,10]
AA_U	Adjustable arm mount for round pole [9]	**BLS**	Black Gloss Smooth	**2PF**	Dual Power Feed [2]	**NXWS40F**	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,8,10]
K	Knuckle	**DBT**	Dark Bronze Matte Textured	**2DR**	Dual Driver	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4,8]
T	Trunnion	**DBS**	Dark Bronze Gloss Smooth	**TE**	Tooless Entry	**WIR**	LightGRID+ In-Fixture Module [1,3,4,8]
		GTT	Graphite Matte Textured	**TB**	Terminal Block	**Stand Alone Sensors**	
		LGS	Light Grey Gloss Smooth			**BTS-14F**	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		LGT	Light Grey Gloss Textured			**BTS-40F**	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		PSS	Platinum Silver Smooth			**BTSO-12F**	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		WHT	White Matte Textured			**Stand Alone Sensors**	
		WHS	White Gloss Smooth			**7PR**	7-Pin Receptacle [4,10]
		VGT	Verde Green Textured			**7PR-SC**	7-Pin Receptacle with shorting cap [4,10]
		LEG	Legacy Colors			**3PR**	3-Pin twist lock [4,10]
		Color Option				**3PR-SC**	3-Pin receptacle with shorting cap [4,10]
		CC	Custom Color			**3PR-TL**	3-Pin PCR with photocontrol [4,10]
						Programmed Controls	
						ADD	AutoDim Timer Based Dimming [4]
						ADT	AutoDim Time of Day Dimming [4]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Not available with trunnion mount
3 – Networked Controls cannot be combined with other control options and are limited based on mounting orientation
4 – Not available with 2PF option
5 – Not available with 480V
6 – Not available with Dual Driver option
7 – Some voltage restrictions may apply when combined with controls
8 – Control option not available in 130W or 155W configurations
Only available in Size 1 housing
9 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
10 – Occupancy sensor configurations only available with knuckle.
Should be mounted on a vertical tenon.
11 – PC only available on Size 1 and Size 2

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Floodlight

VIPER LUMINAIRE

STRIKE OPTIC – ORDERING GUIDE

Example: VP–F–ST–1–36L-39–3K7–3x3–UNV–AAU–BLT

CATALOG #

VP-F

Series	
VP-F	Viper Flood

Optic Platform	
ST	Strike

Size	
1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine	
36L-39 [7]	5500 lumens
36L-55 [7]	7500 lumens
36L-85	10000 lumens
36L-105	12500 lumens
36L-120	14000 lumens
72L-115	15000 lumens
72L-145	18000 lumens
72L-180	21000 lumens
72L-210	24000 lumens
72L-240	27000 lumens
108L-215 [7]	27000 lumens
108L-250	30000 lumens
108L-280	33000 lumens
108L-325	36000 lumens
108L-365	40000 lumens
162L-320	40000 lumens
162L-365 [9]	44000 lumens
162L-405	48000 lumens
162L-445	52000 lumens
162L-485	55000 lumens
162L-545 [7]	60000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AM	monochromatic amber, 595nm
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
3K9	3000K, 90 CRI
35K8	3500K, 80 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
3X3	Narrow Flood
5X5	Medium Flood
4X6	Vertical Flood
6X4	Horizontal Flood

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting	
AAU	Adjustable Arm
AA_U	Adjustable arm mount for round pole [10]
K	Knuckle
T	Trunnion

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
LEG	Legacy Colors

Color Option	
CC	Custom Color

Options	
F	Fusing
E	Battery Backup [1,2,6,7,8]
2PF	Dual Power Feed [2]
2DR	Dual Driver
TE	Tooless Entry
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,11]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,11]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	LightGRID+ In-Fixture Module [1,3,4,8]

Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]

Stand Alone Sensors	
7PR	7-Pin Receptacle [4,11]
7PR-SC	7-Pin Receptacle with shorting cap [4,11]
3PR	3-Pin twist lock [4,11]
3PR-SC	3-Pin receptacle with shorting cap [4,11]
3PR-TL	3-Pin PCR with photocontrol [4,11]

Programmed Controls	
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Not available with trunnion mount
3 – Networked Controls cannot be combined with other control options and are limited based on mounting orientation
4 – Not available with 2PF option
5 – Not available with 480V
6 – Not available with 347 or 480V
7 – Not available with Dual Driver option
8 – Only available in Size 1 housing
9 – Some voltage restrictions may apply when combined with controls
10 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
11 – Occupancy sensor configurations only available with knuckle

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Floodlight

VIPER LUMINAIRE

ORDERING GUIDE (CONTINUED)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	**1**	Size 1	**VISOR**	Visor Accessory [1]	**BLS**	Black Gloss Smooth
		2	Size 2			**BLT**	Black Matte Textured
		3	Size 3			**DBS**	Dark Bronze Gloss Smooth
		4	Size 4			**DBT**	Dark Bronze Matte Textured
MTG	Mounting			**A**	Arm Mount for square pole/flat surface	**GTT**	Graphite Matte Textured
				ASQU	Universal Arm Mount for square pole	**LGS**	Light Gray Gloss Smooth
				AAU	Adjustable Arm for pole mounting	**PSS**	Platinum Silver Smooth
				ADU	Decorative upswept Arm	**WHS**	White Gloss Smooth
				RPA	Round Pole Adapter	**WHT**	White Matte Textured
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm	**VGT**	Verde Green Textured
				K	Knuckle	**LEG**	Legacy Colors
				T	Trunnion	**Color Option**	
				WB	Wall Bracket (compatible with universal arm mounts)	**CC**	Custom Color

Accessory Type		Option	
MSC	Miscellaneous	**BIRD SPK**	Bird Spike

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

☐ **NXOFM2-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110–480VAC

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

1 – Visor will block occupancy sensors

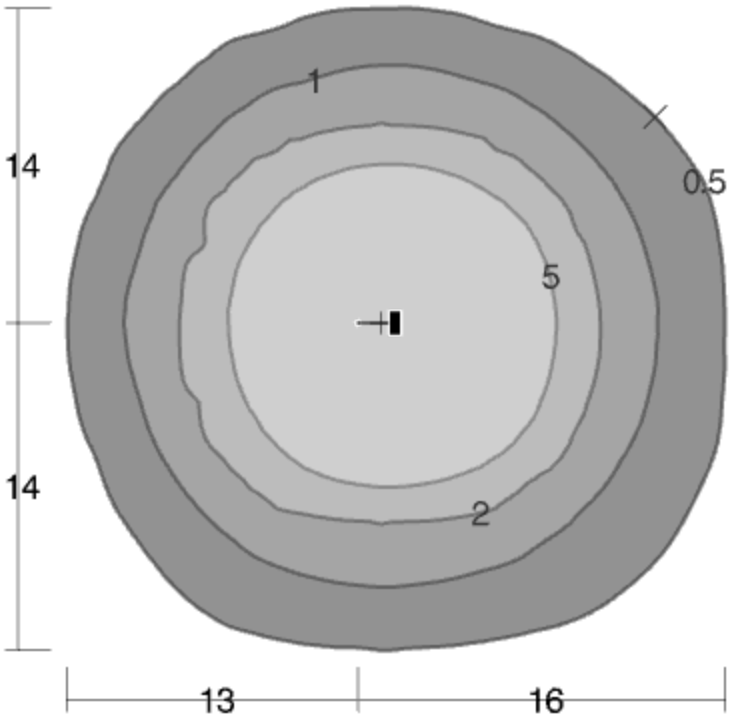
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VP-F-ST-1-36L-85-3K7-3X3.ies

BEACON
VP-F-ST-1-36L-85-3K7-3X3
Viper 2.0
Single (Arm)

Luminaire Watts	84	W
Ballast/Driver Factor	1.00	
Light Loss Factor	1.00	
Total Proration Factor	1.00	
Luminaire Lumens	9125	lms

16 ft



Min: 0.50 fc
Avg: 13 fc
Max: 294 fc
Max/Avg: 23
Avg/Min: 26
Max/Min: 587

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DM ROMA
CONSULTING ENGINEERS

Webb Road Retirement Development Windham
Calculated by: JRH
Printed 5/18/2026
Job #25007

Stormwater Treatment Table

	Total Watershed Area (SF)	New Roof Area (SF) **	New Paved/Gravel Area (SF)	New Landscaped Area (SF)	Existing/Offsite Impervious Area (SF)*	Existing/Offsite Landscaping Area (SF)*	Existing Undeveloped Area (SF)	Treatment Provided	New Impervious Area Treated (SF)	New Landscaped Area Treated (SF)	Treatment Device
WS-10	162,545	8,875	0	26,040	10,935	33,070	83,625	Dripedge	8,875	0	Dripedge Only
WS-11	28,060	0	16,490	11,570	0	0	0	Yes	16,490	11,570	FB-1
WS-12	25,580	0	1,185	3,050	3,190	2,940	15,215	No	0	0	None
WS-20	62,640	11,150	0	51,490	0	0	0	Yes	11,150	51,490	FB-1
WS-30	42,060	5,970	0	15,305	0	1,760	19,025	Yes	5,970	15,305	FB-2
WS-31	35,855	1,820	19,345	14,690	0	0	0	Yes	21,165	14,690	FB-2
WS-32	17,320	1,085	10,800	5,435	0	0	0	Yes	11,885	5,435	FB-2
WS-33	30,940	5,815	0	25,125	0	0	0	Yes	5,815	25,125	FB-2
WS-34	210,895	5,920	0	34,905	0	0	170,070	Dripedge	5,920	0	Dripedge Only
WS-40	73,990	2,960	4,315	22,800	2,595	13,110	28,210	Yes	7,275	22,800	FB-3
WS-41	132,425	795	0	15,370	0	0	116,260	Dripedge	795	0	Dripedge Only
Total		**44,390**	**52,135**	**225,780**					**95,340**	**146,415**	

* The project is not taking credit for the Existing / Offsite impervious and landscaped areas, but are included in the BMP sizing calculations for each treatment device.
** All buildings shall install a roofline drip edge to provide treatment for the rooftop impervious surface.
The building's impervious area is included in the watershed and overall treatment calculations below, but not included in the BMP sizing calculations for the underdrained filter basins.

New Impervious Area =	96,525	
New Impervious Area Requiring Treatment (90%)	86,873	
Provided New Impervious Treatment=	95,340	
	99%	New Impervious Area Treated
New Developed Area =	322,305	
New Developed Area Requiring Treatment (75%)=	241,729	
New Developed Area Treated=	241,755	
	75%	New Developed Area Treated

Summary for Pond FB1&2: Filter Basin

[62] Hint: Exceeded Reach R11 OUTLET depth by 0.79' @ 12.60 hrs

Inflow Area = 216,805 sf, 33.43% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 17.86 cfs @ 12.12 hrs, Volume= 68,344 cf
Outflow = 5.81 cfs @ 12.51 hrs, Volume= 68,353 cf, Atten= 67%, Lag= 23.9 min
Primary = 5.81 cfs @ 12.51 hrs, Volume= 68,353 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 235.04' @ 12.51 hrs Surf.Area= 13,679 sf Storage= 26,793 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 263.0 min (1,074.6 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	41,810 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	5,260	0	0
234.00	9,500	14,760	14,760
236.00	17,550	27,050	41,810

Device	Routing	Invert	Outlet Devices
#1	Primary	229.73'	**10.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.73' / 229.00' S= 0.0243 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	229.83'	**1.7" Vert. 1-3/4" Orifice** C= 0.600
#3	Device 2	232.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	233.50'	**15.0" W x 11.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	234.45'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#6	Secondary	235.10'	**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=5.81 cfs @ 12.51 hrs HW=235.03' TW=229.11' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 5.81 cfs @ 10.65 fps)
  - **2=1-3/4" Orifice** (Passes < 0.17 cfs potential flow)
    - **3=Exfiltration** (Passes < 0.76 cfs potential flow)
  - **4=Orifice/Grate** (Passes < 5.68 cfs potential flow)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Passes < 7.39 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.00' TW=0.00' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Preliminary Major Subdivision Application

To the Town of Windham

Legacy Village Retirement Community

Webb Road
Windham, Maine

Applicant:
Robie Holdings LLC
PO Box 1508
Windham, ME 04062

Prepared By:
DM Roma Consulting Engineers
PO Box 1116
Windham, ME 04062

DM ROMA
CONSULTING ENGINEERS

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SECTION 1

APPLICATION FORM & SUBMISSION CHECKLIST

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION

FEES FOR MAJOR SUBDIVISION PRELIMINARY PLAN REVIEW	**APPLICATION FEE:** + EACH LOT > 10 = $300/LOT	☐ $1,300.00 ☐ $ 6,300	**AMOUNT PAID:** $ 11,300 **DATE:** _____				
	REVIEW ESCROW: Up to 10 Lots = $2,500 11 – 15 Lots = $3,000 16 – 30 Lots = $4,000 30 + Lots = $5,000	☐ $ 5,000	*Office Use:*			*Office Stamp:*	

PROPERTY DESCRIPTION	Parcel ID	Map(s) # 6	Lot(s) # 33-F	Zoning District(s)	F RCCF	Total Land Area SF:	933,647 sf
	# Lots/dwelling units:	31	Total Distr. >1Ac. ☒ Y ☐ N			Est. Road Length(ft):	1,100 ft
	Physical Address	Webb Road		Watershed:	Black Brook to Presumpscot River		
PROPERTY OWNER'S INFORMATION	Name			Name of Business	Robie Holdings, LLC		
	Phone	(207) 892 - 0650		Mailing Address:	PO Box 1508		
	Fax or Cell				Windham, ME 04062		
	Email	jarodrobie@hotmail.com					
APPLICANT'S INFORMATION (*IF DIFFERENT FROM OWNER*)	Name	Same as Owner		Name of Business:			
	Phone			Mailing Address			
	Fax or Cell						
	Email						
APPLICANT'S AGENT INFORMATION	Name	Dustin Roma		Name of Business	DM Roma Consulting Engineers		
	Phone	(207) 591 - 5055		Mailing Address	PO Box 1116		
	Fax or Cell	(207) 310 - 0506			Windham, ME 04062		
	Email	dustin@dmroma.com					

PROJECT INFORMATION

Existing Land Use *(Use extra paper, if necessary)*:

Vacant Land

Provide a narrative description of the Proposed Project *(Use extra paper, if necessary)*:

Divide the property into a 6.12-acre parcel for residential use and a 15.31-acre parcel for Retirement Community use. The Retirement Community will be developed with an 1,100 ft private access drive and 30 detached dwelling units. A public water main will be extended down Webb Road to serve the project. The lots will be served by on-site wastewater disposal systems.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

the site contains portions of steep slopes and wetlands.

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION REQUIREMENTS

Section 910 of the Land Use Ordinance

The submission shall contain, five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Major Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of the preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks before the desired Staff Review Committee meeting.
  - Five copies of the application and plans
  - Application Payment and Review Escrow
- A pre-submission meeting with the Town staff is required.
- Contact information:
  Windham Planning Department (207) 894-5960, ext. 2
  Steve Puleo, Town Planner sipuleo@windhammaine.us
  Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SUBDIVISION REVIEW

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 907.B., 910.C., & 911. Due to projects specifics, are required to provide a complete and accurate set of plans, reports, and supporting documentation (as listed in the checklist below).

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

Staff recommends the applicant provide a proposed construction schedule, a draft Homeowner's Association (HOA) documentation, public open space to be provided, and written offers of cession to the Town, and/or road maintenance agreement with at the Preliminary Plan application submission.

Major Subdivision Preliminary Plan Submission Requirements:			Major Subdivision Preliminary Plan Submission Requirements (Continued):	Applicant	Staff
A. Mandatory Written Information submitted in a bound format:	**Applicant**	**Staff**	6. Vicinity plan showing the area within 250 feet, to include:	☒	☐
1. A fully executed application form, signed by a person with right, title, or interest in the property or Authorized Agent.	☒	☐	i. approximate location of all property lines and acreage of parcels.	☒	☐
2. Evidence of payment of the application and escrow fees.	☒	☐	ii. locations, widths, and names of existing, filed, or proposed streets, easements, or building footprints.	☒	☐
3. Proposed name of the Subdivision.	☒	☐	iii. location and designations of any public spaces.	☒	☐
4. Verification of right, title, or interest in the property, and any abutting property, by deed, purchase and sales agreement, option to purchase, or some other proof of interest.	☒	☐	iv. outline of the proposed subdivision, together with its street system and an indication of future probably street system, if the proposed subdivision encompasses only part of the applicant's entire property.	☒	☐
5. Copy(ies) of the most recently recorded deed for the parcel, along with a copy(ies) of all existing deed restrictions, easements, rights-of-way, or some other proof of interest.	☒	☐	7. Standard boundary survey of the parcel, including all contiguous land in common ownership within the last 5 years.	☒	☐
6. Copy(ies) of any existing and/or proposed covenants, deed restrictions intended to cover all or part of the lots or dwellings in the subdivision.	☒	☐	8. Existing and proposed street names, pedestrian ways, lot easements, and areas to be reserved or dedicated to public use.	☒	☐
7. Copy(ies) of any existing or proposed easements on the property	☒	☐	9. Contour lines at 2-foot intervals, or intervals required by the Board, showing elevations to the required datum.	☒	☐
8. Name, registration number, and seal of Maine Licensed Professional Land Surveyor who conducted the survey.	☒	☐	10. Typical cross-sections of the proposed grading for roadways, sidewalks, etc., including width, type of pavement, elevations, and grades.	☒	☐
9. Name, registration number, and seal of the licensed professional who prepared the plan (if applicable).	☒	☐			
10. An indication of the type of sewage disposal to be used in the subdivision.			11. Wetland areas shall be delineated on the survey. If none, please note.	☒	☐
i. If connecting to the public sewer, provide a letter from Portland Water District stating the District can collect and treat the wastewater	☐	☐	12. The number of acres within the proposed subdivision, location of property lines, existing buildings, vegetative cover type, specimen trees, if present, and other essential existing physical features.	☒	☐

Mandatory Written Information submitted in a bound format (continued):	Applicant	Staff			
ii. If using subsurface wastewater disposal systems (septic), submit test pit analyses prepared by a Maine Licensed Site Evaluator or Certified Soil Scientist. Test pit locations must be shown on a map.	☒	☐	13. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☒	☐
11. Indicate the type of water supply system(s) to be used in the subdivision.	☒	☐	14. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☒	☐
12. If connecting to public water, submit a written statement from the Portland Water District indicating there is adequate supply and pressure for the subdivision.	☐	☐	15. Location & size of existing and proposed sewers, water mains, culverts, bridges, and drainage ways on or adjacent to the property to be subdivided. The Board may require this information to be depicted via cross-section, plan, or profile views.	☒	☐
13. Names and addresses of the record owner, applicant, and adjoining property owners.	☒	☐	16. Location, names, and present width of existing streets, highways, easements, building lines, parks, and other open spaces on or adjacent to the subdivision.	☒	☐
14. An acceptable title opinion proving the right of access to the proposed subdivision or site for any property proposed for development on or off a private way or private road.	☒	☐	17. Location and widths of any streets, public improvements, or open space within the subdivision (if any) are shown on the official map and the comprehensive plan.	☒	☐
15. The name and contact information for the road association whose private way or road is used to access the subdivision.	☐	☐	18. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.	☐	☐
16. Financial Capacity. Estimated costs of development, and an itemization of major costs.			19. Location of any open space to be preserved or common areas to be created, and general description of proposed ownership, improvement, and management	☒	☐
			20. Approximate location of treeline after development.	☒	☐
i. Estimated costs of development, and an itemization of major costs.	☒	☐	21. Delineate boundaries of any flood hazard areas and the 100-year flood elevation as depicted on the Town's Flood Insurance Rate Map.	☒	☐
			22. Show any areas within or adjacent to the proposed subdivision which has been identified by the Maine Department of Inland Fisheries and Wildlife "Beginning with Habitat project maps or within the Comprehensive Plan.		
ii. Financing - provide one of the following:	☐	☐	23. Show areas within or adjacent to the proposed subdivision which is either listed on or eligible for the National Register of Historic Places, or have been identified in the comprehensive plan or by the Maine Historic Preservation Commission as sensitive or likely to contain such sites.	☒	☐
a. Letter of commitment to funding from a financial institution, governmental agency, or other funding agency.	☐	☐			
b. Annual corporate report with explanatory material showing the availability of liquid assets to finance development	☐	☐	24. Erosion & Sedimentation control plan, prepared by MDEP Stormwater Law Chapter 500 Basic Standards, and the MDEP Maine Erosion and Sediment Control Best Management Practices, published March 2003.	☒	☐
c. Bank statement showing the availability of funds if personally financing development	☐	☐	25. A stormwater management plan, prepared by a Maine licensed Professional Engineer by the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the MDEP 2006.	☒	☐
d. Cash equity commitment.	☐	☐			
e. Financial plan for remaining financing.	☐	☐	26. For Cluster Subdivisions that do not maximize the development potential of the property being subdivided, a conceptual master plan for the remaining land showing future roads, Open Space, and lot layout, consistent with the requirements of 911.K., Custer Developments will be submitted.	☐	☐
f. Letter from financial institution indicating an intention to finance.	☒	☐	**C. Submission information for which a waiver may be granted.**	**Applicant**	**Staff**
iii. If a corporation, Certificate of Good Standing from the Secretary of State	☒	☐	1. High-intensity soil survey by a Certified Soil Scientist	☒	☐
			2. Landscape Plan	☒	☐
2. Technical Capacity:			3. Hydrogeologic assessment - required if i) subdivision is not served by public sewer and either any part of the subdivision is over a sand and gravel aquifer or has an average density of more than one dwelling unit per 100,000 square feet, or ii) where site considerations or development design indicate the greater potential of adverse impacts on groundwater quality.	Waiver ☐	☐

i. A statement of the applicant's experience and training related to the nature of the development, including developments receiving permits from the Town.	☒	☐	a) Map showing basic soil types.	☐	☐
			b) Depth to the water table at representative points	☐	☐
ii. Resumes or similar documents showing experience and qualifications of full-time, permanent, or temporary staff contracted with or employed by the applicant who will design the development.	☒	☐	c) Drainage conditions throughout the subdivision.	☐	☐
			d) Data on existing groundwater quality.	☐	☐
			e) Analysis and evaluation of the effect of the subdivision on groundwater.	☐	☐
2. Name and contact information for the road association whose private way or road is used to access the subdivision (if applicable).	☒	☐	f) map showing the location of any subsurface wastewater disposal systems and drinking water wells within the subdivision & within 200 feet of the subdivision boundaries.	☐	☐
			4. Estimate the amount and type of vehicular traffic to be generated on a daily basis and at peak hours.	☒	☐
B. Mandatory Preliminary Plan Information	**Applicant**	**Staff**	5. Traffic Impact Analysis for subdivisions involving 28 or more parking spaces or projected to generate more than 140 vehicle trips per day.	☐	☐
1. Name of subdivision, date, and scale.	☒	☐			
2. Stamp of the Maine License Professional Land Surveyor that conducted the survey, including at least one copy of the original stamped seal that is embossed and signed.	☒	☐	6. If any portion of the subdivision is in the direct watershed of a great pond.	☐	☐
			i. phosphorous impact analysis and control plan.	☐	☐
3. Stamp with the date and signature of the Maine Licensed Professional Engineer that prepared the plans.	☒	☐	ii. long term maintenance plan for all phosphorous control measures.	☐	☐
4. North arrow identifying all of the following: Grid North, Magnetic North, declination between Grid and Magnetic, and whether Magnetic or Grid bearings were used in the plan design.	☒	☐	iii. contour lines at an interval of 2 feet.	☐	☐
			iv. delineate areas with sustained slopes greater than 25% covering more than one acre.	☐	☐
5. Location map showing the subdivision within the municipality.	☒	☐	**Electronic Submission**	☒	☐

The undersigned *hereby makes an application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.*

Dustin Roma	5-18-2026	Dustin Roma - Authorized Agent
APPLICANT OR AGENT'S SIGNATURE	DATE	PLEASE TYPE OR PRINT THE NAME

SECTION 2

AGENT AUTHORIZATION

May 19, 2025

Re: Agent Authorization

Robie Holdings, LLC intends to develop the property located at the corner of Webb Road and Read Road in Windham, Maine shown as a portion of Lot 33 on Tax Map 6 . Robie Holdings, LLC has retained the services of DM Roma Consulting Engineers to act as its authorized agent to apply for land use permits associated with the development of this property.

Sincerely,



Jarod Robie
Robie Holdings, LLC

SECTION 3

WAIVER REQUESTS

Section 3 – Waiver Requests

The following waivers are requested:

1. Performance Standard - Section 120-911(B)(1): Public Water System Connection Requirement. The project will include the construction of approximately 1,000 feet of 8" water main in Webb Road that will extend from the existing water main in Gray Road to the point where Legacy Drive will enter the property, with a hydrant installed at the end of the public water main extension. Water services will be installed to provide domestic and fire protection water to all the residences in the Retirement Community. The new hydrant at the intersection of Legacy Drive and Webb Road will also provide fire protection to Lot 2. The waiver request is to allow Lot 2 to have domestic water supplied by an on-site well instead of extending the public water main an additional 600 feet to provie public water service to Lot 2. It is not economically feasible to extend the water main an additional 600 feet just for one house lot, and adequate fire protection will be provided by the new hydrant that will be within 1,000 feet of the development on Lot 2.

2. Submision Requirement - Section 120-910(C)(3)(C): Hydrogeological Assessment. Lot 1 will be developed as a Retirement Community Use and will include the construction of a single engineered wastewater disposal system that will include the installation of FujiClean CEN Advanced Treatment Units that reduce the nitrate concentration to below 10 mg/l before the wastewater enters the leach field, so it is not necessary to calculate the nitrate concentration at the property line. Lot 2 is a 6-acre lot designed to meet the Country Subdivision standards, which intentionally requires large lot area to provide ample space to place on-site wells and leach fields in locations that will not adversely impact groundwater.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or Project Name: Legacy Village Retirement Community

Tax Map: 6

Lot(s): 33-F

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-911(B)(1)	Public Water System Connection Requirement	☒
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The project will include the construction of approximately 1,000 feet of 8" water main in Webb Road that will extend from the existing water main in Gray Road to the point where Legacy Drive will enter the property, with a hydrant installed at the end of the public water main extension. Water services will be installed to provide domestic and fire protection water to all the residences in the Retirement Community. The new hydrant at the intersection of Legacy Drive and Webb Road will also provide fire protection to Lot 2. The waiver request is to allow Lot 2 to have domestic water supplied by an on-site well instead of extending the public water main an additional 600 feet to provide a public water service to Lot 2. It is not economically feasible to extend the water main an additional 600 feet just for one house lot, and adequate fire protection will be provided by the new hydrant that will be within 1,000 feet of the development on Lot 2.

(continued next page)

Ordinance Section: 120-911(B)(1)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or Project Name: Legacy Village Retirement Community

Tax Map: 6

Lot(s): 33-F

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-910(C)(3)(C)	Hydrogeological Assessment	☒
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

Lot 1 will be developed as a Retirement Community Use and will include the construction of a single engineered wastewater disposal system that will include the installation of FujiClean CEN Advanced Treatment Units that reduce the nitrate concentration to below 10 mg/l before the wastewater enters the leach field, so it is not necessary to calculate the nitrate concentration at the property line. Lot 2 is a 6-acre lot designed to meet the Country Subdivision standards, which intentionally requires large lot area to provide ample space to place on-site wells and leach fields in locations that will not adversely impact groundwater.

(continued next page)

Ordinance Section: 120-910(C)(3)(C)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

SECTION 4

CERTIFICATE OF CORPORATE GOOD STANDING



Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Tue May 19 2026 09:25:33. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
ROBIE HOLDINGS LLC	20152384DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
01/01/2015	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing
14 TANDBERG TRAIL WINDHAM, ME 04062	14 TANDBERG TRAIL WINDHAM, ME 04062

Clerk/Registered Agent

Physical	Mailing
JAROD ROBIE ONE DIAMOND POINT ROAD WINDHAM, ME 04062	JAROD ROBIE PO BOX 1508 WINDHAM, ME 04062

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

Certificate of Legal Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.



If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Division of Corporations, UCC & Commissions Reporting and Information Section at 207-624-7752 or e-mail.

© Department of the Secretary of State

SECTION 5

PROJECT NARRATIVE

Section 5 – Project Narrative

Zoning:	Farm (F) and Retirement Community + Care Facility Overlay (RCCF)
Acreage:	21.43 Acres
Tax Map/Lot:	Map 6 Lot 33-F
Existing Use:	Vacant Land
Proposed Use:	Retirement Community and Country Subdivision

The proposed project includes dividing the property into two parcels. Lot 1 is 15.31 acres and is proposed to be developed as a Retirement Community with 30 detached dwelling units. Lot 2 is 6.12 acres and is intended for residential use in conformance with the standards of a Country Subdivision lot.

The Legacy Village Retirement Community will consist of 30 units of detached housing on a private access driveway extending approximately 1,100 feet from Webb Road. Each dwelling unit will have dedicated driveway parking for 2 vehicles and an attached garage for an additional vehicle parking space. Six common parking spaces will be provided for temporary overflow parking. Sidewalks will be constructed along the new access drive. A common on-site wastewater disposal system will be constructed for the development that can accommodate a design flow for up to 45 bedrooms. We have designed the Retirement Community to allow for a potential expansion in the future, subject to review and approval by the Town and other agencies having jurisdiction over the development.

The project includes the construction of approximately 1,000 feet of public water main in the Webb Road right-of-way that will connect to the existing water main in Gray Road. The water main extension will be reviewed and approved by the Portland Water District.

SECTION 6

NAMES AND ADDRESSES OF ABUTTING PROPERTY OWNERS

Section 6 – Names and Addresses of Abutting Property Owners

The following is a list of direct abutters to the development parcel

Map/Lot	Owner Name	Mailing Address
6/33	Brandon Nelson Tanya Nelson	15 Read Road Windham, ME 04062
6/33-E	Layne Neubauer Hannah Neubauer	19 Read Road Windham, ME 04062
6/33-D	Aaron Garrard Sierra Marin	11 Read Road Windham, ME 04062
6/33-C	Matthew Cook Christine Cook	7 Read Road Windham, ME 04062
6/35-1	Benjamin Bragdon Jennifer Bragdon	1 Read Road Windham, ME 04062
6/33-B	Central Maine Power Company	One City Center, 5th Floor Portland, ME 04101
9/89	Allison Krzanowski	60 Webb Road Windham, ME 04062

SECTION 7

RIGHT, TITLE OR INTEREST DOCUMENTS

Section 7 – Right, Title or Interest Documents

The applicant is the owner of the property, and we have attached the following deeds that have resulted in the current lot configuration. The first two deeds conveyed Lot 1 and Lot 2 to Robie Holdings, LLC and Robie Contracting, Inc. (respectively) as depicted on the Boundary Survey & Lot Division Plan prepared by Main-Land Development Consultants for Bill Andrew which is included as Sheet 2 in the plan set. The second two deeds swapped land between the two parcels to create Tax Lots 33-E and 33-F as they are currently configured.

- CCRD Book 41401, Page 225 to convey "Lot 2" from Irene T. Andrew to Robie Holdings LLC
- CCRD Book 41401, Page 260 to convey "Lot 1" from Irene T. Andrew to Robie Contracting, Inc.
- CCRD Book 41512, Page 317 to convey a portion of "Lot 2" to Robie Contracting, Inc.
- CCRD Book 41520, Page 17 to convey a portion of "Lot 1" to Robie Holdings, LLC

MAINE REAL ESTATE TAX-Paid

WARRANTY DEED
Statutory Short Form

DLN: 2625807

KNOW ALL BY THESE PRESENTS, That **I, Irene T. Andrew**, whose mailing address is **50 New Portland Road, Gorham, ME 04038**, for consideration paid, grant to **Robie Holdings LLC**, a Maine Limited Liability Company, whose mailing address is **PO Box 1508, Windham, ME 04062,** with Warranty Covenants, the real property in the Town of **Windham**, County of **Cumberland** and State of **Maine**, more particularly described as follows:

A certain lot or parcel of land, situated on the southeasterly side of Read Road, so called, and the southwesterly side of Webb Road, so called, in the Town of Windham, County of Cumberland, and State of Maine, being shown as "Lot 2" on a plan titled "Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew" prepared by Main-Land Development Consultants, Inc., Project No. 24-387 dated April 8, 2024 (revised through April 17, 2025), hereafter referred to as the "2025 Main-Land Plan", and being more particularly described as follows:

Beginning on the assumed southwesterly sideline of Webb Road, so called, at the southeasterly corner of "Lot 1" shown on the 2025 Main-Land Plan, being located N 37°28'56" W, 226.35 feet from a #8 rebar found at the southeasterly corner of land now or formerly of Allison Krzanowski (Book 38971, Page 21);

Thence S 37°28'56" E, 52.58 feet to the northeasterly corner of said Krzanowski, being located S 34°30'29" W, 3.02 feet from a 3/4" iron rod found;

Thence along land now or formerly of said Krzanowski the following courses:

1. S 34°30'29" W, 187.16 feet to a #8 rebar found at the northwesterly corner of said Krzanowski;

2. S 36°43'15" E, 175.61 feet to a #8 rebar found at the southwesterly corner of said Krzanowski;

3. N 34°12'04" E, 189.95 feet to a #8 rebar found on the assumed southwesterly sideline of Webb Road at the southeasterly corner of said Krzanowski;

Thence S 35°34'07" E, 333.05 feet along the assumed southwesterly sideline of said Webb Road to the northwesterly line of a Central Maine Power Company Transmission Corridor (Book 3024, Page 859);

Thence S 34°21'48" W, 1,341.04 feet along the northwesterly line of said Central Maine Power Company to the southeasterly corner of land now or formerly of Benjamin S. & Jennifer L. Bragdon (Book 37214, Page 191) and a stonewall, being further located N 34°21'48" E, 154.96 feet from a capped #5 rebar (PLS #408) at the southwesterly corner of said Bragdon;

Thence N 35°31'46" W, 659.86 feet along the northeasterly line of said Bragdon, following a stonewall, to a capped #5 rebar (PLS #1076) found at the southwesterly corner of land now or formerly of Christine & Matthew Cook (Book 31972, Page 65);

Thence along land now or formerly of said Cook the following courses:

1. N 30°47'44" E, 336.49 feet;

2. N 57°58'42" W, 323.62 feet to a capped #5 rebar (PLS #1076) found on the assumed southeasterly sideline of Read Road, so called, at the northeasterly corner of said Cook;

Thence N 32°01'20" E, 60.00 feet along the assumed southeasterly sideline of said Read Road to a capped #5 rebar (PLS #1076) found at the northwesterly corner of land now or formerly of Micah F. (Jr.) & Bridget Sawyer (Book 35294, Page 20);

Thence along land now or formerly of said Sawyer the following courses:

1. S 57°58'42" E, 396.49 feet;

2. N 32°01'18" E, 220.00 feet;

3. N 57°58'42" W, 146.44 feet to the southwesterly corner of land to be retained by the grantor herein (Book 39341, Page 33), being shown as "Remaining Land of Andrew" on the 2025 Main-Land Plan, being further located S 57°58'42" E, 250.05 feet from a capped #5 rebar (PLS #1076) found at the northeasterly corner of land now or formerly of said Sawyer;

Thence along said retained land of the grantor the following courses:

1. N 33°09'27" E, 325.04 feet to the southeasterly corner of said retained land;

2. N 56°50'33" W, 250.00 feet to the northeasterly corner of said retained land and the assumed southeasterly sideline of Read Road, being further located N 33°09'27" E, 330.00 feet from said capped #5 rebar (PLS #1076) found at the northeasterly corner of said Sawyer;

Thence N 33°09'27" E, 314.40 feet along the assumed sontheasterly sideline of Read Road to the northwesterly corner of "Lot 1" shown on the 2025 Main-Land Plan;

Thence along said Lot 1 the following courses:

1. S 42°29'04" E, 473.03 feet to the southwesterly corner of said Lot 1;

2. N 34°30'29" E, 160.00 feet to the Point of Beginning.

Containing 930,307 ft2 (21.36 Acres), more or less.

Reference is made to MRSA 30-A sec 4402.4.A.(1).

Meaning and intending to convey and conveying a portion of the real property described in a deed to John S. Andrew and Irene T. Andrew, as joint tenants, dated March 25, 2022 and recorded in the Cumberland County Registry of Deeds at Book 39341, Page 33. John S. Andrew passed away on October 16, 2024 leaving Irene T. Andrew as the surviving joint tenant.

DOC :13895 BK:41401 PG:227
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
04/24/2025, 01:21:30P
Register of Deeds Jessica M. Spaulding E-RECORDED

Witness my hand and seal this 23rd day of April, 2025.

Witness:

_____

Irene T. Andrew

STATE OF **MAINE**
COUNTY OF **CUMBERLAND**, ss. April 23, 2025

Personally appeared on the above date, the above-named **Irene T. Andrew** and acknowledged the foregoing instrument to be her free act and deed.

Christopher J. McLain
Notary Public, Maine
My Commission Expires
November 10, 2026

Before me,

_____
Notary Public/Attorney at Law
Print name:
Exp: _____

MAINE REAL ESTATE TAX-Paid

WARRANTY DEED
Statutory Short Form

DLN: 2640143

KNOW ALL BY THESE PRESENTS, That **I, Irene T. Andrew**, whose mailing address is **50 New Portland Road, Gorham, ME 04038**, for consideration paid, grant to **Robie Contracting, Inc.**, a Maine Corporation whose mailing address is **PO Box 1508, Windham, ME 04062,** with Warranty Covenants, the real property in the Town of **Windham**, County of **Cumberland** and State of **Maine**, more particularly described as follows:

A certain lot or parcel of land, situated on the southeasterly side of Read Road, so called, and the southwesterly side of Webb Road, so called, in the Town of Windham, County of Cumberland, and State of Maine, being shown as "Lot 1" on a plan titled "Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew" prepared by Main-Land Development Consultants, Inc., Project No. 24-387 dated April 8, 2024 (revised through April 17, 2025), hereafter referred to as the "2025 Main-Land Plan", and being more particularly described as follows:

Beginning on the assumed southeasterly sideline of Read Road, so called, at the northeasterly corner of "Lot 2" shown on the 2025 Main-Land Plan, being further located N 33°09'27" E, 644.40 feet from a capped #5 rebar (PLS #1076) found at the northeasterly corner of land now or formerly of Micah F. Sawyer, Jr. & Bridget Sawyer (Book 35294, Page 20);

Thence N 33°09'27" E, 205.00 feet along the assumed southeasterly line of said Read Road to its intersection with the assumed southwesterly line of Webb Road, so called;

Thence S 37°28'56" E, 489.72 feet along the assumed southwesterly line of said Webb Road to a corner in said "Lot 2" being located N 37°28'56" W, 52.58 feet from the northeasterly corner of land now or formerly of Allison Krzanowski (Book 38971, Page 21), and further located N 37°28'56" W, 226.35 feet from a #8 rebar found at the southeasterly corner of said Krzanowski;

Thence along said "Lot 2" and through land of the grantor herein (Book 39341, Page 33), the following courses:

1. S 34°30'29" W, 160.00 feet;

2. N 42°29'04" W, 473.03 feet to the Point of Beginning.

Containing 84,230 ft2 (1.93 Acres), more or less.

Reference is made to MRSA 30-A sec 4402.4.A.(1).

Meaning and intending to convey and conveying a portion of the real property described in a deed to John S. Andrew and Irene T. Andrew, as joint tenants, dated March 25, 2022 and recorded in the Cumberland County Registry of Deeds at Book 39341, Page 33. John S. Andrew passed away on October 16, 2024 leaving Irene T. Andrew as the surviving joint tenant.

DOC :13903 BK:41401 PG:261
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
04/24/2025, 01:40:29P
Register of Deeds Jessica M. Spaulding E-RECORDED

Witness my hand and seal this 23rd day of April, 2025.

Witness:

_____

Irene T. Andrew

STATE OF **MAINE**
COUNTY OF **CUMBERLAND**, ss. April 23, 2025

Personally appeared on the above date, the above-named **Irene T. Andrew** and acknowledged the foregoing instrument to be her free act and deed.

Before me,

Christopher J. McLain
Notary Public, Maine
My Commission Expires
November 10, 2026

Notary Public/Attorney at Law
Print name:
Exp: _____

(1)

Warranty Deed
(Maine Statutory Short Form)

DLN: 2918836

KNOW ALL PERSONS BY THESE PRESENTS THAT, Robie Holdings, LLC, a Maine Limited Liability Company, with a mailing address of PO BOX 1508, Windham, Maine 04062, for valuable consideration paid, by **Robie Contracting, Inc.,** a Maine Corporation with a mailing address of PO BOX 1508, Windham, Maine 04062, the receipt and sufficiency whereof is hereby acknowledged, does hereby GRANT, unto the said **Robie Contracting Inc.,** a Maine Corporation, with ***WARRANTY COVENANTS***, a certain lot or parcel of real property, with the buildings thereon, situated in the Town of Windham, County of Cumberland, State of Maine, bounded and described as follows:

PROPERTY DESCRIBED IN "EXHIBIT A" ATTACHED HERETO AND MADE A PART HEREOF

Meaning and intending to convey and hereby conveying a portion of the premises conveyed to Robie Holdings LLC dated April 23, 2025 and recorded in Book 41401, Page 225 with the Cumberland County Registry of Deeds.

In Witness Whereof, Jarod Robie the Sole Member of Robie Holdings, LLC has caused this instrument to be signed and sealed this 12 day of June, 2025.

Robie Holdings, LLC

WITNESS

By: Jarod Robie
Its: Sole Member

STATE OF Maine
COUNTY OF CUMBERLAND, ss.

Personally appeared before me on this 12 day of June 2025, the above Jarod Robie, Sole Member of Robie Holdings, LLC and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of said Robie Holdings, LLC.

Notary Public/Attorney At Law

Kerry E. Kimball
State of Maine
Attorney At Law
Bar #8577

Print Name

DOC :21080 BK:41512 PG:318
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
06/16/2025, 08:24:28A
Register of Deeds Jessica M. Spaulding E-RECORDED

(1)

EXHIBIT A

A certain lot or parcel of land, situated on the southeasterly side of Read Road, so called, in the Town of Windham, County of Cumberland, and State of Maine, being a portion of "Lot 2" as shown on a plan titled *"Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew"* prepared by Main-Land Development Consultants, Inc., Project No. 24-387 dated April 8, 2024 (revised through April 17, 2025), hereafter referred to as the ***"2025 Main-Land Plan"***, and being more particularly described as follows:

Beginning on the assumed southeasterly sideline of Read Road, so called, at the northeasterly corner of "Remaining Land of Andrew" shown on the ***2025 Main-Land Plan***, now or formerly owned by Irene T. Andrew (Book 39341, Page 33), being also a corner of "Lot 2" shown on said plan, owned by the grantor herein (Book 41401, Page 225), and being further located N 33°09'27" E, 330.00 feet from a capped #5 rebar (PLS #1076) found at the northeasterly corner of land now or formerly of Micah F. Sawyer, Jr. & Bridget Sawyer (Book 35294, Page 20);
Thence N 33°09'27" E, 314.40 feet along said Read Road to the northwesterly corner of "Lot 1" shown on the ***2025 Main-Land Plan***, now or formerly owned by Robie Contracting, Inc. (Book 41401, Page 260), and the northeasterly corner of said Lot 2;
Thence S 42°29'04" E, 167.84 feet along the common boundary between Lot 1 and Lot 2 to a point;
Thence S 29°53'02" W, 273.22 feet, passing through said Lot 2, to a point on the northeasterly line of said Remaining Land of Andrew;
Thence N 56°50'33" W, 178.20 feet along said Remaining Land of Andrew to the **Point of Beginning.**

Containing 49,864 ft^2 (1.15 Acres), more or less.

Being a portion of "Lot 2" shown on the ***2025 Main-Land Plan***, and described in Warranty Deed from Irene T. Andrew to Robie Holdings LLC dated April 23, 2025 and recorded in Book 41401, Page 225.

All Book & Page numbers listed above refer to the Cumberland County Registry of Deeds.

All bearings are oriented to Grid North, U.S. State Plane Coordinate System, Maine West Zone, NAD83 as shown on a plan titled *"Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew"* prepared by Main-Land Development Consultants, Inc., Project No. 24-387 dated April 8, 2024 (revised through April 17, 2025).

Warranty Deed
(Maine Statutory Short Form)

DLN: 2870481

KNOW ALL PERSONS BY THESE PRESENTS THAT, Robie Contracting, Inc., a Maine Corporation, with a mailing address of PO BOX 1508, Windham, Maine 04062, for valuable consideration paid, by **Robie Holdings, LLC,** a Maine Limited Liability Company, with a mailing address of PO BOX 1508, Windham, Maine 04062, the receipt and sufficiency whereof is hereby acknowledged, does hereby GRANT, unto the said **Robie Holdings, LLC,** a Maine Limited Liability Company with ***WARRANTY COVENANTS***, a certain lot or parcel of real property, with the buildings thereon, situated in the Town of Windham, County of Cumberland, State of Maine, bounded and described as follows:

PROPERTY DESCRIBED IN "EXHIBIT A" ATTACHED HERETO AND MADE A PART HEREOF

Meaning and intending to convey and hereby conveying a portion of the premises conveyed to Robie Contracting, Inc. by deed dated April 23, 2025 and recorded in Book 41401, Page 260.

In Witness Whereof, Jarod Robie the President of Robie Contracting, Inc. has caused this instrument to be signed and sealed this 12 day of June, 2025.

Robie Contracting, Inc.

WITNESS

By: Jarod Robie
Its: President

STATE OF Maine
COUNTY OF CUMBERLAND, ss.

Personally appeared before me on this 12 day of June, 2025 the above Jarod Robie, President of Robie Contracting, Inc. and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of said Robie Contracting, Inc.

Notary Public/Attorney At Law

Kerry E. Kimball
State of Maine
Attorney At Law
Bar #8577

Print Name

DOC :21607 BK:41520 PG:18
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
06/18/2025, 09:21:18A
Register of Deeds Jessica M. Spaulding E-RECORDED

(3)

EXHIBIT A

A certain lot or parcel of land, situated on the southwesterly side of Webb Road, so called, in the Town of Windham, County of Cumberland, and State of Maine, being a portion of "Lot 1" as shown on a plan titled "Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew" prepared by Main-Land Development Consultants, Inc., Project No. 24 387 dated April 8, 2024 (revised through April 17, 2025), hereafter referred to as the "2025 Main-Land Plan", and being more particularly described as follows:

Beginning on the assumed southwesterly sideline of Webb Road, so called, at the southeasterly corner of "Lot 1" shown on the 2025 Main-Land Plan, owned by the grantor herein (Book 41401, Page 260), being also a corner of "Lot 2" shown on said plan, now or formerly owned by Robie Holdings LLC (Book 41401, Page 225);

Thence along the common boundary between said Lot 1 and Lot 2 the following courses:

1. S 34°30'29" W, 160.00 feet to the southwesterly corner of Lot 1;
2. N 42°29'04" W, 305.19 feet to a point;

Thence N 29°53'02" E, 193.69, passing through said Lot 1 and land of the grantor herein, to the southwesterly sideline of said Webb Road;

Thence S 37°28'56" E, 329.10 feet to the Point of Beginning.

Containing 53,206 ft2 (1.22 Acres), more or less.

Being a portion of "Lot 1" shown on the 2025 Main-Land Plan, and described in Warranty Deed from Irene T. Andrew to Robie Contracting, Inc. dated April 23, 2025 and recorded in Book 41401, Page 260.

All Book & Page numbers listed above refer to the Cumberland County Registry of Deeds.

All bearings are oriented to Grid North, U.S. State Plane Coordinate System, Maine West Zone, NAD83 as shown on a plan titled "Plan Showing a Standard Boundary & Proposed Lot Division – Land of Andrew" prepared by Main-Land Development Consultants, Inc., Project No. 24-387 dated April 8, 2024 (revised through April 17, 2025).

SECTION 8

EXISTING OR PROPOSED EASEMENTS OR COVENANTS

Section 8 – Existing or Proposed Easements or Covenants

The Legacy Village Retirement Community is is intended to be developed as a Condominium. A Condominium Declaration will be submitted with the Final Plan Application and will outline the rights and responsibilities of the Condominium Association and each unit owner.

Lot 2 is not intended to have any association with the Legacy Village Condominium.

We are not aware of any existing easements on the property.

SECTION 9

TECHNICAL CAPACITY OF THE APPLICANT

Section 9 – Technical Capacity of the Applicant

Robie Holdings LLC is the developer of the project. Jarod Robie is the principal owner of Robie Holdings LLC, and he has developed many single-family subdivisions and multi-family residential developments in Windham and the surrounding communities that included road construction, utility installation, lot development and building construction. Significant recent projects in Windham include Belvedere Commons, Kettle Estates, Dartmouth Place, Chamberlain Estates, Badger Run, Voyager Lane, Astral Village, Shepherd Lane and others.

DM Roma Consulting Engineers has been retained to perform Civil Engineering design and Land Permitting through the Town and State. The Licensed Professional Engineers at DM Roma have been designing land development projects for over 20 years and have extensive experience with Stormwater Management Design, Roadway and Utility engineering, Site grading, Erosion Control design, Engineering of on-site wastewater disposal systems, and regulatory permitting through local municipalities, the Maine Department of Environmental Protection, the Maine Department of Transportation, US Army Corps of Engineers and other affiliated agencies.

Main-Land Development Consultants has been retained to perform Land Surveying services and Engineered Wastewater Disposal System design and permitting services for the project. Main-Land Development Consultants employs licensed land surveyors, engineers, geologists, site evaluators and other associated design professionals.

Mainely Soils has been retained to perform wetlands delineation and soils analysis. Alex Finamore is experienced in septic system design, wetland delineation, soils analysis and environmental permitting.

Mark Hampton Associates has been retained to perform a Class-A High Intensity Soil Survey on the parcel. Mark is a Certified Soil Scientist and Licensed Site Evaluator in the State of Maine.

SECTION 10

CAPACITY OF EXISTING UTILITIES TO SERVE THE PROJECT

Section 10 – Capacity of Existing Utilities to Serve the Project

Potable Water – The project includes the construction of an 8-inch water main in Webb Road to serve the Retirement Community with public water. A water service will be installed off the new main to serve the 30 dwelling units in the retirement community. The Portland Water District will review our project plans for conformity with their construction standards. Lot 2 will be served by a new on-site private well.

Fire Protection Water – A new hydrant will be installed at the end of the 8" water main extension near the project's driveway entrance, and a private hydrant will be installed within the development to provide additional fire protection. We are not proposing to install sprinkler systems in the homes unless requested by the unit purchaser.

Electrical Service – Existing overhead power is available on Webb Road to serve the proposed development. Primary electrical service will be extended through the project underground and will connect to pad-mounted transformers. Secondary electrical service will be installed underground from the transformers to the dwellings.

Wastewater Disposal – There is no public sewer available to the property, so on-site wastewater disposal systems will be installed. The final design of the wastewater disposal system for the Retirement Community will be reviewed and approved by the Maine Department of Health and Human Services as an engineered system. Lot 2 will require an individual on-site private wastewater that can be approved by the Town.

Natural Gas – We anticipate each unit will require on-site bottled gas.

Storm Drainage – The project site generally drains southerly parallel to Webb Road and we are not proposing to alter the public drainage collection system within the public Right Of Way.

SECTION 11

SOLID WASTE DISPOSAL

Section 11 – Solid Waste Disposal

Tree clearing and stumping will be required. Tree stumps will be hauled off site by the site contractor and disposed in accordance with all applicable regulations, or ground on-site to create erosion control mix. Brush will be burned or chipped.

During construction of the buildings, temporary on-site dumpsters will be placed on the property and emptied by a licensed waste hauling company.

We intend to utilize the Town's curbside trash collection program for the disposal of household waste generated by the dwelling occupants.

We do not anticipate that the project will create any hazardous solid waste that will require special treatment.

SECTION 12

SITE LIGHTING

Section 12 – Site Lighting

Each dwelling will include the installation of exterior lighting that is mounted to the building to provide illumination of the sidewalks and driveways so that on-street lighting will not be required.

SECTION 13

SITE LANDSCAPING

Section 13 – Site Landscaping

The individual buildings will be landscaped with ornamental grasses, shrubs and perennials between the front entry porches adjacent to the foundations. Landscaping preference will be left to the individual unit owners to determine the amount of landscaping that is desired. Street trees are proposed to be installed on both sides of the street as indicated on the Site and Landscaping Plan.

SECTION 14

VEHICLE TRAFFIC

Section 14 – Vehicle Traffic

The Institute of Transportation Engineers(ITE) Trip Generation handbook (10th edition) estimates that single-family detached housing (Land Use Code #210) is expected to generate the following vehicle trips:

Weekday	= 9.44 trips per dwelling unit
AM Peak Hour	= 0.74 trips per dwelling unit
PM Peak Hour	= 0.99 trips per dwelling unit

Accordingly, the proposed lot 2 intended for single-family residential use can be expected to generate a total of 9 trips during a typical weekday, 1 trip in the morning peak hour and 1 trip in the evening peak hour.

The Institute of Transportation Engineers(ITE) Trip Generation handbook (10th edition) estimates that Senior Adult Housing – Single Family (Land Use Code #251) is expected to generate the following vehicle trips:

Weekday	= 4.31 trips per dwelling unit
AM Peak Hour	= 0.34 trips per dwelling unit
PM Peak Hour	= 0.39 trips per dwelling unit

Accordingly, the proposed 30 units of Senior Adult Housing can be expected to generate a total of 129 trips during a typical weekday, 10 trips in the morning peak hour and 12 trips in the evening peak hour.

The ITE Handbook also provides the following directional distribution rates for Senior Adult Housing – Single Family Use:

AM Peak Hour	= 43% enter site and 57% exit site
PM Peak Hour	= 56% enter site and 44% exit site

Based upon the above distribution patterns, 4 trips during the morning peak hour and 7 trips during the evening peak hour will enter the site. Accordingly, 6 trips during the morning peak hour and 5 trips during the evening peak hour will exit the site.

In summary, the combined project to create the single family house lot and 30-unit retirement community will generate 138 total daily vehicle trips, 11 trips in the morning peak hour and 13 trips in the evening peak hour.

SECTION 15

IMPACT TO IMPORTANT OR UNIQUE NATURAL AREAS

Section 15 – Impact to Important or Unique Natural Areas

The attached letter and map provided from the Maine Department of Inland Fisheries and Wildlife indicates that there are no significant wildlife habitats located within the vicinity of the proposed development. The attached letter from the Maine Natural Areas Program indicates that there are no rare or threatened botanical species documented in the project area.

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

July 25, 2025

J.P. Connolly
DM Roma Consulting Engineers
2 Main Street, Suite 18-128
Biddeford, ME 04005

RE: Information Request - 15 Read Road, Development, Windham Project ID 9051-10481

Dear J.P.:

Per your request received on April 3, 2025, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other protected natural resource concerns within the vicinity of the ***15 Read Road, Development, Windham*** project, pursuant to MDIFW's authority. MDIFW understands the project proposes a residential development of unspecified size with associated road, utilities, and stormwater infrastructure. For the purposes of this review, MDIFW presumes tree clearing and/or trimming would occur. Please note that as project details are lacking, our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be affected by this project.

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

Bat Species
Of the eight species of bats that occur in Maine, four species are afforded protection under Maine's Endangered Species Act (MESA, 12 M.R.S 12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Department does not anticipate significant impacts to any of the bat species as a result of this project.

SIGNIFICANT WILDLIFE HABITAT

Significant Vernal Pools
At this time MDIFW Significant Wildlife Habitat maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on

MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Therefore, their absence from resource maps is not necessarily indicative of an absence on the ground. We recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Department for review well before the submission of any necessary permits. MDIFW will need to review and verify any vernal pool data prior to final determination of significance.

AQUATIC RESOURCES

Fish Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and the Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

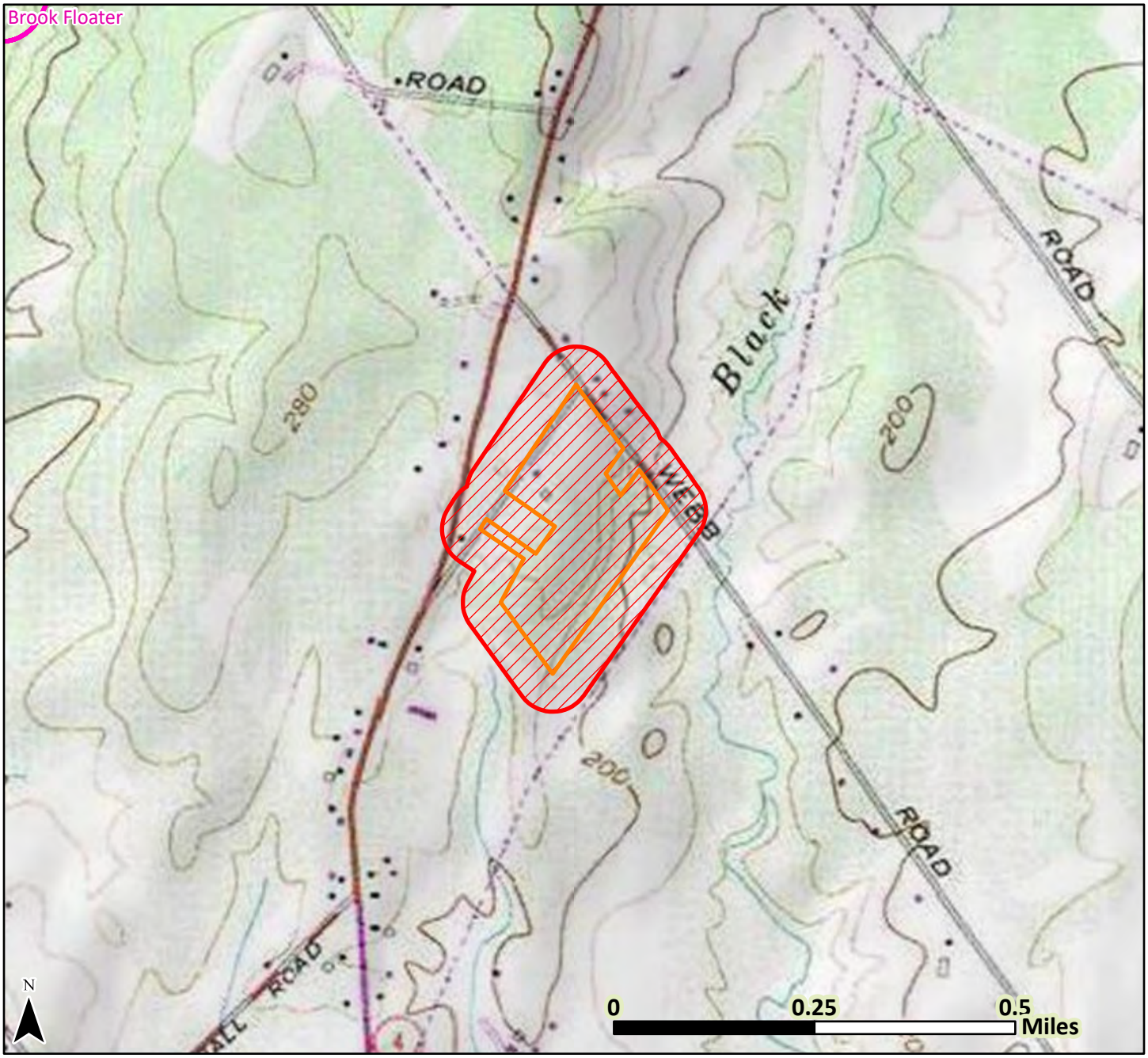


Andrew J. Wood
Environmental Review Coordinator

Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

15 Read Road, Development, Windham

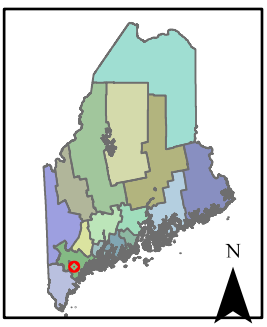
Project ID 9051, Version ID 10481



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.

- County Boundary
- Township Boundary
- Project Footprint
- Search Area
- E, T, & SC Species

Date: 4/8/2025
UTM Zone 19N, NAD83



This map contains sensitive information - do not distribute it beyond the project applicant, consultant, or the permitting agency.

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

April 7, 2025

JP Connolly
DM Roma
PO Box 1116
Windham, ME 04062

Via email: jp@dmroma.com

Re: Rare and exemplary botanical features in proximity to: #25007, Webb Road Subdivision, Map 6 Lot 33, Windham, Maine

Dear JP Connolly:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received April 3, 2025 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Windham, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #25007, Webb Road Subdivision, Map 6 Lot 33, Windham, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Broad Beech Fern						
	SC	S2	G5	1872-08	15	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	E	S1	G5	2000-06-06	5	Dry barrens (partly forested, upland)
Columbian Watermeal						
	SC	S2	G5	2016-09-12	11	Open water (non-forested, wetland)
Ebony Spleenwort						
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Engelmann's Spikerush						
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Fern-leaved False Foxglove						
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Great Blue Lobelia						
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested, seasonally wet)

Hollow Joe-pye Weed					
SC	S2	G5	2011-10-22	22	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Horned Pondweed					
SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
Marsh Milkwort					
PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not coastal nor rivershore (non-forested, wetland)
Missouri Rockcress					
T	S1	G5	1905-06-11	5	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Mountain Honeysuckle					
E	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Pitch Pine Woodland					
	S3	G2	2005-12-08	28	
Scarlet Oak					
E	S1	G5	1916-08	2	Hardwood to mixed forest (forest, upland)
Small Whorled Pogonia					
E	S2	G2G3	2018-06-15	18	Hardwood to mixed forest (forest, upland)

Spicebush					
SC	S3	G5	2006-06-11	11	Forested wetland
Spo ed Pondweed					
T	S1	G5	2016-06-22	3	Open water (non-forested, wetland)
Vasey's Pondweed					
SC	S2	G4	1901-08-04	7	Open water (non-forested, wetland)

Date Exported: 2025-04-07

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

SECTION 16

STORMWATER MANAGEMENT

DM ROMA
CONSULTING ENGINEERS

STORMWATER MANAGEMENT REPORT

LEGACY VILLAGE RETIREMENT COMMUNITY
WINDHAM, MAINE

A. Narrative

Robie Holdings, LLC, the applicant and landowner, is proposing to develop a 15.3-acre parcel on Webb Road in Windham, Maine, better identified as part of Lot 33 on the Town of Windham Assessor's Map 6.

The applicant is proposing a 30 single family unit retirement condominium. The development will also include the construction of approximately 1,080 linear feet of roadway with associated paved driveways and parking area. The units will be served by public water, shared subsurface wastewater disposal fields and underground electric, telephone and cable.

B. Existing Conditions

The project site consists of both undeveloped meadow and woodland. The project site contains a variety of land slopes. The land along the top of the ridge, center and northern portion of the site, is moderately sloped (2% to 6%) with steeper land downhill of the ridge (9% to 20%). A Class A High Intensity Soil Report and Map were prepared by Mark Hampton Associates, Inc. and utilized in the stormwater analysis. Soils data utilized outside the limits of the soils investigation was provided by the Medium Intensity Soils Map for Cumberland County, Maine published by the Natural Resource Conservation Service. The soil type boundaries with associated Hydrologic Soils Groups (HSG) are shown on the watershed maps and the resultant High Intensity Soil Survey Narrative and the Medium Intensity Soils Map have been included as Attachment 1 of this report.

In general, the property drains across the property to the south and the east. Land in the western portion of the site drains easterly across the eastern property boundary in the direction of a utility corridor. Flow generally continues across the utility corridor, eventually discharging into Black Brook. Flow generated by the southern portion of the site drains across the southern property boundary and is collected in an unnamed stream that flows southerly, draining across the same utility corridor and then conveyed beneath Barnes Road. Once the stream exits the neighborhood, it is then collected in Black Brook. Black Brook is then conveyed below River Road and ultimately discharging to the Presumpscot River. The site's downstream waterbodies are not identified by the Maine Department of Environmental Protection (MDEP) as Urban Impaired Streams in Chapter 502.

C. Alterations to Land Cover

Based on the proposed roadway and unit related development, the project will generate approximately 96,525 square feet (2.22 acres) of impervious surfaces. The project will also generate approximately 225,780 square feet (5.18 acres) of lawn, landscaping, and best management practices, resulting in a total project developed area of 322,305 square feet (7.40 acres).

Since the project will result in the construction of over one (1) acre of impervious surface and over five (5) acres of developed area, the project will be required to obtain a Stormwater Permit from the MDEP. In addition, the project will require Subdivision approval from the Town of Windham. As part of the requirements of the regulatory review, the project will need to meet the Basic, General and Fooding Standards of the MDEP Chapter 500 Stormwater Management regulations. The review of both permits will be performed by the Town of Windham as the Town has Municipal Capacity to review the Stormwater Permit on behalf of the MDEP.

D. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing stormwater quality improvement measures. The goal of the storm drainage system design is to remove potential stormwater pollutants from runoff generated by the development while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains, and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 10 years and 25 years was obtained from Appendix H of the MDEP, Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

E. Basic Standards

The project is required by the Town and MDEP to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

F. General Standard

The proposed project is required to meet the General Standard outlined in the MDEP Chapter 500 to provide water quality treatment for portions of the site development. Based on the calculation provided in Section 4C(2)(a) of Chapter 500 related to the amount of the property being developed and its corresponding treatment standards in Table 1 in Chapter 500, the project will require the treatment of more than 90% of the site's impervious area and more than 75% of the total developed area. This calculation is included as Attachment 2 of this report. The General Standard will be met by incorporating the construction of three (3) underdrained filter basins into the project's stormwater infrastructure, in addition to roofline drip edges installed around each of the buildings to provide the required treatment for the rooftops.

As a result of the proposed stormwater infrastructure, treatment is provided for over 98% of the project's impervious surface and over 75% of the site's developed area. Calculations can be found as Attachment 2 in this report.

Included as Attachment 3 of this report are the sizing calculations for the proposed underdrained filter basins. These calculations include:

- Storage Volume and Basin Floor surface area meeting *Chapter 7.1 Grassed Underdrained Soil Filter BMP* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP.
- Sediment pre-treatment calculations
- Spillway sizing calculations demonstrating one foot of freeboard to the top of berm during the 25-year storm event assuming failure of the other discharge devices.
- Hydrograph tables demonstrating the outlet controls to release the stormwater from the basin between 24 and 48 hours.
- Sizing calculations for the level spreaders located at the outfall of the discharge pipe from the basins meeting the sizing standards identified in *Section G(4) Level Spreaders* in Maine Erosion and Sediment Control Best Management Practices Manual for Designers and Engineers prepared by the MDEP.

The locations and construction detail of the proposed roofline dripedges have been included within the construction details sheets and the sizing calculations to meet *Chapter 7.5 Roof Dripline Filters* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP have been included as Attachment 4 of this report.

G. Flooding Standard

The project is required to meet the Town of Windham's stormwater design standards indicating the project must detain, retain, or result in the infiltration of stormwater from the 24-hour storms of the 2-year, 10-year and 25-year frequencies such that the peak flows of stormwater generated by the project site do not exceed the peak flows of stormwater prior to undertaking the project. To maintain the existing flow rates, the site design will include three (3) grassed underdrained filter basins integrated into the project's stormwater infrastructure. To demonstrate compliance with the Flooding Standard, three (3) study points were analyzed.

Study Point 1 ("SP1") represents where flow, generated by on and off-site sources, drains easterly, parallel to Webb Road, and crosses the property line toward the single-family house located along Webb Road. This study point was of greatest importance to ensure there is no flooding concerns of the developed abutter's property.

Study Point 2 ("SP2") represents flow that is generated on-site that crosses the eastern property boundary. This flow then continues to the abutting utility corridor.

Study Point 3 ("SP3") represents the location where flow, generated by on and off-site sources, crosses the southerly property boundary. This flow enters an undeveloped woodland.

The results of the stormwater model incorporating the stormwater detention best management practices are summarized in Table 1:

Table 1 – Peak Rates of Stormwater Runoff						
Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP-1	1.26	0.57	2.93	2.45	5.28	4.33
SP-2	4.07	2.74	10.08	9.97	15.61	15.57
SP-3	2.34	1.60	5.66	4.79	8.68	8.65

As illustrated in Table 1, the proposed project's design, including the integration of the proposed BMPs, reduces the peak rates of runoff at all study points in all the modeled storm events. The primary concern of the project's stormwater analysis was at Study Point 1. Due to re-directing the majority of the project's development away from this property and into Underdrained Filter Basin FB-1, there is a significant decrease in each storm event tributary to the existing single-family lot.

The watershed maps showing pre-development and post-development drainage patterns are included in the plan set and the computations performed with the HydroCAD software program are included as Attachment 5 of this report.

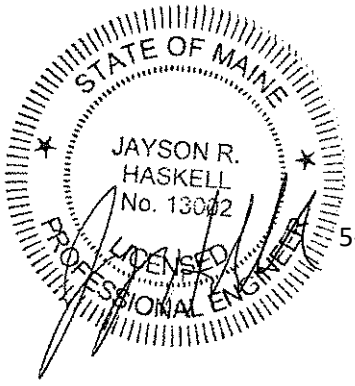
H. Maintenance of common facilities or property

The applicant will be responsible for the maintenance of the stormwater facilities until a condominium association is created. The responsibility will then be conveyed to the association. An Inspection, Maintenance and Housekeeping Plan for the project has been created and has been included as Attachment 6 of this report.

Prepared by:

DM ROMA CONSULTING ENGINEERS

Jayson R. Haskell P.E.
Southern Maine Regional Manager



5-18-2026

ATTACHMENT 1

CLASS A – HIGH INTENSITY SOIL SURVEY REPORT & MEDIUM INTENSITY SOILS SURVEY MAP

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Soil Narrative Report

DATE:	Soil Profiles observed on July 12, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers. Scale 1-inch equals 60 feet and two-foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 60 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with one-foot contours and ground control provided.

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

C.S.S. #216, L.S.E. #263 January 14, 2025

Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Dixfield
(Aquic Haplorthods)

SETTING

PARENT MATERIAL:	Derived from compact loamy glacial till.
LANDFORM:	Till plains, hills and ridges.
POSITION IN LANDSCAPE:	Plains and middle levels.
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%, (C) 8-15%, (D) 15-25%, (E) >25%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.0 to 2.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark brown, stony sandy loam, 0-7"
Subsurface Layer:	Brown, sandy loam, 7-20"
Subsoil Layer:	Olive brown, stony sandy loam 16-31"
Substratum:	Olive gray, stony sandy loam, 25-65"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderately Rapid
PERMEABILITY:	Moderate in solum, slow in substratum
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS

(Within Mapping Unit)

CONTRASTING: Brayton, Colonel, Lamoine, Scantic

USE AND MANAGEMENT

Development: There are few limiting factors for building site development



P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com
Quality services that meet your deadline

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Colonel
(Aquic Haplorthods)

SETTING

PARENT MATERIAL:	Derived from dense, loamy glacial till
LANDFORM:	Drumlins and Sideslopes of glaciated uplands
POSITION IN LANDSCAPE:	Mid-positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 1.0 to 2.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dk gray brown, stony sandy loam 0-3"
Subsurface Layer:	Dark Brown, stony sandy loam, 3-12"
Subsoil Layer:	Olive Brown, stony sandy loam, 12-18"
Substratum:	Olive, stony, sandy loam, 18-65"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Moderate and moderately slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS

(Within Mapping Unit)

CONTRASTING: Dixfield, Brayton

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Dixfield, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Substratum:	Gray silty clay loam, 16"+

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Lamoine, Dixfield



USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Brayton
(Aeric Epiaquepts)

SETTING

PARENT MATERIAL:	Derived from dense glacial till
LANDFORM:	Toeslopes and depressions in glaciated uplands
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dk gray, fine sandy loam 0-5",
Subsurface Layer:	Gray fine sandy loam, 5-15",
Subsoil Layer:	Grayish brown fine sandy loam, 15-24"
Substratum:	Olive fine sandy loam, 24-65",

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Moderate and moderately slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Dixfield Colonel



USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of an extremely high watertable for a portion of the year. This soil is not suitable for development without alteration, which may require additional permitting.

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Webb Road Property | Applicant Name: Robie Holdings LLC | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/A	Black	Sandy Loam	Weak Angular	Very Friable	
Eg	Gray	Sandy Loam	Sub Ang Blocky	Friable	Common and Distinct
BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
Cd	Olive Gray	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Brayton

Limiting Factor: 6" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Colonel

Limiting Factor: 12" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Depth below mineral soil horizon *(inches)*: 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon *(inches)*: 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 15 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon *(inches)*: 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Depth below mineral soil horizon *(inches)*: 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Webb Road Property

Applicant Name: Robie Holdings LLC

Project Location (municipality): Windham

Exploration Symbol # SS-9

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	Silt Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silt Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Eg	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Eg	Gray	Silt Loam	Fine Grandul	Friable	
Bg	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 5" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MD ☐ SPD ☒ PD ☐ vPD

Slope: >25 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-13 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 15 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Weak Angular	Very Friable	
Eg	Gray	Silt Loam	Sub Ang Blocky	Friable	
Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Eg	Brown	Sandy Loam	Fine Grandul	Friable	
Bg	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-17

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	18" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	6 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-18

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	10 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-19

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	2 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-20

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Eg	Brown	Sandy Loam	Fine Grandul	Friable	
Bg	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	4 Percent	☒ No ☐ Yes	Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

07/12/2025
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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-21 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Colonel

Limiting Factor: 14" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-22 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/A	Black	Sandy Loam	Weak Angular	Very Friable	
Eg	Gray	Sandy Loam	Sub Ang Blocky	Friable	Common and Distinct
BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Brayton

Limiting Factor: 6" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-23 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Dixfield

Limiting Factor: 15" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-24 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Mark J. Hampton

Name Printed

07/12/2025

Date

216

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MARK J. HAMPTON #216
CERTIFIED SOIL SCIENTIST

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8358

PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-25

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 20 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-26

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-27

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-28

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2[illegible] Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

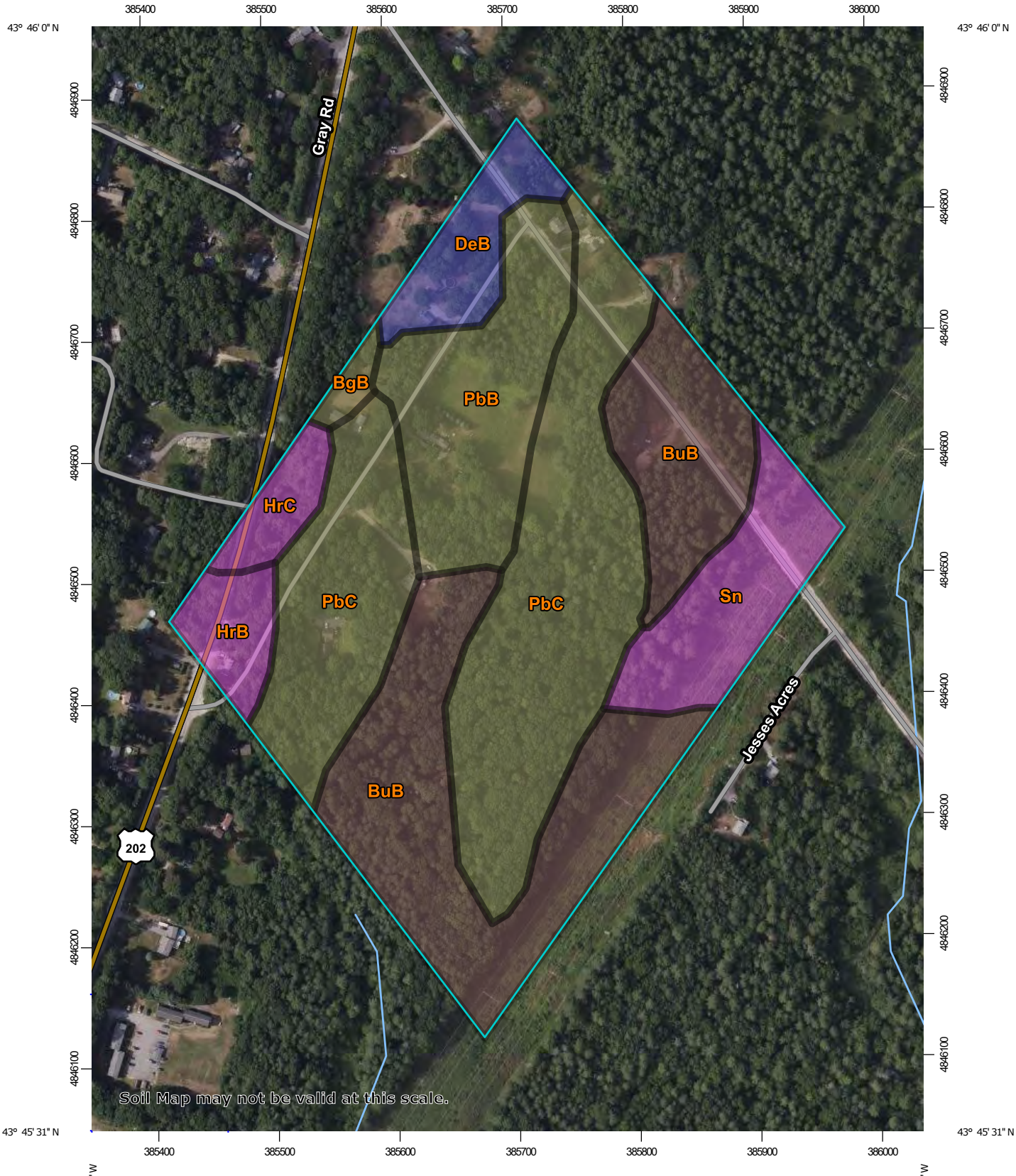
07/12/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST

affix professional seal



Map Scale: 1:4,440 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 22, Aug 29, 2025

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

Date(s) aerial images were photographed: Mar 1, 2022—Jul 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	C	0.5	1.0%
BuB	Lamoine silt loam, 3 to 8 percent slopes	C/D	15.5	29.6%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	A	2.7	5.2%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	D	1.8	3.4%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	D	1.5	2.8%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	C	7.1	13.6%
PbC	Paxton fine sandy loam, 8 to 15 percent slopes	C	18.7	35.6%
Sn	Scantic silt loam, 0 to 3 percent slopes	D	4.6	8.8%
Totals for Area of Interest			**52.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ATTACHMENT 2

GENERAL STANDARDS CALCULATIONS

Stormwater Treatment Requirements

Pecentage of Developed Area to Land Available for Development

Total Land Area=	667,173	sf
Deductions		
Area Slopes Steeper than 25%	20,330	sf
Area Protected Natural Resources	14,415	sf
Total Available Land for Development	**632,428**	**sf**
Total Developed Area	**322,305**	**sf**

% of Developed Area to Land Available for Development=	**51%**

From Table 1 Stormwater Treatment Based on Percentage of Parcel Developed of Chapter 500 Stormwater Management Rules for <60% of site developed

Percentage of Total Impervious Area Requiring Treatment=	**90%**
Percentage of Total Developed Area Requiring Treatment=	**75%**

Stormwater Treatment Table

	Total Watershed Area (SF)	New Roof Area (SF) **	New Paved/Gravel Area (SF)	New Landscaped Area (SF)	Existing/Offsite Impervious Area (SF)*	Existing/Offsite Landscaping Area (SF)*	Existing Undeveloped Area (SF)	Treatment Provided	New Impervious Area Treated (SF)	New Landscaped Area Treated (SF)	Treatment Device
WS-10	162,545	8,875	0	26,040	10,935	33,070	83,625	Dripedge	8,875	0	Dripedge Only
WS-11	28,060	0	16,490	11,570	0	0	0	Yes	16,490	11,570	FB-1
WS-12	25,580	0	1,185	3,050	3,190	2,940	15,215	No	0	0	None
WS-20	62,640	11,150	0	51,490	0	0	0	Yes	11,150	51,490	FB-1
WS-30	42,060	5,970	0	15,305	0	1,760	19,025	Yes	5,970	15,305	FB-2
WS-31	35,855	1,820	19,345	14,690	0	0	0	Yes	21,165	14,690	FB-2
WS-32	17,320	1,085	10,800	5,435	0	0	0	Yes	11,885	5,435	FB-2
WS-33	30,940	5,815	0	25,125	0	0	0	Yes	5,815	25,125	FB-2
WS-34	210,895	5,920	0	34,905	0	0	170,070	Dripedge	5,920	0	Dripedge Only
WS-40	73,990	2,960	4,315	22,800	2,595	13,110	28,210	Yes	7,275	22,800	FB-3
WS-41	132,425	795	0	15,370	0	0	116,260	Dripedge	795	0	Dripedge Only
Total		**44,390**	**52,135**	**225,780**					**95,340**	**146,415**	

* The project is not taking credit for the Existing / Offsite impervious and landscaped areas, but are included in the BMP sizing calculations for each treatment device.
** All buildings shall install a roofline drip edge to provide treatment for the rooftop impervious surface.
The building's impervious area is included in the watershed and overall treatment calculations below, but not included in the BMP sizing calculations for the wet pond or the underdrained filter basins.

New Impervious Area =	96,525	
New Impervious Area Requiring Treatment (90%)	86,873	
Provided New Impervious Treatment=	95,340	
	99%	New Impervious Area Treated
New Developed Area =	322,305	
New Developed Area Requiring Treatment (75%)=	241,729	
New Developed Area Treated=	241,755	
	75%	New Developed Area Treated

ATTACHMENT 3

UNDERDRAINED FILTER BASIN SIZING CALCULATIONS

Underdrained Filter Basin Sizing Calculations

Filter Basin 1

Tributary Impervious Area=	16,490	sf	(WS-11 & 20 Impervious Area)
Tributary Landscaped Area=	63,060	sf	(WS-11 & 20 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 3,476 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
232	2,270	0
233.5	3,345	4,211

Outlet Elevation =	233.50	
Storage Volume Provided=	4,211	cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 2,086 sf

Filter Area Provided = 2,270 sf > Required

Sediment Collection

Tributary Impervious Area Requiring Sanding: 16,490 sf

Approx. Sediment Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 21.0 cf

Sediment Volume (Provided): 50.3 cf > Required

Runoff is collected in 2 CB's, and discharged into a relatively flat drainage with riprap channel for further sediment collection.

CB with 2' sump = 25.13 cf of storage

Total storage provided:

(2 x 25.13) = 50.26 cf

Level Spreader Sizing

Maine Erosion and Sedimentation Control BMPs - Section G4 Sizing Calculations

Level Spreader Length = 0.25 cfs per foot of level spreader during 10-year storm event

Discharge flow during 10-year storm	4.40	cfs	(See HydroCAD output)
Required Level Spreader Length =	**18**	**ft**	
Proposed Level Spreader Length =	**20**	**ft**	

Underdrained Filter Basin Sizing Calculations

Filter Basin 2

Tributary Impervious Area=	30,145 sf	(WS-30 thru 33 Impervious Area)
Tributary Landscaped Area=	62,315 sf	(WS-30 thru 33 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 4,589 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
232	2,995	0
233.5	4,525	5,640

Outlet Elevation = 233.50

Storage Volume Provided= 5,640 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 2,754 sf

Filter Area Provided = 2,995 sf > Required

Sediment Collection

Tributary Impervious Area Requiring Sanding: 30,145 sf

Approx. Sediment Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 38.4 cf

Sediment Volume (Provided): 125.7 cf > Required

Runoff is collected in 5 CB's, and discharged into a relatively flat drainage with riprap channel for further sediment collection.

CB with 2' sump = 25.13 cf of storage

Total storage provided:

(5 x 25.13) = 125.65 cf

Summary for Pond FB1&2: Filter Basin

Inflow Area = 216,805 sf, 33.43% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 17.86 cfs @ 12.12 hrs, Volume= 68,344 cf
Outflow = 7.05 cfs @ 12.46 hrs, Volume= 42,072 cf, Atten= 61%, Lag= 20.7 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 7.05 cfs @ 12.46 hrs, Volume= 42,072 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 235.42' @ 12.46 hrs Surf.Area= 15,223 sf Storage= 32,338 cf

PEAK WS ELEV. = 235.42
TOP OF BERM = 236.40
FREEBOARD = 236.40-235.42
= **0.98' =1.0'+/-**

Plug-Flow detention time= 210.5 min calculated for 42,072 cf (62% of inflow)
Center-of-Mass det. time= 104.6 min (916.1 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	41,810 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	5,260	0	0
234.00	9,500	14,760	14,760
236.00	17,550	27,050	41,810

Device	Routing	Invert	Outlet Devices
#1	Primary	229.73'	**10.0" Round Culvert X 0.00** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.73' / 229.00' S= 0.0243 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	229.83'	**1.7" Vert. 1-3/4" Orifice** C= 0.600
#3	Device 2	232.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	233.50'	**15.0" W x 11.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	234.45'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#6	Secondary	235.00'	**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=0.00 cfs @ 0.00 hrs HW=232.00' TW=229.00' (Dynamic Tailwater)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=1-3/4" Orifice** (Passes 0.00 cfs of 0.11 cfs potential flow)
    - **3=Exfiltration** (Passes 0.00 cfs of 0.29 cfs potential flow)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

Secondary OutFlow Max=6.94 cfs @ 12.46 hrs HW=235.42' TW=0.00' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 6.94 cfs @ 1.66 fps)

Hydrograph for Pond FB1&2: Filter Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	232.00	0.00	0.00	**0.00**
2.00	0.00	0	232.00	0.00	0.00	0.00
4.00	0.00	0	232.00	0.00	0.00	0.00
6.00	0.00	0	232.00	0.00	0.00	0.00
8.00	0.00	0	232.00	0.00	0.00	0.00
10.00	0.04	0	232.00	0.04	0.04	0.00
12.00	**2.34**	1,431	232.26	0.12	0.12	0.00
14.00	**0.39**	8,971	233.34	0.14	0.14	0.00
16.00	0.22	**10,107**	**233.48**	**0.14**	**0.14**	0.00
18.00	0.13	**10,312**	**233.50**	**0.15**	**0.15**	0.00
20.00	0.11	10,134	233.48	0.14	0.14	0.00
22.00	0.09	9,813	233.44	0.14	0.14	0.00
24.00	0.07	9,372	233.39	0.14	0.14	0.00
26.00	0.00	8,409	233.27	0.14	0.14	0.00
28.00	0.00	7,416	233.15	0.14	0.14	0.00
30.00	0.00	6,442	233.02	0.13	0.13	0.00
32.00	0.00	5,487	232.89	0.13	0.13	0.00
34.00	0.00	4,554	232.75	0.13	0.13	0.00
36.00	0.00	3,642	232.62	0.13	0.13	0.00
38.00	0.00	2,753	232.48	0.12	0.12	0.00
40.00	0.00	1,888	232.34	0.12	0.12	0.00
42.00	0.00	1,048	232.19	0.11	0.11	0.00
44.00	0.00	235	232.04	0.11	0.11	0.00
46.00	0.00	0	232.00	0.00	0.00	0.00
48.00	0.00	0	232.00	0.00	0.00	0.00
50.00	0.00	0	232.00	0.00	0.00	0.00
52.00	0.00	0	232.00	0.00	0.00	0.00
54.00	0.00	0	232.00	0.00	0.00	0.00
56.00	0.00	0	232.00	0.00	0.00	0.00
58.00	0.00	0	232.00	0.00	0.00	0.00
60.00	0.00	0	232.00	0.00	0.00	0.00
62.00	0.00	0	232.00	0.00	0.00	0.00
64.00	0.00	0	232.00	0.00	0.00	0.00
66.00	0.00	0	232.00	0.00	0.00	0.00
68.00	0.00	0	232.00	0.00	0.00	0.00
70.00	0.00	0	232.00	0.00	0.00	0.00
72.00	0.00	0	232.00	0.00	0.00	0.00

POND AT CPV AT 18 HRS
EMPTY AT 46 HRS
DRAWDOWN TIME = 46-18 = 28 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 3

Tributary Impervious Area=	6,910	sf	(WS-40 Impervious Area)
Tributary Landscaped Area=	35,910	sf	(WS-40 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 1,773 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
240	1,520	0
242	2,685	4,205
244	4,500	11,390

Outlet Elevation = 241.50

Storage Volume Provided= 2,935 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,064 sf

Filter Area Provided = 1,520 sf > Required

Sediment Collection

Tributary Impervious Area Requiring Sanding: 6,910 sf

Approx. Sediment Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 8.8 cf

Sediment will be collected in a grassed drainage swale before discharging into the basin.

Level Spreader Sizing

Maine Erosion and Sedimentation Control BMPs - Section G4 Sizing Calculations

Level Spreader Length = 0.25 cfs per foot of level spreader during 10-year storm event

Discharge flow during 10-year storm	1.71	cfs	(See HydroCAD output)
Required Level Spreader Length =	**7**	**ft**	
Proposed Level Spreader Length =	**20**	**ft**	

Summary for Pond FB3: Filter Basin

Inflow Area = 73,990 sf, 13.34% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 4.01 cfs @ 12.33 hrs, Volume= 19,781 cf
Outflow = 3.41 cfs @ 12.54 hrs, Volume= 13,474 cf, Atten= 15%, Lag= 12.6 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 3.41 cfs @ 12.54 hrs, Volume= 13,474 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 242.97' @ 12.54 hrs Surf.Area= 3,564 sf Storage= 7,231 cf

PEAK WS ELEV. = 242.97
TOP OF BERM = 244.00
FREEBOARD = 244.00-242.97
= **1.03' >1.0'**

Plug-Flow detention time= 168.6 min calculated for 13,456 cf (68% of inflow)
Center-of-Mass det. time= 70.2 min (911.9 - 841.7)

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	11,390 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
240.00	1,520	0	0
242.00	2,685	4,205	4,205
244.00	4,500	7,185	11,390

Device	Routing	Invert	Outlet Devices
#1	Primary	237.73'	**10.0" Round Culvert X 0.00** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 237.73' / 237.30' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	237.80'	**1.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	240.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	241.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	242.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#6	Secondary	242.70'	**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=0.00 cfs @ 0.00 hrs HW=240.00' TW=237.00' (Dynamic Tailwater)
- **1=Culvert** (Controls 0.00 cfs)
  - **2=Orifice/Grate** (Passes 0.00 cfs of 0.04 cfs potential flow)
    - **3=Exfiltration** (Passes 0.00 cfs of 0.08 cfs potential flow)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

Secondary OutFlow Max=3.07 cfs @ 12.54 hrs HW=242.95' TW=237.06' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 3.07 cfs @ 1.24 fps)

Hydrograph for Pond FB3: Filter Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	240.00	0.00	0.00	**0.00**
2.00	0.00	0	240.00	0.00	0.00	0.00
4.00	0.00	0	240.00	0.00	0.00	0.00
6.00	0.00	0	240.00	0.00	0.00	0.00
8.00	0.00	0	240.00	0.00	0.00	0.00
10.00	0.00	0	240.00	0.00	0.00	0.00
12.00	**0.20**	64	240.04	0.04	0.04	0.00
14.00	**0.14**	2,463	241.30	0.05	0.05	0.00
16.00	0.08	**2,871**	**241.47**	**0.05**	**0.05**	0.00
18.00	0.05	**2,947**	**241.50**	**0.05**	**0.05**	0.00
20.00	0.04	2,883	241.48	0.05	0.05	0.00
22.00	0.03	2,771	241.43	0.05	0.05	0.00
24.00	0.03	2,618	241.37	0.05	0.05	0.00
26.00	0.00	2,299	241.22	0.05	0.05	0.00
28.00	0.00	1,955	241.07	0.05	0.05	0.00
30.00	0.00	1,620	240.91	0.05	0.05	0.00
32.00	0.00	1,293	240.74	0.04	0.04	0.00
34.00	0.00	976	240.58	0.04	0.04	0.00
36.00	0.00	668	240.41	0.04	0.04	0.00
38.00	0.00	370	240.23	0.04	0.04	0.00
40.00	0.00	83	240.05	0.04	0.04	0.00
42.00	0.00	0	240.00	0.00	0.00	0.00
44.00	0.00	0	240.00	0.00	0.00	0.00
46.00	0.00	0	240.00	0.00	0.00	0.00
48.00	0.00	0	240.00	0.00	0.00	0.00
50.00	0.00	0	240.00	0.00	0.00	0.00
52.00	0.00	0	240.00	0.00	0.00	0.00
54.00	0.00	0	240.00	0.00	0.00	0.00
56.00	0.00	0	240.00	0.00	0.00	0.00
58.00	0.00	0	240.00	0.00	0.00	0.00
60.00	0.00	0	240.00	0.00	0.00	0.00
62.00	0.00	0	240.00	0.00	0.00	0.00
64.00	0.00	0	240.00	0.00	0.00	0.00
66.00	0.00	0	240.00	0.00	0.00	0.00
68.00	0.00	0	240.00	0.00	0.00	0.00
70.00	0.00	0	240.00	0.00	0.00	0.00
72.00	0.00	0	240.00	0.00	0.00	0.00

POND AT CPV AT 18 HRS
EMPTY AT 42 HRS
DRAWDOWN TIME = 42-18 = 24 HRS

ATTACHMENT 4

ROOFLINE DRIPEDGE SIZING CALCULATIONS

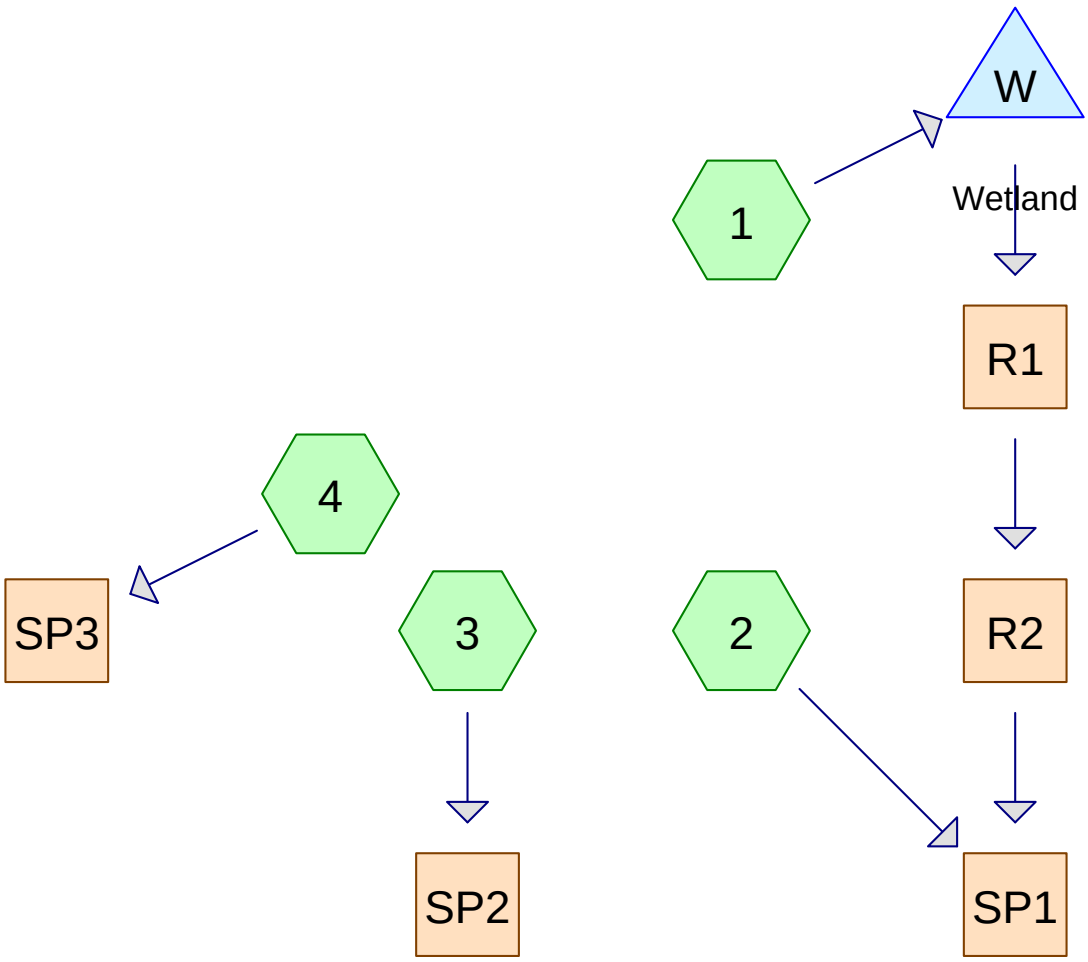
Drip Edge Sizing Calculations

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area
Void Ratio of Reservoir Layer 40%
Void Ratio of Filter Layer 30%

Tributary Roof Area (sf)	WQV (Required)	Dripedge Surface Area (sf)	Reservoir Layer Depth (ft)	Filter Layer Depth (ft)	WQV (Provided)
1,480	123.33	292.00	1.00	0.33	145.71

ATTACHMENT 5

STORMWATER MODEL OUTPUT



Subcat Reach Pond Link

Routing Diagram for 25007 - PRE
Prepared by DM Roma Consulting Engineers, Printed 5/15/2026
HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Runoff Area=160,940 sf 2.46% Impervious Runoff Depth=2.92"
Flow Length=409' Tc=28.7 min CN=73 Runoff=7.24 cfs 39,209 cf

Subcatchment 2: Runoff Area=86,110 sf 5.31% Impervious Runoff Depth=2.83"
Flow Length=291' Tc=18.2 min CN=72 Runoff=4.45 cfs 20,311 cf

Subcatchment 3: Runoff Area=363,960 sf 0.00% Impervious Runoff Depth=2.65"
Flow Length=584' Tc=24.7 min CN=70 Runoff=15.61 cfs 80,296 cf

Subcatchment 4: Runoff Area=211,220 sf 1.23% Impervious Runoff Depth=2.74"
Flow Length=654' Tc=30.2 min CN=71 Runoff=8.68 cfs 48,201 cf

Reach R1: Avg. Flow Depth=0.09' Max Vel=2.65 fps Inflow=3.53 cfs 34,237 cf
n=0.022 L=67.0' S=0.0537 '/' Capacity=120.49 cfs Outflow=3.53 cfs 34,237 cf

Reach R2: Avg. Flow Depth=0.28' Max Vel=6.93 fps Inflow=3.53 cfs 34,237 cf
n=0.022 L=239.0' S=0.1004 '/' Capacity=57.20 cfs Outflow=3.53 cfs 34,237 cf

Reach SP1: Inflow=5.28 cfs 54,548 cf
Outflow=5.28 cfs 54,548 cf

Reach SP2: Inflow=15.61 cfs 80,296 cf
Outflow=15.61 cfs 80,296 cf

Reach SP3: Inflow=8.68 cfs 48,201 cf
Outflow=8.68 cfs 48,201 cf

Pond W: Wetland Peak Elev=250.18' Storage=14,009 cf Inflow=7.24 cfs 39,209 cf
Outflow=3.53 cfs 34,237 cf

Summary for Subcatchment 1:

Runoff = 7.24 cfs @ 12.41 hrs, Volume= 39,209 cf, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,885	98	Buildingq
*	2,070	98	Pavement
*	5,525	96	Gravel Road
	30,435	74	>75% Grass cover, Good, HSG C
	60,540	71	Meadow, non-grazed, HSG C
	60,485	70	Woods, Good, HSG C
	160,940	73	Weighted Average
	156,985		97.54% Pervious Area
	3,955		2.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.8	150	0.0270	0.09		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.8	39	0.0270	0.82		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
1.1	220	0.0100	3.42	23.94	**Trap/Vee/Rect Channel Flow, C to D** Bot.W=2.00' D=1.00' Z= 5.0 '/' Top.W=12.00' n= 0.030 Earth, grassed & winding
28.7	409	Total			

Summary for Subcatchment 2:

Runoff = 4.45 cfs @ 12.27 hrs, Volume= 20,311 cf, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,570	98	Pavement
	7,970	74	>75% Grass cover, Good, HSG C
	3,860	71	Meadow, non-grazed, HSG C
	69,710	70	Woods, Good, HSG C
	86,110	72	Weighted Average
	81,540		94.69% Pervious Area
	4,570		5.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	150	0.0850	0.15		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	141	0.1300	1.80		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
18.2	291	Total			

Summary for Subcatchment 3:

Runoff = 15.61 cfs @ 12.36 hrs, Volume= 80,296 cf, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
1,760	74	>75% Grass cover, Good, HSG C
33,970	71	Meadow, non-grazed, HSG C
328,230	70	Woods, Good, HSG C
363,960	70	Weighted Average
363,960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	150	0.0650	0.13		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
2.7	98	0.0150	0.61		**Shallow Concentrated Flow, C to D** Woodland Kv= 5.0 fps
1.1	85	0.0700	1.32		**Shallow Concentrated Flow, D to E** Woodland Kv= 5.0 fps
2.1	251	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.7	584	Total			

Summary for Subcatchment 4:

Runoff = 8.68 cfs @ 12.43 hrs, Volume= 48,201 cf, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,465	98	Buildingq
*	130	98	Pavement
	13,110	74	>75% Grass cover, Good, HSG C
	180,530	70	Woods, Good, HSG C
	14,985	77	Woods, Good, HSG D
	211,220	71	Weighted Average
	208,625		98.77% Pervious Area
	2,595		1.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	150	0.0470	0.12		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
5.0	260	0.0300	0.87		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
1.0	96	0.1000	1.58		**Shallow Concentrated Flow, C to D** Woodland Kv= 5.0 fps
2.8	148	0.0300	0.87		**Shallow Concentrated Flow, D to E** Woodland Kv= 5.0 fps
30.2	654	Total			

Summary for Reach R1:

Inflow Area = 160,940 sf, 2.46% Impervious, Inflow Depth = 2.55" for 25-Year event
Inflow = 3.53 cfs @ 12.84 hrs, Volume= 34,237 cf
Outflow = 3.53 cfs @ 12.84 hrs, Volume= 34,237 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 1.6 min

Peak Storage= 89 cf @ 12.84 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.50' Flow Area= 17.5 sf, Capacity= 120.49 cfs

10.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 50.0 '/' Top Width= 60.00'
Length= 67.0' Slope= 0.0537 '/'
Inlet Invert= 249.60', Outlet Invert= 246.00'



‡

Summary for Reach R2:

Inflow Area = 160,940 sf, 2.46% Impervious, Inflow Depth = 2.55" for 25-Year event
Inflow = 3.53 cfs @ 12.84 hrs, Volume= 34,237 cf
Outflow = 3.53 cfs @ 12.85 hrs, Volume= 34,237 cf, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 6.93 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.86 fps, Avg. Travel Time= 2.1 min

Peak Storage= 122 cf @ 12.85 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 57.20 cfs

1.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 7.00'
Length= 239.0' Slope= 0.1004 '/'
Inlet Invert= 246.00', Outlet Invert= 222.00'



Summary for Reach SP1:

Inflow Area = 247,050 sf, 3.45% Impervious, Inflow Depth = 2.65" for 25-Year event
Inflow = 5.28 cfs @ 12.52 hrs, Volume= 54,548 cf
Outflow = 5.28 cfs @ 12.52 hrs, Volume= 54,548 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach SP2:

Inflow Area = 363,960 sf, 0.00% Impervious, Inflow Depth = 2.65" for 25-Year event
Inflow = 15.61 cfs @ 12.36 hrs, Volume= 80,296 cf
Outflow = 15.61 cfs @ 12.36 hrs, Volume= 80,296 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach SP3:

Inflow Area = 211,220 sf, 1.23% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 8.68 cfs @ 12.43 hrs, Volume= 48,201 cf
Outflow = 8.68 cfs @ 12.43 hrs, Volume= 48,201 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Pond W: Wetland

Inflow Area = 160,940 sf, 2.46% Impervious, Inflow Depth = 2.92" for 25-Year event
Inflow = 7.24 cfs @ 12.41 hrs, Volume= 39,209 cf
Outflow = 3.53 cfs @ 12.84 hrs, Volume= 34,237 cf, Atten= 51%, Lag= 25.6 min
Primary = 3.53 cfs @ 12.84 hrs, Volume= 34,237 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 250.18' @ 12.84 hrs Surf.Area= 20,369 sf Storage= 14,009 cf

Plug-Flow detention time= 139.1 min calculated for 34,190 cf (87% of inflow)
Center-of-Mass det. time= 82.8 min (936.6 - 853.8)

Volume	Invert	Avail.Storage	Storage Description
#1	249.00'	85,978 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.00	4,775	0	0
250.00	16,460	10,618	10,618
252.00	58,900	75,360	85,978

Device	Routing	Invert	Outlet Devices
#1	Primary	249.60'	**3.0' long x 80.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=3.51 cfs @ 12.84 hrs HW=250.18' TW=249.69' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 3.51 cfs @ 2.01 fps)

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Runoff Area=160,940 sf 2.46% Impervious Runoff Depth=0.92"
Flow Length=409' Tc=28.7 min CN=73 Runoff=2.12 cfs 12,331 cf

Subcatchment 2: Runoff Area=86,110 sf 5.31% Impervious Runoff Depth=0.87"
Flow Length=291' Tc=18.2 min CN=72 Runoff=1.26 cfs 6,230 cf

Subcatchment 3: Runoff Area=363,960 sf 0.00% Impervious Runoff Depth=0.77"
Flow Length=584' Tc=24.7 min CN=70 Runoff=4.07 cfs 23,370 cf

Subcatchment 4: Runoff Area=211,220 sf 1.23% Impervious Runoff Depth=0.82"
Flow Length=654' Tc=30.2 min CN=71 Runoff=2.34 cfs 14,409 cf

Reach R1: Avg. Flow Depth=0.02' Max Vel=1.20 fps Inflow=0.31 cfs 7,360 cf
n=0.022 L=67.0' S=0.0537 '/' Capacity=120.49 cfs Outflow=0.31 cfs 7,360 cf

Reach R2: Avg. Flow Depth=0.08' Max Vel=3.39 fps Inflow=0.31 cfs 7,360 cf
n=0.022 L=239.0' S=0.1004 '/' Capacity=57.20 cfs Outflow=0.31 cfs 7,360 cf

Reach SP1: Inflow=1.26 cfs 13,590 cf
Outflow=1.26 cfs 13,590 cf

Reach SP2: Inflow=4.07 cfs 23,370 cf
Outflow=4.07 cfs 23,370 cf

Reach SP3: Inflow=2.34 cfs 14,409 cf
Outflow=2.34 cfs 14,409 cf

Pond W: Wetland Peak Elev=249.72' Storage=6,441 cf Inflow=2.12 cfs 12,331 cf
Outflow=0.31 cfs 7,360 cf

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Runoff Area=160,940 sf 2.46% Impervious Runoff Depth=1.97"
Flow Length=409' Tc=28.7 min CN=73 Runoff=4.83 cfs 26,440 cf

Subcatchment 2: Runoff Area=86,110 sf 5.31% Impervious Runoff Depth=1.89"
Flow Length=291' Tc=18.2 min CN=72 Runoff=2.94 cfs 13,595 cf

Subcatchment 3: Runoff Area=363,960 sf 0.00% Impervious Runoff Depth=1.74"
Flow Length=584' Tc=24.7 min CN=70 Runoff=10.08 cfs 52,923 cf

Subcatchment 4: Runoff Area=211,220 sf 1.23% Impervious Runoff Depth=1.82"
Flow Length=654' Tc=30.2 min CN=71 Runoff=5.66 cfs 32,019 cf

Reach R1: Avg. Flow Depth=0.06' Max Vel=2.18 fps Inflow=1.86 cfs 21,469 cf
n=0.022 L=67.0' S=0.0537 '/' Capacity=120.49 cfs Outflow=1.86 cfs 21,469 cf

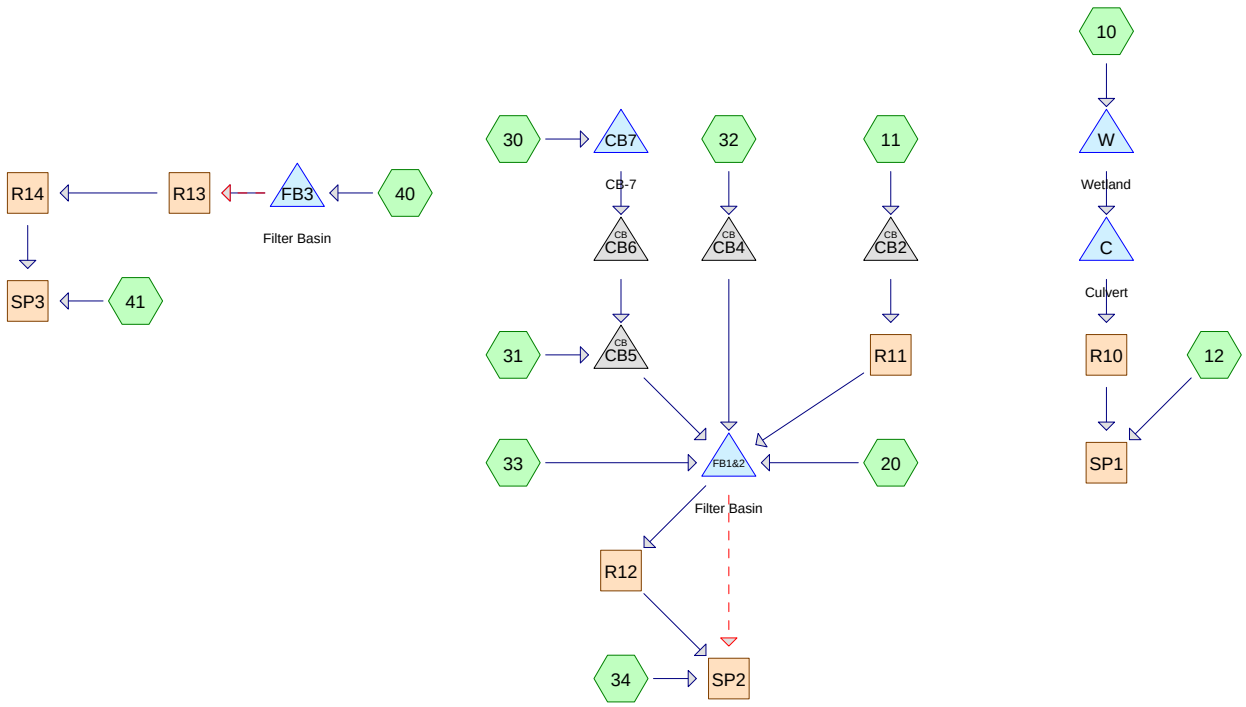
Reach R2: Avg. Flow Depth=0.20' Max Vel=5.81 fps Inflow=1.86 cfs 21,469 cf
n=0.022 L=239.0' S=0.1004 '/' Capacity=57.20 cfs Outflow=1.87 cfs 21,469 cf

Reach SP1: Inflow=2.93 cfs 35,064 cf
Outflow=2.93 cfs 35,064 cf

Reach SP2: Inflow=10.08 cfs 52,923 cf
Outflow=10.08 cfs 52,923 cf

Reach SP3: Inflow=5.66 cfs 32,019 cf
Outflow=5.66 cfs 32,019 cf

Pond W: Wetland Peak Elev=249.98' Storage=10,328 cf Inflow=4.83 cfs 26,440 cf
Outflow=1.86 cfs 21,469 cf



Subcat Reach Pond Link

Routing Diagram for 25007 - POST
Prepared by DM Roma Consulting Engineers, Printed 5/15/2026
HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Runoff Area=162,545 sf 8.79% Impervious Runoff Depth=3.11"
Flow Length=409' Tc=28.7 min CN=75 Runoff=7.81 cfs 42,158 cf

Subcatchment11: Runoff Area=28,060 sf 58.77% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=3.03 cfs 10,367 cf

Subcatchment12: Runoff Area=25,580 sf 17.10% Impervious Runoff Depth=3.21"
Flow Length=106' Slope=0.1100 '/' Tc=11.6 min CN=76 Runoff=1.73 cfs 6,839 cf

Subcatchment20: Runoff Area=62,640 sf 17.80% Impervious Runoff Depth=3.40"
Flow Length=410' Tc=7.0 min CN=78 Runoff=5.26 cfs 17,763 cf

Subcatchment30: Runoff Area=41,990 sf 14.22% Impervious Runoff Depth=3.21"
Flow Length=221' Tc=17.8 min CN=76 Runoff=2.48 cfs 11,226 cf

Subcatchment31: Runoff Area=35,855 sf 59.03% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=3.87 cfs 13,247 cf

Subcatchment32: Runoff Area=17,320 sf 68.62% Impervious Runoff Depth=4.65"
Tc=6.0 min CN=90 Runoff=1.93 cfs 6,713 cf

Subcatchment33: Runoff Area=30,940 sf 18.79% Impervious Runoff Depth=3.50"
Flow Length=113' Tc=8.5 min CN=79 Runoff=2.53 cfs 9,028 cf

Subcatchment34: Runoff Area=210,895 sf 2.81% Impervious Runoff Depth=2.74"
Flow Length=283' Tc=23.4 min CN=71 Runoff=9.68 cfs 48,127 cf

Subcatchment40: Runoff Area=73,990 sf 13.34% Impervious Runoff Depth=3.21"
Flow Length=409' Tc=23.4 min CN=76 Runoff=4.01 cfs 19,781 cf

Subcatchment41: Runoff Area=132,425 sf 0.60% Impervious Runoff Depth=2.74"
Flow Length=394' Tc=26.7 min CN=71 Runoff=5.73 cfs 30,220 cf

Reach R10: Avg. Flow Depth=0.30' Max Vel=7.22 fps Inflow=4.03 cfs 37,176 cf
n=0.022 L=197.0' S=0.1015 '/' Capacity=57.52 cfs Outflow=4.03 cfs 37,176 cf

Reach R11: Avg. Flow Depth=0.49' Max Vel=1.51 fps Inflow=3.03 cfs 10,367 cf
n=0.069 L=365.0' S=0.0216 '/' Capacity=11.28 cfs Outflow=2.62 cfs 10,367 cf

Reach R12: Avg. Flow Depth=0.11' Max Vel=1.79 fps Inflow=5.81 cfs 68,277 cf
n=0.070 L=128.0' S=0.1719 '/' Capacity=105.77 cfs Outflow=5.87 cfs 68,277 cf

Reach R13: Avg. Flow Depth=0.07' Max Vel=2.45 fps Inflow=3.44 cfs 19,783 cf
n=0.030 L=96.0' S=0.0938 '/' Capacity=105.64 cfs Outflow=3.39 cfs 19,783 cf

Reach R14: Avg. Flow Depth=0.16' Max Vel=2.32 fps Inflow=3.39 cfs 19,783 cf
n=0.030 L=110.0' S=0.0291 '/' Capacity=389.46 cfs Outflow=3.36 cfs 19,783 cf

Reach SP1: Inflow=4.33 cfs 44,015 cf
Outflow=4.33 cfs 44,015 cf

Reach SP2: Inflow=15.57 cfs 116,480 cf
Outflow=15.57 cfs 116,480 cf

Reach SP3: Inflow=8.65 cfs 50,003 cf
Outflow=8.65 cfs 50,003 cf

Pond C: Culvert Peak Elev=246.00' Storage=0 cf Inflow=4.03 cfs 37,176 cf
15.0" Round Culvert n=0.013 L=86.0' S=0.0070 '/' Outflow=4.03 cfs 37,176 cf

Pond CB2: Peak Elev=243.35' Inflow=3.03 cfs 10,367 cf
15.0" Round Culvert n=0.013 L=20.0' S=0.0200 '/' Outflow=3.03 cfs 10,367 cf

Pond CB4: Peak Elev=251.24' Inflow=1.93 cfs 6,713 cf
15.0" Round Culvert n=0.013 L=108.0' S=0.0782 '/' Outflow=1.93 cfs 6,713 cf

Pond CB5: Peak Elev=242.58' Inflow=5.60 cfs 24,473 cf
18.0" Round Culvert n=0.013 L=120.0' S=0.0596 '/' Outflow=5.60 cfs 24,473 cf

Pond CB6: Peak Elev=242.86' Inflow=2.48 cfs 11,226 cf
15.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=2.48 cfs 11,226 cf

Pond CB7: CB-7 Peak Elev=248.05' Storage=3 cf Inflow=2.48 cfs 11,226 cf
Outflow=2.48 cfs 11,226 cf

Pond FB1&2: Filter Basin Peak Elev=235.04' Storage=26,758 cf Inflow=17.86 cfs 68,344 cf
Primary=5.81 cfs 68,277 cf Secondary=0.17 cfs 76 cf Outflow=5.97 cfs 68,353 cf

Pond FB3: Filter Basin Peak Elev=242.31' Storage=5,076 cf Inflow=4.01 cfs 19,781 cf
Primary=3.44 cfs 19,783 cf Secondary=0.00 cfs 0 cf Outflow=3.44 cfs 19,783 cf

Pond W: Wetland Peak Elev=250.23' Storage=14,839 cf Inflow=7.81 cfs 42,158 cf
Outflow=4.03 cfs 37,176 cf

Summary for Subcatchment 10:

Runoff = 7.81 cfs @ 12.41 hrs, Volume= 42,158 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	8,875	98	New Building
*	26,040	74	New Lawn C
*	3,525	98	Existing Pavement
*	5,525	96	Existing Gravel Road
*	1,885	98	Existing Building
	31,880	71	Meadow, non-grazed, HSG C
	51,745	70	Woods, Good, HSG C
*	33,070	74	Existing Lawn C
	162,545	75	Weighted Average
	148,260		91.21% Pervious Area
	14,285		8.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.8	150	0.0270	0.09		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.8	39	0.0270	0.82		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
1.1	220	0.0100	3.42	23.94	**Trap/Vee/Rect Channel Flow, C to D** Bot.W=2.00' D=1.00' Z= 5.0 '/' Top.W=12.00' n= 0.030 Earth, grassed & winding
28.7	409	Total			

Summary for Subcatchment 11:

Runoff = 3.03 cfs @ 12.10 hrs, Volume= 10,367 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	16,490	98	New Pavement
*	11,570	74	New Lawn C
	28,060	88	Weighted Average
	11,570		41.23% Pervious Area
	16,490		58.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 Minute Min. Tc**

Summary for Subcatchment 12:

Runoff = 1.73 cfs @ 12.18 hrs, Volume= 6,839 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,185	98	New Pavement
*	3,050	74	New Lawn C
*	3,190	98	Existing Pavement
*	2,940	74	Existing Lawn C
	15,215	70	Woods, Good, HSG C
	25,580	76	Weighted Average
	21,205		82.90% Pervious Area
	4,375		17.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	106	0.1100	0.15		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"

Summary for Subcatchment 20:

Runoff = 5.26 cfs @ 12.11 hrs, Volume= 17,763 cf, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	11,150	98	New Building
*	51,490	74	New Lawn C
	62,640	78	Weighted Average
	51,490		82.20% Pervious Area
	11,150		17.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	23	0.0200	0.12		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.10"
1.0	22	0.3300	0.38		**Sheet Flow, B to C** Grass: Short n= 0.150 P2= 3.10"
2.9	365	0.0190	2.11	10.57	**Trap/Vee/Rect Channel Flow, C to D** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.069 Riprap, 6-inch
7.0	410	Total			

Summary for Subcatchment 30:

Runoff = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,970	98	New Building
*	15,235	74	New Lawn C
	19,025	70	Woods, Good, HSG C
*	1,760	74	Existing Lawn C
	41,990	76	Weighted Average
	36,020		85.78% Pervious Area
	5,970		14.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	120	0.0500	0.11		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
0.3	101	0.0150	5.53	22.11	**Trap/Vee/Rect Channel Flow, B to C** Bot.W=1.00' D=1.00' Z= 3.0 '/' Top.W=7.00' n= 0.022 Earth, clean & straight
17.8	221	Total			

Summary for Subcatchment 31:

Runoff = 3.87 cfs @ 12.10 hrs, Volume= 13,247 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,820	98	New Building
*	19,345	98	New Pavement
*	14,690	74	New Lawn C
	35,855	88	Weighted Average
	14,690		40.97% Pervious Area
	21,165		59.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 Minute Min. Tc**

Summary for Subcatchment 32:

Runoff = 1.93 cfs @ 12.10 hrs, Volume= 6,713 cf, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,085	98	New Building
*	10,800	98	New Pavement
*	5,435	74	New Lawn C
	17,320	90	Weighted Average
	5,435		31.38% Pervious Area
	11,885		68.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 Minute Min. Tc**

Summary for Subcatchment 33:

Runoff = 2.53 cfs @ 12.12 hrs, Volume= 9,028 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,815	98	New Building
*	25,125	74	New Lawn C
	30,940	79	Weighted Average
	25,125		81.21% Pervious Area
	5,815		18.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	22	0.0200	0.12		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.10"
1.0	19	0.2000	0.30		**Sheet Flow, B to C** Grass: Short n= 0.150 P2= 3.10"
1.4	20	0.1000	0.23		**Sheet Flow, C to D** Grass: Short n= 0.150 P2= 3.10"
1.1	25	0.3000	0.37		**Sheet Flow, D to E** Grass: Short n= 0.150 P2= 3.10"
2.0	27	0.0800	0.22		**Sheet Flow, E to F** Grass: Short n= 0.150 P2= 3.10"
8.5	113	Total			

Summary for Subcatchment 34:

Runoff = 9.68 cfs @ 12.34 hrs, Volume= 48,127 cf, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,920	98	New Building
*	34,905	74	New Lawn C
	170,070	70	Woods, Good, HSG C
	210,895	71	Weighted Average
	204,975		97.19% Pervious Area
	5,920		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	49	0.0180	0.06		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
9.3	100	0.1700	0.18		**Sheet Flow, C to D** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	134	0.1500	1.94		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
23.4	283	Total			

Summary for Subcatchment 40:

Runoff = 4.01 cfs @ 12.33 hrs, Volume= 19,781 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,960	98	New Building
*	4,315	98	New Pavement
*	22,800	74	New Lawn C
*	2,465	98	Existing Building
*	130	98	Existing Pavement
*	13,110	74	Existing Lawn C
	28,210	70	Woods, Good, HSG C
	73,990	76	Weighted Average
	64,120		86.66% Pervious Area
	9,870		13.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0500	0.12		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
2.0	138	0.0550	1.17		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
0.5	121	0.0170	4.31	17.26	**Trap/Vee/Rect Channel Flow, C to D** Bot.W=1.00' D=1.00' Z= 3.0 '/' Top.W=7.00' n= 0.030 Earth, grassed & winding
23.4	409	Total			

Summary for Subcatchment 41:

Runoff = 5.73 cfs @ 12.39 hrs, Volume= 30,220 cf, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	795	98	New Building
*	15,370	74	New Lawn C
	101,275	70	Woods, Good, HSG C
	14,985	77	Woods, Good, HSG D
	132,425	71	Weighted Average
	131,630		99.40% Pervious Area
	795		0.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	150	0.0400	0.11		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.0	96	0.1000	1.58		**Shallow Concentrated Flow, B to C** Woodland Kv= 5.0 fps
2.8	148	0.0300	0.87		**Shallow Concentrated Flow, C to D** Woodland Kv= 5.0 fps
26.7	394	Total			

Summary for Reach R10:

Inflow Area = 162,545 sf, 8.79% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf
Outflow = 4.03 cfs @ 12.82 hrs, Volume= 37,176 cf, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 7.22 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 1.7 min

Peak Storage= 110 cf @ 12.82 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 57.52 cfs

1.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 7.00'
Length= 197.0' Slope= 0.1015 '/'
Inlet Invert= 242.00', Outlet Invert= 222.00'



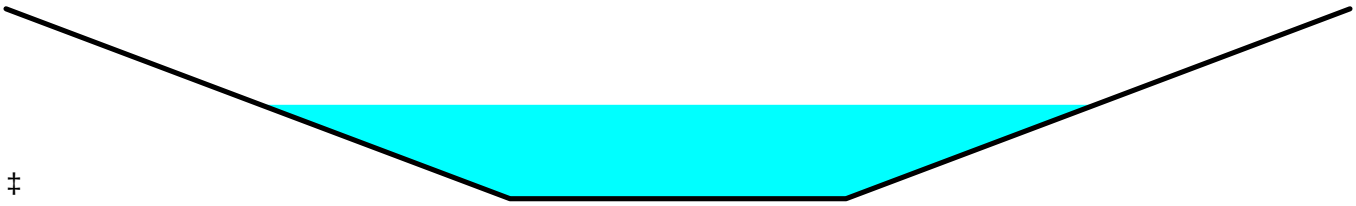
Summary for Reach R11:

Inflow Area = 28,060 sf, 58.77% Impervious, Inflow Depth = 4.43" for 25-Year event
Inflow = 3.03 cfs @ 12.10 hrs, Volume= 10,367 cf
Outflow = 2.62 cfs @ 12.14 hrs, Volume= 10,367 cf, Atten= 13%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.51 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 13.8 min

Peak Storage= 627 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 11.28 cfs

2.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 365.0' Slope= 0.0216 '/'
Inlet Invert= 241.90', Outlet Invert= 234.00'



‡

Summary for Reach R12:

Inflow Area = 216,805 sf, 33.43% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 5.81 cfs @ 12.51 hrs, Volume= 68,277 cf
Outflow = 5.87 cfs @ 12.30 hrs, Volume= 68,277 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.79 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 3.8 min

Peak Storage= 420 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50' Flow Area= 25.0 sf, Capacity= 105.77 cfs

25.00' x 0.50' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 50.0 '/' Top Width= 75.00'
Length= 128.0' Slope= 0.1719 '/'
Inlet Invert= 229.00', Outlet Invert= 207.00'



‡

Summary for Reach R13:

Inflow Area = 73,990 sf, 13.34% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 3.44 cfs @ 12.51 hrs, Volume= 19,783 cf
Outflow = 3.39 cfs @ 12.51 hrs, Volume= 19,783 cf, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.45 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 2.6 min

Peak Storage= 133 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 0.50' Flow Area= 12.5 sf, Capacity= 105.64 cfs

20.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 96.0' Slope= 0.0938 '/'
Inlet Invert= 237.00', Outlet Invert= 228.00'



‡

Summary for Reach R14:

Inflow Area = 73,990 sf, 13.34% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 3.39 cfs @ 12.51 hrs, Volume= 19,783 cf
Outflow = 3.36 cfs @ 12.53 hrs, Volume= 19,783 cf, Atten= 1%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.32 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.71 fps, Avg. Travel Time= 2.6 min

Peak Storage= 159 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 2.00' Flow Area= 40.0 sf, Capacity= 389.46 cfs

8.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 32.00'
Length= 110.0' Slope= 0.0291 '/'
Inlet Invert= 228.00', Outlet Invert= 224.80'



‡

Summary for Reach SP1:

Inflow Area = 188,125 sf, 9.92% Impervious, Inflow Depth = 2.81" for 25-Year event
Inflow = 4.33 cfs @ 12.78 hrs, Volume= 44,015 cf
Outflow = 4.33 cfs @ 12.78 hrs, Volume= 44,015 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach SP2:

Inflow Area = 427,700 sf, 18.33% Impervious, Inflow Depth = 3.27" for 25-Year event
Inflow = 15.57 cfs @ 12.33 hrs, Volume= 116,480 cf
Outflow = 15.57 cfs @ 12.33 hrs, Volume= 116,480 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach SP3:

Inflow Area = 206,415 sf, 5.17% Impervious, Inflow Depth = 2.91" for 25-Year event
Inflow = 8.65 cfs @ 12.46 hrs, Volume= 50,003 cf
Outflow = 8.65 cfs @ 12.46 hrs, Volume= 50,003 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Pond C: Culvert

Inflow Area = 162,545 sf, 8.79% Impervious, Inflow Depth = 2.74" for 25-Year event
Inflow = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf
Outflow = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 246.00' @ 12.81 hrs Surf.Area= 575 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 37,176 cf (100% of inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	37,225 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	575	0	0
248.00	4,310	4,885	4,885
250.00	7,690	12,000	16,885
252.00	12,650	20,340	37,225

Device	Routing	Invert	Outlet Devices
#1	Primary	242.60'	**15.0" Round Culvert** L= 86.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 242.60' / 242.00' S= 0.0070 '/' Cc= 0.900

n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.77 cfs @ 12.81 hrs HW=246.00' TW=242.30' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.77 cfs @ 6.33 fps)

Summary for Pond CB2:

Inflow Area = 28,060 sf, 58.77% Impervious, Inflow Depth = 4.43" for 25-Year event
Inflow = 3.03 cfs @ 12.10 hrs, Volume= 10,367 cf
Outflow = 3.03 cfs @ 12.10 hrs, Volume= 10,367 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.03 cfs @ 12.10 hrs, Volume= 10,367 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 243.35' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	242.30'	**15.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 242.30' / 241.90' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.99 cfs @ 12.10 hrs HW=243.34' TW=242.38' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.99 cfs @ 2.74 fps)

Summary for Pond CB4:

Inflow Area = 17,320 sf, 68.62% Impervious, Inflow Depth = 4.65" for 25-Year event
Inflow = 1.93 cfs @ 12.10 hrs, Volume= 6,713 cf
Outflow = 1.93 cfs @ 12.10 hrs, Volume= 6,713 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.93 cfs @ 12.10 hrs, Volume= 6,713 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 251.24' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	250.45'	**15.0" Round Culvert** L= 108.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 250.45' / 242.00' S= 0.0782 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=1.90 cfs @ 12.10 hrs HW=251.23' TW=234.34' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.90 cfs @ 2.37 fps)

Summary for Pond CB5:

Inflow Area = 77,845 sf, 34.86% Impervious, Inflow Depth = 3.77" for 25-Year event
Inflow = 5.60 cfs @ 12.12 hrs, Volume= 24,473 cf
Outflow = 5.60 cfs @ 12.12 hrs, Volume= 24,473 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.60 cfs @ 12.12 hrs, Volume= 24,473 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Peak Elev= 242.58' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	241.15'	**18.0" Round Culvert** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.15' / 234.00' S= 0.0596 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.38 cfs @ 12.12 hrs HW=242.53' TW=234.44' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.38 cfs @ 3.16 fps)

Summary for Pond CB6:

Inflow Area = 41,990 sf, 14.22% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf
Outflow = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 242.86' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	241.60'	**15.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.60' / 241.40' S= 0.0111 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.97 cfs @ 12.25 hrs HW=242.78' TW=242.35' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.97 cfs @ 2.48 fps)

Summary for Pond CB7: CB-7

Inflow Area = 41,990 sf, 14.22% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf
Outflow = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf, Atten= 0%, Lag= 0.1 min
Primary = 2.48 cfs @ 12.25 hrs, Volume= 11,226 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 248.05' @ 12.25 hrs Surf.Area= 48 sf Storage= 3 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (836.5 - 836.5)

Volume	Invert	Avail.Storage	Storage Description
#1	247.85'	1,357 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
247.85	5	0	0
248.00	15	2	2
250.00	1,340	1,355	1,357

Device	Routing	Invert	Outlet Devices
#1	Primary	243.65'	**12.0" Round Culvert** L= 42.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.65' / 243.40' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	247.85'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=2.43 cfs @ 12.25 hrs HW=248.05' TW=242.78' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.43 cfs of 5.89 cfs potential flow)
↑**2=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 2.43 cfs)

Summary for Pond FB1&2: Filter Basin

Inflow Area = 216,805 sf, 33.43% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 17.86 cfs @ 12.12 hrs, Volume= 68,344 cf
Outflow = 5.97 cfs @ 12.51 hrs, Volume= 68,353 cf, Atten= 67%, Lag= 23.4 min
Primary = 5.81 cfs @ 12.51 hrs, Volume= 68,277 cf
Secondary = 0.17 cfs @ 12.51 hrs, Volume= 76 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 235.04' @ 12.51 hrs Surf.Area= 13,669 sf Storage= 26,758 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 263.0 min (1,074.6 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	41,810 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	5,260	0	0
234.00	9,500	14,760	14,760
236.00	17,550	27,050	41,810

Device	Routing	Invert	Outlet Devices
#1	Primary	229.73'	**10.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.73' / 229.00' S= 0.0243 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	229.83'	**1.7" Vert. 1-3/4" Orifice** C= 0.600
#3	Device 2	232.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	233.50'	**15.0" W x 11.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	234.45'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

#6	Secondary	235.00'	**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=5.81 cfs @ 12.51 hrs HW=235.03' TW=229.11' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 5.81 cfs @ 10.64 fps)
  - **2=1-3/4" Orifice** (Passes < 0.17 cfs potential flow)
    - **3=Exfiltration** (Passes < 0.76 cfs potential flow)
  - **4=Orifice/Grate** (Passes < 5.68 cfs potential flow)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Passes < 7.38 cfs potential flow)

Secondary OutFlow Max=0.16 cfs @ 12.51 hrs HW=235.03' TW=0.00' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 0.16 cfs @ 0.46 fps)

Summary for Pond FB3: Filter Basin

Inflow Area =	73,990 sf,	13.34% Impervious,	Inflow Depth =	3.21"	for 25-Year event
Inflow =	4.01 cfs @	12.33 hrs,	Volume=	19,781 cf	
Outflow =	3.44 cfs @	12.51 hrs,	Volume=	19,783 cf,	Atten= 14%, Lag= 10.5 min
Primary =	3.44 cfs @	12.51 hrs,	Volume=	19,783 cf	
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 242.31' @ 12.51 hrs Surf.Area= 2,965 sf Storage= 5,076 cf

Plug-Flow detention time= 207.2 min calculated for 19,756 cf (100% of inflow)
Center-of-Mass det. time= 208.5 min (1,050.1 - 841.7)

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	11,390 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
240.00	1,520	0	0
242.00	2,685	4,205	4,205
244.00	4,500	7,185	11,390

Device	Routing	Invert	Outlet Devices
#1	Primary	237.73'	**10.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 237.73' / 237.30' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	237.80'	**1.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	240.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	241.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	242.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#6	Secondary	242.70'	**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=3.41 cfs @ 12.51 hrs HW=242.31' TW=237.07' (Dynamic Tailwater)
- **1=Culvert** (Passes 3.41 cfs of 4.89 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.17 fps)
    - **3=Exfiltration** (Passes 0.06 cfs of 0.17 cfs potential flow)
  - **4=Orifice/Grate** (Orifice Controls 2.85 cfs @ 3.04 fps)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 0.50 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' TW=237.00' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond W: Wetland

Inflow Area = 162,545 sf, 8.79% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 7.81 cfs @ 12.41 hrs, Volume= 42,158 cf
Outflow = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf, Atten= 48%, Lag= 24.2 min
Primary = 4.03 cfs @ 12.81 hrs, Volume= 37,176 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 250.23' @ 12.81 hrs Surf.Area= 20,013 sf Storage= 14,839 cf

Plug-Flow detention time= 135.2 min calculated for 37,176 cf (88% of inflow)
Center-of-Mass det. time= 79.2 min (928.2 - 849.0)

Volume	Invert	Avail.Storage	Storage Description
#1	249.00'	74,128 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.00	4,775	0	0
250.00	16,520	10,648	10,648
252.00	46,960	63,480	74,128

Device	Routing	Invert	Outlet Devices
#1	Primary	249.60'	**3.0' long x 80.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=4.02 cfs @ 12.81 hrs HW=250.23' TW=246.00' (Dynamic Tailwater)
- **1=Broad-Crested Rectangular Weir** (Weir Controls 4.02 cfs @ 2.13 fps)

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Runoff Area=162,545 sf 8.79% Impervious Runoff Depth=1.03"
Flow Length=409' Tc=28.7 min CN=75 Runoff=2.45 cfs 13,908 cf

Subcatchment11: Runoff Area=28,060 sf 58.77% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=1.35 cfs 4,460 cf

Subcatchment12: Runoff Area=25,580 sf 17.10% Impervious Runoff Depth=1.08"
Flow Length=106' Slope=0.1100 '/' Tc=11.6 min CN=76 Runoff=0.57 cfs 2,309 cf

Subcatchment20: Runoff Area=62,640 sf 17.80% Impervious Runoff Depth=1.20"
Flow Length=410' Tc=7.0 min CN=78 Runoff=1.81 cfs 6,267 cf

Subcatchment30: Runoff Area=41,990 sf 14.22% Impervious Runoff Depth=1.08"
Flow Length=221' Tc=17.8 min CN=76 Runoff=0.80 cfs 3,789 cf

Subcatchment31: Runoff Area=35,855 sf 59.03% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=1.72 cfs 5,699 cf

Subcatchment32: Runoff Area=17,320 sf 68.62% Impervious Runoff Depth=2.08"
Tc=6.0 min CN=90 Runoff=0.90 cfs 2,997 cf

Subcatchment33: Runoff Area=30,940 sf 18.79% Impervious Runoff Depth=1.26"
Flow Length=113' Tc=8.5 min CN=79 Runoff=0.89 cfs 3,254 cf

Subcatchment34: Runoff Area=210,895 sf 2.81% Impervious Runoff Depth=0.82"
Flow Length=283' Tc=23.4 min CN=71 Runoff=2.59 cfs 14,387 cf

Subcatchment40: Runoff Area=73,990 sf 13.34% Impervious Runoff Depth=1.08"
Flow Length=409' Tc=23.4 min CN=76 Runoff=1.28 cfs 6,677 cf

Subcatchment41: Runoff Area=132,425 sf 0.60% Impervious Runoff Depth=0.82"
Flow Length=394' Tc=26.7 min CN=71 Runoff=1.56 cfs 9,034 cf

Reach R10: Avg. Flow Depth=0.09' Max Vel=3.77 fps Inflow=0.43 cfs 8,926 cf
n=0.022 L=197.0' S=0.1015 '/' Capacity=57.52 cfs Outflow=0.43 cfs 8,926 cf

Reach R11: Avg. Flow Depth=0.32' Max Vel=1.19 fps Inflow=1.35 cfs 4,460 cf
n=0.069 L=365.0' S=0.0216 '/' Capacity=11.28 cfs Outflow=1.13 cfs 4,460 cf

Reach R12: Avg. Flow Depth=0.03' Max Vel=0.89 fps Inflow=0.81 cfs 26,479 cf
n=0.070 L=128.0' S=0.1719 '/' Capacity=105.77 cfs Outflow=0.81 cfs 26,479 cf

Reach R13: Avg. Flow Depth=0.01' Max Vel=0.82 fps Inflow=0.20 cfs 6,684 cf
n=0.030 L=96.0' S=0.0938 '/' Capacity=105.64 cfs Outflow=0.20 cfs 6,684 cf

Reach R14: Avg. Flow Depth=0.03' Max Vel=0.84 fps Inflow=0.20 cfs 6,684 cf
n=0.030 L=110.0' S=0.0291 '/' Capacity=389.46 cfs Outflow=0.20 cfs 6,684 cf

Reach SP1: Inflow=0.57 cfs 11,235 cf
Outflow=0.57 cfs 11,235 cf

Reach SP2: Inflow=2.74 cfs 40,865 cf
Outflow=2.74 cfs 40,865 cf

Reach SP3: Inflow=1.60 cfs 15,717 cf
Outflow=1.60 cfs 15,717 cf

Pond C: Culvert Peak Elev=246.00' Storage=0 cf Inflow=0.43 cfs 8,926 cf
15.0" Round Culvert n=0.013 L=86.0' S=0.0070 '/' Outflow=0.43 cfs 8,926 cf

Pond CB2: Peak Elev=242.94' Inflow=1.35 cfs 4,460 cf
15.0" Round Culvert n=0.013 L=20.0' S=0.0200 '/' Outflow=1.35 cfs 4,460 cf

Pond CB4: Peak Elev=250.96' Inflow=0.90 cfs 2,997 cf
15.0" Round Culvert n=0.013 L=108.0' S=0.0782 '/' Outflow=0.90 cfs 2,997 cf

Pond CB5: Peak Elev=241.93' Inflow=2.22 cfs 9,488 cf
18.0" Round Culvert n=0.013 L=120.0' S=0.0596 '/' Outflow=2.22 cfs 9,488 cf

Pond CB6: Peak Elev=242.14' Inflow=0.81 cfs 3,789 cf
15.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=0.81 cfs 3,789 cf

Pond CB7: CB-7 Peak Elev=247.94' Storage=1 cf Inflow=0.80 cfs 3,789 cf
Outflow=0.81 cfs 3,789 cf

Pond FB1&2: Filter Basin Peak Elev=233.80' Storage=12,905 cf Inflow=6.90 cfs 26,466 cf
Primary=0.81 cfs 26,479 cf Secondary=0.00 cfs 0 cf Outflow=0.81 cfs 26,479 cf

Pond FB3: Filter Basin Peak Elev=241.61' Storage=3,209 cf Inflow=1.28 cfs 6,677 cf
Primary=0.20 cfs 6,684 cf Secondary=0.00 cfs 0 cf Outflow=0.20 cfs 6,684 cf

Pond W: Wetland Peak Elev=249.74' Storage=6,790 cf Inflow=2.45 cfs 13,908 cf
Outflow=0.43 cfs 8,926 cf

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Runoff Area=162,545 sf 8.79% Impervious Runoff Depth=2.13"
Flow Length=409' Tc=28.7 min CN=75 Runoff=5.30 cfs 28,839 cf

Subcatchment11: Runoff Area=28,060 sf 58.77% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=2.28 cfs 7,694 cf

Subcatchment12: Runoff Area=25,580 sf 17.10% Impervious Runoff Depth=2.21"
Flow Length=106' Slope=0.1100 '/' Tc=11.6 min CN=76 Runoff=1.19 cfs 4,711 cf

Subcatchment20: Runoff Area=62,640 sf 17.80% Impervious Runoff Depth=2.38"
Flow Length=410' Tc=7.0 min CN=78 Runoff=3.67 cfs 12,401 cf

Subcatchment30: Runoff Area=41,990 sf 14.22% Impervious Runoff Depth=2.21"
Flow Length=221' Tc=17.8 min CN=76 Runoff=1.70 cfs 7,733 cf

Subcatchment31: Runoff Area=35,855 sf 59.03% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=2.91 cfs 9,831 cf

Subcatchment32: Runoff Area=17,320 sf 68.62% Impervious Runoff Depth=3.49"
Tc=6.0 min CN=90 Runoff=1.47 cfs 5,040 cf

Subcatchment33: Runoff Area=30,940 sf 18.79% Impervious Runoff Depth=2.46"
Flow Length=113' Tc=8.5 min CN=79 Runoff=1.78 cfs 6,344 cf

Subcatchment34: Runoff Area=210,895 sf 2.81% Impervious Runoff Depth=1.82"
Flow Length=283' Tc=23.4 min CN=71 Runoff=6.31 cfs 31,970 cf

Subcatchment40: Runoff Area=73,990 sf 13.34% Impervious Runoff Depth=2.21"
Flow Length=409' Tc=23.4 min CN=76 Runoff=2.74 cfs 13,626 cf

Subcatchment41: Runoff Area=132,425 sf 0.60% Impervious Runoff Depth=1.82"
Flow Length=394' Tc=26.7 min CN=71 Runoff=3.74 cfs 20,074 cf

Reach R10: Avg. Flow Depth=0.22' Max Vel=6.16 fps Inflow=2.25 cfs 23,857 cf
n=0.022 L=197.0' S=0.1015 '/' Capacity=57.52 cfs Outflow=2.26 cfs 23,857 cf

Reach R11: Avg. Flow Depth=0.43' Max Vel=1.39 fps Inflow=2.28 cfs 7,694 cf
n=0.069 L=365.0' S=0.0216 '/' Capacity=11.28 cfs Outflow=1.95 cfs 7,694 cf

Reach R12: Avg. Flow Depth=0.09' Max Vel=1.62 fps Inflow=4.40 cfs 49,053 cf
n=0.070 L=128.0' S=0.1719 '/' Capacity=105.77 cfs Outflow=4.38 cfs 49,053 cf

Reach R13: Avg. Flow Depth=0.04' Max Vel=1.87 fps Inflow=1.71 cfs 13,628 cf
n=0.030 L=96.0' S=0.0938 '/' Capacity=105.64 cfs Outflow=1.70 cfs 13,628 cf

Reach R14: Avg. Flow Depth=0.11' Max Vel=1.81 fps Inflow=1.70 cfs 13,628 cf
n=0.030 L=110.0' S=0.0291 '/' Capacity=389.46 cfs Outflow=1.72 cfs 13,628 cf

Reach SP1: Inflow=2.45 cfs 28,567 cf
Outflow=2.45 cfs 28,567 cf

Reach SP2: Inflow=9.97 cfs 81,023 cf
Outflow=9.97 cfs 81,023 cf

Reach SP3: Inflow=4.79 cfs 33,702 cf
Outflow=4.79 cfs 33,702 cf

Pond C: Culvert Peak Elev=246.00' Storage=0 cf Inflow=2.25 cfs 23,857 cf
15.0" Round Culvert n=0.013 L=86.0' S=0.0070 '/' Outflow=2.25 cfs 23,857 cf

Pond CB2: Peak Elev=243.17' Inflow=2.28 cfs 7,694 cf
15.0" Round Culvert n=0.013 L=20.0' S=0.0200 '/' Outflow=2.28 cfs 7,694 cf

Pond CB4: Peak Elev=251.12' Inflow=1.47 cfs 5,040 cf
15.0" Round Culvert n=0.013 L=108.0' S=0.0782 '/' Outflow=1.47 cfs 5,040 cf

Pond CB5: Peak Elev=242.28' Inflow=4.07 cfs 17,564 cf
18.0" Round Culvert n=0.013 L=120.0' S=0.0596 '/' Outflow=4.07 cfs 17,564 cf

Pond CB6: Peak Elev=242.50' Inflow=1.70 cfs 7,733 cf
15.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=1.70 cfs 7,733 cf

Pond CB7: CB-7 Peak Elev=248.01' Storage=2 cf Inflow=1.70 cfs 7,733 cf
Outflow=1.70 cfs 7,733 cf

Pond FB1&2: Filter Basin Peak Elev=234.49' Storage=19,905 cf Inflow=12.87 cfs 49,043 cf
Primary=4.40 cfs 49,053 cf Secondary=0.00 cfs 0 cf Outflow=4.40 cfs 49,053 cf

Pond FB3: Filter Basin Peak Elev=242.05' Storage=4,354 cf Inflow=2.74 cfs 13,626 cf
Primary=1.71 cfs 13,628 cf Secondary=0.00 cfs 0 cf Outflow=1.71 cfs 13,628 cf

Pond W: Wetland Peak Elev=250.03' Storage=11,079 cf Inflow=5.30 cfs 28,839 cf
Outflow=2.25 cfs 23,857 cf

ATTACHMENT 6

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

LEGACY VILLAGE RETIREMENT COMMUNITY
WINDHAM, MAINE

Responsible Party

Owner: Robie Holdings, LLC
P.O. Box 1508
Windham, ME 04062

The owner/applicant is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records until such time that a condominium association is created. Once the association is established, maintenance will be the responsibility of the association. The applicant is responsible for contacting the Town when this occurs for their records.

Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP* and *Stormwater Management for Maine: Best Management Practices* Manuals published by the Maine Department of Environmental Protection (MDEP) should be referenced for additional information.

During Construction

1. **Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected, including winter work, at least once a week as well as 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. 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 BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Construction vehicles and equipment:** Construction vehicles and equipment shall not be driven or stored within any proposed stormwater treatment ponds.

4. **Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials 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.

2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (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.

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.

5. **Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

6. **Authorized Non-stormwater discharges:** It is the contractor's responsibility to 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:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town'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.

Post construction

1. **Inspection and Corrective Action:** All measures must be maintained by the owner in effective operating condition. A Qualified Post-Construction Stormwater Inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control, including the standards and conditions of the site's approvals. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   A. **Vegetated Areas:** 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 is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. **Vegetated Swales:** Inspect swales in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Grass to be mowed to a minimum height of six inches. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

   C. **Culverts:** Inspect culverts in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the riprap inlet, at

the riprap outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

D. **Catch Basins and Outlet Control Structures:** Inspect and, if required, clean out catch basins at least once a year, preferably in early spring. 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).

E. **Underdrained Filter Basin:** The filter basins are not intended to function as snow storage areas. Inspector to verify that winter plowing operations are not dumping or pushing snow into the basins. The basins shall also not be used for vehicle or heavy equipment storage. Basins should be inspected after several major storm events (0.5 inches rainfall over 24 hours) to determine drawdown time during the first year. The basins to be inspected every six months thereafter with at least one inspection after a major storm event.

   The basins should drain dry within 24 to 48 hours following a one-inch storm. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If water ponds on the surface of the bed for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up in the forebays and basins and remove as needed. Mowing of the basins can only occur semi-annually to a height of no less than 6 inches utilizing a hand-held string trimmer or push-mower. Any bare areas or erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. The basins should also be inspected annually for destabilization of side slopes, embankment settling and other signs of structural failure.

F. **Level Spreader:** Level spreader should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Stormwater runoff should discharge from the level spreader as sheet flow, and any observed channelization of flows or erosion should be corrected immediately. Any woody vegetation growing through riprap must be removed. Replace riprap on areas where any underlying soil or sediment buildup is showing through the stone or where stones have been dislodged.

G. **Emergency Spillway:** Spillways should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Any woody vegetation growing through riprap lining must be removed. Replace riprap on areas where any underlying filter fabric is showing through the stone or where stones have been dislodged.

H. **Roofline Drip edges:** The drip edges should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The reservoir crushed stone should drain within 24 to 48 hours following a major storm event. If ponding exceeds 48 hours, the stone reservoir course shall be removed and the filter bed be rototilled to reestablish the soil's filtration capacity. If water ponds in the reservoir course for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up at surface and remove as needed. The drip edges are part of the stormwater management plan and cannot be paved over or altered in anyway.

I. **Regular Maintenance:** Clear accumulations of winter sand along roadway once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

J. **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 Town staff 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. Attached is a sample log.

Re-certification

As a requirement of the Town, the stormwater infrastructure shall be inspected yearly by a qualified third-party inspector. The third-party inspector shall perform an initial inspection to determine the status of the stormwater management facilities. If the initial inspection identifies any deficiencies with the facilities, the same third-party inspector shall re-inspect the facilities after they have been maintained or repaired to determine if they are performing as intended. Once the site is satisfactory, the third-party inspector shall submit the Annual Stormwater Management Facilities Certification form and report to the Office of Code Enforcement. The certification form shall be submitted to the Town prior to May 1 of each year.

Duration of Maintenance

Perform maintenance as described.

MAINTENANCE LOG

LEGACY VILLAGE RETIREMENT COMMUNITY
WINDHAM, MAINE

(GENERAL INSPECTION FORM PAGE 1 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Vegetated Swales	Inspect after major rainfall event			
	Inspect for erosion or slumping & repair			
	Mowed at least annually.			
Culverts	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap within inlet and outlet aprons.			
	Clean accumulated sediment in culverts when >20% full.			
Catch Basins	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			

MAINTENANCE LOG

LEGACY VILLAGE RETIREMENT COMMUNITY
WINDHAM, MAINE

(GENERAL INSPECTION FORM PAGE 2 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Roofline Dripedges	Check after each rainfall event to ensure that the stone reservoir drains within 24-48 hours.			
	Replace top several inches of filter if reservoir does not drain within 72 hours.			
	Inspect and remove sediment or debris build up on the surface of the stone			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

MAINTENANCE LOG

LEGACY VILLAGE RETIREMENT COMMUNITY
WINDHAM, MAINE

(UNDERDRAINED FILTER BASIN FB-_____)

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Underdrained Filter Basin	Check after each rainfall event to ensure that pond drains within 24-48 hours.			
	Replace top several inches of filter if pond does not drain within 72 hours.			
	Mow grass no more than twice a year to no less than 6 inches in height.			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
	Inspector to verify basin not utilized for snow storage			
	Inspector to verify basin not utilized for vehicle or heavy equipment storage.			
Outlet Control Structure	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			
Emergency Spillway	Inspect and remove obstructions as necessary.			
	Remove woody vegetation.			
	Replace riprap as necessary.			

SECTION 17

SOILS INFORMATION

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Soil Narrative Report

DATE:	Soil Profiles observed on July 12, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers. Scale 1-inch equals 60 feet and two-foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 60 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with one-foot contours and ground control provided.

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Mark J. Hampton C.S.S. #216, L.S.E. #263 January 14, 2025

Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Dixfield
(Aquic Haplorthods)

SETTING

PARENT MATERIAL:	Derived from compact loamy glacial till.
LANDFORM:	Till plains, hills and ridges.
POSITION IN LANDSCAPE:	Plains and middle levels.
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%, (C) 8-15%, (D) 15-25%, (E) >25%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.0 to 2.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark brown, stony sandy loam, 0-7"
Subsurface Layer:	Brown, sandy loam, 7-20"
Subsoil Layer:	Olive brown, stony sandy loam 16-31"
Substratum:	Olive gray, stony sandy loam, 25-65"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderately Rapid
PERMEABILITY:	Moderate in solum, slow in substratum
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS

(Within Mapping Unit)

CONTRASTING: Brayton, Colonel, Lamoine, Scantic

USE AND MANAGEMENT

Development: There are few limiting factors for building site development



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8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Colonel
(Aquic Haplorthods)

SETTING

PARENT MATERIAL:	Derived from dense, loamy glacial till
LANDFORM:	Drumlins and Sideslopes of glaciated uplands
POSITION IN LANDSCAPE:	Mid-positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 1.0 to 2.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dk gray brown, stony sandy loam 0-3"
Subsurface Layer:	Dark Brown, stony sandy loam, 3-12"
Subsoil Layer:	Olive Brown, stony sandy loam, 12-18"
Substratum:	Olive, stony, sandy loam, 18-65"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Moderate and moderately slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS

(Within Mapping Unit)

CONTRASTING: Dixfield, Brayton

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Dixfield, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Substratum:	Gray silty clay loam, 16"+

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Lamoine, Dixfield

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8358

Webb Road Property
Robie Holdings LLC
Webb Road
Windham, ME

Brayton
(Aeric Epiaquepts)

SETTING

PARENT MATERIAL:	Derived from dense glacial till
LANDFORM:	Toeslopes and depressions in glaciated uplands
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dk gray, fine sandy loam 0-5",
Subsurface Layer:	Gray fine sandy loam, 5-15",
Subsoil Layer:	Grayish brown fine sandy loam, 15-24"
Substratum:	Olive fine sandy loam, 24-65",

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Moderate and moderately slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Dixfield Colonel



USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of an extremely high watertable for a portion of the year. This soil is not suitable for development without alteration, which may require additional permitting.

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Webb Road Property | Applicant Name: Robie Holdings LLC | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/A	Black	Sandy Loam	Weak Angular	Very Friable	
Eg	Gray	Sandy Loam	Sub Ang Blocky	Friable	Common and Distinct
BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
Cd	Olive Gray	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Brayton

Limiting Factor: 6" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Colonel

Limiting Factor: 12" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details ▶▶

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Mark J. Hampton
Name Printed

07/12/2025
Date

216
SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST affix professional seal

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 15 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 18" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ Yes

Hydrologic Soil Group:

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Webb Road Property

Applicant Name: Robie Holdings LLC

Project Location (municipality): Windham

Exploration Symbol # SS-9

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	Silt Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silt Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Eg	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Eg	Gray	Silt Loam	Fine Grandul	Friable	
Bg	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 5" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MD ☐ SPD ☐ PD ☐ vPD

Slope: >25 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-13

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 15" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 15 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Weak Angular	Very Friable	
Eg	Gray	Silt Loam	Sub Ang Blocky	Friable	
Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Eg	Brown	Sandy Loam	Fine Grandul	Friable	
Bg	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth — ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton

Signature

Mark J. Hampton

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-17

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	18" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	6 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-18

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	10 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-19

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	2 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-20

☐ Test Pit ☒ Boring ☐ Probe

____" Organic horizon thickness Ground surface elev. ____

____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Eg	Brown	Sandy Loam	Fine Grandul	Friable	
Bg	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cg	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor		Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	4 Percent	☒ No ☐ Yes	Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton
Signature

07/12/2025
Date

Mark J. Hampton
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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-21 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details ▸▸

Soil Series/Phase Name: Colonel

Limiting Factor: 14" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-22 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/A	Black	Sandy Loam	Weak Angular	Very Friable	
Eg	Gray	Sandy Loam	Sub Ang Blocky	Friable	Common and Distinct
BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▸▸

Soil Series/Phase Name: Brayton

Limiting Factor: 6" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-23 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details ▸▸

Soil Series/Phase Name: Dixfield

Limiting Factor: 15" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: >25 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-24 ☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details ▸▸

Soil Series/Phase Name: Dixfield

Limiting Factor: 16" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Webb Road Property	Robie Holdings LLC	Windham

Exploration Symbol # SS-25

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor	Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	20 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-26

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Weak Angular	Very Friable	
Bhs	Brown	Sandy Loam	Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor	Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	15" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	>25 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-27

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Fine Grandul	Friable	
Bhs	Brown	Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor	Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	15" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	>25 Percent	☒ No ☐ Yes	Soil Group

Exploration Symbol # SS-28

☐ Test Pit ☒ Boring ☐ Probe

_____" Organic horizon thickness Ground surface elev. _____

_____" Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	Sandy Loam	Grand	Friable	
Bhs	Brown	Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Sandy Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Sandy Loam	Platy	Very Firm	

Soil Details

Soil Series/Phase Name:	Limiting Factor	Drainage Class	Slope	Hydric Soil	Hydrologic
Dixfield	16" Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock	☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD	2[illegible] Percent	☒ No ☐ Yes	Soil Group

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Mark J. Hampton

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Date

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To: DM Roma Consulting Engineers
PO Box 1116
Windham, ME 04062

Date: April 5, 2025

From: Alexander A. Finamore, LSE
Mainely Soils, LLC

Re: 15 Read Road, Windham, ME – Wetland Delineation Memorandum

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At the request of DM Roma Consulting Engineers (the "Client"), Mainely Soils conducted on-site wetland and waterbody delineations on a parcel, approximately 27.97 acres in size located on Read Road in Windham, Maine. These field investigations were performed to provide baseline environmental data to inform the client of potential development/use of the site. The natural resources assessments described in this memorandum were completed in April of 2025. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within the Farm District along the Gray Road corridor in the Town of Windham. The site is currently occupied by a single family home, open field and forested land. Surrounding land use of the site is residential to the north, east and west and an overhead electric utility corridor to the south. Access to the site is currently from both Read Road to the north and Webb Road to the east. In total, the wetland and waterbody delineation and vernal pool survey area encompassed approximately 27.97 acres, identified by the Town of Windham as Tax Map 6, Lot 33.

SITE DESCRIPTION

The Study Area occurs in the Sebago-Ossipee Hills & Plains biophysical region of Maine (Schlawin & Cutko, 2014). The Sebago-Ossipee Hills & Plains biophysical region is characterized by variable topography, ranging from plains to low hills of low relief along the Atlantic coast. Interior areas are high hills to semi-mountainous, parts of which were glaciated. Vegetation is characterized by tall, cold-deciduous broadleaf forests that have a high proportion of mesophytic species. Bedrock geology is varied and complex, consisting of sedimentary, igneous, and metamorphic rocks. Forest vegetation includes oak-hickory, white-red-jack pine, maple-beech-birch, and aspen-birch cover types. The survey area is located within the Presumpscot River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060001).

The Natural Resource Conservation Service soil survey mapping identifies native soils within the upland areas at the site as being formed in lodgment till on hills, drumlins, till plains, and ground moraines (Paxton series). (Web Soil Survey, 2025). Wetlands within the wetland areas are shown as being formed within glaciolacustrine or glaciomarine deposits on coastal lowlands and river valleys (Lamoine series)

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on April 2nd, 2025. The boundary of wetlands were delineated in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Five distinct wetland areas were delineated throughout the study area. Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Representative photographs of each wetland were taken, field sketches were labeled of the wetland boundary on an aerial photograph-based map, and notes were recorded on the flagging sequence for each wetland.

Mainely Soils also surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. No streams were observed onsite

Study Results

Using the methodologies described above, a wetland delineation was performed on April 2nd, 2025. A description of the identified resources follows. Supporting attachments include Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request.

Wetlands at the project site consisted of five distinct features. All five wetlands were located within a forested setting within a depressions in the surrounding landscape Wetlands were characterized as a seasonally saturated palustrine forested wetland (PFO1E) dominated by deciduous trees. Wetland vegetation in this area was dominated by red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), balsam fir (*Abies balsamea*), yellow birch (*Betula alleghaniensis*), black ash (*Fraxinus nigra*), speckled alder (*Alnus incana*), highbush blueberry (*Vaccinium corymbosum*), cinnamon fern (*Osmunda cinnamomea*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), and common horsetail (*Equisetum arvense*). Soils within this wetland consisted of a thin dark muck over a depleted sand substratum meeting the definition of hydric soil criteria A11: Depleted Below Dark Surface. Evidence of wetland hydrology included small pockets of standing water, water stained leaves, and saturation to the soil surface at the time of field investigations.

No juisdictional streams were observed within the Study Area.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support permitting needs. Five wetlands were delineated on the site and were identified as Wetlands A,B, C, D, and E. The wetland features were located within sandy glacial till soils in depressional features. The wetlands generally exhibited seasonally saturated/flooded hydroperiods, and provided groundwater discharge, floodflow alteration, wildlife habitat, and stormwater/water quality maintenance functions. One perennial stream was observed.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as “wetlands of special significance” (WOSS). Wetlands delineated onsite did not meet the criteria of a WOSS . Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe.1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Schlawin, J. Cutko, A. Maine Natural Areas Program. 2014. A Conservation Vision for Maine Using Ecological Systems.

Web Soil Survey. 2025. U.S. Department of Agriculture – Natural Resources Conservation Service. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Attachments:

1. Representative Site Photographs

Attachment 1

Representative Site Photographs



Photo 1: View looking northwesterly at Wetland A from flag !



Photo 2: View looking southerly at Wetland A from flag 10



Photo 3: View looking westerly at Wetland B from flag 5



Photo 4: View looking northwesterly at Wetland B from flag 10



Photo 5: View looking northerly at Wetland C from flag 3



Photo 6: View looking southeasterly at Wetland D from flag 3



Photo 7: View looking northeasterly at Wetland E from flag 1



Photo 8: View looking westerly at Wetland E from flag 5



Photo 9: Typical forested upland view onsite



Photo 10: View of upland field area in the northern portion of the site

SECTION 18

WATER SUPPLY FOR DOMESTIC AND FIRE PROTECTION USE

Section 18 – Water Supply for Domestic and Fire Protection Use

The project plans will be reviewed by the Portland Water District for approval. Once an Ability to Serve Approval Letter has been issued by the PWD, we will provide a copy of the letter to the Town.

SECTION 19

PROVISIONS FOR WASTEWATER DISPOSAL

Section 19 – Provisions for Wastewater Disposal

The retirement community on Lot 1 has a total wastewater design flow of 4,050 gallons per day based on 15 dwelling units having 3 bedrooms and 15 units having 2 bedrooms for a total of 45 bedrooms. The wastewater disposal will be treated utilizing Fuji Clean CEN Advanced Treatment Tanks and pumped to a concrete chamber leach field. The Fuji Clean CEN Advanced Treatment Units are designed to reduce Nitrate-Nitrogen concentration to below 10 mg/l before the wastewater enters the disposal field.

Septic systems with a design flow in excess of 2,000 GPD require review and approval from the Maine Department of Health and Human Services as an "Engineered System". We are currently in the process of coordinating the design and approval of the leach field with the State and will provide a copy of the final approved design and approval documentation upon receipt.

Lot 2 will require the installation of a separate on-site wastewater disposal system based on the number of bedrooms that will be served. An HHE-200 will be required to be prepared and submitted with the Building Permit application.

We have included copies of test pit logs in Section 17 to demonstrate that the soils are suitable for the installation of a leach field on Lots 1 and 2.

SECTION 20

PROJECT COST ESTIMATE AND FINANCIAL CAPACITY

Section 20 – Project Cost Estimate and Financial Capacity

The project sitework costs are estimated to be the following:

1.	Site Preparation & Clearing	$50,000
2.	Aggregates for Access Drive	$120,000
3.	Bituminous Pavement	$70,000
4.	Electrical Conduit and Risers	$60,000
5.	Stormwater BMPs	$40,000
6.	Storm Drain Collection	$40,000
7.	Water main & services	$150,000
8.	Wastewater collection & disposal	$150,000
9.	Landscaping & Lawns	$100,000
	Total Sitework Estimate:	$780,000

The 30 units of building cost is estimated at $8,000,000.

The applicant previously purchased the land so there is no additional land acquisition cost.

Enclosed is a letter from Maine Community Bank indicating that the applicant has the financial capacity to complete the project.

MAINE COMMUNITY BANK

May 19, 2026

Town of Windham

RE: Robie Contracting, Jarod Robie, et al.

To Whom It May Concern,

I work with Jarod Robie as his Commercial Lender. He has the financial capacity to complete the .Legacy Village Retirement Community on Webb Road.

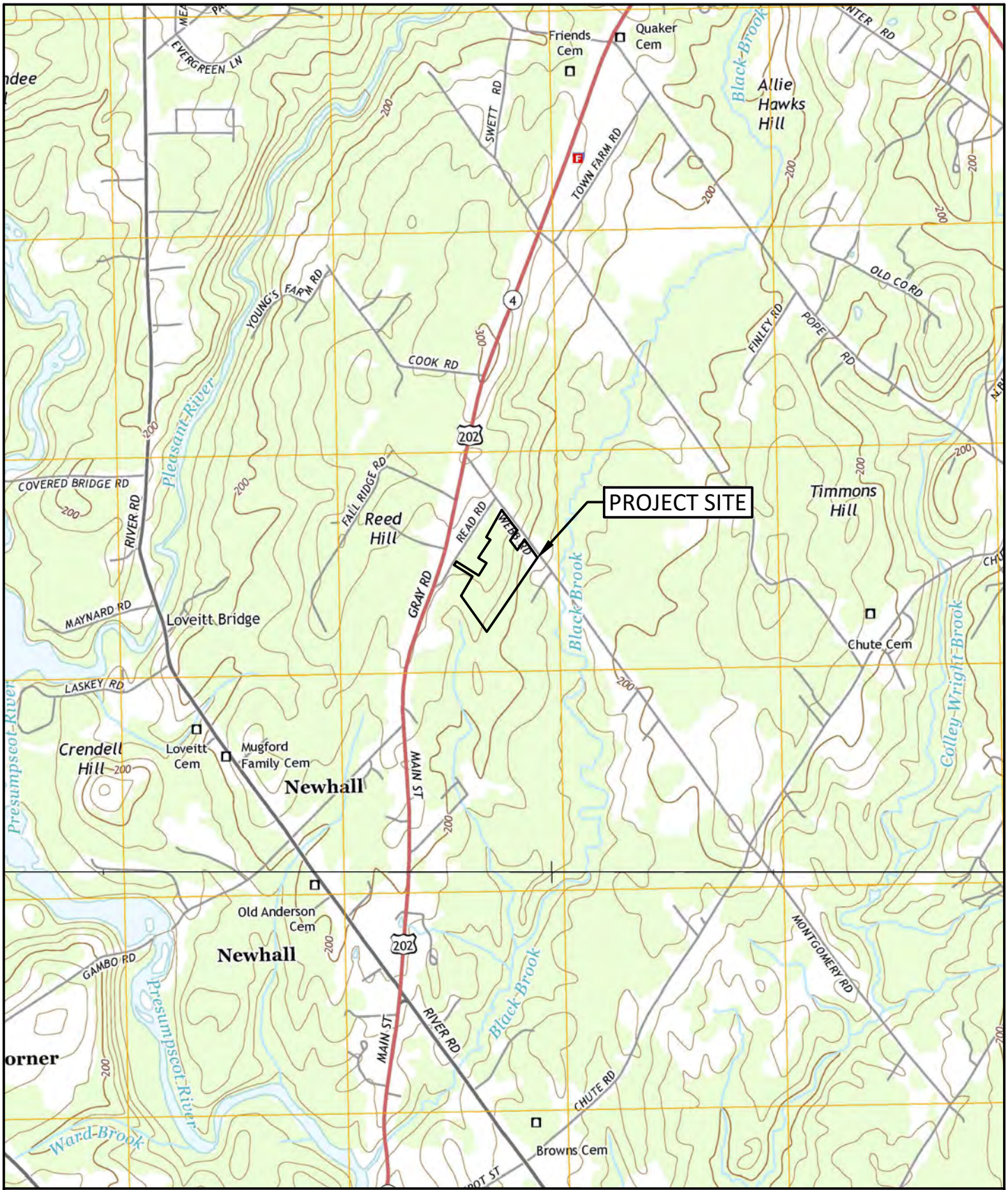
If you have any further questions, I can be reached at (207) 749-1903

Sincerely,

Jason Straetz
Vice President

SECTION 21

SITE VICINITY MAP – USGS QUADRANGLE



SITE LOCATION MAP

WEBB ROAD PROPERTY
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
P.O. BOX 1508
WINDHAM, MAINE 04062

USGS QUADRANGLES:
GORHAM
NORTH WINDHAM

SCALE: 1"=2,000'
DATE: 12-12-2025
JOB NUMBER: 25007

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

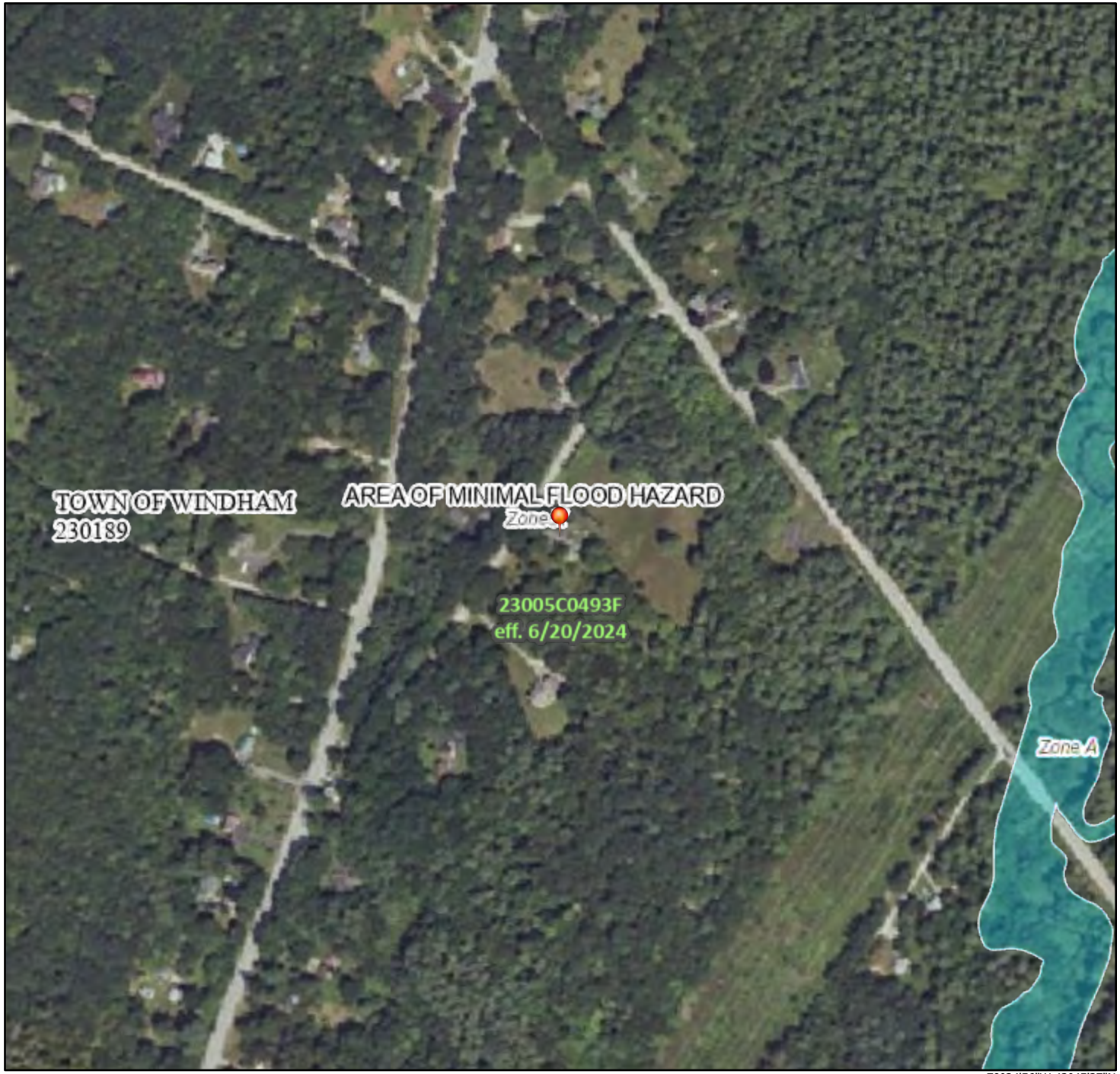
SECTION 22

FLOOD ZONES

National Flood Hazard Layer FIRMette

FEMA

70°25'34"W 43°46'3"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

70°24'56"W 43°45'37"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/19/2026 at 3:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SECTION 23

IMPACT TO SITES OF HISTORICAL SIGNIFICANCE

Section 23 – Impact to Sites of Historical Significance

Enclosed is a letter from the Maine Historic Preservation Commission indicating that the project will not impact any properties of historic significance.

DM ROMA
CONSULTING ENGINEERS

RECEIVED
APR 03 2025
By 0626-25

April 2, 2025

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065

Re: Review of Project Area
Residential Subdivision, Webb Road, Windham
Robie Holdings, LLC, Applicant

Dear Mr. Mohney:

On behalf of our client Robie Holdings, LLC, DM Roma Consulting Engineers is submitting a request to have a proposed residential development off Webb Road in Windham be reviewed by the Maine Historic Preservation Commission for potential impacts to resources of historical significance.

The 28± acre property is identified as being Lot 33 on the Town of Windham Assessors Map 6 and is located in the Farm (F) zoning district. The applicant intends to develop a residential subdivision and will also include a roadway, private and public utility connections and stormwater infrastructure. The property is generally bounded by residential properties, utility corridor (CMP), and undeveloped woodland.

Based on available property information, there appears to be 4 houses in the vicinity of the project site that are over 50 years old. Photographs of each of the properties with structures older than 50 years and a map indicating locations of these structures have been included for review.

Enclosed is a vicinity map depicting the subject parcel and photographs and a location map for each abutting property over 50 years old. Upon your review of the material, please provide a letter indicating the findings of your initial screening and do not hesitate to contact us with any questions.

Sincerely,

DM Roma Consulting Engineers

J.P. Connolly
Senior Project Engineer

Cc: Robie Holdings, LLC, Applicant
Town of Windham
Maine Department of Environmental Protection
US Army Corps of Engineers

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney — 4/23/25
State Historic Preservation Officer — Date
Maine Historic Preservation Commission

SECTION 24

MDEP STORMWATER PERMIT

Section 24 – MDEP Stormwater Permit

The project requires a Stormwater Permit from the Maine Department of Environmental Protection (MDEP) and we request that the Town of Windham perform the review and issue the permit under its delegated review authority. The Stormwater Management Report attached in Section 16 outlines how the project has been designed to meet the applicable sections of Chapter 500 of the MDEP Rules including Basic Standards and General Standards. Erosion Control measures have been detailed in the plan set. The design specifications of the proposed Stormwater Best Management Practices are included in the plan set, and design calculations are contained in the Stormwater Management Report. Watershed Maps are attached to the plan set.

Attached to this section is the Public Notice Certification along with a list of the property owners within 1,000 feet of the proposed development parcel who have received a Notice of Intent to File, and we have also published a Notice of Intent to File with the Windham Eagle newspaper.

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that Robie Holdings, LLC, with a mailing address of PO Box 1508, Windham, Maine 04062, intends to file a Stormwater Management Law permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S. § 420-D on or about May 18, 2026. The application is for the development of a retirement community with approximately 30 dwelling units located on Webb Road in Windham, Maine, as shown on Town of Windham Assessor Map 6 Lot 33-F, and the creation of an additional 6-acre lot.

A request for a public hearing must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the application processing period. The application will be filed for public inspection on the DEP's website at: https://www.maine.gov/mels/hub.html. Written public comments may be sent through the website. A copy of the application may also be seen at the municipal offices in Windham, Maine. For more information on how to submit public comment with the DEP, please go to the DEP's website: Public Participation in the Licensing Process (Information Sheet) Maine DEP.

PUBLIC NOTICE

NOTICE OF INTENT TO FILE

Please take notice that Robie Holdings, LLC, with a mailing address of PO Box 1508, Windham, Maine 04062, intends to file a Stormwater Management Law permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S. § 420-D on or about May 18, 2026.

The application is for the development of a retirement community with approximately 30 dwelling units located on Webb Road in Windham, Maine, as shown on Town of Windham Assessor Map 6 Lot 33-F, and the creation of an additional 6-acre lot.

A request for a public hearing must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection.

Public comment on the application will be accepted throughout the application processing period. The application will be filed for public inspection on the DEP's website at: https://www.maine.gov/mels/hub.html. Written public comments may be sent through the website.

A copy of the application may also be seen at the municipal offices in Windham, Maine. For more information on how to submit public comment with the DEP, please go to the DEP's website: Public Participation i

Licensing Process (Information Sheet) Maine DEP.

PUBLIC NOTICE INSTRUCTIONS AND CERTIFICATION

The Department's Chapter 2 rules, *Processing of Applications and Other Administrative Matters*, require an applicant to provide public notice within 30 days prior to filing a license application for most projects or activities requiring a permit from the Department (see Chapter 2, §13). In the notice, the applicant must provide the information included in the Department's Notice of Intent to File form. "Abutter" for the purposes of public notice means any person who owns property that is contiguous with the property on which the project requiring a license from the Department is proposed.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication.

2. **Abutters and Others Owning Land Within 1,000 Feet:** You must mail a copy of the Notice of Intent to File to abutters and all persons owning land within 1,000 feet of the proposed project. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office or County Commissioner(s):** You must mail a copy of the Notice of Intent to File and a duplicate of the entire application to the Municipal Office or, if the proposed project is located in an unorganized or deorganized area of the State, to the county commissioner(s). The Municipal Office or county commissioner(s) must receive notice within 30 days prior to the filing of the application with the Department.

ATTACH a copy of the published notice and a list of persons to whom notice was provided.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;

2. A mailing of the Notice of Intent to File was sent to all abutters and all other persons owning land within 1,000 feet of the proposed project within 30 days prior to filing of the application;

3. A mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located or, if applicable, to the county commissioner(s); and

4. Provided notice of and held a public informational meeting, if required, in accordance with the Department's Chapter 2 rules, §12, prior to filing the application. Notice of the meeting was sent to abutters and all other persons owning land within 1,000 feet of the proposed project and to the town office of the municipality in which the project is located or to the county commissioner(s), as applicable, at least at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on _____.
(Date)

Approximately _____ members of the public attended the Public Informational Meeting.

Dustin Roma
Signature of Applicant or Authorized Agent

5-19-2026
Date

1000 feet Abutters List Report

Windham, ME
May 19, 2026

Subject Property:

Parcel Number:	006033000000	Mailing Address:	NELSON BRANDON & NELSON TANYA
CAMA Number:	006-033-000-000		15 READ RD
Property Address:	15 READ RD		WINDHAM, ME 04062

Abutters:

Parcel Number:	006032B00000	Mailing Address:	BICKFORD THERON J
CAMA Number:	006-032-B00-000		67 BARNES ROAD
Property Address:	46 WEBB RD		WINDHAM, ME 04062
Parcel Number:	006032C00000	Mailing Address:	MARSTON BRADLEY L & MARSTON
CAMA Number:	006-032-C00-000		SUZANNE M
Property Address:	WEBB RD		40 WEBB ROAD
			WINDHAM, ME 04062
Parcel Number:	006032F00000	Mailing Address:	MCMANUS MAEGEN & MCMANUS
CAMA Number:	006-032-F00-000		TRAVIS
Property Address:	44 WEBB RD		44 WEBB RD
			WINDHAM, ME 04062
Parcel Number:	006033A00000	Mailing Address:	BICKFORD THERON J
CAMA Number:	006-033-A00-000		67 BARNES ROAD
Property Address:	6 JESSE'S ACRES RD		WINDHAM, ME 04062
Parcel Number:	006033A01000	Mailing Address:	DEHETRE DONALD A II & DEHETRE
CAMA Number:	006-033-A01-000		TRINA L
Property Address:	14 JESSE'S ACRES RD		14 JESSE'S ACRES ROAD
			WINDHAM, ME 04062
Parcel Number:	006033B00000	Mailing Address:	CENTRAL MAINE POWER COMPANY
CAMA Number:	006-033-B00-000		C/O AVANGRID MGMT CO-LOCAL TAXES
Property Address:	54 WEBB RD		ONE CITY CENTER, 5TH FL
			PORTLAND, ME 04101
Parcel Number:	006033C00000	Mailing Address:	COOK MATTHEW & COOK CHRISTINE
CAMA Number:	006-033-C00-000		7 READ ROAD
Property Address:	7 READ RD		WINDHAM, ME 04062
Parcel Number:	006033D00000	Mailing Address:	GARRARD AARON DREW &
CAMA Number:	006-033-D00-000		SIERRAALTA YBETH V MARIN
Property Address:	11 READ RD		11 READ ROAD
			WINDHAM, ME 04062
Parcel Number:	006035001000	Mailing Address:	BRAGDON BENJAMIN SCOTT
CAMA Number:	006-035-001-000		BRAGDON JENNIFER LYNN
Property Address:	1 READ RD		1 READ RD
			WINDHAM, ME 04062
Parcel Number:	006035002000	Mailing Address:	STEVENS BRENDA
CAMA Number:	006-035-002-000		257 GRAY RD
Property Address:	257 GRAY RD		WINDHAM, ME 04062

Parcel Number:	006035003000	Mailing Address:	DENNISON ARNOLD G & DENNISON CAROLINE S (MOWBRAY) 255 GRAY ROAD WINDHAM, ME 04062
CAMA Number:	006-035-003-000		
Property Address:	255 GRAY RD		
Parcel Number:	006035004000	Mailing Address:	SANPEDRO STEVEN & SANPEDRO DEIRDRE 251 GRAY RD WINDHAM, ME 04062
CAMA Number:	006-035-004-000		
Property Address:	251 GRAY RD		
Parcel Number:	006035005000	Mailing Address:	MILLER PETER M 243 GRAY ROAD WINDHAM, ME 04062
CAMA Number:	006-035-005-000		
Property Address:	243 GRAY RD		
Parcel Number:	006035006000	Mailing Address:	STUBBS HATTIE O TRUSTEE EDWARD F & HATTIE O STUBBS TRUST 241 GRAY RD WINDHAM, ME 04062
CAMA Number:	006-035-006-000		
Property Address:	241 GRAY RD		
Parcel Number:	006035A00000	Mailing Address:	BICKFORD THERON J 67 BARNES ROAD WINDHAM, ME 04062
CAMA Number:	006-035-A00-000		
Property Address:	JESSE'S ACRES RD		
Parcel Number:	006035B00000	Mailing Address:	DONRAL LLC PO BOX 99 SO WINDHAM, ME 04082
CAMA Number:	006-035-B00-000		
Property Address:	245 GRAY RD		
Parcel Number:	006035C00000	Mailing Address:	DONRAL LLC PO BOX 99 SO WINDHAM, ME 04082
CAMA Number:	006-035-C00-000		
Property Address:	249 GRAY RD		
Parcel Number:	006044000000	Mailing Address:	PLUMMER GARY E 248 GRAY RD WINDHAM, ME 04062
CAMA Number:	006-044-000-000		
Property Address:	248 GRAY RD		
Parcel Number:	006049000000	Mailing Address:	DELAWARE REBECCA A 100 MANSON LIBBY ROAD SCARBOROUGH, ME 04074
CAMA Number:	006-049-000-000		
Property Address:	256 GRAY RD		
Parcel Number:	006050000000	Mailing Address:	HASKELL MICHAEL A & HASKELL TAMMY 264 GRAY ROAD WINDHAM, ME 04062
CAMA Number:	006-050-000-000		
Property Address:	264 GRAY RD		
Parcel Number:	006050A00000	Mailing Address:	AMITY JAMES PROPERTY MANAGEMENT LLC 33 WEBSTER ROAD LISBON, ME 04250
CAMA Number:	006-050-A00-000		
Property Address:	258 GRAY RD		
Parcel Number:	006050B00000	Mailing Address:	CLARK RUDY ALBERT HENRY & CLARK ERYNN LYNN 260 GRAY RD WINDHAM, ME 04062
CAMA Number:	006-050-B00-000		
Property Address:	260 GRAY RD		

Parcel Number:	006050C00000	Mailing Address:	COCO AUSTIN HELFER LACIE
CAMA Number:	006-050-C00-000		266 GRAY RD
Property Address:	266 GRAY RD		WINDHAM, ME 04062
Parcel Number:	006050D00000	Mailing Address:	ANDERSON DENNIS M
CAMA Number:	006-050-D00-000		PO BOX 124
Property Address:	262 GRAY RD		SOUTH WINDHAM, ME 04082
Parcel Number:	006051000000	Mailing Address:	DOUGLAS EDWARD B & LORD AMANDA H
CAMA Number:	006-051-000-000		29 WEBB ROAD
Property Address:	29 WEBB RD		WINDHAM, ME 04062
Parcel Number:	006051005000	Mailing Address:	MACDONALD CHRISTOPHER C W & CASSERLY LAURA F
CAMA Number:	006-051-005-000		44 SWETT ROAD
Property Address:	44 SWETT RD		WINDHAM, ME 04062
Parcel Number:	006051A00000	Mailing Address:	PRESSEY KATHERINE L
CAMA Number:	006-051-A00-000		43 WEBB ROAD
Property Address:	43 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009001000000	Mailing Address:	FERRANTE DEBORA M
CAMA Number:	009-001-000-000		268 GRAY ROAD
Property Address:	268 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009002000000	Mailing Address:	VEILLETTE DAVID PAUL
CAMA Number:	009-002-000-000		272 GRAY ROAD
Property Address:	272 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009003000000	Mailing Address:	GOOD PHYLLIS A
CAMA Number:	009-003-000-000		276 GRAY RD
Property Address:	276 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009004000000	Mailing Address:	HANNAFORD JESSE D & RICKER CODY J
CAMA Number:	009-004-000-000		290 GRAY RD
Property Address:	290 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009004006000	Mailing Address:	NICHOLS JENNIFER C
CAMA Number:	009-004-006-000		11 FORSYTHIA LANE
Property Address:	GRAY RD		WINDHAM, ME 04062
Parcel Number:	009004A00000	Mailing Address:	FICKETT RICHARD A
CAMA Number:	009-004-A00-000		7 FALL RIDGE ROAD
Property Address:	7 FALL RIDGE RD		WINDHAM, ME 04062
Parcel Number:	009005B01000	Mailing Address:	MERRILL ASHLEY & MERRILL JEDIDIAH
CAMA Number:	009-005-B01-000		296 GRAY ROAD
Property Address:	296 GRAY RD		WINDHAM, ME 04062

Parcel Number:	009022A01000	Mailing Address:	POPOV PETER G & POPOV NADEZHDA I
CAMA Number:	009-022-A01-000		19 FALL RIDGE ROAD
Property Address:	19 FALL RIDGE RD		WINDHAM, ME 04062
Parcel Number:	009022A03000	Mailing Address:	SWENSON CAROLE A & BURNELL IRENE
CAMA Number:	009-022-A03-000		286 GRAY ROAD
Property Address:	286 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009077B00000	Mailing Address:	CENTRAL MAINE POWER COMPANY
CAMA Number:	009-077-B00-000		C/O AVANGRID MGMT CO-LOCAL TAXES
Property Address:	64 SWETT RD		ONE CITY CENTER, 5TH FL
			PORTLAND, ME 04101
Parcel Number:	009083000000	Mailing Address:	CABANA JASON R
CAMA Number:	009-083-000-000		69 WASHBURN AVE
Property Address:	289 GRAY RD		PORTLAND, ME 04102
Parcel Number:	009083B00000	Mailing Address:	GROVER JONATHAN D & GROVER JENNIFER D
CAMA Number:	009-083-B00-000		293 GRAY ROAD
Property Address:	293 GRAY RD		WINDHAM, ME 04062
Parcel Number:	009083D00000	Mailing Address:	RIDEOUT KAELIN F
CAMA Number:	009-083-D00-000		71 WEBB ROAD
Property Address:	71 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009084000000	Mailing Address:	ANDREWS BLAIR CHRISTINE & ANDREWS GABRIEL DAVID
CAMA Number:	009-084-000-000		69 WEBB RD
Property Address:	69 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009085000000	Mailing Address:	PERRIN FAMILY REAL EST TRUST
CAMA Number:	009-085-000-000		PERRIN & HILL TRUSTEES
Property Address:	WEBB RD		514 STONE POND ROAD
			MARLBOROUGH, NH 03455
Parcel Number:	009085001000	Mailing Address:	VALIQUET JOSHUA & VALIQUET AMANDA
CAMA Number:	009-085-001-000		67 WEBB ROAD
Property Address:	67 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009086000000	Mailing Address:	PARMELEE JEFFREY & PARMELEE LINDSEY
CAMA Number:	009-086-000-000		63 WEBB RD
Property Address:	63 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009087000000	Mailing Address:	MAURICE DENISE DEBRA
CAMA Number:	009-087-000-000		72 WEBB RD
Property Address:	72 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009088000000	Mailing Address:	SIRES LELAND RAY JR & SIRES TERRI
CAMA Number:	009-088-000-000		267 GRAY RD
Property Address:	267 GRAY RD		WINDHAM, ME 04062

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

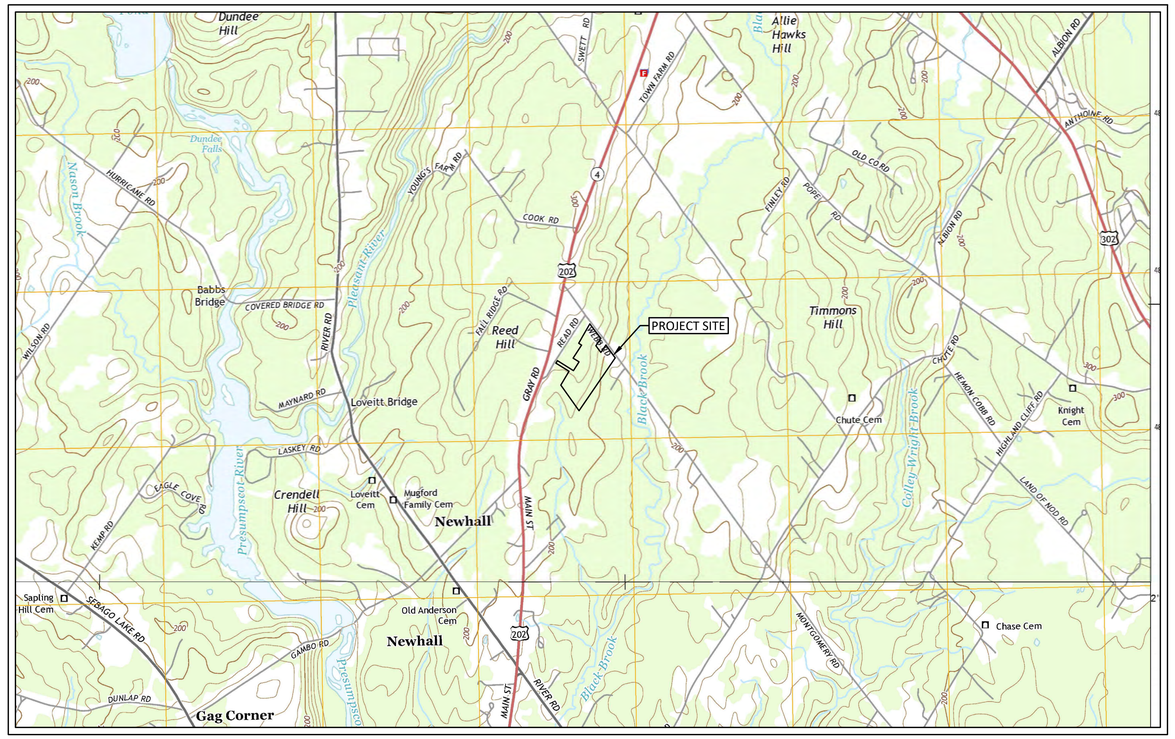
Parcel Number:	009088B00000	Mailing Address:	GRALLA JOHN G
CAMA Number:	009-088-B00-000		PO BOX 145
Property Address:	14 READ RD		SOUTH WINDHAM, ME 04082
Parcel Number:	009088C00000	Mailing Address:	ORNE JANE C & GODDARD-WRIGHT ROBERT W
CAMA Number:	009-088-C00-000		24 READ RD
Property Address:	24 READ RD		WINDHAM, ME 04062
Parcel Number:	009088D00000	Mailing Address:	LACY CALEB
CAMA Number:	009-088-D00-000		28 READ RD
Property Address:	28 READ RD		WINDHAM, ME 04062
Parcel Number:	009088E00000	Mailing Address:	MCELROY JEREMY A
CAMA Number:	009-088-E00-000		70 WEBB ROAD
Property Address:	70 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009089000000	Mailing Address:	KRZANOWSKI ALLISON
CAMA Number:	009-089-000-000		60 WEBB ROAD
Property Address:	60 WEBB RD		WINDHAM, ME 04062
Parcel Number:	009091000000	Mailing Address:	BECKWITH BENJAMIN RICKETT CARRIE ANNE
CAMA Number:	009-091-000-000		8 FALL RIDGE RD
Property Address:	8 FALL RIDGE RD		WINDHAM, ME 04062
Parcel Number:	009092000000	Mailing Address:	MATTSON MICHAEL & MATTSON REBECCA
CAMA Number:	009-092-000-000		25 ROGERS DRIVE
Property Address:	25 ROGERS DR		WINDHAM, ME 04062
Parcel Number:	009092A00000	Mailing Address:	BROWN JAMES & BROWN DEBRA
CAMA Number:	009-092-A00-000		17 ROGERS DRIVE
Property Address:	17 ROGERS DR		WINDHAM, ME 04062
Parcel Number:	009093000000	Mailing Address:	COFFIN WAYNE E & COFFIN VIVIAN
CAMA Number:	009-093-000-000		31 ROGERS DRIVE
Property Address:	31 ROGERS DR		WINDHAM, ME 04062
Parcel Number:	009093001000	Mailing Address:	BAILEY CHERYL L TRUSTEE CHERYL L BAILEY LIVING TRUST
CAMA Number:	009-093-001-000		16 FALL RIDGE RD
Property Address:	16 FALL RIDGE RD		WINDHAM, ME 04062
Parcel Number:	009094000000	Mailing Address:	NELSON RYAN R & WIDGER DANIELLE
CAMA Number:	009-094-000-000		288 GRAY RD
Property Address:	288 GRAY RD		WINDHAM, ME 04062

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LEGACY VILLAGE
RETIREMENT COMMUNITY

WEBB ROAD & LEGACY DRIVE
WINDHAM, MAINE

CONSULTANTS	
CIVIL ENGINEER	DM ROMA CONSULTING ENGINEERS
LAND SURVEYOR & GEOLOGIST	MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
SITE EVALUATOR & WETLAND SCIENTIST	MAINELY SOILS, LLC
SOILS SCIENTIST	MARK HAMPTON ASSOCIATES



PROJECT VICINITY MAP

ISSUED FOR PRELIMINARY REVIEW - NOT FOR CONSTRUCTION

AUGUST 4, 2026

PREPARED BY:

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

APPLICANT:

ROBIE HOLDINGS, LLC
P.O. BOX 1508
WINDHAM, MAINE 04062

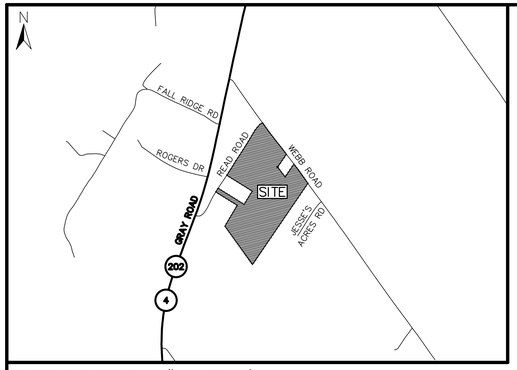
LEGACY VILLAGE RETIREMENT COMMUNITY

DRAWING SHEET INDEX

PAGE NO.	DESCRIPTION
1	TITLE SHEET
2	BOUNDARY SURVEY & LOT DIVISION PLAN
3	SUBDIVISION PLAN
4	SITE PLAN
5	SITE PLAN
6	ROADWAY PLAN AND PROFILE: WEBB ROAD
7	ROADWAY PLAN AND PROFILE: WEBB ROAD
8	ROADWAY PLAN AND PROFILE: ROAD A
9	ROADWAY PLAN AND PROFILE: ROAD A
10	STORMWATER POND PLAN
11	DETAILS
12	DETAILS
13	DETAILS

PERMITTING PLAN ATTACHMENTS

HIGH INTENSITY SOILS SURVEY
WASTEWATER DISPOSAL DESIGN
WATERSHED MAP: EXISTING CONDITION
WATERSHED MAP: DEVELOPED CONDITION



LOCATION MAP 1" = 1,000'

PLAN REFERENCES

1. "FINAL PLAN – BEECH GROVE ESTATES" PREPARED FOR CUSTOM BUILT HOMES OF MAINE, SURVEYED BY BH2M, JOB NO. 85–199, DATED DECEMBER 1985 AND RECORDED IN PLAN BOOK 158, PAGE 64.
2. "PLAN OF LAND MADE FOR F.S. PLUMMER CO., INC." SURVEYED BY JAMES C. LAUZIER LAND SURVEYING, JOB NO. 05–0482, DATED JULY 2, 1982 AND RECORDED IN PLAN BOOK 135, PAGE 39.
3. "FINAL MINOR SUBDIVISION PLAN OF CLARK FARM II" PREPARED FOR LAURENCE A. CLARK & KATHRYN S. CLARK, SURVEYED BY MAINE BOUNDARY CONSULTANTS, DATED MAY 1, 2017 AND RECORDED IN PLAN BOOK217, PAGE 208.

NOTES

1. ALL BEARINGS ARE REFERENCED TO MAINE STATE GRID, WEST ZONE, NAD83 BASED UPON GPS OBSERVATIONS NEAR THE SURVEYED PROPERTY.
2. TOWN OF WINDHAM, MAINE: TAX MAP 6, LOT 33.
3. OWNER OF RECORD AT TIME OF SURVEY: JOHN S. & IRENE T. ANDREW: BOOK 39341, PAGE 33. *NOTE: JOHN S. ANDREW PASSED AWAY IN OCTOBER 2024. IRENE T. ANDREW IS PRESUMED TO HAVE INHERITED HIS ESTATE AS NO PROBATE DOCUMENTS HAVE BEEN PROVIDED AS OF THE DATE OF THIS SURVEY.*
4. THE TOTAL AREA OF THE SURVEYED PROPERTY IS APPROXIMATELY 25.17 ACRES, MORE OR LESS.

4.1. AREAS RESULTING FROM THE PROPOSED DIVISIONS SHOWN HEREON ARE AS FOLLOWS:

LOT 1:	±84,230 SQ. FT. (±1.93 ACRES)
LOT 2:	±930,307 SQ. FT. (±21.36 ACRES)
REMAINING LAND:	±81,880 SQ. FT. (±1.88 ACRES)

5. ALL BOOK AND PAGES REFER TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
6. TREELINES SHOWN HEREON ARE APPROXIMATE AND WERE DIGITIZED FROM GOOGLE EARTH AERIAL PHOTOGRAPHY.
7. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK COMPLETED IN DECEMBER 2024. MAIN–LAND MAY ADJUST PLAN AND FINDINGS IF ADDITIONAL EVIDENCE BECOMES APPARENT.
8. NO APPARENT ENCROACHMENTS WERE OBSERVED AT TIME OF SURVEY.
9. SUMMARY OF APPARENT ENCROACHMENTS:
   A. NONE OBSERVED.
10. ROAD NOTES:

10.1. WEBB ROAD:
THE LOCATION OF THE WEBB ROAD R/W SHOWN HEREON IS ASSUMED ASSUMED BASED UPON THE CENTER OF THE EXISTING TRAVELED WAY AND MONUMENTATION RECOVERED ALONG THE APPARENT SIDELINE, HOLDING AN ASSUMED WIDTH OF 66' (4 RODS).

10.2. READ ROAD:
THE LOCATION OF THE READ ROAD R/W SHOWN HEREON IS ASSUMED BASED UPON THE CENTER OF THE EXISTING TRAVELED WAY AND MONUMENTATION RECOVERED ALONG THE APPARENT SIDELINE, HOLDING AN ASSUMED WIDTH OF 49.5' (3 RODS).

11. DIVISION NOTES:

11.1. PURSUANT TO MRS TITLE 30–A, §4401.4.A(1), THE CREATION OF LOTS 1 & 2 DOES NOT CONSTITUTE A SUBDIVISION, AS BOTH DIVIDINGS ARE ACCOMPLISHED BY A SUBDIVIDER WHO HAS RETAINED ONE OF THE LOTS FOR THE SUBDIVIDER'S OWN USE AS A SINGLE–FAMILY RESIDENCE THAT HAS BEEN THE SUBDIVIDER'S PRINCIPAL RESIDENCE FOR A PERIOD OF AT LEAST 5 YEARS PRECEDING THE 2ND DIVISION.

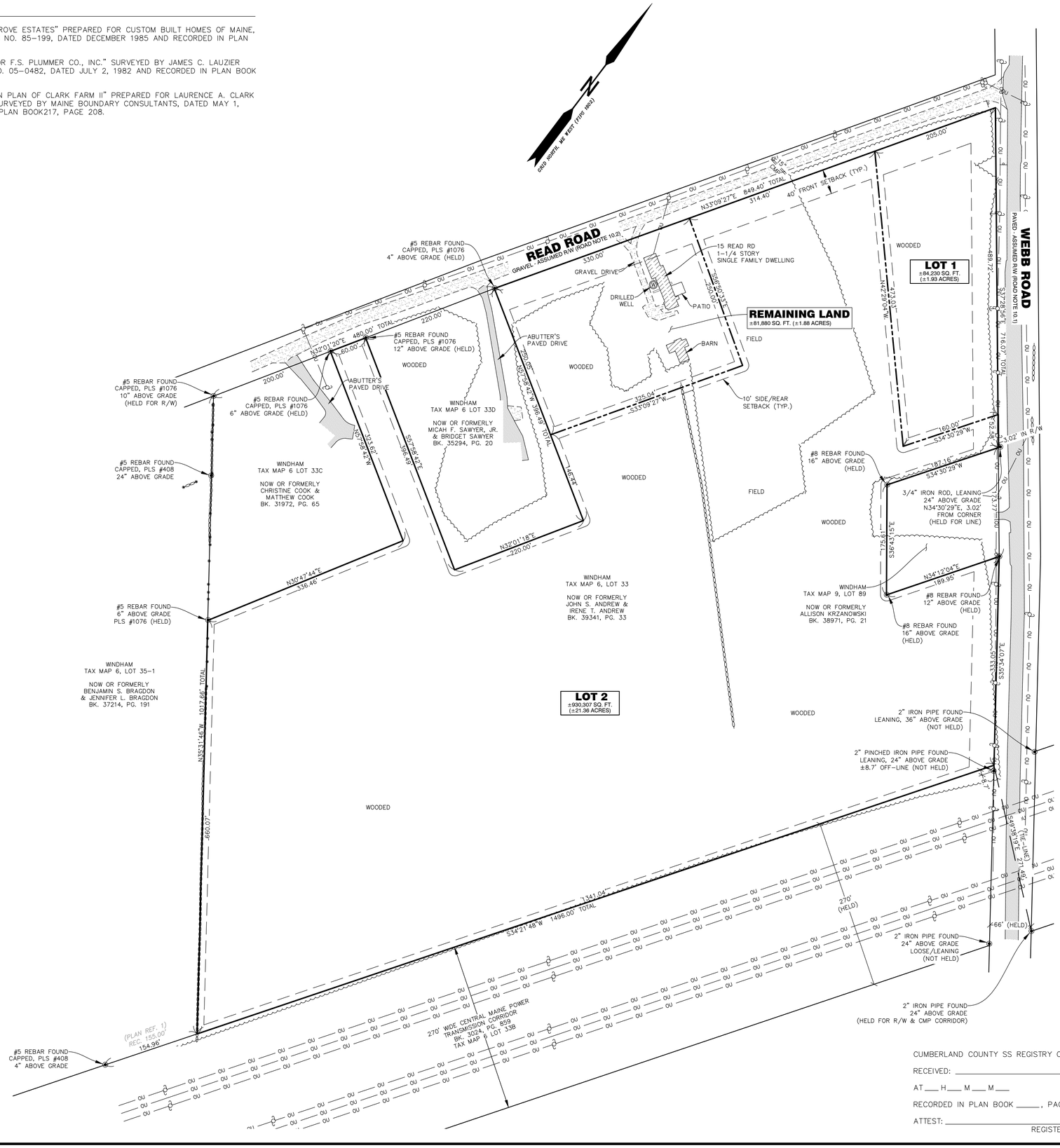
LAND USE STANDARDS:

THE SURVEYED PROPERTY IS LOCATED IN THE FARM (F) DISTRICT. DIMENSIONAL STANDARDS PURSUANT TO THE TOWN OF WINDHAM LAND USE CODE §120–406E ARE AS FOLLOWS:

MINIMUM LOT SIZE:	80,000 SQ. FT.
MINIMUM NET RESIDENTIAL DENSITY:	60,000 SQ. FT.
MINIMUM FRONTAGE:	200 FEET
MINIMUM FRONT SETBACK:	40 FEET
MINIMUM SIDE SETBACK:	10 FEET
MINIMUM REAR SETBACK:	10 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET
MAXIMUM BUILDING COVERAGE:	25%

LEGEND

- IRON ROD/PIPE FOUND, AS NOTED
- OLD FENCE POST FOUND
- HOLE IN ROCK FROM OLD FENCE POST
- 5/8" IRON ROD, CAPPED, "PLS #2584" SET, AS NOTED
- UTILITY POLE
- GUY WIRE
- EXISTING BOUNDARY LINE (SURVEYED)
- PROPOSED BOUNDARY LINE
- ABUTTING BOUNDARY LINES (APPROX.)
- BUILDING SETBACK LINE
- STONEWALL
- OVERHEAD UTILITIES
- TREELINE (APPROX.)
- PAVEMENT
- GRAVEL
- SIGN



CUMBERLAND COUNTY SS REGISTRY OF DEEDS

RECEIVED: _____

AT ___ H ___ M ___ M ___

RECORDED IN PLAN BOOK _____, PAGE _____

ATTEST: _____
REGISTER

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
59 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182A MOOSEHEAD TRAIL, NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PLAN SHOWING A STANDARD BOUNDARY SURVEY & PROPOSED LOT DIVISION

LAND OF ANDREW

15 READ RD, TOWN OF WINDHAM, COUNTY OF CUMBERLAND, STATE OF MAINE

OWNER OF RECORD

JOHN S. & IRENE T. ANDREW

P.O. BOX 178
SOUTH WINDHAM, ME 04082

MADE FOR

BILL ANDREW

17 ALPINE DRIVE
WINDHAM, ME 04062

DRAWING SCALE:

80 0 40 80

(IN FEET)

1 INCH = 80 FT

REVISION NOTES:

PROJ. MGR:	DJH
DRAWN BY:	DJH
CHECKED BY:	CLB
REVISION NO.	N/A
SURVEY DATE:	2024–12–03
SUBMISSION DATE:	2024–04–08
SUBMITTED FOR:	FINAL

BOUNDARY SURVEY & LOT DIVISION

SEAL:

STATE OF MAINE
DEVON J. HURLEY
2584
REGISTERED PROFESSIONAL LAND SURVEYOR

DEVON J. HURLEY PLS #2584

DRAWING NO.

S1.1

MLDC NO. 24–387 1 OF 1

GENERAL NOTES:

1. THE OWNER OF RECORD OF THE PROPERTY IS ROBIE HOLDINGS LLC, BY DEEDS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 41401 PAGE 225 & BOOK 41520 PAGE 17
2. TOTAL AREA OF THE PARCEL IS APPROXIMATELY 21.43 ACRES.
3. PARCEL TAX MAP REFERENCE: TOWN OF WINDHAM ASSESSORS MAP 6, LOT 33-F.
4. PLAN REFERENCES:
   A) "BOUNDARY SURVEY & LOT DIVISION", PREPARED FOR JOHN S. & IRENE T. ANDREW, PREPARED BY MAIN-LAND DEVELOPMENT CONSULTANTS, INC. DATED APRIL 8, 2024.
5. HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
6. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
7. BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4A.
8. TOPOGRAPHIC CONTOURS SHOWN HEREON ARE BASED ON 2-FOOT LIDAR OBTAINED FROM THE MAINE OFFICE OF GIS.
9. THE PROPERTY IS LOCATED IN THE FARM (F) DISTRICT.
10. SPACE AND BULK REQUIREMENTS FOR RETIREMENT COMMUNITY USE IN FARM ZONE:

	RETIREMENT COMMUNITY	COUNTRY SUBDIVISION
MIN LOT SIZE:	200,000 SF	6 ACRES
MIN STREET FRONTAGE:	200 FT	200 FT
MIN FRONT YARD:	40 FT	75 FT
MIN SIDE/REAR YARD:	10 FT	75 FT
MAX BUILDING COVERAGE:	25%	25%
MIN PROPERTY LINE BUFFER STRIP:		50 FT

12. WETLAND DELINEATION PERFORMED BY ALEX FINAMORE IN MARCH 2025.
13. SIGHT DISTANCE AT THE PROPOSED LEGACY DRIVE INTERSECTION WITH WEBB ROAD MEASURES MORE THAN 305 FEET IN BOTH DIRECTIONS. SIGHT DISTANCE ALONG THE ENTIRE ROAD FRONTAGE FOR LOT 2 MEASURES MORE THAN 305 FEET IN BOTH DIRECTIONS.
14. LEGACY DRIVE IS CONSIDERED A CONDOMINIUM ACCESS DRIVE AND SHALL REMAIN PRIVATE AND SHALL BE MAINTAINED BY THE DEVELOPER OR CONDOMINIUM ASSOCIATION AND SHALL NOT BE OFFERED FOR ACCEPTANCE, OR MAINTAINED, BY THE TOWN OF WINDHAM UNLESS IT MEETS ALL MUNICIPAL STREET DESIGN AND CONSTRUCTION STANDARDS AT THE TIME OF OFFERING.
15. THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE MAINTAINED FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF PLANNING BOARD APPROVAL, AND IN ACCORDANCE WITH SECTION 911.E.1.A OF THE LAND USE ORDINANCE. THE PLANNING BOARD MAY APPROVE REVISIONS OR EXPANSIONS TO THE CLEARING LIMITS AS A PLAN AMENDMENT BEFORE THE 5 YEAR PERIOD HAS PASSED.
16. PRIOR TO THE START OF CONSTRUCTION, A MAINE CONSTRUCTION GENERAL PERMIT NOI MUST BE FILED BY THE APPLICANT WITH THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
17. ALL BUILDING STRUCTURES SHALL REQUIRE THE INSTALLATION OF A ROOFLINE DRIP EDGE AS SPECIFIED ON THE ROOF DRIP EDGE DETAIL ON SHEET D-3.

NET RESIDENTIAL DENSITY CALCULATIONS COUNTRY SUBDIVISION STANDARDS:

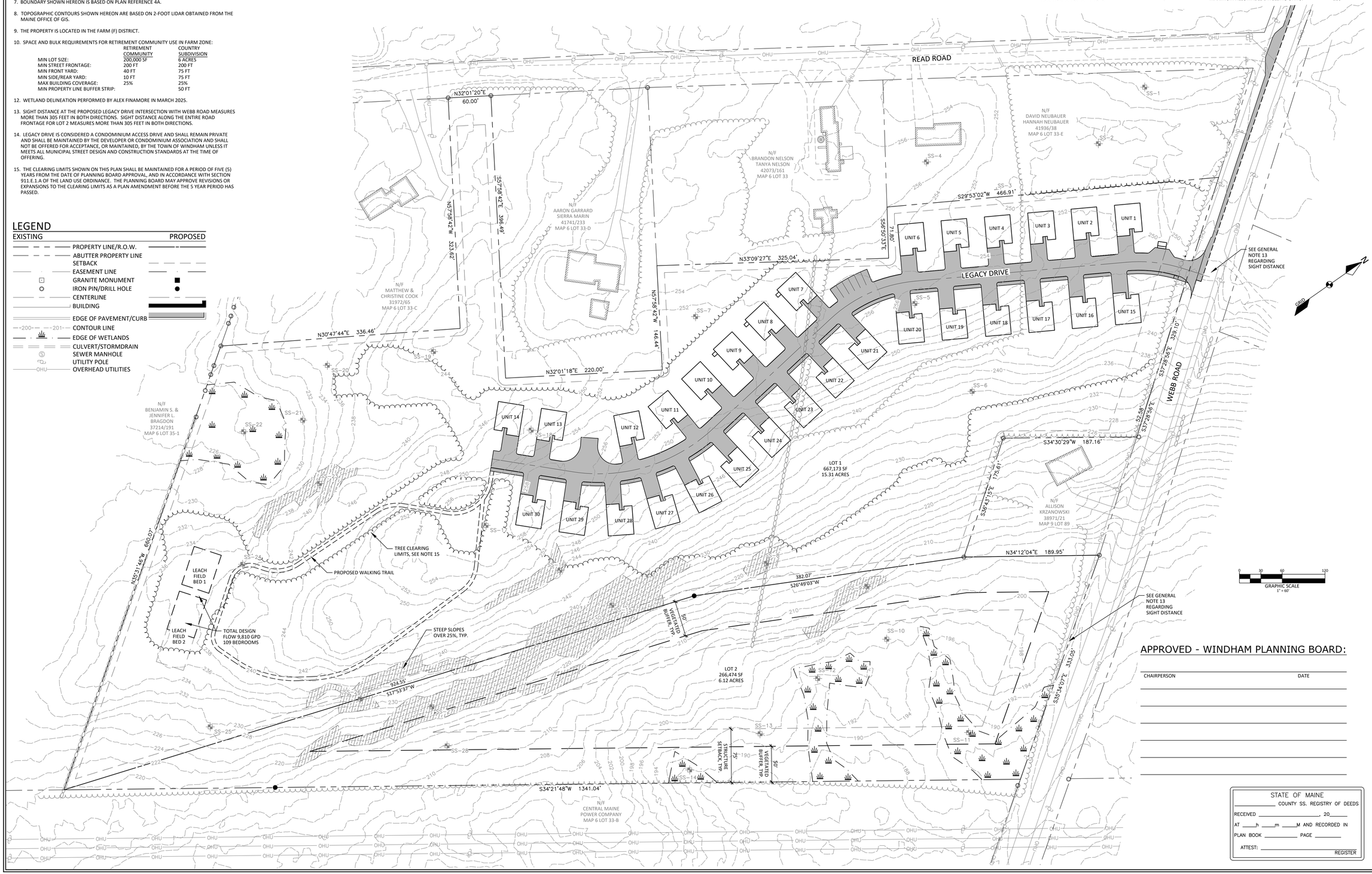
GROSS LAND AREA:	933,647 S.F. (21.43 ACRES)
DEDUCTIONS:	
1. RIGHT-OF-WAY	0 S.F.
2. STEEP SLOPES (OVER 25%)	40,227 S.F.
3. 100-YEAR FLOOD PLAIN	0 S.F.
4. RESOURCE PROTECTION DISTRICT	0 S.F.
5. VERY POORLY DRAINED SOILS	36,254 S.F.
6. SURFACE WATERBODIES	0 S.F.
7. SIGNIFICANT WILDLIFE HABITAT	0 S.F.
8. ENDANGERED BOTANICAL RESOURCES	0 S.F.
TOTAL NET AREA:	857,166 S.F.
REQUIRED NET AREA PER LOT:	250,000 S.F.
MAXIMUM ALLOWABLE LOTS:	3

NET RESIDENTIAL DENSITY CALCULATIONS RETIREMENT COMMUNITY USE:

RETIREMENT COMMUNITY LOT (LOT 1):	667,173 S.F. (15.31 ACRES)
DEDUCTIONS:	
1. RIGHT-OF-WAY	0 S.F.
2. STEEP SLOPES (OVER 25%)	20,330 S.F.
3. 100-YEAR FLOOD PLAIN	0 S.F.
4. RESOURCE PROTECTION DISTRICT	0 S.F.
5. VERY POORLY DRAINED SOILS	14,417 S.F.
6. SURFACE WATERBODIES	0 S.F.
7. SIGNIFICANT WILDLIFE HABITAT	0 S.F.
8. ENDANGERED BOTANICAL RESOURCES	0 S.F.
TOTAL NET AREA:	632,425 S.F.
REQUIRED NET AREA PER DWELLING UNIT:	5,000 S.F.
MAXIMUM ALLOWABLE DWELLING UNITS:	126

LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
SETBACK	
EASEMENT LINE	
GRANITE MONUMENT	
IRON PIN/DRILL HOLE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
CONTOUR LINE	
EDGE OF WETLANDS	
CULVERT/STORMDRAIN	
SEWER MANHOLE	
UTILITY POLE	
OVERHEAD UTILITIES	



APPROVED - WINDHAM PLANNING BOARD:

CHAIRPERSON _____ DATE _____

STATE OF MAINE
_____ COUNTY SS. REGISTRY OF DEEDS
RECEIVED _____, 20____
AT ____h ____m ____M AND RECORDED IN
PLAN BOOK _____ PAGE _____
ATTEST: _____ REGISTER

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — No. 12631 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

SUBDIVISION PLAN

LEGACY VILLAGE RETIREMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

JOB NUMBER:	25007
SCALE:	1" = 60'
DATE:	8-4-2026
	SHEET 3 OF 13
	SB-1

GENERAL NOTES:

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15. STREET TREES SHALL BE PLANTED IN THE QUANTITY AND GENERAL LOCATION AS SHOWN ON THIS PLAN. MINOR DEVIATION FROM THE DEPICTED LOCATIONS IS PERMITTED UP TO 15 FEET TO AVOID CONFLICTS WITH UTILITIES OR AT THE OWNER'S DISCRETION.



LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
TIE LINE	
SETBACK	
EASEMENT LINE	
GRANITE MONUMENT	
IRON PIN/DRILL HOLE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
EDGE OF CONCRETE	
SIGN	
EDGE OF WETLANDS	
EDGE OF WATER	
CENTERLINE OF STREAM	
FLOODPLAIN	
200 201 CONTOUR LINE	200 201
TREELINE	
STONE WALL	
RETAINING WALL	
TP TEST PIT	
CATCHBASIN	
D DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
S SEWER MANHOLE	
S SANITARY SEWER PIPE	S
FM FORCE MAIN	FM
W WATER MAIN	W
WATER METER PIT	
WV WATER VALVE	
HYDRANT	
AIR RELEASE	
W WELL	
UTILITY POLE	
LIGHT POLE	
OHU OVERHEAD UTILITIES	OHU
UGU UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
G GAS MAIN	G
GAS VALVE	
RIPRAP	
SILT FENCE	SF

0 15 30 60
GRAPHIC SCALE
1" = 30'

PLANT LIST

TREES - CANOPY & UNDERSTORY	QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE
	32	AR	Acer rebrum	Red Maple	2" CAL.
	21	FF	Abies fraseri	Fraser Fir	6'
SHRUBS	QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE
	33	CP	Cornus alba 'Argento-Marginata'	Variegated Red Twig Dogwood	3 GAL.

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. NO. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

SITE & LANDSCAPING PLAN

LEGACY VILLAGE RETIREMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1308
WINDHAM, ME 04062

25007
JOB NUMBER:

1" = 30'
SCALE:

8-4-2026
DATE:

SHEET 4 OF 13

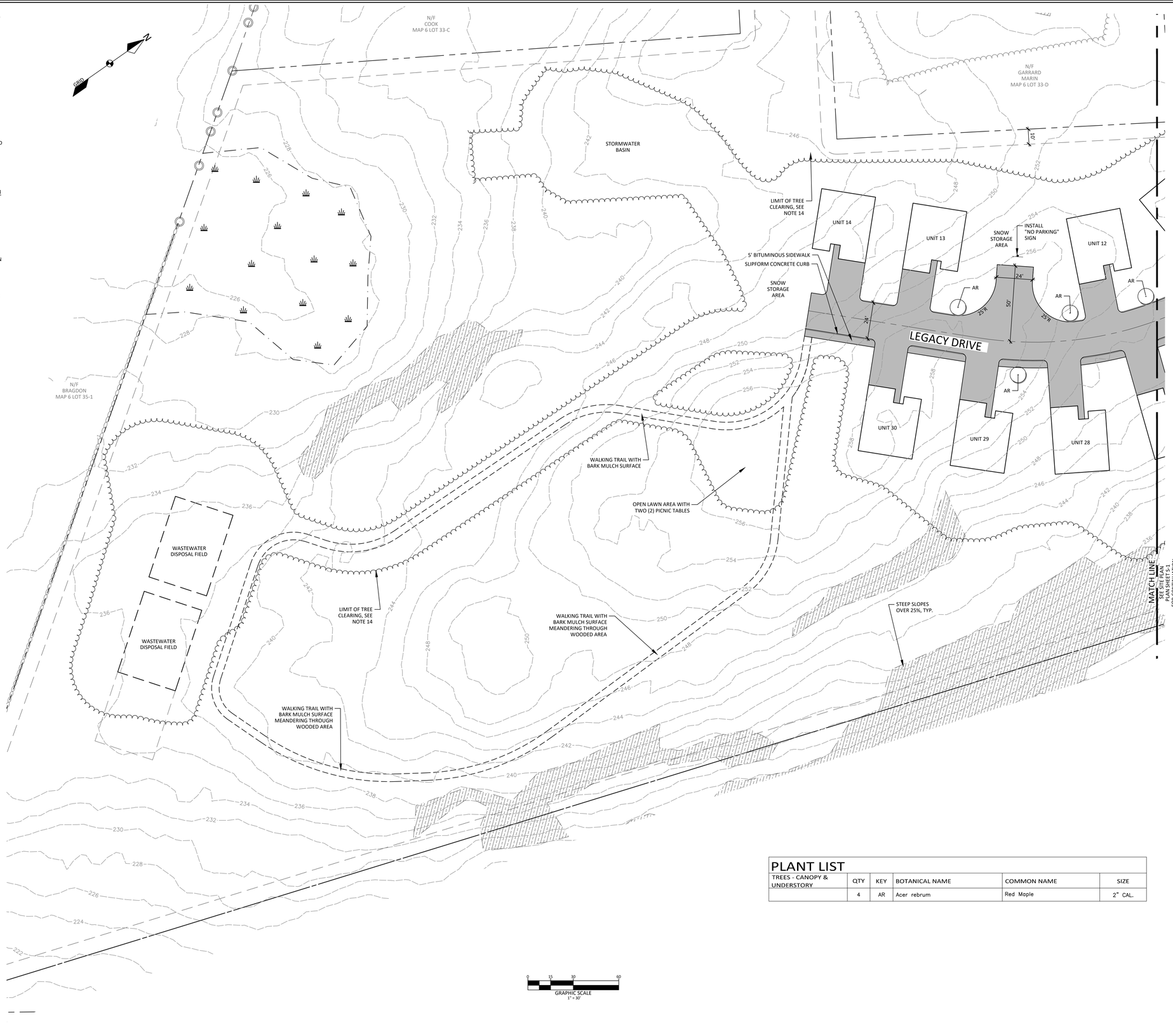
S-1

GENERAL NOTES:

1. THE OWNER OF RECORD OF THE PROPERTY IS ROBIE HOLDINGS LLC, BY DEEDS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 41401 PAGE 225 & BOOK 41520 PAGE 17
2. TOTAL AREA OF THE PARCEL IS APPROXIMATELY 21.43 ACRES.
3. PARCEL TAX MAP REFERENCE: TOWN OF WINDHAM ASSESSORS MAP 6, LOT 33-F.
4. PLAN REFERENCES:
   A) "BOUNDARY SURVEY & LOT DIVISION", PREPARED FOR JOHN S. & IRENE T. ANDREW, PREPARED BY MAIN-LAND DEVELOPMENT CONSULTANTS, INC. DATED APRIL 8, 2024.
5. HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
6. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
7. BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4A.
8. TOPOGRAPHIC CONTOURS SHOWN HEREON ARE BASED ON 2-FOOT LIDAR OBTAINED FROM THE MAINE OFFICE OF GIS.
9. THE PROPERTY IS LOCATED IN THE FARM (F) DISTRICT.
10. SPACE AND BULK REQUIREMENTS FOR RETIREMENT COMMUNITY USE IN FARM ZONE:

	RETIREMENT COMMUNITY	COUNTRY SUBDIVISION
MIN LOT SIZE:	200,000 SF	6 ACRES
MIN STREET FRONTAGE:	200 FT	200 FT
MIN FRONT YARD:	40 FT	75 FT
MIN SIDE/REAR YARD:	10 FT	75 FT
MAX BUILDING COVERAGE:	25%	25%
MIN PROPERTY LINE BUFFER STRIP:		50 FT

12. WETLAND DELINEATION PERFORMED BY ALEX FINAMORE IN MARCH 2025.
13. LEGACY DRIVE IS CONSIDERED A CONDOMINIUM ACCESS DRIVE AND SHALL REMAIN PRIVATE AND SHALL BE MAINTAINED BY THE DEVELOPER OR CONDOMINIUM ASSOCIATION AND SHALL NOT BE OFFERED FOR ACCEPTANCE, OR MAINTAINED, BY THE TOWN OF WINDHAM UNLESS IT MEETS ALL MUNICIPAL STREET DESIGN AND CONSTRUCTION STANDARDS AT THE TIME OF OFFERING.
14. THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE MAINTAINED FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF PLANNING BOARD APPROVAL, AND IN ACCORDANCE WITH SECTION 911.E.1.A OF THE LAND USE ORDINANCE. THE PLANNING BOARD MAY APPROVE REVISIONS OR EXPANSIONS TO THE CLEARING LIMITS AS A PLAN AMENDMENT BEFORE THE 5 YEAR PERIOD HAS PASSED.
15. STREET TREES SHALL BE PLANTED IN THE QUANTITY AND GENERAL LOCATION AS SHOWN ON THIS PLAN. MINOR DEVIATION FROM THE DEPICTED LOCATIONS IS PERMITTED UP TO 15 FEET TO AVOID CONFLICTS WITH UTILITIES OR AT THE OWNER'S DISCRETION.



LEGEND

EXISTING		PROPOSED
PROPERTY LINE/R.O.W.		
ABUTTER PROPERTY LINE		
TIE LINE		
SETBACK		
EASEMENT LINE		
GRANITE MONUMENT		
IRON PIN/DRILL HOLE		
CENTERLINE		
BUILDING		
EDGE OF PAVEMENT/CURB		
EDGE OF GRAVEL		
EDGE OF CONCRETE		
SIGN		
EDGE OF WETLANDS		
EDGE OF WATER		
CENTERLINE OF STREAM		
FLOODPLAIN		
200 201 CONTOUR LINE	200	201
TREELINE		
STONE WALL		
RETAINING WALL		
TP-1 TEST PIT		
CATCHBASIN		
DRAINAGE MANHOLE		
CULVERT/STORMDRAIN		
UNDERDRAIN		UD
SEWER MANHOLE		
SANITARY SEWER PIPE		S
FM FORCE MAIN		FM
W WATER MAIN		W
WATER METER PIT		
WV WATER VALVE		
HYDRANT		
AIR RELEASE		
W WELL		
UTILITY POLE		
LIGHT POLE		
OHU OVERHEAD UTILITIES		OHU
UGU UNDERGROUND UTILITIES		UGU
TRANSFORMER PAD		T
G GAS MAIN		G
GAS VALVE		
RIPRAP		
SILT FENCE		SF

PLANT LIST

TREES - CANOPY & UNDERSTORY	QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE
	4	AR	Acer rebrum	Red Maple	2" CAL.

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. NO. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	8-4-26	DMR	ISSUED FOR PERMITTING

SITE & LANDSCAPING PLAN

LEGACY VILLAGE RETIREMENT COMMUNITY
WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1328
WINDHAM, ME 04062

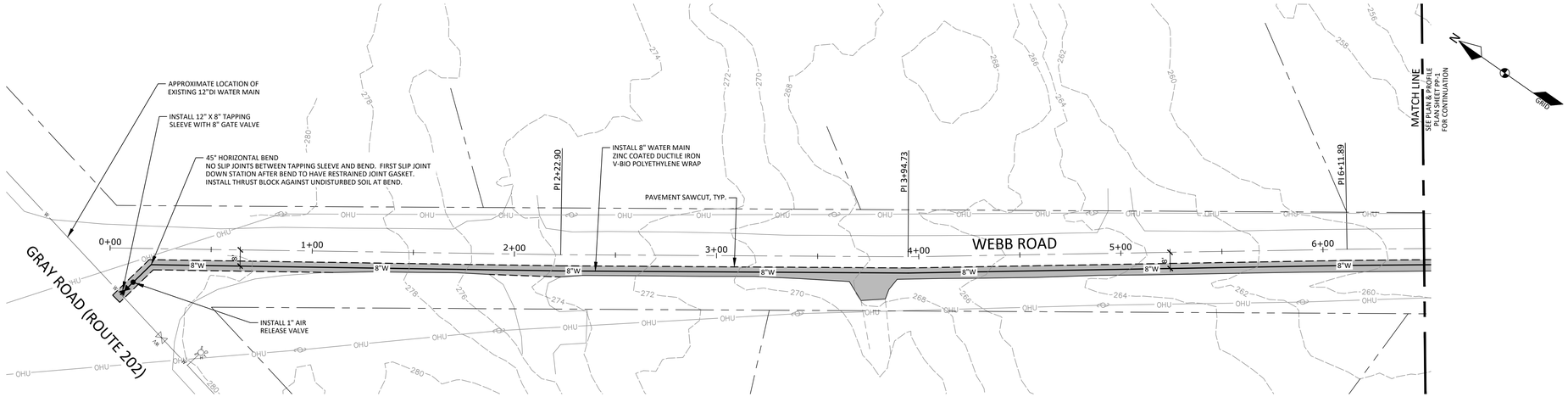
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JOB NUMBER:

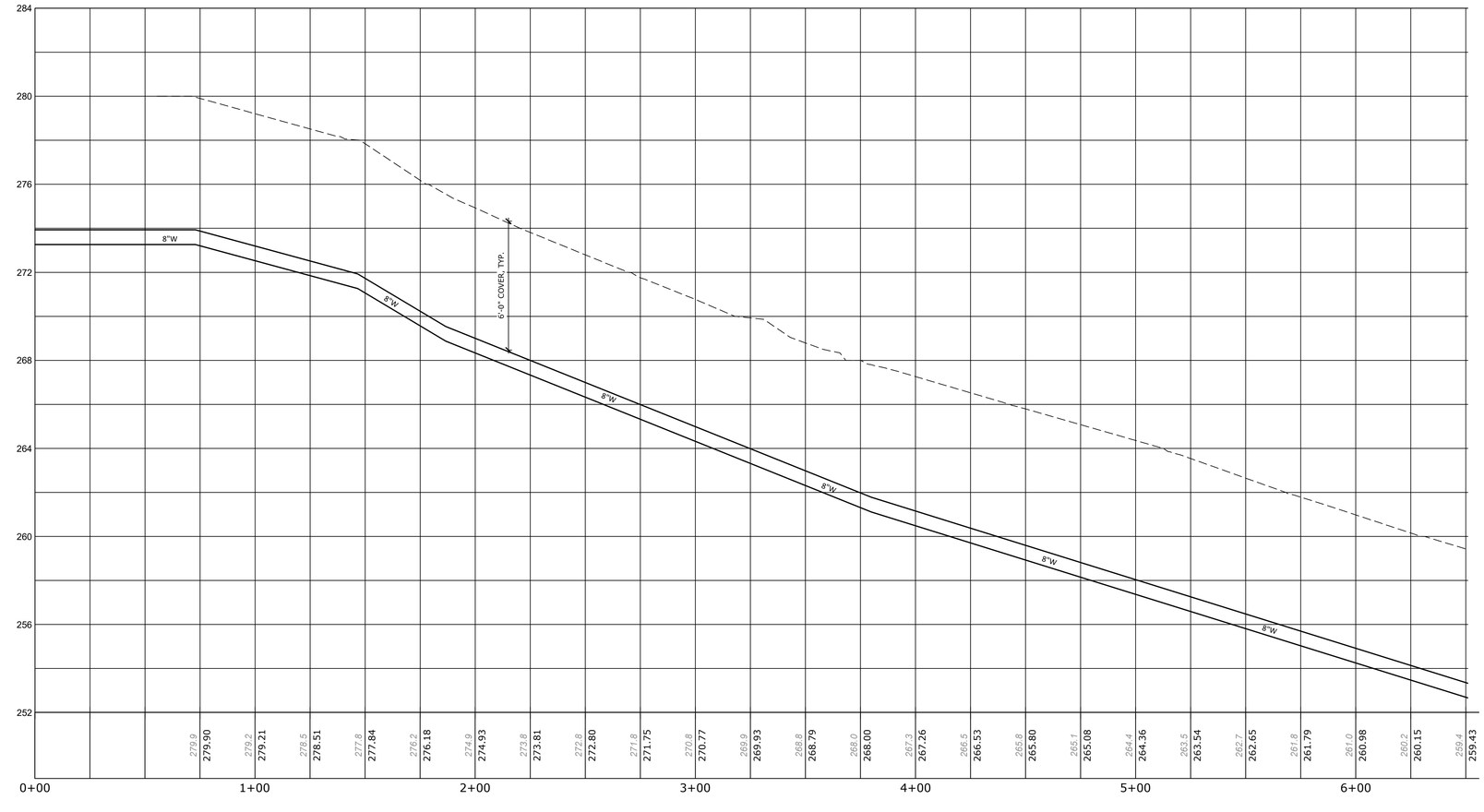
1" = 30'
SCALE:

8-4-2026
DATE:

SHEET 5 OF 13

S-2





LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
EASEMENT LINE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
SIGN	
EDGE OF WETLANDS	
CONTOUR LINE	
TREELINE	
TEST PIT	
CATCHBASIN	
DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
SEWER MANHOLE	
SANITARY SEWER PIPE	S
FORCE MAIN	FM
WATER MAIN	W
WATER VALVE	
HYDRANT	
AIR RELEASE	
UTILITY POLE	
OVERHEAD UTILITIES	OHU
UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
RIPRAP	
SILT FENCE	SF

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. NO. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

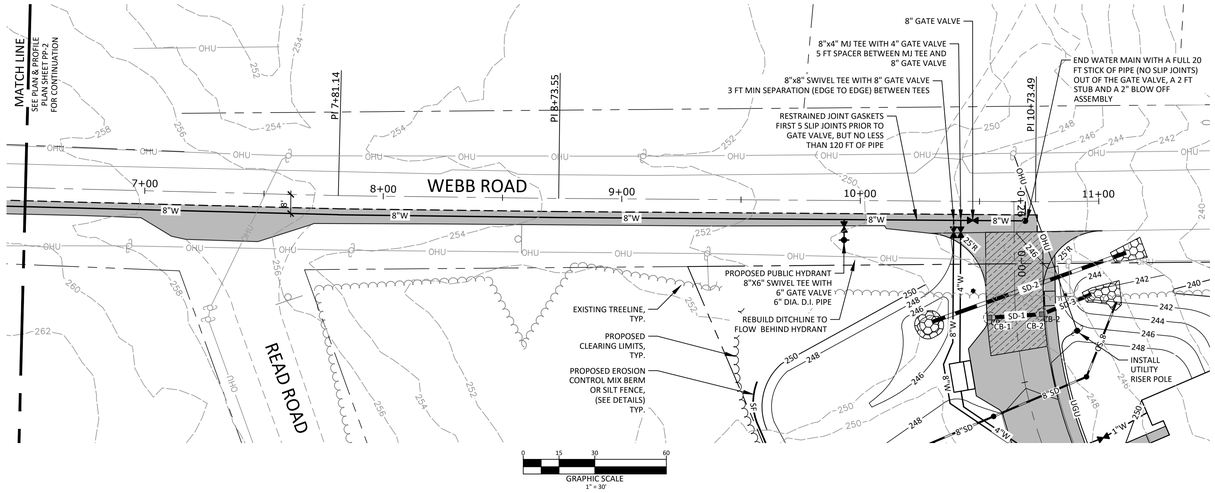
DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

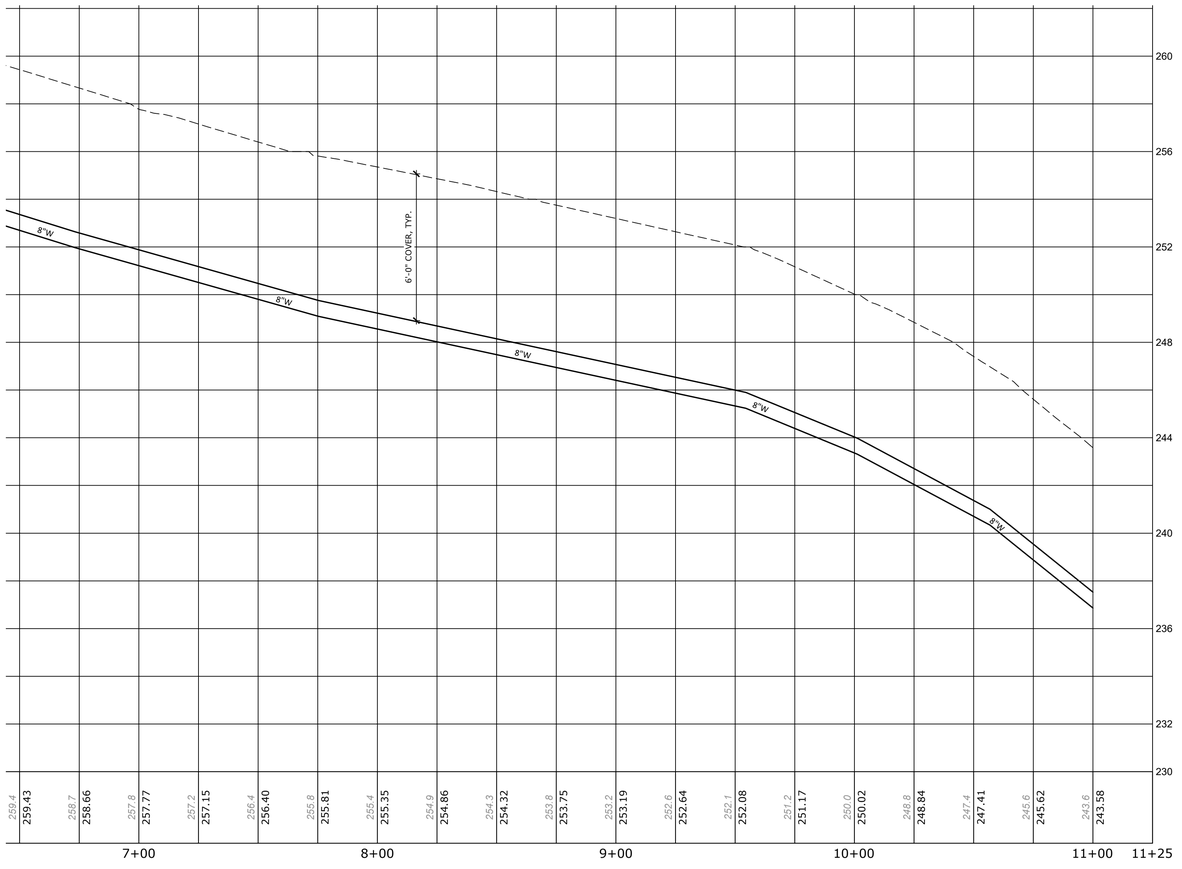
REV	DATE	BY	DESCRIPTION
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B	8-4-26	DMR	ISSUED FOR PERMITTING

ROADWAY PLAN AND PROFILE: WEBB ROAD

LEGACY VILLAGE RETIREMENT COMMUNITY
WEBB ROAD
WINDHAM, MAINE
FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

25007	JOB NUMBER:
1" = 30'	SCALE:
8-4-2026	DATE:
SHEET 6 OF 13	
PP-1	





LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	EASEMENT LINE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	SIGN	
	EDGE OF WETLANDS	
200 201	CONTOUR LINE	200 201
	TREELINE	
TP-1	TEST PIT	
	CATCHBASIN	
D	DRAINAGE MANHOLE	
	CULVERT/STORMDRAIN	
	UNDERDRAIN	UD
S	SEWER MANHOLE	
S	SANITARY SEWER PIPE	S
FM	FORCE MAIN	FM
W	WATER MAIN	W
	WATER VALVE	
	HYDRANT	
	AIR RELEASE	
	UTILITY POLE	
OHU	OVERHEAD UTILITIES	OHU
UGU	UNDERGROUND UTILITIES	UGU
	TRANSFORMER PAD	T
	RIPRAP	
	SILT FENCE	SF

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. No. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
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ROADWAY PLAN AND PROFILE: WEBB ROAD

WEBB ROAD RESIDENTIAL DEVELOPMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

25007
JOB NUMBER:

1" = 30'
SCALE:

8-4-2026
DATE:

SHEET 7 OF 13

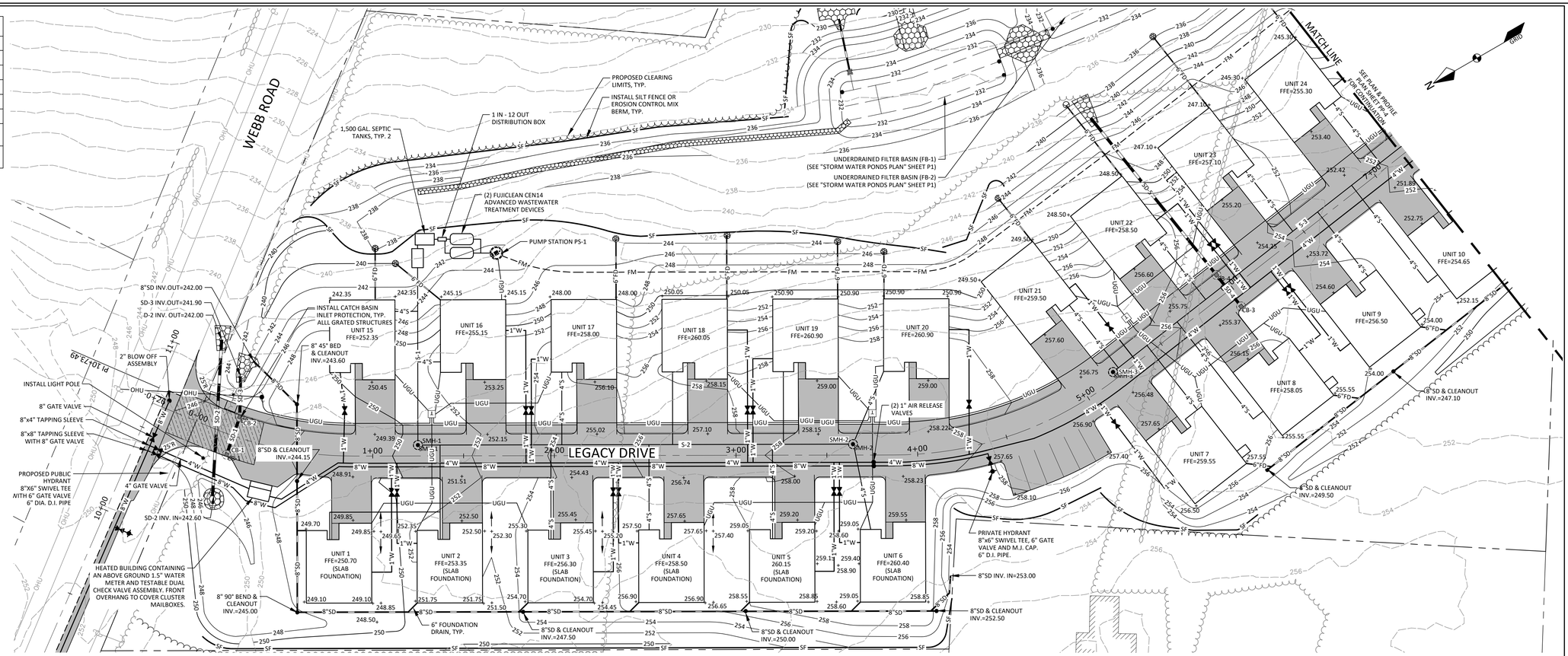
PP-2

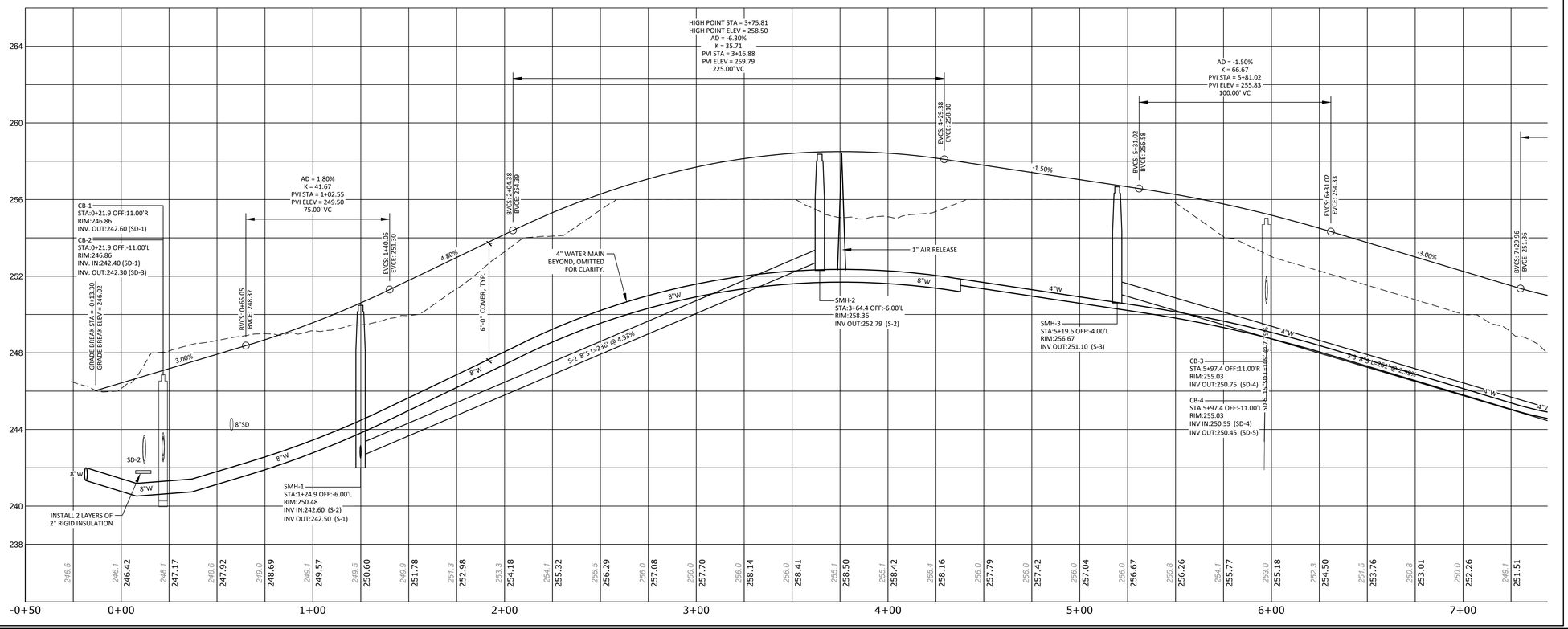
STORM DRAIN STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
CB-1	246.86		242.60 (SD-1)
CB-2	246.86	242.40 (SD-1)	242.30 (SD-3)
CB-3	255.03		250.75 (SD-4)
CB-4	255.03	250.55 (SD-4)	250.45 (SD-5)
CB-5	250.46	241.40 (SD-6)	241.15 (SD-7)
CB-6	250.46	243.40 (SD-8) 242.85 (FD-2)	241.60 (SD-6)
CB-7	247.85	243.75 (SD-9) 244.50 (FD-1)	243.65 (SD-8)

STORM DRAIN PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
FD-1	6"	11'	1.33%
FD-2	6"	30'	0.83%
SD-1	15"	18'	1.11%
SD-2	15"	86'	0.70%
SD-3	15"	20'	1.97%
SD-4	15"	18'	1.11%
SD-5	15"	109'	7.79%
SD-6	15"	18'	1.11%
SD-7	18"	122'	5.85%
SD-8	12"	42'	0.60%
SD-9	8"	30'	1.98%

SEWER STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
SMH-1	250.48	242.60 (S-2)	242.50 (S-1)
SMH-2	258.36		252.79 (S-2)
SMH-3	256.67		251.10 (S-3)
SMH-4	250.56	243.30 (S-3) 243.30 (S-4)	243.20 (S-6)
SMH-5	255.22	249.20 (S-5)	249.10 (S-4)
SMH-6	256.46		251.25 (S-5)

SEWER PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
S-1	8"	96'	6.90%
S-2	8"	236'	4.33%
S-3	8"	261'	2.99%
S-4	8"	105'	5.52%
S-5	8"	151'	1.35%
S-6	8"	100'	6.69%





LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
EASEMENT LINE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
SIGN	
EDGE OF WETLANDS	
CONTOUR LINE	200 — 201
TREELINE	
TEST PIT	
CATCHBASIN	
DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
SEWER MANHOLE	
SANITARY SEWER PIPE	S
FORCE MAIN	FM
WATER MAIN	W
WATER VALVE	
HYDRANT	
AIR RELEASE	
UTILITY POLE	
OVERHEAD UTILITIES	OHU
UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
RIPRAP	
SILT FENCE	SF

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. NO. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
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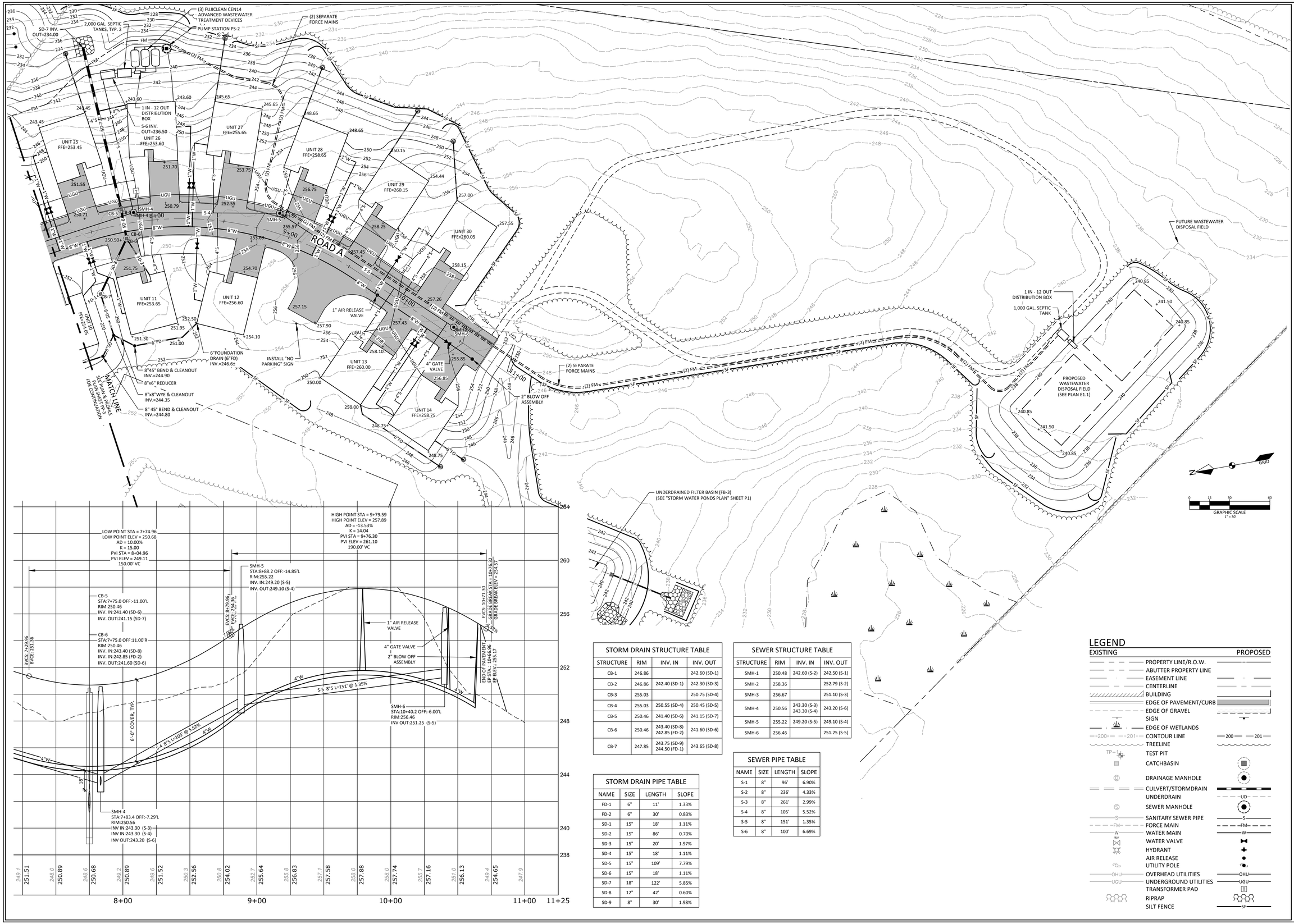
ROADWAY PLAN AND PROFILE: ROAD A

LEGACY VILLAGE RETIREMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

25007 JOB NUMBER:
1" = 30' SCALE:
8-4-2026 DATE:
SHEET 8 OF 13
PP-3



STORM DRAIN STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
CB-1	246.86		242.60 (SD-1)
CB-2	246.86	242.40 (SD-1)	242.30 (SD-3)
CB-3	255.03		250.75 (SD-4)
CB-4	255.03	250.55 (SD-4)	250.45 (SD-5)
CB-5	250.46	241.40 (SD-6)	241.15 (SD-7)
CB-6	250.46	243.40 (SD-8) 242.85 (FD-2)	241.60 (SD-6)
CB-7	247.85	243.75 (SD-9) 244.50 (FD-1)	243.65 (SD-8)

STORM DRAIN PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
FD-1	6"	11'	1.33%
FD-2	6"	30'	0.83%
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SD-2	15"	86'	0.70%
SD-3	15"	20'	1.97%
SD-4	15"	18'	1.11%
SD-5	15"	109'	7.79%
SD-6	15"	18'	1.11%
SD-7	18"	122'	5.85%
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SMH-6	256.46		251.25 (S-5)

SEWER PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
S-1	8"	96'	6.90%
S-2	8"	236'	4.33%
S-3	8"	261'	2.99%
S-4	8"	105'	5.52%
S-5	8"	151'	1.35%
S-6	8"	100'	6.69%

LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
EASEMENT LINE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
SIGN	
EDGE OF WETLANDS	
CONTOUR LINE	200 — 201
TREELINE	
TEST PIT	
CATCHBASIN	
DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
SEWER MANHOLE	
SANITARY SEWER PIPE	S
FORCE MAIN	FM
WATER MAIN	W
WATER VALVE	
HYDRANT	
AIR RELEASE	
UTILITY POLE	
OVERHEAD UTILITIES	OHU
UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
RIPRAP	
SILT FENCE	SF

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — REG. NO. 12131 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
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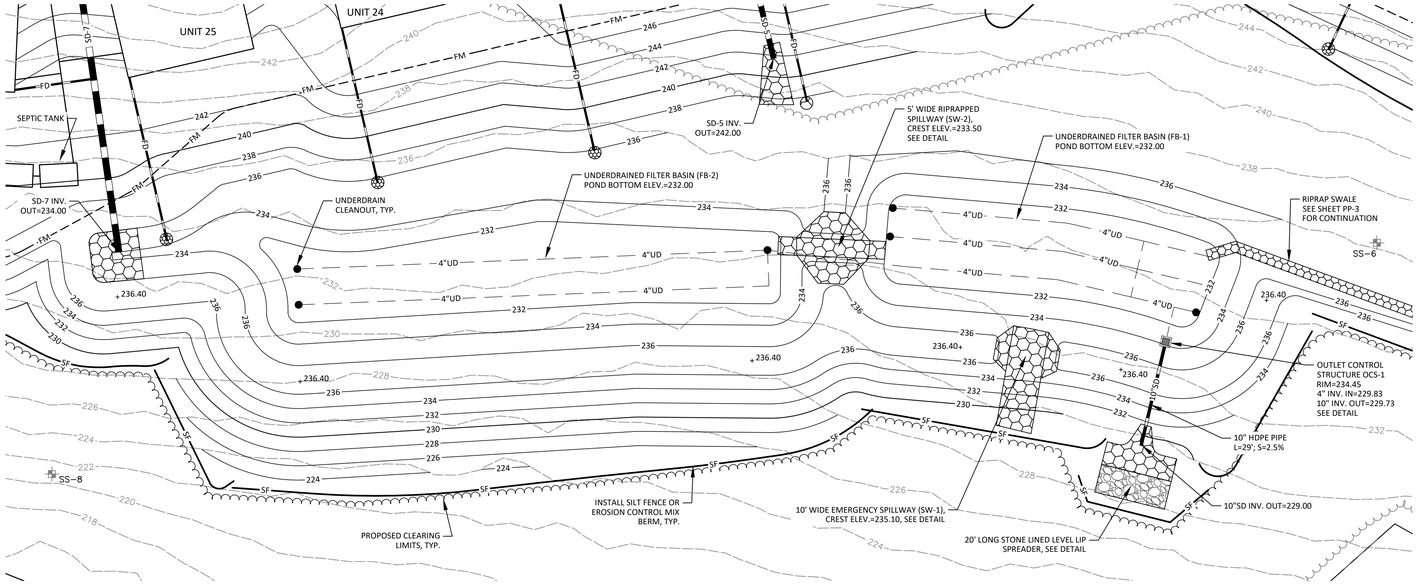
REV	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

ROADWAY PLAN AND PROFILE: ROAD A

LEGACY VILLAGE RETIREMENT COMMUNITY
WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

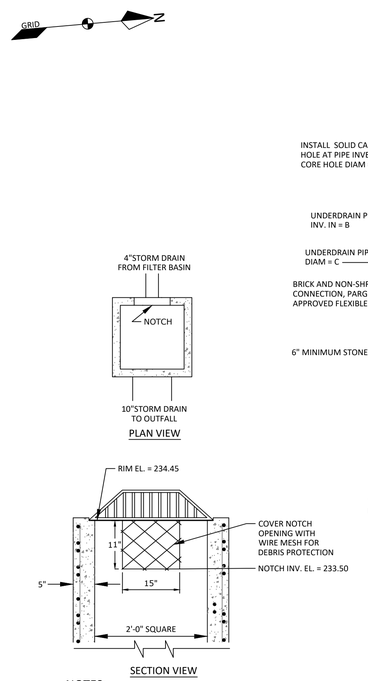
25007 JOB NUMBER:
1" = 30' SCALE:
8-4-2026 DATE:
SHEET 9 OF 13
PP-4



UNDERDRAINED FILTER BASINS FB-1 & FB-2

SCALE: 1"=20'

GRAPHIC SCALE 1" = 20'

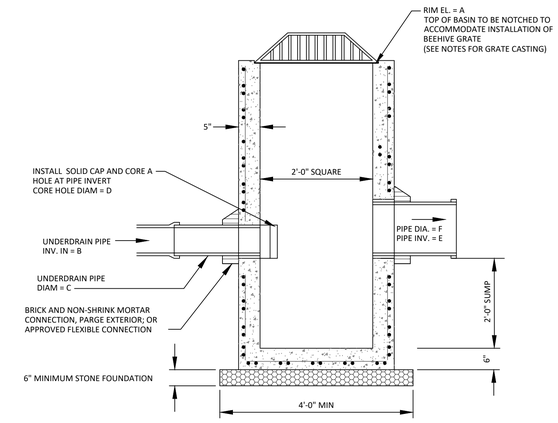


NOTES:

1. SEE OUTLET CONTROL STRUCTURE DETAIL FOR ADDITIONAL INFORMATION.

NOTCH OPENING IN OUTLET CONTROL STRUCTURE OCS-1

NOT TO SCALE



STRUCTURE DATA						
STRUCTURE ID	A	B	C	D	E	F
OCS-1	234.45	229.83	4"	1-3/4"	229.73	10"
OCS-2	242.25	237.83	4"	1"	237.73	10"

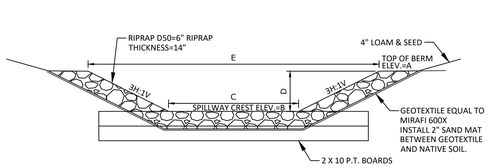
*OCS-1 & OCS-2 ARE TO BE INSTALLED WITH A NOTCH ON THE SIDE OF THE STRUCTURE. SEE "NOTCH OPENING IN OUTLET CONTROL STRUCTURES OCS-1 & OCS-2" DETAIL BELOW.

NOTES:

1. OUTLET CONTROL STRUCTURE SHALL BE CONSTRUCTED UTILIZING A PRECAST CATCH BASIN (24"x 24" ~ TYPE F).
2. CAST IRON GRATE SHALL BE EQUAL TO NEENAH FOUNDRY, PRODUCT NO. R-4345, BEEHIVE LIGHT DUTY GRATE, OR APPROVED EQUIVALENT.
3. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE

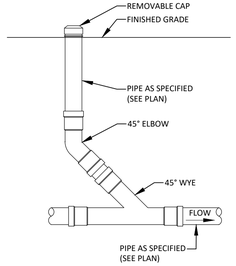
NOT TO SCALE



SPILLWAY DATA					
POND ID	A	B	C	D	E
SW-1	236.40	235.10	10'	1.40'	18.4'
SW-2	236.00	233.50	5'	2.50'	20.0'
SW-3	244.00	242.75	10'	1.30'	17.8'

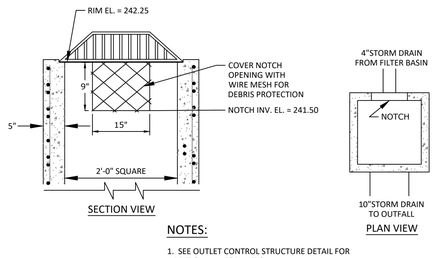
RIPRAPPED SPILLWAY CROSS-SECTION

NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL

NOT TO SCALE

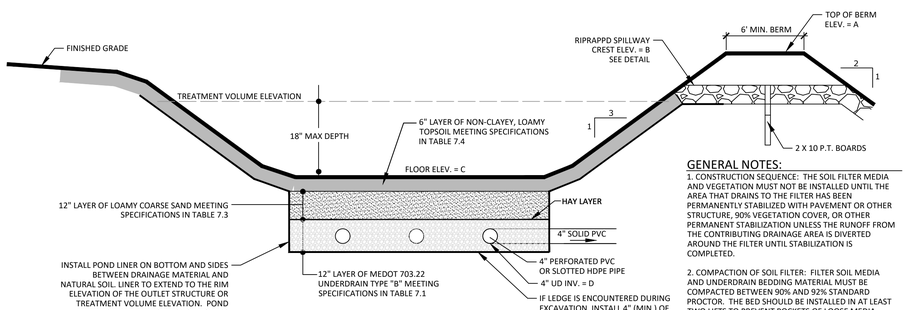


NOTES:

1. SEE OUTLET CONTROL STRUCTURE DETAIL FOR ADDITIONAL INFORMATION.

NOTCH OPENING IN OUTLET CONTROL STRUCTURE OCS-2

NOT TO SCALE



GRASSED UNDERDRAINED SOIL FILTER BASIN SECTION

NOT TO SCALE

FILTER BASIN DATA				
POND ID	A	B	C	D
FB-1	236.40	235.10	232.00	229.83
FB-3	236.40	235.10	232.00	229.83
FB-3	244.00	242.75	240.00	237.83

GENERAL NOTES:

1. CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
2. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS TO PREVENT POCKETS OF LOOSE MEDIA.

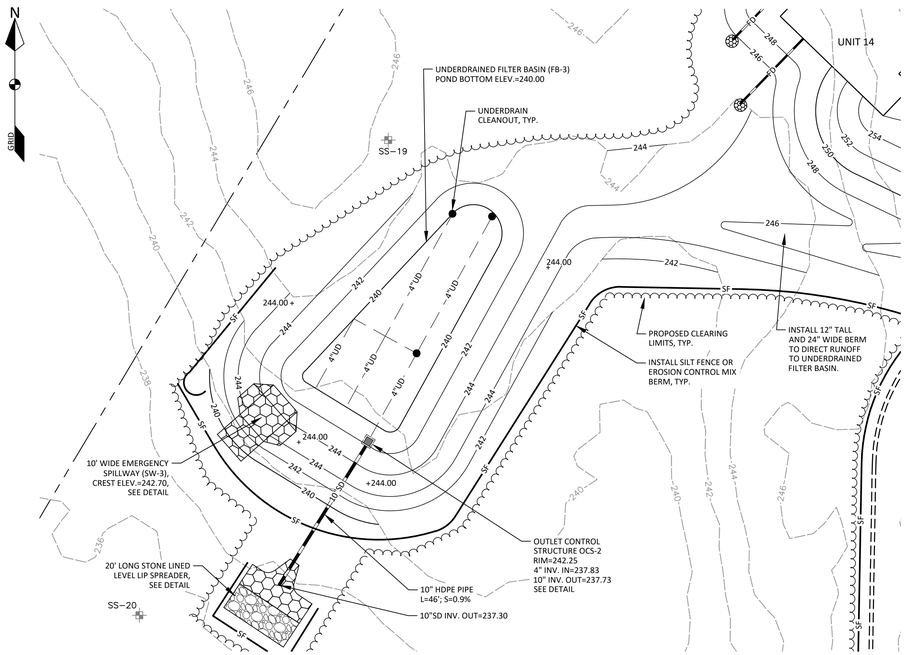
FILTRATION BMPs CONSTRUCTION OVERSIGHT NOTES:

1. INSPECTION BY THE DESIGN ENGINEER OR SUITABLE THIRD PARTY WILL OCCUR AT A MINIMUM:
   A) AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
   B) AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
   C) AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
   D) AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
   E)ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING MDEP SPECIFICATIONS.
2. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
   A) SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
   B) PERFORM A SIEVE ANALYSIS CONFORMING TO STM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
   C) PERFORM A PERMIABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698
3. WITHIN 30 DAYS OF COMPLETION OF THE FILTRATION BMP, THE APPLICANT SHALL SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE MAINE DEP BUREAU OF LAND RESOURCES FOR REVIEW.

TABLE 7.1 UNDERDRAIN 703.22 TYPE "B"	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

TABLE 7.4 SANDY LOAM	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70
200 CLAY	<2.0

TABLE 7.3 LOAMY COARSE SAND	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15
200 CLAY	<2.0



UNDERDRAINED FILTER BASIN FB-3

SCALE: 1"=20'

GRAPHIC SCALE 1" = 20'

NOT FOR CONSTRUCTION

STATE OF MAINE — DUSTIN M. ROMA — No. 12631 — REGISTERED PROFESSIONAL ENGINEER — 8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV.	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

STORMWATER PONDS PLAN

LEGACY VILLAGE RETIREMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1308
WINDHAM, ME 04062

25007	JOB NUMBER:
1" = 20'	SCALE:
8-4-2026	DATE:
SHEET 10 OF 13	
P-1	

EROSION AND SEDIMENTATION CONTROL NOTES:

EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY.

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED:

1. POLLUTION PREVENTION

MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE.

WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

2. TEMPORARY SOIL STABILIZATION BMPS

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED. ANY DISTURBED SOIL WITHIN 75' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 48 HOURS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. ALL OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 7 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEEDED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE. EROSION CONTROL MIX CAN BE USED AS A STAND-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:
-ORGANIC MATTER CONTENT SHALL BE BETWEEN 80-100%, DRY WEIGHT BASIS.
-PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6 IN. SCREEN AND BETWEEN 70-85% PASSING 0.75 IN. SCREEN
-ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
-LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX

WHEN USED AS MULCH, THE THICKNESS OF THE ERISION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

CHEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. ERISION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED WITH PERMANENT VEGETATION. WHERE MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY VEGETATION CANNOT BE ESTABLISHED PRIOR TO OCTOBER 15, TEMPORARY MULCH SHALL BE APPLIED THROUGH THE WINTER AND TEMPORARY VEGETATION SHALL BE PLANTED AT THE BEGINNING OF THE GROWING SEASON THE FOLLOWING YEAR. TO PREPARE THE SEEDBED, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P2O5-K20) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSEN SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING TABLE:

SEED	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	80	4/1 - 7/1 8/15 - 9/15
ANNUAL RYEGRASS	40	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

3. SEDIMENT BARRIER BMPS

PRIOR TO CONSTRUCTION TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA . SEDIMENT BARRIERS INCLUDE ANY OF THE FOLLOWING:

FILTER BARRIER FENCE, ALSO CALLED SILT FENCE, SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF POLYPROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND POST SPACING SHALL NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPLICED TOGETHER AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO BURIAL.

EROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE A LARGER WIDTH BERM. EROSION CONTROL MIX BERMS SHALL BE PROHIBITED AT THE BASE OF A LONG OR STEEP SLOPE (8% OR GREATER) WITHOUT THE ADDITIONAL SUPPORT OF A FILTER FENCE INSTALLED ON THE DOWNHILL SIDE OF THE BERM.

SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED RUNNING ONTO THE STOCKPILE. SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR EDGES OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT MAY BE NECESSARY TO INSTALL A SEDIMENT BASIN UPGRADIENT OF THE SEDIMENT BARRIER. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL EITHER BE REMOVED OR GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

TEMPORARY EROSION CONTROL MEASURES ARE REMOVED ONCE THE SITE IS PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

4. STORM DRAIN INLET PROTECTION

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPS ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON ANY PARTICULAR PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

5. STABILIZED CONSTRUCTION ENTRANCE/EXIT

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH OF 2-3 INCH CRUSHED STONE, AND SHALL BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 50 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 50 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MUD-TRACKING PRIOR TO THE NEXT STORM EVENT. MAINTAIN THE PAD UNTIL ALL DISTURBED AREAS ARE STABILIZED.

6. DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

7. LAND GRADING AND SLOPE PREPARATION

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 7 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

8. TOPSOIL

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEKS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUE COMPACTION IS TO BE AVOIDED.

9. PERMANENT SOIL STABILIZATION

IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC. EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

SEEDED AREAS: TO PREPARE THE SEEDBED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES, ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED MIXTURES. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS. FOR SEEDED AREAS TO BE PERMANENTLY STABILIZED, 90% OF THE DISTURBED SOIL SHALL BE COVERED WITH MATURE HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRE OR PINS. IRRIGATE SODDED AREA IMMEDIATELY AFTER INSTALLATION. FOR SODDED AREAS TO BE PERMANENTLY STABILIZED, THE ROOTS OF THE SOD MUST BE COMPLETELY BOUND INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AROUND DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH.

RIPRAP STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNEVEN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE DEPTH OF STONE SHALL BE A MINIMUM OF 2.2 TIMES THE MAXIMUM STONE DIAMETER. A GRAVEL OR GEOTEXTILE FILTER BLANKET SHALL BE PLACED BETWEEN THE RIPRAP AND UNDERLYING SOIL SURFACE. GRAVEL FILTER BLANKETS SHALL MEET MDOT TYPE-C UNDERDRAIN MATERIAL SPECIFICATIONS AND BE AT LEAST 6 INCHES THICK. GEOTEXTILE FILTER BLANKETS SHALL BE SPECIFIED BASED ON SITE CONDITIONS. RIPRAP SLOPES SHALL BE TOED INTO THE BASE OF THE EMBANKMENT BY EXCAVATING A TRENCH AT THE BOTTOM OF THE SLOPE AND INSTALLING A STABLE BASE OF RIPRAP TO GRADE.

DITCHES, CHANNELS AND SWALES ARE CONSIDERED PERMANENTLY STABILIZED WHEN THE CHANNEL HAS 90% COVER OF HEALTHY VEGETATION WITH A WELL GRADED RIPRAP LINING, EROSION CONTROL BLANKET, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE BANKS, OR DOWNCUTTING OF THE CHANNEL.

10. STORMWATER CHANNELS

EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL. PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

INSPECTION & MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ALL CONSTRUCTION OPERATIONS COMPLY WITH THE INSPECTION AND MAINTENANCE PROCEDURES FOR THE PROJECT, INCLUDING, BUT NOT LIMITED TO THOSE INCLUDED IN THIS PLAN SET, THE "INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN", AND THE "MAINE EROSION AND SEDIMENTATION CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS". INSPECTION SHALL OCCUR ON ALL DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIAL STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE AREAS SHALL BE INSPECTED AT LEAST ONCE A WEEK AS WELL AS 24 HOURS BEFORE AND AFTER A STORM EVENT GENERATING MORE THAN 0.5 INCH OF RAINFALL OVER A 24-HOUR PERIOD AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.
2. EROSION CONTROLS SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED. 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 BMPS NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPS ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS NEEDED, IMPLEMENTATION MUST BE COMPLETED WITHIN SEVEN CALENDAR DAYS AND PRIOR TO ANY RAINFALL EVENT.
3. A REPORT SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN MUST BE MAINTAINED ON SITE. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS; THE DATE(S) OF THE INSPECTIONS; AND THE MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO MDEP AND TOWN STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST. THE OWNER SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

WINTER EROSION AND SEDIMENTATION CONTROL NOTES:

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

1. NATURAL RESOURCE PROTECTION

ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

2. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

3. MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

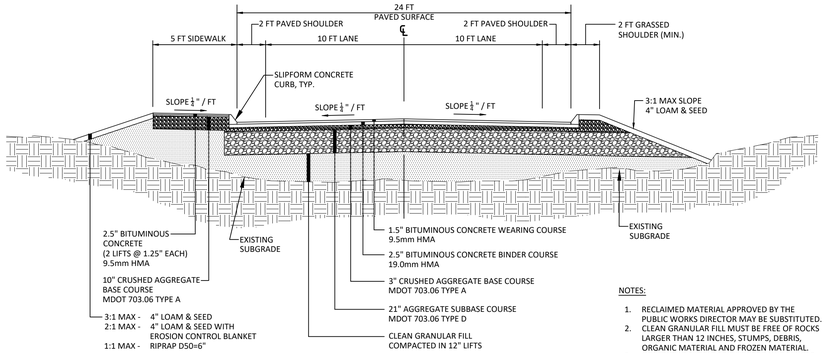
4. SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RAT EOR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

5. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.

6. OVER-WINTER STABILIZATION OF DITCHES AND CHAN

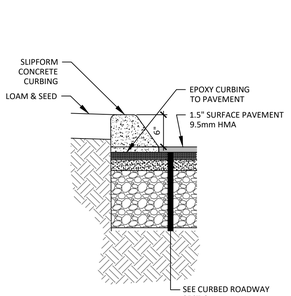


TYPICAL ROADWAY SECTION

NOT TO SCALE

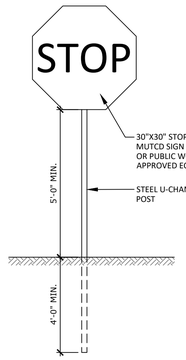
NOTES:

1. RECLAIMED MATERIAL APPROVED BY THE PUBLIC WORKS DIRECTOR MAY BE SUBSTITUTED.
2. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.
3. GEOTEXTILE FABRIC OR UNDERDRAINS MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS OR DESIGNEE IF POOR SOILS ARE ENCOUNTERED.



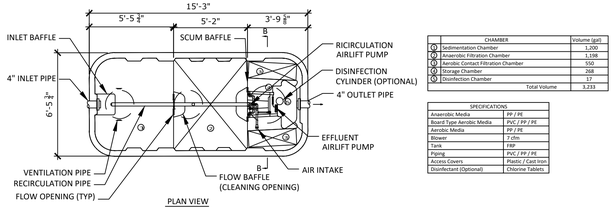
TYPICAL CURB SECTION

NOT TO SCALE



STOP SIGN INSTALLATION

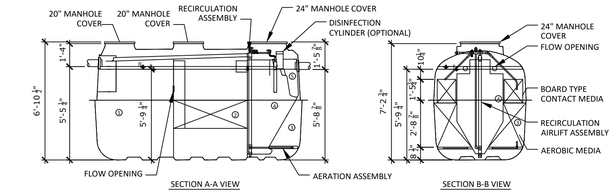
NOT TO SCALE



PLAN VIEW

	CHAMBER	Volume (gal)
A	Sedimentation Chamber	1,200
B	Anaerobic Filtration Chamber	1,198
C	Aerobic Contact Filtration Chamber	550
D	Storage Chamber	268
E	Disinfection Chamber	17
	Total Volume	3,233

SPECIFICATIONS	
Anaerobic Media	PP / PE
Board Type Aerobic Media	PVC / PP / PE
Aerobic Media	PP / PE
Blower	1 cfm
Tank	FRP
Piping	PVC / PP / PE
Access Covers	Plastic / Cast Iron
Disinfectant (Optional)	Chlorine Tablets



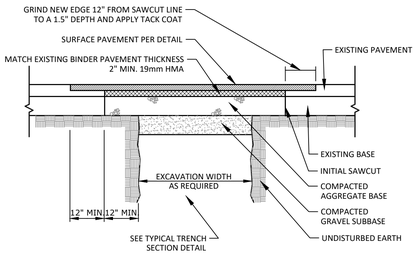
SECTION A-A VIEW

SECTION B-B VIEW

FujiClean USA
Toward Clean Water...

FUJI CLEAN CEN21 TREATMENT DEVICE

NOT TO SCALE

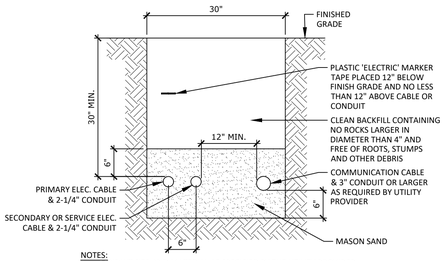


NOTES:

1. SEE TYPICAL ROAD SECTION FOR REQUIRED DEPTHS OF AGGREGATE AND PAVEMENT COURSES

PAVEMENT REPAIR DETAIL

NOT TO SCALE



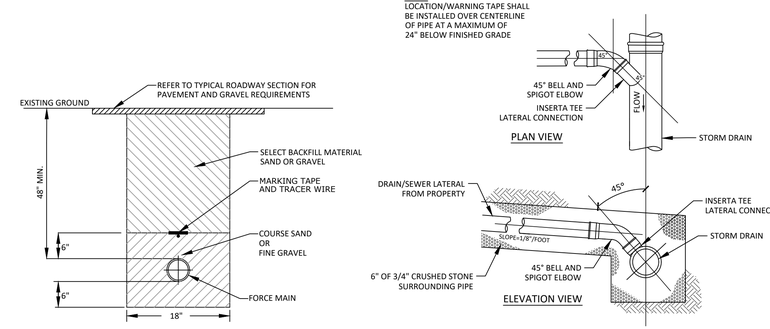
NOTES:

1. CONDUIT SIZE AND MATERIAL AS SPECIFIED BY THE UTILITY PROVIDER.
2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWINING OF CABLES.
3. BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
4. COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.

UTILITY TRENCH DETAIL

NOT TO SCALE

NOTE:
LOCATION/WARNING TAPE SHALL
BE INSTALLED OVER CENTERLINE
OF PIPE AT A MAXIMUM OF
24" BELOW FINISHED GRADE



FORCE MAIN TYPICAL TRENCH CROSS-SECTION

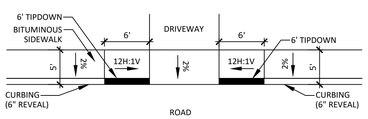
NOT TO SCALE

PLAN VIEW

ELEVATION VIEW

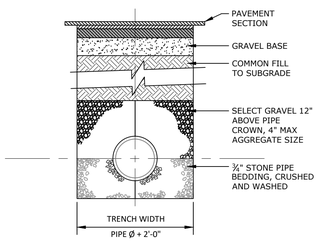
DRAIN/SEWER LATERAL CONNECTION

NOT TO SCALE



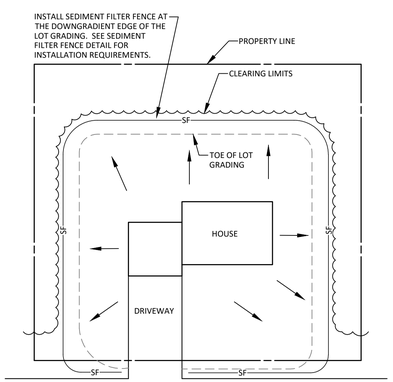
PEDESTRIAN / DRIVEWAY RAMP DETAIL

NOT TO SCALE



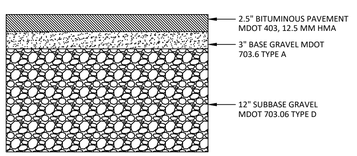
TYPICAL TRENCH SECTION

NOT TO SCALE



TYPICAL HOUSE LOT
EROSION CONTROL DETAIL

NOT TO SCALE

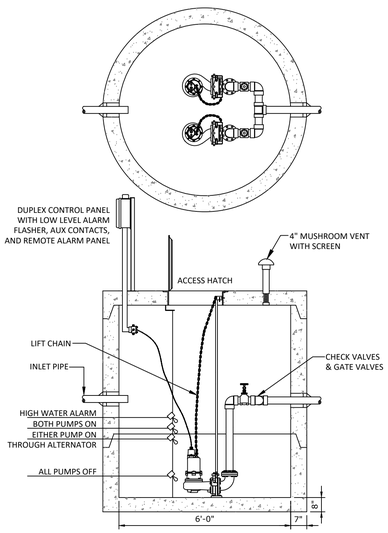


TYPICAL DRIVEWAY SECTION

NOT TO SCALE

NOTES:

1. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.

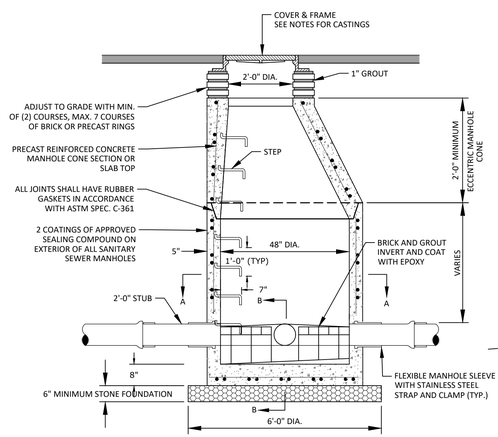


NOTES:

1. PUMP STATION INVERT ELEVATION INFORMATION IS FOR PRICING ONLY. FINAL DESIGN TO BE PROVIDED BY DESIGN ENGINEER PRIOR TO ISSUANCE OF DRAWINGS FOR CONSTRUCTION.

PUMP STATION DETAIL

NOT TO SCALE

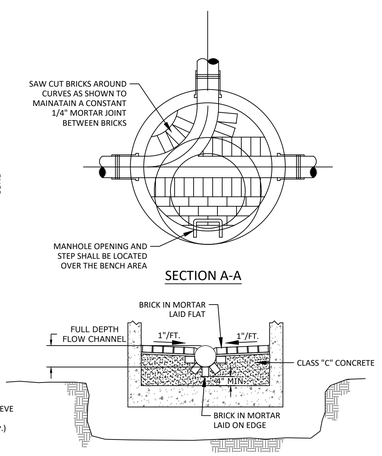


PRECAST CONCRETE SANITARY MANHOLE

NOTES:

1. SOLID COVER TO BE EAST JORDAN IRON WORKS PRODUCT NUMBER 00104175 OR APPROVED EQUAL AND SHALL BE MARKED "SANITARY SEWER". FRAME TO BE EAST JORDAN IRONWORKS PRODUCT NUMBER 00104510 OR APPROVED EQUAL.
2. CONNECTIONS TO EXISTING SANITARY MANHOLES TO BE APPROVED BY SEWER DISTRICT AND CORE DRILLED WITH FLEXIBLE BOOT.
3. MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS. IF SIDE PIPES ENTER CHANNEL, SHAPE TO RECEIVE ADDED SIDE FLOW (SEE SECTION A-A).
4. USE FLAT SLAB TOP MANHOLE WHEN THE DIFFERENCE BETWEEN INVERT AND RIM IS LESS THAN 6'-0" AND WHEN MANHOLE DIAMETER IS GREATER THAN 4'-0".
5. AVERAGE STRENGTH OF CONCRETE TO BE 4,000 PSI AT 28 DAYS. STRUCTURE TO BE DESIGNED FOR H-20 LOADING.

NOT TO SCALE



SECTION A-A

SECTION B-B

NOT FOR CONSTRUCTION

STATE OF MAINE
DUSTIN M. ROMA
REG. NO. 12131
REGISTERED PROFESSIONAL ENGINEER
8-4-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

DETAILS

LEGACY VILLAGE RETIREMENT COMMUNITY

1 WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

25007
JOB NUMBER:

AS NOTED
SCALE:

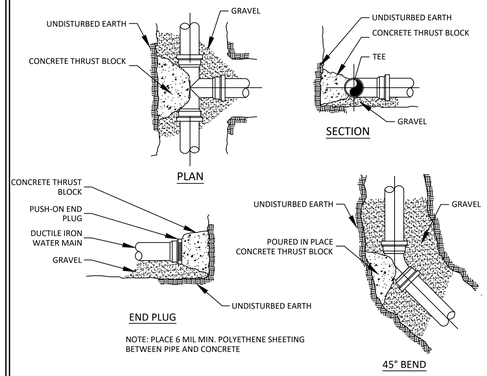
8-4-2026
DATE:

SHEET 12 OF 13

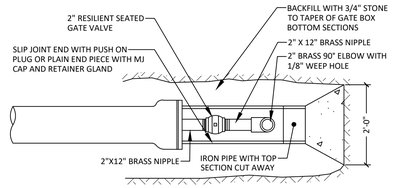
D-2

CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90°BENDS	45°BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	9	12
	16"	26	14	19
	20"	40	22	28

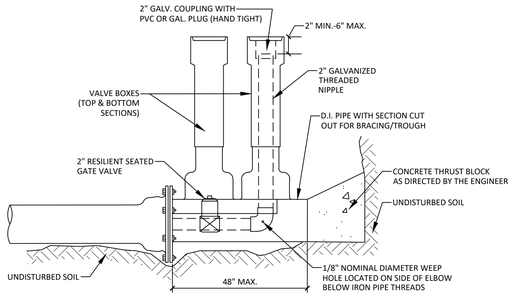
BASED ON SOIL BEARING PRESSURE OF 2000PSF AND 100PSI LINE PRESSURE. COMPACT COURSE TO FINE SANDS AND CLAYS REQUIRE ENGINEERED BLOCKS. ENGINEERED BLOCKS WILL TYPICALLY REQUIRE REINFORCING STEEL OF #5 AT 12".



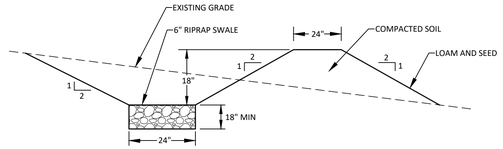
THRUST BLOCK DETAIL
NOT TO SCALE



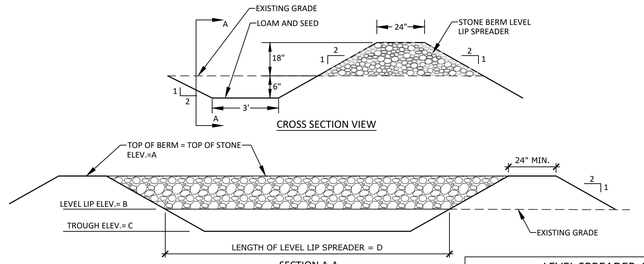
TOP VIEW



STANDARD 2" BLOW OFF
NOT TO SCALE

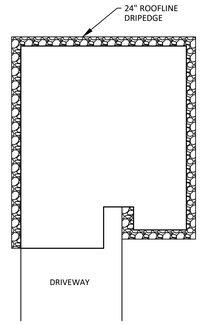


STORMWATER DIVERSION BERM SECTION
NOT TO SCALE

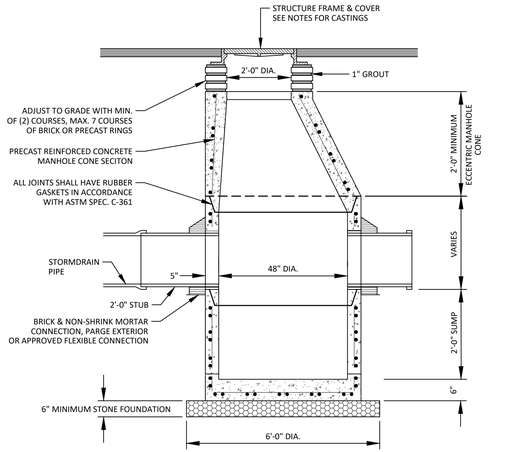


STORMWATER LEVEL LIP SPREADER
NOT TO SCALE

LEVEL SPREADER DATA				
POND ID	A	B	C	D
FB-1	229.50	228.00	227.50	20'
FB-3	237.50	236.00	235.50	20'



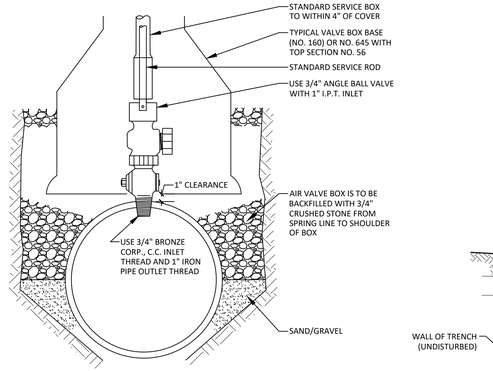
UNIT ROOFLINE DRIPEDGE LOCATIONS
NOT TO SCALE



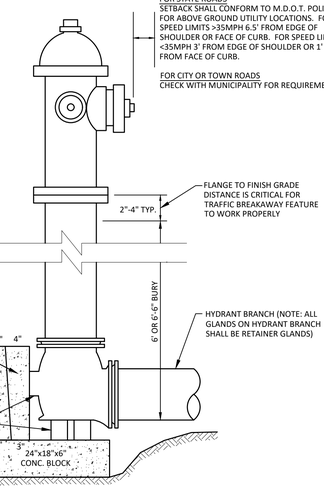
NOTES:

1. LARGER DIAMETER STRUCTURES MAY BE REQUIRED DUE TO SIZE OR GEOMETRY OF PIPE CONNECTIONS AT MANHOLE. WALL THICKNESS TO INCREASE BY 1" FOR EACH 1'-0" DIA. INCREASE. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. FRAME AND COVER CASTINGS
   CATCH BASIN NEENAH FOUNDRY PRODUCT NO. R-3405, GUTTER INLET FRAME, GRATE
   DRAIN MANHOLE NEENAH FOUNDRY PRODUCT NO. R-1568, MANHOLE FRAME "DRAIN"
   *OR ENGINEER APPROVED EQUAL. SUBMIT CATALOG SHEETS TO ENGINEER FOR APPROVAL.

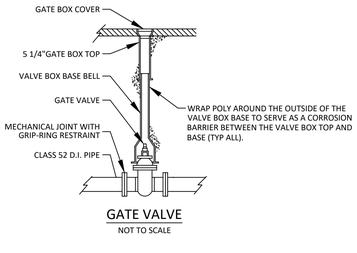
PRECAST CONCRETE DRAINAGE STRUCTURE
NOT TO SCALE



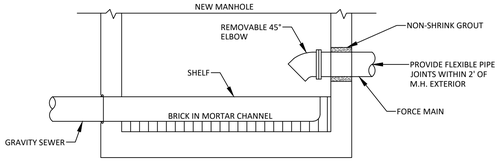
TYPICAL AIR VALVE (1")
NOT TO SCALE



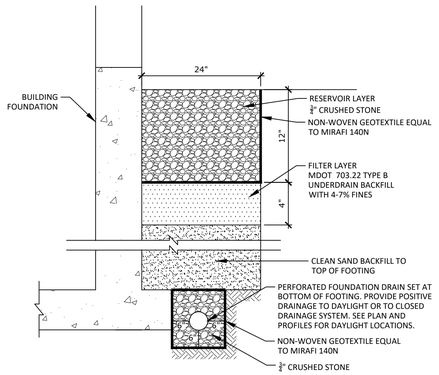
TYPICAL HYDRANT INSTALLATION DETAIL
NOT TO SCALE



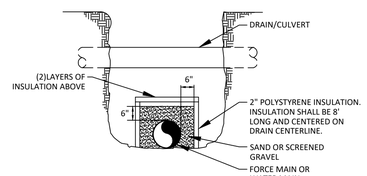
GATE VALVE
NOT TO SCALE



FORCE MAIN TERMINOUS
NOT TO SCALE

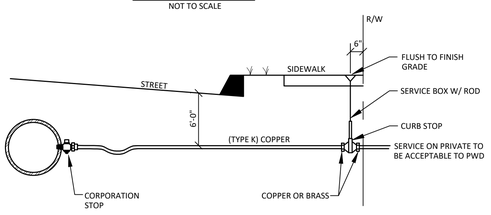


ROOF DRIP EDGE
NOT TO SCALE

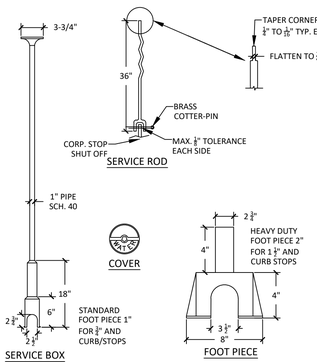


NOTES: INSULATION IS REQUIRED AT ALL DRAIN & CULVERT CROSSINGS THAT DO NOT PROVIDE A MINIMUM OF 18" OF VERTICAL SEPARATION

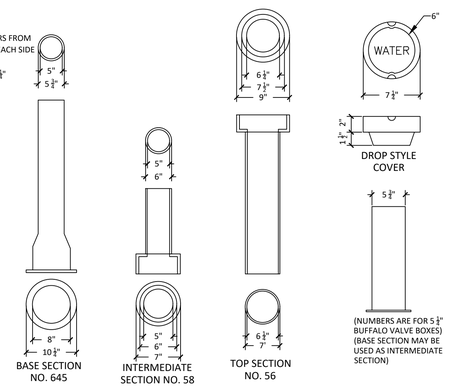
INSULATION DETAIL
NOT TO SCALE



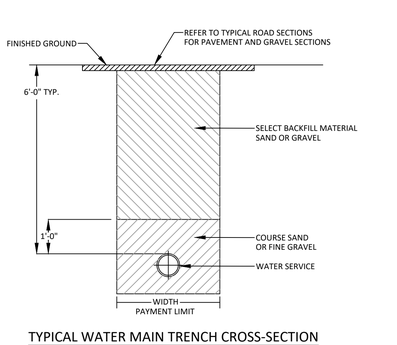
TYPICAL SERVICE CONNECTION
NOT TO SCALE



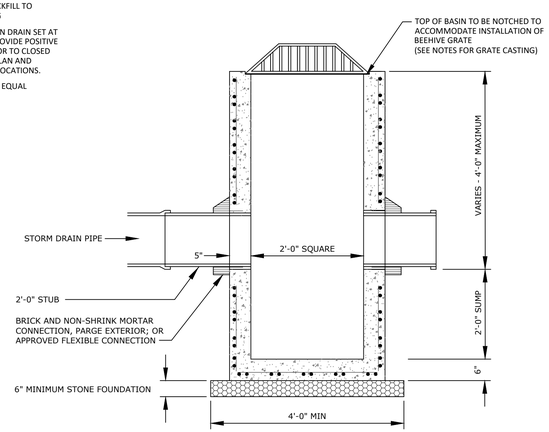
SERVICE ROD



VALVE BOX & COVER
NOT TO SCALE



TYPICAL WATER MAIN TRENCH CROSS-SECTION
NOT TO SCALE

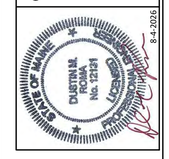


NOTES:

1. CAST IRON GRATE SHALL BE EQUAL TO NEENAH FOUNDRY, PRODUCT NO. R-4345, BEEHIVE LIGHT DUTY GRATE, OR APPROVED EQUIVALENT.
2. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

PRECAST CONCRETE CATCH BASIN STRUCTURE - TYPE F
NOT TO SCALE

NOT FOR CONSTRUCTION



DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-18-26	DMR	ISSUED FOR PERMITTING
B	8-4-26	DMR	ISSUED FOR PERMITTING

DETAILS

LEGACY VILLAGE RETIREMENT COMMUNITY

WEBB ROAD
WINDHAM, MAINE

FOR:
ROBIE HOLDINGS, LLC
PO BOX 1508
WINDHAM, ME 04062

25007
JOB NUMBER:

AS NOTED
SCALE:

8-4-2026
DATE:

SHEET 13 OF 13

D-3

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

August 5, 2026

Jayson R. Haskell, P.E.
DM Roma Consulting Engineers

Re: 15 Read Road, WI (Legacy Village)
Ability to Serve with PWD Water

Dear Mr. Haskell:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on June 25, 2025. Based on the information provided per plans dated August 5, 2026, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD and may result in additional administrative fees.**

Conditions of Service

The following conditions of service apply:

- A new 8-inch ductile iron (zinc coated) water main is required within Webb Road, from the connection at Gray Road to a point approximately equal to the entrance of the proposed development at 15 Read Road.
- A new 8-inch fire service and a 4-inch domestic water service, with a 1.5-inch meter, may be installed from the water main to provide service to the proposed development. The services should enter the property's frontage on Webb Road no closer than 10-feet to any side property line.
- An approved backflow prevention device (testable double check valve assembly) must be installed on the domestic service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- One (1) private fire hydrant may be installed on the fire service on this site. Please refer to the PWD website for more information regarding private hydrant inspection policies.

Prior to construction, the owner or contractor will need to complete a Main Extension Initiation form and pay all necessary fees.

225 DOUGLASS STREET P.O. BOX 3553 PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 FAX: 207.761.8307 WEB: WWW.PWD.ORG

Existing Site Service

According to District records, the project site does not currently have existing water service.

Water System Characteristics

According to District records, there is an 12-inch diameter cast iron water main in Gray Road and a public fire hydrant located approximately 1000 feet from the site. The estimated static pressure in the area is 55 psi.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely be required. It is your responsibility to contact the Town of Windham Fire Department to ensure that this project is adequately served by existing and/or proposed public and private hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District



Robert A. Bartels, P.E.
Engineering and Construction Development Manager

Town of Windham

Town Offices
8 School Road
Windham, Maine

Cover Sheet

File Number: PB 26-063

Agenda Date: 8/24/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Planning Board **File Type:** Planning Board Document

#25-27 100 River Road Eventide Subdivision- Major Subdivision & Site Plan - Preliminary Plan Review - 100 River Road- Row Even LLC

The application is to develop a 17-lot conservation subdivision on 27.92 acres with a new road built to public standards. Lots will be 30,000 square feet, with the remaining 13.87 acres as open space. Lots will be served by private subsurface wastewater disposal systems, on-site wells and underground utilities. Subject property is identified as Tax Map: 1; Lots: 8 (portion), 8-1, 8-2; Zone: Farm (F) in the Presumpscot River watershed

Preliminary Major Subdivision Application

To the Town of Windham

Eventide Subdivision

Eventide Drive off River Road
Windham, Maine

Applicant:
Row Even LLC
17 Bucket Lane
Yarmouth, ME 04096

Prepared By:
DM Roma Consulting Engineers
PO Box 1116
Windham, ME 04062

DM ROMA
CONSULTING ENGINEERS

SECTION 1

APPLICATION FORM & SUBMISSION CHECKLIST

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION

FEES FOR MAJOR SUBDIVISION PRELIMINARY PLAN REVIEW	**APPLICATION FEE:** + EACH LOT > 10 = $300/LOT	☒ $1,300.00 ☒ $2,100	**AMOUNT PAID:** $_____ DATE: _____ *Office Use:*	*Office Stamp:*	
	REVIEW ESCROW: Up to 10 Lots = $2,500 11 – 15 Lots = $3,000 16 – 30 Lots = $4,000 30 + Lots = $5,000	☒ $4,000			

PROPERTY DESCRIPTION	**Parcel ID**	**Map(s) #**		**Lot(s) #**	8, 8-1 & 8-2	**Zoning District(s)**	FARM
	# Lots/dwelling units:	17	**Total Distr. >1Ac.**	☒ Y ☐ N		**Total Land Area SF:**	1,216,303±
	Physical Address					**Est. Road Length(ft):**	1,850 ft
						Watershed:	PRESUMPSCOT RIVER

PROPERTY OWNER'S INFORMATION	**Name**	MICHAEL E. TEVANIAN	**Name of Business**	
	Phone		**Mailing Address:**	135 MAIN STREET
	Fax or Cell			WESTBROOK, MAINE
	Email			
APPLICANT'S INFORMATION ( )	**Name**		**Name of Business:**	
	Phone		**Mailing Address**	17 BUCKET LANE
	Fax or Cell			YARMOUTH, MAINE 04096
	Email			
APPLICANT'S AGENT INFORMATION	**Name**		**Name of Business**	DM ROMA CONSULTING ENGINEERS
	Phone		**Mailing Address**	PO BOX 1116
	Fax or Cell			WINDHAM, MAINE 04062
	Email			

PROJECT INFORMATION

Existing Land Use ˘ ˘ ^·:

The property is currently undeveloped meadow and woodland.

Provide a narrative description of the Proposed Project ˘ ˘ ^· :

The applicant is proposing a conservation subdivision, consisting of seventeen (17) proposed residential house lots, with approximately 1850 lf of road.

Each new residential lot will require an on-site well and on-site wastewater disposal system. Each of the homes in the development will include the installation of a sprinkler system, and all electrical service will be installed underground.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

The allowable net residential density and amount of open space required has been calculated based on development of the 27 acres of land consisting of tax lots 8-1, 8-2 and a portion of Lot 8. To meet the minimum open space requirements, we are proposing to deed tax lot 9 in its entirety to the Town of Windham, which will provide an additional 4 acres of open space and owned frontage along the the Presumpscot River.

Project site includes wetlands and a stream. The stream is proposed to be crossed with the subdivision road. Total wetland impact is approximately 3,563 sf.

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION REQUIREMENTS

Section 910 of the Land Use Ordinance

The submission shall contain, five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Major Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of the preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks before the desired Staff Review Committee meeting.
  - Five copies of the application and plans
  - Application Payment and Review Escrow
- A pre-submission meeting with the Town staff is required.
- Contact information:
  Windham Planning Department (207) 894-5960, ext. 2
  Steve Puleo, Town Planner sjpuleo@windhammaine.us
  Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SUBDIVISION REVIEW

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 907.B., 910.C., & 911. Due to projects specifics, are required to provide a complete and accurate set of plans, reports, and supporting documentation (as listed in the checklist below).

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

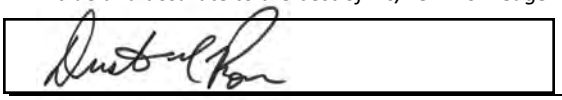
Staff recommends the applicant provide a proposed construction schedule, a draft Homeowner's Association (HOA) documentation, public open space to be provided, and written offers of cession to the Town, and/or road maintenance agreement with at the Preliminary Plan application submission.

Major Subdivision Preliminary Plan Submission Requirements:			**Major Subdivision Preliminary Plan Submission Requirements (Continued):**	**Applicant**	**Staff**
A. Mandatory Written Information submitted in a bound format:	**Applicant**	**Staff**	6. Vicinity plan showing the area within 250 feet, to include:	☑	☐
1. A fully executed application form, signed by a person with right, title, or interest in the property or Authorized Agent.	☑	☐	i. approximate location of all property lines and acreage of parcels.	☑	☐
2. Evidence of payment of the application and escrow fees.	☑	☐	ii. locations, widths, and names of existing, filed, or proposed streets, easements, or building footprints.	☑	☐
3. Proposed name of the Subdivision.	☑	☐	iii. location and designations of any public spaces.	☑	☐
4. Verification of right, title, or interest in the property, and any abutting property, by deed, purchase and sales agreement, option to purchase, or some other proof of interest.	☑	☐	iv. outline of the proposed subdivision, together with its street system and an indication of future probably street system, if the proposed subdivision encompasses only part of the applicant's entire property.	☑	☐
5. Copy(ies) of the most recently recorded deed for the parcel, along with a copy(ies) of all existing deed restrictions, easements, rights-of-way, or some other proof of interest.	☑	☐	7. Standard boundary survey of the parcel, including all contiguous land in common ownership within the last 5 years.	☑	☐
6. Copy(ies) of any existing and/or proposed covenants, deed restrictions intended to cover all or part of the lots or dwellings in the subdivision.	☑	☐	8. Existing and proposed street names, pedestrian ways, lot easements, and areas to be reserved or dedicated to public use.	☑	☐
7. Copy(ies) of any existing or proposed easements on the property	☑	☐	9. Contour lines at 2-foot intervals, or intervals required by the Board, showing elevations to the required datum.	☑	☐
8. Name, registration number, and seal of Maine Licensed Professional Land Surveyor who conducted the survey.	☑	☐	10. Typical cross-sections of the proposed grading for roadways, sidewalks, etc., including width, type of pavement, elevations, and grades.	☑	☐
9. Name, registration number, and seal of the licensed professional who prepared the plan (if applicable).	☑	☐			
10. An indication of the type of sewage disposal to be used in the subdivision.			11. Wetland areas shall be delineated on the survey. If none, please note.	☑	☐
i. If connecting to the public sewer, provide a letter from Portland Water District stating the District can collect and treat the wastewater	☐ N/A	☐	12. The number of acres within the proposed subdivision, location of property lines, existing buildings, vegetative cover type, specimen trees, if present, and other essential existing physical features.	☑	☐

Mandatory Written Information submitted in a bound format (continued):	Applicant	Staff			
			13. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☑	☐
ii. If using subsurface wastewater disposal systems (septic), submit test pit analyses prepared by a Maine Licensed Site Evaluator or Certified Soil Scientist. Test pit locations must be shown on a map.	☑	☐	14. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☑	☐
11. Indicate the type of water supply system(s) to be used in the subdivision.	☑	☐	15. Location & size of existing and proposed sewers, water mains, culverts, bridges, and drainage ways on or adjacent to the property to be subdivided. The Board may require this information to be depicted via cross-section, plan, or profile views.	☑	☐
12. If connecting to public water, submit a written statement from the Portland Water District indicating there is adequate supply and pressure for the subdivision.	☐ N/A	☐	16. Location, names, and present width of existing streets, highways, easements, building lines, parks, and other open spaces on or adjacent to the subdivision.	☑	☐
13. Names and addresses of the record owner, applicant, and adjoining property owners.	☑	☐	17. Location and widths of any streets, public improvements, or open space within the subdivision (if any) are shown on the official map and the comprehensive plan.	☑	☐
14. An acceptable title opinion proving the right of access to the proposed subdivision or site for any property proposed for development on or off a private way or private road.	☐ N/A	☐	18. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.	☐ N/A	☐
15. The name and contact information for the road association whose private way or road is used to access the subdivision.	☑	☐	19. Location of any open space to be preserved or common areas to be created, and general description of proposed ownership, improvement, and management	☑	☐
16. Financial Capacity. Estimated costs of development, and an itemization of major costs.			20. Approximate location of treeline after development.	☑	☐
i. Estimated costs of development, and an itemization of major costs.	☑	☐	21. Delineate boundaries of any flood hazard areas and the 100-year flood elevation as depicted on the Town's Flood Insurance Rate Map.	✓	
			22. Show any areas within or adjacent to the proposed subdivision which has been identified by the Maine Department of Inland Fisheries and Wildlife "Beginning with Habitat project maps or within the Comprehensive Plan.	☑	☐
ii. Financing - provide one of the following:	☐	☐	23. Show areas within or adjacent to the proposed subdivision which is either listed on or eligible for the National Register of Historic Places, or have been identified in the comprehensive plan or by the Maine Historic Preservation Commission as sensitive or likely to contain such sites.	☑	☐
a. Letter of commitment to funding from a financial institution, governmental agency, or other funding agency.	☐	☐			
b. Annual corporate report with explanatory material showing the availability of liquid assets to finance development	☐	☐	24. Erosion & Sedimentation control plan, prepared by MDEP Stormwater Law Chapter 500 Basic Standards, and the MDEP Maine Erosion and Sediment Control Best Management Practices, published March 2003.	☑	☐
c. Bank statement showing the availability of funds if personally financing development	☐	☐	25. A stormwater management plan, prepared by a Maine licensed Professional Engineer by the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the MDEP 2006.	☑	☐
d. Cash equity commitment.	☐	☐			
e. Financial plan for remaining financing.	☐	☐	26. For Cluster Subdivisions that do not maximize the development potential of the property being subdivided, a conceptual master plan for the remaining land showing future roads, Open Space, and lot layout, consistent with the requirements of 911.K., Custer Developments will be submitted.	☐ N/A	☐
f. Letter from financial institution indicating an intention to finance.	☐	☐	**C. Submission information for which a waiver may be granted.**	**Applicant**	**Staff**
iii. If a corporation, Certificate of Good Standing from the Secretary of State	☑	☐	1. High-intensity soil survey by a Certified Soil Scientist	☑	☐
2. Technical Capacity:	☑	☐	2. Landscape Plan	☐	☐
			3. Hydrogeologic assessment - required if i) subdivision is not served by public sewer and either any part of the subdivision is over a sand and gravel aquifer or has an average density of more than one dwelling unit per 100,000 square feet, or ii) where site considerations or development design indicate the greater potential of adverse impacts on groundwater quality.	☑	☐

i. A statement of the applicant's experience and training related to the nature of the development, including developments receiving permits from the Town.	☑	☐	a) Map showing basic soil types.	☑	☐
			b) Depth to the water table at representative points	☑	☐
ii. Resumes or similar documents showing experience and qualifications of full-time, permanent, or temporary staff contracted with or employed by the applicant who will design the development.	☑	☐	c) Drainage conditions throughout the subdivision.	☑	☐
			d) Data on existing groundwater quality.	☑	☐
			e) Analysis and evaluation of the effect of the subdivision on groundwater.	☑	☐
2. Name and contact information for the road association whose private way or road is used to access the subdivision (if applicable).	☐ N/A	☐	f) map showing the location of any subsurface wastewater disposal systems and drinking water wells within the subdivision & within 200 feet of the subdivision boundaries.	☑	☐
			4. Estimate the amount and type of vehicular traffic to be generated on a daily basis and at peak hours.	☑	☐
B. Mandatory Preliminary Plan Information	**Applicant**	**Staff**	5. Traffic Impact Analysis for subdivisions involving 28 or more parking spaces or projected to generate more than 140 vehicle trips per day.	☑	☐
1. Name of subdivision, date, and scale.	☑	☐			
2. Stamp of the Maine License Professional Land Surveyor that conducted the survey, including at least one copy of the original stamped seal that is embossed and signed.	☐	☐	6. If any portion of the subdivision is in the direct watershed of a great pond.	☐ N/A	☐
			i. phosphorous impact analysis and control plan.	☐	☐
3. Stamp with the date and signature of the Maine Licensed Professional Engineer that prepared the plans.	☑	☐	ii. long term maintenance plan for all phosphorous control measures.	☐	☐
4. North arrow identifying all of the following: Grid North, Magnetic North, declination between Grid and Magnetic, and whether Magnetic or Grid bearings were used in the plan design.	☑	☐	iii. contour lines at an interval of 2 feet.	☐	☐
			iv. delineate areas with sustained slopes greater than 25% covering more than one acre.	☐	☐
5. Location map showing the subdivision within the municipality.	☑	☐	**Electronic Submission**	☑	☐

The undersigned *hereby makes an application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.*



4-6-2026

DUSTIN M. ROMA - AUTHORIZED AGENT

APPLICANT OR AGENT'S SIGNATURE | DATE | PLEASE TYPE OR PRINT THE NAME

SECTION 2

AGENT AUTHORIZATION

November 3, 2025

Re: Agent Authorization

Row Even, LLC intends to develop the property located at 100 River Road in Windham, Maine shown as lots 8-1, 8-2, 9 and a portion of Lot 8 on Tax Map 1, totaling approximately 32 acres. Row Even, LLC has retained the services of DM Roma Consulting Engineers to act as its authorized agent to apply for land use permits associated with the development of this property.

Sincerely,

Ronald Goddard
Row Even, LLC

SECTION 3

WAIVER REQUESTS

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: Map 1

Lot(s): 8, 8-1 & 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
911.K.6.B	MINIMUM OPEN SPACE FOR CONSERVATION SUBDIVISION, PERFORMANCE STANDARD	☑
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The project's open space design, provides four (4) open space areas totalling a combined area of 13.87 ac. The project requires 16.21 acres of open space; however in addition to the designated open space, the project will convey Lot 9 to the Town which consists of 4.11± acres.

The Open Space Area 4 provides an undisturbed natural buffer to the Mountain Division Rail Trail, Open Space Area 2 and 3 provide a buffer to the stream crossing the subject property and Open Space Area 1 will function as the location for stormwater BMPs. Additionally, Lot 9, will further improve the project's ability to preserve and protect the frontage of the project along both the Presumpscot River and the Mountain Division Rail Trail.

(continued next page)

Ordinance Section: 911.K.6.B

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☑
Light pollution or glare	☐	☑
Water supply	☐	☑
Soil erosion	☐	☑
Traffic congestion or safety	☐	☑
Pedestrian safety or access	☐	☑
Supply of parking	☐	☑
Sewage disposal capacity	☐	☑
Solid waste disposal capacity	☐	☑
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☑
Flooding or drainage issues on abutting properties	☐	☑
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☑

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 120-908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 120-911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: Map 1

Lot(s): 8, 8-1, 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-911(M)(2)(a)	Appendix B - Table 2 - Min. access spacing	☒
120-911(M)(5)(a)(1)	Appendix B - Table 2 - Min. access spacing	☒
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

Access to the project site is from River Road with a posted speed limit of 45mph. Table 2 in Appendix B of the Windham Land Use Ordinance requires minimum access spacing of 265 feet for points of access that will carry Medium Volume of vehicle traffic. The proposed street intersection with River Road will be located closer than 265 feet to several existing driveways to the north that provide access to individual single-family homes (some homes have multiple driveways in a loop). The proposed street intersection provides the greatest amount of sight distance, which is the most important factor in determining the street access point. The Maine DOT recognizes that proper separation from existing driveways on adjacent lots cannot always be accomplished, and they regularly approve driveway entrances to state-regulated roads that do not meet the access spacing requirements established in the rules. We have proposed to eliminate two existing driveway curb cuts to the south that would be located within 145 feet of the new street intersection.

(Continued next page)

120-911-M-2-A
120-911-M-5-A-1

Ordinance Section: _____ (PLEASE PROVIDE A SEPERATE IMPACT CRITERIA FRO EACH ORDIANCE SECTION)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 120-908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 120-911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: <Map 1

Lot(s): 8, 8-1, 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-911(J)(6)	Stormwater Flooding Standard	☐
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The stormwater management system has been designed to reduce peak rates of stormwater runoff to abutting properties. We have chosen to significantly reduce runoff that drains to the north by directing runoff towards the stormwater filter basins that will be constructed near the project's entrance on River Road. As a result, there will be minor increases in peak rates of runoff entering an existing drainage culvert that runs under River Road to an existing wooded wetland on the east side of River Road for the less-frequent storm events (10-year and 25-year recurrence). Peak flows will be maintained for the more frequent 2-year storm event. The drainage infrastructure and receiving are is capable of receiving this minor increase in additional flow from less frequent but larger storm events.

(Continued next page)

Ordinance Section: 120-911(J)(6) (PLEASE PROVIDE A SEPERATE IMPACT CRITERIA FRO EACH ORDIANCE SECTION)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

SECTION 4

CERTIFICATE OF CORPORATE GOOD STANDING

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Feb 16 2026 10:15:15. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
ROW EVEN LLC	202515473DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
06/20/2025	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing

Clerk/Registered Agent

Physical	Mailing
ANDRE J HUNGERFORD 14 MASON STREET PORTLAND, ME 04103	ANDRE J HUNGERFORD PO BOX 7584 PORTLAND, ME 04112-7584

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)
Certificate of Legal Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

SECTION 5

PROJECT NARRATIVE

Section 5 – Project Narrative

Zoning:	Farm (F)
Acreage:	27.62± Acres
Tax Map/Lot:	Map 1 Lot 8, 8-1, & 8-2
Existing Use:	Undeveloped Land
Proposed Use:	Conservation Subdivision - residential

Row Even, LLC, applicant, is under a purchase and sales agreement with the current land owner of a parcel of land off River Road in Windham. The existing conditions of the land consists of meadow and natural woodland thru which a stream crosses flowing to the north in the middle of property. The property is also divided by the Mountain Division Rail Trail.

The proposed project includes the construction of a single-family development consisting of seventeen (17) proposed home lots. The dwellings will be accessed by an 1,850± foot roadway designed to the Town of Windham Minor Local Street standard.

The development will be served by on-site well and on-site wastewater disposal systems. Each of the homes in the development will include the installation of a sprinkler system, and all electrical service will be installed underground. Stormwater infrastructure will be installed throughout the project to provide the required stormwater management goals. Information related to the utilities and stormwater management have been included in this submission.

The development will be part of a Homeowner's / Road Association, including the maintenance of the roadway and stormwater management infrastructure. It is the intent of the developer to convey the roadway to the Town of Windham as a public street. The stormwater infrastructure outside of the future public right of way will remain the responsibility of the homeowner's association. Homeowner documents will be submitted as part of the Final Subdivision Plan submission.

SECTION 6

NAMES AND ADDRESSES OF ABUTTING PROPERTY OWNERS

Section 6 – Names and Addresses of Abutting Property Owners

Map/Lot	Owner Name	Mailing Address
SUBJECT PARCEL		
1/8, 8-1, & 8-2	MICHAEL E. TEVANIAN	135 MAIN STREET WESTBROOK, ME 04092
1/4, 1/5 & 2/20	BEVERLY & HILLMAN E LORD JOHN ANDERSON LORD TRUST	410 NORTH LAKE SYBELIA DRIVE MATELAND, FL 32751
1/6 & 2-19	HOLLY DICKINSON-AMIDON	93 RIVER ROAD WINDHAM, ME 04062
1/6-1	TOWN OF WINDHAM ANDERSON CEMETARY	8 SCHOOL ROAD WINDHAM, ME 04062
1/9	MICHAEL E. TEVANIAN	135 MAIN STREET WESTBROOK, ME 04092
1/10	NATHAN P &SARAH E GADBOIS	104 RIVER ROAD WINDHAM, ME 04062
1/10A	FORTIER LIVING TRUST FORTIER THOMAS J & PATRICIA A TRUSTEES	102 RIVER ROAD WINDHAM, ME 04062
1/11 & 12	JOSEPH HARRY CARLIN	114 RIVER ROAD WINDHAM, ME 04062
1/11-1	STEVEN R & PAULA L POCK	112 RIVER ROAD WINDHAM, ME 04062
1/11-A	PETER W CARLIN	110 RIVER ROAD WINDHAM, ME 04062
1/20	STATE OF MAINE- DOT RAILROAD	16 STATE HOUSE STATION AUGUSTA, ME 04333
4/19	GARY & BARBARA WINSHIP	111 RIVER ROAD WINDHAM, ME 04062

4/20-A	SUSAN D FORTIER	105 RIVER ROAD WINDHAM, ME 04062
4/20-D	BRUCE B 7 JANET P RAEBURN	17 BRACKETT FARM LANE WINDHAM, ME 04062
4/20-H	JOSEPH MCGEE & MEGAN FORTIER	6 BRACKETT FARM LANE WINDHAM, ME 04062
4/20-H01	ANTONIO 7 KATHRYN VILLACCI	2 GILBERT DRIVE STANDISH, ME 04084
4/20-I	DOUGLAS R FORTIER	47 BRACKETT FARM LANE WINDHAM, ME 04062

<u>GORHAM PARCEL:</u>

49/1	ROGER MASON	284 MOSHER ROAD GORHAM, ME 04038
34/7	ABBOTT MASON	294 MOSHER ROAD GORHAM, ME 04038
34/17	PHILIP & ANN MASON	59 HAYFIELD DRIVE GORHAM, ME 04038

SECTION 7

RIGHT, TITLE OR INTEREST DOCUMENTS

DLN: 3773105

WARRANTY DEED

Know All By These Presents that I, **Michael E. Tevanian, a/k/a Michael Tevanian**, of 135 Main Street, Westbrook, ME 04092, for consideration paid, grant to **Michael E. Tevanian**, of 135 Main Street, Westbrook, ME 04092, with **WARRANTY COVENANTS**, the following real property:

A certain parcel of land situated on the southwesterly side of River Road in the Town of Windham, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of River Road at land now or formerly of Fortier Living Trust as described in a deed recorded in Book 40893 Page 238 in the Cumberland County Registry of Deeds;

Thence S 43° 31' 29" W, by and along the southwesterly sideline of River Road, a distance of 93.75 feet;

Thence S 46° 28' 31" W a distance of 291.71 feet;

Thence southwesterly by and along a curve concave to the left having a radius of 275.00 feet, an arc distance of 62.65 feet;

Thence S 28° 05' 00" W a distance of 396.89 feet to land now or formerly of Holly Dickinson-Amidon as described in a deed recorded in Book 41239 Page 316 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W, by and along land of Holly Dickinson-Amidon, a distance of 2349.26 feet to the northeasterly sideline of the Mountain Division Rail Line;

Thence N 33° 57' 48" W, by and along land of the Mountain Division Rail Line, a distance of 506.54 feet to land now or formerly of Joseph Harry Carlin as described in a deed recorded in Book 37889 Page 80 in the Cumberland County Registry of Deeds;

Thence N 47° 55' 36" E, by and along land of Joseph Harry Carlin and land of Fortier Living Trust, a distance of 2724.87 feet to the Point of Beginning.

The parcel contains approximately 27.92 acres.

Bearings are Grid North.

Reference is made to a plan entitled Lot Division Plan 100 River Road Windham, Maine for: Michael Tevanian dated 2-12-2026 by DM Roma Consulting Engineers.

For title, reference is made to deeds recorded in the Cumberland County Registry of Deeds in Book 25337, Page 227 and Book 25337, Page 230. Further reference is made to an Abstract of Divorce Judgment recorded in said Registry in Book 34307, Page 30.

[*Signatures on following page*]

DOC :12446 BK:42154 PG:256
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
04/02/2026, 12:13:14P
Register of Deeds Jessica M. Spaulding E-RECORDED

In Witness Whereof, I, the said **Michael E. Tevanian, a/k/a Michael Tevanian**, hereunto set my hands and seal this 19th day of March, 2026.

Michael E. Tevanian, a/k/a Michael Tevanian

STATE OF MAINE
COUNTY OF CUMBERLAND

The foregoing instrument was acknowledged before me this 19th day of March, 2026, by Michael E. Tevanian, a/k/a Michael Tevanian to be his free act and deed.

Notary Public/Attorney at law

KEVIN J. GERSPACH
MAINE BAR #6477

OPTION TO PURCHASE REAL PROPERTY AT 100 RIVER ROAD, WINDHAM, ME

This Option to Purchase Real Property at 100 River Road Windham, ME ("option") is an agreement between Row Even LLC, a Maine limited liability company, or its assignees, and Michael E. Tevanian, an adult individual, with the terms more fully described below:

1. Row Even LLC or its assignees shall have the option to purchase real property at 100 River Road in Windham, Maine more fully described in Exhibit A and depicted in Exhibit B (Parcel Map), which are attached and incorporated into this option ("the property"), from Michael E. Tevanian.

2. Michael E. Tevanian agrees and warrants that he has the unimpeded right to sign this option.

3. Row Even LLC or its assignees shall pay as consideration for this option to Michael E. Tevanian.

4. If Row Even LLC or its assignees exercise this option, Row Even LLC or its assignees will pay Michael E. Tevanian within 60 days after final approval of a subdivision of the property by the Town of Windham, Maine.

At the time of any payment by Row Even LLC, Michael E. Tevanian will convey the property or subdivided lots and any associated rights via warranty deed to Row Even LLC or its assignees and will cooperate with signing all necessary documents to convey the property or subdivided lots.

5. Row Even LLC or its assignees shall have 425 calendar days following the date of the last party to sign below to exercise this option.

6. An agent or owner of Row Even LLC or its assignees may exercise this option by notifying Michael E. Tevanian via email, text message, or written notice via hand delivery.

7. Without notice, Row Even LLC or its assignees shall have the right to inspect, survey, and perform work regarding subdivision on the property during the option period with the full cooperation of Michael E. Tevanian.

8. During the option period Michael E. Tevanian shall keep the property free from additional mortgages, encumbrances and/or liens while paying all property taxes. Michael E. Tevanian will pay off any existing mortgages, encumbrances and liens on the property no later than the closing of any or all lots on the property.

9. Upon conveyance of the property to Row Even LLC, Michael E. Tevanian shall make sure that the property is free and clear of any trust or family interests. If requested by Row Even LLC, Michael E. Tevanian shall expressly revoke any recorded transfer on death deed associated with the property.

10. This option may be recorded at the Registry of Deeds.

11. Any disputes concerning the terms of this option are subject to binding arbitration in accordance with the Maine Uniform Arbitration Act, found in Title 14 of the Maine Revised Statutes, sections 5927 through 5949 or as amended, with such arbitration taking place in Portland, Maine. The parties shall mutually agree in writing upon one neutral arbitrator located in Portland, Maine within 14 calendar days of notification of a dispute.

12. If any term in this option is held by an arbitrator or tribunal to be invalid, void, or unenforceable, the remaining terms will, nevertheless, continue in effect without being impaired or invalidated in any way.

13. Any changes to this option must be signed in a writing by both parties.

14. For valuable consideration, the parties signing below agree to the above terms of this option, with electronic or printed copies of the document having the same legal effect as an original signed version.

Date: 10/31/25

Michael E. Tevanian

STATE OF MAINE
COUNTY OF CUMBERLAND

Signed before me on 10/30/2025 by Michael E. Tevanian.

Notary Public/~~Attorney~~
Name legibly printed:
My commission expires:

STEPHANIE J. BAILEY
NOTARY PUBLIC
State of Maine
My Commission Expires
August 19, 2030

OPTION TO PURCHASE REAL PROPERTY AT 100 RIVER ROAD, WINDHAM, ME

Date: 10/30/25

Ronald D. Goddard Jr.,
Manager of Row Even LLC

STATE OF MAINE
COUNTY OF CUMBERLAND

Signed before me on 10/30/25 by Ronald D. Goddard Jr.

Notary Public/Attorney
Name legibly printed:
My commission expires:

STEPHANIE J. BAILEY
NOTARY PUBLIC
State of Maine
My Commission Expires
August 19, 2030

Exhibit A (Option to Purchase Real Property at 100 River Road, Windham, ME)

Parcel 1, Identified on Town of Windham records as Tax Map 1, Lots 8 (portion), 8-1 and 8-2:

A certain parcel of land situated on the southwesterly side of River Road in the Town of Windham, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of River Road at the eastern corner of land now or formerly of Thomas Fortier as described in a deed recorded in Book 16294 Page 21 in the Cumberland County Registry of Deeds;

Thence S 43° 31' 28" E, by and along the southwesterly sideline of River Road, a distance of 93.75 feet;

Thence S 46° 28' 31" W a distance of 291.71 feet to a point of curvature;

Thence southerly along a curve to the left, having a radius of 275.00 feet, and an arc distance of 62.65 feet to a point of tangency;

Thence S 28° 05' 00" E a distance of 396.89 feet to the westerly sideline of land now or formerly of Donald Dickinson as described in a deed recorded in Book 11721 page 67 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W a distance of 2,349.26 feet by and along said land of Dickinson to the northeasterly sideline of land now or formerly of Maine Central Railroad, at or near railroad stationing 81+48;

Thence about N 33° 57' 48" W by and along said land of Maine Central Railroad a distance of 506.64 feet to the southerly corner of land now or formerly of Harry Carlin as described in a deed recorded in Book 3060 page 67 in the Cumberland County Registry of Deeds;

Thence N 47° 55' 36" E by and along said land of Carlin a distance of 747.26 feet to the southerly corner of land now or formerly of Richard Boulanger as described

in a deed recorded in Book 20329 page 185 in the Cumberland County Registry of Deeds;

Thence continuing N 47° 55' 36" E by and along said land of Boulanger and along said land of Fournier a distance of 1,978.58 feet to the point of beginning.

Parcel 1 contains approximately 27.92 acres.

Bearings are Grid North.

Reference is made to a plan entitled "Boundary Survey, River Road and Presumpscot River, Windham, Cumberland County, State of Maine made for Mike Tevanian" dated 5-13-2007 by Lewis & Wasina, Inc. and recorded in Plan Book 207 page 448 in the Cumberland County Registry of Deeds.

Parcel 2, identified on Town of Windham records as Tax Map 1, Lot 9:

A certain parcel of land situated off, and not adjacent to, the southwesterly side of River Road on the southwesterly side of land now or formerly of Maine Central Railroad, in the Town of Windham, County of Cumberland and State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of land now or formerly of Maine Central Railroad (formerly Portland & Ogdensburg Railroad Company), at the northerly corner of land now or formerly of Donald Dickinson, as described in a deed recorded in Book 11721 page 67 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W a distance of 275.11 feet by and along said land of Dickinson to a set rebar, this rebar lying S 47° 45' 50" W a distance of 403.55 feet from a set rebar on the southeasterly line of land now or formerly of Epworth S. Moulton, Trustee of the Epworth S. Moulton Revocable Trust 2002, that are situated on the northeasterly side of Maine Central Railroad;

Thence continuing S 47° 45' 50" W along said land of Dickinson, to the Presumpscot River;

Thence continuing in a southwesterly direction along said land of Dickinson, to the thread of the Presumpscot River;

Thence in a northerly direction along the thread of the Presumpscot River to land now or formerly of Harry Carlin, as described in a deed recorded in Book 3060, page 827 in the Cumberland County Registry of Deeds;

Thence in a northeasterly direction along said land of Carlin, to the bank of the Presumpscot River;

Thence N 47° 55' 36" E by and along said land of Carlin a distance of 30 feet, more or less, to a set rebar, this rebar lines N 52° 33' 23" W a distance of 511.07 feet from the last mentioned set rebar and lying S 47° 55' 36" W a distance of 569.40 feet from a set rebar on the northwesterly line of said land of Moulton Revocable Trust situated on the northeasterly side of said land of Maine Central Railroad;

Thence continuing N 47° 55' 36" E by and along said land of Carlin a distance of 438.55 feet, more or less, to said land of Maine Central Railroad;

Thence about S 33° 57' 48" E by and along said land of Maine Central Railroad a distance of 506.68 feet, more or less, to the point of beginning.

Parcel 2 contains approximately 4.11 acres, more or less.

Bearings are Grid North.

Reference is made to a plan entitled "Boundary Survey, River Road and Presumpscot River, Windham, Cumberland County, State of Maine made for Mike Tevanian" dated 5-13-2007 by Lewis & Wasina, Inc. and recorded in Plan Book 207 page 448 in the Cumberland County Registry of Deeds.

SECTION 8

EXISTING OR PROPOSED EASEMENTS OR COVENANTS

Section 8 – Existing or Proposed Easements or Covenants

The property is intended to be developed as conservation subdivision that will include the creation of a 50' wide right of way for the construction of Eventide Drive, the subdivision road to providing access and frontage to the new proposed lots. The intent is for the roadway and right of way to be conveyed to the Town of Windham as a public road upon construction completion.

As part of the proposed improvements two existing curb cuts in River Road for 100 River Road will be eliminated. Access will then be provided from a proposed driveway extending from Eventide Drive. An easement will be provided to the homeowner to access Eventide Drive until, and if ever, the road is accepted as a public road.

An easement to the benefit of the Town of Windham will also be granted over the area extending from the end of the 50' wide right of way for Eventide Drive to the property limits. This easement is intended to provide an opportunity for a future road connection to the property to the north.

Several proposed easements are shown on the Subdivision Plan, including two (2) new easements for the proposed hammerhead turnarounds and four (4) additional easements located over the proposed lots which contain three (3) proposed stormwater BMPs.

A Homeowners Association will be created to provide the framework for maintenance of Eventide Drive, stormwater management infrastructure and the Open Space Areas. Easement documents and Homeowner's Association documents will be prepared and submitted with the Final Subdivision Plan application for review.

SECTION 9

TECHNICAL CAPACITY OF THE APPLICANT

Section 9 – Technical Capacity of the Applicant

The developer, Row Even, LLC, has hired several professionals to aid in the design and permitting of the project. These professionals are listed below:

DM Roma Consulting Engineers has been retained to perform civil engineering design and land permitting services for the project. The licensed professional engineers at DM Roma have been designing land development projects for over 20 years and have extensive experience with stormwater management design, roadway and utility engineering, site grading, erosion control design, engineering of on-site wastewater disposal systems, and regulatory permitting through local municipalities, the Maine Department of Environmental Protection, the Maine Department of Transportation, US Army Corps of Engineers and other affiliated agencies.

Survey, Inc. has been retained to perform land surveying services for the project. Bill Shippen is a Licensed Professional Land Surveyor with extensive experience in all aspects of land surveying and subdivision planning.

Mainely Soils LLC has been retained to perform subsurface soil evaluations and the wetland delineation. Alex Finamore is a Maine licensed site evaluator experienced in septic system design, natural resources investigations, soils analysis and environmental permitting.

Mark Hampton Associates has been retained to perform soil classification in accordance with the standards required by the State of Maine for High Intensity Soil Surveys. Mark Hampton is a certified soil scientist and licensed site evaluator in the State of Maine.

Main-Land Development Consultants, Inc. (MLDC) has been retained to perform hydrologic assessment for the project. MLDC also performed land surveying services on this property for a previous owner. MLDC has been providing land use planning services since its inception in 1974, and is a multi-disciplined firm that has the ability to provide comprehensive land use planning services within a single entity due to its wide range of respected professionals. MLDC employs licensed land surveyors, engineers, geologists and site evaluators.

SECTION 10

CAPACITY OF EXISTING UTILITIES TO SERVE THE PROJECT

Section 10 – Capacity of Existing Utilities to Serve the Project

Potable Water –Proposed lots will be served by private on-site potable wells.

Fire Protection Water – Sprinkler system installation will be required within all residential structures.

Electrical Service – Existing overhead power is available on River Road to serve the proposed development. Primary electrical service will be extended through the project underground and will connect to pad-mounted transformers. Secondary electrical service will be installed underground from the transformers to the dwellings.

Wastewater Disposal – The project will utilize private on-site septic disposal areas. Mainely Soils, LLC performed test pit investigations within each lot to ensure adequate soils for a first-time subsurface wastewater disposal system. A nitrate analysis has also been prepared by MLDC to ensure all disposal field size and locations meet the Maine Drinking Water program standards. Each lot will be required to have a site-specific wastewater disposal system designed by a licensed site evaluator prior to construction.

SECTION 11

SOLID WASTE DISPOSAL

Section 11 – Solid Waste Disposal

Additional tree clearing will be required prior to site construction. Tree stumps will be hauled off site by the site contractor and disposed in accordance with all applicable regulations, or ground on-site to create erosion control mix. Brush will be burned or chipped.

During construction of the buildings, temporary on-site dumpsters will be placed on the property and emptied by a licensed waste hauling company.

As the road is anticipated to be accepted by the Town as a "Public Road", Town trash collection could be a future consideration. Until that time, the Homeowner's Association will contract with a private waste hauler for trash disposal generated by the residents of the subdivision

We do not anticipate that the project will create any hazardous solid waste that will require special treatment.

SECTION 12

ROADWAY ACCESS

Section 12 – Roadway Access

Public Road proposed.

SECTION 13

CONSERVATION SUBDIVISION – OPEN SPACE DESIGN

Section 13 – Conservation Subdivision – Open Space Design

The project has been designed in accordance with the standards outlined in Section 911.K of the Land Use Ordinance which specifies the standards and procedures for developing Conservation Subdivisions in the Town of Windham. The area designated as open space has been delineated based upon an evaluation of the site and the identification of Primary and Secondary Conservation Areas. The property contains a total of 13.87 acres of land proposed within four (4) proposed open space areas as delineated on the Subdivision Plan. We have designed the building envelopes so that a 50-ft setback is maintained around the perimeter of the overall subdivision lot.

Strict adherence to the Minimum Required Open Space standards would have negative impacts to the project because it would require a shorter road and narrower lots that are even more clustered together than what we are currently proposing. We have requested a waiver from this standard. However, as part of the waiver request consideration the applicant is willing to deed the land to the west of the Mountain Division Rail Trail to the Town to be used as access and conservation land adjacent to the Presumpscot River, and this area could provide public access to the Presumpscot River from the Mountain Division Rail Trail.

SECTION 14

VEHICLE TRAFFIC

Section 14 – Vehicle Traffic

The project consists of 17 residential dwelling units.

The Institute of Transportation Engineers (ITE) Trip Generation handbook (10th edition) estimates that single-family detached housing (Land Use Code #210) is expected to generate the following vehicle trips:

Weekday	= 9.44 trips per dwelling unit
AM Peak Hour	= 0.74 trips per dwelling unit
PM Peak Hour	= 0.99 trips per dwelling unit

Accordingly, the proposed 17 single-family homes can be expected to generate a total of 161 trips during a typical weekday, 13 trips in the morning peak hour and 17 trips in the evening peak hour.

The ITE Handbook also provides the following directional distribution rates for a single-family home:

AM Peak Hour	= 25% enter site and 75% exit site
PM Peak Hour	= 63% enter site and 37% exit site

Based upon the above distribution patterns, 3 trips during the morning peak hour and 11 trips during the evening peak hour will enter the site. Accordingly, 10 trips during the morning peak hour and 6 trips during the evening peak hour will exit the site.

SECTION 15

IMPACT TO IMPORTANT OR UNIQUE NATURAL AREAS

Section 15 – Impact to Important or Unique Natural Areas

The attached review letter from the Maine Department of Inland Fisheries and Wildlife (DIFW) indicates there are no significant wildlife habitats located within the vicinity of the proposed development. We have also included a letter from the Maine Natural Areas Program indicating that there are no rare or threatened botanical species documented in the project area.

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

October 21, 2025

Dustin Roma
DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062

RE: Information Request - 100 River Road, Subdivision, Windham Project ID 9551-11083

Dear Dustin:

Per your request received on **September 29, 2025**, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other protected natural resource concerns within the vicinity of the ***100 River Road, Subdivision, Windham*** project, pursuant to MDIFW's authority. It is understood the project proposes a residential subdivision with open space plans as shown in the site plan (dated 9/18/2025). It is understood the project will require tree clearing and stream crossings. Given this scope, we have tailored our review accordingly. Please note our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be affected by this project.

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

Bat Species
Of the eight species of bats that occur in Maine, four species are afforded protection under Maines Endangered Species Act (MESA, 12 M.R.S 12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Department does not anticipate significant impacts to any of the bat species as a result of project activities.

SIGNIFICANT WILDLIFE HABITAT

Significant Vernal Pools
At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on

MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Therefore, their absence from resource maps is not necessarily indicative of an absence on the ground.

Our Department recommends that any potential Significant Vernal Pool depressions be avoided as well as the 250-feet surrounding the pool, which is the associated Critical Terrestrial Habitat. If not already completed, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

AQUATIC RESOURCES

Fish Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species.

Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we

recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

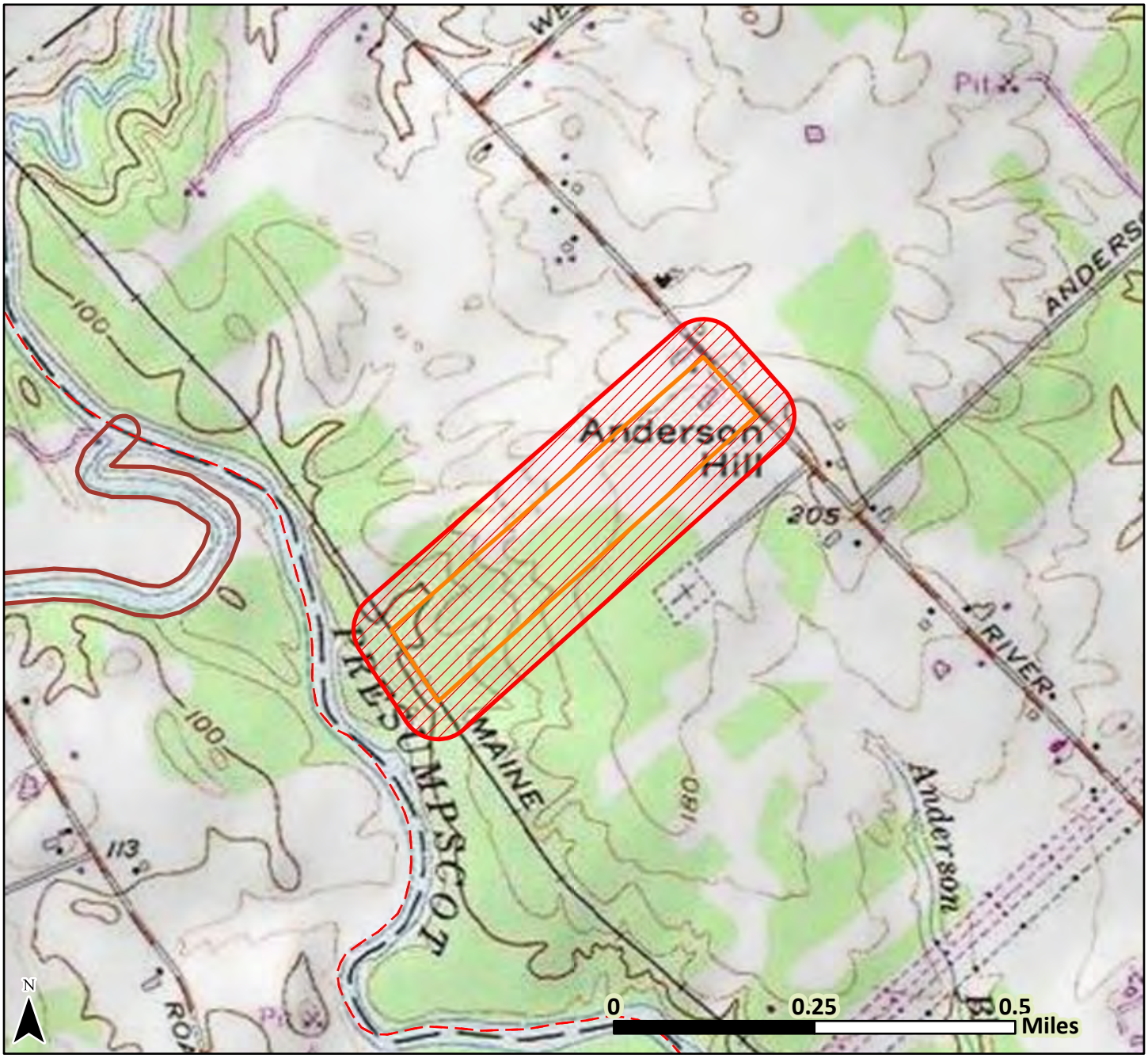


Laura Hatmaker
Natural Resource Biologist

Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

100 River Road, Subdivision, Windham

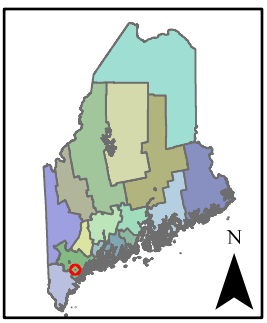
Project ID 9551, Version ID 11083



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.

- County Boundary
- Township Boundary
- Project Footprint
- Search Area
- Special Concern Fish

Date: 10/6/2025
UTM Zone 19N, NAD83



This map contains sensitive information - do not distribute it beyond the project applicant, consultant, or the permitting agency.

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 16, 2025

JP Connolly
DM Roma
PO Box 1116
Windham, ME 04062

Via email: jp@dmromal.com

Re: Rare and exemplary botanical features in proximity to: Project #23056, 100 River Road Subdivision, Windham, Maine

Dear JP Connolly:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received September 30, 2025 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Windham, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are also no other rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

The land use history, landform, topography, and current land use at the project site indicate that the site does not currently have suitable habitat for Small Whorled Pogonia. MNAP does not recommend a survey for this species at this location and finds that the project is Not Likely to Adversely Affect this species.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #23056, 100 River Road Subdivision, Windham, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	1860-10	9	Rocky summits and outcrops (non-forested, upland),Dry barrens (partly forested, upland)
American Sea-blite						
	T	S2	G5	1932-09-12	5	Tidal wetland (non-forested, wetland)
Beach Plum						
	E	S1	G4	1933-05-19	10	Rocky coastal (non-forested, upland)
Broad Beech Fern						
	SC	S2	G5	1872-08	15	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	E	S1	G5	2000-06-06	5	Dry barrens (partly forested, upland)
Columbian Watermeal						
	SC	S2	G5	2016-09-12	11	Open water (non-forested, wetland)
Creeping Spike-moss						
	E	S2	G5	2008-09-25	12	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)

Creeping Spike-moss					
	E	S2	G5	1924-08-21	8	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Dioecious Sedge					
	SC	S3	G4G5	1936-07-14	7	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
Ebony Spleenwort					
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Engelmann's Spikerush					
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Fern-leaved False Foxglove					
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Great Blue Lobelia					
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested, seasonally wet)
Hollow Joe-pye Weed					
	SC	S2	G5	2014-06-18	24	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Horned Pondweed					
	SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
	SC	S2	G5	1972-06-13	3	

Horned Pondweed					
					Tidal wetland (non-forested, wetland)
Marsh Milkwort					
PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not coastal nor rivershore (non-forested, wetland)
Missouri Rockcress					
T	S1	G5	1905-06-11	5	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Mountain Honeysuckle					
E	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Parker's Pipewort					
SC	S3	G3	1924-08-20	8	Tidal wetland (non-forested, wetland)
Pitch Pine Woodland					
	S3	G2	2005-12-08	28	
Screwstem					
T	S1	G5T3T5	2020-09-17	4	
Small Reed Grass					
SC	S3	G5	2011-08-28	18	Old field/roadside (non-forested, wetland or upland)

Southern Bog-clubmoss					
E	S1	G5	2011-08-31	1	Open wetland, not coastal nor rivershore (non-forested, wetland),Non-tidal rivershore (non-forested, seasonally wet)
Spo ed Pondweed					
T	S1	G5	2016-06-22	3	Open water (non-forested, wetland)
Upper Floodplain Hardwood Forest					
	S3	GNR	2017-06-14	63	
Vasey's Pondweed					
SC	S2	G4	1901-08-04	7	Open water (non-forested, wetland)
Water-plantain Spearwort					
PE	SH	G4	1862-08	3	Open water (non-forested, wetland)

Date Exported: 10/2/2025

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

SECTION 16

STORMWATER MANAGEMENT

Section 16 – Stormwater Management

The project has been designed in accordance with the standards found in the Maine Department of Environmental Protection (Maine DEP) Chapter 500 regulations and the Town of Windham Land Use Ordinance. We understand that the project is required to comply with the Post-Construction Stormwater Management Ordinance and that annual inspections and certifications will be required by the Town. Included in this section is further information related to the stormwater design and applicable review standards.

DM ROMA
CONSULTING ENGINEERS

STORMWATER MANAGEMENT REPORT

EVENTIDE SUBDIVISION
WINDHAM, MAINE

A. Narrative

Row Even, LLC, the applicant, are proposing to develop a 27.9-acre parcel at 100 River Road in Windham, Maine, identified as Lot 8 (a portion of), 8-1, and 9 on the Town of Windham Assessor's Map 1.

The applicant is proposing a 17-lot single-family residential subdivision. The property is located in the Farm zone and the project will be designed utilizing the standards for a Conservation Subdivision. The existing parcel contains two single-family detached homes, which will be retained on a 3.7-acre lot with 200 feet of frontage on River Road. The remaining land will be subdivided including the construction of a new subdivision road that will provide access from River Road to the new lots.

B. Existing Conditions

The existing project site consists of existing residential development, undeveloped meadow (hay fields) and woodland. The project property also abuts the Mountain Division Rail Trail to the southwest. In the location of the project site, the land is moderately sloped (3%-8%) with steeper slopes at the limits of the meadow to the southwest as steep as 3H:1V. A Class A High Intensity Soil Report and Map were prepared by Mark Hampton Associates, Inc. and utilized in the stormwater analysis. The report has been included as Attachment 1 of this report and the map has been included in the design plan set. Additional test pits are planned to be excavated in the general locations of the proposed Best Management Practices, described in later sections of this report. Test pit logs that have been performed have also been included as Attachment 1 of this report.

In general, the majority of the property drains to the west and northwest, ultimately into the Presumpscot River. A smaller portion of the site's runoff is tributary to River Road, draining to the road and being conveyed under River Road in an existing road culvert. Stormwater discharge from the existing road culvert is initially conveyed overland, then captured in a constructed swale that conveys stormwater to the north behind the existing residence at the southeasterly corner of River Road and Brackett Farm Lane. The drainage swale appears to have been constructed and is part of a series of agricultural related drainage swales, that confluence on the property that operates as Winny Knowl Farm, before crossing under River Road (east to west) and continuing to drain to the west before discharging into an existing farm pond. Discharge from the existing farm pond is ultimately conveyed overland to the Presumpscot River.

The westerly portion of the site consists of meadow (hayfields) and woodland, and also consists of finger like wetland complex, and two streams that cross the site in a south to north direction. One of the streams (westerly stream) will be crossed with the proposed subdivision road, and just before the terminus of the proposed subdivision road a wetland finger is also crossed.

The site's downstream waterbodies are not identified by the Maine Department of Environmental Protection (MDEP) as Urban Impaired Streams in Chapter 502.

C. Alterations to Land Cover

Based on the proposed roadway and approximated lot development, the project will generate approximately 104,499 square feet (2.40± acres) of impervious surfaces. The project will also generate approximately 338,090 square feet (7.76± acres) of lawn, landscaping, and best management practices, resulting in a total project developed area of 442,589 square feet (10.16± acres).

Since the project will result in the construction of over one (1) acre of impervious surface and over five (5) acres of developed area, the project will be required to obtain a Stormwater Permit from the MDEP. As part of the requirements of the Stormwater Permit, the project will need to meet the Basic and General Standards of the MDEP Chapter 500 Stormwater Management regulations. The development is also subject to review by the Town of Windham Planning Board. The current land use ordinance requires that new developments meet the Basic, General and Flooding Standards of the MDEP Chapter 500 Stormwater Management regulations.

D. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing stormwater quality improvement measures. The goal of the storm drainage system design is to remove potential stormwater pollutants from runoff generated by the development while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains, and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2-, 10- and 25 years was obtained from Appendix H of the MDEP, Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

E. Basic Standards

The project is required by the MDEP and Town to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

F. General Standard

The proposed project is required to meet the General Standard outlined in the MDEP Chapter 500 to provide water quality treatment for portions of the site development. Based on the calculation provided in Section 4C(2)(a) related to the amount of the property being developed and its

corresponding treatment standards in Table 1 in Chapter 500, the project will require the treatment of more than 90% of the site's impervious area and more than 75% of the total developed area. This calculation is included as Attachment 2 of this report. The General Standard will be met by incorporating the construction of five (5) underdrained filter basins as part of the project's stormwater infrastructure. In addition, roofline drip edges will be installed around each of the buildings to provide the required treatment.

As a result of the proposed stormwater infrastructure, treatment is provided for over 94% of the project's impervious surface and over 76% of the site's developed area. The General Standards calculations have been included as Attachment 2 in this report.

Included as Attachment 3 of this report are the sizing calculations for the proposed underdrained filter basins. These calculations include:

- Storage Volume and Basin Floor surface area meeting *Chapter 7.1 Grassed Underdrained Soil Filter BMP* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP.
- Sediment pre-treatment calculations
- Spillway sizing calculations demonstrating one foot of freeboard to the top of berm during the 25-year storm event assuming failure of the other discharge devices.
- Hydrograph tables demonstrating the outlet controls the release of stormwater from the basins between 24 and 48 hours.
- Sizing calculations for the level spreaders located at the outfall of the discharge pipe from the basins meeting the sizing standards identified in *Section G(4) Level Spreaders* in Maine Erosion and Sediment Control Best Management Practices Manual for Designers and Engineers prepared by the MDEP.

The locations and construction detail of the proposed roofline dripedges have been included on the construction details sheets and the sizing calculations to meet *Chapter 7.5 Roof Dripline Filters* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP have been included as Attachment 4 of this report.

G. Flooding Standard

The project is required by the Town of Windham to meet the MDEP Chapter 500 Flooding Standard indicating the project must detain, retain, or result in the infiltration of stormwater from the 24-hour storms of the 2-year, 10-year and 25-year frequencies such that the peak flows of stormwater generated by the project site do not exceed the peak flows of stormwater prior to undertaking the project. To demonstrate compliance with the Flooding Standard, five (5) study points were analyzed.

The study points utilized in the stormwater analysis are located where runoff generated by the site is collected and discharged across the property limits. Study Point SP-1 through SP-4 drain in a northwesterly direction onto the abutting property to the north, and SP-5 drains to the River Road right of way and into the existing roadway culvert. All study points ultimately discharge to the Presumpscot River.

The results of the stormwater model incorporating the stormwater best management practices are summarized below in Table 1:

Table 1 – Peak Rates of Stormwater Runoff						
Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP-1	6.41	5.60	13.93	13.17	20.53	20.28
SP-2	9.93	9.55	22.13	20.82	32.93	30.66
SP-3	3.91	1.74	8.28	3.93	12.09	5.2
SP-4	1.46	0.28	3.10	0.62	4.53	0.93
SP-5	4.30	3.25	9.33	10.92	13.75	14.62

As illustrated in Table 1, the proposed project's design, including the integration of the proposed BMPs, reduces the peak rates of runoff at Study Points SP-1, SP-2, SP-3, and SP-4 in all the modeled storm events.

In developing the project's stormwater design, we were particularly concerned with the discharge of stormwater at SP-4 in the developed condition. SP-4 is located along the northerly property limit between an existing single-family residence and River Road. At this location there is a small depression adjacent to an existing driveway that doesn't appear to have any drainage improvements. As a result, the depression fills during a rain storm event and overtops the gravel driveway. To alleviate the concern of runoff overtopping abutting gravel driveway, the goal was to minimize stormwater discharge at this location and re-direct it to the existing formalized drainage system in River Road. Therefore, Underdrained Filter Basin (FB-4) was designed with a spillway and underdrain system that drains to FB-5 whose outlets discharge to the road side swale and existing culvert in River Road. Both underdrained filter basins FB-4 and FB-5 have been oversized to provide as much mitigation of the post-developed discharge as possible. With this design the discharge to SP-4 in the developed condition is reduced by 80% or more in comparison to the existing condition during all storm events.

With re-directing the runoff from the abutting driveway to the north, the design does result in an approximately 17% increase in peak rates of runoff during the 10-year storm event and approximately 6.3% increase in peak rates of runoff during the 25-year storm event. The stormwater design does provide a significant decrease in runoff leaving the property during the more frequent 2-year storm event. We anticipate this increase in discharge during the 10-year and 25-year storm event at SP-5 will not create a significant downstream flooding hazard as discharge is conveyed to a formalized drainage system conveying runoff below River Road and into well-established drainage swales constructed for agricultural purposes. Once discharged on the west side of River Road, stormwater is conveyed overland and discharges into a large farm pond, which is then discharged into a constructed drainage swale that empties into a natural drainage path before discharging into the Presumpscot River. Since the increased flow at SP-5 is relatively small, we do not anticipate pipe capacity problems, significant downstream flooding or increased erosion as a result of the proposed project. As such we also believe that this design will benefit the existing residential property to the north by significantly reducing the flows over their driveway from the existing conditions.

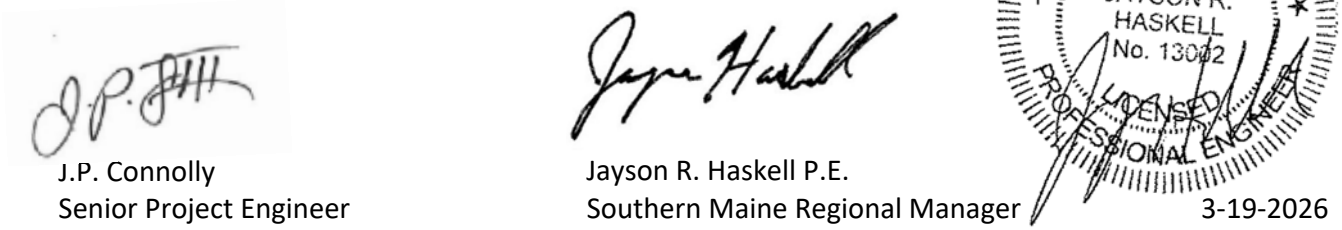
The watershed maps showing pre-development and post-development drainage patterns are included in the plan set and the computations performed with the HydroCAD software program are included as Attachment 5 of this report.

H. Maintenance of common facilities or property

The applicant will be responsible for the maintenance of the stormwater facilities until a homeowner's association is created. The responsibility will then be conveyed to the association. An Inspection, Maintenance and Housekeeping Plan for the project has been created and has been included as Attachment 6 of this report.

Prepared by:

DM ROMA CONSULTING ENGINEERS



J.P. Connolly
Senior Project Engineer

Jayson R. Haskell P.E.
Southern Maine Regional Manager

3-19-2026

ATTACHMENT 1

CLASS A – HIGH INTENSITY SOIL SURVEY REPORT & STORMWATER DEVICE TEST PITS

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100 River Road
Windham, ME
DM Roma Consulting Engineers

Soil Narrative Report

DATE:	Soil Profiles observed on September 23, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers Scale 1 inch equals 100 feet and two foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 100 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with two foot contours and ground control provided.

P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Mark J. Hampton C.S.S. #216, L.S.E. #263 9/29/25

Mark J. Hampton Date



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100 River Road
Windham, ME
DM Roma Consulting Engineers

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%, (C) 8-15%, (D) 15-25%

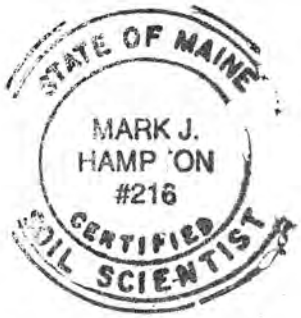
COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Olive brown, silt loam, 8-15"
Subsoil Layer:	Olive gray silty clay loam, 15-32"
Substratum:	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Scantic, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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100 River Road
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Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A)3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Scantic



USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Subsoil Layer:	Olive silty clay loam, 16-29"
Substratum:	Olive gray clay loam, 29-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

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#216
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INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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100 River Road
Windham, ME
DM Roma Consulting Engineers

Made Land

SETTING

PARENT MATERIAL:	Derived from various fill materials.
LANDFORM:	N/A
POSITION IN LANDSCAPE:	N/A
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Generally well drained to moderately well drained
TYPICAL PROFILE:	Varies in profile and onsite from gravel to sandy loam
HYDROLOGIC GROUP:	Group B
SURFACE RUNOFF:	Rapid
PERMEABILITY:	Slow
DEPTH TO BEDROCK:	Less than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine

USE AND MANAGEMENT

Development: There may be limiting factors for building site development.

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton | Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD | Slope: 4 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine | Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

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Name Printed

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-9 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Scantic

Limiting Factor: Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No

Hydrologic Soil Group:

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Signature

09/29/2025
Date

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-13 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bw	Brown	F. Sandy Loam	Fine Grandul	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-17 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 4 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-18 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton | Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD | Slope: 10 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-19 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Soil Details: Soil Series/Phase Name: | Limiting Factor: ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD | Slope: Percent | Hydric Soil: ☐ No ☐ Yes | Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Mark J. Hampton
Name Printed

09/29/2025
Date

216
SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST affix professional seal

ATTACHMENT 2

GENERAL STANDARDS CALCULATIONS

Stormwater Treatment Requirements

Pecentage of Developed Area to Land Available for Development

Total Land Area=	1,376,614	sf	
Deductions			
Area Slopes Steeper than 25%	5,458	sf	
Area Protected Natural Resources	100,927	sf	
Total Available Land for Development	**1,270,229**	**sf**	
Total Developed Area	**525,237**	**sf**	**442,589**

% of Developed Area to Land Available for Development=	**41%**

From Table 1 Stormwater Treatment Based on Percentage of Parcel Developed of Chapter 500 Stormwater Management Rules for <60% of site developed

Percentage of Total Impervious Area Requiring Treatment=	**90%**
Percentage of Total Developed Area Requiring Treatment=	**75%**

DM ROMA
CONSULTING ENGINEERS

Eventide Subdivision - 100 River Road Windham
Calculated by: JPC
Printed 3/4/2026
Job #23056

Stormwater Treatment Table

	Total Watershed Area (SF)	New Roof Area (SF) **	New Paved/Gravel Area (SF)	New Landscaped Area (SF)	Existing/Offsite Impervious Area (SF)*	Existing/Offsite Landscaping Area (SF)*	Existing Undeveloped Area (SF)	Treatment Provided	New Impervious Area Treated (SF)	New Landscaped Area Treated (SF)	Treatment Device
WS-1***	121,736	0	0	26,949	0	0	94,322	No	0	0	None
WS-1B**	288	288	0	0	0	0	0	Dripedge	288	0	Dripedge Only
WS-11	47,205	0	9,500	37,693	0	0	12	Yes	9,500	37,693	Filter Basin -FB1
WS-11B**	2,412	2,412	0	0	0	0	0	Dripedge	2,412	0	Dripedge Only
WS-12	192,518	0	4,796	48,987	693	2,895	135,147	Yes	4,796	48,987	Filter Basin -FB2
WS-12B**	6,251	6,251	0	0	0	0	0	Dripedge	6,251	0	Dripedge Only
WS-13	1,985	0	1,871	114	0	0	0	Yes	1,871	114	Filter Basin -FB1
WS-14***	20,826	0	0	4,116	0	0	16,385	No	0	0	None
WS-2***	112,063	0	1,105	30,491	0	0	80,013	No	0	0	None
WS-2B**	3,600	3,600	0	0	0	0	0	Dripedge	3,600	0	Dripedge Only
WS-21***	401,112	0	0	24,534	5,394	20,145	350,531	No	0	0	None
WS-21B**	3,277	3,277	0	0	0	0	0	Dripedge	3,277	0	Dripedge Only
WS-22	4,284	0	4,125	159	0	0	0	Yes	4,125	159	Filter Basin -FB1
WS-23	4,209	0	4,023	186	0	0	0	Yes	4,023	186	Filter Basin -FB1
WS-24	20,075	0	7,804	12,272	0	0	0	Yes	7,804	12,272	Filter Basin -FB1
WS-24B**	1,512	1,512	0	0	0	0	0	Dripedge	1,512	0	Dripedge Only
WS-25	23,026	0	7,465	15,561	0	0	0	Yes	7,465	15,561	Filter Basin -FB1
WS-25B**	2,329	2,329	0	0	0	0	0	Dripedge	2,329	0	Dripedge Only
WS-26	266	0	266	0	0	0	0	Yes	266	0	Filter Basin -FB1
WS-3	29,031	0	0	2,855	0	8,766	17,410	No	0	0	None
WS-31*	55,285	0	0	26,438	0	0	28,846	Yes	0	26,438	Filter Basin -FB3
WS-31B**	2,700	2,700	0	0	0	0	0	Dripedge	2,700	0	Dripedge Only
WS-4	9,898	0	0	4,070	0	0	5,828	No	0	0	None
WS-41	41,249	0	10,723	28,101	0	0	2,425	Yes	10,723	28,101	Filter Basin -FB4
WS-41B**	2,088	2,088	0	0	0	0	0	Dripedge	2,088	0	Dripedge Only
WS-5	271,906	0	4,229	0	32,366	59,363	175,948	No	0	0	None
WS-51	102,079	0	0	4,581	9,809	11,580	76,109	No	0	0	None
WS-51B**	612	612	0	0	0	0	0	Dripedge	612	0	Dripedge Only
WS-52	167,531	0	13,881	60,689	2,942	7,968	82,051	Yes	13,881	60,689	Filter Basin -FB5
WS-52B**	5,531	5,531	0	0	0	0	0	Dripedge	5,531	0	Dripedge Only
WS-53	14,030	0	3,734	10,296	0	0	0	Yes	3,734	10,296	Filter Basin -FB5
WS-54	5,956	0	377	0	1,212	4,366	0	No	0	0	None
Total		**30,600**	**73,899**	**338,090**					**98,788**	**240,495**	

* The project is not taking credit for the Existing / Offsite impervious and landscaped areas, but are included in the BMP sizing calculations for each treatment device.
** All buildings shall install a roofline drip edge to provide treatment for the rooftop impervious surface.
The building's impervious area is included in the watershed and overall treatment calculations below, but not included
in the BMP sizing calculations for the wet pond or the underdrained filter basins.
*** Development associated with wetland & stream road crossings are exempt from the Chapter 500 General Standards:

WS-1 - 465.44± sf Grass WS-2 - 454.59± sf Grass
WS-14 - 324.77± sf Grass WS-21 - 507.13± sf Grass

New Impervious Area =	104,499	
New Impervious Area Requiring Treatment (90%)	94,049	
Provided New Impervious Treatment=	98,788	
	95%	New Impervious Area Treated
New Developed Area =	442,589	
New Developed Area Requiring Treatment (75%)=	331,942	
New Developed Area Treated=	339,282	
	77%	New Developed Area Treated

ATTACHMENT 3

UNDERDRAINED FILTER BASIN SIZING CALCULATIONS

Underdrained Filter Basin Sizing Calculations

Filter Basin 1

Tributary Impervious Area=	35,054	sf	(WS-11, 13 & 22-26 Impervious Area)
Tributary Landscaped Area=	65,985	sf	(WS-11, 13 & 22-26 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 5,121 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
138	3,169	0
139.5	4,235	5,533
140	4,624	7,747

Outlet Elevation = 139.50

Storage Volume Provided= 5,533 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 3,072 sf

Filter Area Provided = 3,169 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 35,054 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 44.7 cf

Sediment Volume (Provided): 100.5 cf > Required

Runoff is collected in four (4) CB's, and discharged into grassed swale:

CB/DMH with 2' sump = 25.13 cf of storage;

Total storage provided:

(4x 25.13) = **100.52 cf**

Level Spreader Sizing Calculations

Length of Level Spreader = Stormwater discharge flow during the 10-year storm event x 1/4" per foot

10-year discharge flow = 2.58 cfs

Required Length of Level Spreader = 10.32 ft

Provided Length of Level Spreader = 15 ft > Required

FILTER BASIN FB-1- SPILLWAY RUN

Summary for Pond FB1:

[62] Hint: Exceeded Reach R1 OUTLET depth by 2.99' @ 12.35 hrs

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 9.03 cfs @ 12.14 hrs, Volume= 36,499 cf
Outflow = 6.64 cfs @ 12.28 hrs, Volume= 24,493 cf, Atten= 27%, Lag= 8.6 min
Primary = 6.64 cfs @ 12.28 hrs, Volume= 24,493 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 141.25' @ 12.28 hrs Surf.Area= 5,795 sf Storage= 14,248 cf

PEAK WS ELEV. = 141.25
TOP OF BERM = 142.25
FREEBOARD =
142.25-141.25 = 1.00'

Plug-Flow detention time= 177.9 min calculated for 24,493 cf (67% of inflow)
Center-of-Mass det. time= 79.4 min (883.2 - 803.9)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	18,876 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
138.00	3,169	223.6	0	0	3,169
140.00	4,624	261.3	7,747	7,747	4,702
142.00	6,561	317.8	11,129	18,876	7,370

Device	Routing	Invert	Outlet Devices
#1	Primary	140.85'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	135.73'	**12.0" Round Culvert X 0.00** L= 39.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 135.73' / 135.50' S= 0.0058 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	139.50'	**8.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	140.75'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#5	Device 2	135.83'	**1.2" Vert. 1-1/4" DRILL HOLE IN END CAP** C= 0.600
#6	Device 5	135.83'	**4.0" Vert. 4" UD** C= 0.600
#7	Device 6	138.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=6.58 cfs @ 12.28 hrs HW=141.25' TW=135.91' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 6.58 cfs @ 1.65 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=138.00' TW=135.50' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)
  └─**5=1-1/4" DRILL HOLE IN END CAP** (Passes 0.00 cfs of 0.06 cfs potential flow)
    └─**6=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**7=Exfiltration** (Passes 0.00 cfs of 0.18 cfs potential flow)

FILTER BASIN FB-1- DRAWDOWN

23056 - DEVELOPED

Type III 24-hr WQ Event - FB-1 Rainfall=2.22"

Prepared by DM ROMA CONSULTING ENGINEERS

Printed 3/4/2026

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Hydrograph for Pond FB1:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	138.00	0.00	**0.00**	0.00
2.50	0.00	0	138.00	0.00	0.00	0.00
5.00	0.00	0	138.00	0.00	0.00	0.00
7.50	0.01	0	138.00	0.01	0.00	0.01
10.00	**0.03**	0	138.00	0.03	0.00	0.03
12.50	**0.91**	3,452	138.99	0.07	0.00	0.07
15.00	0.15	5,216	139.42	0.07	0.00	0.07
17.50	0.08	**5,539**	**139.50**	**0.07**	0.00	**0.07**
20.00	0.05	**5,452**	**139.48**	**0.07**	0.00	**0.07**
22.50	0.04	5,241	139.43	0.07	0.00	0.07
25.00	0.00	4,842	139.33	0.07	0.00	0.07
27.50	0.00	4,216	139.18	0.07	0.00	0.07
30.00	0.00	3,605	139.02	0.07	0.00	0.07
32.50	0.00	3,009	138.87	0.07	0.00	0.07
35.00	0.00	2,429	138.71	0.06	0.00	0.06
37.50	0.00	1,864	138.56	0.06	0.00	0.06
40.00	0.00	1,315	138.40	0.06	0.00	0.06
42.50	0.00	784	138.24	0.06	0.00	0.06
45.00	0.00	270	138.08	0.06	0.00	0.06
47.50	0.00	0	138.00	0.00	0.00	0.00
50.00	0.00	0	138.00	0.00	0.00	0.00
52.50	0.00	0	138.00	0.00	0.00	0.00
55.00	0.00	0	138.00	0.00	0.00	0.00
57.50	0.00	0	138.00	0.00	0.00	0.00
60.00	0.00	0	138.00	0.00	0.00	0.00
62.50	0.00	0	138.00	0.00	0.00	0.00
65.00	0.00	0	138.00	0.00	0.00	0.00
67.50	0.00	0	138.00	0.00	0.00	0.00
70.00	0.00	0	138.00	0.00	0.00	0.00
72.50	0.00	0	138.00	0.00	0.00	0.00
75.00	0.00	0	138.00	0.00	0.00	0.00
77.50	0.00	0	138.00	0.00	0.00	0.00
80.00	0.00	0	138.00	0.00	0.00	0.00
82.50	0.00	0	138.00	0.00	0.00	0.00
85.00	0.00	0	138.00	0.00	0.00	0.00
87.50	0.00	0	138.00	0.00	0.00	0.00
90.00	0.00	0	138.00	0.00	0.00	0.00
92.50	0.00	0	138.00	0.00	0.00	0.00
95.00	0.00	0	138.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 47.5 HRS
DRAWDOWN TIME = 47.5-17.5 = 30 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 2

Tributary Impervious Area=	5,489	sf	(WS-12 Impervious Area)
Tributary Landscaped Area=	51,883	sf	(WS-12 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 2,187 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
146	1,349	0
147.25	2,290	2,248
148	2,973	4,216

Outlet Elevation = 147.50

Storage Volume Provided= 2,248 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,312 sf

Filter Area Provided = 1,349 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 5,489 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 7.0 cf

Sediment Volume (Provided): 100.5 cf > Required

Runoff is collected in four (4) CB's, two (2) DMH's and one (1) Type F CB's:

CB/DMH with 2' sump = 25.13 cf of storage; Type F CB with 2' sump = 8 cf of storage

Total storage provided:

(4x 25.13) = **100.52 cf**

FILTER BASIN FB-2 - SPILLWAY RUN

Summary for Pond FB2:

Inflow Area = 198,769 sf, 5.56% Impervious, Inflow Depth = 3.31" for 25-Year event
Inflow = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf
Outflow = 11.38 cfs @ 12.33 hrs, Volume= 49,101 cf, Atten= 2%, Lag= 2.2 min
Primary = 11.38 cfs @ 12.33 hrs, Volume= 49,101 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 149.01' @ 12.33 hrs Surf.Area= 3,919 sf Storage= 7,700 cf

PEAK WS ELEV. = 149.01
TOP OF BERM = 150.0
FREEBOARD =
150.0-149.01 = 0.99' => 1.0'

Plug-Flow detention time= 76.1 min calculated for 49,101 cf (90% of inflow)
Center-of-Mass det. time= 26.1 min (863.5 - 837.4)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	12,068 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	1,349	239.6	0	0	1,349
148.00	2,973	292.5	4,216	4,216	3,651
150.00	4,963	356.5	7,851	12,068	7,020

Device	Routing	Invert	Outlet Devices
#1	Primary	148.45'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	143.73'	**12.0" Round Culvert X 0.00** L= 47.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 143.73' / 143.50' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	143.83'	**0.8" Vert. 13/16" DRILL HOLE IN END CAP** C= 0.600
#4	Device 3	143.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	146.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	147.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=11.32 cfs @ 12.33 hrs HW=149.01' TW=144.03' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 11.32 cfs @ 2.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=146.00' TW=143.50' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  └─**3=13/16" DRILL HOLE IN END CAP** (Passes 0.00 cfs of 0.02 cfs potential flow)
    └─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**5=Exfiltration** (Passes 0.00 cfs of 0.08 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

FILTER BASIN FB-2 - DRAWDOWN

Hydrograph for Pond FB2:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	146.00	0.00	**0.00**	0.00
2.50	0.00	0	146.00	0.00	0.00	0.00
5.00	0.00	0	146.00	0.00	0.00	0.00
7.50	0.00	0	146.00	0.00	0.00	0.00
10.00	**0.00**	0	146.00	0.00	0.00	0.00
12.50	**0.61**	692	146.46	0.03	0.00	0.03
15.00	0.11	**2,219**	**147.24**	**0.03**	0.00	**0.03**
17.50	0.06	**2,256**	**147.25**	**0.06**	0.00	**0.06**
20.00	0.04	2,251	147.25	0.04	0.00	0.04
22.50	0.03	2,249	147.25	0.03	0.00	0.03
25.00	0.00	2,169	147.22	0.03	0.00	0.03
27.50	0.00	1,895	147.09	0.03	0.00	0.03
30.00	0.00	1,626	146.96	0.03	0.00	0.03
32.50	0.00	1,362	146.83	0.03	0.00	0.03
35.00	0.00	1,105	146.70	0.03	0.00	0.03
37.50	0.00	853	146.55	0.03	0.00	0.03
40.00	0.00	609	146.41	0.03	0.00	0.03
42.50	0.00	371	146.26	0.03	0.00	0.03
45.00	0.00	141	146.10	0.03	0.00	0.03
47.50	0.00	0	146.00	0.00	0.00	0.00
50.00	0.00	0	146.00	0.00	0.00	0.00
52.50	0.00	0	146.00	0.00	0.00	0.00
55.00	0.00	0	146.00	0.00	0.00	0.00
57.50	0.00	0	146.00	0.00	0.00	0.00
60.00	0.00	0	146.00	0.00	0.00	0.00
62.50	0.00	0	146.00	0.00	0.00	0.00
65.00	0.00	0	146.00	0.00	0.00	0.00
67.50	0.00	0	146.00	0.00	0.00	0.00
70.00	0.00	0	146.00	0.00	0.00	0.00
72.50	0.00	0	146.00	0.00	0.00	0.00
75.00	0.00	0	146.00	0.00	0.00	0.00
77.50	0.00	0	146.00	0.00	0.00	0.00
80.00	0.00	0	146.00	0.00	0.00	0.00
82.50	0.00	0	146.00	0.00	0.00	0.00
85.00	0.00	0	146.00	0.00	0.00	0.00
87.50	0.00	0	146.00	0.00	0.00	0.00
90.00	0.00	0	146.00	0.00	0.00	0.00
92.50	0.00	0	146.00	0.00	0.00	0.00
95.00	0.00	0	146.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 47.5 HRS
DRAWDOWN TIME = 47.5-17.5 = 30 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 3

Tributary Impervious Area=	0	sf	(WS-31 Impervious Area)
Tributary Landscaped Area=	26,438	sf	(WS-31 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 881 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
172	591	0
173.1	1,316	1,023
175	3,041	5,124

Outlet Elevation =	173.10	
Storage Volume Provided=	1,023	cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 529 sf

Filter Area Provided = 591 sf > Required

FILTER BASIN FB-3 - SPILLWAY RUN

Summary for Pond FB3:

Inflow Area = 57,985 sf, 4.66% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf
Outflow = 3.92 cfs @ 12.24 hrs, Volume= 15,420 cf, Atten= 1%, Lag= 1.4 min
Primary = 3.92 cfs @ 12.24 hrs, Volume= 15,420 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 173.38' @ 12.24 hrs Surf.Area= 1,550 sf Storage= 1,429 cf

PEAK WS ELEV. = 173.38
TOP OF BERM = 175.0
FREEBOARD =
175.0-173.38 = 1.62'

Plug-Flow detention time= 50.3 min calculated for 15,412 cf (94% of inflow)
Center-of-Mass det. time= 17.3 min (846.5 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	172.00'	5,124 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.00	591	206.8	0	0	591
174.00	2,123	296.1	2,556	2,556	4,200
175.00	3,041	316.2	2,568	5,124	5,226

Device	Routing	Invert	Outlet Devices
#1	Primary	173.10'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	169.65'	**0.6" Vert. 5/8" DRILL HOLE IN 4" END CAP X 0.00** C= 0.600
#3	Device 2	169.83'	**4.0" Round Culvert X 0.00** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 169.83' / 169.65' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#4	Device 3	169.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	172.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=3.88 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 3.88 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=172.00' TW=0.00' (Dynamic Tailwater)
└─**2=5/8" DRILL HOLE IN 4" END CAP** (Controls 0.00 cfs)
└─**3=Culvert** (Controls 0.00 cfs)
└─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
└─**5=Exfiltration** (Passes 0.00 cfs of 0.03 cfs potential flow)

FILTER BASIN FB-3 - DRAWDOWN

23056 - DEVELOPED

Type III 24-hr WQ Event - FB-3 Rainfall=1.77"

Prepared by DM ROMA CONSULTING ENGINEERS

Printed 3/13/2026

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Hydrograph for Pond FB3:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	172.00	0.00	0.00	0.00
2.50	0.00	0	172.00	0.00	0.00	0.00
5.00	0.00	0	172.00	0.00	0.00	0.00
7.50	0.00	0	172.00	0.00	0.00	0.00
10.00	**0.00**	0	172.00	0.00	0.00	0.00
12.50	**0.24**	437	172.58	0.02	0.00	0.02
15.00	0.04	**929**	**173.03**	**0.02**	**0.00**	**0.02**
17.50	0.02	**1,027**	**173.10**	**0.02**	**0.01**	**0.02**
20.00	0.02	1,019	173.10	0.02	0.00	0.02
22.50	0.01	987	173.07	0.02	0.00	0.02
25.00	0.00	902	173.01	0.02	0.00	0.02
27.50	0.00	748	172.88	0.02	0.00	0.02
30.00	0.00	598	172.74	0.02	0.00	0.02
32.50	0.00	451	172.59	0.02	0.00	0.02
35.00	0.00	307	172.43	0.02	0.00	0.02
37.50	0.00	168	172.25	0.02	0.00	0.02
40.00	0.00	34	172.06	0.01	0.00	0.01
42.50	0.00	0	172.00	0.00	0.00	0.00
45.00	0.00	0	172.00	0.00	0.00	0.00
47.50	0.00	0	172.00	0.00	0.00	0.00
50.00	0.00	0	172.00	0.00	0.00	0.00
52.50	0.00	0	172.00	0.00	0.00	0.00
55.00	0.00	0	172.00	0.00	0.00	0.00
57.50	0.00	0	172.00	0.00	0.00	0.00
60.00	0.00	0	172.00	0.00	0.00	0.00
62.50	0.00	0	172.00	0.00	0.00	0.00
65.00	0.00	0	172.00	0.00	0.00	0.00
67.50	0.00	0	172.00	0.00	0.00	0.00
70.00	0.00	0	172.00	0.00	0.00	0.00
72.50	0.00	0	172.00	0.00	0.00	0.00
75.00	0.00	0	172.00	0.00	0.00	0.00
77.50	0.00	0	172.00	0.00	0.00	0.00
80.00	0.00	0	172.00	0.00	0.00	0.00
82.50	0.00	0	172.00	0.00	0.00	0.00
85.00	0.00	0	172.00	0.00	0.00	0.00
87.50	0.00	0	172.00	0.00	0.00	0.00
90.00	0.00	0	172.00	0.00	0.00	0.00
92.50	0.00	0	172.00	0.00	0.00	0.00
95.00	0.00	0	172.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 42.5 HRS
DRAWDOWN TIME = 42.5-17.5 = 25 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 4

Tributary Impervious Area=	10,723	sf	(WS-41 Impervious Area)
Tributary Landscaped Area=	28,101	sf	(WS-41 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 1,830 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
176	3,855	0
177.2	5,181	5,402
178.7	7,038	14,558

Outlet Elevation = 176.60

Storage Volume Provided= 5,402 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,098 sf

Filter Area Provided = 3,855 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 10,723 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 13.7 cf

Sediment Volume (Provided): 70.4 cf > Required

Runoff is collected in 440'± grassed swale:

Trap channel roadside swale provides 0.16 cf per lf of swale

Total storage provided:

(440 x 0.16) = **70.4 cf**

Underdrained Filter Basin Sizing Calculations

Filter Basin 5

Tributary Impervious Area=	20,557	sf	(WS-52 & 53 Impervious Area)
Tributary Landscaped Area=	78,952	sf	(WS-52 & 53 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 4,345 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
176	2,936	0
177.2	4,700	4,540
178.7	7,269	13,526

Outlet Elevation = 177.40

Storage Volume Provided= 4,540 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 2,607 sf

Filter Area Provided = 2,936 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 20,557 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 26.2 cf

Sediment Volume (Provided): 118.4 cf > Required

Runoff is collected in 740'± grassed swale:

Trap channel roadside swale provides 0.16 cf per lf of swale

Total storage provided:

(740 x 0.16) = **118.4 cf**

FILTER BASIN FB-4 & 5 - SPILLWAY RUN

Summary for Pond FB4&5:

Inflow Area = 227,364 sf, 15.83% Impervious, Inflow Depth = 3.59" for 25-Year event
Inflow = 7.46 cfs @ 12.75 hrs, Volume= 68,034 cf
Outflow = 7.32 cfs @ 12.86 hrs, Volume= 57,080 cf, Atten= 2%, Lag= 6.5 min
Primary = 7.32 cfs @ 12.86 hrs, Volume= 57,080 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.73' @ 12.86 hrs Surf.Area= 11,433 sf Storage= 15,558 cf

PEAK WS ELEV. = 177.73
TOP OF BERM = 178.7
FREEBOARD =
178.70-177.73 = 0.97' =>1'

Plug-Flow detention time= 118.4 min calculated for 57,080 cf (84% of inflow)
Center-of-Mass det. time= 49.8 min (896.9 - 847.1)

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	28,097 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	6,791	877.0	0	0	6,791
178.00	12,279	952.4	18,801	18,801	17,919
178.70	14,307	978.8	9,296	28,097	22,032

Device	Routing	Invert	Outlet Devices
#1	Primary	177.30'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	173.73'	**15.0" Round Culvert X 0.00** L= 41.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 173.73' / 173.50' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 2	173.83'	**1.8" Vert. 1-3/4" DRILL HOLE IN 4" END CAP** C= 0.600
#4	Device 3	173.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	176.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	177.20'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=7.32 cfs @ 12.86 hrs HW=177.73' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 7.32 cfs @ 1.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=176.00' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  └─**3=1-3/4" DRILL HOLE IN 4" END CAP** (Passes 0.00 cfs of 0.12 cfs potential flow)
    └─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**5=Exfiltration** (Passes 0.00 cfs of 0.38 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

FILTER BASIN FB-4 & 5 - DRAWDOWN

Hydrograph for Pond FB4&5:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	176.00	0.00	**0.00**	0.00
2.50	0.00	0	176.00	0.00	0.00	0.00
5.00	0.00	0	176.00	0.00	0.00	0.00
7.50	0.00	0	176.00	0.00	0.00	0.00
10.00	0.01	0	176.00	0.01	0.00	0.01
12.50	**1.68**	2,700	176.37	0.13	0.00	0.13
15.00	**0.35**	**9,134**	**177.12**	**0.15**	0.00	**0.15**
17.50	0.18	**9,983**	**177.20**	**0.18**	0.00	**0.18**
20.00	0.12	9,824	177.19	0.15	0.00	0.15
22.50	0.10	9,416	177.15	0.15	0.00	0.15
25.00	0.02	8,703	177.07	0.15	0.00	0.15
27.50	0.00	7,396	176.93	0.15	0.00	0.15
30.00	0.00	6,084	176.78	0.14	0.00	0.14
32.50	0.00	4,802	176.64	0.14	0.00	0.14
35.00	0.00	3,555	176.48	0.14	0.00	0.14
37.50	0.00	2,345	176.33	0.13	0.00	0.13
40.00	0.00	1,173	176.17	0.13	0.00	0.13
42.50	0.00	42	176.01	0.12	0.00	0.12
45.00	0.00	0	176.00	0.00	0.00	0.00
47.50	0.00	0	176.00	0.00	0.00	0.00
50.00	0.00	0	176.00	0.00	0.00	0.00
52.50	0.00	0	176.00	0.00	0.00	0.00
55.00	0.00	0	176.00	0.00	0.00	0.00
57.50	0.00	0	176.00	0.00	0.00	0.00
60.00	0.00	0	176.00	0.00	0.00	0.00
62.50	0.00	0	176.00	0.00	0.00	0.00
65.00	0.00	0	176.00	0.00	0.00	0.00
67.50	0.00	0	176.00	0.00	0.00	0.00
70.00	0.00	0	176.00	0.00	0.00	0.00
72.50	0.00	0	176.00	0.00	0.00	0.00
75.00	0.00	0	176.00	0.00	0.00	0.00
77.50	0.00	0	176.00	0.00	0.00	0.00
80.00	0.00	0	176.00	0.00	0.00	0.00
82.50	0.00	0	176.00	0.00	0.00	0.00
85.00	0.00	0	176.00	0.00	0.00	0.00
87.50	0.00	0	176.00	0.00	0.00	0.00
90.00	0.00	0	176.00	0.00	0.00	0.00
92.50	0.00	0	176.00	0.00	0.00	0.00
95.00	0.00	0	176.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 45 HRS
DRAWDOWN TIME = 45-17.5 = 27.5 HRS

ATTACHMENT 4

ROOFLINE DRIPEDGE SIZING CALCULATIONS

Drip Edge Sizing Calculations

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

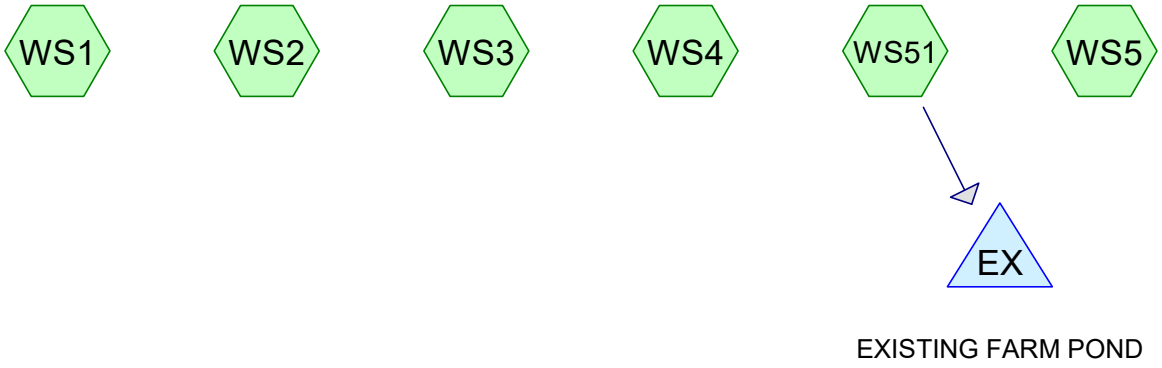
Void Ratio of Reservoir Layer	40%
Void Ratio of Filter Layer	30%

SINGLE-FAMILY UNITS:

Roof Watershed	Tributary Roof Area (sf)	WQV (Required)	Dripedge Surface Area (sf)	Reservoir Layer Depth (ft)	Filter Layer Depth (ft)	WQV (Provided)
1 (REAR PORTION)	900	75.00	150.00	1.00	1.50	127.50
2 (FRONT PORTION)	900	75.00	95.00	1.00	1.50	80.75

ATTACHMENT 5

STORMWATER MODEL OUTPUT



Subcat Reach Pond Link

Routing Diagram for 23056 - EXIST
Prepared by DM ROMA CONSULTING ENGINEERS, Printed 3/4/2026
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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=1.03"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=6.41 cfs 32,892 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=9.93 cfs 46,791 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=792' Tc=29.5 min CN=76 Runoff=3.91 cfs 22,218 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=1.08"
Flow Length=465' Tc=24.5 min CN=76 Runoff=1.46 cfs 7,667 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=1.03"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=4.30 cfs 24,724 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=1.03"
Flow Length=347' Tc=22.0 min CN=75 Runoff=1.59 cfs 8,069 cf

Pond EX: EXISTING FARM POND Peak Elev=183.01' Storage=3,792 cf Inflow=1.59 cfs 8,069 cf
Outflow=0.48 cfs 4,320 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=2.13"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=13.93 cfs 68,202 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=22.13 cfs 98,635 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=792' Tc=29.5 min CN=76 Runoff=8.28 cfs 45,337 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=2.21"
Flow Length=465' Tc=24.5 min CN=76 Runoff=3.10 cfs 15,645 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=2.13"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=9.33 cfs 51,267 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=2.13"
Flow Length=347' Tc=22.0 min CN=75 Runoff=3.46 cfs 16,732 cf

Pond EX: EXISTING FARM POND Peak Elev=183.03' Storage=3,930 cf Inflow=3.46 cfs 16,732 cf
Outflow=4.16 cfs 12,983 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=3.11"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=20.53 cfs 99,700 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=32.93 cfs 145,213 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=3.21"
Flow Length=792' Tc=29.5 min CN=76 Runoff=12.09 cfs 65,818 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=3.21"
Flow Length=465' Tc=24.5 min CN=76 Runoff=4.53 cfs 22,713 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=3.11"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=13.75 cfs 74,944 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=3.11"
Flow Length=347' Tc=22.0 min CN=75 Runoff=5.10 cfs 24,460 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,956 cf Inflow=5.10 cfs 24,460 cf
Outflow=5.09 cfs 20,710 cf

Summary for Subcatchment WS1:

Runoff = 20.53 cfs @ 12.32 hrs, Volume= 99,700 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	702	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	2,913	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	247,831	72	Woods/grass comb., Good, HSG C
	132,960	79	Woods/grass comb., Good, HSG D
	384,406	75	Weighted Average
	384,406		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	53	0.0569	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	12	0.0290	1.03		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
1.3	7	0.0447	0.09		**Sheet Flow, Seg C to D** Grass: Dense n= 0.240 P2= 3.10"
11.2	78	0.0640	0.12		**Sheet Flow, Seg D to E** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	100	0.0773	1.39		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
1.0	342	0.0351	5.84	221.18	**Channel Flow, Seg F to G** Area= 37.9 sf Perim= 76.0' r= 0.50' n= 0.030 Earth, grassed & winding
2.1	887	0.0502	6.96	155.21	**Channel Flow, Seg G to H** Area= 22.3 sf Perim= 44.9' r= 0.50' n= 0.030 Earth, grassed & winding
22.7	1,479	Total			

Summary for Subcatchment WS2:

Runoff = 32.93 cfs @ 12.25 hrs, Volume= 145,213 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	5,385	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	17,626	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	6,431	58	Meadow, non-grazed, HSG B
*	64,805	71	Meadow, non-grazed, HSG C
	26,072	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	281,045	72	Woods/grass comb., Good, HSG C
	176,133	79	Woods/grass comb., Good, HSG D
	577,497	74	Weighted Average
	577,497		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	109	0.0274	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	13	0.0233	0.96		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
2.8	232	0.0740	1.36		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
0.9	678	0.0339	13.24	712.42	**Channel Flow, Seg D to E** Area= 53.8 sf Perim= 107.8' r= 0.50' n= 0.013 Corrugated PE, smooth interior
0.1	35	0.0200	6.42	5.04	**Pipe Channel, Seg E to F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	116	0.0258	11.56	560.59	**Channel Flow, Seg F to G** Area= 48.5 sf Perim= 97.1' r= 0.50' n= 0.013
17.9	1,183	Total			

Summary for Subcatchment WS3:

Runoff = 12.09 cfs @ 12.41 hrs, Volume= 65,818 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	8,985	58	Meadow, non-grazed, HSG B
*	33,453	71	Meadow, non-grazed, HSG C
	153,895	78	Meadow, non-grazed, HSG D
	634	58	Woods/grass comb., Good, HSG B
	33,443	72	Woods/grass comb., Good, HSG C
	15,776	79	Woods/grass comb., Good, HSG D
	246,186	76	Weighted Average
	246,186		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	150	0.0283	0.14		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.8	58	0.0068	1.24		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
4.1	84	0.0047	0.34		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
1.4	87	0.0047	1.03		**Shallow Concentrated Flow, Seg D to E** Grassed Waterway Kv= 15.0 fps
1.7	35	0.0047	0.34		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
3.2	199	0.0047	1.03		**Shallow Concentrated Flow, Seg F to G** Grassed Waterway Kv= 15.0 fps
0.8	179	0.0669	3.88		**Shallow Concentrated Flow, Seg G to H** Grassed Waterway Kv= 15.0 fps
29.5	792	Total			

Summary for Subcatchment WS4:

Runoff = 4.53 cfs @ 12.34 hrs, Volume= 22,713 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	788	98	Exist. roofs
*	1,440	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	7,074	80	>75% Exist. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	35,567	71	Meadow, non-grazed, HSG C
	40,087	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	84,956	76	Weighted Average
	82,728		97.38% Pervious Area
	2,228		2.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	150	0.0167	0.12		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.7	206	0.0073	1.28		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
0.2	109	0.0732	8.65	343.28	**Channel Flow, Seg C to D** Area= 39.7 sf Perim= 76.6' r= 0.52' n= 0.030 Earth, grassed & winding
24.5	465	Total			

Summary for Subcatchment WS5:

Runoff = 13.75 cfs @ 12.42 hrs, Volume= 74,944 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,298	98	Exist. roofs
*	29,091	98	Exist. paved surfaces
*	3,600	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	13,781	74	>75% Exist. grass cover, Good, HSG C
*	63,822	80	>75% Exist. grass cover, Good, HSG D
	85,188	58	Meadow, non-grazed, HSG B
*	7,724	71	Meadow, non-grazed, HSG C
	12,617	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	9,089	72	Woods/grass comb., Good, HSG C
	60,745	79	Woods/grass comb., Good, HSG D
	288,955	75	Weighted Average
	256,566		88.79% Pervious Area
	32,389		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	150	0.0233	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
3.0	185	0.0216	1.03		**Shallow Concentrated Flow, Seg B to C** Short Grass Pasture Kv= 7.0 fps
1.4	50	0.0149	0.61		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
5.0	399	0.0018	1.32	36.76	**Channel Flow, Seg D to E** Area= 27.9 sf Perim= 56.2' r= 0.50' n= 0.030 Earth, grassed & winding
0.1	29	0.0200	7.44	9.14	**Pipe Channel, Seg E to F** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.6	217	0.0132	6.04	96.57	**Trap/Vee/Rect Channel Flow, Seg F to G** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
0.3	74	0.0050	3.72	4.57	**Pipe Channel, Seg G to H** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.3	162	0.0247	8.26	132.10	**Trap/Vee/Rect Channel Flow, Seg H to I** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
29.6	1,266	Total			

Summary for Subcatchment WS51:

Runoff = 5.10 cfs @ 12.31 hrs, Volume= 24,460 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,328	98	Exist. roofs
*	4,481	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	11,580	80	>75% Exist. grass cover, Good, HSG D
	25,694	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	38,972	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	8,252	79	Woods/grass comb., Good, HSG D
	94,307	75	Weighted Average
	84,498		89.60% Pervious Area
	9,809		10.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0313	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.2	36	0.0029	0.27		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
3.0	161	0.0165	0.90		**Shallow Concentrated Flow, Seg C to D** Short Grass Pasture Kv= 7.0 fps
22.0	347	Total			

Summary for Pond EX: EXISTING FARM POND

Inflow Area = 94,307 sf, 10.40% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 5.10 cfs @ 12.31 hrs, Volume= 24,460 cf
Outflow = 5.09 cfs @ 12.33 hrs, Volume= 20,710 cf, Atten= 0%, Lag= 1.2 min
Primary = 5.09 cfs @ 12.33 hrs, Volume= 20,710 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 183.04' @ 12.33 hrs Surf.Area= 5,271 sf Storage= 3,956 cf

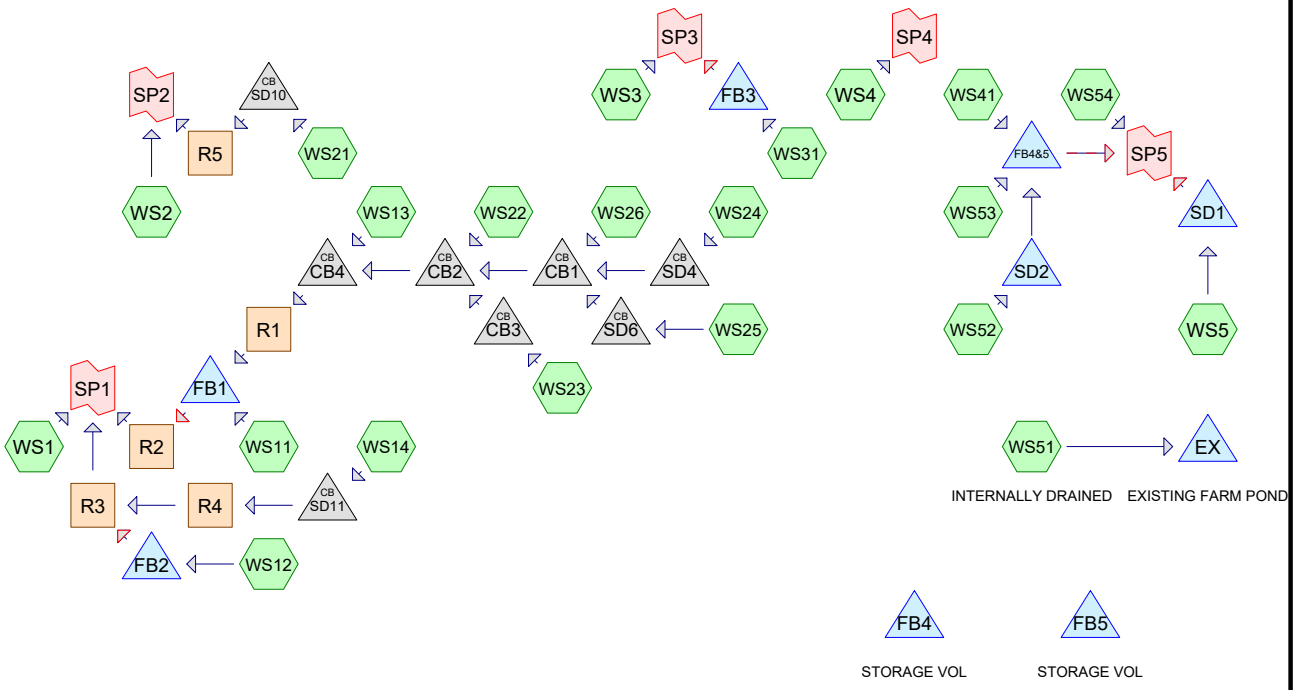
Plug-Flow detention time= 95.6 min calculated for 20,710 cf (85% of inflow)
Center-of-Mass det. time= 29.6 min (872.4 - 842.8)

Volume	Invert	Avail.Storage	Storage Description
#1	182.00'	6,564 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
182.00	2,462	192.9	0	0	2,462
183.00	5,206	276.1	3,749	3,749	5,576
183.50	6,063	295.5	2,815	6,564	6,470

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**275.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.05 cfs @ 12.33 hrs HW=183.04' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.05 cfs @ 0.47 fps)



Subcat Reach Pond Link

Routing Diagram for 23056 - DEVELOPED
Prepared by DM ROMA CONSULTING ENGINEERS, Printed 3/19/2026
HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=0.97"
Flow Length=490' Tc=12.5 min CN=74 Runoff=2.39 cfs 9,887 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=1.33"
Flow Length=245' Tc=14.0 min CN=80 Runoff=1.35 cfs 5,481 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=1.14"
Flow Length=926' Tc=21.4 min CN=77 Runoff=3.85 cfs 18,898 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.13 cfs 456 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.30 cfs 1,687 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=1.26"
Flow Length=414' Tc=16.6 min CN=79 Runoff=2.78 cfs 12,165 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=0.97"
Flow Length=818' Tc=18.0 min CN=74 Runoff=6.94 cfs 32,765 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.28 cfs 984 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.28 cfs 967 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=1.75"
Flow Length=363' Tc=11.9 min CN=86 Runoff=0.83 cfs 3,146 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=1.83"
Flow Length=337' Tc=6.6 min CN=87 Runoff=1.20 cfs 3,859 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.02 cfs 64 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=217' Tc=13.4 min CN=74 Runoff=0.56 cfs 2,352 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=1.20"
Flow Length=314' Tc=15.3 min CN=78 Runoff=1.36 cfs 5,801 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.28 cfs 1,050 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=1.60"
Flow Length=433' Tc=8.4 min CN=84 Runoff=1.57 cfs 5,366 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=0.97"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=3.83 cfs 22,031 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=1.03"
Flow Length=347' Tc=22.0 min CN=75 Runoff=1.73 cfs 8,787 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=1.26"
Flow Length=898' Tc=43.9 min CN=79 Runoff=2.70 cfs 18,202 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.49 cfs 1,550 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=1.67"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.20 cfs 830 cf

Reach R1: Avg. Flow Depth=0.23' Max Vel=4.20 fps Inflow=2.62 cfs 9,476 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=2.61 cfs 9,476 cf

Reach R2: Avg. Flow Depth=0.16' Max Vel=2.02 fps Inflow=0.56 cfs 14,961 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=0.56 cfs 14,961 cf

Reach R3: Avg. Flow Depth=0.35' Max Vel=3.16 fps Inflow=3.98 cfs 20,587 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=3.95 cfs 20,587 cf

Reach R4: Avg. Flow Depth=0.14' Max Vel=1.82 fps Inflow=0.30 cfs 1,687 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.29 cfs 1,687 cf

Reach R5: Avg. Flow Depth=0.51' Max Vel=3.02 fps Inflow=6.94 cfs 32,765 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=6.88 cfs 32,765 cf

Pond CB1: Peak Elev=165.59' Inflow=1.95 cfs 7,068 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=1.95 cfs 7,068 cf

Pond CB2: Peak Elev=163.12' Inflow=2.49 cfs 9,020 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=2.49 cfs 9,020 cf

Pond CB3: Peak Elev=163.12' Inflow=0.28 cfs 967 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.28 cfs 967 cf

Pond CB4: Peak Elev=155.56' Inflow=2.62 cfs 9,476 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=2.62 cfs 9,476 cf

Pond EX: EXISTING FARM POND Peak Elev=183.01' Storage=3,805 cf Inflow=1.73 cfs 8,787 cf
Outflow=0.71 cfs 5,037 cf

Pond FB1: Peak Elev=139.87' Storage=7,166 cf Inflow=3.74 cfs 14,957 cf
Primary=0.00 cfs 0 cf Secondary=0.56 cfs 14,961 cf Outflow=0.56 cfs 14,961 cf

Pond FB2: Peak Elev=147.52' Storage=2,890 cf Inflow=3.85 cfs 18,898 cf
Primary=0.00 cfs 0 cf Secondary=3.70 cfs 18,900 cf Outflow=3.70 cfs 18,900 cf

Pond FB3: Peak Elev=173.23' Storage=1,206 cf Inflow=1.36 cfs 5,801 cf
Primary=1.25 cfs 3,913 cf Secondary=0.02 cfs 1,889 cf Outflow=1.27 cfs 5,802 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.31' Storage=11,047 cf Inflow=2.88 cfs 25,117 cf
Primary=0.02 cfs 20 cf Secondary=1.19 cfs 25,106 cf Outflow=1.21 cfs 25,125 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=175.55' Storage=2,580 cf Inflow=3.83 cfs 22,031 cf
Primary=2.40 cfs 8,303 cf Secondary=0.69 cfs 13,728 cf Outflow=3.09 cfs 22,031 cf

Pond SD10: Peak Elev=162.39' Inflow=6.94 cfs 32,765 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=6.94 cfs 32,765 cf

Pond SD11: Peak Elev=161.73' Inflow=0.30 cfs 1,687 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.30 cfs 1,687 cf

Pond SD2: Peak Elev=177.91' Storage=947 cf Inflow=2.70 cfs 18,202 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=2.57 cfs 18,201 cf

Pond SD4: Peak Elev=165.74' Inflow=0.83 cfs 3,146 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=0.83 cfs 3,146 cf

Pond SD6: Peak Elev=165.80' Inflow=1.20 cfs 3,859 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=1.20 cfs 3,859 cf

Link SP1: Inflow=5.60 cfs 45,435 cf
Primary=5.60 cfs 45,435 cf

Link SP2: Inflow=9.55 cfs 44,930 cf
Primary=9.55 cfs 44,930 cf

Link SP3: Inflow=1.74 cfs 8,154 cf
Primary=1.74 cfs 8,154 cf

Link SP4: Inflow=0.28 cfs 1,050 cf
Primary=0.28 cfs 1,050 cf

Link SP5: Inflow=3.30 cfs 47,987 cf
Primary=3.30 cfs 47,987 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=2.05"
Flow Length=490' Tc=12.5 min CN=74 Runoff=5.32 cfs 20,841 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=2.55"
Flow Length=245' Tc=14.0 min CN=80 Runoff=2.63 cfs 10,531 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=2.29"
Flow Length=926' Tc=21.4 min CN=77 Runoff=7.99 cfs 37,966 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.20 cfs 703 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.66 cfs 3,557 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=2.46"
Flow Length=414' Tc=16.6 min CN=79 Runoff=5.53 cfs 23,717 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=2.05"
Flow Length=818' Tc=18.0 min CN=74 Runoff=15.46 cfs 69,068 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.43 cfs 1,517 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.42 cfs 1,490 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=3.10"
Flow Length=363' Tc=11.9 min CN=86 Runoff=1.46 cfs 5,569 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=3.19"
Flow Length=337' Tc=6.6 min CN=87 Runoff=2.07 cfs 6,744 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.03 cfs 97 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=217' Tc=13.4 min CN=74 Runoff=1.24 cfs 4,958 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=2.38"
Flow Length=314' Tc=15.3 min CN=78 Runoff=2.77 cfs 11,479 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.62 cfs 2,214 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=2.91"
Flow Length=433' Tc=8.4 min CN=84 Runoff=2.85 cfs 9,755 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=2.05"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=8.50 cfs 46,441 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=2.13"
Flow Length=347' Tc=22.0 min CN=75 Runoff=3.77 cfs 18,220 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=2.46"
Flow Length=898' Tc=43.9 min CN=79 Runoff=5.37 cfs 35,486 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=2.55"
Tc=6.0 min CN=80 Runoff=0.94 cfs 2,978 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=3.00"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.35 cfs 1,489 cf

Reach R1: Avg. Flow Depth=0.31' Max Vel=4.91 fps Inflow=4.40 cfs 16,120 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=4.39 cfs 16,120 cf

Reach R2: Avg. Flow Depth=0.29' Max Vel=2.95 fps Inflow=2.58 cfs 26,653 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=2.58 cfs 26,653 cf

Reach R3: Avg. Flow Depth=0.44' Max Vel=3.71 fps Inflow=7.43 cfs 41,524 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=7.42 cfs 41,524 cf

Reach R4: Avg. Flow Depth=0.19' Max Vel=2.23 fps Inflow=0.66 cfs 3,557 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.65 cfs 3,557 cf

Reach R5: Avg. Flow Depth=0.69' Max Vel=3.69 fps Inflow=15.46 cfs 69,068 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=15.40 cfs 69,068 cf

Pond CB1: Peak Elev=165.94' Inflow=3.39 cfs 12,410 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=3.39 cfs 12,410 cf

Pond CB2: Peak Elev=163.64' Inflow=4.21 cfs 15,417 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=4.21 cfs 15,417 cf

Pond CB3: Peak Elev=163.64' Inflow=0.42 cfs 1,490 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.42 cfs 1,490 cf

Pond CB4: Peak Elev=155.89' Inflow=4.40 cfs 16,120 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=4.40 cfs 16,120 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,951 cf Inflow=3.77 cfs 18,220 cf
Outflow=5.09 cfs 14,470 cf

Pond FB1: Peak Elev=140.61' Storage=10,731 cf Inflow=6.65 cfs 26,651 cf
Primary=0.00 cfs 0 cf Secondary=2.58 cfs 26,653 cf Outflow=2.58 cfs 26,653 cf

Pond FB2: Peak Elev=147.97' Storage=4,120 cf Inflow=7.99 cfs 37,966 cf
Primary=0.00 cfs 0 cf Secondary=6.77 cfs 37,967 cf Outflow=6.77 cfs 37,967 cf

Pond FB3: Peak Elev=173.32' Storage=1,336 cf Inflow=2.77 cfs 11,479 cf
Primary=2.71 cfs 9,498 cf Secondary=0.02 cfs 1,982 cf Outflow=2.73 cfs 11,480 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.46' Storage=12,584 cf Inflow=5.49 cfs 48,219 cf
Primary=1.59 cfs 4,552 cf Secondary=3.73 cfs 43,673 cf Outflow=5.32 cfs 48,225 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=176.32' Storage=7,164 cf Inflow=8.50 cfs 46,441 cf
Primary=4.77 cfs 25,373 cf Secondary=0.86 cfs 21,068 cf Outflow=5.63 cfs 46,441 cf

Pond SD10: Peak Elev=162.98' Inflow=15.46 cfs 69,068 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=15.46 cfs 69,068 cf

Pond SD11: Peak Elev=161.88' Inflow=0.66 cfs 3,557 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.66 cfs 3,557 cf

Pond SD2: Peak Elev=178.38' Storage=2,218 cf Inflow=5.37 cfs 35,486 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=4.97 cfs 35,486 cf

Pond SD4: Peak Elev=166.09' Inflow=1.46 cfs 5,569 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=1.46 cfs 5,569 cf

Pond SD6: Peak Elev=166.14' Inflow=2.07 cfs 6,744 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=2.07 cfs 6,744 cf

Link SP1: Inflow=13.17 cfs 89,018 cf
Primary=13.17 cfs 89,018 cf

Link SP2: Inflow=20.82 cfs 92,785 cf
Primary=20.82 cfs 92,785 cf

Link SP3: Inflow=3.93 cfs 16,438 cf
Primary=3.93 cfs 16,438 cf

Link SP4: Inflow=0.62 cfs 2,214 cf
Primary=0.62 cfs 2,214 cf

Link SP5: Inflow=10.95 cfs 96,155 cf
Primary=10.95 cfs 96,155 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=3.02"
Flow Length=490' Tc=12.5 min CN=74 Runoff=7.91 cfs 30,683 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=3.60"
Flow Length=245' Tc=14.0 min CN=80 Runoff=3.70 cfs 14,891 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=3.31"
Flow Length=926' Tc=21.4 min CN=77 Runoff=11.56 cfs 54,745 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.25 cfs 901 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.98 cfs 5,237 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=3.50"
Flow Length=414' Tc=16.6 min CN=79 Runoff=7.87 cfs 33,750 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=3.02"
Flow Length=818' Tc=18.0 min CN=74 Runoff=23.00 cfs 101,684 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.54 cfs 1,944 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.53 cfs 1,910 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=4.22"
Flow Length=363' Tc=11.9 min CN=86 Runoff=1.97 cfs 7,591 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=4.33"
Flow Length=337' Tc=6.6 min CN=87 Runoff=2.77 cfs 9,140 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.03 cfs 123 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=217' Tc=13.4 min CN=74 Runoff=1.84 cfs 7,300 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=3.40"
Flow Length=314' Tc=15.3 min CN=78 Runoff=3.97 cfs 16,443 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.93 cfs 3,259 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=4.01"
Flow Length=433' Tc=8.4 min CN=84 Runoff=3.90 cfs 13,457 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=3.02"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=12.65 cfs 68,371 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=3.11"
Flow Length=347' Tc=22.0 min CN=75 Runoff=5.56 cfs 26,634 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=3.50"
Flow Length=898' Tc=43.9 min CN=79 Runoff=7.64 cfs 50,499 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=1.33 cfs 4,210 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=4.11"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.48 cfs 2,042 cf

Reach R1: Avg. Flow Depth=0.36' Max Vel=5.34 fps Inflow=5.84 cfs 21,608 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=5.82 cfs 21,608 cf

Reach R2: Avg. Flow Depth=0.41' Max Vel=3.67 fps Inflow=6.30 cfs 36,503 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=6.28 cfs 36,503 cf

Reach R3: Avg. Flow Depth=0.51' Max Vel=4.08 fps Inflow=10.94 cfs 59,982 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=10.89 cfs 59,982 cf

Reach R4: Avg. Flow Depth=0.22' Max Vel=2.46 fps Inflow=0.98 cfs 5,237 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.97 cfs 5,237 cf

Reach R5: Avg. Flow Depth=0.80' Max Vel=4.08 fps Inflow=23.00 cfs 101,684 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=22.94 cfs 101,684 cf

Pond CB1: Peak Elev=166.38' Inflow=4.55 cfs 16,854 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=4.55 cfs 16,854 cf

Pond CB2: Peak Elev=164.26' Inflow=5.60 cfs 20,708 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=5.60 cfs 20,708 cf

Pond CB3: Peak Elev=164.27' Inflow=0.53 cfs 1,910 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.53 cfs 1,910 cf

Pond CB4: Peak Elev=156.20' Inflow=5.84 cfs 21,608 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=5.84 cfs 21,608 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,968 cf Inflow=5.56 cfs 26,634 cf
Outflow=5.55 cfs 22,885 cf

Pond FB1: Peak Elev=140.93' Storage=12,441 cf Inflow=9.03 cfs 36,499 cf
Primary=0.58 cfs 306 cf Secondary=5.72 cfs 36,196 cf Outflow=6.30 cfs 36,503 cf

Pond FB2: Peak Elev=148.66' Storage=6,388 cf Inflow=11.56 cfs 54,745 cf
Primary=2.54 cfs 1,762 cf Secondary=7.42 cfs 52,983 cf Outflow=9.96 cfs 54,745 cf

Pond FB3: Peak Elev=173.38' Storage=1,428 cf Inflow=3.97 cfs 16,443 cf
Primary=3.90 cfs 14,400 cf Secondary=0.02 cfs 2,044 cf Outflow=3.92 cfs 16,444 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.53' Storage=13,371 cf Inflow=7.46 cfs 68,166 cf
Primary=2.84 cfs 10,915 cf Secondary=4.52 cfs 57,256 cf Outflow=7.37 cfs 68,171 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=177.05' Storage=12,785 cf Inflow=12.65 cfs 68,371 cf
Primary=6.22 cfs 42,154 cf Secondary=1.00 cfs 26,218 cf Outflow=7.22 cfs 68,371 cf

Pond SD10: Peak Elev=163.47' Inflow=23.00 cfs 101,684 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=23.00 cfs 101,684 cf

Pond SD11: Peak Elev=161.98' Inflow=0.98 cfs 5,237 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.98 cfs 5,237 cf

Pond SD2: Peak Elev=178.77' Storage=3,652 cf Inflow=7.64 cfs 50,499 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=6.78 cfs 50,499 cf

Pond SD4: Peak Elev=166.55' Inflow=1.97 cfs 7,591 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=1.97 cfs 7,591 cf

Pond SD6: Peak Elev=166.61' Inflow=2.77 cfs 9,140 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=2.77 cfs 9,140 cf

Link SP1: Inflow=20.28 cfs 127,168 cf
Primary=20.28 cfs 127,168 cf

Link SP2: Inflow=30.66 cfs 135,435 cf
Primary=30.66 cfs 135,435 cf

Link SP3: Inflow=5.72 cfs 23,744 cf
Primary=5.72 cfs 23,744 cf

Link SP4: Inflow=0.93 cfs 3,259 cf
Primary=0.93 cfs 3,259 cf

Link SP5: Inflow=14.66 cfs 138,584 cf
Primary=14.66 cfs 138,584 cf

Summary for Subcatchment WS1:

Runoff = 7.91 cfs @ 12.18 hrs, Volume= 30,683 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	288	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	27,003	74	>75% Prop. grass cover, Good, HSG C
*	411	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	72,859	72	Woods/grass comb., Good, HSG C
	21,463	79	Woods/grass comb., Good, HSG D
	122,024	74	Weighted Average
	121,736		99.76% Pervious Area
	288		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	108	0.1153	0.16		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.0	382	0.0419	6.38	257.62	**Channel Flow, Seg B to C** Area= 40.4 sf Perim= 81.0' r= 0.50' n= 0.030 Earth, grassed & winding
12.5	490	Total			

Summary for Subcatchment WS11:

Runoff = 3.70 cfs @ 12.19 hrs, Volume= 14,891 cf, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,412	98	Prop. roofs
*	0	98	Exist. paved surfaces
	9,500	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	32,993	74	>75% Prop. grass cover, Good, HSG C
*	4,700	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	13	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	49,618	80	Weighted Average
	37,706		75.99% Pervious Area
	11,912		24.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	94	0.0319	0.14		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.4	28	0.1451	0.20		**Sheet Flow, Seg B to C** Grass: Dense n= 0.240 P2= 3.10"
0.2	123	0.0326	9.49	151.76	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
14.0	245	Total			

Summary for Subcatchment WS12:

Runoff = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	6,251	98	Prop. roofs
*	0	98	Exist. roofs
	4,796	98	Prop. paved surfaces
*	0	98	Exist. paved surfaces
*	693	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	26,576	74	>75% Prop. grass cover, Good, HSG C
*	22,411	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	2,895	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	80,765	72	Woods/grass comb., Good, HSG C
	54,382	79	Woods/grass comb., Good, HSG D
	198,769	77	Weighted Average
	187,722		94.44% Pervious Area
	11,047		5.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	53	0.0569	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	12	0.0290	1.03		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
1.3	7	0.0447	0.09		**Sheet Flow, Seg C to D** Grass: Dense n= 0.240 P2= 3.10"
11.2	78	0.0640	0.12		**Sheet Flow, Seg D to E** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	100	0.0773	1.39		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
1.0	342	0.0351	5.84	221.18	**Channel Flow, Seg F to G** Area= 37.9 sf Perim= 76.0' r= 0.50' n= 0.030 Earth, grassed & winding
0.8	334	0.0478	6.79	151.46	**Channel Flow, Seg G to H** Area= 22.3 sf Perim= 44.9' r= 0.50' n= 0.030 Earth, grassed & winding
21.4	926	Total			

Summary for Subcatchment WS13:

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 901 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	1,871	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	35	74	>75% Prop. grass cover, Good, HSG C
*	79	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	1,985	97	Weighted Average
	114		5.74% Pervious Area
	1,871		94.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS14:

Runoff = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	2,079	74	>75% Prop. grass cover, Good, HSG C
*	2,362	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	12,343	72	Woods/grass comb., Good, HSG C
	4,042	79	Woods/grass comb., Good, HSG D
	20,826	74	Weighted Average
	20,826		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	150	0.0271	0.09		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.6	61	0.0161	0.63		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
28.3	211	Total			

Summary for Subcatchment WS2:

Runoff = 7.87 cfs @ 12.23 hrs, Volume= 33,750 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	3,600	98	Prop. roofs
*	0	98	Exist. paved surfaces
	1,105	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	16,349	74	>75% Prop. grass cover, Good, HSG C
*	14,596	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	9,141	72	Woods/grass comb., Good, HSG C
	70,872	79	Woods/grass comb., Good, HSG D
	115,663	79	Weighted Average
	110,958		95.93% Pervious Area
	4,705		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	115	0.0607	0.12		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.0	299	0.0234	4.78	286.72	**Channel Flow, Seg B to C** Area= 60.0 sf Perim= 119.8' r= 0.50' n= 0.030 Earth, grassed & winding
16.6	414	Total			

Summary for Subcatchment WS21:

Runoff = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	3,277	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	5,394	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	20,145	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	7,813	74	>75% Prop. grass cover, Good, HSG C
*	17,228	80	>75% Prop. grass cover, Good, HSG D
	6,216	58	Meadow, non-grazed, HSG B
	52,917	71	Meadow, non-grazed, HSG C
	5,933	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	226,718	72	Woods/grass comb., Good, HSG C
	58,748	79	Woods/grass comb., Good, HSG D
	404,389	74	Weighted Average
	401,112		99.19% Pervious Area
	3,277		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	109	0.0274	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	13	0.0233	0.96		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
2.8	232	0.0740	1.36		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
1.3	464	0.0354	5.86	315.47	**Channel Flow, Seg D to E** Area= 53.8 sf Perim= 107.8' r= 0.50' n= 0.030 Earth, grassed & winding
18.0	818	Total			

Summary for Subcatchment WS22:

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 1,944 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,751	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	374	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	159	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	4,284	97	Weighted Average
	533		12.44% Pervious Area
	3,751		87.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS23:

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,823	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	200	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	186	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	4,209	97	Weighted Average
	386		9.17% Pervious Area
	3,823		90.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS24:

Runoff = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	1,512	98	Prop. roofs
*	0	98	Exist. paved surfaces
	7,146	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	658	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	6,540	74	>75% Prop. grass cover, Good, HSG C
*	5,732	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	21,588	86	Weighted Average
	12,930		59.89% Pervious Area
	8,658		40.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	89	0.0282	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.1	64	0.0236	8.09	9.92	**Pipe Channel, Seg B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.3	210	0.0710	14.00	223.97	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
11.9	363	Total			

Summary for Subcatchment WS25:

Runoff = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,329	98	Prop. roofs
*	0	98	Exist. paved surfaces
	6,871	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	594	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	15,559	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	25,353	87	Weighted Average
	16,153		63.71% Pervious Area
	9,200		36.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	47	0.0368	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.4	290	0.0635	13.24	211.81	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
6.6	337	Total			

Summary for Subcatchment WS26:

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 123 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	266	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	266	98	Weighted Average
	266		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS3:

Runoff = 1.84 cfs @ 12.19 hrs, Volume= 7,300 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	7,704	74	>75% Exist. grass cover, Good, HSG C
*	1,063	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	2,855	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	13,642	72	Woods/grass comb., Good, HSG C
	3,767	79	Woods/grass comb., Good, HSG D
	29,031	74	Weighted Average
	29,031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	118	0.1059	0.23		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
4.1	32	0.1328	0.13		**Sheet Flow, Seg B to C** Woods: Light underbrush n= 0.400 P2= 3.10"
0.8	67	0.0783	1.40		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
13.4	217	Total			

Summary for Subcatchment WS31:

Runoff = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,700	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	26	74	>75% Prop. grass cover, Good, HSG C
*	26,413	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	11,371	71	Meadow, non-grazed, HSG C
	17,475	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	57,985	78	Weighted Average
	55,285		95.34% Pervious Area
	2,700		4.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	130	0.0327	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.6	184	0.0167	5.17	37.15	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=1.25' Z= 3.0 '/' Top.W=9.50' n= 0.030 Earth, grassed & winding
15.3	314	Total			

Summary for Subcatchment WS4:

Runoff = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	3,029	74	>75% Prop. grass cover, Good, HSG C
*	1,382	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	6,871	71	Meadow, non-grazed, HSG C
	1,680	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	12,962	74	Weighted Average
	12,962		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	105	0.0681	0.19		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment WS41:

Runoff = 3.90 cfs @ 12.12 hrs, Volume= 13,457 cf, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,088	98	Prop. roofs
*	0	98	Exist. paved surfaces
	9,727	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	996	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	8,983	74	>75% Prop. grass cover, Good, HSG C
*	17,137	80	>75% Prop. grass cover, Good, HSG D
	917	71	Meadow, non-grazed, HSG C
	425	78	Meadow, non-grazed, HSG D
	40,273	84	Weighted Average
	28,458		70.66% Pervious Area
	11,815		29.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	55	0.0323	0.12		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
1.0	378	0.0152	6.48	103.63	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
8.4	433	Total			

Summary for Subcatchment WS5:

Runoff = 12.65 cfs @ 12.41 hrs, Volume= 68,371 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	2,723	98	Exist. roofs
*	0	98	Prop. roofs
*	28,698	98	Exist. paved surfaces
	4,117	98	Prop. paved surfaces
*	3,668	96	Exist. gravel surfaces
*	112	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	3,395	74	>75% Exist. grass cover, Good, HSG C
*	55,968	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	83,425	58	Meadow, non-grazed, HSG B
	1,805	71	Meadow, non-grazed, HSG C
	18,447	78	Meadow, non-grazed, HSG D
	11,338	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	58,210	79	Woods/grass comb., Good, HSG D
	271,906	74	Weighted Average
	236,368		86.93% Pervious Area
	35,538		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	150	0.0233	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
3.0	185	0.0216	1.03		**Shallow Concentrated Flow, Seg B to C** Short Grass Pasture Kv= 7.0 fps
1.4	50	0.0149	0.61		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
5.0	399	0.0018	1.32	36.76	**Channel Flow, Seg D to E** Area= 27.9 sf Perim= 56.2' r= 0.50' n= 0.030
0.1	29	0.0200	7.44	9.14	**Pipe Channel, Seg E to F** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	217	0.0132	6.04	96.57	**Trap/Vee/Rect Channel Flow, Seg F to G** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030
0.0	30	0.1988	23.42	374.77	**Trap/Vee/Rect Channel Flow, Seg G to H** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030
29.0	1,060	Total			

Summary for Subcatchment WS51: INTERNALLY DRAINED

Runoff = 5.56 cfs @ 12.31 hrs, Volume= 26,634 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,328	98	Exist. roofs
*	612	98	Prop. roofs
*	4,481	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	11,580	80	>75% Exist. grass cover, Good, HSG D
*	4,581	80	>75% Prop. grass cover, Good, HSG D
	25,694	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	42,163	78	Meadow, non-grazed, HSG D
	2,548	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	5,704	79	Woods/grass comb., Good, HSG D
	102,691	75	Weighted Average
	92,270		89.85% Pervious Area
	10,421		10.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0313	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.2	36	0.0029	0.27		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
3.0	161	0.0165	0.90		**Shallow Concentrated Flow, Seg C to D** Short Grass Pasture Kv= 7.0 fps
22.0	347	Total			

Summary for Subcatchment WS52:

Runoff = 7.64 cfs @ 12.60 hrs, Volume= 50,499 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	1,362	98	Exist. roofs
	5,531	98	Prop. roofs
	1,580	98	Exist. paved surfaces
	12,500	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	1,381	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	7,968	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	3,805	74	>75% Prop. grass cover, Good, HSG C
*	56,884	80	>75% Prop. grass cover, Good, HSG D
	9,249	58	Meadow, non-grazed, HSG B
	14,626	71	Meadow, non-grazed, HSG C
	31,523	78	Meadow, non-grazed, HSG D
	735	58	Woods/grass comb., Good, HSG B
	12,338	72	Woods/grass comb., Good, HSG C
	13,579	79	Woods/grass comb., Good, HSG D
	173,061	79	Weighted Average
	152,088		87.88% Pervious Area
	20,973		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	125	0.0241	0.09		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	110	0.0091	1.43		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
1.2	388	0.0114	5.61	89.74	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
16.6	66	0.0062	0.07		**Sheet Flow, Seg D to E** Grass: Dense n= 0.240 P2= 3.10"
0.6	209	0.0186	6.06	59.05	**Trap/Vee/Rect Channel Flow, Seg E to F** Bot.W=2.00' D=1.50' Z= 3.0 '/' Top.W=11.00' n= 0.030 Earth, grassed & winding
43.9	898	Total			

Summary for Subcatchment WS53:

Runoff = 1.33 cfs @ 12.09 hrs, Volume= 4,210 cf, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,203	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	531	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	10,296	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	14,030	80	Weighted Average
	10,827		77.17% Pervious Area
	3,203		22.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min.**

Summary for Subcatchment WS54:

Runoff = 0.48 cfs @ 12.21 hrs, Volume= 2,042 cf, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	1,147	98	Exist. paved surfaces
	337	98	Prop. paved surfaces
*	65	96	Exist. gravel surfaces
*	40	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	4,367	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	5,956	85	Weighted Average
	4,472		75.08% Pervious Area
	1,484		24.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	146	0.0348	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Reach R1:

Inflow Area = 57,685 sf, 47.79% Impervious, Inflow Depth = 4.50" for 25-Year event
Inflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf
Outflow = 5.82 cfs @ 12.11 hrs, Volume= 21,608 cf, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.34 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 2.2 min

Peak Storage= 228 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 225.07 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 209.2' Slope= 0.0717 '/'
Inlet Invert= 153.00', Outlet Invert= 138.00'



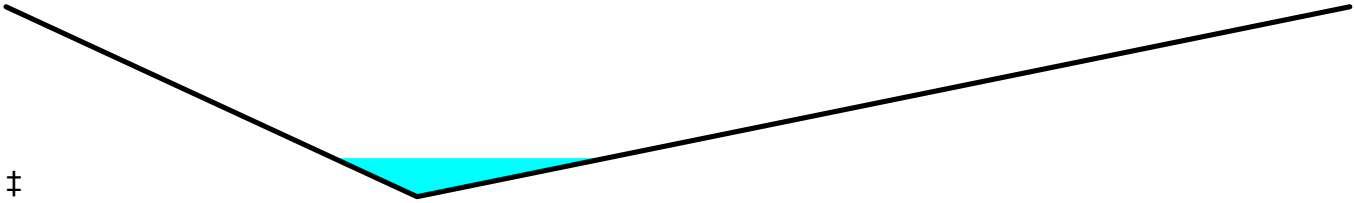
Summary for Reach R2:

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 6.30 cfs @ 12.31 hrs, Volume= 36,503 cf
Outflow = 6.28 cfs @ 12.32 hrs, Volume= 36,503 cf, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.67 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 3.1 min

Peak Storage= 417 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 2.00' Flow Area= 41.5 sf, Capacity= 443.92 cfs

Custom cross-section, Length= 244.7' Slope= 0.0470 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 135.50', Outlet Invert= 124.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	132.00	0.00
12.69	130.00	2.00
41.49	132.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	41.5	41.7	10,153	443.92

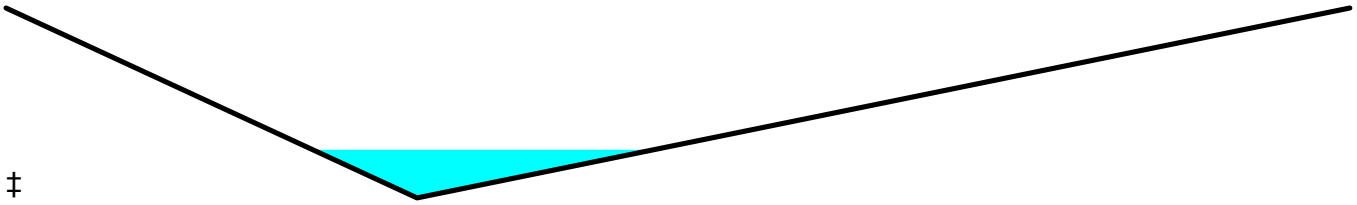
Summary for Reach R3:

Inflow Area = 219,595 sf, 5.03% Impervious, Inflow Depth = 3.28" for 25-Year event
Inflow = 10.94 cfs @ 12.43 hrs, Volume= 59,982 cf
Outflow = 10.89 cfs @ 12.46 hrs, Volume= 59,982 cf, Atten= 0%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 5.9 min

Peak Storage= 1,222 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 2.00' Flow Area= 41.5 sf, Capacity= 422.57 cfs

Custom cross-section, Length= 457.9' Slope= 0.0426 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 143.50', Outlet Invert= 124.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	132.00	0.00
12.69	130.00	2.00
41.49	132.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	41.5	41.7	18,998	422.57

Summary for Reach R4:

Inflow Area = 20,826 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf
Outflow = 0.97 cfs @ 12.42 hrs, Volume= 5,237 cf, Atten= 0%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.46 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 3.9 min

Peak Storage= 106 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 2.00' Flow Area= 33.2 sf, Capacity= 356.54 cfs

Custom cross-section, Length= 268.0' Slope= 0.0476 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 156.25', Outlet Invert= 143.50'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	150.00	0.00
16.89	148.00	2.00
33.16	150.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	33.2	33.4	8,887	356.54

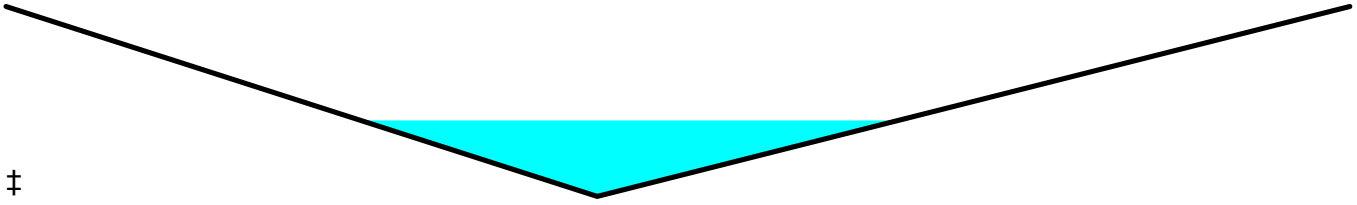
Summary for Reach R5:

Inflow Area = 404,389 sf, 0.81% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf
Outflow = 22.94 cfs @ 12.27 hrs, Volume= 101,684 cf, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.73 fps, Avg. Travel Time= 2.9 min

Peak Storage= 1,693 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 2.00' Flow Area= 35.0 sf, Capacity= 263.28 cfs

Custom cross-section, Length= 301.4' Slope= 0.0232 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 160.00', Outlet Invert= 153.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	160.00	0.00
15.41	158.00	2.00
35.03	160.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	35.0	35.3	10,558	263.28

Summary for Pond CB1:

Inflow Area = 47,207 sf, 38.39% Impervious, Inflow Depth = 4.28" for 25-Year event
Inflow = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf
Outflow = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.38' @ 12.11 hrs
Flood Elev= 169.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.80'	**15.0" Round SD-5** L= 298.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 164.80' / 162.55' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.46 cfs @ 12.11 hrs HW=166.34' TW=164.19' (Dynamic Tailwater)
1=SD-5 (Inlet Controls 4.46 cfs @ 3.63 fps)

Summary for Pond CB2:

Inflow Area = 55,700 sf, 46.14% Impervious, Inflow Depth = 4.46" for 25-Year event
Inflow = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf
Outflow = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 164.26' @ 12.11 hrs
Flood Elev= 166.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.20'	**15.0" Round SD-7** L= 141.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 162.20' / 160.75' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.51 cfs @ 12.11 hrs HW=164.22' TW=156.18' (Dynamic Tailwater)
1=SD-7 (Inlet Controls 5.51 cfs @ 4.49 fps)

Summary for Pond CB3:

Inflow Area = 4,209 sf, 90.83% Impervious, Inflow Depth = 5.44" for 25-Year event
Inflow = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf
Outflow = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 164.27' @ 12.16 hrs
Flood Elev= 166.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.30'	**15.0" Round SD-8** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 162.30' / 162.10' S= 0.0091 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=163.73' TW=164.15' (Dynamic Tailwater)
1=SD-8 (Controls 0.00 cfs)

Summary for Pond CB4:

Inflow Area = 57,685 sf, 47.79% Impervious, Inflow Depth = 4.50" for 25-Year event
Inflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf
Outflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 156.20' @ 12.11 hrs
Flood Elev= 165.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.70'	**18.0" Round SD-9** L= 223.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 154.70' / 153.00' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.78 cfs @ 12.11 hrs HW=156.19' TW=153.35' (Dynamic Tailwater)
1=SD-9 (Inlet Controls 5.78 cfs @ 3.28 fps)

Summary for Pond EX: EXISTING FARM POND

Inflow Area = 102,691 sf, 10.15% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 5.56 cfs @ 12.31 hrs, Volume= 26,634 cf
Outflow = 5.55 cfs @ 12.33 hrs, Volume= 22,885 cf, Atten= 0%, Lag= 1.3 min
Primary = 5.55 cfs @ 12.33 hrs, Volume= 22,885 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 183.04' @ 12.33 hrs Surf.Area= 5,275 sf Storage= 3,968 cf

Plug-Flow detention time= 90.8 min calculated for 22,885 cf (86% of inflow)

Center-of-Mass det. time= 27.4 min (870.2 - 842.8)

Volume	Invert	Avail.Storage	Storage Description
#1	182.00'	6,564 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
182.00	2,462	192.9	0	0	2,462
183.00	5,206	276.1	3,749	3,749	5,576
183.50	6,063	295.5	2,815	6,564	6,470

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**275.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.50 cfs @ 12.33 hrs HW=183.04' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.50 cfs @ 0.48 fps)

Summary for Pond FB1:

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 9.03 cfs @ 12.14 hrs, Volume= 36,499 cf
Outflow = 6.30 cfs @ 12.31 hrs, Volume= 36,503 cf, Atten= 30%, Lag= 10.2 min
Primary = 0.58 cfs @ 12.31 hrs, Volume= 306 cf
Secondary = 5.72 cfs @ 12.31 hrs, Volume= 36,196 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 140.93' @ 12.31 hrs Surf.Area= 5,483 sf Storage= 12,441 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 268.0 min (1,071.8 - 803.9)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	18,876 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
138.00	3,169	223.6	0	0	3,169
140.00	4,624	261.3	7,747	7,747	4,702
142.00	6,561	317.8	11,129	18,876	7,370

Device	Routing	Invert	Outlet Devices
#1	Primary	140.85'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	135.73'	**12.0" Round Culvert** L= 39.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 135.73' / 135.50' S= 0.0058 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	139.50'	**8.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	140.75'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#5	Device 2	135.83'	**1.2" Vert. 1-1/4" DRILL HOLE IN END CAP** C= 0.600
#6	Device 5	135.83'	**4.0" Vert. 4" UD** C= 0.600
#7	Device 6	138.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.55 cfs @ 12.31 hrs HW=140.93' TW=135.90' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.55 cfs @ 0.71 fps)

Secondary OutFlow Max=5.65 cfs @ 12.31 hrs HW=140.93' TW=135.90' (Dynamic Tailwater)
└─**2=Culvert** (Passes 5.65 cfs of 7.99 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 3.49 cfs @ 4.19 fps)
  ├─**4=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 2.08 cfs)
  └─**5=1-1/4" DRILL HOLE IN END CAP** (Orifice Controls 0.08 cfs @ 10.79 fps)
    └─**6=4" UD** (Passes 0.08 cfs of 0.93 cfs potential flow)
      └─**7=Exfiltration** (Passes 0.08 cfs of 0.31 cfs potential flow)

Summary for Pond FB2:

Inflow Area = 198,769 sf, 5.56% Impervious, Inflow Depth = 3.31" for 25-Year event
Inflow = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf
Outflow = 9.96 cfs @ 12.43 hrs, Volume= 54,745 cf, Atten= 14%, Lag= 7.7 min
Primary = 2.54 cfs @ 12.43 hrs, Volume= 1,762 cf
Secondary = 7.42 cfs @ 12.43 hrs, Volume= 52,983 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 148.66' @ 12.43 hrs Surf.Area= 3,577 sf Storage= 6,388 cf

Plug-Flow detention time= 65.7 min calculated for 54,717 cf (100% of inflow)
Center-of-Mass det. time= 66.4 min (903.7 - 837.4)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	12,068 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	1,349	239.6	0	0	1,349
148.00	2,973	292.5	4,216	4,216	3,651
150.00	4,963	356.5	7,851	12,068	7,020

Device	Routing	Invert	Outlet Devices
#1	Primary	148.45'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	143.73'	**12.0" Round Culvert** L= 47.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 143.73' / 143.50' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	143.83'	**0.8" Vert. 13/16" DRILL HOLE IN END CAP** C= 0.600
#4	Device 3	143.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	146.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	147.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=2.47 cfs @ 12.43 hrs HW=148.66' TW=144.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.47 cfs @ 1.18 fps)

Secondary OutFlow Max=7.42 cfs @ 12.43 hrs HW=148.66' TW=144.00' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 7.42 cfs @ 9.44 fps)
  └─**3=13/16" DRILL HOLE IN END CAP** (Passes < 0.04 cfs potential flow)
    └─**4=4" UD** (Passes < 0.91 cfs potential flow)
      └─**5=Exfiltration** (Passes < 0.20 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Passes < 11.65 cfs potential flow)

Summary for Pond FB3:

Inflow Area = 57,985 sf, 4.66% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf
Outflow = 3.92 cfs @ 12.24 hrs, Volume= 16,444 cf, Atten= 1%, Lag= 1.4 min
Primary = 3.90 cfs @ 12.24 hrs, Volume= 14,400 cf
Secondary = 0.02 cfs @ 12.24 hrs, Volume= 2,044 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 173.38' @ 12.24 hrs Surf.Area= 1,549 sf Storage= 1,428 cf

Plug-Flow detention time= 86.0 min calculated for 16,435 cf (100% of inflow)
Center-of-Mass det. time= 86.5 min (915.8 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	172.00'	5,124 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.00	591	206.8	0	0	591
174.00	2,123	296.1	2,556	2,556	4,200
175.00	3,041	316.2	2,568	5,124	5,226

Device	Routing	Invert	Outlet Devices
#1	Primary	173.10'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	169.65'	**0.6" Vert. 5/8" DRILL HOLE IN 4" END CAP** C= 0.600
#3	Device 2	169.83'	**4.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 169.83' / 169.65' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#4	Device 3	169.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	172.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=3.87 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 3.87 cfs @ 1.37 fps)

Secondary OutFlow Max=0.02 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**2=5/8" DRILL HOLE IN 4" END CAP** (Orifice Controls 0.02 cfs @ 9.27 fps)
└─**3=Culvert** (Passes 0.02 cfs of 0.52 cfs potential flow)
└─**4=4" UD** (Passes 0.02 cfs of 0.77 cfs potential flow)
└─**5=Exfiltration** (Passes 0.02 cfs of 0.09 cfs potential flow)

Summary for Pond FB4: STORAGE VOL

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	14,558 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	3,855	367.5	0	0	3,855
178.00	6,173	405.2	9,937	9,937	6,299
178.70	7,038	418.4	4,621	14,558	7,210

Summary for Pond FB4&5:

Inflow Area = 227,364 sf, 15.83% Impervious, Inflow Depth = 3.60" for 25-Year event
Inflow = 7.46 cfs @ 12.75 hrs, Volume= 68,166 cf
Outflow = 7.37 cfs @ 12.84 hrs, Volume= 68,171 cf, Atten= 1%, Lag= 5.3 min
Primary = 2.84 cfs @ 12.84 hrs, Volume= 10,915 cf
Secondary = 4.52 cfs @ 12.84 hrs, Volume= 57,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.53' @ 12.84 hrs Surf.Area= 10,845 sf Storage= 13,371 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 210.3 min (1,058.1 - 847.8)

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	28,097 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	6,791	877.0	0	0	6,791
178.00	12,279	952.4	18,801	18,801	17,919
178.70	14,307	978.8	9,296	28,097	22,032

Device	Routing	Invert	Outlet Devices
#1	Primary	177.30'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	173.73'	**15.0" Round Culvert** L= 41.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 173.73' / 173.50' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 2	173.83'	**1.8" Vert. 1-3/4" DRILL HOLE IN 4" END CAP** C= 0.600
#4	Device 3	173.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	176.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	177.20'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=2.84 cfs @ 12.84 hrs HW=177.53' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.84 cfs @ 1.24 fps)

Secondary OutFlow Max=4.52 cfs @ 12.84 hrs HW=177.53' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 4.52 cfs of 8.31 cfs potential flow)
  ├─**3=1-3/4" DRILL HOLE IN 4" END CAP** (Orifice Controls 0.16 cfs @ 9.17 fps)
  │ └─**4=4" UD** (Passes 0.16 cfs of 0.79 cfs potential flow)
  │ └─**5=Exfiltration** (Passes 0.16 cfs of 0.60 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 4.36 cfs)

Summary for Pond FB5: STORAGE VOL

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	13,526 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	2,936	509.5	0	0	2,936
178.00	6,106	547.2	8,851	8,851	6,278
178.70	7,269	560.4	4,675	13,526	7,504

Summary for Pond SD1:

Inflow Area = 271,906 sf, 13.07% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 12.65 cfs @ 12.41 hrs, Volume= 68,371 cf
Outflow = 7.22 cfs @ 12.77 hrs, Volume= 68,371 cf, Atten= 43%, Lag= 21.6 min
Primary = 6.22 cfs @ 12.77 hrs, Volume= 42,154 cf
Secondary = 1.00 cfs @ 12.77 hrs, Volume= 26,218 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.05' @ 12.77 hrs Surf.Area= 8,311 sf Storage= 12,785 cf

Plug-Flow detention time= 19.0 min calculated for 68,336 cf (100% of inflow)
Center-of-Mass det. time= 19.0 min (870.7 - 851.7)

Volume	Invert	Avail.Storage	Storage Description
#1	174.00'	25,636 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
174.00	112	40.4	0	0	112
176.00	6,526	339.1	4,995	4,995	9,141
178.00	10,101	427.6	16,497	21,493	14,594
178.40	10,618	435.1	4,143	25,636	15,137

Device	Routing	Invert	Outlet Devices
#1	Primary	174.65'	**15.0" Round SD-1** L= 58.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 174.65' / 174.01' S= 0.0109 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	174.00'	**6.0" Round Culvert** L= 66.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 174.00' / 173.67' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=6.22 cfs @ 12.77 hrs HW=177.05' TW=0.00' (Dynamic Tailwater)
↑—**1=SD-1** (Inlet Controls 6.22 cfs @ 5.07 fps)

Secondary OutFlow Max=1.00 cfs @ 12.77 hrs HW=177.05' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Barrel Controls 1.00 cfs @ 5.10 fps)

Summary for Pond SD10:

Inflow Area = 404,389 sf, 0.81% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf
Outflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf, Atten= 0%, Lag= 0.0 min
Primary = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 163.47' @ 12.25 hrs
Flood Elev= 168.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.60'	**48.0" Round SD-10 w/ 24.0" inside fill** L= 64.6' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 159.60' / 158.00' S= 0.0248 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 6.28 sf

Primary OutFlow Max=22.94 cfs @ 12.25 hrs HW=163.47' TW=160.80' (Dynamic Tailwater)
└**1=SD-10** (Inlet Controls 22.94 cfs @ 3.72 fps)

Summary for Pond SD11:

Inflow Area = 20,826 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf
Outflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 161.98' @ 12.40 hrs
Flood Elev= 164.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.45'	**15.0" Round SD-11**
			L= 74.3' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 161.45' / 156.25' S= 0.0700 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.98 cfs @ 12.40 hrs HW=161.98' TW=156.47' (Dynamic Tailwater)
└**1=SD-11** (Inlet Controls 0.98 cfs @ 1.96 fps)

Summary for Pond SD2:

Inflow Area = 173,061 sf, 12.12% Impervious, Inflow Depth = 3.50" for 25-Year event
Inflow = 7.64 cfs @ 12.60 hrs, Volume= 50,499 cf
Outflow = 6.78 cfs @ 12.78 hrs, Volume= 50,499 cf, Atten= 11%, Lag= 10.9 min
Primary = 6.78 cfs @ 12.78 hrs, Volume= 50,499 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 178.77' @ 12.78 hrs Surf.Area= 4,211 sf Storage= 3,652 cf
Flood Elev= 180.46' Surf.Area= 8,160 sf Storage= 11,132 cf

Plug-Flow detention time= 9.1 min calculated for 50,499 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (861.4 - 853.2)

Volume	Invert	Avail.Storage	Storage Description
#1	177.00'	11,132 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
177.00	250	250.0	0	0	250
178.00	2,400	650.0	1,142	1,142	28,901
180.00	8,160	850.0	9,990	11,132	52,822

Device	Routing	Invert	Outlet Devices
#1	Primary	177.00'	**18.0" Round SD-2**

L= 65.5' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 177.00' / 176.70' S= 0.0046 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.78 cfs @ 12.78 hrs HW=178.77' TW=177.53' (Dynamic Tailwater)
└**1=SD-2** (Inlet Controls 6.78 cfs @ 3.83 fps)

Summary for Pond SD4:

Inflow Area = 21,588 sf, 40.11% Impervious, Inflow Depth = 4.22" for 25-Year event
Inflow = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf
Outflow = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.55' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	165.10'	**15.0" Round SD-4** L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.10' / 164.90' S= 0.0077 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.55 cfs @ 12.16 hrs HW=166.51' TW=166.22' (Dynamic Tailwater)
└**1=SD-4** (Inlet Controls 2.55 cfs @ 2.08 fps)

Summary for Pond SD6:

Inflow Area = 25,353 sf, 36.29% Impervious, Inflow Depth = 4.33" for 25-Year event
Inflow = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf
Outflow = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.61' @ 12.15 hrs
Flood Elev= 166.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	165.10'	**15.0" Round SD-6** L= 41.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.10' / 164.90' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.18 cfs @ 12.10 hrs HW=166.40' TW=166.34' (Dynamic Tailwater)
└**1=SD-6** (Inlet Controls 1.18 cfs @ 0.96 fps)

Summary for Link SP1:

Inflow Area = 448,922 sf, 11.32% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 20.28 cfs @ 12.39 hrs, Volume= 127,168 cf
Primary = 20.28 cfs @ 12.39 hrs, Volume= 127,168 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP2:

Inflow Area = 520,052 sf, 1.53% Impervious, Inflow Depth = 3.13" for 25-Year event
Inflow = 30.66 cfs @ 12.26 hrs, Volume= 135,435 cf
Primary = 30.66 cfs @ 12.26 hrs, Volume= 135,435 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP3:

Inflow Area = 87,016 sf, 3.10% Impervious, Inflow Depth = 3.27" for 25-Year event
Inflow = 5.72 cfs @ 12.22 hrs, Volume= 23,744 cf
Primary = 5.72 cfs @ 12.22 hrs, Volume= 23,744 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP4:

Inflow Area = 12,962 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf
Primary = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP5:

Inflow Area = 505,226 sf, 14.45% Impervious, Inflow Depth = 3.29" for 25-Year event
Inflow = 14.66 cfs @ 12.81 hrs, Volume= 138,584 cf
Primary = 14.66 cfs @ 12.81 hrs, Volume= 138,584 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

ATTACHMENT 6

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

EVENTIDE SUBDIVISION
WINDHAM, MAINE

Responsible Party

Applicant: ROW EVEN, LLC
17 Bucket Lane
Yarmouth, ME 04096

The owner/applicant is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records until such time that a condominium association is created. Once the association is established, maintenance will be the responsibility of the association. A permit transfer will be required to be issued to the Maine Department of Environmental Protection (MDEP) upon conveyance of the maintenance responsibility to the condominium association.

Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town and MDEP upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP* and *Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

During Construction

1. **Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected, including winter work, at least once a week as well as 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. 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 BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Construction vehicles and equipment:** Construction vehicles and equipment shall not be driven or stored within any proposed stormwater treatment pond or buffer. To ensure the buffer's natural condition and filtration capacity is maintained, prohibiting vehicles and equipment from these areas will limit the risk of inhibiting the function of the buffer due to compaction or vegetation impact.

4. **Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials 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.

2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for

treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (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.

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.

5. **Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

6. **Authorized Non-stormwater discharges:** It is the contractor's responsibility to 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:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town'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.

Post construction

1. **Inspection and Corrective Action:** All measures must be maintained by the owner in effective operating condition. A Qualified Post-Construction Stormwater Inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control, including the standards and conditions of the site's approvals. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   A. **Vegetated Areas:** 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 is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. **Vegetated Swales:** Inspect swales in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Grass to be mowed to a minimum height of six inches. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

C. **Culverts:** Inspect culverts in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the riprap inlet, at the riprap outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

D. **Catch Basins and Outlet Control Structures:** Inspect and, if required, clean out catch basins at least once a year, preferably in early spring. 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).

E. **Underdrained Filter Basins:** The filter basins are not intended to function as snow storage areas. Inspector to verify that winter plowing operations are not dumping or pushing snow into the basins. The basins shall also not be used for vehicle or heavy equipment storage. Basins should be inspected after several major storm events (0.5 inches rainfall over 24 hours) to determine drawdown time during the first year. The basins to be inspected every six months thereafter with at least one inspection after a major storm event.

   The basins should drain dry within 24 to 48 hours following a one-inch storm. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If water ponds on the surface of the bed for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up in the forebays and basins and remove as needed. Mowing of the basins can only occur semi-annually to a height of no less than 6 inches utilizing a hand-held string trimmer or push-mower. Any bare areas or erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. The basins should also be inspected annually for destabilization of side slopes, embankment settling and other signs of structural failure.

F. **Level Spreaders:** Level spreader should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Stormwater runoff should discharge from the level spreader as sheet flow, and any observed channelization of flows or erosion should be corrected immediately. Any woody vegetation growing through riprap must be removed. Replace riprap on areas where any underlying soil or sediment buildup is showing through the stone or where stones have been dislodged.

G. **Emergency Spillway:** Spillways should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Any woody vegetation growing through riprap lining must be removed. Replace riprap on areas where any underlying filter fabric is showing through the stone or where stones have been dislodged.

H. **Roofline Drip edges:** The drip edges should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The reservoir crushed stone should drain within 24 to 48 hours following a major storm event. If ponding exceeds 48 hours, the stone reservoir course shall be removed and the filter bed be rototilled to reestablish the soil's filtration capacity. If water ponds in the reservoir course for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up at surface and remove as needed. The drip edges are part of the stormwater management plan and cannot be paved over or altered in anyway.

I. **Regular Maintenance:** Clear accumulations of winter sand along roadway once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

J. **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 Town staff 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. Attached is a sample log.

Re-certification

As a requirement of the MDEP, a certification of the following items must be submitted 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.

Town of Windham Re-certification

As a requirement of the Town, the stormwater infrastructure shall be inspected yearly by a qualified third-party inspector. The third-party inspector shall perform an initial inspection to determine the status of the stormwater management facilities. If the initial inspection identifies any deficiencies with the facilities, the same third-party inspector shall re-inspect the facilities after they have been maintained or repaired to determine if they are performing as intended. Once the site is satisfactory, the third-party inspector shall submit the Annual Stormwater Management Facilities Certification form and report to the Office of Code Enforcement. The certification form shall be submitted to the Town prior to May 1 of each year.

Duration of Maintenance

Perform maintenance as described.

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(GENERAL INSPECTION FORM PAGE 1 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Vegetated Swales	Inspect after major rainfall event			
	Inspect for erosion or slumping & repair			
	Mowed at least annually.			
Culverts	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap within inlet and outlet aprons.			
	Clean accumulated sediment in culverts when >20% full.			
Catch Basins	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(GENERAL INSPECTION FORM PAGE 2 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Roofline Dripedges	Check after each rainfall event to ensure that the stone reservoir drains within 24-48 hours.			
	Replace top several inches of filter if reservoir does not drain within 72 hours.			
	Inspect and remove sediment or debris build up on the surface of the stone			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(UNDERDRAINED FILTER BASIN FB-_____)

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Underdrained Filter Basin	Check after each rainfall event to ensure that pond drains within 24-48 hours.			
	Replace top several inches of filter if pond does not drain within 72 hours.			
	Mow grass no more than twice a year to no less than 6 inches in height.			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
	Inspector to verify basin not utilized for snow storage			
	Inspector to verify basin not utilized for vehicle or heavy equipment storage.			
Outlet Control Structure	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			
Emergency Spillway	Inspect and remove obstructions as necessary.			
	Remove woody vegetation.			
	Replace riprap as necessary.			

SECTION 17

SOILS INFORMATION AND NATURAL RESOURCES

Section 17 – Soils Information and Natural Resources

A Class-A High Intensity Soil Survey was performed by Mark Hampton. The Soils Report and test pit logs are included in this section, and the Soils Map is included in the plan set. A wetlands evaluation and vernal pool assessment was also performed by Alex Finamore with Mainely Soils, LLC, and the Wetlands Report is included in this section for review.

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Soil Narrative Report

DATE:	Soil Profiles observed on September 23, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers Scale 1 inch equals 100 feet and two foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 100 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with two foot contours and ground control provided.

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Mark J. Hampton C.S.S. #216, L.S.E. #263 9/29/25

Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEY • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%, (C) 8-15%, (D) 15-25%

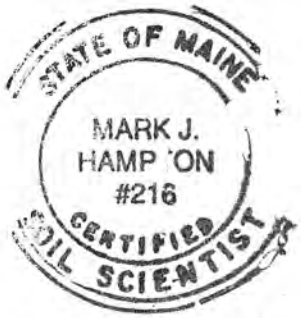
COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Olive brown, silt loam, 8-15"
Subsoil Layer:	Olive gray silty clay loam, 15-32"
Substratum:	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Scantic, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A)3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Subsoil Layer:	Olive silty clay loam, 16-29"
Substratum:	Olive gray clay loam, 29-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Made Land

SETTING

PARENT MATERIAL:	Derived from various fill materials.
LANDFORM:	N/A
POSITION IN LANDSCAPE:	N/A
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Generally well drained to moderately well drained
TYPICAL PROFILE:	Varies in profile and onsite from gravel to sandy loam
HYDROLOGIC GROUP:	Group B
SURFACE RUNOFF:	Rapid
PERMEABILITY:	Slow
DEPTH TO BEDROCK:	Less than 65 inches
HAZARD TO FLOODING:	None

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine

USE AND MANAGEMENT

Development: There may be limiting factors for building site development.

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Quality services that meet your deadline

8431

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST official professional seal

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PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group: ____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton

Signature

Mark J. Hampton

Name Printed

09/29/2025

Date

216

SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-9 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: ____ " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group:

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST affix professional seal

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

8431

PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road		Windham

Exploration Symbol # SS-13 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bw	Brown	F. Sandy Loam	Fine Grandul	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

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STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST

official professional seal

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PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-17 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-18 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 10 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-19 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name:

Limiting Factor: ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD

Slope: ____ Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

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SS License No.

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST
affix professional seal

To: Dustin Roma
DM Roma Consulting Engineers
PO BOX 1116
Windham, ME 04062

Date: September 4, 2025

From: Alexander A. Finamore, LSE
Mainely Soils, LLC

Re: 100 River Road, Windham, ME – Wetland Delineation Memorandum

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At the request of DM Roma Consulting Engineers (the "Client"), Mainely Soils conducted on-site wetland and waterbody delineations on an approximately 27.89 acre parcel located at 100 River Road in Windham, Maine. The property owner proposes to create more residential lots. These field investigations were performed to provide baseline environmental data to inform the proposed expansion of use of the site. The natural resources assessments described in this memorandum were completed in August of 2025. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within a zone of residential development along the River Road corridor identified as the Farming District in the Town of Windham. The proposed development site is currently occupied by a farmhouse, barn, open fields, and forested land on the southwestern portion of the site leading down to a railroad along the southwestern extent of the site. Surrounding land use of the site is residential. Access to the site will be from River Road. In total, the wetland and waterbody delineation survey area encompassed approximately 27.89 acres, identified by the Town of Windham as Tax Map 1, Lot 8.

SITE DESCRIPTION

The Study Area occurs in the Southern Coastal biophysical region of Maine (McMahon, 1990). The Southern Coastal biophysical region is characterized by relatively flat terrain, with elevations generally ranging up to 100 feet above sea level. Bedrock is frequently exposed and covered by thin glacial deposits. Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Extensive coarse-grained glaciomarine deposits occur in the central portion of the South Coastal Region and along its western margin. The survey area is located within the Presumpscot River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060001), although surface water drainage within the site and vicinity is highly altered by existing developed land surfaces and stormwater management systems.

The Natural Resource Conservation Service soil survey mapping identifies the majority of the native soils at the site as being formed within wind or water deposited material having a high content of silt and very fine sand. They are on lake plains and low benches on uplands.(Nicholville and Hartland series) (Web Soil Survey, 2025). Soils within the center portion of the Study Area are shown to have formed within glaciomarine or glaciolacustrine deposits on coastal lowlands and river valleys (Scantic series). The Nicholville series is moderately well drained, the Hartland series is well drained, and the Scantic series is poorly drained.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on August 7th, 2025. The boundary of wetlands were delineated in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987

Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and demarcated using pink day-glo flagging, with each flag labeled with the corresponding alphabetic wetland identification code and a flag number (i.e. A-1). Wetland flag locations were recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Representative photographs of each wetland were taken, field sketches were labeled of the wetland boundary on an aerial photograph-based map, and notes were recorded on the flagging sequence for each wetland.

Mainely Soils also surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. One intermittent stream and two perennial streams were delineated within the Study Area.

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

As onsite investigations took place in September outside of the vernal pool indicator breeding season, a preliminary Vernal pool survey was conducted at the 100 River Road site to identify and potential pool locations. No potential pools were identified onsite.

Study Results

Using the methodologies described above, a wetland delineation was performed on August 7th, 2025. A description of the identified resources follows. Supporting attachments include Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request.

Wetlands at the project site consisted of six distinct wetland features. Wetlands A, C, and D were isolated features within depressions in the surrounding landscape. Wetlands B, E, and F were located within narrow forested ravines and all drained in a westerly direction

Wetland A was located within a maintained hayfield and was classified as a seasonally saturated palustrine wet meadow wetland dominated by non-persistent emergent vegetation (PEM2E). Dominant vegetation included reed canary grass (*Phalaris arundinacea*), fringed sedge (*Carex crinita*), woolgrass (*Scirpus cyperinus*), purple loosestrife (*Lythrum salicaria*), and arrowleaf tearthumb (*Persicaria sagittata*). The soils within the wetland had a thick, dark loamy surface overlaying a depleted very fine sandy loam substratum. Evidence of wetland hydrology included small pockets of water, water stained leaves, and saturation to the soil surface at the time of field investigations on August 7th, 2025.

Wetlands C and D were located within the forested portion of the site and were located in natural depressions within the surrounding landscape. Vegetation was dominated by red maple (Acer rubrum), green ash (*Fraxinus pennsylvanica*), glossy buckthorn (*Frangula alnus*), winterberry (*Ilex verticillata*), sensitive fern (*Onoclea sensibilis*), fringed sedge, and

trillium (*Trillium erectum*). The soils within the wetland had a thin, dark loamy surface overlaying a depleted very fine sandy loam substratum. Evidence of wetland hydrology included water stained leaves, geomorphic position, and saturation to the soil surface at the time of field investigations on August 7th, 2025. Wetlands were characterised as seasonally saturated palustrine deciduous forested wetlands (PFO1E) and had similar vegetative dominance to Wetlands C and D. Wetlands B and E were associated with stream channels.

One intermittent stream was delineated within Wetland B. It was approximately 2 feet wide with 6" vertical banks. It had a sand/mud substrate with no flowing water at the time of the delineation. One perennial stream was located within Wetland E. It was approximately 3-4 feet wide, had 10-12 inch vertical banks, a sand/gravel substrate, and 1 inch of flowing water at the time of the delineation.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support permitting needs. Six wetland areas were delineated on the site, and were identified as Wetlands A, B, C, D, E, and F. All wetlands generally exhibited a saturated hydroperiod, and provided groundwater discharge, floodflow alteration, and stormwater/water quality maintenance functions. One intermittent stream and One perennial stream was identified on the site. No potential vernal pools were identified.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as "wetlands of special significance" (WOSS). Only those wetlands within 25 feet of the perennial streams constitute as a WOSS under NRPA, although all wetlands are still subject to NRPA jurisdiction as non-WOSS wetlands.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances. Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe.1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

McMahon, J.S. 1990. The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation. University of Maine.

U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Web Soil Survey. 2025. U.S. Department of Agriculture – Natural Resources Conservation Service. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Attachments:

1. Representative Site Photographs

Attachment 1

Representative Site Photographs



Photo 1: View looking southerly at Wetland A from flag 3



Photo 2: View looking southwesterly at Wetland B from flag 3



Photo 3: View looking northerly at Wetland C from flag 1



Photo 4: View looking easterly within the central portion of Wetland D



Photo 5: View looking westerly at Wetland E from flag 19



Photo 6: View looking northeasterly at Wetland F from flag 58



Photo 7: View looking upstream at Stream S1 within Wetland E



Photo 8: View looking upstream at Stream S1 within Wetland E



Photo 9: View looking upstream at Stream S2 within Wetland B



Photo 10: View looking southwesterly at the existing farm pond onsite



Photo 11: View looking at existing residential dwelling onsite

SECTION 18

WATER SUPPLY FOR DOMESTIC AND FIRE PROTECTION USE

Section 18 – Water Supply for Domestic and Fire Protection Use

Private on-site wells are proposed to serve each lot. The wells are intended to provide a potable water and fire protection source, with each proposed dwelling being required to have fire sprinklers installed.

Included in Section 19 - Provisions for Wastewater Disposal is a Nitrate and Groundwater Feasibility Assessment report prepared by Main-Land Development Consultants, Inc. Included within the section titled "Groundwater Feasibility Assessment" is information related to the groundwater and surrounding well's capacity with their determination of capacity for review.

SECTION 19

PROVISIONS FOR WASTEWATER DISPOSAL

Section 19 – Provisions for Wastewater Disposal

The project has a total wastewater design flow of approximately 6,120 gallons per day based on each house containing four (4) bedrooms or less. To ensure adequate existing soil conditions for a first-time septic system, Mainely Soils, LLC performed test pits within each lot. A narrative and the test pit logs have been included in this section for review. Site specific HHE-200 wastewater disposal system designs will need to be performed by a licensed site evaluator for each lot prior to construction.

Since the project site and abutting properties are served by private on-site wastewater disposal systems and on-site potable wells, a hydrogeologic assessment was performed on the project. Scott Dixon, certified geologist with Main-Land Development Consultants, Inc., performed the assessment and the report has been included in this section for review.

December 16, 2025

Dustin Roma
DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062

RE: Soil Evaluation for Subsurface Wastewater Disposal Systems and Stormwater
100 River Road, Windham, Maine

Dear Mr. Roma:

On December 16, 2025, twenty test pits were dug and assessed on 17 proposed residential house lots within the proposed subdivision located on the southwest side of River Road in Windham by Alexander Finamore, LSE #391. Each test pit was located by DM Roma Consulting Engineers and marked in the field with a stake and pink flag. All of the test pits were located in deep lacustrine silt loam soils and contained suitable soils to support a 'First Time System' according to the Maine Subsurface Waste Water Disposal Rules. Please find the soil profile descriptions of the test pits attached.

If you have any questions, please feel free to email me at: mainelysoils@gmail.com or call 207-650-4313.

Sincerely,

Alexander A. Finamore, LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-1** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
LOAM			OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	FEW, FINE FAINT

[X] hydric [ ] non-hydric | Slope %: 2-5 | Limiting factor: 28" | [x] ground water [x] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-2** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
LOAM			OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM		FEW, FINE FAINT
	FIRM		COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[x] hydric [ ] non-hydric | Slope %: 3 | Limiting factor: 17" | [X] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-3** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
SANDY LOAM			OBSERVED
		BROWN	
SILT LOAM		YELLOWISH BROWN	
	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE & FAINT
LARGE BOULDER/POTENTIAL BEDROCK @ 30"			

[ ] hydric [■] non-hydric | Slope %: 0-2 | Limiting factor: 30" | [■] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8/AIII (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-4** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE
			OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 32"			

[■] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 27" | [ ] ground water [■] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-5 [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
VERY FINE SANDY LOAM		BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[X] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 13" | [x] ground water [x] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-6 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	FEW, FINE FAINT

[x] hydric [ ] non-hydric | Slope %: 0-2 | Limiting factor: 28" | [X] ground water [X] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-7 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM,
LIMIT OF EXCAVATION = 26"			

[ ] hydric [■] non-hydric | Slope %: 3-5 | Limiting factor: 13" | [■] ground water restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-8 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 28"			

[■] hydric [ ] non-hydric | Slope %: 0-3 | Limiting factor: 18" | [■] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-9** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM w/ COBBLES			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[X] hydric [ ] non-hydric | Slope %: 0-3 | Limiting factor: 18" | x ground water, x restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-10** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 32"			

[x] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 26" | X ground water, X restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-11** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 30"			

[ ] hydric [■] non-hydric | Slope %: 3-5 | Limiting factor: 15" | ■ ground water, restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-12** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 30"			

[■] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 20" | ■ ground water, [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-13 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		BROWN	
VERY FINE SANDY LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

[X] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 26" | [x] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 3 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-14 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		YELLOWISH BROWN	
		LIGHT YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE, & FAINT
LIMIT OF EXACATION = 32"			

[x] hydric [ ] non-hydric | Slope %: 8 | Limiting factor: 26" | [X] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-15 | [X] Test Pit | [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 30"			

[ ] hydric [■] non-hydric | Slope %: 3 | Limiting factor: 19" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-16 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 30"			

[■] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 20" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-17** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
FINE SANDY LOAM			
VERY FINE SANDY LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
X non-hydric	3-5	26"	x ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 3 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-18** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		YELLOWISH BROWN	
FINE SANDY LOAM			
		LIGHT YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE, & FAINT
LIMIT OF EXACATION = 32"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
x non-hydric	3	24"	X ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-19** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
[ ] non-hydric	5-8	22"	[ ] ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-16** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
	FIRM	GRAY	
			MANY, COARSE, & PROMINENT
LIMIT OF EXACATION = 28"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
[ ] non-hydric	0-3	6"	[ ] ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

Nitrate and groundwater feasibility assessments

Proposed Eventide Subdivision
100 River Road
Windham, Maine

Prepared for: DM Roma Consulting Engineers

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
PO BOX Q, 69 MAIN STREET, LIVERMORE FALLS, MAINE 04254
367 U.S. ROUTE 1, N. BUILDING, FALMOUTH, MAINE 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
(207) 897-6752

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

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March 24, 2026

DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062
Attention: Mr. Jayson Haskell, P.E.
Mr. Dustin Roma, P.E.

Subject: Nitrate-nitrogen Impact and Groundwater Feasibility Assessments
Proposed Eventide Subdivision
100 River Road, Windham, Maine

Dear Gentlemen,

In conjunction with Local permitting requirements which you are pursuing, Main-Land Development Consultants, Inc. (Main-Land) is pleased to submit the following nitrate-nitrogen impact and groundwater availability assessments for the proposed project. The project site is depicted on the attached *Site Location Map*.

Nitrate-Nitrogen Assessment

Main-Land has reviewed your Drawing SB-1, *Subdivision Plan*, dated 3/6/26. The concept leachfields for all lots except Lots 1 through 3 are considered exempt from a nitrate-nitrogen assessment because they are oriented such that subsurface wastewater flow is toward a drainage divide and/or are internal to the property. Based on the inferred directions of topographic and groundwater gradients, flow from these leachfields is not directly toward and is not anticipated to impact a downgradient property boundary. Please see Drawing E1.0, *Existing Conditions and Groundwater Assessments* attached, which depicts estimated groundwater flow directions for the lots.

Proposed leachfields for Lots 1 through 3 are oriented such that groundwater flow is toward a downgradient property boundary. For the purposes of Local review, Main-Land has selected these three concept leachfield locations for nitrate attenuation analysis. Main-Land performed a nitrate-nitrogen attenuation analysis for soil conditions at each of these areas based on the Baetsle equation for modeling migration of a substance (nitrate) dissolved in groundwater through porous media. This approach allows an estimate of nitrate plume concentrations relative to time, distance, and initial concentration from a constant point source (i.e, the leachfield). Ultimately, this approach allows an estimate of the distribution of steady state plume concentrations downgradient from the leachfield.

As an example, the concept leachfield for Lot 2 (explored by Main-Land TP-A) will be used to show input parameters for the Baetsle equation which include the following:

Main-Land estimated hydraulic conductivity (k) of the observed lacustrine/Profile 8 soils using the Kozeny-Carmen equation and our grain size analysis of test pit samples. The estimated k-value based on the K-C analysis is approximately 1.5 feet/day. In addition, Main-Land reviewed hydraulic conductivity data of the mapped Lamoine/Buxton soils provided in the USDA SCS *Soil Survey of Cumberland County, Maine*. The k value provided in this document over the upper 20 inches of silt loam soil is approximately 0.5 feet/day. Based on this, Main-Land selected of value of k = 1 feet/day for the following analyses. Main-Land's log for TP-A, as well as the grain size and Kozeny-Carmen analyses are attached.

Based on soil type and estimated in-situ density, the average effective porosity, n, of 0.39 has been assigned. Based on Main-Land's review of provided topographic site plan and observations during our field visit, the gradient of the seasonal high groundwater surface is approximately 4%. Based on this, the groundwater seepage velocity, v, is found as:

$V = ki/n = (1 \text{ ft/day})(0.04)/0.39 = 1.02 \sim 1 \text{ ft/day}$

This velocity is used to determine dispersion coefficients for the x, y, and z directions downgradient of the leachfield used in the Baetsle analysis. For this example, the 10 mg/l isocon (i.e., the contour of the plume where 10 mg/l concentration occurs) for Lot 1 extends approximately 132 feet from the center of that lot's concept leachfield.

A summary of the Baetsle analyses conducted for the three concept leachfields is provided below:

Conceptual Leachfield Site	Design Flow	Estimated Hydraulic Conductivity, k	Estimated Distance to 10 mg/l Nitrate Isocon Downgradient from Leachfield (current distance to property boundary)
Lot 1	360 gpd	1 ft/day	132 feet (approx. 158 feet to property boundary along flow line)
Lot 2	360 gpd	1 ft/day	132 feet (approx. 200 feet to property boundary)
Lot 3	360 gpd	1 ft/day	132 feet (approx. 220 feet to property boundary)

This analysis was made assuming an initial standard nitrate concentration of 40 mg/l in residential wastewater from a 4-bedroom residential home (i.e., 360 gpd design flow), with no dilution by coincident rainwater. Baetsle analysis printouts for the estimated 10 mg/l plumes for the three leachfields analyzed are attached.

Concept leachfield locations for Lots 1 through 3, location of Main-Land's TP-A, estimated groundwater flow directions, and estimated nitrate plumes and shown on Drawing E1.0. An existing drilled well that serves the property at Map 1/Lot 10-A is depicted on this drawing. The estimated nitrate concentration at this well from the upgradient concept leachfield on Lot 2 is approximately 4.4 mg/l; this nitrate concentration is below the EPA's National Primary Drinking Water Standard of 10 mg/l and therefore does not exceed the standard.

In summary, the nitrate plumes from Lots 1 through 3 meet the intent of the standard of ***not exceeding*** 10 mg/l at the closest downgradient property line toward which the subsurface effluent will be

flowing. Furthermore, for existing wells and properly placed wells on the new lots, the 10 mg/l nitrate standard will also ***not be exceeded***.

Groundwater Feasibility Assessment

Main-Land reviewed groundwater data available from the Maine Geological Survey with respect to drilled bedrock water supply wells in the vicinity of the proposed subdivision. The proposed development will be served by private wells for water supply. Wells will be drilled into the underlying bedrock aquifer, which is mapped as Silurian/Ordovician-aged metamorphosed calcareous sandstone of the Vassalboro Formation.

Information provided on Maine Geological Survey (MGS) maps relative to existing bedrock water supply wells in the area indicates that twenty-three wells are located within an approximately 0.5 mile-radius of the project site for which well information is available. The wells mapped by the MGS range from about 71 to 500 feet in depth, and reported yields range from about 0.5 to 30 gpm; the average of the reported yields is approximately 11.5 gpm. See the attached *Well Data Map* for this supporting information.

Based on the above information regarding existing bedrock water supply wells in the area, the bedrock aquifer is likely to have adequate capacity to supply potable water to meet domestic demand without resulting in adverse on- or off-site influences such as excessive drawdown. In addition, review of the *Site Location Map* shows that the site is bounded on the west by the Presumpscot river, with uplands to the east. Due to the site's relative location in the lower part of the local watershed, groundwater will flow toward it to discharge at or near the river. The location relative to groundwater flow is beneficial to recharge groundwater extracted from the bedrock aquifer by the site and surrounding lots, and helps to buffer against adverse offsite impacts of the proposed subdivision.

Main-Land appreciates the opportunity to provide environmental consulting services for this project, and we look forward to providing future input as needed.

Sincerely,
Main-Land Development Consultants, Inc.

STATE OF MAINE
SCOTT R. DIXON
LSE 406
SITE EVALUATOR

STATE OF MAINE
SCOTT R. DIXON
NO. 435
CERTIFIED GEOLOGIST

Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist and GeoEngineer

Attachments: *Site Location Plan*
Drawing E1.0 - *Existing Conditions and Groundwater Assessments*

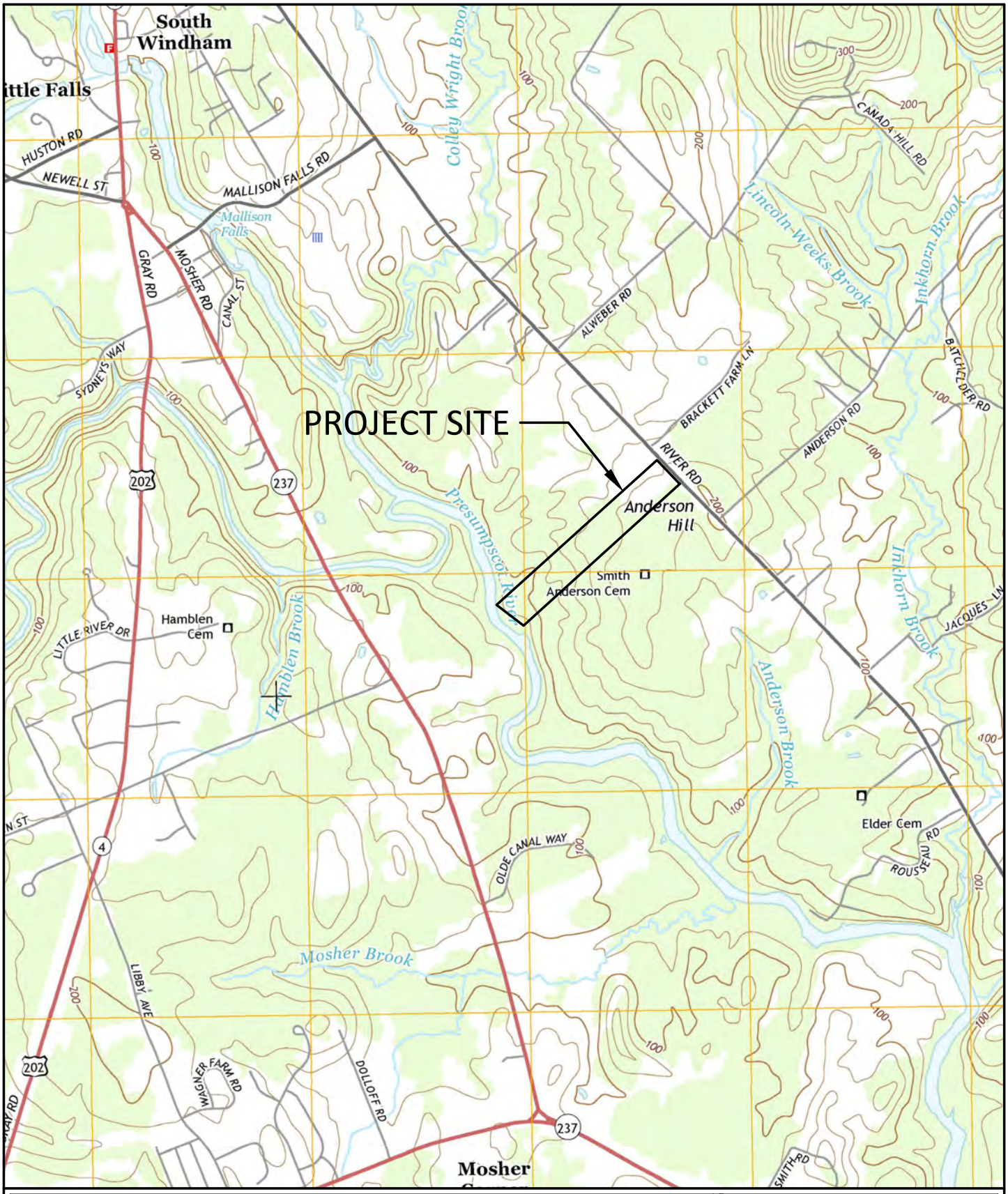
Test Pit Log
Grain Size and Kozeny-Carmen Analyses of test pit sample
Baetsle analysis printouts for nitrate assessments
Well Data Map

References

Chang, Tan-yueh "Philip", et. al., *Utilizing Baetsle's Equation to Model the Fate and Transport of MTBE in Groundwater*, Proceedings of the Petroleum Hydrocarbons and Organic Chemicals in Ground Water Prevention, Detection, and Remediation Conference, 1998, Houston, Texas.

Domenico, Patrick A., and Schwartz, Franklin W., 1990, Physical and Chemical Hydrogeology, John Wiley & Sons, Inc. publisher, New York City, New York, pp. 24-27

United States Dept. of Agriculture, Soil Conservation Service, Issued August 1974, *Soil Survey of Cumberland County, Maine*

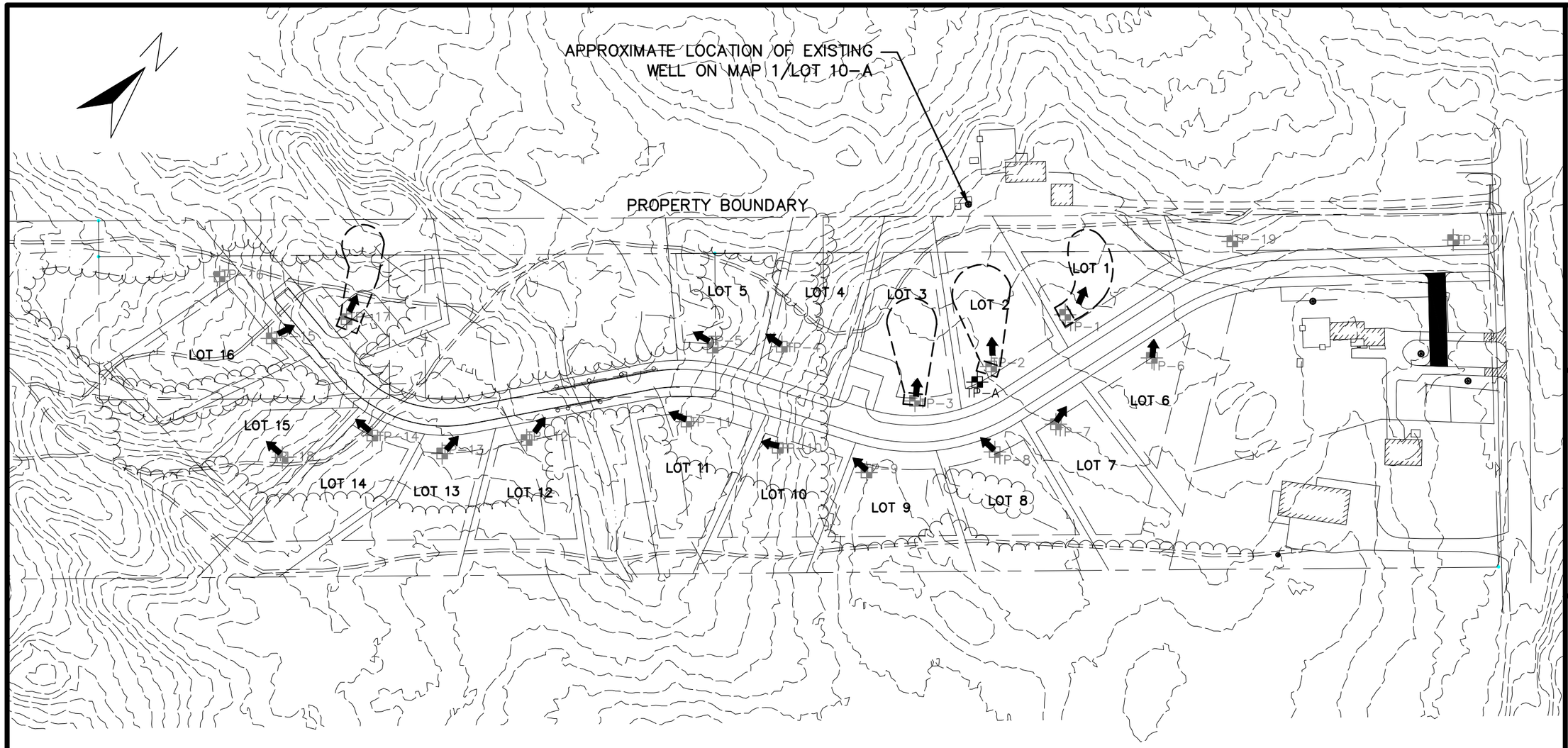


SITE LOCATION MAP

100 RIVER ROAD
WINDHAM, MAINE

SCALE: 1"=2000'
DATE: 09-30-2025
JOB NUMBER: 23056

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055



150 0 75 150

(IN FEET)

1 INCH = 150 FT

LEGEND

- INFERRED GROUNDWATER FLOW DIRECTION
- CONCEPT 4-BR LEACHFIELD LOCATIONS
- ESTIMATED EXTENT OF 10 mg/l NITRATE PLUME
- TP-A — MAIN-LAND TEST PIT MADE ON 03/12/26
- TP-2 — SEPTIC SUITABILITY TEST PITS BY OTHERS

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
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MLDC NO. 26-099
PROJ. MGR: SRD
DRAWN BY: HRD
CHECKED BY: SRD
REVISION NO. N/A
SURVEY DATE: N/A
ISSUE DATE: 2026-03-24
ISSUED FOR: REVIEW

NOT FOR CONSTRUCTION

PROJECT
PROPOSED EVENTIDE SUBDIVISION
100 RIVER ROAD, WINDHAM, ME

MADE FOR

EXISTING CONDITIONS AND GROUNDWATER ASSESSMENTS

DRAWING NO. E1.0

1 OF 1

PAGE 1 OF 1

FORM F Rev. 07/11a

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Eventide Subd.	DiRoma Cons. Engrs	Windham, ME

Exploration Symbol # TP-A ☑ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–10	Loam	Friable	Dark brown	None
10–20	Silt Loam		Light yellowish brown	
20–30				Few, faint
30–40	Probable till	Firm		
40–50				
50–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
B / C	3-5	18 "	☑	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Scott R. Dixon	Date: 3/12/26
Name Printed: Scott R. Dixon	Cert/Lic/Reg. #: SE 406

Title: ☒ Licensed Site Evaluator ☐ Certified Soil Scientist ☐ Certified Geologist ☒ Professional Engineer

STATE OF MAINE — SCOTT R. DIXON LSE 406 — SITE EVALUATOR — Professional Seal

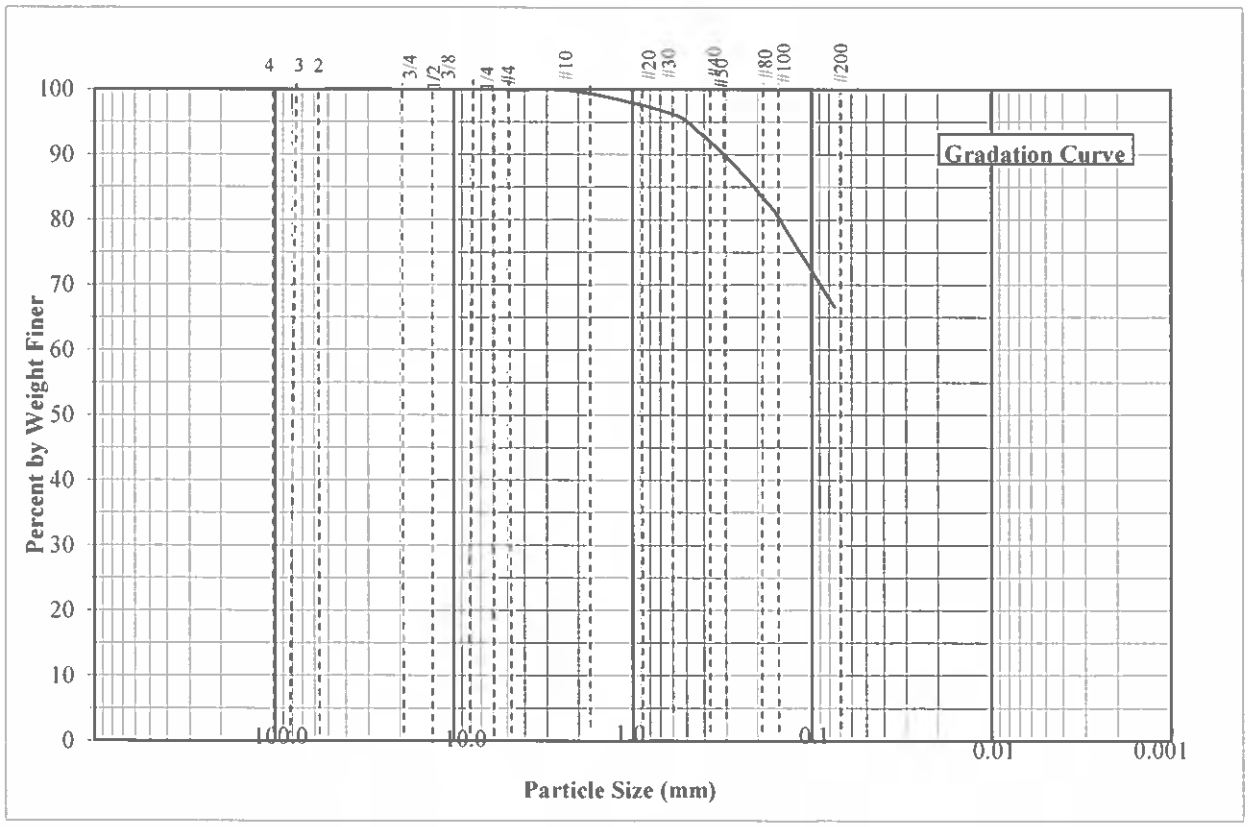
Main-Land Development Consultants, INC.
P.O. BOX Q LIVERMORE FALLS, ME 04254
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

GRAIN SIZE ANALYSIS - ASTM D422

PROJECT NAME:	Eventide Subdivision	PROJECT #:	26-099
CLIENT:	DM Roma Cons. Eng.	MAIN-LAND SAMPLE:	TP-A
M-L SOIL DES:	Silt Loam	INTENDED USE:	Gradation
SOURCE:	TP-A	SPECIFICATION:	N/A
DATE:	Sampled 3/12/26	TECHNICIAN:	JLD

DATA

PARTICLE SIZE mm		% BY WT FINER	STRUCTURAL FILL SPECIFICATION	COMMENTS
50.80	(2 in)	100	N/A	N/A
38.10	(1-1/2 in)	100		
25.40	(1 in)	100		
19.05	(3/4 in)	100		
12.70	(1/2 in)	100		
9.53	(3/8 in)	100		
6.35	(1/4 in)	100		
4.75	(No. 4)	99.9		
2.00	(No. 10)	99.6		
0.60	(No. 30)	96.2		
0.43	(No. 40)	93.4		
0.30	(No. 50)	89.6		
0.18	(No. 80)	82.8		
0.15	(No. 100)	79.8		
0.075	(No. 200)	66.6		



REMARKS:

Reviewed: Scott R. Dixon, P.E.
Date 3/17/26

Eventide TP-A

Sieve Sizes			Gradation Results		
Sieve size I.S. Standar		D_{ave}			
metric	Sieve No.	cm	% Pass	Fi	Fi/D_{ave}
10	4		100		
7.5	3	8.407395	100	0	0
5	2	5.880468	100	0	0
3.75	1.5	4.206612	100	0	0
2.5	1	2.942273	100	0	0
1.9	3/4	2.121418	100	0	0
1.25	1/2	1.480055	100	0	0
0.95	3/8	1.061444	100	0	0
0.63	1/4	0.74406	100	0	0
0.475	#4	0.532803	99.9	0.1	0.187687
0.2	#10	0.284117	99.6	0.3	1.055903
0.085	#20	0.120398	98	1.6	13.28922
0.0425	#40	0.056413	93.4	4.6	81.54196
0.018	#80	0.025572	82.8	10.6	414.5239
0.0106	#140	0.013188	71	11.8	894.736
0.0075	#200	0.008667	66.6	4.4	507.6538
0.00325	hyd #1	0.004582		0	0
0.00207	Hyd#2	0.002499		0	0
0.0012	Hyd#3	0.001506		0	0
0.00085	hyd#4	0.000984		0	0
0.0006	hyd#5	0.000696		0	0
0.0003	hyd#6	0.0004		0	0
0.00012	hyd#7	0.000175	0	66.6	33466.55

D_o est (cm)
0.0008

Sum= 35379.54
porosity, n= 0.38
void ratio, e= 0.612903

Shape Factor	
Shape	SF
Spherical	6
Rounded	6.1
Worn	6.4
Sharp	7.4
Angular	7.7

k=	0.000629 cm/sec	k=	1.783358	feet/day
k=	0.000609 cm/sec	k=	1.725367	feet/day
k=	0.000553 cm/sec	k=	1.567405	feet/day
k=	0.000414 cm/sec	k=	1.172405	feet/day
k=	0.000382 cm/sec	k=	1.082828	feet/day

about 1.5 ft/d

Spreadsheet for Nitrate attenuation after Baetsle and Chang: Eventide Subd. 10 mg/l extent at Lot 1

Proposed Eventide Subd., 100 River Rd., Windham, ME

$$C(x,y,z,t) = [CoVo/8(\pi t)^{1.5}((DxDyDz)^{.5}] \, e[-((x-vt)^2/4Dxt)-(y^2/4Dyt)-(z^2/4Dzt)]$$

Co = nitrate initial concetration
Vo = daily volume
T = time in days
Dxyt = Dispersion coefficient in x,y,z directions
x = distance of interest from source, parallel to g.w. flow
v = g.w. velocity
n = porosity 0.39
D = av
ax = dispersivity in x direction = $(0.83)[(\log_{10}(Lp)]^{2.414}$
Lp = vt

k=hydr. Cond	1	ft/day				
i=gradient	0.04	ft/ft	from site plan			
Variables:						
g.w. velocity	0.10	ft/day				
time	4380	days				
x, from source	132	feet		10.05388 mg/l	AFTER	12.0 years
y, from source cl	0	feet				
z, from source cl	2	feet				
Volume	360	gal/day	48.1283422 cubic feet			
Lp, plume length						
to center of mass	449.2307692	feet				
ax	17.01773141					
ay	5.672577138					
az	0.850886571					
Dx	1.74540835					
Dy	0.581802783					
Dz	0.087270418					
Initial concen	40					

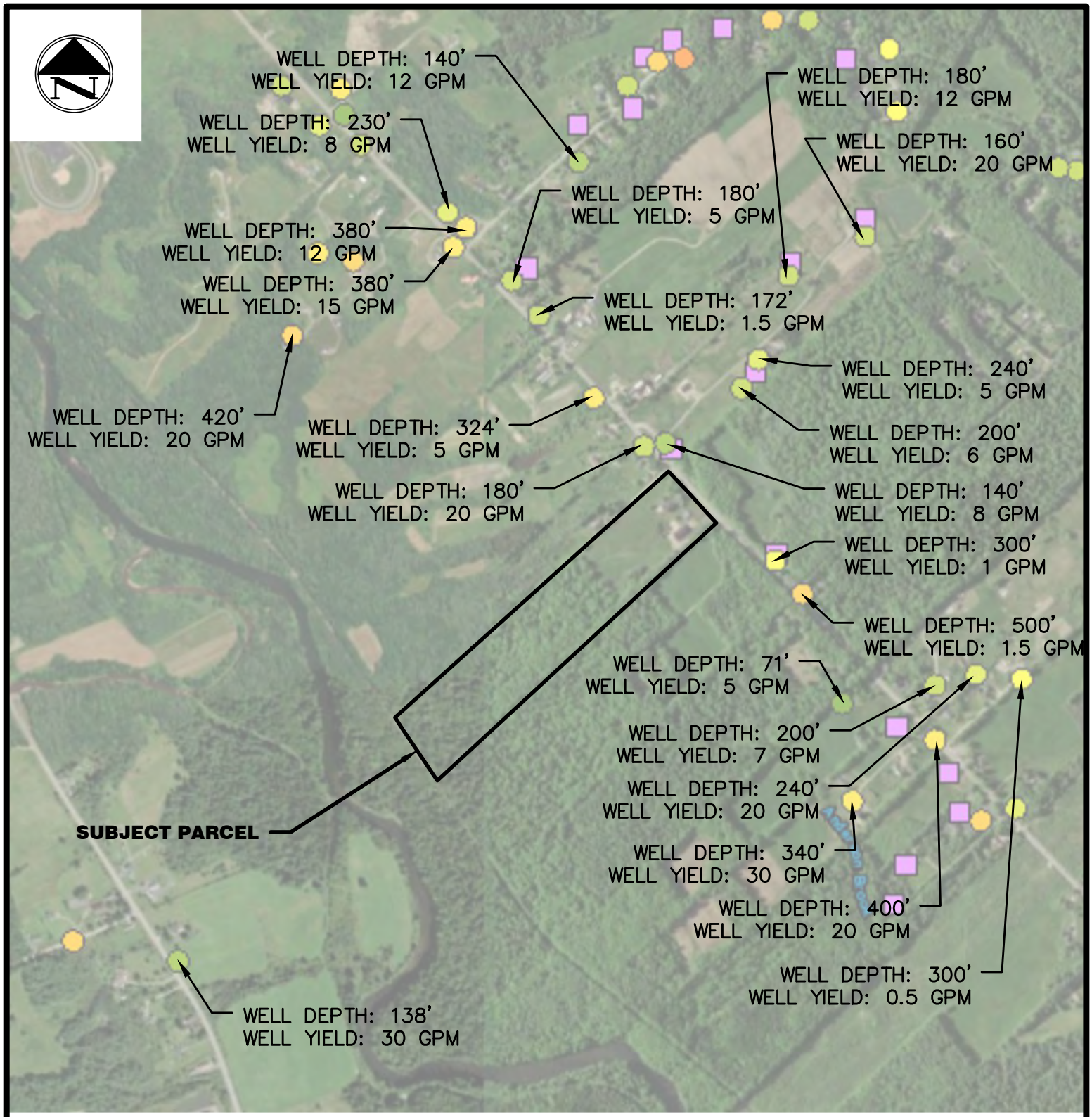
Spreadsheet for Nitrate attenuation after Baetsle and Chang: Eventide Subd., Nitrate at nearest exist. well below Lot 2

Proposed Eventide Subd., 100 River Rd., Windham, ME

$$C(x,y,z,t) = [CoVo/8(\pi t)^{1.5}((DxDyDz)^{.5}] \, e[-((x-vt)^2/4Dxt)-(y^2/4Dyt)-(z^2/4Dzt)]$$

Co = nitrate initial concetration
Vo = daily volume
T = time in days
Dxyt = Dispersion coefficient in x,y,z directions
x = distance of interest from source, parallel to g.w. flow
v = g.w. velocity
n = porosity 0.39
D = av
ax = dispersivity in x direction = $(0.83)[(\log_{10}(Lp)]^{2.414}$
Lp = vt

k=hydr. Cond	1	ft/day				
i=gradient	0.04	ft/ft	from site plan			
Variables:						
g.w. velocity	0.10	ft/day				
time	4380	days				
x, from source	220	feet		4.40895 mg/l	AFTER	12.0 years
y, from source cl	0	feet				
z, from source cl	2	feet				
Volume	360	gal/day	48.1283422 cubic feet			
Lp, plume length						
to center of mass	449.2307692	feet				
ax	17.01773141					
ay	5.672577138					
az	0.850886571					
Dx	1.74540835					
Dy	0.581802783					
Dz	0.087270418					
Initial concen	40					



NOTES

1. WELL DATA SHOWN DOWNLOADED FROM MAINE.MAPS.ARCGIS.COM

NOT FOR CONSTRUCTION

PROJECT:
PROPOSED EVENTIDE SUBD.
100 RIVER ROAD, WINDHAM, ME

DRAWING:
WELL DATA MAP
SCALE: 1" =1000'

MLDC NO.	26-099
PROJ. MGR:	SRD
DRAWN BY:	HRD
CHECKED BY:	SRD
REVISION NO.	N/A
ISSUE DATE:	2026-03-19
ISSUED FOR:	REVIEW

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

1PLN-SITE MAPS.dwg – 3/19/2026 4:15 PM – PLOTTED BY: HUNTER DALTON

SECTION 20

PROJECT COST ESTIMATE AND FINANCIAL CAPACITY

Section 20 – Project Cost Estimate and Financial Capacity

The project sitework costs are estimated to be the following:

1.	Site Preparation	$30,000
2.	Aggregates for Roads	$160,000
3.	Bituminous Pavement	$150,000
4.	Curbing	$20,000
5.	Electrical Conduit and Risers	$55,000
6.	Stormwater BMPs	$100,000
7.	Storm Drain Collection	$55,000
8.	Other Road Improvements	$45,000
9.	Loam and Seed	$35,000
	Total Sitework Estimate:	$650,000

Enclosed is a letter indicating that the applicant has the financial capacity to complete the project.

InnoVestus, LLC

March 31, 2026

Northeast Building and Development LLC
Ronald Goddard
17 Bucket Ln Yarmouth, ME 04096

RE: Loan Proposal – River Road

Dear Mr. Goddard:

This loan proposal letter is merely an indication of interest in the proposed financing of 17 lot subdivision located at 100 River Road in Windham Maine. This in no way represents a commitment for financing. A formal loan commitment would require ratification via our lender credit approval process, following additional due diligence, which has yet to be completely identified. However, our review indicates that you have creditworthiness and financial capacity to complete this project.

Borrower	Entity TBD
Co-Borrower	None
Guarantor (s)	Ron Goddard
Funding Amount	Up to $5 million (capped at 75% LTV)
Loan Terms	Interest only with construction revolver
Interest Rate	Market
Prepayment	None
Broker Fee:	1% of loan amount
Third Party Reports	As required
Other Closing Costs	The borrower will be responsible for all out of pocket expenses incurred by the lender in connection with the documentation, closing, and servicing of this transaction. These expenses may include, but are not limited to, filing fees, title insurance or other legal fees.

Borrower is responsible for all legal, recording, and out of pocket expenses incurred by the lender relative to this loan proposal whether or not this transaction is consummated.

The borrower must agree to deliver any documents that may be required by the lender to properly underwrite this transaction. Such documentation may include, but is not limited to the following:

CREDIT APPROVAL CONDITIONS

All conditions satisfied at this time.

LOAN COMMITMENT CONDITIONS

1. Confirmation of Town approval of the project
2. Acceptable MAI certified appraisal
3. Acceptable environmental phase 1 report (if necessary)
4. Acceptable survey report
5. Preliminary Title Commitment
6. Current insurance policy or premium quote on subject property.
7. Entity Documentation if title to be held in a name other than individual name.

If you have any questions on this conditional pre-approval or at any time during the loan process, please contact your Representative listed above.

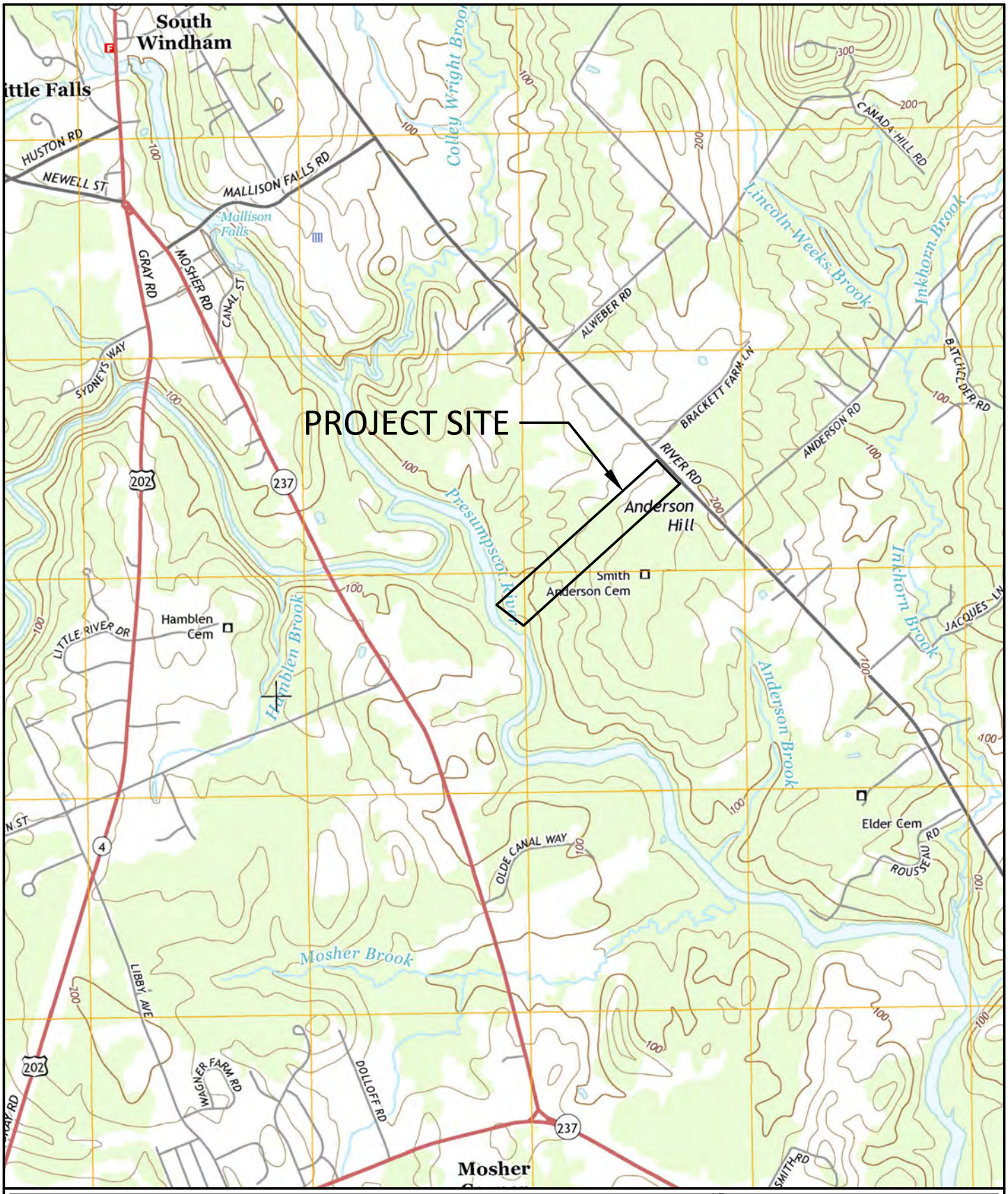
Sincerely,



David A. Richards
Managing Member

SECTION 21

SITE VICINITY MAP – USGS QUADRANGLE



SITE LOCATION MAP

100 RIVER ROAD
WINDHAM, MAINE

SCALE: 1"=2000'
DATE: 09-30-2025
JOB NUMBER: 23056

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

SECTION 22

FLOOD HAZARD AREAS

Section 22 – Flood Hazard Areas

Lot 9, not part of the subdivision, is located partially within the 100-year floodplain boundary. FEMA FIRMETTE is included as part of this application, and the limits of the 100-year floodplain boundary are shown on the project plans.

National Flood Hazard Layer FIRMette

FEMA

70°24'25"W 43°43'1"N



70°23'47"W 43°42'35"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/26/2025 at 1:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SECTION 23

IMPACT TO SITES OF HISTORICAL SIGNIFICANCE

Section 23 – Impacts to Sites of Historical Significance

The attached review letter from the Maine Historic Preservation Commission indicates that there will be no historic properties affected by the proposed project.

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

October 8, 2025

Mr. J.P. Connolly
DM Roma
PO Box 1116
Windham, ME 04062

Project: MHPC #1713-25 100 Rivers Road
Family Subdivision

Town: Windham, ME

Dear Mr. Connolly:

In response to your recent request, I have reviewed the information received September 30, 2025 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I have concluded that there will be no historic properties (architectural or archaeological) affected by this proposed undertaking, as defined by Section 106.

Please contact Megan Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

SECTION 24

MDEP STORMWATER PERMIT SUPPLEMENTAL MATERIALS

PUBLIC NOTICE INSTRUCTIONS AND CERTIFICATION

The Department's Chapter 2 rules, *Processing of Applications and Other Administrative Matters*, require an applicant to provide public notice within 30 days prior to filing a license application for most projects or activities requiring a permit from the Department (see Chapter 2, §13). In the notice, the applicant must provide the information included in the Department's Notice of Intent to File form. "Abutter" for the purposes of public notice means any person who owns property that is contiguous with the property on which the project requiring a license from the Department is proposed.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication.

2. **Abutters and Others Owning Land Within 1,000 Feet:** You must mail a copy of the Notice of Intent to File to abutters and all persons owning land within 1,000 feet of the proposed project. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office or County Commissioner(s):** You must mail a copy of the Notice of Intent to File and a duplicate of the entire application to the Municipal Office or, if the proposed project is located in an unorganized or deorganized area of the State, to the county commissioner(s). The Municipal Office or county commissioner(s) must receive notice within 30 days prior to the filing of the application with the Department.

ATTACH a copy of the published notice and a list of persons to whom notice was provided.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;

2. A mailing of the Notice of Intent to File was sent to all abutters and all other persons owning land within 1,000 feet of the proposed project within 30 days prior to filing of the application;

3. A mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located or, if applicable, to the county commissioner(s); and

4. Provided notice of and held a public informational meeting, if required, in accordance with the Department's Chapter 2 rules, §12, prior to filing the application. Notice of the meeting was sent to abutters and all other persons owning land within 1,000 feet of the proposed project and to the town office of the municipality in which the project is located or to the county commissioner(s), as applicable, at least at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on NA (Date).

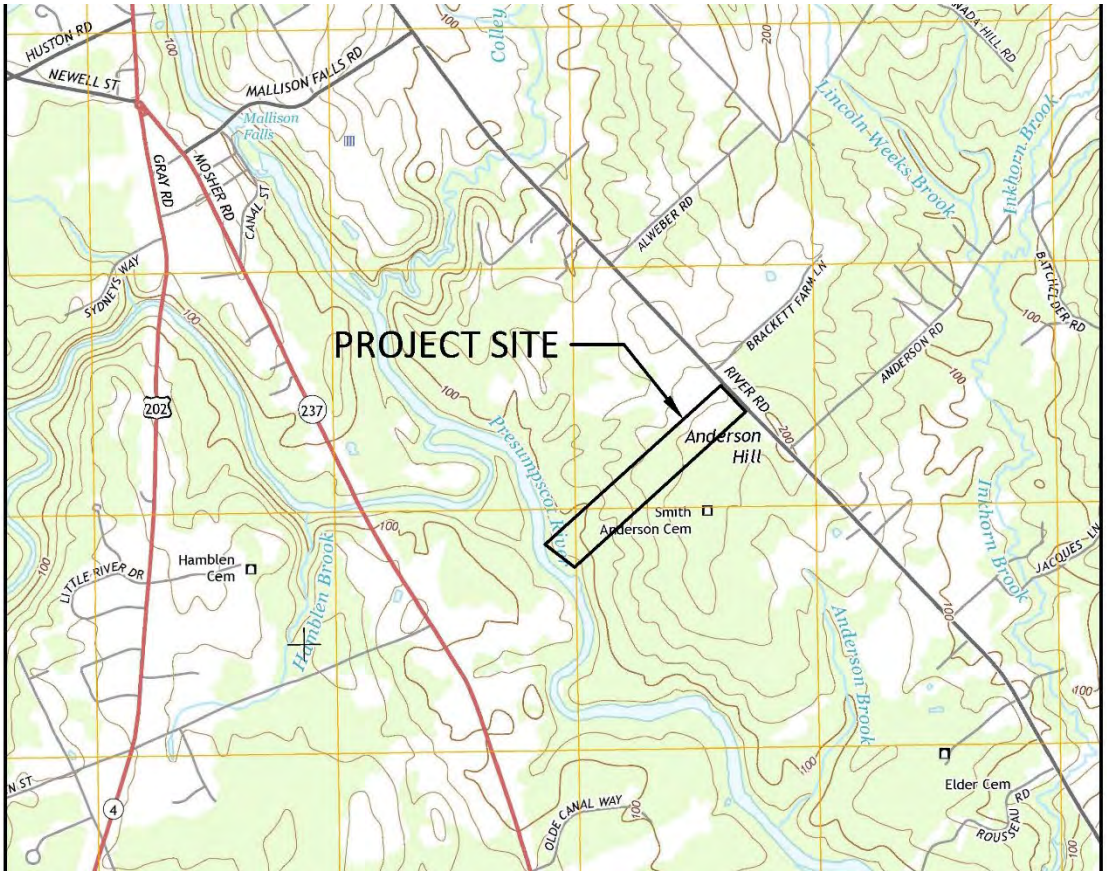
Approximately NA members of the public attended the Public Informational Meeting.

Signature of Applicant or Authorized Agent

4-6-2026
Date

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that Row Even LLC, with a mailing address of 17 Bucket Lane, Yarmouth, Maine 04096, is intending to file a Stormwater Law permit application pursuant to the provisions of 38 M.R.S.A. §§ 420-D with the Maine Department of Environmental Protection on or about February 23, 2026. The application is for the construction of a 17-lot residential subdivision with approximately 1,800 feet of new paved roads located adjacent to 100 River Road in Windham, Maine. A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the application processing period. The application will be filed for public inspection on the DEP's website at: https://www.maine.gov/mels/hub.html. Written public comments may be sent through the website. A copy of the application may also be seen at the municipal offices in Windham, Maine. For more information on how to submit public comment with the DEP, please go to the DEP's website: Public Participation in the Licensing Process (information sheet) Maine DEP.

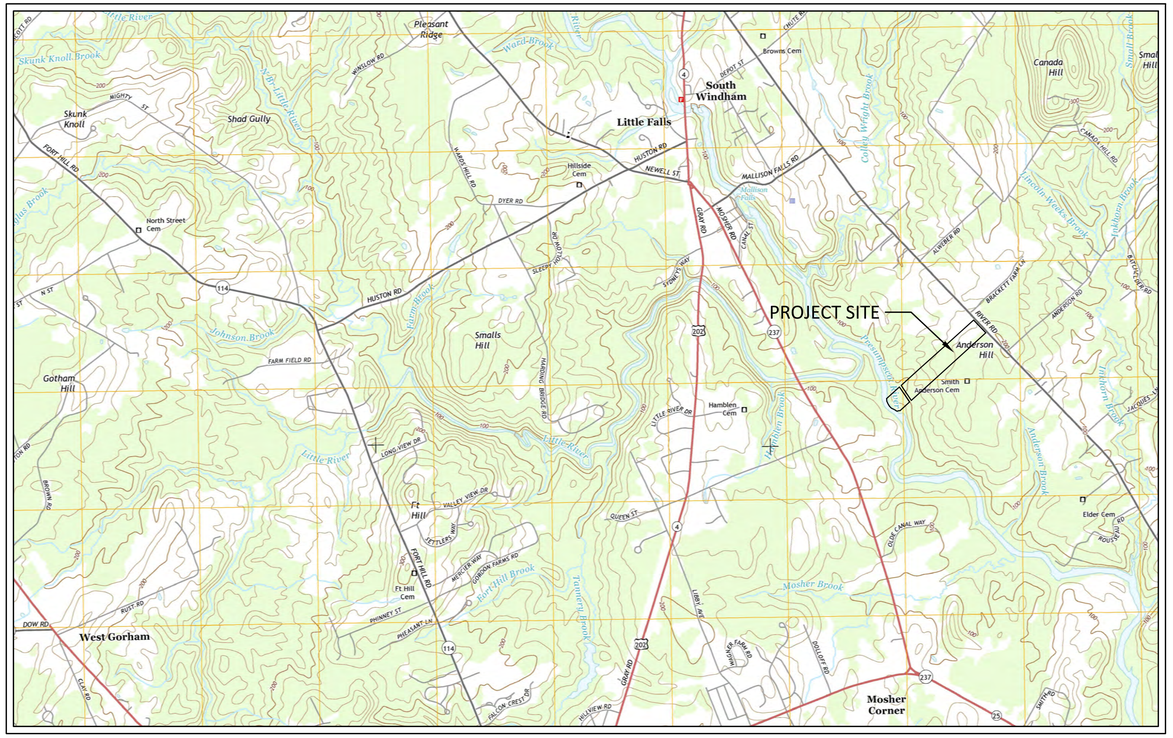


EVENTIDE SUBDIVISION

RIVER ROAD
WINDHAM, MAINE

CONSULTANTS

CIVIL ENGINEER	DM ROMA CONSULTING ENGINEERS
LAND SURVEYOR	SURVEY, INC
SITE EVALUATOR	MAINELY SOILS LLC
WETLAND SCIENTIST	MAINELY SOILS LLC
SOIL SCIENTIST	MARK HAMPTON ASSOCIATES
GEOLOGIST	MAIN-LAND DEVELOPMENT CONSULTANTS



PROJECT VICINITY MAP

ISSUED FOR PERMIT REVIEW - NOT FOR CONSTRUCTION

APRIL 6, 2026

PREPARED BY:

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

APPLICANT:

ROW EVEN, LLC
17 BUCKET LANE
YARMOUTH, ME 04096

EVENTIDE SUBDIVISION

DRAWING SHEET INDEX

PAGE NO.	DESCRIPTION
1	TITLE SHEET
2	BOUNDARY SURVEY
3	SUBDIVISION PLAN
4	ROADWAY PLAN AND PROFILE
5	ROADWAY PLAN AND PROFILE
6	DETAILS
7	DETAILS
8	DETAILS
9	DETAILS

PERMITTING PLAN ATTACHMENTS

CLASS A - HIGH INTENSITY SOILS SURVEY
WATERSHED MAP - EXISTING CONDITIONS
WATERSHED MAP - DEVELOPED CONDITIONS

VICINITY MAP

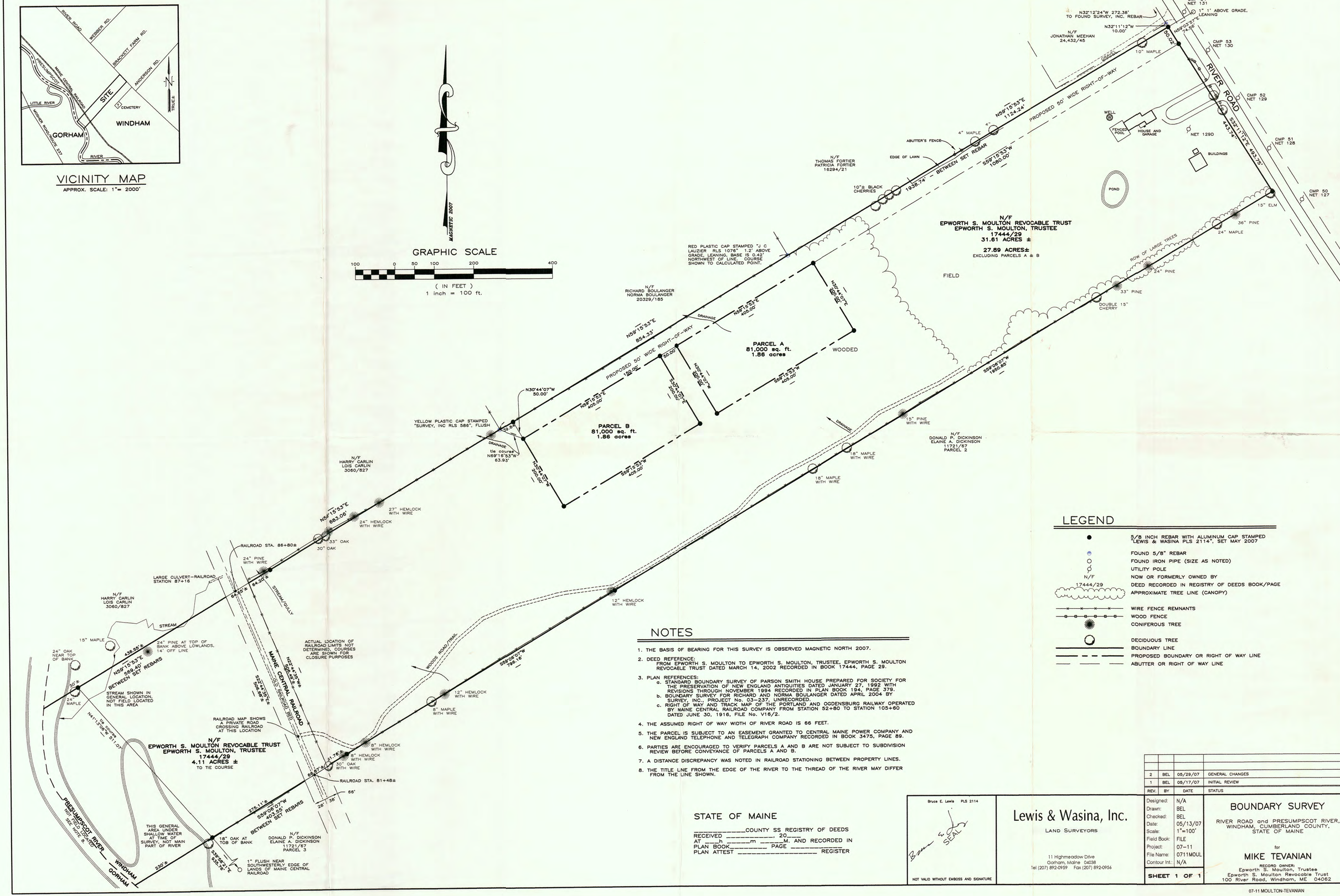
APPROX. SCALE: 1"= 2000'

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.



NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS OBSERVED MAGNETIC NORTH 2007.
2. DEED REFERENCE:
   FROM EPWORTH S. MOULTON TO EPWORTH S. MOULTON, TRUSTEE, EPWORTH S. MOULTON REVOCABLE TRUST DATED MARCH 14, 2002 RECORDED IN BOOK 17444, PAGE 29.
3. PLAN REFERENCES:
   a. STANDARD BOUNDARY SURVEY OF PARSON SMITH HOUSE PREPARED FOR SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES DATED JANUARY 27, 1992 WITH REVISIONS THROUGH NOVEMBER 1994 RECORDED IN PLAN BOOK 194, PAGE 379.
   b. BOUNDARY SURVEY FOR RICHARD AND NORMA BOULANGER DATED APRIL 2004 BY SURVEY, INC., PROJECT No. 03-237, UNRECORDED.
   c. RIGHT OF WAY AND TRACK MAP OF THE PORTLAND AND OGDENSBURG RAILWAY OPERATED BY MAINE CENTRAL RAILROAD COMPANY FROM STATION 52+80 TO STATION 105+60 DATED JUNE 30, 1916, FILE No. V16/2.
4. THE ASSUMED RIGHT OF WAY WIDTH OF RIVER ROAD IS 66 FEET.
5. THE PARCEL IS SUBJECT TO AN EASEMENT GRANTED TO CENTRAL MAINE POWER COMPANY AND NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY RECORDED IN BOOK 3475, PAGE 89.
6. PARTIES ARE ENCOURAGED TO VERIFY PARCELS A AND B ARE NOT SUBJECT TO SUBDIVISION REVIEW BEFORE CONVEYANCE OF PARCELS A AND B.
7. A DISTANCE DISCREPANCY WAS NOTED IN RAILROAD STATIONING BETWEEN PROPERTY LINES.
8. THE TITLE LINE FROM THE EDGE OF THE RIVER TO THE THREAD OF THE RIVER MAY DIFFER FROM THE LINE SHOWN.

LEGEND

- 5/8 INCH REBAR WITH ALUMINUM CAP STAMPED "LEWIS & WASINA PLS 2114", SET MAY 2007
- FOUND 5/8" REBAR
- FOUND IRON PIPE (SIZE AS NOTED)
- UTILITY POLE
- N/F — NOW OR FORMERLY OWNED BY
- 17444/29 — DEED RECORDED IN REGISTRY OF DEEDS BOOK/PAGE
- APPROXIMATE TREE LINE (CANOPY)
- WIRE FENCE REMNANTS
- WOOD FENCE
- CONIFEROUS TREE
- DECIDUOUS TREE
- BOUNDARY LINE
- PROPOSED BOUNDARY OR RIGHT OF WAY LINE
- ABUTTER OR RIGHT OF WAY LINE

STATE OF MAINE

_____COUNTY SS REGISTRY OF DEEDS
RECEIVED _____, 20____
AT _____h _____m _____M. AND RECORDED IN
PLAN BOOK_____ PAGE _____
PLAN ATTEST _____ REGISTER

Bruce E. Lewis PLS 2114

SEAL

NOT VALID WITHOUT EMBOSS AND SIGNATURE

Lewis & Wasina, Inc.
LAND SURVEYORS
11 Highmeadow Drive
Gorham, Maine 04038
Tel (207) 892-0959 Fax (207) 892-0956

REV.	BY	DATE	STATUS
2	BEL	05/29/07	GENERAL CHANGES
1	BEL	05/17/07	INITIAL REVIEW

Designed:	N/A
Drawn:	BEL
Checked:	BEL
Date:	05/13/07
Scale:	1"=100'
Field Book:	FILE
Project:	07-11
File Name:	0711MOUL
Contour Int.:	N/A

SHEET 1 OF 1

BOUNDARY SURVEY

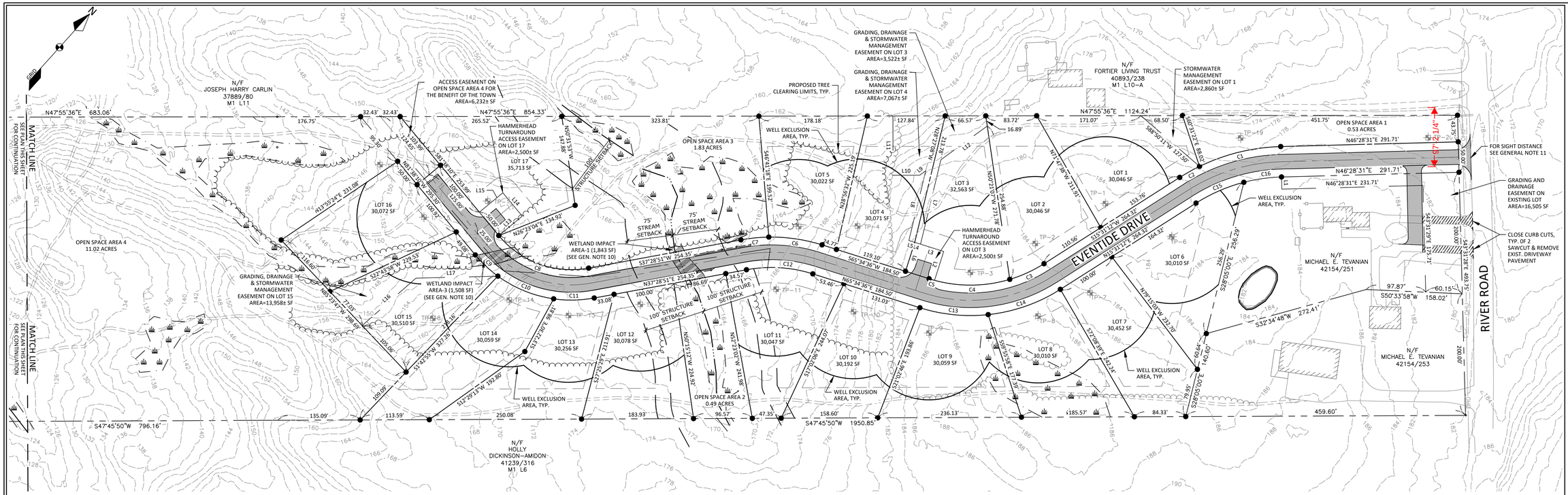
RIVER ROAD and PRESUMPSCOT RIVER, WINDHAM, CUMBERLAND COUNTY, STATE OF MAINE

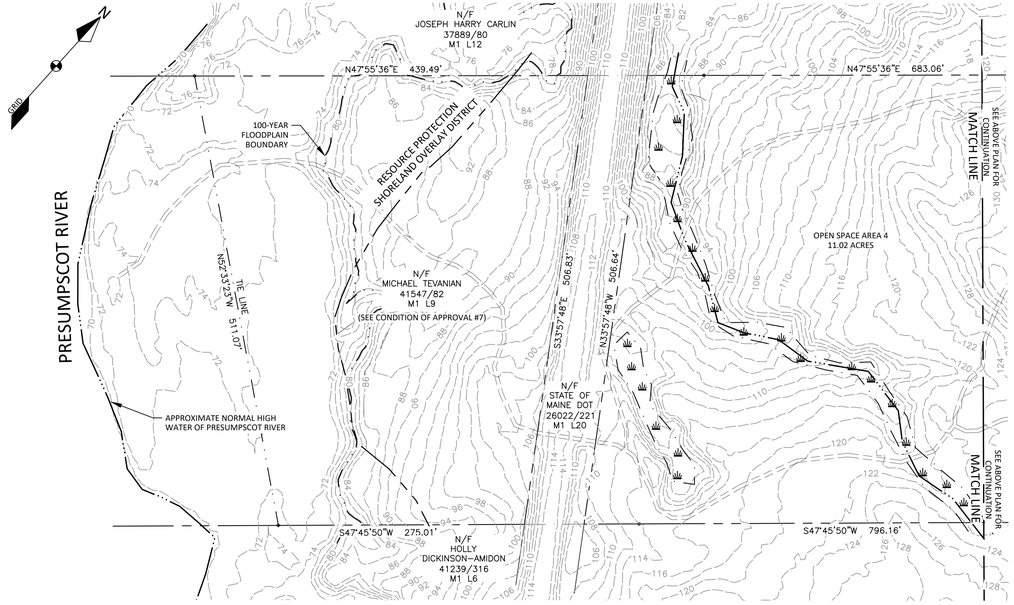
for

MIKE TEVANIAN

RECORD OWNER:
Epworth S. Moulton, Trustee
Epworth S. Moulton Revocable Trust
100 River Road, Windham, ME 04062

07-11 MOULTON-TEVANIAN





LINE TABLE

LINE #	LENGTH	BEARING
L1	20.00'	S43° 31' 29"E
L2	49.80'	N24° 25' 24"W
L3	39.98'	S65° 34' 36"W
L4	10.02'	S65° 34' 36"W
L5	10.02'	S65° 34' 36"W
L6	50.00'	S24° 25' 24"E
L7	142.72'	N28° 27' 08"W
L8	117.78'	N28° 27' 08"W
L9	12.25'	S11° 54' 38"W
L10	43.78'	S47° 55' 36"W
L11	97.47'	N42° 04' 24"W
L12	94.19'	S11° 54' 38"W
L13	50.00'	S8° 21' 50"W
L14	50.00'	S81° 38' 10"E
L15	50.00'	N8° 21' 50"E
L16	117.90'	N6° 32' 52"E
L17	134.63'	N46° 35' 46"E

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BRNG	CHORD LENGTH
C1	138.30'	325.00'	24° 22' 56"	S34° 17' 02"W	137.26'
C2	37.28'	325.00'	6° 34' 22"	S18° 48' 23"W	37.26'
C3	62.07'	225.00'	15° 48' 24"	N23° 25' 24"E	61.88'
C4	125.12'	225.00'	31° 51' 43"	N47° 15' 27"E	123.52'
C5	9.38'	225.00'	2° 23' 17"	N64° 22' 57"E	9.38'
C6	88.70'	275.00'	18° 28' 46"	S56° 20' 13"W	88.31'
C7	46.15'	275.00'	9° 36' 58"	S42° 17' 21"W	46.10'
C8	164.70'	155.00'	60° 52' 59"	N67° 55' 21"E	157.06'
C9	50.92'	205.00'	14° 13' 52"	S88° 45' 06"E	50.79'
C10	100.00'	205.00'	27° 56' 57"	N70° 09' 30"E	99.01'
C11	66.92'	205.00'	18° 42' 10"	N46° 49' 56"E	66.62'
C12	110.33'	225.00'	28° 05' 45"	S51° 31' 44"W	109.23'
C13	113.55'	275.00'	23° 39' 27"	N53° 44' 52"E	112.74'
C14	126.71'	275.00'	26° 23' 57"	N28° 43' 10"E	125.59'
C15	85.93'	275.00'	17° 54' 11"	S24° 28' 17"W	85.58'
C16	62.65'	275.00'	13° 03' 08"	S39° 56' 57"W	62.51'

LEGEND

EXISTING / PROPOSED

- PROPERTY LINE/R.O.W.
- ABUTTER PROPERTY LINE
- SETBACK
- EASEMENT LINE
- LIMITED COMMON ELEMENT
- GRANITE MONUMENT
- IRON PIN/DRILL HOLE
- CENTERLINE
- BUILDING
- EDGE OF PAVEMENT/CURB
- EDGE OF GRAVEL
- 200 / 201 CONTOUR LINE
- TREELINE
- EDGE OF WETLANDS
- CENTERLINE OF STREAM
- CULVERT/STORMDRAIN
- OHU UTILITY POLE / OVERHEAD UTILITIES
- TP-1 TEST PIT

NET RESIDENTIAL DENSITY CALCULATIONS:

GROSS LAND AREA:	1,216,303 S.F. (27.92 ACRES)
DEDUCTIONS:	
1. RIGHT-OF-WAY	91,960 S.F.
2. STEEP SLOPES (OVER 25%)	5,455 S.F.
3. 100-YEAR FLOOD PLAIN	0 S.F.
4. RESOURCE PROTECTION DISTRICT	0 S.F.
5. VERY POORLY DRAINED SOILS	98,260 S.F. (EXCLUDING #1)
6. SURFACE WATERBODIES	0 S.F.
7. SIGNIFICANT WILDLIFE HABITAT	0 S.F.
8. ENDANGERED BOTANICAL RESOURCES	0 S.F.
TOTAL NET AREA:	1,020,628 S.F. (23.43 ACRES)
REQUIRED NET AREA PER DWELLING:	60,000 S.F.
MAXIMUM ALLOWABLE LOTS/DWELLINGS:	17
NUMBER OF LOTS PROPOSED:	17

OPEN SPACE CALCULATIONS FOR CONSERVATION SUBDIVISION IN FARM RESIDENTIAL ZONE:

TOTAL NET RESIDENTIAL AREA DEDUCTIONS:	4.49 AC.
50% NET RESIDENTIAL AREA :	11.72 AC.
TOTAL OPEN SPACE REQUIRED:	16.21 AC.
OPEN SPACE PROVIDED (OPEN SPACE AREA 1-4):	13.87 AC.

(SEE WAIVERS AND CONDITIONS OF APPROVAL)

WAIVERS REQUESTED:

1. SECTION 911.K.6.b - MINIMUM OPEN SPACE FOR CONSERVATION SUBDIVISION, PERFORMANCE STANDARD
2. SECTION 911.M.2.A - MINIMUM ACCESS SPACING FOR STREETS
3. SECTION 911.M.5.A.1 - MINIMUM ACCESS SPACING FOR STREETS

CONDITIONS OF SUBDIVISION APPROVAL

1. APPROVAL IS DEPENDENT UPON, AND LIMITED TO, THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION DATED MARCH 19, 2026 AS AMENDED XXXXXXX XX, 2026 AND SUPPORTING DOCUMENTS AND ORAL REPRESENTATIONS SUBMITTED AND AFFIRMED BY THE APPLICANT, AND CONDITIONS, IF ANY, IMPOSED BY THE PLANNING BOARD, AND ANY VARIATION FROM SUCH PLANS, PROPOSALS, AND SUPPORTING DOCUMENTS AND REPRESENTATIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE PLANNING BOARD OR THE TOWN PLANNER IN ACCORDANCE WITH SECTION 913 OF THE SUBDIVISION ORDINANCE.
2. PRIOR TO THE PRE-CONSTRUCTION MEETING, A HOMEOWNERS ASSOCIATION BYLAWS, COVENANTS, AND DOCUMENTATION FOR THE CARE AND MAINTENANCE OF THE PRIVATE ROAD AND OPEN SPACE AREAS SHALL BE RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS AND A COPY OF THE RECORDED DOCUMENTATION SHALL BE SUBMITTED TO THE PLANNING DEPARTMENT FOR VERIFICATION.
3. PRIOR TO THE CONVEYANCE OF ANY LAND IN THE SUBDIVISION, THE APPLICANTS SHALL RECORD THE APPROVED PLAN IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS AND THE STREET ON WHICH THE LOT FRONTS ARE COMPLETE IN ACCORDANCE WITH THESE REGULATIONS UP TO AND INCLUDING THE ENTIRE FRONTAGE, PER SECTION 916.B.1&2.
4. APPROVAL IS SUBJECT TO THE REQUIREMENTS OF THE POST-CONSTRUCTION STORMWATER ORDINANCE, CHAPTER 144. ANY PERSON OWNING, OPERATING, LEASING OR HAVING CONTROL OVER STORMWATER MANAGEMENT FACILITIES REQUIRED BY THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN MUST ANNUALLY ENGAGE THE SERVICES OF A QUALIFIED THIRD-PARTY INSPECTOR WHO MUST CERTIFY COMPLIANCE WITH THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN ON OR BY MAY 1ST OF EACH YEAR.
5. IN ACCORDANCE WITH § 120-914(B)(5) AND § 120-815(C)(1)(B) OF THE LAND USE ORDINANCE, THE CONSTRUCTION OF IMPROVEMENTS COVERED BY ANY SUBDIVISION PLAN APPROVAL SHALL BE COMPLETED WITHIN TWO YEARS OF THE DATE UPON WHICH THE PERFORMANCE GUARANTEE IS ACCEPTED BY THE TOWN MANAGER. THE DEVELOPER MAY REQUEST A ONE-YEAR EXTENSION OF THE CONSTRUCTION COMPLETION DEADLINE PRIOR TO THE EXPIRATION OF THE PERIOD. SUCH REQUEST SHALL BE IN WRITING AND SHALL BE MADE TO THE TOWN PLANNER. THE TOWN MANAGER MAY REQUIRE AN UPDATE TO THE SCHEDULE OF VALUES AND THE AMOUNT OF THE GUARANTEE WHEN ACCEPTING AN EXTENSION OF THE CONSTRUCTION PERIOD. IF CONSTRUCTION HAS NOT BEEN COMPLETED WITHIN THE SPECIFIED PERIOD, THE TOWN SHALL, AT THE TOWN MANAGER'S DISCRETION, USE THE PERFORMANCE GUARANTEE TO EITHER RECLAIM AND STABILIZE THE SITE, OR TO COMPLETE THE IMPROVEMENTS AS SHOWN ON THE APPROVED PLAN.
6. THE DEVELOPMENT IS SUBJECT TO THE FOLLOWING ARTICLE 12 IMPACT FEES, TO BE PAID WITH THE ISSUANCE OF NEW BUILDING PERMITS FOR THE EXPANDED USES: RECREATION IMPACT FEE; OPEN SPACE IMPACT FEE; PUBLIC SAFETY IMPACT FEE; AND MUNICIPAL OFFICE IMPACT FEE. ALL FEES WILL BE DETERMINED AND COLLECTED FOR ANY BUILDING, OR ANY OTHER PERMIT FOR THE DEVELOPMENT § 120-1201C.
7. PRIOR TO THE RELEASE OF THE SIGNED SUBDIVISION PLAN FOR RECORDING, THE PARCEL IDENTIFIED AS LOT 9 ON TAX MAP 1 SHALL BE CONVEYED TO THE TOWN OF WINDHAM BY DEED.

GENERAL NOTES:

1. THE OWNER OF RECORD OF THE PROPERTY IS MICHAEL E. TEVANIAN BY DEED RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 42154 PAGE 255.
2. TOTAL AREA OF THE PARCEL IS APPROXIMATELY 27.92 ACRES.
3. PARCEL TAX MAP REFERENCE: TOWN OF WINDHAM ASSESSORS MAP 1, LOTS 8 (PORTION), 8-1, & 8-2.
4. PLAN REFERENCES:
   A) BOUNDARY SURVEY, RIVER ROAD AND PRESUMPSCOT RIVER, WINDHAM, MAINE FOR MIKE TEVANIAN, PREPARED BY LEWIS & WASINA, INC. AND RECORDED IN CCRD PLAN BOOK 207 PAGE 448.
   B) BOUNDARY SURVEY, 100 RIVER ROAD, WINDHAM, MAINE FOR DM ROMA CONSULTING ENGINEERS, PREPARED BY SURVEY, INC. DATED SEPTEMBER 2025.
5. HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
6. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
7. BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4B.
8. TOPOGRAPHIC CONTOURS SHOWN HEREON ARE BASED ON 2-FOOT LIDAR OBTAINED FROM THE MAINE OFFICE OF GIS.
9. THE PROPERTY IS LOCATED IN THE FARM DISTRICT WITH THE FOLLOWING DIMENSIONAL STANDARDS FOR LOTS WITHIN A CONSERVATION SUBDIVISION:

MIN LOT SIZE:	30,000 SF
MIN STREET FRONTAGE:	100 FT
MIN FRONT YARD:	25 FT
MIN SIDE/REAR YARD:	10 FT

10. WETLAND DELINEATION PERFORMED BY MAINELY SOILS LLC IN SEPTEMBER 2025. THIS DEVELOPMENT WILL IMPACT APPROXIMATELY 3,563 SF OF AREA DELINEATED AS WETLANDS.
11. VEHICLE SIGHT DISTANCE AT THE PROPOSED STREET INTERSECTION WAS MEASURED TO BE IN EXCESS OF 1,120 FEET LOOKING RIGHT (SOUTH) AND 1,580 FEET LOOKING LEFT (NORTH).

APPROVED - WINDHAM PLANNING BOARD:

CHAIRPERSON _____ DATE _____

STATE OF MAINE
_____ COUNTY SS. REGISTRY OF DEEDS
RECEIVED _____, 20____
AT ____h ____m ____M AND RECORDED IN
PLAN BOOK _____ PAGE _____
ATTEST: _____
REGISTER

NOT FOR CONSTRUCTION

JAYSON R. HASKELL No. 13202 STATE OF MAINE LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

SUBDIVISION PLAN

EVENTIDE SUBDIVISION

RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
SANDISFIELD, ME. 04096

RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

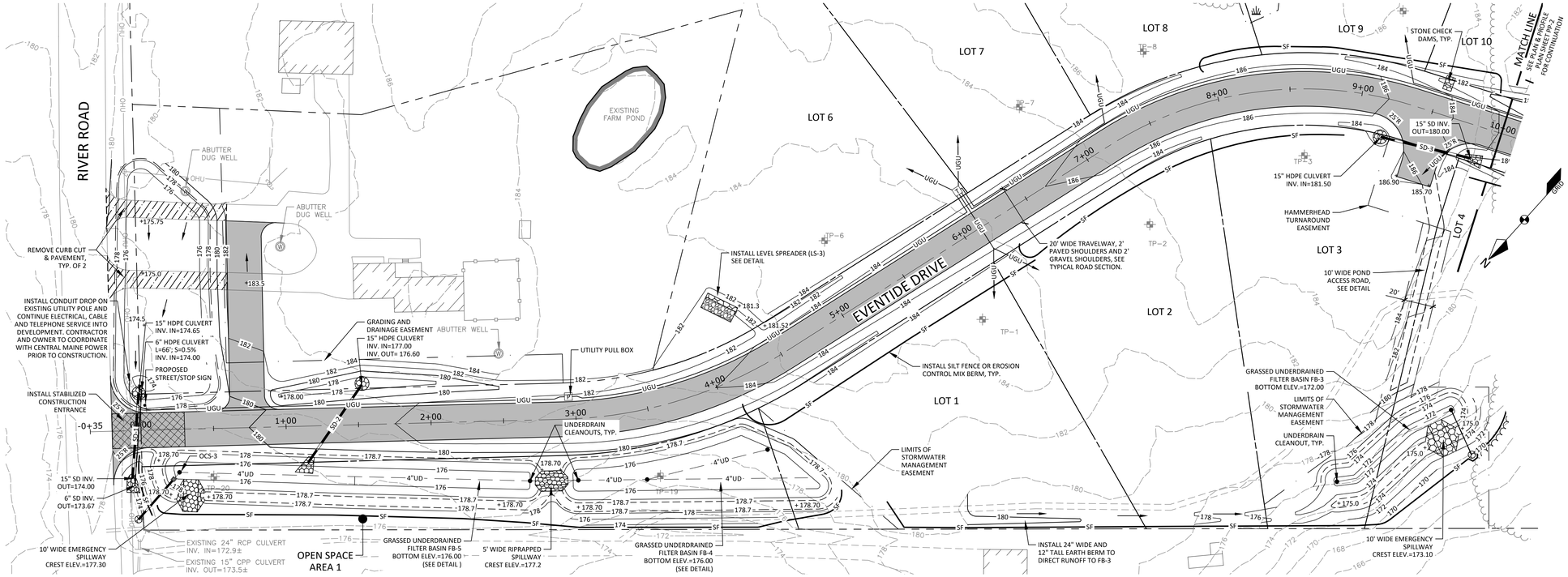
23056	JOB NUMBER:
1" = 60'	SCALE:
4-6-2026	DATE:
SHEET 3 OF 9	
SB-1	

LEGEND

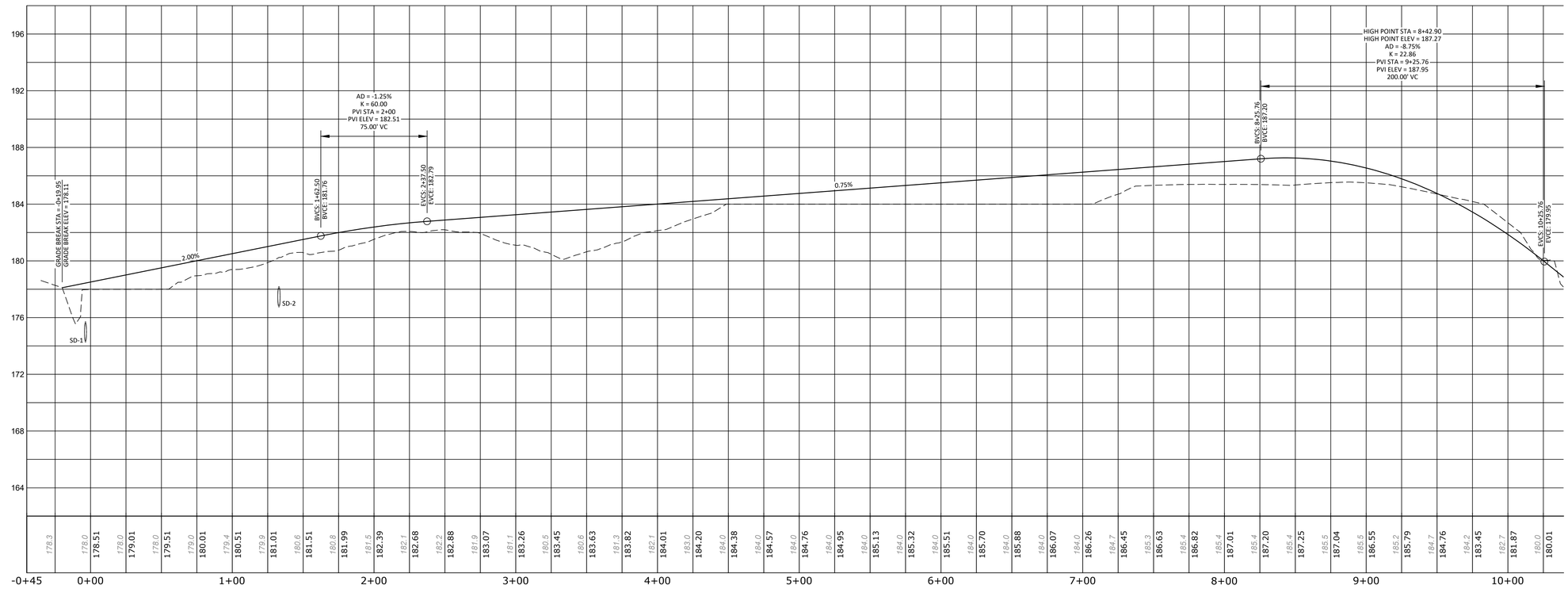
EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
EASEMENT LINE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
SIGN	
EDGE OF WETLANDS	
EDGE OF WATER	
CENTERLINE OF STREAM	
CONTOUR LINE	200 — 201
TREELINE	
STONE WALL	
RETAINING WALL	
TEST PIT	
CATCHBASIN	
DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
WELL	W
UTILITY POLE	
OVERHEAD UTILITIES	OHU
UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
RIPRAP	
SILT FENCE	SF

STORM DRAIN STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
CB-1	169.67	164.90 (SD-4) 164.90 (SD-6)	164.80 (SD-5)
CB-2	166.65	162.55 (SD-5) 162.10 (SD-8)	162.20 (SD-7)
CB-3	166.65		162.30 (SD-8)
CB-4	165.17	160.75 (SD-7)	154.70 (SD-9)

STORM DRAIN PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
SD-1	15"	59'	1.11%
SD-2	15"	66'	0.61%
SD-3	15"	64'	2.36%
SD-4	15"	24'	0.83%
SD-5	15"	295'	0.76%
SD-6	15"	40'	0.50%
SD-7	15"	137'	1.06%
SD-8	15"	18'	1.11%
SD-9	18"	222'	0.77%
SD-10	48"	65'	2.48%
SD-11	15"	74'	7.00%



ROAD PLAN VIEW
SCALE: 1"=40'



ROAD PROFILE
SCALE: HORIZ.: 1"=40'
VERT.: 1"=4'

GRAPHIC SCALE
0 20 40 80
1" = 40'

NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R. HASKELL — No. 13026 — LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

ROADWAY PLAN AND PROFILE

EVENTIDE SUBDIVISION

RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
FARMINGTON, ME 04096

RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

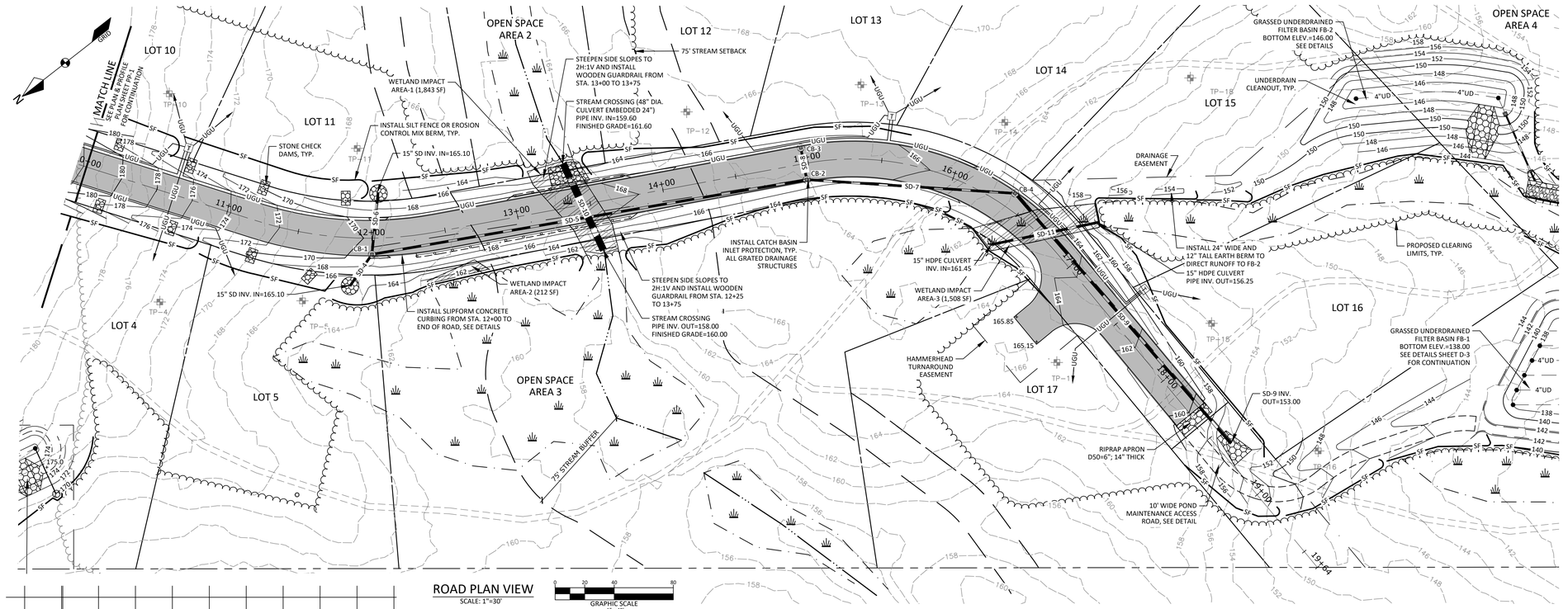
23056 JOB NUMBER:
1" = 40' SCALE:
4-6-2026 DATE:
SHEET 4 OF 9
PP-1

LEGEND

EXISTING	PROPOSED
PROPERTY LINE/R.O.W.	
ABUTTER PROPERTY LINE	
EASEMENT LINE	
CENTERLINE	
BUILDING	
EDGE OF PAVEMENT/CURB	
EDGE OF GRAVEL	
SIGN	
EDGE OF WETLANDS	
EDGE OF WATER	
CENTERLINE OF STREAM	
CONTOUR LINE	200 — 201
TREELINE	
STONE WALL	
RETAINING WALL	
TEST PIT	
CATCHBASIN	
DRAINAGE MANHOLE	
CULVERT/STORMDRAIN	
UNDERDRAIN	UD
WELL	W
UTILITY POLE	
OVERHEAD UTILITIES	OHU
UNDERGROUND UTILITIES	UGU
TRANSFORMER PAD	T
RIPRAP	
SILT FENCE	SF

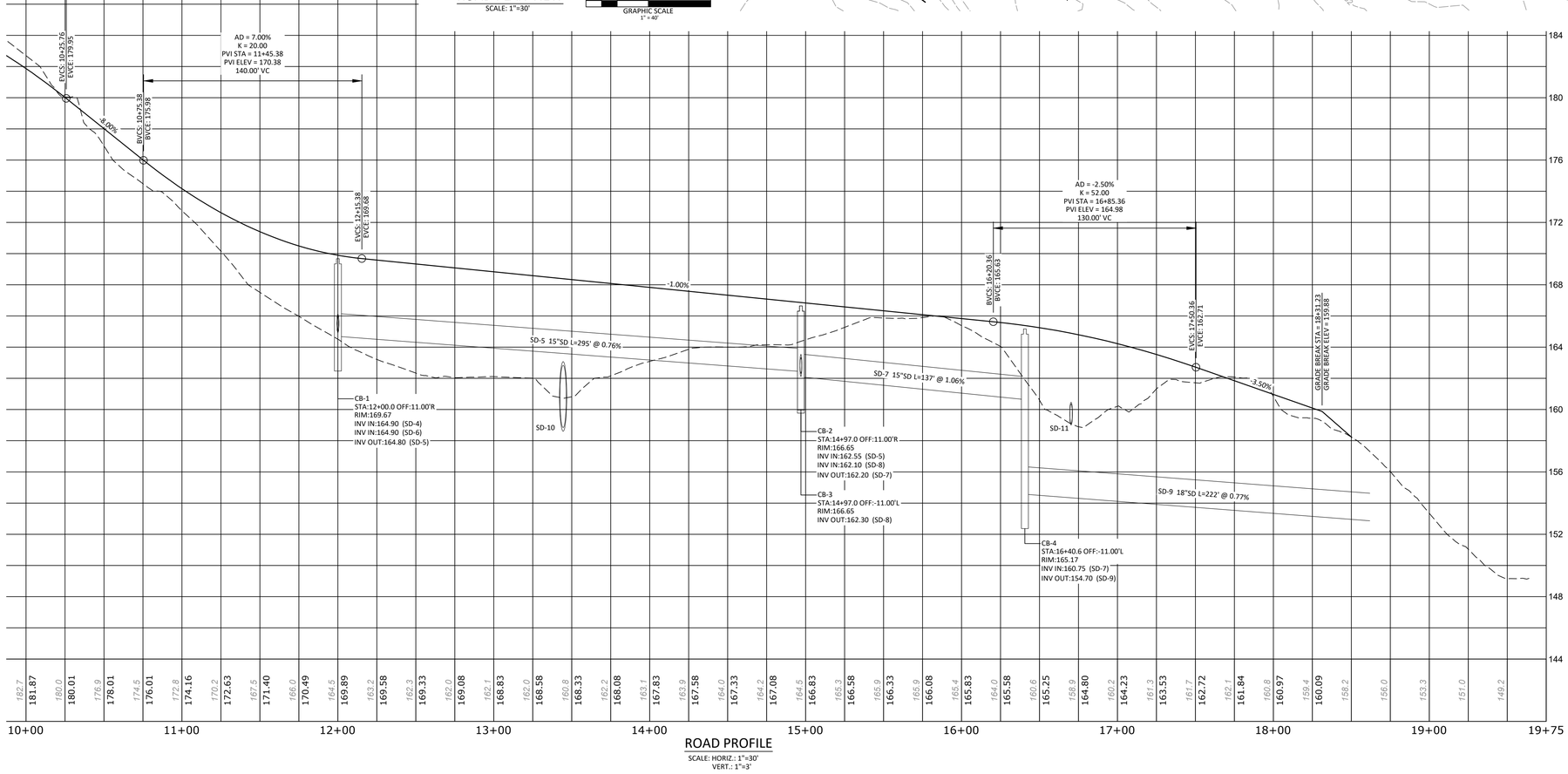
STORM DRAIN STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
CB-1	169.67	164.90 (SD-4) 164.90 (SD-6)	164.80 (SD-5)
CB-2	166.65	162.55 (SD-5) 162.10 (SD-8)	162.20 (SD-7)
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CB-4	165.17	160.75 (SD-7)	154.70 (SD-9)

STORM DRAIN PIPE TABLE			
NAME	SIZE	LENGTH	SLOPE
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SD-4	15"	24'	0.83%
SD-5	15"	295'	0.76%
SD-6	15"	40'	0.50%
SD-7	15"	137'	1.06%
SD-8	15"	18'	1.11%
SD-9	18"	222'	0.77%
SD-10	48"	65'	2.48%
SD-11	15"	74'	7.00%



ROAD PLAN VIEW
SCALE: 1"=30'

GRAPHIC SCALE 1" = 40'



ROAD PROFILE
SCALE: HORIZ.: 1"=30'
VERT.: 1"=3'

NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R. HASKELL — No. 13026 — LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

ROADWAY PLAN AND PROFILE

EVENTIDE SUBDIVISION
RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

FOR:
ROW EVEN, LLC
17 BUCKET LANE
YARMOUTH, ME 04096

23056
JOB NUMBER:

1" = 40'
SCALE:

4-6-2026
DATE:

SHEET 5 OF 9

PP-2

EROSION AND SEDIMENTATION CONTROL NOTES:

EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY.

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED:

1. POLLUTION PREVENTION

MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE.

WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

2. TEMPORARY SOIL STABILIZATION BMPS

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED. ANY DISTURBED SOIL WITHIN 75' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 48 HOURS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. ALL OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 7 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEEDED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE. EROSION CONTROL MIX CAN BE USED AS A STAND-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:
-ORGANIC MATTER CONTENT SHALL BE BETWEEN 80-100%, DRY WEIGHT BASIS.
-PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6 IN. SCREEN AND BETWEEN 70-85% PASSING 0.75 IN. SCREEN
-ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
-LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX

WHEN USED AS MULCH, THE THICKNESS OF THE ERISION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

CHEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. ERISION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED WITH PERMANENT VEGETATION. WHERE MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY VEGETATION CANNOT BE ESTABLISHED PRIOR TO OCTOBER 15, TEMPORARY MULCH SHALL BE APPLIED THROUGH THE WINTER AND TEMPORARY VEGETATION SHALL BE PLANTED AT THE BEGINNING OF THE GROWING SEASON THE FOLLOWING YEAR. TO PREPARE THE SEEDBED, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P2O5-K2O) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSEN SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING TABLE:

SEED	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	80	4/1 - 7/1 8/15 - 9/15
ANNUAL RYEGRASS	40	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

3. SEDIMENT BARRIER BMPS

PRIOR TO CONSTRUCTION TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA . SEDIMENT BARRIERS INCLUDE ANY OF THE FOLLOWING:

FILTER BARRIER FENCE, ALSO CALLED SILT FENCE, SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND POST SPACING SHALL NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPLICED TOGETHER AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO BURIAL.

EROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE A LARGER WIDTH BERM. EROSION CONTROL MIX BERMS SHALL BE PROHIBITED AT THE BASE OF A LONG OR STEEP SLOPE (8% OR GREATER) WITHOUT THE ADDITIONAL SUPPORT OF A FILTER FENCE INSTALLED ON THE DOWNHILL SIDE OF THE BERM.

SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED RUNNING ONTO THE STOCKPILE. SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR ENDS OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT MAY BE NECESSARY TO INSTALL A SEDIMENT BASIN UPGRADIENT OF THE SEDIMENT BARRIER. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL EITHER BE REMOVED OR GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

TEMPORARY EROSION CONTROL MEASURES ARE REMOVED ONCE THE SITE IS PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

4. STORM DRAIN INLET PROTECTION

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPS ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON ANY PARTICULAR PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

5. STABILIZED CONSTRUCTION ENTRANCE/EXIT

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH OF 2-3 INCH CRUSHED STONE, AND SHALL BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 50 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 10 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MUD-TRACKING PRIOR TO THE NEXT STORM EVENT. MAINTAIN THE PAD UNTIL ALL DISTURBED AREAS ARE STABILIZED.

6. DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

7. LAND GRADING AND SLOPE PREPARATION

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 7 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

8. TOPSOIL

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUE COMPACTION IS TO BE AVOIDED.

9. PERMANENT SOIL STABILIZATION

IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC. EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

SEEDED AREAS: TO PREPARE THE SEEDBED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES, ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED MIXTURES. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS. FOR SEEDED AREAS TO BE PERMANENTLY STABILIZED, 90% OF THE DISTURBED SOIL SHALL BE COVERED WITH MATURE HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRE OR PINS. IRRIGATE SODDED AREAS IMMEDIATELY AFTER INSTALLATION. FOR SODDED AREAS TO BE PERMANENTLY STABILIZED, THE ROOTS OF THE SOD MUST BE COMPLETELY BOUND INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AROUND DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH.

RIPRAP STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNEVEN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE DEPTH OF STONE SHALL BE A MINIMUM OF 2.2 TIMES THE MAXIMUM STONE DIAMETER. A GRAVEL OR GEOTEXTILE FILTER BLANKET SHALL BE PLACED BETWEEN THE RIPRAP AND UNDERLYING SOIL SURFACE. GRAVEL FILTER BLANKETS SHALL MEET MDOT TYPE-C UNDERDRAIN MATERIAL SPECIFICATIONS AND BE AT LEAST 6 INCHES THICK. GEOTEXTILE FILTER BLANKETS SHALL BE SPECIFIED BASED ON SITE CONDITIONS. RIPRAP SLOPES SHALL BE TOED INTO THE BASE OF THE EMBANKMENT BY EXCAVATING A TRENCH AT THE BOTTOM OF THE SLOPE AND INSTALLING A STABLE BASE OF RIPRAP TO GRADE.

DITCHES, CHANNELS AND SWALES ARE CONSIDERED PERMANENTLY STABILIZED WHEN THE CHANNEL HAS 90% COVER OF HEALTHY VEGETATION WITH A WELL GRADED RIPRAP LINING, EROSION CONTROL BLANKET, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE BANKS, OR DOWNCUTTING OF THE CHANNEL.

10. STORMWATER CHANNELS

EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL. PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

INSPECTION & MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ALL CONSTRUCTION OPERATIONS COMPLY WITH THE INSPECTION AND MAINTENANCE PROCEDURES FOR THE PROJECT, INCLUDING, BUT NOT LIMITED TO THOSE INCLUDED IN THIS PLAN SET, THE "INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN", AND THE "MAINE EROSION AND SEDIMENTATION CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS". INSPECTION SHALL OCCUR ON ALL DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIAL STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE AREAS SHALL BE INSPECTED AT LEAST ONCE A WEEK AS WELL AS FOLLOWING AND AFTER A STORM EVENT GENERATING MORE THAN 0.5 INCH OF RAINFALL OVER A 24-HOUR PERIOD AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.
2. EROSION CONTROLS SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED. 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 BMPS NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPS ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS NEEDED, IMPLEMENTATION MUST BE COMPLETED WITHIN SEVEN CALENDAR DAYS AND PRIOR TO ANY RAINFALL EVENT.
3. A REPORT SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN MUST BE MAINTAINED ON SITE. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS; THE DATE(S) OF THE INSPECTIONS; AND THE MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO MDEP AND TOWN STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST. THE OWNER SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

WINTER EROSION and SEDIMENTATION CONTROL NOTES:

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

1. NATURAL RESOURCE PROTECTION

ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

2. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

3. MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 15T, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4. SOIL STOCKPILING

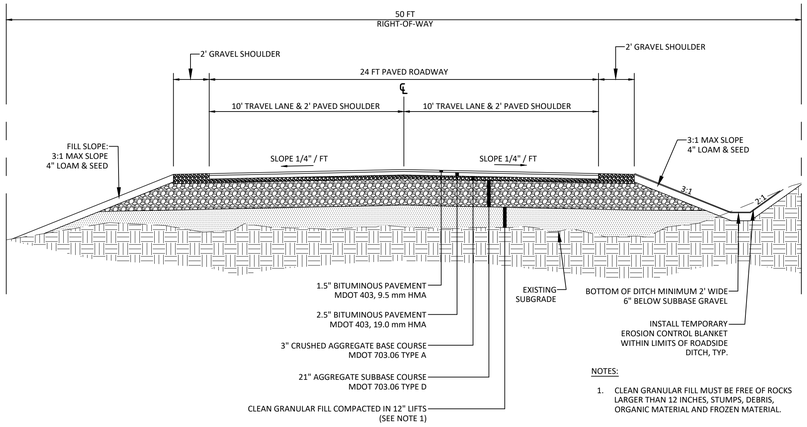
STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RAT EOR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

5. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.

6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS

ALL ST

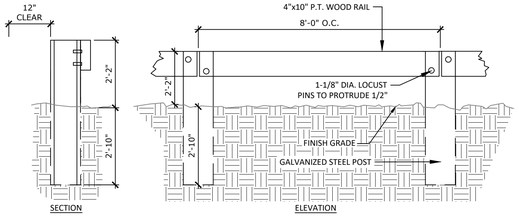


NOTES:

1. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.

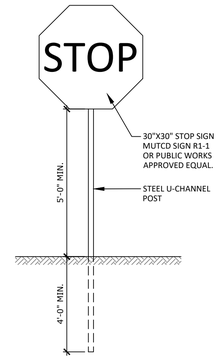
TYPICAL NON-CURBED ROADWAY SECTION

NOT TO SCALE



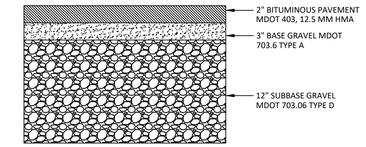
WOOD GUARDRAIL DETAIL

NOT TO SCALE



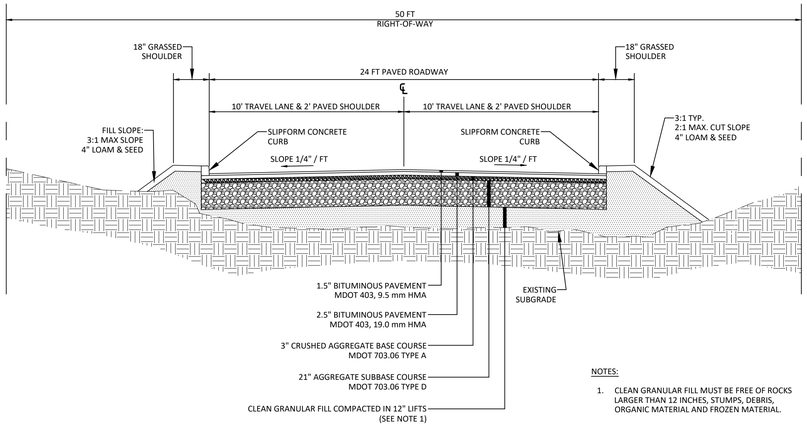
STOP SIGN INSTALLATION

NOT TO SCALE



TYPICAL DRIVEWAY SECTION

NOT TO SCALE

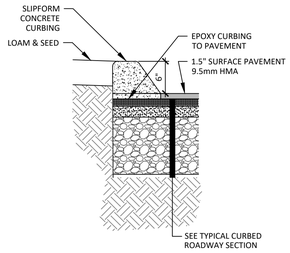


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1. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.

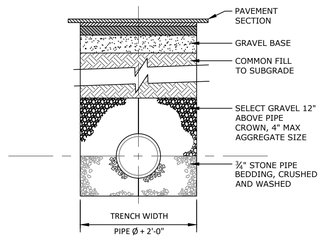
TYPICAL CURBED ROADWAY SECTION

NOT TO SCALE



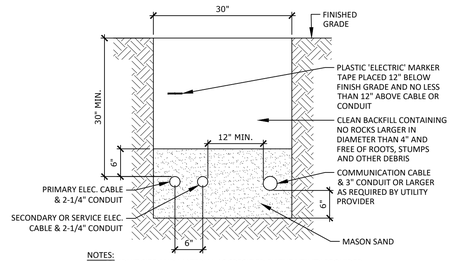
TYPICAL CURB SECTION

NOT TO SCALE



TYPICAL TRENCH SECTION

NOT TO SCALE

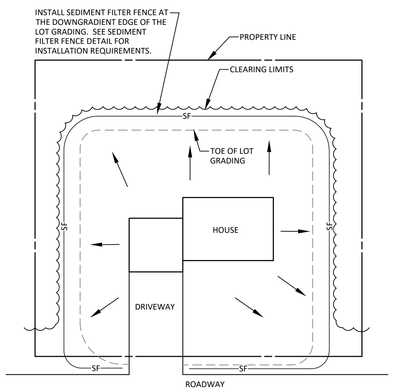


NOTES:

1. CONDUIT SIZE AND MATERIAL AS SPECIFIED BY THE UTILITY PROVIDER.
2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWINING OF CABLES.
3. BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
4. COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.

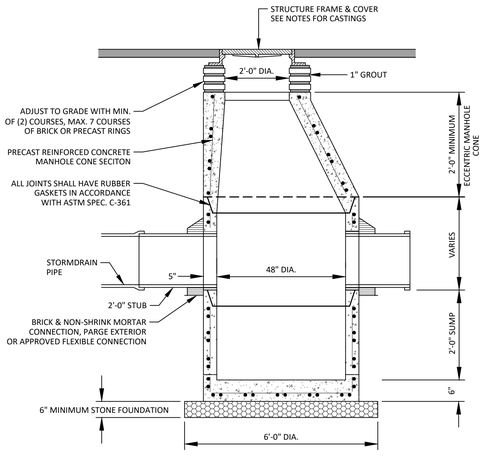
UTILITY TRENCH DETAIL

NOT TO SCALE



TYPICAL HOUSE LOT EROSION CONTROL DETAIL

NOT TO SCALE

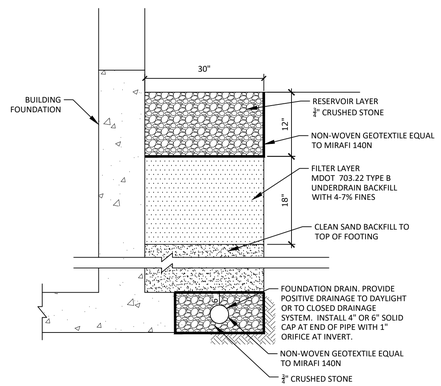


NOTES:

1. LARGER DIAMETER STRUCTURES MAY BE REQUIRED DUE TO SIZE OR GEOMETRY OF PIPE CONNECTIONS AT MANHOLE. WALL THICKNESS TO INCREASE BY 1" FOR EACH 1'-0" DIA. INCREASE. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. FRAME AND COVER CASTINGS
   CATCH BASIN NEENAH FOUNDRY PRODUCT NO. R-3405, GUTTER INLET FRAME, GRATE
   DRAIN MANHOLE NEENAH FOUNDRY PRODUCT NO. R-1568, MANHOLE FRAME "DRAIN"
   *OR ENGINEER APPROVED EQUAL. SUBMIT CATALOG SHEETS TO ENGINEER FOR APPROVAL.

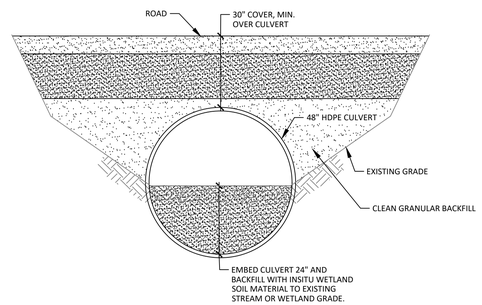
PRECAST CONCRETE DRAINAGE STRUCTURE

NOT TO SCALE



ROOF DRIP EDGE

NOT TO SCALE



STREAM CROSSING SECTION

NOT TO SCALE

NOT FOR CONSTRUCTION

STATE OF MAINE
JAYSON R. HASKELL
No. 13026
LICENSED PROFESSIONAL ENGINEER
4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

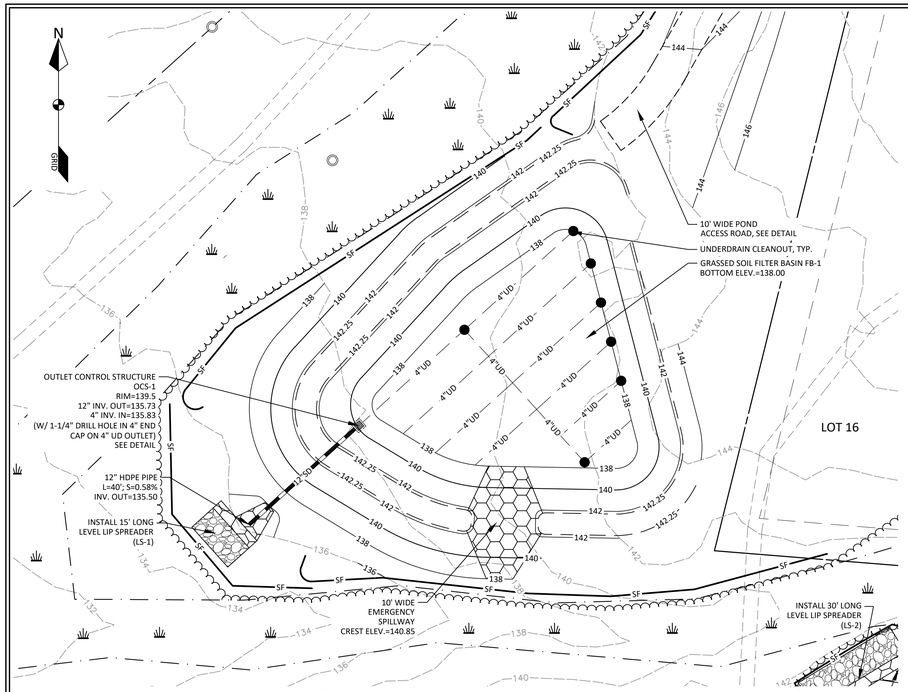
DETAILS

EVENTIDE SUBDIVISION
RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
SABAGO ST., ME, 04096

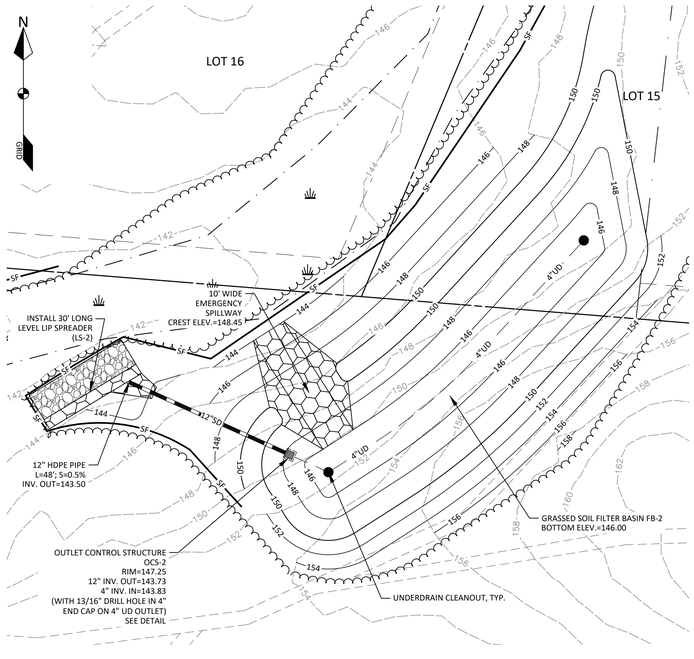
RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

23056	JOB NUMBER:
AS NOTED	SCALE:
4-6-2026	DATE:
SHEET 7 OF 9	
D-2	



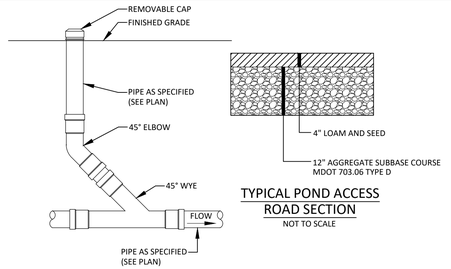
GRASSED UNDERDRAINED FILTER BASIN FB-1 DETAIL

SCALE: 1"=20'



GRASSED UNDERDRAINED FILTER BASIN FB-2 DETAIL

SCALE: 1"=20'



TYPICAL POND ACCESS ROAD SECTION

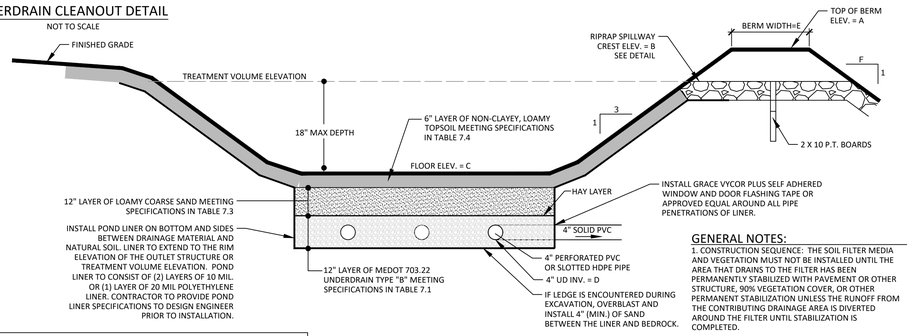
NOT TO SCALE

UNDERDRAIN CLEANOUT DETAIL

NOT TO SCALE

FILTRATION BMPs CONSTRUCTION OVERSIGHT NOTES:

1. INSPECTION BY THE DESIGN ENGINEER OR SUITABLE THIRD PARTY WILL OCCUR AT A MINIMUM:
   A) AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
   B) AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
   C) AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
   D) AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
   E)ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING MDEP SPECIFICATIONS.
2. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
   A) SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
   B) PERFORM A SIEVE ANALYSIS CONFORMING TO STM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
   C) PERFORM A PERMIABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698
3. WITHIN 30 DAYS OF COMPLETION OF THE FILTRATION BMP, THE APPLICANT SHALL SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE MAINE DEP BUREAU OF LAND RESOURCES FOR REVIEW.



GRASSED UNDERDRAINED SOIL FILTER BASIN SECTION

NOT TO SCALE

GENERAL NOTES:

1. CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.

2. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS TO PREVENT POCKETS OF LOOSE MEDIA.

3. ONCE THE FILTER IS IN PLACE, THE BASINS SHALL NOT BE UTILIZED FOR SNOW STORAGE.

FILTER BASIN DATA						
POND ID	A	B	C	D	E	F
FB-1	142.25	140.85	138.00	135.83	6'	3
FB-2	150.00	148.45	146.00	143.83	6'	3
FB-3	175.00	173.10	172.00	169.83	6'	3
FB-4*	178.70	177.30	176.00	173.83	6'	2
FB-5	178.70	177.30	176.00	173.83	6'	3

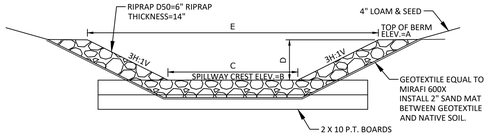
*FB-4 TO BE INSTALLED WITH 5' WIDE SPILLWAY INTO FB-5; FB-5'S SPILLWAY AND OUTLET CONTROL STRUCTURE (OCS-3) ARE UTILIZED AS THE OUTLET TO FB-4.

TABLE 7.1 UNDERDRAIN 703.22 TYPE "B"	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

TABLE 7.3 LOAMY COARSE SAND	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15
200 CLAY	<2.0

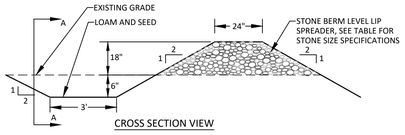
TABLE 7.4 SANDY LOAM	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70
200 CLAY	<2.0

SPILLWAY DATA					
POND ID	A	B	C	D	E
FB-1	142.25	140.85	10'	1.55'	19.3'
FB-2	150.00	148.45	10'	2.00'	22.0'
FB-3	175.00	115.95	10'	1.30'	17.8'
FB-4	178.70	177.20	5'	1.50'	14.0'
FB-5	178.70	177.30	10'	1.40'	18.4'

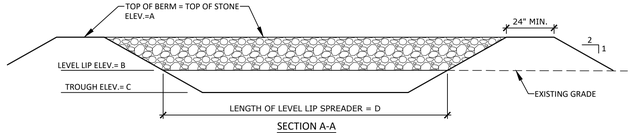


RIPRAP SPILLWAY DETAIL

NOT TO SCALE



CROSS SECTION VIEW



SECTION A-A

LEVEL SPREADER DATA					
ID	A	B	C	D	
LS-1	136.50	135.00	134.50	15'	
LS-2	143.50	142.00	141.50	30'	
LS-3	183.30	181.50	181.30	276'	

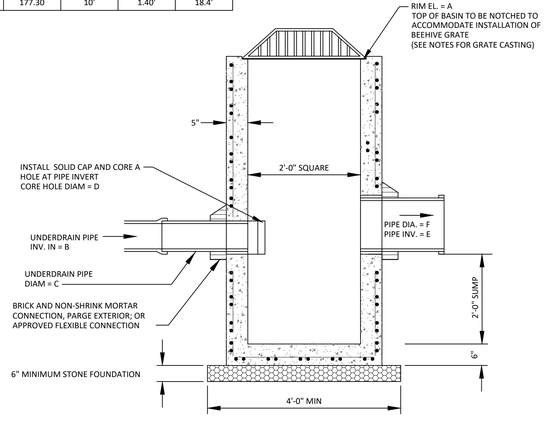
BERM STONE SIZE	
SIEVE SIZE	% PASSING BY WEIGHT
12"	100%
6"	84-100%
3"	68-83%
1"	42-55%
NO. 4	8-12%

STORMWATER LEVEL LIP SPREADER

NOT TO SCALE

LEVEL SPREADER NOTES:

1. STORMWATER LEVEL LIP SPREADERS ARE NOT BE UTILIZED FOR SNOW STORAGE.



STRUCTURE DATA						
STRUCTURE ID	A	B	C	D	E	F
OCS-1*	139.50	135.83	4"	1-1/4"	135.73	12"
OCS-2	147.25	143.83	4"	13/16"	143.73	12"
OCS-3	177.20	173.83	4"	1-3/4"	173.73	15"

*OCS-1 TO BE INSTALLED WITH A NOTCH ON THE SIDE OF THE STRUCTURE, SEE DETAIL.

NOTES:

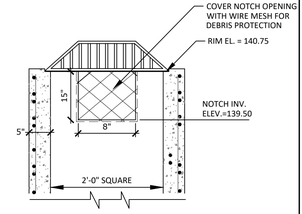
1. OUTLET CONTROL STRUCTURE SHALL BE CONSTRUCTED UTILIZING A PRECAST CATCH BASIN (24"x 24" ~ TYPE F).

2. CAST IRON GRATE SHALL BE EQUAL TO NEENAH FOUNDRY, PRODUCT NO. R-4345, BEEHIVE LIGHT DUTY GRATE, OR APPROVED EQUIVALENT.

3. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE

NOT TO SCALE



NOTES:

1. SEE OUTLET CONTROL STRUCTURE DETAIL FOR ADDITIONAL INFORMATION.

NOTCH OPENING IN OUTLET CONTROL STRUCTURE OCS-1

NOT TO SCALE

NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R. HASKELL — No. 13026 — LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

DETAILS

EVENTIDE SUBDIVISION
109 RIVER ROAD
WINDHAM, MAINE

RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

FOR:
ROW EVEN, LLC
17 BUCKET LANE
YARMOUTH, ME 04096

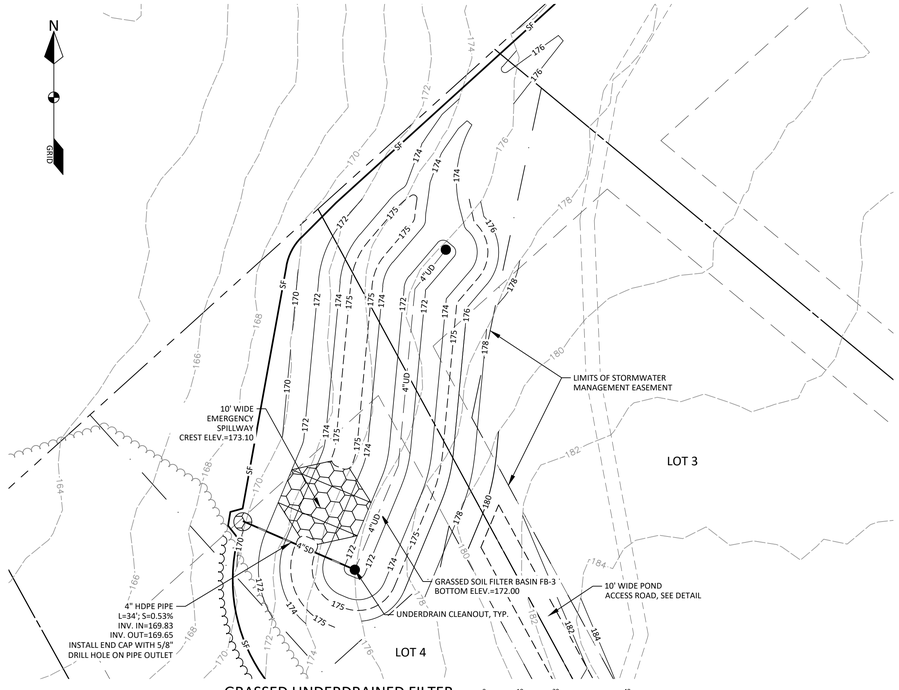
23056
JOB NUMBER:

AS NOTED
SCALE:

4-6-2026
DATE:

SHEET 8 OF 9

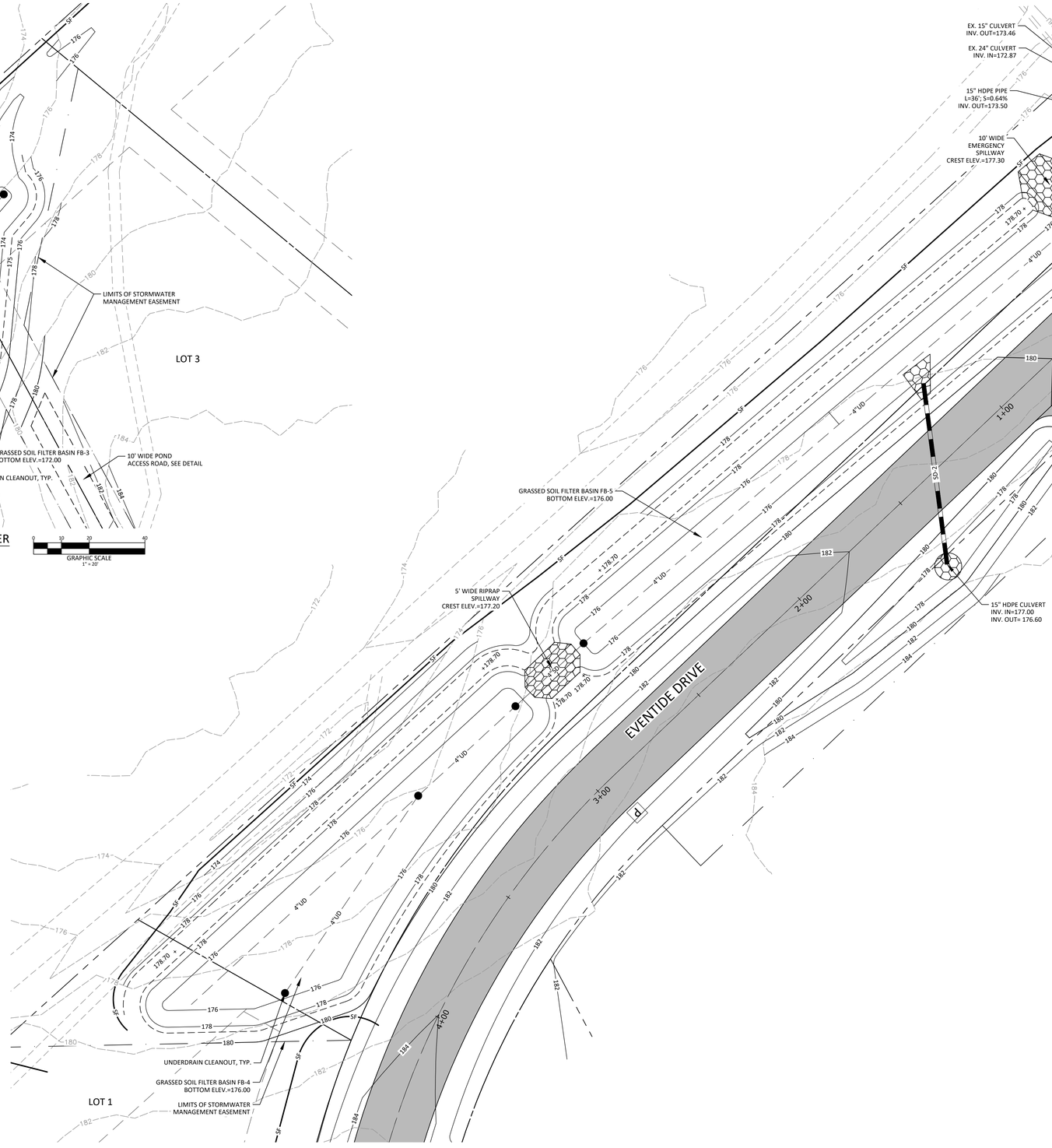
D-3



GRASSED UNDERDRAINED FILTER BASIN FB-3 DETAIL

SCALE: 1"=20'

GRAPHIC SCALE 1" = 20'



GRASSED UNDERDRAINED FILTER BASIN FB-4 & FB-5 DETAIL

SCALE: 1"=20'

GRAPHIC SCALE 1" = 20'

NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R. HASKELL — No. 13208 — LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 593-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

DETAILS

EVENTIDE SUBDIVISION
100 RIVER ROAD
WINDHAM, MAINE

RECORD OWNER:
MICHAEL E. TEVANIAN
135 MAIN STREET
WESTBROOK, ME 04092

FOR:
ROW EVEN, LLC
17 BUCKET LANE
YARMOUTH, ME. 04096

23056
JOB NUMBER:

AS NOTED
SCALE:

4-6-2026
DATE:

SHEET 9 OF 9

D-4

PLAN NOTES:

1. BASE PLAN PREPARED BY DM ROMA CONSULTING ENGINEERS.
2. SOIL PROFILES AND SOIL SAMPLES (SS#) SHOWN HEREON ARE AS INDICATED IN REPORT TITLED "SOIL NARRATIVE REPORT" FOR 100 RIVER ROAD, WINDHAM, MAINE" PREPARED BY MARK HAMPTON ASSOCIATES, INC. SIGNED ON SEPTEMBER 29, 2025.
3. HIGH INTENSITY SOIL SURVEY HAS BEEN PREPARED BY MARK HAMPTON ASSOCIATES, INC. IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS AND THE MAINE BOARD OF CERTIFICATION OF GEOLOGISTS AND SOIL SCIENTISTS.
4. THIS SOIL SURVEY WAS PREPARED FOR A RESIDENTIAL DEVELOPMENT UTILIZING SUBSURFACE WASTEWATER DISPOSAL SYSTEMS.

LEGEND

- PROPERTY LINE/R.O.W.
- ABUTTER PROPERTY LINE
- SETBACK
- EASEMENT LINE
- GRANITE MONUMENT
- IRON PIN/DRILL HOLE
- CENTERLINE
- BUILDING
- EDGE OF PAVEMENT/CURB
- EDGE OF GRAVEL
- SIGN
- EDGE OF WETLANDS
- EDGE OF WATER
- CONTOUR LINE (200 / 201)
- WATER MAIN (W)
- SOIL SAMPLE MARK HAMPTON ASSOC. (SS1)
- LIMIT OF SOIL PROFILE

SLOPE DESIGNATIONS:

0-3%	A
3-8%	B
8-15%	C
15-25%	D
>25%	E

DRAINAGE CLASS:

EXCESSIVELY WELL DRAINED	EWD
WELL DRAINED	WD
MODERATELY WELL DRAINED	MWD
SOMEWHAT POORLY DRAINED	SPD
POORLY DRAINED	PD
VERY POORLY DRAINED	VPD

GRID NORTH

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	TIE LINE	
	SETBACK	
	EASEMENT LINE	
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
	SIGN	
	EDGE OF WETLANDS	
	EDGE OF WATER	
	CENTERLINE OF STREAM	
	FLOODPLAIN	
-200- -201-	CONTOUR LINE	200 201
	TREELINE	
	STONE WALL	
	RETAINING WALL	
TP-1	TEST PIT	
	CATCHBASIN	
D	DRAINAGE MANHOLE	
	CULVERT/STORMDRAIN	
	UNDERDRAIN	UD
W	WELL	W
	UTILITY POLE	
OHU	OVERHEAD UTILITIES	OHU



DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 593-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	JPC	ISSUED FOR PERMIT REVIEW

CLASS A - HIGH INTENSITY SOIL SURVEY

EVENTIDE SUBDIVISION
RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
YARMOUTH, ME 04096

23056 JOB NUMBER:
1" = 120' SCALE:
4-6-2026 DATE:
SHEET 1 OF 1
HISS-1

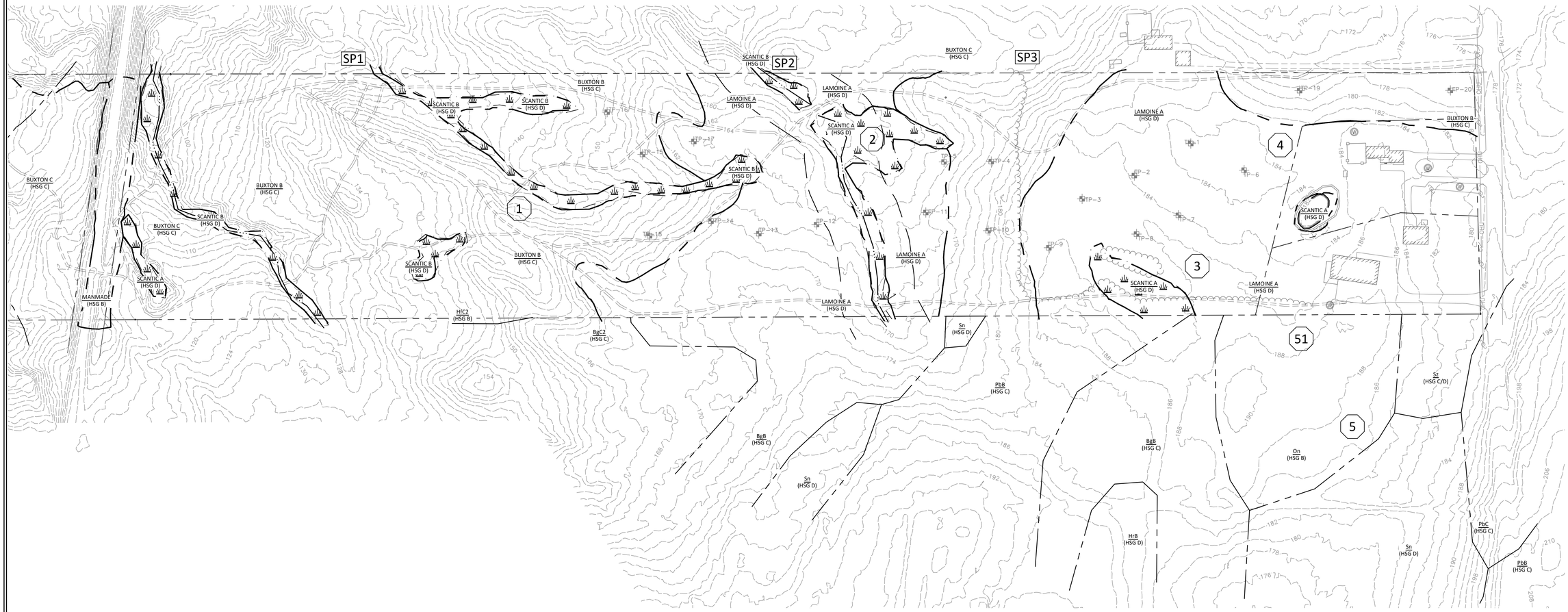
GRID

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	TIE LINE	
	SETBACK	
	EASEMENT LINE	
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
	SIGN	
	EDGE OF WETLANDS	
	EDGE OF WATER	
	CENTERLINE OF STREAM	
	FLOODPLAIN	
200 201	CONTOUR LINE	200 201
	TREELINE	
	STONE WALL	
	RETAINING WALL	
TP-1	TEST PIT	
	CATCHBASIN	
D	DRAINAGE MANHOLE	
	CULVERT/STORMDRAIN	
	UNDERDRAIN	UD
W	WELL	W
	UTILITY POLE	
OHU	OVERHEAD UTILITIES	OHU

WATERSHED MAP LEGEND

1	WATERSHED NO.
SP1	REACH/STUDY POINT
P1	POND
	WATERSHED BOUNDARY
A B	TIME OF CONCENTRATION
	REACH PATH
	SOIL BOUNDARY



NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R. HASKELL — No. 1308 — LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

WATERSHED MAP: PRE-DEVELOPMENT CONDITIONS

100 RIVER ROAD SUBDIVISION

100 RIVER ROAD
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
FARMINGTON, ME 04938

23056	JOB NUMBER:
1" = 100'	SCALE:
4-6-2026	DATE:
SHEET 1 OF 2	
WM-1	

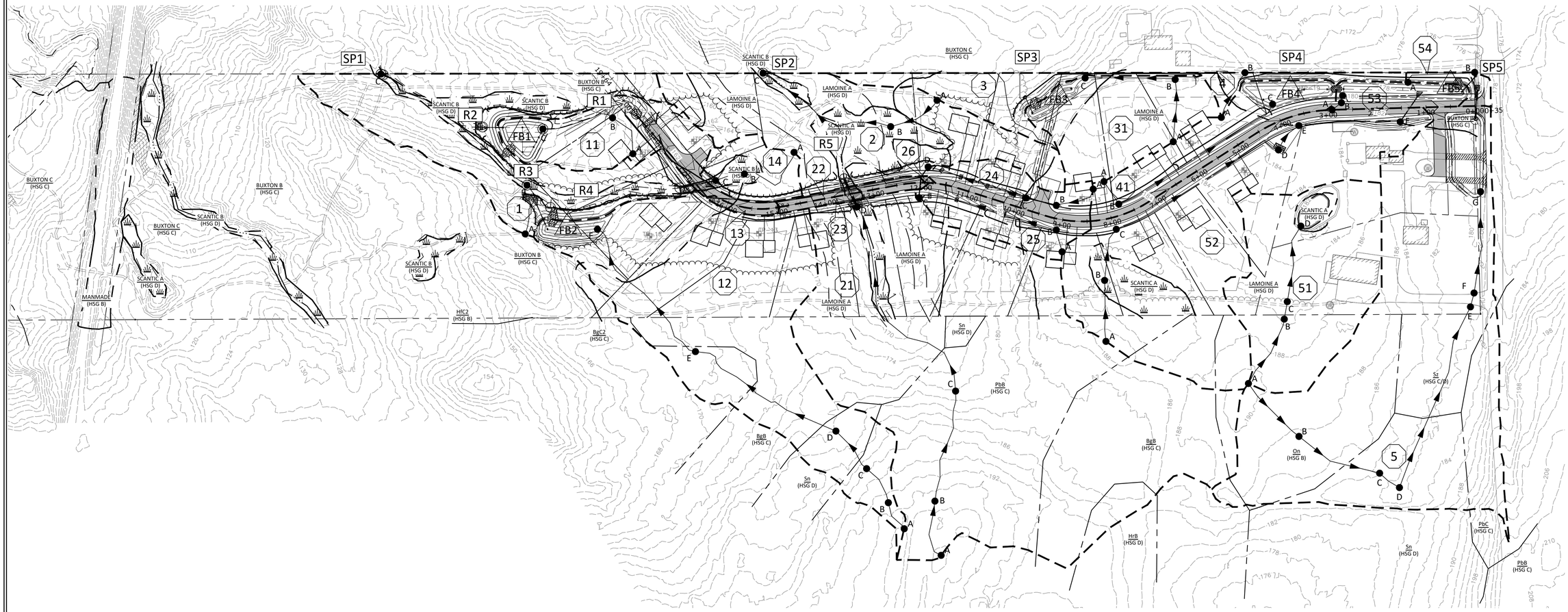
GRID

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	TIE LINE	
	SETBACK	
	EASEMENT LINE	
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
	SIGN	
	EDGE OF WETLANDS	
	EDGE OF WATER	
	CENTERLINE OF STREAM	
	FLOODPLAIN	
200 201	CONTOUR LINE	200 201
	TREELINE	
	STONE WALL	
	RETAINING WALL	
TP-1	TEST PIT	
	CATCHBASIN	
	DRAINAGE MANHOLE	
	CULVERT/STORMDRAIN	
UD	UNDERDRAIN	

WATERSHED MAP LEGEND

- 1 — WATERSHED NO.
- SP1 — REACH/STUDY POINT
- P1 — POND
- WATERSHED BOUNDARY
- A → B — TIME OF CONCENTRATION
- REACH PATH
- SOIL BOUNDARY



NOT FOR CONSTRUCTION

STATE OF MAINE — JAYSON R HASKELL No. 1308 LICENSED PROFESSIONAL ENGINEER — 4-6-2026

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	4-6-26	DMR	ISSUED FOR PERMIT REVIEW

WATERSHED MAP: DEVELOPED CONDITIONS

EVENTIDE SUBDIVISION
RIVER ROAD & EVENTIDE DRIVE
WINDHAM, MAINE

FOR:
ROW EVEN, LLC
17 BUCKET LANE
FARMINGTON, ME, 04096

23056	JOB NUMBER:
1" = 100'	SCALE:
4-6-2026	DATE:
SHEET 2 OF 2	
WM-2	

TOWN OF WINDHAM MAINE

Planning Department
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916
www.windhammaine.us

APPLICATION COMPLETENESS & STAFF REVIEW COMMENTS MEMO

DATE: June 2, 2026

TO: Dustin Roma PE, DM Roma Consulting Engineers
Ron Goddard, Row Even, LLC
FROM: Amanda Lessard, Assistant Town Manager
Cc: Steve Puleo, Planning Director
Windham Planning Board

RE: #25-27 Eventide Subdivision (formerly 100 River Road Subdivision) – Major Subdivision – Preliminary Plan Review – 100 River Road – Row Even, LLC

Scheduled for Planning Board meeting**: June 8, 2026**

Thank you for submitting your preliminary application on April 6, 2026 and June 1, 2026. The application is **incomplete**. The staff has reviewed the application and found several outstanding items listed below under "**Preliminary Subdivision Application Completeness**". Your application has been advertised and **scheduled for a public hearing and review** on **June 8, 2026**, however **staff will recommend that the Board postpone or continue the hearing** in accordance with Windham Land Use Ordinance §120-907B(4) that states that an application will not be placed on a Planning Board agenda until it has been determined complete by the Planning Department and the application will not be considered by the Board **until the additional information is submitted**. The Planning Board meeting is an "in-person meeting" at the Town Council Chambers in the Town Hall located at 8 School Street. The meeting begins at 6:00pm, and your attendance is required.

Revisions from the May 15, 2026 memo appear as underlined text below. Previous comments that have been addressed have been deleted.

Project Information:

The application is to develop a 17-lot conservation subdivision on 27.92 acres with a new road built to public standards. Lots will be 30,000 square feet, with the remaining 13.87 acres as open space. Lots will be served by private subsurface wastewater disposal systems, on-site wells and underground utilities. Subject property is identified as Tax Map: 1; Lot: 8 (portion), 8-1, 8-2; Zone: Farm (F) in the Presumpscot River watershed.

Preliminary Subdivision Application Completeness

- §120-910C(3)(b) A landscape plan, including a list of proposed plant species and their size at the time of installation and maturity. The plan should include street trees required by §120-911E(1)(b).
    - In the June 1 response to comments the applicant requested a waiver of the submission requirement. The Director of Planning does not support the request waiver. See additional comments below.
- §120-910C(3)(e) Traffic impact analysis. The vehicle traffic information provided expects the subdivision to generate 161 vehicle trips per day so a traffic impact analysis is required.

- In the June 1 response to comments the applicant requested a waiver of the submission requirement. The Director of Planning does not support the request waiver. See additional comments below.

Staff Review Comments

The memo will be updated as staff comments are provided.

Planning Department

1. Revise the symbology of the grading, drainage & stormwater management easements on the plan so the extent and boundaries are more easily visible.
    a. The stormwater management easement areas are still not as clear as they could be. Please cross hatch the easement area.
2. Sheet D-2 Typical Roadway Sections show a 24' paved roadway, 10' travel lane & 2' paved shoulder. To comply with the Minor Local Street Standard in §120-911M(5)(a)[6][b], if a sidewalk is not required the applicant shall construct either a sidewalk or a street with a widened shoulder. The details should be revised.
    a. The revised detail shows a 26' wide paved surface and 1' gravel shoulders. The Minor Local Street Standard depicted in Appendix B requires a 2' secondary gravel shoulder without curb. The detail should be revised.
3. The proposed septic location on Lot 15 (TP-18) is in an area where wells are allowed. The well exclusion boundary should be revised.
    a. In the June 1 response to comments, Response #10 stated that the well exclusion boundaries have been revised on Lots 14 and 15, however on the plan it still appears that wells could be located within 100 feet of TP -18 on Lot 15 and TP -17 on Lot 17.
4. Provide a plan for the site development of each lot as required by §120-911K(4)(e). The application shall illustrate the placement of building envelopes and the treatment of spaces, paths, roads, service and parking and in so doing shall take into consideration all requirements of § 120-911K and of other relevant sections of these regulations.
    a. In the June 1 response to comments, Response #15 is that the proposed building footprints and driveway location were included on the Post-Development Stormwater Map. The referenced map was not included with the submission.
5. Based on the well exclusion area shown on the plan, wells on several lots will need to be located beyond the treeline shown on the plan. Is the installation of wells in these are accounted for in the assumed developed area of these lots?
    a. In the June 1 response to comments, Response #11 states that wells located beyond the tree clearing limit shown on the plan would be a temporary disturbance, doesn't require permanent revegetation and is not considered developed for the proposes of evaluating stormwater impacts. Add a note to the plan that well installation shall not alter the treeline or revegetation will be required.
6. Landscape Plan required under §120-910(C)(3)(b), the applicant has submitted a waiver request in lieu of providing a detailed plan, stating that general notes regarding street trees and limited buffering would satisfy the intent of the ordinance. The Planning Director does not support this approach and therefore does not meet the submission requirements of §120-910. The Landscape Plan is a required component of a Major Subdivision application because it serves as the primary mechanism for demonstrating how the project complies with the design intent of §120-911, particularly the Conservation Subdivision standards found in §120-911K and the

requirements for open space, buffering, and site design. The Landscape Plan should meet the following:

a. The current submission lacks a comprehensive and coordinated planting plan.
b. The submission does not identify plant species, sizes, spacing, or the extent of planting areas.
c. The plan does not delineate required perimeter buffer treatments.
d. The submission does not demonstrate how visual impacts to River Road or abutting residential properties will be mitigated through landscaping or screening.
e. The plan does not show how landscaping is integrated with stormwater management areas and the open space system, which is necessary to evaluate both functional and visual performance under the ordinance.
f. The narrative statements and generalized notes provided by the applicant are insufficient to satisfy the requirement.
g. The submission does not allow the Planning Board to make findings regarding compliance with §120-911 design and buffering standards.
h. Accordingly, a full Landscape Plan must be provided to meet the completeness requirements of §120-910(C)(3)(b).

7. The Planning Director does not support the requested waiver from the Traffic Impact Analysis requirement under §120-910(C)(3)(e). The applicant has acknowledged that the proposed subdivision is expected to generate approximately 161 vehicle trips per day, which exceeds the ordinance threshold of 140 trips per day that triggers the requirement for a traffic analysis. The requirement is mandatory under the ordinance and is not discretionary absent clear evidence that the standard can be satisfied without the analysis, which has not been demonstrated in this case. The Traffic Study shall address the following:
    a. The Traffic Impact Analysis is directly tied to the Planning Board's ability to evaluate compliance with the performance standards of §120-911, including those related to access management, roadway function, and public safety.
    b. The subdivision proposes a new intersection on River Road, and the Town Engineer has identified concerns related to access spacing, including a substantial deficiency between the proposed entrance and an adjacent driveway.
    c. Without a formal Traffic Impact Analysis, the Planning Board does not have the necessary data to evaluate level of service, turning movements, vehicle conflicts, sight distance conditions under projected traffic volumes, or the cumulative impacts of the development on the surrounding transportation network.
    d. The applicant's response relies on narrative justification suggesting that traffic volumes are low and that impacts will be minimal; however, this qualitative explanation does not meet the requirements of §120-910(C)(3)(e).
    e. The submission does not provide the quantitative analysis needed to demonstrate compliance with §120-911 safety and design standards.
    f. The ordinance requires that such impacts be evaluated using accepted engineering methodologies to ensure that development does not adversely affect traffic operations or create safety hazards.
    g. The application does not provide sufficient information for the Planning Board or its technical consultants to make these determinations.
8. Recommended MAJOR SUBDIVISION CONDITIONS OF APPROVALS:

1. Approval is dependent upon and limited to the proposals and plans contained in the application dated November 3, 2025 as amended [*the date of the final plan approval*] and supporting documents and oral representations submitted and affirmed by the applicant, and conditions, if any, imposed by the Planning Board. Any variation from such plans, proposals, supporting documents, and representations is subject to review and approval by the Planning Board or the Town Planner in accordance with §120-913 of the Land Use Ordinance.

2. In accordance with §120-914B(5) of the Land Use Ordinance, the Construction of improvements covered by any subdivision plan approval shall be completed within two years of the date upon which the performance guarantee is accepted by the Town Manager. The developer may request a one-year extension of the construction completion deadline prior to the expiration of the period. Such request shall be in writing and shall be made to the Planner. The Town Manager may require an update to the schedule of values and the amount of the guarantee when accepting an extension of the construction period. If construction has not been completed within the specified period, the Town shall, at the Town Manger's discretion, use the performance guarantee to either reclaim and stabilize or to complete the improvements as shown on the approved plan.

3. The development is subject to the following Article 12 Impact Fees, to be paid with the issuance of building permits: Recreation Impact Fee, Open Space Impact Fee, Public Safety Impact Fee; and Municipal Office Impact Fee. All fees will be determined and collected for any building, or any other permits necessary for the development, §120-1201C.

4. In accordance with §120-911N(5) of the Land Use Ordinance, the homeowners' association documents shall be approved as to form by the Town Attorney and recorded in the Cumberland County Registry of Deeds within 90 days of the date that the subdivision plan is recorded in the Cumberland County Registry of Deeds. Evidence of such recording shall be provided to the Planning Department. No lots shall be sold in the subdivision prior to recording of such homeowners' association documents and all deeds shall reference the declaration establishing the homeowners' association.

5. Before issuing building permits the applicant or builder must have the town engineer verify that the 50-foot conservation subdivision exterior boundary buffer line is pinned, staked, or fenced in the field.

Third Party Consulting Engineer

Review for the Town's delegated DEP Stormwater Capacity.

9. See attached Engineering Review Memorandum from LJB dated June 2, 2026.

Town Engineer

10. The Applicant has requested a Waiver from the requirement for minimum access spacing, which at a speed limit of 45 mph is 265-ft, per Town ordinance Ch. 120-911(M)(2)(a) and Table 2 of Appendix B. The spacing to the nearest existing neighboring access is only 70'. The Applicant has proposed closing two of the existing entrances on its parcel just to the south to minimize the number of accesses on the subdivision lot, but this does not address the proximity of the proposed new entrance and the existing access just to the north. The Town ordinance

for access spacing incorporates by reference the Maine DOT Highway and Driveway Entrance Rules, which do allow for waivers of the spacing requirements if certain conditions are met, but all these conditions do not appear to be met and 70' is too tight for me to approve a waiver. The Applicant should revise the design to increase the distance between the new entrance and the abutting driveway to the north.

11. The Applicant has requested a waiver from the stormwater flooding standard (120-911(J)(6)) since the estimated peak runoff rates for post-development exceed the pre-development runoff rates at Study Point SP-5 for the 10-yr and 25-yr storms. This flow enters an 18" concrete culvert under River Rd. The peak pre vs. post flowrates at all the other study points and at the 2-yr storm for SP-5 are fine, but I am concerned about the increased post - development flow for the larger storms at this outfall. For the 10yr storm the increase is 1.59 cfs (17%), which I don't believe is insignificant, and this increased flow could adversely impact the road embankment that it discharges onto or the abutting property. The 25-yr post-development peak flow is also increased by 6.3%. I would suggest further evaluation of ways to reduce the peak discharges for the 10-yr and 25-yr storms at this location and/or at a minimum obtain a drainage easement to allow for this discharge onto the abutting property across River Road.
12. The Applicant has estimated that the proposed subdivision will generate 161 trips on a typical weekday, which exceeds the 140 trip/day threshold that requires that the Applicant conduct a traffic analysis per § 120-910C(3)(e). Therefore the Applicant will need to include a Traffic Analysis as part of their application.
13. The Applicant has indicated that they want to offer the road to the Town as a public road when construction is complete, however the road design does not meet the public road standard. The land use ordinance at § 120-911M(5)(b)[6][b] states that major local streets and minor local streets have to provide either a shoulder or a sidewalk to provide for safe pedestrian or bicycle travel. The Applicants design does not include a sidewalk up to STA 12+00 and only the standard 2' paved shoulder plus a 2' gravel shoulder, and from 12+00 to the end the design includes a 2' paved shoulder with curb and no secondary shoulder at all. The ordinance requires at a minimum, an additional one foot of paved shoulder, on each side of the street. The proposed design does not meet the requirements for a public road.
14. The Conservation subdivision requirements state that there is a 50' buffer strip from the external perimeter of the property line that is naturally vegetated or landscaped. The current design includes stormwater BMPs within the 50' buffer area in Lots 1-4. In order to conform with this portion of the ordinance, the underdrain soil filters would need to be moved or some other alternate BMP included in the design.

As staff review comments related to compliance with any applicable review criteria become available, I will send them to you ASAP. We will need your response by June 5, 2025 or earlier to be included in the Planning Board agenda. Thank you for your attention to these matters. Provide one copy of your response to staff comments with all revised application materials and one (1) plan set. Email an electronic copy of your response letter, supporting documentation, and plan set. Please feel free to call me with any questions or concerns.

Engineering
Building Partnerships

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

DELEGATED REVIEW
STORMWATER APPLICATION CHECKLIST

Applicant: Row Even, LLC			
Project Name: Eventide Subdivision			
Town: Windham			
Application Type:		☒ Stormwater	☐ Site Law
Application Status:		☒ Preliminary	☐ Final
Watershed Name: Presumpscot River			
Watershed Type:	☐ UIS	☐ Phosphorus	☒ Neither

Project Area Information

	Existing to Remain[1] Square Feet (Acres)	New / Proposed Square Feet (Acres)	Total Square Feet (Acres)
Impervious (Im)	0.0 (0)	104.499 (2.40)	104.499 (2.40)
Landscaped (Land)	0.0 (0)	338,090 (7.76)	338,090 (7.76)
Developed (Dev)[2]	0 (0)	442,589 (10.16)	442,589 (10.16)

1- If area is not subject to treatment, provide reason and show in a separate column in the Water Quality Calc table. Areas shown as separate column in Water Quality Calc Table. Project is only treating proposed impervious and developed areas.
2- Developed area = Impervious Area + Landscaped Area

A. BASIC STANDARD

1. **Erosion and Sedimentation Controls** (Appendix A, page 32 of Chapter 500)
    - Guidance in Department ESC BMP Manuals

1. **Inspection & Maintenance** (Appendix B, page 37 of Chapter 500) Construction Phase:

   Show on Plans the following:
   ☒ Responsibility for inspection and maintenance
   ☐ Construction schedule (how long will it take and in what sequence/critical path to build)
   ☒ Inspection frequency
   ☒ Scope of inspection
   ☒ Inspector qualifications
   ☒ Define storm event that triggers a wet weather inspection during construction (0.5" of rain in 24 hours)
   ☒ Documentation (3 years minimum)

Post-Construction: Include in written I&M Plan the following:

☒ Responsibility for inspection and maintenance
☒ Inspection frequency for each BMP
☒ Inspection form for each BMP
☒ Inspector qualifications
☒ Define post-construction storm event that triggers a wet weather inspection (1" of rain in 24 hours)
☒ Documentation (5 years, minimum)
☒ Project is subject to Department 5-Year Recertification

2. Good Housekeeping (Appendix C, page 41 of Chapter 500)

☒ Show all seven elements on Plans.

Basic Standards Review:

☐ The submitted information appears to meet the Basic Standards of MaineDEP's Chapter 500.

☒ The submitted information does not appear to meet the Basic Standards of MaineDEP's Chapter 500. See notes below.

Comments:

1. Provide a construction schedule/sequence within the Erosion and Sediment Control Notes within the Plan Set.
2. Add a note to the Erosion and Sedimentation Control Notes to define post-construction wet weather event as 1-inch of rain in a 24-hour period in accordance with the MaineDEP Stormwater Application Checklist published March 3, 2021.

B. GENERAL STANDARD

☒ **Must provide the following on WQ Treatment Plan:** All BMPs with subcatchments including time of concentration (Tc) lines, flow lengths and flow types.

1. Soil Explorations (test pit completed by a certified soil scientist) at each proposed BMP

☐ Include test pit summary table on detail plan. See Note 1
☒ If there is potential ledge, address in design.
☒ If shallow groundwater, address in design.

2. Treatment Standards (modify to fit project): Fill out the following table for the applicable standards that apply.

Applicable Standard	Section in Ch. 500	Required Treatment (Im / Dev)	Area Eligible		Area Treated		Provided Treatment %	
			Im	Dev	Im	Dev	Im	Dev
General Standard	4(C)(2(a)(i)	95% / 80%						N/A
Increased Runoff Treated[1]	4(C)(2)(a)(ii)	90% / 80% min						N/A
% Parcel Developed[2]	4(C)(2)(a)(iii)	90% / 75% min	104,499	442,589	98,788	339,282	94.5%	76.7%
Redevelopment[3] (Dev Area)	4(C)(2)(d)	0% min (SW) 50% min (Site)						N/A
Linear	4(C)(5)(c)	75% / 50% min						N/A
Other: Offsite Treatment/Mitigation								N/A
Project Total Area =			104,499	442,589	98,788	339,282	94.5%	76.7%

1-If proposing to treat more than the first flush, state why meeting Ch. 500, § 4(C)(2(a)(i) is not practicable.
2-Reduced % based on portion of parcel developed. Calculations have been provided demonstrating the proposed development area is less than 60% of the total developable area of the parcel (41% development of the parcel is proposed).
3-Include pollutant impact ranking calculations (current and proposed) and a figure showing the Redevelopment window.

3. **Proposed BMPs:** Please provide the following information on the Table below for EACH BMP.

BMPs Proposed	#	Pretreatment	Sizing calcs	Detail on Plans[1]	CPV Draindown Time	HydroCAD
UDSF FB-1	FB-1	Grassed Swale, 4 CB Sumps	Included	Included	24-48 Hours	Included
UDSF FB-2	FB-2	4 CB Sumps, 2 DMH Sumps, 1 Type F Basin Sump	Included	Included	24-48 Hours	Included
UDSF FB-3	FB-3	Grassed Swale	Included	Included	24-48 Hours	Included
UDSF FB-4	FB-4	Grassed Swale	Included	Included	24-48 Hours	Included
UDSF FB-5	FB-5	Grassed Swale	Included	Included	24-48 Hours	Included
Roof Dripline Filter	N/A	N/A (Roof Runoff)	Included	Not Included (see Note 3)	N/A	N/A

1- BMP details (cross sections, elevation sections, plan view)

Link to Stormwater Design BMP Volumes I, II, III
https://www.maine.gov/dep/land/stormwater/stormwaterbmps/index.html

- Provide Construction Oversight Notes. Included
- If BMP is unlined, review and satisfy (Appendix E Sections 4(b) and 4(c), page 50 of Chapter 500). N/A
- Treatment buffers (Appendix F, page 56 of Chapter 500): must provide sample deed restriction (Appendix G, page 64 of Chapter 500). N/A
- Infiltration must satisfy Appendix D, page 44 of Chapter 500. N/A
- Is conveyance designed to a 10-year, 24-hour storm? Yes
- Is a drainage easement required for any areas to be flooded? N/A
- Discharge to a public storm sewer system: Must provide authorization from the authority. N/A

If proposing Proprietary BMPs, provide:

- Letter from vendor approving sizing and siting N/A https://www.maine.gov/dep/land/stormwater/stormwaterbmps/index.html.
- Executed 5-Year I&M Agreement with a provider approved by vendor. N/A
- Narrative section and specific inspection forms in the written I&M Plan. N/A
- Pervious pavement: Must provide Executed 5-Year I&M Agreement and vacuum equipment used. N/A

General Standards Review:

☐ The submitted information appears to meet the General Standards of MaineDEP's Chapter 500.

☒ The submitted information does not appear to meet the General Standards of MaineDEP's Chapter 500. See comments below.

Comments:

1. Soil test pits for each proposed UDSF were submitted with the Application. All UDSFs propose to use two 10 mil or one 20 mil HDPE liner, and no infiltration is proposed. Provide a test pit summary table within the detail sheets of the plan set for all test pits associated with a stormwater BMPs.
2. For FB-2, FB-3, and FB-5 provide 20-feet of horizontal separation between the principal outlet pipe of the UDSF's and the emergency spillways in accordance with Chapter 500, Appendix E, 3.B. – Emergency Spillways.
3. Provide a note on the Subdivision Plan requiring roof drip edges along all front and rear rooflines as demonstrated in the water quality calculations.
4. The Stormwater Treatment Table references a wetpond in the table's footnotes. Revise to only refer to the proposed BMPs.
5. Provide calculations that demonstrate SD-11 is capable of conveying the 10-year, 24-hour storm event.
6. Provide a detail for the 24-inch wide diversion berms.

C. PHOSPHORUS STANDARD

MUST provide on the WQ Treatment Plan: BMPs with subcatchments including time of concentration (Tc) lines, flow lengths and flow types;

Provide export calculations clearly showing distinct BMPs: Phosphorus Table Calculations Worksheet 4 july 2015.xlsx.

Phosphorus Standards Review:

☐ The submitted information appears to meet the Phosphorus Standards of MaineDEP's Chapter 500.

☐ The submitted information does not appear to meet the Phosphorus Standards of MaineDEP's Chapter 500.

☒ The project does not trigger review under the Phosphorus Standards of MaineDEP's Chapter 500.

Comments: This project is not located within a lake watershed, so it is not required to meet the Phosphorus Standard of Chapter 500. Runoff from the project is tributary to the Presumpscot River.

D. FLOODING STANDARD

☐ Add pre- and post- peak flow rates table to post development plan for storms (2-, 10-, 25-year).
☐ Is primary access road passable up to a 25-year, 24-hour storm?
☐ If requesting a waiver of the Flooding Standard, must state justification for the waiver.
☐ HydroCad or other runoff model

- If post peak flow rate is > pre-peak flow, a waiver request will be needed with justification Ch. 500, § 4(F)(3)(a) or (b),
- If discharging to wetland see Chap. 500, § 4(I).

Flooding Standards Review:

☐ The submitted information appears to meet the Flooding Standards of MaineDEP's Chapter 500.

☐ The submitted information does not appear to meet the Flooding Standards of MaineDEP's Chapter 500.

☒ The project does not trigger review under the Flooding Standards of MaineDEP's Chapter 500.

Comments:

1. The project results in the creation of less than 3 acres of impervious area and less than 20 acres of developed area. This project is not required to meet the MaineDEP Flooding Standards. However, the Town of Windham Land Use Ordinance requires the project to meet the Flooding Standards.
2. Although not required for the Stormwater Law permit, to meet the Flooding Standards required through the Town's Ordinance, we offer the following comment:
    a. The emergency spillway of UDSF's FB-1, FB-2, and FB 4&5 is activated during the 25-year, 24-hour storm event. The 2-, 10-, and 25-year, 24-hour storm events shall be directed through the principal outlet without activating the emergency spillway per Appendix E.3.(a) – Principal Spillways.

E. REVIEW SUMMARY

☐ The submitted Maine Department of Environmental Protection Stormwater Law Permit appears to meet the standards of MaineDEP's Chapters 500, 501, and 502.

☒ The submitted Maine Department of Environmental Protection Stormwater Law Permit does not appear to meet the standards of MaineDEP's Chapters 500, 501, and 502.

Comments:

1. Address comments listed in the Basic Standard and General Standard sections of this review.
2. Although not regulated through the Town's Delegated Review Authority, it appears that a Maine Construction General Permit from Maine Department of Environmental Protection will be required for this project.

If there are any questions regarding the above review, please contact our office at (207) 772-2515.

Signature: Will C. Haskell

Name: Will Haskell, PE

Signature: Ben Nault

Name: Ben Nault, EI

From: Mark T. Arienti
Sent: Friday, June 5, 2026 10:03 AM
To: Stephen J. Puleo; Amanda L. Lessard
Subject: Eventide

Steve, Amanda,

I know this is a last minute response since they're on the meeting agenda for Monday so I apoligize for that, but here are my thoughts on DM Roma's responses,

Thanks,

Mark

DM Roma Response #23 – We discussed the driveway separation situation with the Town Engineer over the phone after receiving this comment. As we discussed, the driveway separation requirements listed in Table 2 of Appendix A was taken from the Maine DOT Chapter 299 design manual and references a table that is only applicable to major arterials that carry the MDOT designation of "Mobility Corridor", which is not applicable to River Road. If this segment of River Road was located outside of the Urban Compact area, it is our opinion that the proposed Entrance would meet all MDOT criteria and an entrance permit could be issued without requiring a waiver. It is important to note that there are no "Entrances" as defined by MDOT within 265 feet of the proposed Eventide Drive entrance, and all "driveways" that are located within 265 feet provide access to single family dwellings that produce extremely low traffic volumes. Moving the driveway entrance further south to achieve more separation from the adjacent driveway to the north would only reduce the amount of sight distance looking south from Eventide Drive, which would not make the intersection safer.
Town Engineer Response: I agree with how the response characterizes the MDOT entrance rule however the Town ordinance is a separate requirement. If the separation between the proposed entrance and the nearest entrance, which is the entrance 70-ft to the north, does not meet the spacing requirement in the Town ordinance (265-ft at the 45 mph speed limit) then the Applicant must submit a waiver. I also do not agree with the distinction noted in the response between a driveway and an entrance. At least from the Town perspective they are viewed the same.

DM Roma Response #24 – The Town's engineering consultant is in the process of reviewing the stormwater management plan and MDEP Stormwater Permit application, and as of the date of this response we have not yet received review comments. Once we receive the review comments from the Engineering consultant we will revisit the stormwater design and make every effort to incorporate design elements to attempt to reduce the peak flow rates for those design storms where the increases are currently proposed.
Town Engineer Response: Regardless of the Engineering consultant's evaluation, if the discharge to the abutting property on the opposite side of the River Road will need a drainage easement particularly if the increase is as much as currently proposed.

DM Roma Response #25 – A waiver request has been submitted with this response.
Town Engineer Response: I think that because of the proximity of the entrances that the traffic analysis should be required. The traffic analysis is supposed to look at access conditions.

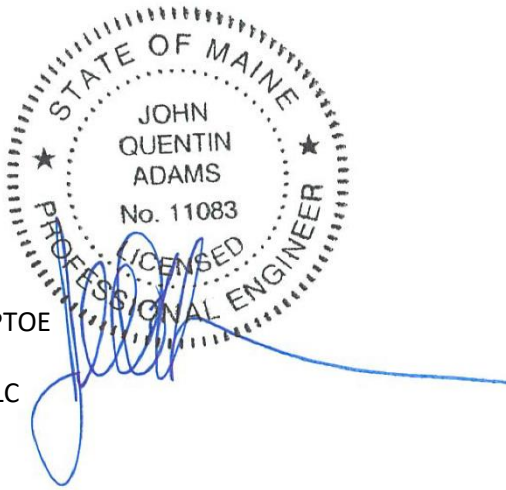
DM Roma Comment #26 – the applicant has indicated that they want to offer the road to the Town as a public road when construction is complete, however the road design does not meet the public road standard. The land use ordinance states that major local streets and minor local streets to provide either a shoulder or a sidewalk to provide for safe pedestrian or bicycle travel. The applicants design does not include a sidewalk up to STA 12+00 and only the standard 2' paved shoulder plus a 2' gravel shoulder, and from 12+00 to the end the design includes a 2' paved shoulder with curb and no secondary shoulder at all. The ordinance requires at a minimum, an additional one foot of paved shoulder, on each side of the street. The proposed design does not meet the requirements of a public

road. Response #26 – We have revised the plans to propose building the road with 3-foot paved shoulders and a total paved width of 26 feet.
Town Engineer Response: I'm ok with that, but acceptance of the road as a public road is contingent on Council Approval not necessarily on whether the road meets the public road standards.

DM Roma Response #27 – We have added proposed landscaping along the rear of Lot 1 to provide buffer screening to the property that abuts to the north. It is our understanding that the 50-ft perimeter buffer is intended to be primarily a structure setback with only "natural vegetation or landscaping" permitted. We are not proposing any structures, parking areas or pavement within the buffer area, and the soil filters will be completely vegetated and have the general appearance of a field that will be mowed a couple of times per year. There are no existing structures that would benefit from a thick screening of trees in the area where the vegetated soil filters are proposed. We feel that the appearance of the vegetated soil filters meets the intent of what the perimeter buffer ordinance was intended to achieve.
Town Engineer Response: No further comment.

Barton & Loguidice

Traffic Assessment



Date: August 5, 2026

To: **Dustin M. Roma, P.E.**
DM Roma Consulting Engineers

From: Jacob W. Sirois, P.E.
Project Engineer
Barton & Loguidice, LLC

John Q. Adams, P.E., PTOE
Senior Associate
Barton & Loguidice, LLC

Re: **Eventide Subdivision**
River Road, Windham, Maine

1 Introduction

The applicant is proposing the development of a 17-lot residential subdivision on River Road in the Town of Windham. The location of the development site is shown in Image 1 below.

Access to the site is provided by three driveway entrances. Two driveways serve an existing single-family home, and one serves a detached structure located on the east side of the parcel. With the development of the project, the two driveways serving the single-family home will be removed, and access to the existing home will be provided through the proposed driveway (Eventide Drive), which intersects with the west side of River Road approximately 275 feet to the south of Brackett Farm Lane.

Image 1 – Site Location



The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of MaineDOT's latest crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the proposed driveway entrance.

2 Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the proposed 17 single-family lots based on the trip generation tables presented in the 12th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUCs) and the volume of site-generated trips by each category.

Trip generation estimates for the subdivision have been prepared using LUC #210 – Single-Family Detached Housing, described by ITE as "*any single-family detached home on an individual lot.*"

Calculations of the total number of trips generated for each corresponding time period are summarized below in Table 1:

Table 1
ITE Trip Generation Calculations

Land Use	Single-Family Detached Housing - LUC 210						
Time Period	**Dwelling Units**	**R^2**	**Fitted Curve Equation/Avg. Rate**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	17	0.94	T = 8.07(X) + 265.45	403	50% / 50%	201	202
AM Weekday Peak Hour (Street)	17	0.89	T = 0.67(X) + 5.59	17	27% / 73%	5	12
PM Weekday Peak Hour (Street)	17	0.90	Ln(T) = 0.92 Ln(X) + 0.33	19	62% / 38%	12	7
AM Weekday Peak Hour (Generator)	17	0.90	T = 0.71(X) + 8.84	21	27% / 73%	6	15
PM Weekday Peak Hour (Generator)	17	0.91	Ln(T) = 0.90 Ln(X) + 0.48	21	63% / 37%	13	8
Saturday Peak Hour	17	0.89	T = 0.90(X) + 10.97	26	53% / 47%	14	12
Sunday Peak Hour	17	0.95	T = 0.86(X) + 6.71	21	53% / 47%	11	10

Table 1 shows that the proposed development is expected to generate 17 trips during the AM peak hour of the adjacent street and 19 trips during the PM peak hour of the adjacent street. During the peak hours of the generator, the site is expected to produce 21 trips in the AM peak hour, 21 trips in the PM peak hour, 26 trips in the Saturday peak hour, and 21 trips during the Sunday peak hour.

3 Intersection Sight Distance

Intersection sight distances were recorded from the site approach at the proposed intersection with River Road, in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which requires the following minimum sight distance for non-mobility roadways based on the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 ft.
30 mph	250 ft.
35 mph	305 ft.
40 mph	360 ft.
45 mph	**425 ft.**
50 mph	495 ft.

The section of River Road fronting the development site is posted at 45 mph, requiring a minimum sight distance of 425 feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."* Because no horizontal restrictions were identified in the site triangle and due to the existing grades on the site side of River Road, the object could not be placed 10 feet back from the traveled way and was instead placed on a level point at the edge of the pavement.

Our field measurements, looking in both directions along River Road, indicate that the existing sight distances exceed the requirements for the posted 45 mph speed limit. Looking left, we recorded a measurement exceeding 900 feet, and looking right, we recorded a measurement exceeding 500 feet. Refer to Image 2 and Image 3, attached below:

Image 2 - Sight Distance – Looking Left



Image 3 - Sight Distance – Looking Right



4 Existing Road Safety Conditions

Crash data for the latest three-year time period (2023-2025) was provided by MaineDOT's Crash Records Section for the section of River Road between Main Street and Rousseau Road, for a distance of approximately 3.75 miles. In this traffic assessment, we have reviewed the crash data for the section of River Road fronting the site entrance, between the Al Webber Road and Anderson Road intersections. A summary of the crash report is provided below in Table 2. Intersections and sections with no recorded crashes were omitted from the table. Additional crash data is included in the Appendix.

Table 2
2023 - 2025 Crash Summary

#	Location		Total Crashes	Critical Rate Factor
1	River @	Al Weber Rd	1	0.22
2	River Rd @	Anderson Rd	0	0.00
3	River Rd @	Node 15957 (northeast of Anderson Rd)	0	0.00
4	River Rd btw.	Al Webber Rd and Node 15957	8	0.39
5	River Rd btw.	Node 15957 and Anderson Rd	3	0.75

MaineDOT considers any roadway intersection or segment a high crash location (HCL) if both of the following criteria are met:

- ***8 or more crashes in the latest three-year period, and***
- ***A Critical Rate Factor (CRF) greater than or equal to 1.00***

As shown in the preceding table, there are no HCLs within the general vicinity of the site. The crash summary provided for the approximately 3.75-mile section of River Road identifies 3 HCLs on River Road, which are located over a mile away from the site:

1. Mallison Falls Rd at River Rd (9 crashes, 2.32 CRF)
2. River Rd at Chute Rd and Depot St (16 crashes, 4.74 CRF)
3. Location #9 – River Rd btw. Mallison Falls Rd and Chute Rd/Depot St (16 crashes, 1.27 CRF)

5 Driveway Spacing

The Town of Windham has adopted MaineDOT's Mobility Corridor driveway spacing standards for all roads in the Town. MaineDOT's mobility corridors are non-compact arterials that have a posted speed limit of 40 mph or more and are part of an arterial corridor between urban compact areas or service centers with an average annual daily traffic of at least 5,000 vehicles per day for at least 50% of its length; or are part of a retrograde arterial corridor located between mobility arterials. MaineDOT has established specific access management standards for the designated mobility corridors, including, but not limited to, increased sight distance requirements and driveway spacing requirements. MaineDOT only applies these mobility corridor standards to driveways located on mobility corridors. The purpose of these standards is to preserve key arterials that are most at risk of losing capacity, safety, and of decreasing posted speeds, due to increasing development and commuter and visitor pressures.

While MaineDOT's driveway spacing standards only apply to mobility corridors, the Town's driveway spacing standard applies to all roadways with a speed limit of 40 mph or greater, whether they are located inside or outside the Urban Compact. The driveway spacing standard for a 45 mph roadway is 265 feet.

Per the Town's standard, minimum access spacing shall be the distance measured from the edge of an internal subdivision access, excluding radii, to the edge of a neighboring access, excluding radii.

To the south of the proposed driveway, there are 2 existing driveways located within 265 feet of the proposed driveway, and to the north, there are 3 existing driveways located within 265 feet of the proposed driveway. The 2 driveways located south of the proposed access are on the applicant's property and will be removed with the development of the project.

The 3 driveways located to the north of the proposed access are all low-volume private driveways serving 1 single-family home each. Although the spacing does not meet the Town's requirements, it is B&L's professional opinion that the proposed driveway spacing is sufficient (about 75 feet to the closest driveway).

Overall, the proposed development is a relatively low-trip generator, and the existing sightlines from the proposed driveway were shown to exceed the requirements. We do not anticipate any safety concerns, potential conflicts with the adjoining driveways, or risks of losing capacity on River Road. Considerations were made to shift the proposed access further towards Anderson Road; however, reducing the sight distance for motorists turning left out of the site would not improve safety. Additionally, it should be noted that, under MaineDOT standards, driveway spacing requirements would not apply to the proposed driveway, as River Road is not designated as a mobility corridor.

6 Summary

- The proposed development is expected to generate 17 trips during the AM peak hour of the adjacent street and 19 trips during the PM peak hour of the adjacent street. During the peak hours of the generator, the site is expected to produce 21 trips in the AM peak hour, 21 trips in the PM peak hour, 26 trips during the Saturday peak hour, and 21 trips during the Sunday peak hour.

  Overall, the project will not require a Maine DOT Traffic Movement Permit, as it does not meet the minimum threshold of 100 peak-hour trips.

- Vehicle sight distance measurements were field recorded, looking both left and right from the proposed entrance directionally onto River Road. Our field measurements, looking in both directions along River Road, indicate that the existing sight distances exceed the requirements for the posted 45 mph speed limit (425 feet). Looking left, we recorded a measurement exceeding 900 feet, and looking right, we recorded a measurement exceeding 500 feet.

- Crash data was reviewed for the section of River Road fronting the site entrance, between the Al Webber Road and Anderson Road intersections. Our review indicated that there are no high-crash locations within the immediate vicinity of the site.

- The Town of Windham has adopted MaineDOT's Mobility Corridor driveway spacing standards for all roads in the Town, which would require a minimum spacing of 265 feet between driveways on a 45 mph roadway. To the north of the site's proposed access, there are three existing driveways within 265 feet of the access, which will remain. The 3 driveways located north of the proposed access are all low-volume private driveways serving 1 single-family home each. Although the spacing does not meet the Town's requirements, it is B&L's professional opinion that the proposed driveway spacing is sufficient (about 75 feet to the closest driveway).

The proposed development is a relatively low-trip generator, and the existing sightlines from the proposed driveway were shown to exceed the requirements. We do not anticipate any safety concerns, potential conflicts with the adjoining driveways, or risks of losing capacity on River Road. Considerations were made to shift the proposed access further towards Anderson Road; however, reducing the sight distance for motorists turning left out of the sight would not improve safety. Additionally, it should be noted that, under MaineDOT standards, driveway spacing requirements would not apply to the proposed driveway, as River Road is not designated as a mobility corridor.

APPENDIX

- **MAINEDOT CRASH DATA**


WINDHAM
GORHAM
Canada Hill
Small Hill
Lorenzen Hill
Anderson Hill
Little Little Pond
Presumpscot River
Main St
Black Brook
Chute Rd
South Windham
Little Falls
Highland Cliff Rd
Collyer Wright Brook
Lincoln Wescott Brook
Stroud Brook
Millikan Brook
Anderson Rd
Hardy Rd
Mosher Rd
River Rd
Gray Rd
Queen St
Hamblen Brook
Little Pond
Thornton Brook
Anderson Brook
Meadowbrook Rd
Scale: 1:22492
0.3mi

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Windham
River Rd from Main St (15724) to Rousseau Rd (19521)

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0500782**	Start Node: **15724**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **19521**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3209658**	Start Node: **66694**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15724**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15959	0500782 - 7.19	Int of MALLISON FALLS RD RIVER RD	2	9	0	0	1	0	8	11.1	3.511	0.85	0.37	2.32
											Statewide Crash Rate:	0.13		
19521	0500782 - 9.72	Int of RIVER RD ROUSSEAU RD	2	2	0	0	0	0	2	0.0	3.563	0.19	0.37	0.00
											Statewide Crash Rate:	0.13		
15958	0500782 - 7.98	Int of AL WEBER RD RIVER RD	2	1	0	0	0	1	0	100.0	3.956	0.08	0.36	0.00
											Statewide Crash Rate:	0.13		
15960	0500782 - 6.60	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
											Statewide Crash Rate:	0.13		
15956	0500782 - 8.65	Int of ANDERSON RD RIVER RD	2	0	0	0	0	0	0	0.0	4.150	0.00	0.35	0.00
											Statewide Crash Rate:	0.13		
15957	0500782 - 8.58	Non Int RIVER RD	2	0	0	0	0	0	0	0.0	4.210	0.00	0.35	0.00
											Statewide Crash Rate:	0.13		
P15724	0500782 - 6	Int of MAIN ST RIVER RD	9	14	0	0	0	2	12	14.3	4.844	0.96	1.22	0.79
											Statewide Crash Rate:	0.69		
62683	0500782 - 6.35	Int of RIVER RD VICTORIA LN	2	2	0	0	0	0	2	0.0	2.369	0.28	0.41	0.00
											Statewide Crash Rate:	0.13		
A66694	0500782 - 6.02	Int of RD INV 3142105 RIVER RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
											Statewide Crash Rate:	0.15		
Study Years:	3.00	**NODE TOTALS:**		44	0	0	3	6	35	20.5	29.507	0.50	0.35	1.44

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
15724	66694	3142046	0 - 0.02	0500782 - 6	0.02	2	0	0	0	0	0	0	0.0	0.00025	0.00	689.10	0.00
Int of MAIN ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
62683	66694	3939595	0 - 0.33	0500782 - 6.02	0.33	2	7	0	0	1	1	5	28.6	0.00768	303.63	355.08	0.86
Int of RIVER RD VICTORIA LN				RD INV 05 00782											Statewide Crash Rate: 161.30		
15960	62683	3139268	0 - 0.25	0500782 - 6.35	0.25	2	3	0	0	0	0	3	0.0	0.00590	169.38	378.90	0.00
Int of CHUTE RD DEPOT ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
15959	15960	3105923	0 - 0.59	0500782 - 6.60	0.59	2	16	0	0	0	4	12	25.0	0.01351	394.74	311.47	1.27
Int of MALLISON FALLS RD RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
15958	15959	3122260	0 - 0.79	0500782 - 7.19	0.79	2	14	0	1	2	3	8	42.9	0.02686	173.72	270.34	0.64
Int of AL WEBER RD RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
15957	15958	3131635	0 - 0.60	0500782 - 7.98	0.60	2	8	0	0	0	1	7	12.5	0.02515	106.04	273.78	0.39
Non Int RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
15956	15957	3105922	0 - 0.07	0500782 - 8.58	0.07	2	3	0	0	0	0	3	0.0	0.00296	337.78	452.16	0.00
Int of ANDERSON RD RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
15956	19521	3131634	0 - 1.07	0500782 - 8.65	1.07	2	23	0	0	0	1	22	4.3	0.03734	205.34	254.59	0.81
Int of ANDERSON RD RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
66694	15724	3142048	0 - 0.03	3209658 - 0	0.03	2	0	0	0	0	0	0	0.0	0.00029	0.00	695.55	0.00
Int of RD INV 3142105 RIVER RD				RD INV 3209658											Statewide Crash Rate: 161.30		
Study Years: 3.00				**Section Totals:**	3.75		74	0	1	3	10	60	18.9	0.11994	205.65	214.45	0.96
				Grand Totals:	3.75		118	0	1	6	16	95	19.5	0.11994	327.93	323.34	1.01

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15724	66694	3142046	0 - 0.02	0500782 - 6	0	0	0	0	0	0				
62683	66694	3939595	0 - 0.33	0500782 - 6.02	7	0	0	1	1	5	2025-37176	12/11/2025	6.04	B
											2023-30283	10/18/2023	6.07	PD
											2025-13321	05/13/2025	6.14	PD
											2025-9218	03/24/2025	6.16	PD
											2023-16747	06/09/2023	6.17	C
											2024-31543	11/10/2024	6.24	PD
											2025-14521	05/27/2025	6.24	PD
15960	62683	3139268	0 - 0.25	0500782 - 6.35	3	0	0	0	0	3	2023-37025	12/09/2023	6.43	PD
											2025-2012	01/19/2025	6.49	PD
											2023-34720	11/24/2023	6.51	PD
15959	15960	3105923	0 - 0.59	0500782 - 6.60	16	0	0	0	4	12	2024-29847	10/21/2024	6.77	PD
											2025-33033	11/12/2025	6.78	PD
											2023-34556	11/21/2023	6.78	PD
											2023-5827	02/22/2023	6.79	PD
											2025-28836	10/06/2025	6.80	PD
											2025-38608	12/22/2025	6.81	PD
											2024-11562	04/03/2024	6.83	PD
											2024-25701	09/16/2024	6.85	C
											2023-32820	11/08/2023	6.87	PD
											2025-23013	08/10/2025	6.88	C
											2023-38487	12/20/2023	6.92	PD
											2023-27229	09/14/2023	6.93	C
											2024-12838	05/05/2024	6.96	PD
											2025-35187	11/28/2025	6.99	C
											2025-35123	11/29/2025	7.15	PD
											2025-13326	05/08/2025	7.15	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15958	15959	3122260	0 - 0.79	0500782 - 7.19	14	0	1	2	3	8	2024-30537	10/30/2024	7.20	C
											2025-15973	06/09/2025	7.31	PD
											2024-3919	02/05/2024	7.34	C
											2025-770	01/11/2025	7.36	C
											2025-32584	11/07/2025	7.36	PD
											2024-33589	11/25/2024	7.45	PD
											2024-32267	11/15/2024	7.50	PD
											2023-27550	09/21/2023	7.63	PD
											2024-26550	09/26/2024	7.65	A
											2023-29614	10/10/2023	7.71	B
											2025-9994	04/03/2025	7.73	PD
											2023-35597	11/16/2023	7.76	PD
											2024-11602	05/01/2024	7.84	PD
											2024-3699	02/03/2024	7.89	B
15957	15958	3131635	0 - 0.60	0500782 - 7.98	8	0	0	0	1	7	2024-33132	11/22/2024	7.99	PD
											2023-27096	09/18/2023	8.04	PD
											2023-6562	03/01/2023	8.18	PD
											2025-4594	02/06/2025	8.19	PD
											2023-2227	01/22/2023	8.22	PD
											2024-21000	08/01/2024	8.30	PD
											2023-13398	05/04/2023	8.36	C
											2024-3458	02/01/2024	8.47	PD
15956	15957	3105922	0 - 0.07	0500782 - 8.58	3	0	0	0	0	3	2025-3021	01/30/2025	8.59	PD
											2024-31255	11/02/2024	8.61	PD
											2025-20600	07/22/2025	8.64	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15956	19521	3131634	0 - 1.07	0500782 - 8.65	23	0	0	0	1	22	2025-14569	05/27/2025	8.70	PD
											2024-30223	10/29/2024	8.80	PD
											2023-36554	12/06/2023	8.81	PD
											2024-30213	10/28/2024	8.86	PD
											2025-9498	03/29/2025	8.87	PD
											2024-36796	12/15/2024	8.88	PD
											2023-5826	02/21/2023	8.89	PD
											2025-27259	09/21/2025	9.08	C
											2025-11975	04/27/2025	9.13	PD
											2023-24840	08/26/2023	9.22	PD
											2025-35594	11/27/2025	9.26	PD
											2024-31947	11/12/2024	9.33	PD
											2025-31997	11/03/2025	9.33	PD
											2023-13703	05/16/2023	9.37	PD
											2025-30720	10/23/2025	9.39	PD
											2025-21682	07/27/2025	9.41	PD
											2025-19255	06/30/2025	9.47	PD
											2023-15903	06/07/2023	9.51	PD
											2023-22374	08/04/2023	9.52	PD
											2025-2637	01/27/2025	9.53	PD
											2025-37189	12/10/2025	9.66	PD
											2025-36098	12/04/2025	9.68	PD
											2024-11557	03/27/2024	9.71	PD
66694	15724	3142048	0 - 0.03	3209658 - 0	0	0	0	0	0	0				
				Totals:	74	0	1	3	10	60				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	1	0	0	0	1	1	1	0	3	0	0	2	1	0	3	0	2	1	0	0	0	0	16
MONDAY	1	0	1	0	0	1	2	0	0	0	1	0	0	0	0	1	3	2	3	1	0	0	0	0	0	16
TUESDAY	0	1	0	0	0	0	0	2	2	0	0	1	0	1	3	1	0	0	3	0	1	0	1	0	0	16
WEDNESDAY	0	0	1	0	1	0	0	2	0	3	0	1	2	0	1	1	0	4	2	1	2	0	1	0	0	22
THURSDAY	0	0	0	0	2	0	2	0	2	0	0	0	1	0	1	2	2	1	1	0	0	2	1	1	0	18
FRIDAY	0	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0	1	2	2	2	0	0	0	0	0	12
SATURDAY	1	1	0	0	0	1	1	0	0	1	2	0	0	1	1	2	0	1	2	2	0	1	1	0	0	18
Totals	2	2	2	1	3	2	6	6	5	5	4	5	3	3	9	8	6	13	13	8	4	3	4	1	0	**118**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	66
2-(Sport) Utility Vehicle	71
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	4
5-Pickup	29
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	2
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	12
25-Other	1
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**187**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	58	37	3	1	0	0	99
Ran Off Roadway	11	0	0	0	0	0	11
Failed to Yield Right-of-Way	12	4	0	0	0	0	16
Ran Red Light	3	0	0	0	0	0	3
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	2	0	0	0	0	0	2
Improper Turn	5	1	0	0	0	0	6
Improper Backing	0	0	0	0	0	0	0
Improper Passing	1	0	0	0	0	0	1
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	14	4	0	0	0	0	18
Failed to Keep in Proper Lane	2	1	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	2	1	0	0	0	0	3
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	1	0	0	0	0	4
Unknown	3	1	0	0	0	0	4
Total	**116**	**50**	**3**	**1**	**0**	**0**	**170**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	109	49	3	1	0	0	162
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	1	1	0	0	0	0	2
Under the Influence of Medications/Drugs/Alcohol	5	0	0	0	0	0	5
Other	0	0	0	0	0	0	0
Total	**116**	**50**	**3**	**1**	**0**	**0**	**170**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	19	0	0	0	0	19
20-24	29	0	0	0	0	29
25-29	12	0	0	0	0	12
30-39	30	0	0	0	0	30
40-49	21	0	0	0	0	21
50-59	25	0	0	0	0	25
60-69	22	0	0	0	0	22
70-79	13	0	0	0	0	13
80-Over	1	0	0	0	0	1
Unknown	3	0	0	0	0	3
Total	**175**	**0**	**0**	**0**	**0**	**175**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	2	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**174**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	1		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	33		
13-Motor Vehicle in Transport	124		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	1		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	1		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	7		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	2		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	2		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	15
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	14
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	1
13-None	81
14-Other	2
Total	**118**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	1	1
B	6	6
C	16	23
PD	95	0
Total	**118**	**30**

Road Character

Road Grade	Total
1-Level	95
2-On Grade	18
3-Top of Hill	4
4-Bottom of Hill	1
5-Other	0
Total	**118**

Light

Light Condition	Total
1-Daylight	59
2-Dawn	3
3-Dusk	8
4-Dark - Lighted	12
5-Dark - Not Lighted	35
6-Dark - Unknown Lighting	1
7-Unknown	0
Total	**118**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	2	3	5	10
FEBRUARY	4	7	5	16
MARCH	1	2	3	6
APRIL	1	2	3	6
MAY	3	2	5	10
JUNE	2	1	4	7
JULY	1	0	3	4
AUGUST	2	6	1	9
SEPTEMBER	4	3	1	8
OCTOBER	2	5	3	10
NOVEMBER	4	8	6	18
DECEMBER	5	2	7	14
Total	**31**	**41**	**46**	**118**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rear End - Sideswipe	5	0	4	11	0	6	0	0	0	0	0	0	0	0	26
Head-on - Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	3	18	0	1	0	0	0	0	0	0	0	0	22
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	16	2	7	0	0	3	0	0	0	0	0	0	0	0	28
All Other Animal	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	37	0	0	0	0	0	0	0	0	0	0	0	0	0	37
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**62**	**2**	**14**	**30**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**118**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	10	0	0	0	0	0	0	0	0	0	0	10
Dark - Not Lighted	27	0	0	0	0	0	0	0	0	0	3	30
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	1	2
Daylight	42	3	0	0	0	0	0	0	0	0	1	46
Dusk	5	0	0	0	0	0	0	0	0	0	0	5
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	2	0	0	0	0	0	0	0	0	0	2	4
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	1	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	0	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	1	1
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	3	3
Dusk	0	0	0	0	0	0	0	0	0	0	2	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	1	1	0	0	0	2
Dark - Not Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	1	3	0	0	1	5
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**91**	**3**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**16**	**118**

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **WINDHAM**

LOW NODE: **15960** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

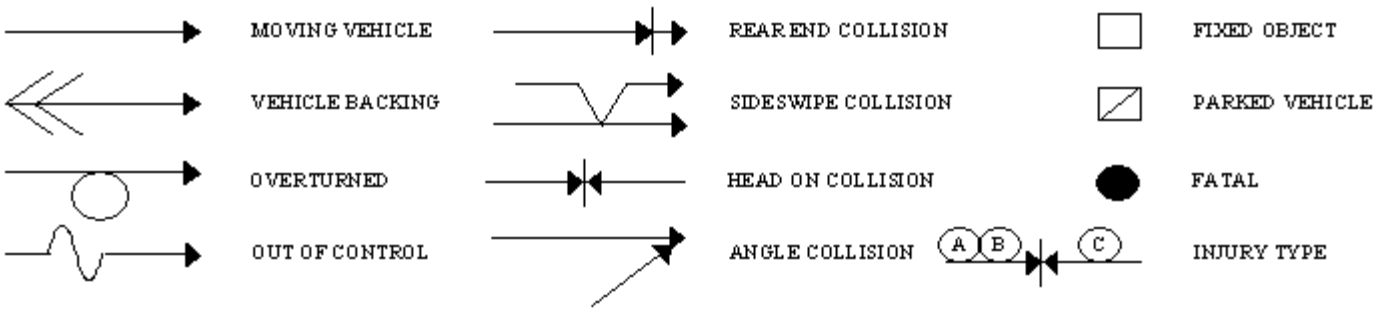
DESCRIPTION: **Int of River Rd, Chute Rd, and Depot St**

RTE # / RD #: **0500711** DATE DRAWN: **7/22/2026** DRAWN BY: **Duncan**

STUDY FROM: **1/1/2023** STUDY TO: **12/31/2025**

CRASH RATE: **1.84** CRF: **4.75** % INJURY: **31.3** TOTAL CRASHES: **16**

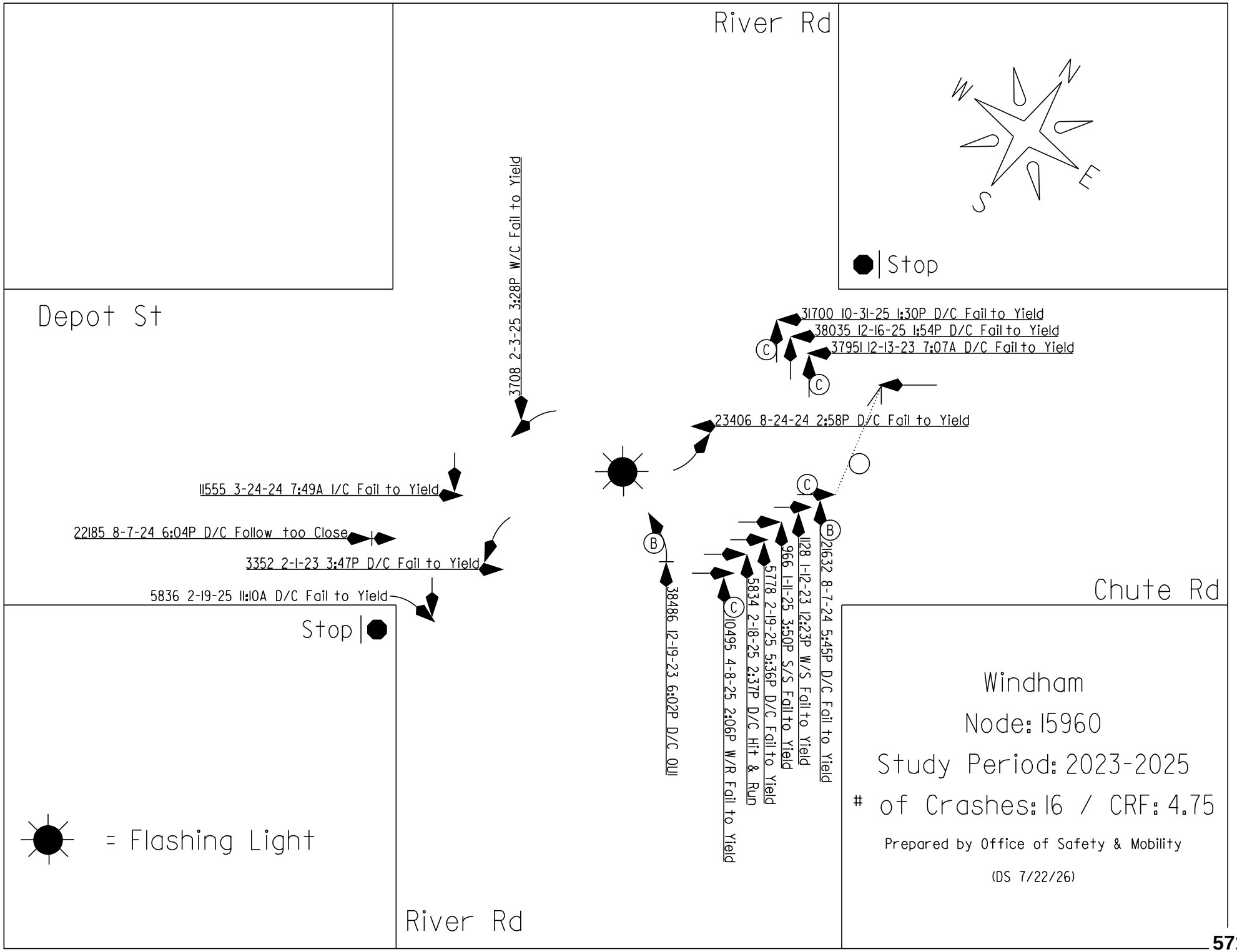
LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


River Rd
Depot St
Stop
3708 2-3-25 3:28P W/C Fail to Yield
31700 10-31-25 1:30P D/C Fail to Yield
38035 12-16-25 1:54P D/C Fail to Yield
37951 12-13-23 7:07A D/C Fail to Yield
23406 8-24-24 2:58P D/C Fail to Yield
11555 3-24-24 7:49A I/C Fail to Yield
22185 8-7-24 6:04P D/C Follow too Close
3352 2-1-23 3:47P D/C Fail to Yield
5836 2-19-25 11:10A D/C Fail to Yield
Stop
38486 12-19-23 6:02P D/C OUI
10495 4-8-25 2:06P W/R Fail to Yield
5834 2-18-25 2:37P D/C Hit & Run
5778 2-19-25 5:36P D/C Fail to Yield
966 1-11-25 3:50P S/S Fail to Yield
1128 1-12-23 12:23P W/S Fail to Yield
21632 8-7-24 5:45P D/C Fail to Yield
Chute Rd
= Flashing Light
River Rd
Windham
Node: 15960
Study Period: 2023-2025
# of Crashes: 16 / CRF: 4.75
Prepared by Office of Safety & Mobility
(DS 7/22/26)


Search...
River Rd
Chute Rd
15960
WINDHAM
Depot St
River Rd
Scale: 1:826
60ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I - Single Node	☐ Section Detail	☑ Crash Summary II	☐ 1320 Public	☐ 1320 Private	☐ 1320 Summary

REPORT DESCRIPTION

Windham

Int of River Rd, Chute Rd, and Depot St

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0500711**	Start Node: **15960**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15960**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15960	0500711 - 2.44	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.75

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	4
WEDNESDAY	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	2	1	0	0	0	0	0	0	6
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Totals	0	0	0	0	0	0	0	2	0	0	0	1	1	2	3	3	0	2	2	0	0	0	0	0	0	**16**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	9
2-(Sport) Utility Vehicle	12
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	11
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	5
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**38**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	2	12	1	0	0	0	15
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	11	4	0	0	0	0	15
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	1	0	0	0	0	0	1
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	0	0	0	0	0	1
Total	**15**	**16**	**1**	**0**	**0**	**0**	**32**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	14	16	1	0	0	0	31
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0
Total	**15**	**16**	**1**	**0**	**0**	**0**	**32**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	3	0	0	0	0	3
20-24	2	0	0	0	0	2
25-29	3	0	0	0	0	3
30-39	8	0	0	0	0	8
40-49	4	0	0	0	0	4
50-59	5	0	0	0	0	5
60-69	4	0	0	0	0	4
70-79	2	0	0	0	0	2
80-Over	1	0	0	0	0	1
Unknown	1	0	0	0	0	1
Total	**33**	**0**	**0**	**0**	**0**	**33**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**32**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	32		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	2	2
C	3	4
PD	11	0
Total	**16**	**6**

Road Character

Road Grade	Total
1-Level	14
2-On Grade	2
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**16**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	2
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	7
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	1
14-Other	1
Total	**16**

Light

Light Condition	Total
1-Daylight	13
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	2
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**16**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	1	0	1	2
FEBRUARY	1	0	4	5
MARCH	0	1	0	1
APRIL	0	0	1	1
MAY	0	0	0	0
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	3	0	3
SEPTEMBER	0	0	0	0
OCTOBER	0	0	1	1
NOVEMBER	0	0	0	0
DECEMBER	2	0	1	3
Total	**4**	**4**	**8**	**16**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	9	1	0	0	0	0	0	0	0	0	1	11
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**11**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**16**

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **WINDHAM**

LOW NODE: **15959** HIGH NODE: **15960** REGION: **1** U/R: **URBAN**

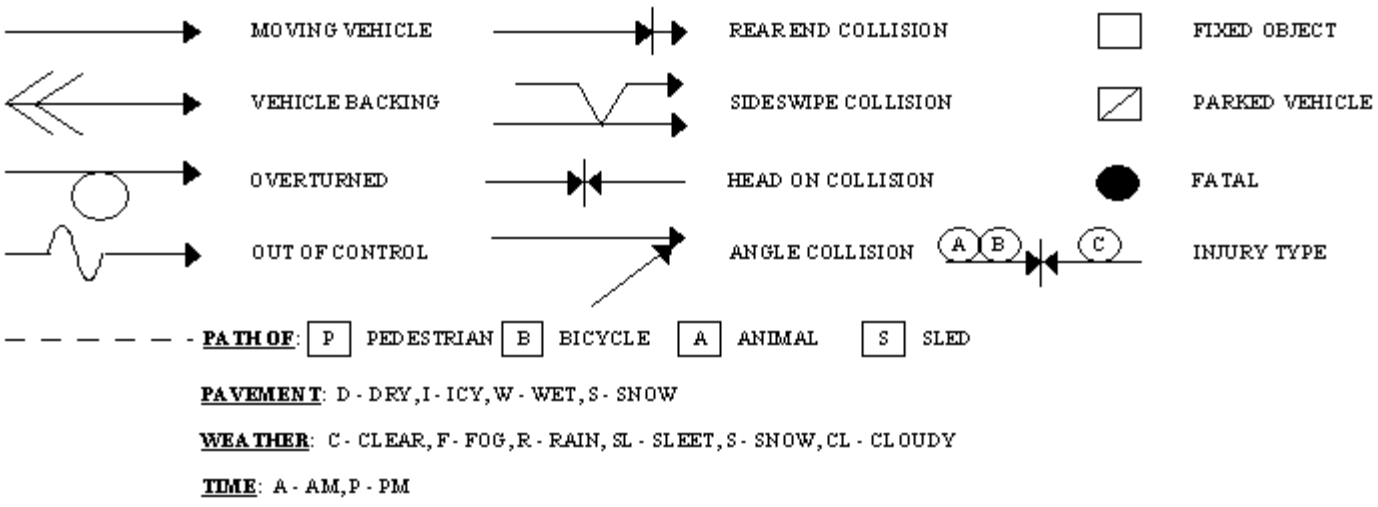
DESCRIPTION: **River Rd from Mallison Falls Rd to Chute Rd/Depot St**

RTE # / RD #: **0500782** DATE DRAWN: **7/22/2026** DRAWN BY: **Duncan**

STUDY FROM: **1/1/2023** STUDY TO: **12/31/2025**

CRASH RATE: **394.74** CRF: **1.27** % INJURY: **25** TOTAL CRASHES: **16**

LEGEND



Windham

Link: 15959-15960

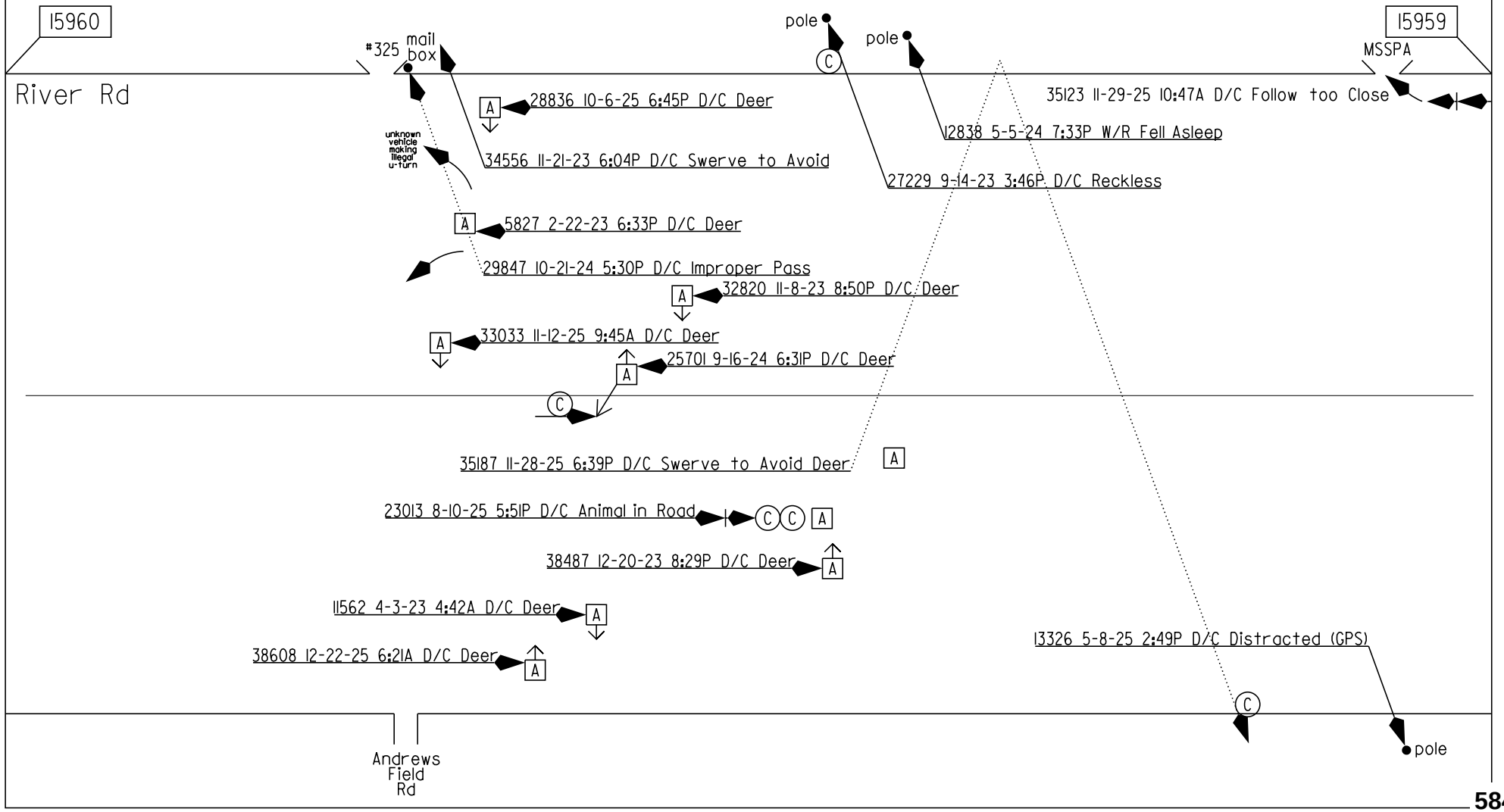
Element: 3105923

Study Period: 2023-2025

of Crashes: 16 / CRF: 1.27

Prepared by Office of Safety & Mobility

(DS 7/22/26)




Search...
Chute Rd
15960
River Rd
67415
11018
Athens Dr
12472
South Windham
Stockyard Dr
Depot St
Station
Andrews Field Rd
Stream View Dr
Ash St
Academy St
12474
Holly Ln
Mountain Division
High St
Winslow Dr
Van Tassel Dr
Paul Ave
12476
12475
67414
Presumpscot River
WINDHAM
Galley Wright Brook
River Rd
15959
Mallison Falls Rd
Scale: 1:6610
400ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I - Single Element	☐ Section Detail	☑ Crash Summary II	☐ 1320 Public	☐ 1320 Private	☐ 1320 Summary

REPORT DESCRIPTION

Windham

River Rd from Mallison Falls Rd to Chute Rd/Depot St

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0500782**	Start Node: **15960**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15959**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
15959	15960	3105923	0 - 0.59	0500782 - 6.60	0.59	2	16	0	0	0	4	12	25.0	0.01351	394.74	311.47	1.27
Int of MALLISON FALLS RD RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
Study Years: 3.00				**Section Totals:**	0.59		16	0	0	0	4	12	25.0	0.01351	394.74	311.47	1.27

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15959	15960	3105923	0 - 0.59	0500782 - 6.60	16	0	0	0	4	12	2024-29847	10/21/2024	6.77	PD
											2025-33033	11/12/2025	6.78	PD
											2023-34556	11/21/2023	6.78	PD
											2023-5827	02/22/2023	6.79	PD
											2025-28836	10/06/2025	6.80	PD
											2025-38608	12/22/2025	6.81	PD
											2024-11562	04/03/2024	6.83	PD
											2024-25701	09/16/2024	6.85	C
											2023-32820	11/08/2023	6.87	PD
											2025-23013	08/10/2025	6.88	C
											2023-38487	12/20/2023	6.92	PD
											2023-27229	09/14/2023	6.93	C
											2024-12838	05/05/2024	6.96	PD
											2025-35187	11/28/2025	6.99	C
											2025-35123	11/29/2025	7.15	PD
											2025-13326	05/08/2025	7.15	PD
				Totals:	16	0	0	0	4	12				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM												
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
MONDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	4
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
WEDNESDAY	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	5
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Totals	0	0	0	0	1	0	1	0	0	1	1	0	0	0	1	1	0	2	5	1	2	0	0	0	0	**16**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	8
2-(Sport) Utility Vehicle	7
3-Passenger Van	0
4-Cargo Van (10K lbs or Less)	1
5-Pickup	3
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	1
25-Other	1
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**21**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	10	3	0	0	0	0	13
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	0	0	0	0	0	0	0
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	2	0	0	0	0	0	2
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	**16**	**3**	**0**	**0**	**0**	**0**	**19**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	16	3	0	0	0	0	19
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**16**	**3**	**0**	**0**	**0**	**0**	**19**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	1	0	0	0	0	1
20-24	2	0	0	0	0	2
25-29	2	0	0	0	0	2
30-39	3	0	0	0	0	3
40-49	3	0	0	0	0	3
50-59	4	0	0	0	0	4
60-69	4	0	0	0	0	4
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	1	0	0	0	0	1
Total	**20**	**0**	**0**	**0**	**0**	**20**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**20**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	9		
13-Motor Vehicle in Transport	8		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	1		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	1		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	1		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	16
14-Other	0
Total	**16**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	4	5
PD	12	0
Total	**16**	**5**

Road Character

Road Grade	Total
1-Level	13
2-On Grade	1
3-Top of Hill	2
4-Bottom of Hill	0
5-Other	0
Total	**16**

Light

Light Condition	Total
1-Daylight	5
2-Dawn	1
3-Dusk	3
4-Dark - Lighted	0
5-Dark - Not Lighted	7
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**16**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	0	0	0	0
FEBRUARY	1	0	0	1
MARCH	0	0	0	0
APRIL	0	1	0	1
MAY	0	1	1	2
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	0	1	1
SEPTEMBER	1	1	0	2
OCTOBER	0	1	1	2
NOVEMBER	2	0	3	5
DECEMBER	1	0	1	2
Total	**5**	**4**	**7**	**16**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	5	0	0	0	0	1	0	0	0	0	0	0	0	0	6
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**14**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	7	0	0	0	0	0	0	0	0	0	0	7
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	0	1
Daylight	5	0	0	0	0	0	0	0	0	0	0	5
Dusk	2	0	0	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	1	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**16**

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **WINDHAM**

LOW NODE: **15959** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

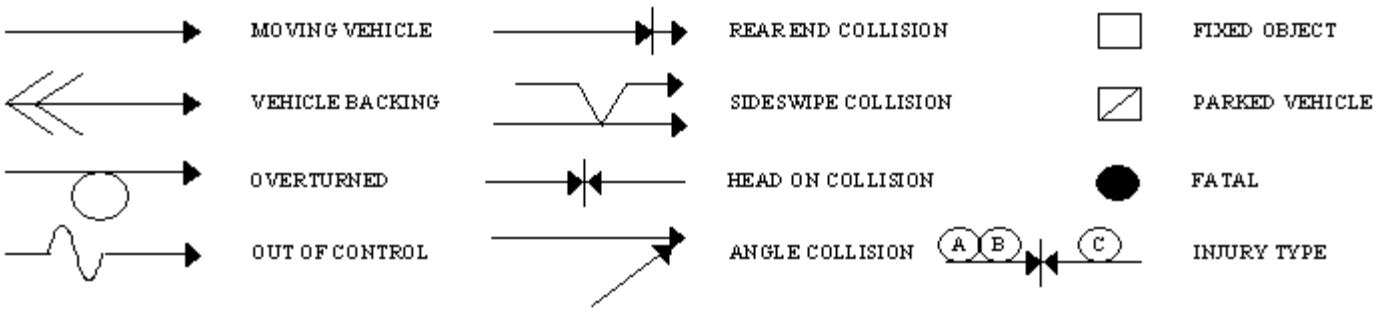
DESCRIPTION: **Int of River Rd and Mallison Falls Rd**

RTE # / RD #: **0500721** DATE DRAWN: **7/22/2026** DRAWN BY: **Duncan**

STUDY FROM: **1/1/2023** STUDY TO: **12/31/2025**

CRASH RATE: **0.85** CRF: **2.32** % INJURY: **11.1** TOTAL CRASHES: **9**

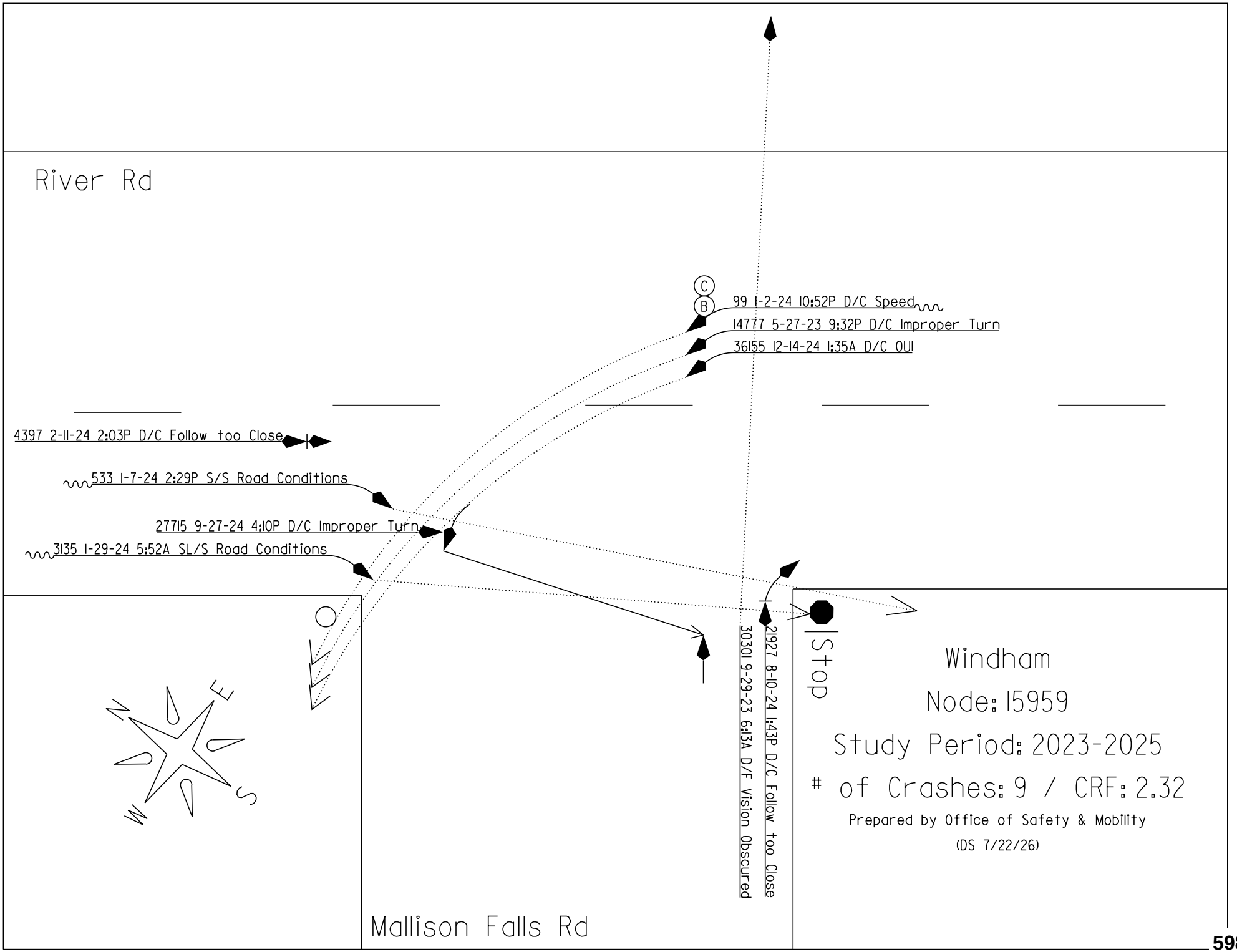
LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


River Rd
C
B
99 1-2-24 10:52P D/C Speed
14777 5-27-23 9:32P D/C Improper Turn
36155 12-14-24 1:35A D/C OUI
4397 2-11-24 2:03P D/C Follow too Close
533 1-7-24 2:29P S/S Road Conditions
27715 9-27-24 4:10P D/C Improper Turn
3135 1-29-24 5:52A SL/S Road Conditions
Stop
30301 9-29-23 6:13A D/F Vision Obscured
21927 8-10-24 1:43P D/C Follow too Close
Windham
Node: 15959
Study Period: 2023-2025
# of Crashes: 9 / CRF: 2.32
Prepared by Office of Safety & Mobility
(DS 7/22/26)
Mallison Falls Rd


Search...
River Rd
15959
WINDHAM
River Rd
Mallison Falls Rd
Scale: 1:1652
100ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I - Single Node** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Windham
Int of River Rd and Mallison Falls Rd

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0500721**	Start Node: **15959**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15959**	End Offset: **0**	☐ **Exclude Last Node**

600

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15959	0500721 - 0	Int of MALLISON FALLS RD RIVER RD	2	9	0	0	1	0	8	11.1	3.511	0.85	0.37	2.32
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		9	0	0	1	0	8	11.1	3.511	0.85	0.37	2.32

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
MONDAY	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FRIDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
SATURDAY	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
Totals	0	1	0	0	0	1	1	0	0	0	0	0	0	1	2	0	1	0	0	0	0	1	1	0	0	**9**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	6
2-(Sport) Utility Vehicle	4
3-Passenger Van	0
4-Cargo Van (10K lbs or Less)	1
5-Pickup	2
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	2
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**15**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	4	0	1	0	0	0	5
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	0	0	0	0	0	0	0
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	2	1	0	0	0	0	3
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	0	2	0	0	0	0	2
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	**9**	**3**	**1**	**0**	**0**	**0**	**13**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	8	3	1	0	0	0	12
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0
Total	**9**	**3**	**1**	**0**	**0**	**0**	**13**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	4	0	0	0	0	4
20-24	3	0	0	0	0	3
25-29	0	0	0	0	0	0
30-39	1	0	0	0	0	1
40-49	0	0	0	0	0	0
50-59	2	0	0	0	0	2
60-69	0	0	0	0	0	0
70-79	3	0	0	0	0	3
80-Over	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
Total	**13**	**0**	**0**	**0**	**0**	**13**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	1	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**13**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	1		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	8		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	3		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	4
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	4
14-Other	1
Total	**9**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	1	1
C	0	1
PD	8	0
Total	**9**	**2**

Road Character

Road Grade	Total
1-Level	8
2-On Grade	0
3-Top of Hill	0
4-Bottom of Hill	1
5-Other	0
Total	**9**

Light

Light Condition	Total
1-Daylight	4
2-Dawn	1
3-Dusk	0
4-Dark - Lighted	2
5-Dark - Not Lighted	2
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**9**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	0	3	0	3
FEBRUARY	0	1	0	1
MARCH	0	0	0	0
APRIL	0	0	0	0
MAY	1	0	0	1
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	1	0	1
SEPTEMBER	1	1	0	2
OCTOBER	0	0	0	0
NOVEMBER	0	0	0	0
DECEMBER	0	1	0	1
Total	**2**	**7**	**0**	**9**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	0	0	0	0	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	0	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	1	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**9**

Town of Windham

Town Offices
8 School Road
Windham, Maine

Cover Sheet

File Number: PB 26-064

Agenda Date: 8/24/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Planning Board **File Type:** Planning Board Document

#26-19-Sandbar Apartments- Major Subdivision & Site Plan-Sketch Plan Review-Sandbar Road-Mayberry Associates LLC
The application is to construct 24 residential apartment units in two 3-story, 12-unit buildings on a 1.62-acre property. Each building contains eight 2-bedroom units and four 1-bedroom units. Site improvements include 20 parking spaces, sidewalks, a dumpster pad with fenced enclosure, snow storage area, and stormwater management facilities. The development will be served by public water from the existing 8-inch main in Sandbar Road, underground electrical service, and two private on-site subsurface wastewater disposal fields designed for 1,920 gpd each. Access is proposed via a new driveway onto Sandbar Road, an existing private road. Subject property is identified as Tax Map: 18; Lot: 32 A-3; Zone: Commercial 1 (C1) in the Tarkill Pond/Little Sebago Lake watershed.

TOWN OF WINDHAM MAINE

Planning Department
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916
www.windhammaine.us

APPLICATION COMPLETENESS & STAFF REVIEW COMMENTS MEMO

DATE: August 4, 2026

TO: Marvin Mayberry, Manager, Mayberry Associates, LLC
Dustin M. Roma, P.E., DM Roma Consulting Engineers

FROM: Natalie E. Thomsen, Town Planner

Cc: Windham Planning Board
Steve Puleo, Planning Director
Mark Arienti, Town Engineer

RE: #26-18 – Major Subdivision & Major Site Plan – Sandbar Road Apartments – Sandbar Road – Sketch Plan Review

Scheduled for Planning Board meeting: August 24, 2026

Thank you for submitting the sketch major subdivision and sketch major site plan applications for the Sandbar Road Apartments on July 29, 2026**.** Most of the submission is in order. The items below are the ones that still need attention before the applications can be scheduled for Planning Board sketch plan review. Review of a sketch plan is informational and does not result in any approval or disapproval of the project (§ 120-807E and § 120-907A(3)).

Project Information

Sketch plan review of a major subdivision and major site plan for a 24-unit residential development in two three-story, twelve-unit buildings on a 1.62-acre parcel. Each building is proposed with eight two-bedroom units and four one-bedroom units. Site improvements include parking, sidewalks, a dumpster pad with fenced enclosure, snow storage areas, and a stormwater filter basin. The development is proposed to be served by public water from the existing eight-inch main in Sandbar Road, underground electrical service, and two private on-site subsurface wastewater disposal fields. Access is proposed from a new driveway onto Sandbar Road, an existing private road. Tax Map: 18; Lot: 32-A03; Zone: Commercial I (C-1), within the Tarkill Pond to Little Sebago Lake watershed.

Items Needing Attention

1. **USGS topographic map.** Not found in the submission. Please provide the portion covering the site, with the boundaries shown (§ 120-910A(2)(h)).
2. **Sandbar Road right-of-way.** Please add the Sandbar Road right-of-way lines along the property frontage, with the approximate width labeled (§ 120-910A(2)(j)[3]). The proposed East Connector Road right-of-way is shown and is all set.
3. **Wetlands and natural features.** Please state in the narrative whether wetlands, streams, ponds, floodplains, aquifers, tree lines, or significant wildlife habitat or fisheries are present, and say so where they are not (§ 120-910A(2)(j)[7]).
4. **Studies for the preliminary plan.** The traffic, utility, and market study boxes are blank on both application forms. Please indicate which you intend to prepare. With 47 spaces shown, a traffic impact analysis is triggered at preliminary plan (§ 120-910C(3)(e)).

5. **Lot area.** The forms list 69,682 square feet (1.59 acres); the deed, plan notes, and cover letter state 1.62 acres. Please confirm which is correct.
6. **Parking description**. The narrative on both application forms describes "off-site parking for 24 vehicles." The plan shows 47 spaces on the property. Please update the narrative to match.
7. **Project name.** Three names are used across the submission. Please pick one and carry it forward.

Waiver Requests

- § 120-812B(1)(b) – Existing streets shall be suitably improved.
- § 120-910C(3)(a) – Submission of a high-intensity soil survey.

Thank you for your attention to these items. A Development Review Team meeting is scheduled for Tuesday, August 11, 2026 at 2:00 p.m., at which additional staff comments may be provided. Final revisions to the sketch plan should be submitted by **5:00 p.m. on Monday, August 17, 2026**. Please provide one copy of your response to staff comments with any revised materials and one plan set, and email an electronic copy of the response letter, supporting documentation, and plan set. Please feel free to contact me with any questions at (207) 894-5960 x6121 or nethomsen@windhammaine.us.

Sincerely,

Natalie E. Thomsen
Town Planner
Town of Windham

DM ROMA
CONSULTING ENGINEERS

July 27, 2026

Natalie Thomsen, Town Planner
Town of Windham
8 School Road
Windham, ME 04062

Re: Sketch Plan Application - Major Subdivision and Major Site Plan
Sandbar Road Apartments
Mayberry Associates, LLC – Applicant/Owner

Dear Natalie:

On behalf of Mayberry Associates, LLC we have prepared the enclosed sketch major subdivision plan and sketch major site plan applications with supporting materials for Staff and Planning Board review of a proposed 24-unit residential development. The project will include the construction of two buildings, each containing 12 units consisting of 8 units with 2 bedrooms and 4 units with 1 bedroom. The 1.62-acre property is located on Sandbar Road and is located in the Commercial-1 zoning district. The property is vacant land that contains no existing structures and is generally level-grade and wooded.

We are proposing a new site driveway entrance on Sandbar Road. We have measured the sight distance at the proposed driveway entrance location to be at least 420 ft looking right and 430 feet looking left, which exceeds the minimum requirements for the posted speed limit of 25 mph. Sandbar Road is an existing private roadway with a paved surface that is approximately 19 feet in width with additional gravel shoulders of varying width. Although the streets are narrower than the Town's standards for a Major Private Road, the roadways are in good condition and opposing vehicles are able to pass each other while traveling the posted speed limit. The right-of-way of Sandbar Road along the property frontage and extending towards Tandberg Trail is variable width ranging from 30 to 60 feet and various segments are owned by separate private entities. It is our opinion based on a review of the property deeds that our applicant has the right to use Sandbar Road for access and utilities, but it is unlikely that sufficient rights exist to allow the applicant to make substantial improvements to Sandbar Road. Based on the apparent lack of rights to make any substantial improvements, and the observations that the existing roadway is functioning adequately for the movement of vehicle traffic, we are requesting a waiver of §120-812B(1)(b).

This property is located within 100 feet of the planned location of the East Connector Road as shown on the North Windham Roadway & Intersection Improvements Plan dated April 2024. We do not anticipate that this lot will have any direct frontage on the East Connector Road right-of-way once the limits of the right-of-way are finalized, but the final decision on the limits of the right-of-way will be up to the Maine Department of Transportation in coordination with project stakeholders. Our proposed driveway entrance is located approximately 250 feet away from the proposed intersection of Sandbar Road with the East Connector Road.

The project will create approximately 28,000 sf of impervious area and 1.4 acres of land disturbance within the watershed of Little Sebago Lake, and will require a Stormwater Permit from the Maine Department of Environmental Protection (Maine DEP). It is our understanding that the Town of

Windham will perform the review and issue the permit under its Delegated Review Authority concurrent with the Site Plan and Subdivision plan application review. We understand that we are responsible for completing the Public Noticing of the Intent to File as required by the Maine DEP.

Water services for domestic and fire protection needs will be extended to each building from the existing 8" water main that exists in Sandbar Road. An existing fire hydrant is located approximately 70 feet from our proposed driveway entrance, and sprinkler systems will be installed in both buildings.

Underground electrical service will be extended through the project to serve all proposed dwelling units.

Each of the 12-unit buildings will require a wastewater disposal field to accommodate a design flow of 1,920 gallons per day. We intend to install two on-site wastewater disposal fields with standard treatment tanks. The two leach fields will be adequately separated so that they are considered separate leach fields with a design capacity of less than 2,000 gpd, and will not require approval from the State as an Engineered system.

Soils on the site are generally suitable for the proposed development as indicated on the Medium Intensity Soil Maps for Cumberland County (see attached). Soils consist of Hinckley loamy sand which are excessively drained and classified as Hydrologic Soil Group "A".

Upon your review of this information, please let us know if you have any questions or require any additional information.

Sincerely,

DM ROMA CONSULTING ENGINEERS

Dustin Roma

Dustin M. Roma, P.E.
President

Town of Windham
Planning Department:
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Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
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SKETCH PLAN REVIEW – MAJOR\MINOR SUBDIVISION APPLICATION

FEES FOR SKETCH PLAN REVIEW	**APPLICATION FEE:**	☒	**$200.00**	**AMOUNT PAID:**			
	REVIEW ESCROW:	☐	**$300.00 - MINOR**	**$_____**			
		☒	**$400.00 - MAJOR**	**DATE: _____**			
				Office Use:		*Office Stamp:*	

PROPERTY DESCRIPTION	**Parcel ID**	**Map #**	18	**Lot(s) #**	32-A-03	**Zoning District(s)**	C-1	**Total Land Area SF**	69,682 sf
	Physical Address	Sandbar Road				**Watershed:**	Tarkill Pond to Little Sebago Lake		

PROPERTY OWNER'S INFORMATION	**Name**	Mayberry Associates LLC	**Mailing Address**	60 Sandbar Road Windham, ME 04062
	Phone			
	Fax or Cell			
	Email	mmayberry1962@aol.com		
APPLICANT'S INFORMATION (*IF DIFFERENT FROM OWNER*)	**Name**	Same as Owner	**Name of Business**	
	Phone		**Mailing Address**	
	Fax or Cell			
	Email			
APPLICANT'S AGENT INFORMATION	**Name**	Dustin Roma	**Name of Business**	DM Roma Consulting Engineers
	Phone	(207) 591 - 5055	**Mailing Address**	PO Box 1116 Windham, ME 04062
	Fax or Cell	(207) 310 - 0506		
	Email	dustin@dmroma.com		

PROJECT INFORMATION

Existing Land Use *(Use extra paper, if necessary)*:

Vacant Land

Provide a narrative description of the Proposed Project *(Use extra paper, if necessary)*:

Construct 24 residential apartment units in 2 buildings, each with 12 dwelling units. Other site improvements include off-site parking for 24 vehicles, sidewalks, stormwater management facilities and a dumpster pad. Buildings will be served by public water from an existing water main in Sandbar Road and private on-site wastewater disposal fields.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non- conformance, etc. Use extra paper, if necessary):

Access is from a paved private road.

SKETCH PLAN MAJOR\MINOR SUBDIVISION APPLICATION REQUIREMENTS

Section 120-910 of the Land Use Ordinance

The submission shall contain, five (5) copies of following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Sketch Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks prior to the desired Planning Board or Staff Review Committee meeting.
  - Five copies of application and plans
  - Application Payment and Review Escrow
- Pre-submission meeting with the Town staff is required.
- Contact information:

Windham Planning Department (207) 894-5960, ext. 2
Steve Puleo, Town Planner sjpuleo@windhammaine.us
Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR SKETCH PLAN REVIEW REQUIREMENTS

SUBMITTALS THAT THE TOWN PLANNER DEEMS INCOMPELTE IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Windham's LAND USE ORDINANCE, Section 120-910. Due to projects specifics, are required to provide a complete and accurate set of plans, reports and supporting documentation.

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.
NOTE TO APPLICANT: PRIOR TO THE SITE WALK, TEMPORARY MARKERS MUST BE ADEQUATELY PLACED THAT ENABLE THE PLANNING BOARD TO READILY LOCATE AND APPRAISE THE LAYOUT OF DEVELOPMENT (SEE RULES OF PLANNING BOARD FOR MORE SPECFICS, PER SECTIONS 120-906C(3) and 120-907A(2)(b)[2]).

Submission Requirements:	Applicant	Staff
a) Completed Sketch Plan Application form	☒	☐
b) Proposed Project Conditions:		
- Condition of the site	☒	☐
- Proposed use	☒	☐
- Constraints/opportunities of site	☒	☐
Outline any of the follow		
- Traffic Study	☐	☐
- Utility Study	☐	☐
- Market Study	☐	☐
c) Name, address, phone for record owner and applicant	☒	☐
d) Names and addresses of all consultants working on the project	☒	☐
e) Evidence of right, title, or interest in the property	☒	☐
f) Evidence of payment of Sketch Plan fees and escrow deposit	☒	☐
g) Any anticipated waiver requests (Section 120-908)		
Waivers from Submission Criteria. Will the applicant be requesting waivers from the "Submission information for which a Waiver May be Granted"?	☒	☐
- If yes, submit letter with waivers being requested, along with a completed "Performance & design Standards Waiver Request Form.	☒	☐
Waivers from Subdivision Performance Standards in Section 120-911 of the Land Use Ordinance.	☒	☐
- If yes, submit letter with the waivers being requested, along with a completed "Performance and Design Standards Waiver Request" form.	☒	☐

	Applicant	Staff
h) Copy of portion of the USGS topographic map of the area, showing the boundaries of the proposed subdivision.	☒	☐
i) An existing resources inventory and site analysis sketch plan for conservation subdivisions as described in § 120-911K(3)	☒	☐
j) Copy of that portion of the Cumberland County Medium Intensity Soil Survey covering the proposed subdivision, showing the boundaries of the proposed subdivision Submit initialed form regarding additional fees, from applicant intro packet	☒	☐
Plan Requirements		
1. Name of subdivision, north arrow, date and scale.	☒	☐
2. Boundary and lot lines of the subdivision.	☒	☐
3. Approximate location, width, and purpose of easements or restrictions.	☒	☐
4. Streets on and adjacent to the tract.	☒	☐
5. Approximate location and size of existing utilities on and adjacent to the tract, including utility poles and hydrants (if none, so state).	☒	☐
6. Existing buildings, structures, or other improvements on the site.	☒	☐
7. Major natural features of the site, approximated by the applicant including wetlands, streams and ponds, floodplains, groundwater aquifers, treelines, significant wildlife habitat and fisheries, and any other important features.	☒	☐
PDF Electronic Submission	☒	☐

The undersigned hereby makes application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.

Dustin Roma 7-27-26 Dustin Roma - Authorized Agent

APPLICANT OR AGENT'S SIGNATURE DATE PLEASE TYPE OR PRINT NAME

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

SKETCH PLAN - MAJOR SITE PLAN REVIEW APPLICATION

FEES FOR SKETCH PLAN REVIEW		**APPLICATION FEE:**	☒ $200.00		**AMOUNT PAID:** $_____ DATE: _____ *Office Use:*		*Office Stamp:*		
		REVIEW ESCROW:	☒ $400.00						
PROPERTY DESCRIPTION	**Parcel ID**	**Map(s) #**	18	**Lot(s) #**	32-A-03	**Zoning District(s)**	C-1	**Total Land Area SF**	69,682 sf
	Total Disturbance. >1Ac	☒ **Y** ☐ **N**		**Est. Building SF:**	8,750 sf	**No Building; Est. SF of Total Development:**			
	Physical Address:	Sandbar Road				**Watershed:**	Tarkill Pond to Little Sebago Lake		
PROPERTY OWNER'S INFORMATION	**Name:**					**Name of Business:**	Mayberry Associates LLC		
	Phone:					**Mailing Address:**	60 Sandbar Road Windham, ME 04062		
	Fax or Cell:								
	Email:	mmayberry1962@aol.com							
APPLICANT'S INFORMATION (*IF DIFFERENT FROM OWNER*)	**Name:**	Same as Owner				**Name of Business:**			
	Phone:					**Mailing Address:**			
	Fax or Cell:								
	Email:								
APPLICANT'S AGENT INFORMATION	**Name:**	Dustin Roma				**Name of Business:**	DM Roma Consulting Engineers		
	Phone:	(207) 591 - 5055				**Mailing Address:**	PO Box 1116 Windham, ME 04062		
	Fax or Cell:	(207) 310 - 0506							
	Email:	dustin@dmroma.com							

PROJECT INFORMATION

Existing Land Use *(Use extra paper, if necessary)*:

Vacant Land

Provide a narrative description of the Proposed Project *(Use extra paper, if necessary)*:

Construct 24 residential apartment units in 2 buildings, each with 12 dwelling units. Other site improvements include off-site parking for 24 vehicles, sidewalks, stormwater management facilities and a dumpster pad. Buildings will be served by public water from an existing water main in Sandbar Road and private on-site wastewater disposal fields.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

Access is from a paved private road.

SKETCH PLAN REVIEW REQUIREMENTS FOR A MAJOR SITE PLAN APPLICATION

Section 120-811 of the Land Use Ordinance

The submission shall contain five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Sketch Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available.
- Complete application submission deadline: three (3) weeks prior to the desired Planning Board or Staff Review Committee meeting.
  - Five copies of application and plans
  - Application Payment and Review Escrow
- Pre-submission meeting with the Town staff is required.
- Contact information:

Windham Planning Department (207) 894-5960, ext. 2
Steve Puleo, Town Planner sjpuleo@windhammaine.us
Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR SKETCH PLAN REVIEW REQUIREMENTS

SUBMITTALS THAT THE TOWN PLANNER DEEMS INCOMPELTE IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 811, 812, & 813. Due to projects specifics, are required to provide a complete and accurate set of plans, reports and supporting documentation (as listed in the checklist below)..

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

NOTE TO APPLICANT: PRIOR TO THE SITE WALK, TEMPORARY MARKERS MUST BE ADEQUATELY PLACED THAT ENABLE THE PLANNING BOARD TO READILY LOCATE AND APPRAISE THE LAYOUT OF DEVELOPMENT (SEE RULES OF PLANNING BOARD FOR MORE SPECFICS, PER SECTION 120-807D(2)).

Submission Requirements:	Applicant	Staff
a) Completed Sketch Plan Application form	X	
b) Proposed Project Conditions:		
- Condition of the site	X	
- Proposed use	X	
- Constraints/opportunities of site	X	
Outline any of the follow		
- Traffic Study		
- Utility Study		
- Market Study		
c) Name, address, phone for record owner and applicant	X	
d) Names and addresses of all consultants working on the project.	X	
e) Evidence of right, title, or interest in the property	X	
f) Evidence of payment of Sketch Plan fees and escrow deposit	X	
g) Any anticipated waiver requests (Section 120-808)		
Waivers from Submission Criteria. Will the applicant be requesting waivers from the "Submission information for which a Waiver May be Granted"?	X	
- If yes, submit letter with waivers being requested, along with a completed "Performance & design Standards Waiver Request Form.	X	
Waivers from Subdivision Performance Standards in Section 120-812 of the Land Use Ordinance.	X	

Submission Requirements (continued)	Applicant	Staff
-If yes, submit letter with the waivers being requested, along with a completed "Performance and Design Standards Waiver Request" form.	X	
Plan Requirements		
Please note: the Sketch Plan does not need to be surveyed. However, if it is surveyed, please refer to the GIS requirements for Final Plan review. It may be in the applicant's interest to obtain the required GIS data while the surveyor is on site		
1] The name of the development, North arrow, date, and scale.	X	
2] The boundaries of the parcel.	X	
3] The relationship of the site to the surrounding area.	X	
4] The topography of the site at an appropriate contour interval depending on the nature of the use and character of the site (in many instances, submittal of the applicable USGS ten-foot contour map will be adequate).	X	
5] The approximate size and location of major natural features of the site, including wetlands, streams, ponds, floodplains, groundwater aquifers, significant wildlife habitats and fisheries or other important natural features (if none, so state).	X	
6] Existing buildings, structure, or other improvements on the site (if none, so state).	X	
7] Existing restrictions or easements on the site (if none, so state).	X	
8] Approximate location and size of existing utilities on and adjacent to the tract, including utility poles and hydrants (if none, so state)	X	
9] A Class D medium-intensity soil survey (information from the most current soil survey for Cumberland County, Maine, is acceptable).	X	
10] The location and size of proposed buildings, structures, access drives, parking areas, and other development features (if applicable).	X	
PDF Electronic Submission	X	

The undersigned hereby makes application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.

Dustin Roma — 7-27-26 — Dustin M. Roma - Authorized Agent

APPLICANT OR AGENT'S SIGNATURE | DATE | PLEASE TYPE OR PRINT NAME

July 27, 2026

Re: Sandbar Road, Windham

I am the owner of a 1.62-acre property located on Sandbar Road in Windham, Maine which is depicted as Lot 32-A03 on Windham Assessor's map 18. I have retained the services of DM Roma Consulting Engineers to act as authorized agent to apply for land use permits associated with development of this land.

Sincerely,

Marvin Mayberry
Mayberry Associates, LLC

TOWN OF WINDHAM
SITE PLAN APPLICATION

Performance Standards Waiver Request Form
(Section 808 – Site Plan Review, Waivers)

For each waiver request from the Submission Requirements found in Section 811 and Performance Standards detailed in Section 812 of the Town of Windham Land Use Ordinance, please submit a separate copy of this form for all waivers.

Project Name: Sandbar Road Residential Apartments

Tax Map: 18

Lot(s): 32A-03

Waivers are requested from the following Performance and Design Standards (Add forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-812B(1)(b)	Existing Streets shall be suitably improved	☒
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

Sandbar Road is an existing private roadway with a paved surface that is approximately 19 feet in width with additional gravel shoulders of varying width. Although the streets are narrower than the Town's standards for a Major Private Road, the roadways are in good condition and opposing vehicles are able to pass each other while traveling the posted speed limit. The right-of-way of Sandbar Road along the property frontage and extending towards Tandberg Trail is variable width ranging from 30 to 60 feet and various segments are owned by separate private entities. It is our opinion based on a review of the property deeds that our applicant has the right to use Sandbar Road for access and utilities, but it is unlikely that sufficient rights exist to allow the applicant to make substantial improvements to Sandbar Road. Based on the apparent lack of rights to make any substantial improvements, and the observations that the existing roadway is functioning adequately for the movement of vehicle traffic, we are requesting a waiver of §120-812B(1)(b).

(continues next page)

Ordinance Section: 120-812B(1)(b)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 120-908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 120-911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

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Subdivision or

Project Name: Sandbar Road Residential Apartments

Tax Map: 18

Lot(s): 32-A-03

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-910-C-3-A	Submission of a High Intensity Soil Survey	X
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The site is a small parcel of less than 2 acres. The Medium Intensity Soil Survey indicates a single soil series of Hinckley loamy sand, which is an excessively drained soil with a Hydrologic Soil Classification "A". We will be completing test pits and a complete design of the two leach fields, and a hydrogeologic assessment will be prepared by a certified geologist. It is our opinion that a High Intensity Soil Survey will not provide any information that would not be otherwise obtained from the other studies that will be completed for the project.

(Continued next page)

Ordinance Section: 120-910-C-3-A (PLEASE PROVIDE A SEPERATE IMPACT CRITERIA FRO EACH ORDIANCE SECTION)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TRUSTEE'S DEED
(CORRECTIVE DEED)

KNOW ALL PERSONS BY THESE PRESENTS That **BRUCE V. MAYBERRY**, Trustee of **KAMM REALTY TRUST**, with a mailing address of 39 Sandbar Road, Windham, Maine 04062, for consideration paid, **GRANTS** to **MAYBERRY ASSOCIATES LLC**, a Maine Limited Liability Company, whose mailing address is 60 Sandbar Road, Windham, Maine 04062, with **WARRANTY COVENANTS**, that certain lot or parcel of land situated in the Town of Windham, County of Cumberland and State of Maine, being more particularly bounded and described as follows:

See Attached Exhibit A

Being a portion only of the same premises conveyed to Grantor by deed of Bruce V. Mayberry dated December 31, 2015, and recorded at the Cumberland County Registry of Deeds in Book 33005, Page 58.

IN WITNESS WHEREOF, BRUCE V. MAYBERRY, as Trustee of KAMM REALTY TRUST, has signed this instrument on the 27 day of April, 2026.

Bruce V Mayberry

BRUCE V. MAYBERRY, Trustee
Kamm Realty Trust

STATE OF MAINE
COUNTY OF CUMBERLAND April 27 2026

Personally appeared the above-named BRUCE V. MAYBERRY, Trustee of the KAMM REALTY TRUST and acknowledged the foregoing instrument to be his free act and deed in his stated capacity, and free act and deed of said Trust.

Before me,

KARL E. HARTWELL
Notary Public, Maine
My Commission Expires 12/12/2026

Karl E Hartwell

Notary Public/Attorney-at-Law
Print Name: Karl E. Hartwell

The Grantee, MAYBERRY ASSOCIATES LLC, hereby joins in this conveyance to provide its acknowledgment and acceptance of the corrected legal description.

IN WITNESS WHEREOF, Marvin Mayberry, Manager of MAYBERRY ASSOCIATES LLC, has signed this instrument on the 27 day of April, 2026.

Marvin Mayberry, Manager
Mayberry Associates LLC

STATE OF MAINE
COUNTY OF CUMBERLAND April 27, 2026

Personally appeared the above-named Marvin Mayberry, Manager of MAYBERRY ASSOCIATES LLC and acknowledged the foregoing instrument to be his free act and deed in his stated capacity, and free act and deed of said LLC.

Before me,

KARL E. HARTWELL
Notary Public, Maine
My Commission Expires 12/12/2026

Notary Public/Attorney-at-Law
Print Name: Karl E. Hartwell

DOC :18664 BK:42250 PG:277
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
05/14/2026, 08:08:09A
Register of Deeds Jessica M. Spaulding E-RECORDED

EXHIBIT A

A certain parcel of land situated on the easterly side of Sandbar Road in the Town of Windham, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the easterly sideline of Sandbar Road at land now or formerly of Direnzo Rentals, LLC as described in a deed recorded in Book 26204 Page 206 in the Cumberland County Registry of Deeds;

Thence N 34° 22' 23" E, by and along land of Direnzo Rentals, LLC, a distance of 639.55 feet;

Thence N 77° 02' 57" W a distance of 284.99 feet to the easterly sideline of Sandbar Road;

Thence S 00° 01' 25" W, by and along the easterly sideline of Sandbar Road, a distance of 164.61 feet;

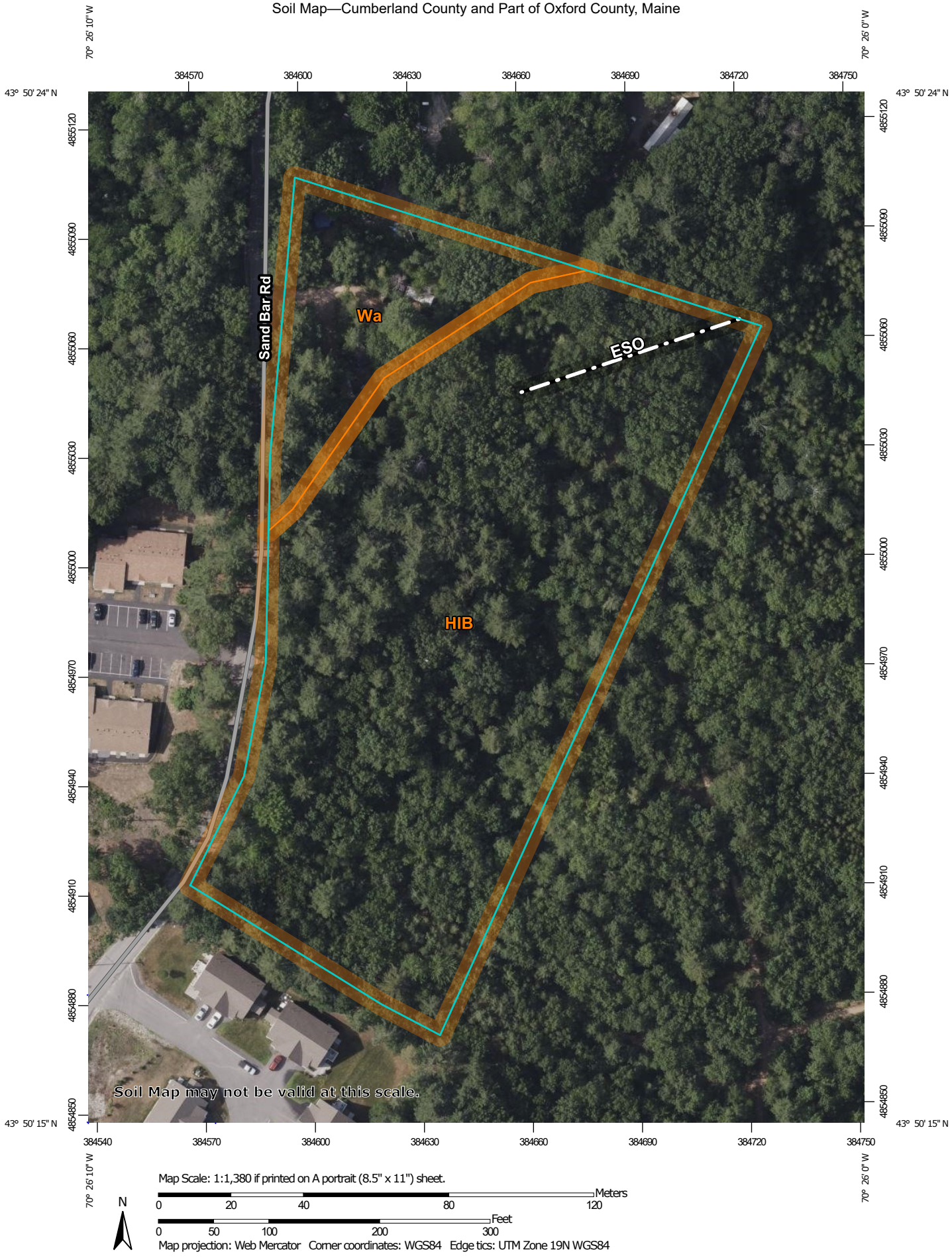
Thence southerly, by and along the easterly sideline of Sandbar Road and along a curve concave to the right having a radius of 1518.89 feet, an arc distance of 261.95 feet;

Thence southerly, by and along the easterly sideline of Sandbar Road and along a curve concave to the right having a radius of 359.43 feet, an arc distance of 179.03 feet to the Point of Beginning.

The parcel contains approximately 1.62 acres. Bearings are Grid North.

Reference is made to a plan entitled "Boundary Survey Sandbar Road Windham, Maine for: Marvin Mayberry" dated November 2025 by Survey Inc. revised through 3-12-26.

The purpose of this corrective deed is to provide a correct legal description in the deed recorded in the Cumberland County Registry of Deeds on February 5, 2026, in Book 42034, Page 62.


70° 26' 10" W
70° 26' 0" W
43° 50' 24" N
43° 50' 15" N
384570
384600
384630
384660
384690
384720
384750
384540
4855120
4855090
4855060
4855030
4855000
4854970
4854940
4854910
4854880
4854850
Sand Bar Rd
Wa
ESO
HIB
Soil Map may not be valid at this scale.
Map Scale: 1:1,380 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 22, Aug 29, 2025

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

Date(s) aerial images were photographed: Mar 1, 2022—Jul 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	4.3	84.1%
Wa	Walpole fine sandy loam	0.8	15.9%
Totals for Area of Interest		**5.1**	**100.0%**

Cumberland County and Part of Oxford County, Maine

HlB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Landscape: Uplands, valleys
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landscape: Uplands, valleys
Landform: Outwash deltas, Outwash terraces, Kames, Kame terraces, Moraines, Eskers, Outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 22, Aug 29, 2025

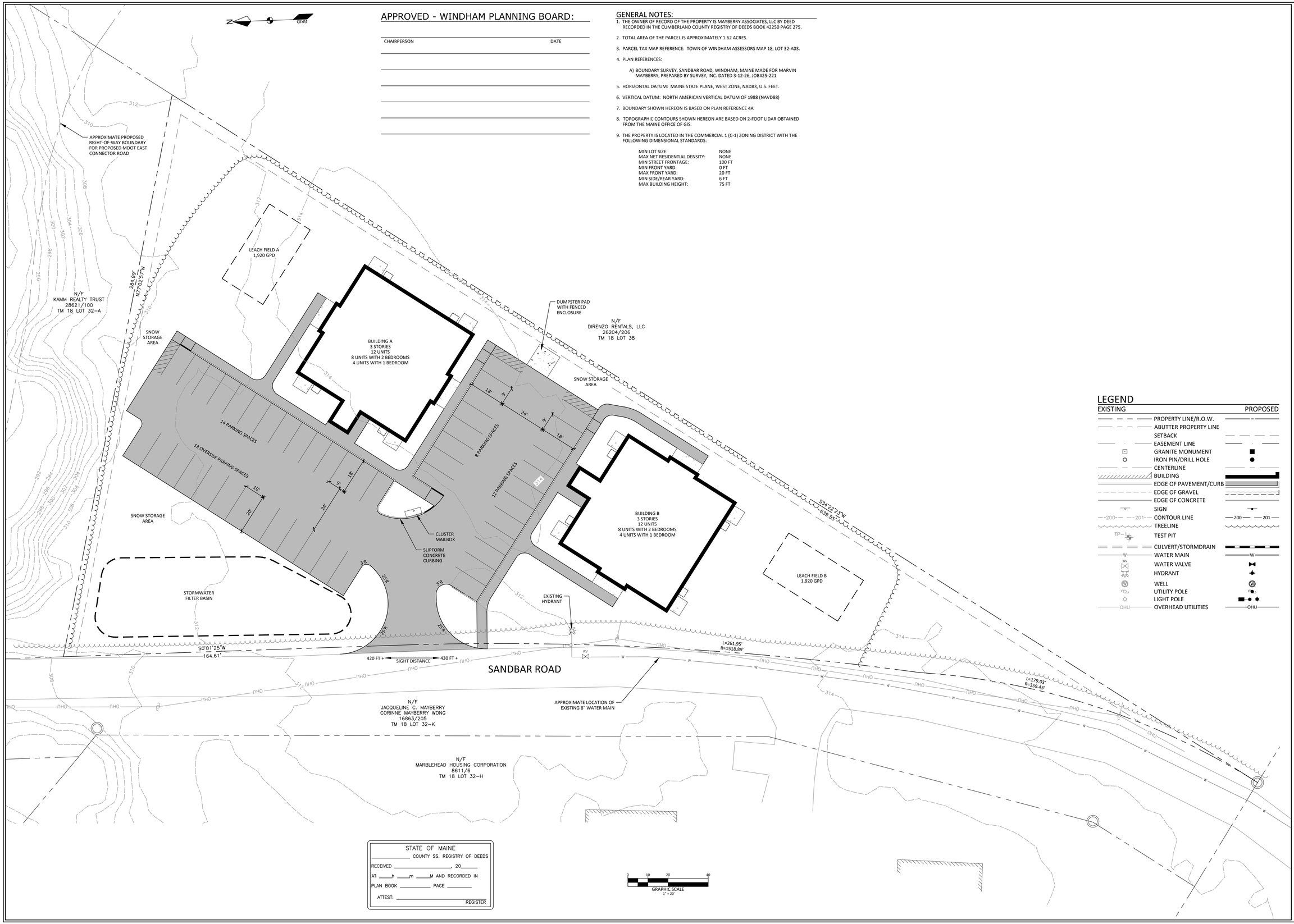
APPROVED - WINDHAM PLANNING BOARD:

CHAIRPERSON _____ DATE _____

GENERAL NOTES:

1. THE OWNER OF RECORD OF THE PROPERTY IS MAYBERRY ASSOCIATES, LLC BY DEED RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 42250 PAGE 275.
2. TOTAL AREA OF THE PARCEL IS APPROXIMATELY 1.62 ACRES.
3. PARCEL TAX MAP REFERENCE: TOWN OF WINDHAM ASSESSORS MAP 18, LOT 32-A03.
4. PLAN REFERENCES:
   A) BOUNDARY SURVEY, SANDBAR ROAD, WINDHAM, MAINE MADE FOR MARVIN MAYBERRY, PREPARED BY SURVEY, INC. DATED 3-12-26, JOB#25-221
5. HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
6. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
7. BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4A
8. TOPOGRAPHIC CONTOURS SHOWN HEREON ARE BASED ON 2-FOOT LIDAR OBTAINED FROM THE MAINE OFFICE OF GIS.
9. THE PROPERTY IS LOCATED IN THE COMMERCIAL 1 (C-1) ZONING DISTRICT WITH THE FOLLOWING DIMENSIONAL STANDARDS:

MIN LOT SIZE:	NONE
MAX NET RESIDENTIAL DENSITY:	NONE
MIN STREET FRONTAGE:	100 FT
MIN FRONT YARD:	0 FT
MAX FRONT YARD:	20 FT
MIN SIDE/REAR YARD:	6 FT
MAX BUILDING HEIGHT:	75 FT



LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	SETBACK	
	EASEMENT LINE	
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
	SIGN	
200 201	CONTOUR LINE	200 201
	TREELINE	
TP-1	TEST PIT	
	CULVERT/STORMDRAIN	
W	WATER MAIN	W
WV	WATER VALVE	
	HYDRANT	
W	WELL	W
	UTILITY POLE	
	LIGHT POLE	
OHU	OVERHEAD UTILITIES	OHU

STATE OF MAINE
_____ COUNTY SS. REGISTRY OF DEEDS
RECEIVED _____, 20____
AT ____h ____m ____M AND RECORDED IN
PLAN BOOK _____ PAGE _____
ATTEST: _____
REGISTER

0 10 20 40
GRAPHIC SCALE
1" = 20'

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 593-5055

REV	DATE	BY	DESCRIPTION

SITE PLAN

SANDBAR ROAD RESIDENTIAL DEVELOPMENT
SANDBAR ROAD
WINDHAM, MAINE

FOR:
MAYBERRY ASSOCIATES, LLC
60 SANDBAR ROAD
WINDHAM, ME 04062

25047	JOB NUMBER:
1" = 20'	SCALE:
7-27-2026	DATE:
SHEET 3 OF 6	
S-1	

Town of Windham

Town Offices
8 School Road
Windham, Maine

Cover Sheet

File Number: PB 26-065

Agenda Date: 8/24/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Planning Board **File Type:** Planning Board Document

Agenda Number:

Minor Changes Approved by Staff - Informational; No Board Action Required

Pursuant to §120-815F, the following minor changes to approved plans have been approved administratively. Approval letters attached.

a. #23-18 - Windham Village Apartments - 10 Stillwater Drive - Windham Village Phase 1 Condominium LLC

b. #24-25 - Andrew School Redevelopment / WDCJCS Subdivision - 55 High Street - Tyler Norod

TOWN OF WINDHAM MAINE

Planning Department
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916
www.windhammaine.us

PLANNING BOARD MEMO • MINOR CHANGES

DATE: August 24,2026

TO: Windham Planning Board
FROM: Natalie Thomsen, Town Planner
Cc: Steve Puleo, Planning Director
Amanda Lessard, Assistant Town Manager

RE: #23-18 - Windham Village Apartments - 10 Stillwater Drive - Windham Village Phase 1 Condominium LLC
#24-25 - Andrew School Redevelopment / WDCJCS Subdivision - 55 High Street - Tyler Norod

Intro line

The following minor changes to approved plans were approved administratively pursuant to §120-815F. Copies of the approval letters are attached. No Board action is required.

#23-18 — Windham Village Apartments — Minor Change — 10 Stillwater Drive — Windham Village Phase 1 Condominium LLC

Staff approved a minor change to the site plan approved July 1, 2024, authorizing the addition of a centralized mailbox unit (+/- 48 standalone mailboxes) serving Condominium Unit 1, located near the project entrance on a concrete pad and constructed in accordance with USPS standards. No additional clustered mailbox units were approved for Condominium Units 2 and 3, which retain access to the internal mail rooms in the community building.

#24-25 — Andrew School Redevelopment / WDCJCS Subdivision — Minor Change — 55 High Street — Tyler Norod

Staff approved a minor change converting nine (9) of the eighteen (18) previously approved affordable one-bedroom senior (55+) housing units to two-bedroom units, with the second bedroom added within the existing floor plans and no increase to the building footprint. The nine units remain affordable, the age restriction has been removed from those units.

TOWN OF WINDHAM MAINE

PLANNING DEPARTMENT
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916
www.windhammaine.us

July 31, 2026

Mr. Rocy Risbara
Windham Village Phase 1 Condominium LLC
PO Box 188
Scarborough, ME 04070

RE: #23-18 – Approval Letter – Second Minor Change Request – Windham Village Apartments – 10 Stillwater Drive

Dear Mr. Risbara:

This letter confirms the Town's approval of the second minor change request for the #23-18 Windham Village Apartments project and approved on July 1, 2026.

Approved Minor Change. The approved change authorizes one centralized clustered mailbox unit for Condominium Unit 1. The unit will include approximately 48 standalone mailboxes on a concrete pad near the project entrance and will be constructed in accordance with USPS standards, as shown on Revised Sheet C101. Condominium Units 2 and 3 will continue to use the internal mail rooms in Building 10. The property is Tax Map 70, Lot 1A, in the Commercial I (C-1) zoning district and Presumpscot River watershed.

Review and Approval. The minor change request was reviewed and approved by the Town Engineer. Section 120-815F of the Land Use Ordinance allows minor changes to approved plans when necessary to address field conditions, provided the changes do not affect compliance with applicable standards or alter the essential nature of the approved proposal.

If you have any questions, please feel free to contact me at 207-777-1927 or sjpuleo@windhammaine.us.

Sincerely,

Stephen J. Puleo
Planning Director

CC Via email: D. Gagnon, LJB Engineering
N. Thomsen, Town Planner
A. Lessard, Assistant Town Manager
J. Rioux, Director of Code Enforcement
M. Darby, Code Permit Manager
M. Arienti, Town Engineer
L. Fisher, Planning Assistant

TOWN OF WINDHAM MAINE

PLANNING DEPARTMENT
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916
www.windhammaine.us

July 15, 2026

Mr. Tyler Norod
Westbrook Development Corp.
30 Liza Harmon Drive
Westbrook, ME 04092

RE: #24-25 – Approval Letter – Minor Change Request – Andrew School Redevelopment/WDCJCS Subdivision – Westbrook Development Corp. and Great Falls Const, Inc.

Dear Tyler,

I am writing to confirm approval of the minor change request for the Andrew School Redevelopment/WDCJCS Subdivision project.

On October 28, 2024, the Planning Board approved project #24-25. The applicant requested a minor modification to convert nine (9) of the previously approved eighteen (18) affordable one-bedroom senior housing units for persons age 55 and older into two-bedroom units. The nine (9) modified units will remain affordable; however, the 55-and-older age restriction will be removed from those units. The modification will add a second bedroom within the existing floor plans and will not increase the building footprint. The removal of the age restriction is projected to result in an increase of approximately five (5) PM peak-hour trip ends. The property is identified as Tax Map 37, Lot 24, located in the Village Commercial zoning district.

Based on the information submitted, the proposed modification does not alter the essential nature of the approved project or affect compliance with the applicable approval standards. Section 120-815F of the Land Use Ordinance provides that minor changes to approved plans may be approved by the Planner, provided that such changes do not affect compliance with the applicable standards or alter the essential nature of the proposal.

If you have any questions, please feel free to contact me at 207-777-1927 or sjpuleo@windhammaine.us.

Sincerely,

Steve Puleo
Planning Director

CC Via email: A. Segal, Sebago Technics
A. Lessard, Assistant Town Manager
J. Rioux, Director of Code Enforcement
N. Thomsen, Town Planner
M. Arienti, Town Engineer
L. Fisher, Planning Assistant
M. Darby, Code Permit Manager

Preliminary Major Subdivision Application

To the Town of Windham

Eventide Subdivision

Eventide Drive off River Road
Windham, Maine

Applicant:
Row Even LLC
17 Bucket Lane
Yarmouth, ME 04096

Prepared By:
DM Roma Consulting Engineers
PO Box 1116
Windham, ME 04062

DM ROMA
CONSULTING ENGINEERS

SECTION 1

APPLICATION FORM & SUBMISSION CHECKLIST

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION

FEES FOR MAJOR SUBDIVISION PRELIMINARY PLAN REVIEW	**APPLICATION FEE:** + EACH LOT > 10 = $300/LOT	☒ $1,300.00 ☒ $2,100	**AMOUNT PAID:** $_____ DATE: _____ *Office Use:*	*Office Stamp:*	
	REVIEW ESCROW: Up to 10 Lots = $2,500 11 – 15 Lots = $3,000 16 – 30 Lots = $4,000 30 + Lots = $5,000	☒ $4,000			

PROPERTY DESCRIPTION	**Parcel ID**	**Map(s) #**		**Lot(s) #**	8, 8-1 & 8-2	**Zoning District(s)**	FARM
	# Lots/dwelling units:	17	**Total Distr. >1Ac.**	☒ Y ☐ N		**Total Land Area SF:**	1,216,303±
	Physical Address					**Est. Road Length(ft):**	1,850 ft
						Watershed:	PRESUMPSCOT RIVER

PROPERTY OWNER'S INFORMATION	**Name**	MICHAEL E. TEVANIAN	**Name of Business**	
	Phone		**Mailing Address:**	135 MAIN STREET
	Fax or Cell			WESTBROOK, MAINE
	Email			
APPLICANT'S INFORMATION ( )	**Name**		**Name of Business:**	
	Phone		**Mailing Address**	17 BUCKET LANE
	Fax or Cell			YARMOUTH, MAINE 04096
	Email			
APPLICANT'S AGENT INFORMATION	**Name**		**Name of Business**	DM ROMA CONSULTING ENGINEERS
	Phone		**Mailing Address**	PO BOX 1116
	Fax or Cell			WINDHAM, MAINE 04062
	Email			

PROJECT INFORMATION

Existing Land Use ˘ ˘ ^·:

The property is currently undeveloped meadow and woodland.

Provide a narrative description of the Proposed Project ˘ ˘ ^· :

The applicant is proposing a conservation subdivision, consisting of seventeen (17) proposed residential house lots, with approximately 1850 lf of road.

Each new residential lot will require an on-site well and on-site wastewater disposal system. Each of the homes in the development will include the installation of a sprinkler system, and all electrical service will be installed underground.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

The allowable net residential density and amount of open space required has been calculated based on development of the 27 acres of land consisting of tax lots 8-1, 8-2 and a portion of Lot 8. To meet the minimum open space requirements, we are proposing to deed tax lot 9 in its entirety to the Town of Windham, which will provide an additional 4 acres of open space and owned frontage along the the Presumpscot River.

Project site includes wetlands and a stream. The stream is proposed to be crossed with the subdivision road. Total wetland impact is approximately 3,563 sf.

MAJOR SUBDIVISION - PRELIMINARY PLAN - REVIEW APPLICATION REQUIREMENTS

Section 910 of the Land Use Ordinance

The submission shall contain, five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission unless a waiver of a submission requirement is granted.

The Major Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name and address

- Name of the preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks before the desired Staff Review Committee meeting.
  - Five copies of the application and plans
  - Application Payment and Review Escrow
- A pre-submission meeting with the Town staff is required.
- Contact information:
  Windham Planning Department (207) 894-5960, ext. 2
  Steve Puleo, Town Planner sjpuleo@windhammaine.us
  Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SUBDIVISION REVIEW

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 907.B., 910.C., & 911. Due to projects specifics, are required to provide a complete and accurate set of plans, reports, and supporting documentation (as listed in the checklist below).

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

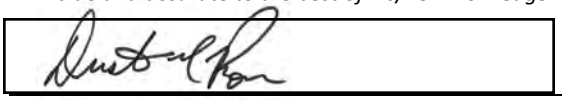
Staff recommends the applicant provide a proposed construction schedule, a draft Homeowner's Association (HOA) documentation, public open space to be provided, and written offers of cession to the Town, and/or road maintenance agreement with at the Preliminary Plan application submission.

Major Subdivision Preliminary Plan Submission Requirements:			**Major Subdivision Preliminary Plan Submission Requirements (Continued):**	**Applicant**	**Staff**
A. Mandatory Written Information submitted in a bound format:	**Applicant**	**Staff**	6. Vicinity plan showing the area within 250 feet, to include:	☑	☐
1. A fully executed application form, signed by a person with right, title, or interest in the property or Authorized Agent.	☑	☐	i. approximate location of all property lines and acreage of parcels.	☑	☐
2. Evidence of payment of the application and escrow fees.	☑	☐	ii. locations, widths, and names of existing, filed, or proposed streets, easements, or building footprints.	☑	☐
3. Proposed name of the Subdivision.	☑	☐	iii. location and designations of any public spaces.	☑	☐
4. Verification of right, title, or interest in the property, and any abutting property, by deed, purchase and sales agreement, option to purchase, or some other proof of interest.	☑	☐	iv. outline of the proposed subdivision, together with its street system and an indication of future probably street system, if the proposed subdivision encompasses only part of the applicant's entire property.	☑	☐
5. Copy(ies) of the most recently recorded deed for the parcel, along with a copy(ies) of all existing deed restrictions, easements, rights-of-way, or some other proof of interest.	☑	☐	7. Standard boundary survey of the parcel, including all contiguous land in common ownership within the last 5 years.	☑	☐
6. Copy(ies) of any existing and/or proposed covenants, deed restrictions intended to cover all or part of the lots or dwellings in the subdivision.	☑	☐	8. Existing and proposed street names, pedestrian ways, lot easements, and areas to be reserved or dedicated to public use.	☑	☐
7. Copy(ies) of any existing or proposed easements on the property	☑	☐	9. Contour lines at 2-foot intervals, or intervals required by the Board, showing elevations to the required datum.	☑	☐
8. Name, registration number, and seal of Maine Licensed Professional Land Surveyor who conducted the survey.	☑	☐	10. Typical cross-sections of the proposed grading for roadways, sidewalks, etc., including width, type of pavement, elevations, and grades.	☑	☐
9. Name, registration number, and seal of the licensed professional who prepared the plan (if applicable).	☑	☐			
10. An indication of the type of sewage disposal to be used in the subdivision.			11. Wetland areas shall be delineated on the survey. If none, please note.	☑	☐
i. If connecting to the public sewer, provide a letter from Portland Water District stating the District can collect and treat the wastewater	☐ N/A	☐	12. The number of acres within the proposed subdivision, location of property lines, existing buildings, vegetative cover type, specimen trees, if present, and other essential existing physical features.	☑	☐

Mandatory Written Information submitted in a bound format (continued):	Applicant	Staff			
			13. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☑	☐
ii. If using subsurface wastewater disposal systems (septic), submit test pit analyses prepared by a Maine Licensed Site Evaluator or Certified Soil Scientist. Test pit locations must be shown on a map.	☑	☐	14. Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is in the direct watershed of a great pond, note which great pond.	☑	☐
11. Indicate the type of water supply system(s) to be used in the subdivision.	☑	☐	15. Location & size of existing and proposed sewers, water mains, culverts, bridges, and drainage ways on or adjacent to the property to be subdivided. The Board may require this information to be depicted via cross-section, plan, or profile views.	☑	☐
12. If connecting to public water, submit a written statement from the Portland Water District indicating there is adequate supply and pressure for the subdivision.	☐ N/A	☐	16. Location, names, and present width of existing streets, highways, easements, building lines, parks, and other open spaces on or adjacent to the subdivision.	☑	☐
13. Names and addresses of the record owner, applicant, and adjoining property owners.	☑	☐	17. Location and widths of any streets, public improvements, or open space within the subdivision (if any) are shown on the official map and the comprehensive plan.	☑	☐
14. An acceptable title opinion proving the right of access to the proposed subdivision or site for any property proposed for development on or off a private way or private road.	☐ N/A	☐	18. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.	☐ N/A	☐
15. The name and contact information for the road association whose private way or road is used to access the subdivision.	☑	☐	19. Location of any open space to be preserved or common areas to be created, and general description of proposed ownership, improvement, and management	☑	☐
16. Financial Capacity. Estimated costs of development, and an itemization of major costs.			20. Approximate location of treeline after development.	☑	☐
i. Estimated costs of development, and an itemization of major costs.	☑	☐	21. Delineate boundaries of any flood hazard areas and the 100-year flood elevation as depicted on the Town's Flood Insurance Rate Map.	✓	
			22. Show any areas within or adjacent to the proposed subdivision which has been identified by the Maine Department of Inland Fisheries and Wildlife "Beginning with Habitat project maps or within the Comprehensive Plan.	☑	☐
ii. Financing - provide one of the following:	☐	☐	23. Show areas within or adjacent to the proposed subdivision which is either listed on or eligible for the National Register of Historic Places, or have been identified in the comprehensive plan or by the Maine Historic Preservation Commission as sensitive or likely to contain such sites.	☑	☐
a. Letter of commitment to funding from a financial institution, governmental agency, or other funding agency.	☐	☐			
b. Annual corporate report with explanatory material showing the availability of liquid assets to finance development	☐	☐	24. Erosion & Sedimentation control plan, prepared by MDEP Stormwater Law Chapter 500 Basic Standards, and the MDEP Maine Erosion and Sediment Control Best Management Practices, published March 2003.	☑	☐
c. Bank statement showing the availability of funds if personally financing development	☐	☐	25. A stormwater management plan, prepared by a Maine licensed Professional Engineer by the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the MDEP 2006.	☑	☐
d. Cash equity commitment.	☐	☐			
e. Financial plan for remaining financing.	☐	☐	26. For Cluster Subdivisions that do not maximize the development potential of the property being subdivided, a conceptual master plan for the remaining land showing future roads, Open Space, and lot layout, consistent with the requirements of 911.K., Custer Developments will be submitted.	☐ N/A	☐
f. Letter from financial institution indicating an intention to finance.	☐	☐	**C. Submission information for which a waiver may be granted.**	**Applicant**	**Staff**
iii. If a corporation, Certificate of Good Standing from the Secretary of State	☑	☐	1. High-intensity soil survey by a Certified Soil Scientist	☑	☐
2. Technical Capacity:	☑	☐	2. Landscape Plan	☐	☐
			3. Hydrogeologic assessment - required if i) subdivision is not served by public sewer and either any part of the subdivision is over a sand and gravel aquifer or has an average density of more than one dwelling unit per 100,000 square feet, or ii) where site considerations or development design indicate the greater potential of adverse impacts on groundwater quality.	☑	☐

i. A statement of the applicant's experience and training related to the nature of the development, including developments receiving permits from the Town.	☑	☐	a) Map showing basic soil types.	☑	☐
			b) Depth to the water table at representative points	☑	☐
ii. Resumes or similar documents showing experience and qualifications of full-time, permanent, or temporary staff contracted with or employed by the applicant who will design the development.	☑	☐	c) Drainage conditions throughout the subdivision.	☑	☐
			d) Data on existing groundwater quality.	☑	☐
			e) Analysis and evaluation of the effect of the subdivision on groundwater.	☑	☐
2. Name and contact information for the road association whose private way or road is used to access the subdivision (if applicable).	☐ N/A	☐	f) map showing the location of any subsurface wastewater disposal systems and drinking water wells within the subdivision & within 200 feet of the subdivision boundaries.	☑	☐
			4. Estimate the amount and type of vehicular traffic to be generated on a daily basis and at peak hours.	☑	☐
B. Mandatory Preliminary Plan Information	**Applicant**	**Staff**	5. Traffic Impact Analysis for subdivisions involving 28 or more parking spaces or projected to generate more than 140 vehicle trips per day.	☑	☐
1. Name of subdivision, date, and scale.	☑	☐			
2. Stamp of the Maine License Professional Land Surveyor that conducted the survey, including at least one copy of the original stamped seal that is embossed and signed.	☐	☐	6. If any portion of the subdivision is in the direct watershed of a great pond.	☐ N/A	☐
			i. phosphorous impact analysis and control plan.	☐	☐
3. Stamp with the date and signature of the Maine Licensed Professional Engineer that prepared the plans.	☑	☐	ii. long term maintenance plan for all phosphorous control measures.	☐	☐
4. North arrow identifying all of the following: Grid North, Magnetic North, declination between Grid and Magnetic, and whether Magnetic or Grid bearings were used in the plan design.	☑	☐	iii. contour lines at an interval of 2 feet.	☐	☐
			iv. delineate areas with sustained slopes greater than 25% covering more than one acre.	☐	☐
5. Location map showing the subdivision within the municipality.	☑	☐	**Electronic Submission**	☑	☐

The undersigned *hereby makes an application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.*



4-6-2026

DUSTIN M. ROMA - AUTHORIZED AGENT

APPLICANT OR AGENT'S SIGNATURE | DATE | PLEASE TYPE OR PRINT THE NAME

SECTION 2

AGENT AUTHORIZATION

November 3, 2025

Re: Agent Authorization

Row Even, LLC intends to develop the property located at 100 River Road in Windham, Maine shown as lots 8-1, 8-2, 9 and a portion of Lot 8 on Tax Map 1, totaling approximately 32 acres. Row Even, LLC has retained the services of DM Roma Consulting Engineers to act as its authorized agent to apply for land use permits associated with the development of this property.

Sincerely,

Ronald Goddard
Row Even, LLC

SECTION 3

WAIVER REQUESTS

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: Map 1

Lot(s): 8, 8-1 & 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
911.K.6.B	MINIMUM OPEN SPACE FOR CONSERVATION SUBDIVISION, PERFORMANCE STANDARD	☑
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The project's open space design, provides four (4) open space areas totalling a combined area of 13.87 ac. The project requires 16.21 acres of open space; however in addition to the designated open space, the project will convey Lot 9 to the Town which consists of 4.11± acres.

The Open Space Area 4 provides an undisturbed natural buffer to the Mountain Division Rail Trail, Open Space Area 2 and 3 provide a buffer to the stream crossing the subject property and Open Space Area 1 will function as the location for stormwater BMPs. Additionally, Lot 9, will further improve the project's ability to preserve and protect the frontage of the project along both the Presumpscot River and the Mountain Division Rail Trail.

(continued next page)

Ordinance Section: 911.K.6.B

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☑
Light pollution or glare	☐	☑
Water supply	☐	☑
Soil erosion	☐	☑
Traffic congestion or safety	☐	☑
Pedestrian safety or access	☐	☑
Supply of parking	☐	☑
Sewage disposal capacity	☐	☑
Solid waste disposal capacity	☐	☑
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☑
Flooding or drainage issues on abutting properties	☐	☑
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☑

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 120-908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 120-911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: Map 1

Lot(s): 8, 8-1, 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-911(M)(2)(a)	Appendix B - Table 2 - Min. access spacing	☒
120-911(M)(5)(a)(1)	Appendix B - Table 2 - Min. access spacing	☒
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

Access to the project site is from River Road with a posted speed limit of 45mph. Table 2 in Appendix B of the Windham Land Use Ordinance requires minimum access spacing of 265 feet for points of access that will carry Medium Volume of vehicle traffic. The proposed street intersection with River Road will be located closer than 265 feet to several existing driveways to the north that provide access to individual single-family homes (some homes have multiple driveways in a loop). The proposed street intersection provides the greatest amount of sight distance, which is the most important factor in determining the street access point. The Maine DOT recognizes that proper separation from existing driveways on adjacent lots cannot always be accomplished, and they regularly approve driveway entrances to state-regulated roads that do not meet the access spacing requirements established in the rules. We have proposed to eliminate two existing driveway curb cuts to the south that would be located within 145 feet of the new street intersection.

(Continued next page)

120-911-M-2-A
120-911-M-5-A-1

Ordinance Section: _____ (PLEASE PROVIDE A SEPERATE IMPACT CRITERIA FRO EACH ORDIANCE SECTION)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

TOWN OF WINDHAM
MINOR\MAJORSUBDIVISION APPLICATION

Performance and Design Standards Waiver Request Form

(Section 120-908 – Minor\Major Subdivision Review, Waivers)

For each waiver request from the Performance and Design Standards detailed in Section 120-911 of the Town of Windham Land Use Ordinance, please submit separate completed copy of this waiver request form for all waivers requested

---

Subdivision or

Project Name: Eventide Subdivision

Tax Map: <Map 1

Lot(s): 8, 8-1, 8-2

Waivers are requested from the following Performance and Design Standards (Add Forms as necessary):

Ordinance Section	Standard	Mark which waiver this form is for
120-911(J)(6)	Stormwater Flooding Standard	☐
		☐
		☐
		☐
		☐

a. Describe how a waiver from the standard indicated above will improve the ability of the project to take the property's pre-development natural features into consideration. Natural features include, but are not limited to, topography, location of water bodies, location of unique or valuable natural resources, relation to abutting properties or land uses. Attach a separate sheet if necessary.

The stormwater management system has been designed to reduce peak rates of stormwater runoff to abutting properties. We have chosen to significantly reduce runoff that drains to the north by directing runoff towards the stormwater filter basins that will be constructed near the project's entrance on River Road. As a result, there will be minor increases in peak rates of runoff entering an existing drainage culvert that runs under River Road to an existing wooded wetland on the east side of River Road for the less-frequent storm events (10-year and 25-year recurrence). Peak flows will be maintained for the more frequent 2-year storm event. The drainage infrastructure and receiving are is capable of receiving this minor increase in additional flow from less frequent but larger storm events.

(Continued next page)

Ordinance Section: 120-911(J)(6) (PLEASE PROVIDE A SEPERATE IMPACT CRITERIA FRO EACH ORDIANCE SECTION)

b. Will the waiver have an impact on any of the following criteria?

	Yes	No
Water or air pollution	☐	☒
Light pollution or glare	☐	☒
Water supply	☐	☒
Soil erosion	☐	☒
Traffic congestion or safety	☐	☒
Pedestrian safety or access	☐	☒
Supply of parking	☐	☒
Sewage disposal capacity	☐	☒
Solid waste disposal capacity	☐	☒
Scenic or natural beauty, aesthetics, historic sites, or rare or irreplaceable natural areas	☐	☒
Flooding or drainage issues on abutting properties	☐	☒
The Town's ability to provide the subdivision with public safety services (if subdivision)	☐	☒

If granting the waiver will result in an impact on any of the criteria above, please provide more detail below.

SECTION 4

CERTIFICATE OF CORPORATE GOOD STANDING

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Feb 16 2026 10:15:15. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
ROW EVEN LLC	202515473DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
06/20/2025	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing

Clerk/Registered Agent

Physical	Mailing
ANDRE J HUNGERFORD 14 MASON STREET PORTLAND, ME 04103	ANDRE J HUNGERFORD PO BOX 7584 PORTLAND, ME 04112-7584

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)
Certificate of Legal Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

SECTION 5

PROJECT NARRATIVE

Section 5 – Project Narrative

Zoning:	Farm (F)
Acreage:	27.62± Acres
Tax Map/Lot:	Map 1 Lot 8, 8-1, & 8-2
Existing Use:	Undeveloped Land
Proposed Use:	Conservation Subdivision - residential

Row Even, LLC, applicant, is under a purchase and sales agreement with the current land owner of a parcel of land off River Road in Windham. The existing conditions of the land consists of meadow and natural woodland thru which a stream crosses flowing to the north in the middle of property. The property is also divided by the Mountain Division Rail Trail.

The proposed project includes the construction of a single-family development consisting of seventeen (17) proposed home lots. The dwellings will be accessed by an 1,850± foot roadway designed to the Town of Windham Minor Local Street standard.

The development will be served by on-site well and on-site wastewater disposal systems. Each of the homes in the development will include the installation of a sprinkler system, and all electrical service will be installed underground. Stormwater infrastructure will be installed throughout the project to provide the required stormwater management goals. Information related to the utilities and stormwater management have been included in this submission.

The development will be part of a Homeowner's / Road Association, including the maintenance of the roadway and stormwater management infrastructure. It is the intent of the developer to convey the roadway to the Town of Windham as a public street. The stormwater infrastructure outside of the future public right of way will remain the responsibility of the homeowner's association. Homeowner documents will be submitted as part of the Final Subdivision Plan submission.

SECTION 6

NAMES AND ADDRESSES OF ABUTTING PROPERTY OWNERS

Section 6 – Names and Addresses of Abutting Property Owners

Map/Lot	Owner Name	Mailing Address
SUBJECT PARCEL		
1/8, 8-1, & 8-2	MICHAEL E. TEVANIAN	135 MAIN STREET WESTBROOK, ME 04092
1/4, 1/5 & 2/20	BEVERLY & HILLMAN E LORD JOHN ANDERSON LORD TRUST	410 NORTH LAKE SYBELIA DRIVE MATELAND, FL 32751
1/6 & 2-19	HOLLY DICKINSON-AMIDON	93 RIVER ROAD WINDHAM, ME 04062
1/6-1	TOWN OF WINDHAM ANDERSON CEMETARY	8 SCHOOL ROAD WINDHAM, ME 04062
1/9	MICHAEL E. TEVANIAN	135 MAIN STREET WESTBROOK, ME 04092
1/10	NATHAN P &SARAH E GADBOIS	104 RIVER ROAD WINDHAM, ME 04062
1/10A	FORTIER LIVING TRUST FORTIER THOMAS J & PATRICIA A TRUSTEES	102 RIVER ROAD WINDHAM, ME 04062
1/11 & 12	JOSEPH HARRY CARLIN	114 RIVER ROAD WINDHAM, ME 04062
1/11-1	STEVEN R & PAULA L POCK	112 RIVER ROAD WINDHAM, ME 04062
1/11-A	PETER W CARLIN	110 RIVER ROAD WINDHAM, ME 04062
1/20	STATE OF MAINE- DOT RAILROAD	16 STATE HOUSE STATION AUGUSTA, ME 04333
4/19	GARY & BARBARA WINSHIP	111 RIVER ROAD WINDHAM, ME 04062

4/20-A	SUSAN D FORTIER	105 RIVER ROAD WINDHAM, ME 04062
4/20-D	BRUCE B 7 JANET P RAEBURN	17 BRACKETT FARM LANE WINDHAM, ME 04062
4/20-H	JOSEPH MCGEE & MEGAN FORTIER	6 BRACKETT FARM LANE WINDHAM, ME 04062
4/20-H01	ANTONIO 7 KATHRYN VILLACCI	2 GILBERT DRIVE STANDISH, ME 04084
4/20-I	DOUGLAS R FORTIER	47 BRACKETT FARM LANE WINDHAM, ME 04062

<u>GORHAM PARCEL:</u>

49/1	ROGER MASON	284 MOSHER ROAD GORHAM, ME 04038
34/7	ABBOTT MASON	294 MOSHER ROAD GORHAM, ME 04038
34/17	PHILIP & ANN MASON	59 HAYFIELD DRIVE GORHAM, ME 04038

SECTION 7

RIGHT, TITLE OR INTEREST DOCUMENTS

DLN: 3773105

WARRANTY DEED

Know All By These Presents that I, **Michael E. Tevanian, a/k/a Michael Tevanian**, of 135 Main Street, Westbrook, ME 04092, for consideration paid, grant to **Michael E. Tevanian**, of 135 Main Street, Westbrook, ME 04092, with **WARRANTY COVENANTS**, the following real property:

A certain parcel of land situated on the southwesterly side of River Road in the Town of Windham, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of River Road at land now or formerly of Fortier Living Trust as described in a deed recorded in Book 40893 Page 238 in the Cumberland County Registry of Deeds;

Thence S 43° 31' 29" W, by and along the southwesterly sideline of River Road, a distance of 93.75 feet;

Thence S 46° 28' 31" W a distance of 291.71 feet;

Thence southwesterly by and along a curve concave to the left having a radius of 275.00 feet, an arc distance of 62.65 feet;

Thence S 28° 05' 00" W a distance of 396.89 feet to land now or formerly of Holly Dickinson-Amidon as described in a deed recorded in Book 41239 Page 316 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W, by and along land of Holly Dickinson-Amidon, a distance of 2349.26 feet to the northeasterly sideline of the Mountain Division Rail Line;

Thence N 33° 57' 48" W, by and along land of the Mountain Division Rail Line, a distance of 506.54 feet to land now or formerly of Joseph Harry Carlin as described in a deed recorded in Book 37889 Page 80 in the Cumberland County Registry of Deeds;

Thence N 47° 55' 36" E, by and along land of Joseph Harry Carlin and land of Fortier Living Trust, a distance of 2724.87 feet to the Point of Beginning.

The parcel contains approximately 27.92 acres.

Bearings are Grid North.

Reference is made to a plan entitled Lot Division Plan 100 River Road Windham, Maine for: Michael Tevanian dated 2-12-2026 by DM Roma Consulting Engineers.

For title, reference is made to deeds recorded in the Cumberland County Registry of Deeds in Book 25337, Page 227 and Book 25337, Page 230. Further reference is made to an Abstract of Divorce Judgment recorded in said Registry in Book 34307, Page 30.

[*Signatures on following page*]

DOC :12446 BK:42154 PG:256
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
04/02/2026, 12:13:14P
Register of Deeds Jessica M. Spaulding E-RECORDED

In Witness Whereof, I, the said **Michael E. Tevanian, a/k/a Michael Tevanian**, hereunto set my hands and seal this 19th day of March, 2026.

Michael E. Tevanian, a/k/a Michael Tevanian

STATE OF MAINE
COUNTY OF CUMBERLAND

The foregoing instrument was acknowledged before me this 19th day of March, 2026, by Michael E. Tevanian, a/k/a Michael Tevanian to be his free act and deed.

Notary Public/Attorney at law

KEVIN J. GERSPACH
MAINE BAR #6477

OPTION TO PURCHASE REAL PROPERTY AT 100 RIVER ROAD, WINDHAM, ME

This Option to Purchase Real Property at 100 River Road Windham, ME ("option") is an agreement between Row Even LLC, a Maine limited liability company, or its assignees, and Michael E. Tevanian, an adult individual, with the terms more fully described below:

1. Row Even LLC or its assignees shall have the option to purchase real property at 100 River Road in Windham, Maine more fully described in Exhibit A and depicted in Exhibit B (Parcel Map), which are attached and incorporated into this option ("the property"), from Michael E. Tevanian.

2. Michael E. Tevanian agrees and warrants that he has the unimpeded right to sign this option.

3. Row Even LLC or its assignees shall pay as consideration for this option to Michael E. Tevanian.

4. If Row Even LLC or its assignees exercise this option, Row Even LLC or its assignees will pay Michael E. Tevanian within 60 days after final approval of a subdivision of the property by the Town of Windham, Maine.

At the time of any payment by Row Even LLC, Michael E. Tevanian will convey the property or subdivided lots and any associated rights via warranty deed to Row Even LLC or its assignees and will cooperate with signing all necessary documents to convey the property or subdivided lots.

5. Row Even LLC or its assignees shall have 425 calendar days following the date of the last party to sign below to exercise this option.

6. An agent or owner of Row Even LLC or its assignees may exercise this option by notifying Michael E. Tevanian via email, text message, or written notice via hand delivery.

7. Without notice, Row Even LLC or its assignees shall have the right to inspect, survey, and perform work regarding subdivision on the property during the option period with the full cooperation of Michael E. Tevanian.

8. During the option period Michael E. Tevanian shall keep the property free from additional mortgages, encumbrances and/or liens while paying all property taxes. Michael E. Tevanian will pay off any existing mortgages, encumbrances and liens on the property no later than the closing of any or all lots on the property.

9. Upon conveyance of the property to Row Even LLC, Michael E. Tevanian shall make sure that the property is free and clear of any trust or family interests. If requested by Row Even LLC, Michael E. Tevanian shall expressly revoke any recorded transfer on death deed associated with the property.

10. This option may be recorded at the Registry of Deeds.

11. Any disputes concerning the terms of this option are subject to binding arbitration in accordance with the Maine Uniform Arbitration Act, found in Title 14 of the Maine Revised Statutes, sections 5927 through 5949 or as amended, with such arbitration taking place in Portland, Maine. The parties shall mutually agree in writing upon one neutral arbitrator located in Portland, Maine within 14 calendar days of notification of a dispute.

12. If any term in this option is held by an arbitrator or tribunal to be invalid, void, or unenforceable, the remaining terms will, nevertheless, continue in effect without being impaired or invalidated in any way.

13. Any changes to this option must be signed in a writing by both parties.

14. For valuable consideration, the parties signing below agree to the above terms of this option, with electronic or printed copies of the document having the same legal effect as an original signed version.

Date: 10/31/25

Michael E. Tevanian

STATE OF MAINE
COUNTY OF CUMBERLAND

Signed before me on 10/30/2025 by Michael E. Tevanian.

Notary Public/~~Attorney~~
Name legibly printed:
My commission expires:

STEPHANIE J. BAILEY
NOTARY PUBLIC
State of Maine
My Commission Expires
August 19, 2030

OPTION TO PURCHASE REAL PROPERTY AT 100 RIVER ROAD, WINDHAM, ME

Date: 10/30/25

Ronald D. Goddard Jr.,
Manager of Row Even LLC

STATE OF MAINE
COUNTY OF CUMBERLAND

Signed before me on 10/30/25 by Ronald D. Goddard Jr.

Notary Public/Attorney
Name legibly printed:
My commission expires:

STEPHANIE J. BAILEY
NOTARY PUBLIC
State of Maine
My Commission Expires
August 19, 2030

Exhibit A (Option to Purchase Real Property at 100 River Road, Windham, ME)

Parcel 1, Identified on Town of Windham records as Tax Map 1, Lots 8 (portion), 8-1 and 8-2:

A certain parcel of land situated on the southwesterly side of River Road in the Town of Windham, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of River Road at the eastern corner of land now or formerly of Thomas Fortier as described in a deed recorded in Book 16294 Page 21 in the Cumberland County Registry of Deeds;

Thence S 43° 31' 28" E, by and along the southwesterly sideline of River Road, a distance of 93.75 feet;

Thence S 46° 28' 31" W a distance of 291.71 feet to a point of curvature;

Thence southerly along a curve to the left, having a radius of 275.00 feet, and an arc distance of 62.65 feet to a point of tangency;

Thence S 28° 05' 00" E a distance of 396.89 feet to the westerly sideline of land now or formerly of Donald Dickinson as described in a deed recorded in Book 11721 page 67 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W a distance of 2,349.26 feet by and along said land of Dickinson to the northeasterly sideline of land now or formerly of Maine Central Railroad, at or near railroad stationing 81+48;

Thence about N 33° 57' 48" W by and along said land of Maine Central Railroad a distance of 506.64 feet to the southerly corner of land now or formerly of Harry Carlin as described in a deed recorded in Book 3060 page 67 in the Cumberland County Registry of Deeds;

Thence N 47° 55' 36" E by and along said land of Carlin a distance of 747.26 feet to the southerly corner of land now or formerly of Richard Boulanger as described

in a deed recorded in Book 20329 page 185 in the Cumberland County Registry of Deeds;

Thence continuing N 47° 55' 36" E by and along said land of Boulanger and along said land of Fournier a distance of 1,978.58 feet to the point of beginning.

Parcel 1 contains approximately 27.92 acres.

Bearings are Grid North.

Reference is made to a plan entitled "Boundary Survey, River Road and Presumpscot River, Windham, Cumberland County, State of Maine made for Mike Tevanian" dated 5-13-2007 by Lewis & Wasina, Inc. and recorded in Plan Book 207 page 448 in the Cumberland County Registry of Deeds.

Parcel 2, identified on Town of Windham records as Tax Map 1, Lot 9:

A certain parcel of land situated off, and not adjacent to, the southwesterly side of River Road on the southwesterly side of land now or formerly of Maine Central Railroad, in the Town of Windham, County of Cumberland and State of Maine being bounded and described as follows:

Beginning on the southwesterly sideline of land now or formerly of Maine Central Railroad (formerly Portland & Ogdensburg Railroad Company), at the northerly corner of land now or formerly of Donald Dickinson, as described in a deed recorded in Book 11721 page 67 in the Cumberland County Registry of Deeds;

Thence S 47° 45' 50" W a distance of 275.11 feet by and along said land of Dickinson to a set rebar, this rebar lying S 47° 45' 50" W a distance of 403.55 feet from a set rebar on the southeasterly line of land now or formerly of Epworth S. Moulton, Trustee of the Epworth S. Moulton Revocable Trust 2002, that are situated on the northeasterly side of Maine Central Railroad;

Thence continuing S 47° 45' 50" W along said land of Dickinson, to the Presumpscot River;

Thence continuing in a southwesterly direction along said land of Dickinson, to the thread of the Presumpscot River;

Thence in a northerly direction along the thread of the Presumpscot River to land now or formerly of Harry Carlin, as described in a deed recorded in Book 3060, page 827 in the Cumberland County Registry of Deeds;

Thence in a northeasterly direction along said land of Carlin, to the bank of the Presumpscot River;

Thence N 47° 55' 36" E by and along said land of Carlin a distance of 30 feet, more or less, to a set rebar, this rebar lines N 52° 33' 23" W a distance of 511.07 feet from the last mentioned set rebar and lying S 47° 55' 36" W a distance of 569.40 feet from a set rebar on the northwesterly line of said land of Moulton Revocable Trust situated on the northeasterly side of said land of Maine Central Railroad;

Thence continuing N 47° 55' 36" E by and along said land of Carlin a distance of 438.55 feet, more or less, to said land of Maine Central Railroad;

Thence about S 33° 57' 48" E by and along said land of Maine Central Railroad a distance of 506.68 feet, more or less, to the point of beginning.

Parcel 2 contains approximately 4.11 acres, more or less.

Bearings are Grid North.

Reference is made to a plan entitled "Boundary Survey, River Road and Presumpscot River, Windham, Cumberland County, State of Maine made for Mike Tevanian" dated 5-13-2007 by Lewis & Wasina, Inc. and recorded in Plan Book 207 page 448 in the Cumberland County Registry of Deeds.

SECTION 8

EXISTING OR PROPOSED EASEMENTS OR COVENANTS

Section 8 – Existing or Proposed Easements or Covenants

The property is intended to be developed as conservation subdivision that will include the creation of a 50' wide right of way for the construction of Eventide Drive, the subdivision road to providing access and frontage to the new proposed lots. The intent is for the roadway and right of way to be conveyed to the Town of Windham as a public road upon construction completion.

As part of the proposed improvements two existing curb cuts in River Road for 100 River Road will be eliminated. Access will then be provided from a proposed driveway extending from Eventide Drive. An easement will be provided to the homeowner to access Eventide Drive until, and if ever, the road is accepted as a public road.

An easement to the benefit of the Town of Windham will also be granted over the area extending from the end of the 50' wide right of way for Eventide Drive to the property limits. This easement is intended to provide an opportunity for a future road connection to the property to the north.

Several proposed easements are shown on the Subdivision Plan, including two (2) new easements for the proposed hammerhead turnarounds and four (4) additional easements located over the proposed lots which contain three (3) proposed stormwater BMPs.

A Homeowners Association will be created to provide the framework for maintenance of Eventide Drive, stormwater management infrastructure and the Open Space Areas. Easement documents and Homeowner's Association documents will be prepared and submitted with the Final Subdivision Plan application for review.

SECTION 9

TECHNICAL CAPACITY OF THE APPLICANT

Section 9 – Technical Capacity of the Applicant

The developer, Row Even, LLC, has hired several professionals to aid in the design and permitting of the project. These professionals are listed below:

DM Roma Consulting Engineers has been retained to perform civil engineering design and land permitting services for the project. The licensed professional engineers at DM Roma have been designing land development projects for over 20 years and have extensive experience with stormwater management design, roadway and utility engineering, site grading, erosion control design, engineering of on-site wastewater disposal systems, and regulatory permitting through local municipalities, the Maine Department of Environmental Protection, the Maine Department of Transportation, US Army Corps of Engineers and other affiliated agencies.

Survey, Inc. has been retained to perform land surveying services for the project. Bill Shippen is a Licensed Professional Land Surveyor with extensive experience in all aspects of land surveying and subdivision planning.

Mainely Soils LLC has been retained to perform subsurface soil evaluations and the wetland delineation. Alex Finamore is a Maine licensed site evaluator experienced in septic system design, natural resources investigations, soils analysis and environmental permitting.

Mark Hampton Associates has been retained to perform soil classification in accordance with the standards required by the State of Maine for High Intensity Soil Surveys. Mark Hampton is a certified soil scientist and licensed site evaluator in the State of Maine.

Main-Land Development Consultants, Inc. (MLDC) has been retained to perform hydrologic assessment for the project. MLDC also performed land surveying services on this property for a previous owner. MLDC has been providing land use planning services since its inception in 1974, and is a multi-disciplined firm that has the ability to provide comprehensive land use planning services within a single entity due to its wide range of respected professionals. MLDC employs licensed land surveyors, engineers, geologists and site evaluators.

SECTION 10

CAPACITY OF EXISTING UTILITIES TO SERVE THE PROJECT

Section 10 – Capacity of Existing Utilities to Serve the Project

Potable Water –Proposed lots will be served by private on-site potable wells.

Fire Protection Water – Sprinkler system installation will be required within all residential structures.

Electrical Service – Existing overhead power is available on River Road to serve the proposed development. Primary electrical service will be extended through the project underground and will connect to pad-mounted transformers. Secondary electrical service will be installed underground from the transformers to the dwellings.

Wastewater Disposal – The project will utilize private on-site septic disposal areas. Mainely Soils, LLC performed test pit investigations within each lot to ensure adequate soils for a first-time subsurface wastewater disposal system. A nitrate analysis has also been prepared by MLDC to ensure all disposal field size and locations meet the Maine Drinking Water program standards. Each lot will be required to have a site-specific wastewater disposal system designed by a licensed site evaluator prior to construction.

SECTION 11

SOLID WASTE DISPOSAL

Section 11 – Solid Waste Disposal

Additional tree clearing will be required prior to site construction. Tree stumps will be hauled off site by the site contractor and disposed in accordance with all applicable regulations, or ground on-site to create erosion control mix. Brush will be burned or chipped.

During construction of the buildings, temporary on-site dumpsters will be placed on the property and emptied by a licensed waste hauling company.

As the road is anticipated to be accepted by the Town as a "Public Road", Town trash collection could be a future consideration. Until that time, the Homeowner's Association will contract with a private waste hauler for trash disposal generated by the residents of the subdivision

We do not anticipate that the project will create any hazardous solid waste that will require special treatment.

SECTION 12

ROADWAY ACCESS

Section 12 – Roadway Access

Public Road proposed.

SECTION 13

CONSERVATION SUBDIVISION – OPEN SPACE DESIGN

Section 13 – Conservation Subdivision – Open Space Design

The project has been designed in accordance with the standards outlined in Section 911.K of the Land Use Ordinance which specifies the standards and procedures for developing Conservation Subdivisions in the Town of Windham. The area designated as open space has been delineated based upon an evaluation of the site and the identification of Primary and Secondary Conservation Areas. The property contains a total of 13.87 acres of land proposed within four (4) proposed open space areas as delineated on the Subdivision Plan. We have designed the building envelopes so that a 50-ft setback is maintained around the perimeter of the overall subdivision lot.

Strict adherence to the Minimum Required Open Space standards would have negative impacts to the project because it would require a shorter road and narrower lots that are even more clustered together than what we are currently proposing. We have requested a waiver from this standard. However, as part of the waiver request consideration the applicant is willing to deed the land to the west of the Mountain Division Rail Trail to the Town to be used as access and conservation land adjacent to the Presumpscot River, and this area could provide public access to the Presumpscot River from the Mountain Division Rail Trail.

SECTION 14

VEHICLE TRAFFIC

Section 14 – Vehicle Traffic

The project consists of 17 residential dwelling units.

The Institute of Transportation Engineers (ITE) Trip Generation handbook (10th edition) estimates that single-family detached housing (Land Use Code #210) is expected to generate the following vehicle trips:

Weekday	= 9.44 trips per dwelling unit
AM Peak Hour	= 0.74 trips per dwelling unit
PM Peak Hour	= 0.99 trips per dwelling unit

Accordingly, the proposed 17 single-family homes can be expected to generate a total of 161 trips during a typical weekday, 13 trips in the morning peak hour and 17 trips in the evening peak hour.

The ITE Handbook also provides the following directional distribution rates for a single-family home:

AM Peak Hour	= 25% enter site and 75% exit site
PM Peak Hour	= 63% enter site and 37% exit site

Based upon the above distribution patterns, 3 trips during the morning peak hour and 11 trips during the evening peak hour will enter the site. Accordingly, 10 trips during the morning peak hour and 6 trips during the evening peak hour will exit the site.

SECTION 15

IMPACT TO IMPORTANT OR UNIQUE NATURAL AREAS

Section 15 – Impact to Important or Unique Natural Areas

The attached review letter from the Maine Department of Inland Fisheries and Wildlife (DIFW) indicates there are no significant wildlife habitats located within the vicinity of the proposed development. We have also included a letter from the Maine Natural Areas Program indicating that there are no rare or threatened botanical species documented in the project area.

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

October 21, 2025

Dustin Roma
DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062

RE: Information Request - 100 River Road, Subdivision, Windham Project ID 9551-11083

Dear Dustin:

Per your request received on **September 29, 2025**, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other protected natural resource concerns within the vicinity of the ***100 River Road, Subdivision, Windham*** project, pursuant to MDIFW's authority. It is understood the project proposes a residential subdivision with open space plans as shown in the site plan (dated 9/18/2025). It is understood the project will require tree clearing and stream crossings. Given this scope, we have tailored our review accordingly. Please note our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be affected by this project.

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

Bat Species
Of the eight species of bats that occur in Maine, four species are afforded protection under Maines Endangered Species Act (MESA, 12 M.R.S 12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Department does not anticipate significant impacts to any of the bat species as a result of project activities.

SIGNIFICANT WILDLIFE HABITAT

Significant Vernal Pools
At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on

MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Therefore, their absence from resource maps is not necessarily indicative of an absence on the ground.

Our Department recommends that any potential Significant Vernal Pool depressions be avoided as well as the 250-feet surrounding the pool, which is the associated Critical Terrestrial Habitat. If not already completed, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

AQUATIC RESOURCES

Fish Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species.

Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we

recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

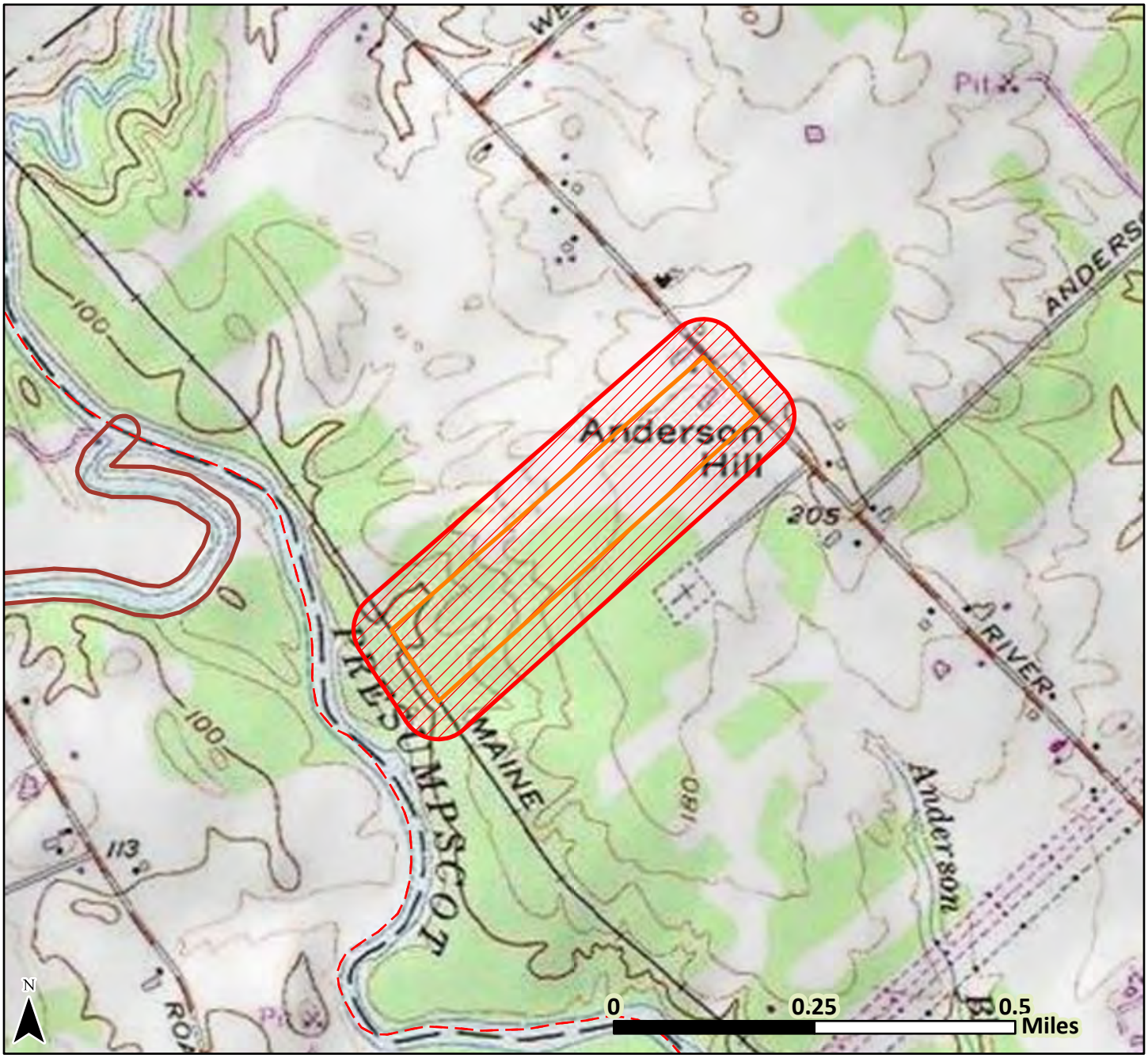


Laura Hatmaker
Natural Resource Biologist

Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

100 River Road, Subdivision, Windham

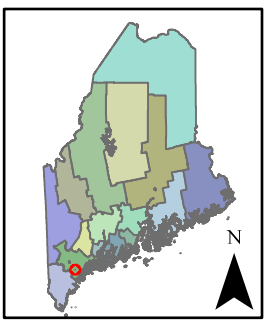
Project ID 9551, Version ID 11083



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.

- County Boundary
- Township Boundary
- Project Footprint
- Search Area
- Special Concern Fish

Date: 10/6/2025
UTM Zone 19N, NAD83



This map contains sensitive information - do not distribute it beyond the project applicant, consultant, or the permitting agency.

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 16, 2025

JP Connolly
DM Roma
PO Box 1116
Windham, ME 04062

Via email: jp@dmromal.com

Re: Rare and exemplary botanical features in proximity to: Project #23056, 100 River Road Subdivision, Windham, Maine

Dear JP Connolly:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received September 30, 2025 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Windham, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are also no other rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

The land use history, landform, topography, and current land use at the project site indicate that the site does not currently have suitable habitat for Small Whorled Pogonia. MNAP does not recommend a survey for this species at this location and finds that the project is Not Likely to Adversely Affect this species.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #23056, 100 River Road Subdivision, Windham, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	1860-10	9	Rocky summits and outcrops (non-forested, upland),Dry barrens (partly forested, upland)
American Sea-blite						
	T	S2	G5	1932-09-12	5	Tidal wetland (non-forested, wetland)
Beach Plum						
	E	S1	G4	1933-05-19	10	Rocky coastal (non-forested, upland)
Broad Beech Fern						
	SC	S2	G5	1872-08	15	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	E	S1	G5	2000-06-06	5	Dry barrens (partly forested, upland)
Columbian Watermeal						
	SC	S2	G5	2016-09-12	11	Open water (non-forested, wetland)
Creeping Spike-moss						
	E	S2	G5	2008-09-25	12	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)

Creeping Spike-moss					
	E	S2	G5	1924-08-21	8	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Dioecious Sedge					
	SC	S3	G4G5	1936-07-14	7	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
Ebony Spleenwort					
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Engelmann's Spikerush					
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Fern-leaved False Foxglove					
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Great Blue Lobelia					
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested, seasonally wet)
Hollow Joe-pye Weed					
	SC	S2	G5	2014-06-18	24	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Horned Pondweed					
	SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
	SC	S2	G5	1972-06-13	3	

Horned Pondweed					
					Tidal wetland (non-forested, wetland)
Marsh Milkwort					
PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not coastal nor rivershore (non-forested, wetland)
Missouri Rockcress					
T	S1	G5	1905-06-11	5	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Mountain Honeysuckle					
E	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Parker's Pipewort					
SC	S3	G3	1924-08-20	8	Tidal wetland (non-forested, wetland)
Pitch Pine Woodland					
	S3	G2	2005-12-08	28	
Screwstem					
T	S1	G5T3T5	2020-09-17	4	
Small Reed Grass					
SC	S3	G5	2011-08-28	18	Old field/roadside (non-forested, wetland or upland)

Southern Bog-clubmoss					
E	S1	G5	2011-08-31	1	Open wetland, not coastal nor rivershore (non-forested, wetland),Non-tidal rivershore (non-forested, seasonally wet)
Spo ed Pondweed					
T	S1	G5	2016-06-22	3	Open water (non-forested, wetland)
Upper Floodplain Hardwood Forest					
	S3	GNR	2017-06-14	63	
Vasey's Pondweed					
SC	S2	G4	1901-08-04	7	Open water (non-forested, wetland)
Water-plantain Spearwort					
PE	SH	G4	1862-08	3	Open water (non-forested, wetland)

Date Exported: 10/2/2025

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

SECTION 16

STORMWATER MANAGEMENT

Section 16 – Stormwater Management

The project has been designed in accordance with the standards found in the Maine Department of Environmental Protection (Maine DEP) Chapter 500 regulations and the Town of Windham Land Use Ordinance. We understand that the project is required to comply with the Post-Construction Stormwater Management Ordinance and that annual inspections and certifications will be required by the Town. Included in this section is further information related to the stormwater design and applicable review standards.

DM ROMA
CONSULTING ENGINEERS

STORMWATER MANAGEMENT REPORT

EVENTIDE SUBDIVISION
WINDHAM, MAINE

A. Narrative

Row Even, LLC, the applicant, are proposing to develop a 27.9-acre parcel at 100 River Road in Windham, Maine, identified as Lot 8 (a portion of), 8-1, and 9 on the Town of Windham Assessor's Map 1.

The applicant is proposing a 17-lot single-family residential subdivision. The property is located in the Farm zone and the project will be designed utilizing the standards for a Conservation Subdivision. The existing parcel contains two single-family detached homes, which will be retained on a 3.7-acre lot with 200 feet of frontage on River Road. The remaining land will be subdivided including the construction of a new subdivision road that will provide access from River Road to the new lots.

B. Existing Conditions

The existing project site consists of existing residential development, undeveloped meadow (hay fields) and woodland. The project property also abuts the Mountain Division Rail Trail to the southwest. In the location of the project site, the land is moderately sloped (3%-8%) with steeper slopes at the limits of the meadow to the southwest as steep as 3H:1V. A Class A High Intensity Soil Report and Map were prepared by Mark Hampton Associates, Inc. and utilized in the stormwater analysis. The report has been included as Attachment 1 of this report and the map has been included in the design plan set. Additional test pits are planned to be excavated in the general locations of the proposed Best Management Practices, described in later sections of this report. Test pit logs that have been performed have also been included as Attachment 1 of this report.

In general, the majority of the property drains to the west and northwest, ultimately into the Presumpscot River. A smaller portion of the site's runoff is tributary to River Road, draining to the road and being conveyed under River Road in an existing road culvert. Stormwater discharge from the existing road culvert is initially conveyed overland, then captured in a constructed swale that conveys stormwater to the north behind the existing residence at the southeasterly corner of River Road and Brackett Farm Lane. The drainage swale appears to have been constructed and is part of a series of agricultural related drainage swales, that confluence on the property that operates as Winny Knowl Farm, before crossing under River Road (east to west) and continuing to drain to the west before discharging into an existing farm pond. Discharge from the existing farm pond is ultimately conveyed overland to the Presumpscot River.

The westerly portion of the site consists of meadow (hayfields) and woodland, and also consists of finger like wetland complex, and two streams that cross the site in a south to north direction. One of the streams (westerly stream) will be crossed with the proposed subdivision road, and just before the terminus of the proposed subdivision road a wetland finger is also crossed.

The site's downstream waterbodies are not identified by the Maine Department of Environmental Protection (MDEP) as Urban Impaired Streams in Chapter 502.

C. Alterations to Land Cover

Based on the proposed roadway and approximated lot development, the project will generate approximately 104,499 square feet (2.40± acres) of impervious surfaces. The project will also generate approximately 338,090 square feet (7.76± acres) of lawn, landscaping, and best management practices, resulting in a total project developed area of 442,589 square feet (10.16± acres).

Since the project will result in the construction of over one (1) acre of impervious surface and over five (5) acres of developed area, the project will be required to obtain a Stormwater Permit from the MDEP. As part of the requirements of the Stormwater Permit, the project will need to meet the Basic and General Standards of the MDEP Chapter 500 Stormwater Management regulations. The development is also subject to review by the Town of Windham Planning Board. The current land use ordinance requires that new developments meet the Basic, General and Flooding Standards of the MDEP Chapter 500 Stormwater Management regulations.

D. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing stormwater quality improvement measures. The goal of the storm drainage system design is to remove potential stormwater pollutants from runoff generated by the development while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains, and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2-, 10- and 25 years was obtained from Appendix H of the MDEP, Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

E. Basic Standards

The project is required by the MDEP and Town to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

F. General Standard

The proposed project is required to meet the General Standard outlined in the MDEP Chapter 500 to provide water quality treatment for portions of the site development. Based on the calculation provided in Section 4C(2)(a) related to the amount of the property being developed and its

corresponding treatment standards in Table 1 in Chapter 500, the project will require the treatment of more than 90% of the site's impervious area and more than 75% of the total developed area. This calculation is included as Attachment 2 of this report. The General Standard will be met by incorporating the construction of five (5) underdrained filter basins as part of the project's stormwater infrastructure. In addition, roofline drip edges will be installed around each of the buildings to provide the required treatment.

As a result of the proposed stormwater infrastructure, treatment is provided for over 94% of the project's impervious surface and over 76% of the site's developed area. The General Standards calculations have been included as Attachment 2 in this report.

Included as Attachment 3 of this report are the sizing calculations for the proposed underdrained filter basins. These calculations include:

- Storage Volume and Basin Floor surface area meeting *Chapter 7.1 Grassed Underdrained Soil Filter BMP* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP.
- Sediment pre-treatment calculations
- Spillway sizing calculations demonstrating one foot of freeboard to the top of berm during the 25-year storm event assuming failure of the other discharge devices.
- Hydrograph tables demonstrating the outlet controls the release of stormwater from the basins between 24 and 48 hours.
- Sizing calculations for the level spreaders located at the outfall of the discharge pipe from the basins meeting the sizing standards identified in *Section G(4) Level Spreaders* in Maine Erosion and Sediment Control Best Management Practices Manual for Designers and Engineers prepared by the MDEP.

The locations and construction detail of the proposed roofline dripedges have been included on the construction details sheets and the sizing calculations to meet *Chapter 7.5 Roof Dripline Filters* sizing criteria included in Volume III. BMP Technical Design Manual prepared by the MDEP have been included as Attachment 4 of this report.

G. Flooding Standard

The project is required by the Town of Windham to meet the MDEP Chapter 500 Flooding Standard indicating the project must detain, retain, or result in the infiltration of stormwater from the 24-hour storms of the 2-year, 10-year and 25-year frequencies such that the peak flows of stormwater generated by the project site do not exceed the peak flows of stormwater prior to undertaking the project. To demonstrate compliance with the Flooding Standard, five (5) study points were analyzed.

The study points utilized in the stormwater analysis are located where runoff generated by the site is collected and discharged across the property limits. Study Point SP-1 through SP-4 drain in a northwesterly direction onto the abutting property to the north, and SP-5 drains to the River Road right of way and into the existing roadway culvert. All study points ultimately discharge to the Presumpscot River.

The results of the stormwater model incorporating the stormwater best management practices are summarized below in Table 1:

Table 1 – Peak Rates of Stormwater Runoff						
Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP-1	6.41	5.60	13.93	13.17	20.53	20.28
SP-2	9.93	9.55	22.13	20.82	32.93	30.66
SP-3	3.91	1.74	8.28	3.93	12.09	5.2
SP-4	1.46	0.28	3.10	0.62	4.53	0.93
SP-5	4.30	3.25	9.33	10.92	13.75	14.62

As illustrated in Table 1, the proposed project's design, including the integration of the proposed BMPs, reduces the peak rates of runoff at Study Points SP-1, SP-2, SP-3, and SP-4 in all the modeled storm events.

In developing the project's stormwater design, we were particularly concerned with the discharge of stormwater at SP-4 in the developed condition. SP-4 is located along the northerly property limit between an existing single-family residence and River Road. At this location there is a small depression adjacent to an existing driveway that doesn't appear to have any drainage improvements. As a result, the depression fills during a rain storm event and overtops the gravel driveway. To alleviate the concern of runoff overtopping abutting gravel driveway, the goal was to minimize stormwater discharge at this location and re-direct it to the existing formalized drainage system in River Road. Therefore, Underdrained Filter Basin (FB-4) was designed with a spillway and underdrain system that drains to FB-5 whose outlets discharge to the road side swale and existing culvert in River Road. Both underdrained filter basins FB-4 and FB-5 have been oversized to provide as much mitigation of the post-developed discharge as possible. With this design the discharge to SP-4 in the developed condition is reduced by 80% or more in comparison to the existing condition during all storm events.

With re-directing the runoff from the abutting driveway to the north, the design does result in an approximately 17% increase in peak rates of runoff during the 10-year storm event and approximately 6.3% increase in peak rates of runoff during the 25-year storm event. The stormwater design does provide a significant decrease in runoff leaving the property during the more frequent 2-year storm event. We anticipate this increase in discharge during the 10-year and 25-year storm event at SP-5 will not create a significant downstream flooding hazard as discharge is conveyed to a formalized drainage system conveying runoff below River Road and into well-established drainage swales constructed for agricultural purposes. Once discharged on the west side of River Road, stormwater is conveyed overland and discharges into a large farm pond, which is then discharged into a constructed drainage swale that empties into a natural drainage path before discharging into the Presumpscot River. Since the increased flow at SP-5 is relatively small, we do not anticipate pipe capacity problems, significant downstream flooding or increased erosion as a result of the proposed project. As such we also believe that this design will benefit the existing residential property to the north by significantly reducing the flows over their driveway from the existing conditions.

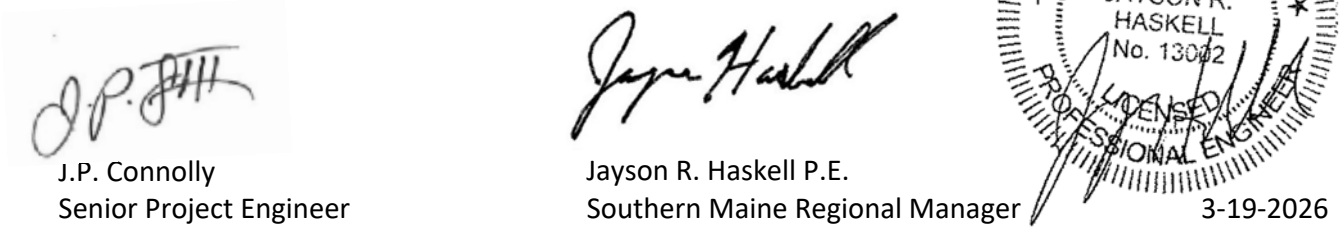
The watershed maps showing pre-development and post-development drainage patterns are included in the plan set and the computations performed with the HydroCAD software program are included as Attachment 5 of this report.

H. Maintenance of common facilities or property

The applicant will be responsible for the maintenance of the stormwater facilities until a homeowner's association is created. The responsibility will then be conveyed to the association. An Inspection, Maintenance and Housekeeping Plan for the project has been created and has been included as Attachment 6 of this report.

Prepared by:

DM ROMA CONSULTING ENGINEERS



J.P. Connolly
Senior Project Engineer

Jayson R. Haskell P.E.
Southern Maine Regional Manager

3-19-2026

ATTACHMENT 1

CLASS A – HIGH INTENSITY SOIL SURVEY REPORT & STORMWATER DEVICE TEST PITS

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Soil Narrative Report

DATE:	Soil Profiles observed on September 23, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers Scale 1 inch equals 100 feet and two foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 100 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with two foot contours and ground control provided.

P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Mark J. Hampton C.S.S. #216, L.S.E. #263 9/29/25

Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEY • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%, (C) 8-15%, (D) 15-25%

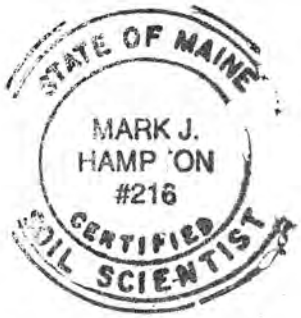
COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Olive brown, silt loam, 8-15"
Subsoil Layer:	Olive gray silty clay loam, 15-32"
Substratum:	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Scantic, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A)3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Scantic



USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

MARK HAMPTON ASSOCIATES, INC.
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100 River Road
Windham, ME
DM Roma Consulting Engineers

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Subsoil Layer:	Olive silty clay loam, 16-29"
Substratum:	Olive gray clay loam, 29-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

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INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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100 River Road
Windham, ME
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Made Land

SETTING

PARENT MATERIAL:	Derived from various fill materials.
LANDFORM:	N/A
POSITION IN LANDSCAPE:	N/A
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Generally well drained to moderately well drained
TYPICAL PROFILE:	Varies in profile and onsite from gravel to sandy loam
HYDROLOGIC GROUP:	Group B
SURFACE RUNOFF:	Rapid
PERMEABILITY:	Slow
DEPTH TO BEDROCK:	Less than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine

USE AND MANAGEMENT

Development: There may be limiting factors for building site development.

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton | Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD | Slope: 4 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine | Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

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Date

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-9 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Scantic

Limiting Factor: Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No

Hydrologic Soil Group:

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-13 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bw	Brown	F. Sandy Loam	Fine Grandul	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-17 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 4 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-18 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton | Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD | Slope: 10 Percent | Hydric Soil: ☒ No ☐ Yes | Hydrologic Soil Group:

Exploration Symbol # SS-19 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic | Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD | Slope: 2 Percent | Hydric Soil: ☐ No ☒ Yes | Hydrologic Soil Group:

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Soil Details: Soil Series/Phase Name: | Limiting Factor: ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock | Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD | Slope: Percent | Hydric Soil: ☐ No ☐ Yes | Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

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ATTACHMENT 2

GENERAL STANDARDS CALCULATIONS

Stormwater Treatment Requirements

Pecentage of Developed Area to Land Available for Development

Total Land Area=	1,376,614	sf	
Deductions			
Area Slopes Steeper than 25%	5,458	sf	
Area Protected Natural Resources	100,927	sf	
Total Available Land for Development	**1,270,229**	**sf**	
Total Developed Area	**525,237**	**sf**	**442,589**

% of Developed Area to Land Available for Development=	**41%**

From Table 1 Stormwater Treatment Based on Percentage of Parcel Developed of Chapter 500 Stormwater Management Rules for <60% of site developed

Percentage of Total Impervious Area Requiring Treatment=	**90%**
Percentage of Total Developed Area Requiring Treatment=	**75%**

DM ROMA
CONSULTING ENGINEERS

Eventide Subdivision - 100 River Road Windham
Calculated by: JPC
Printed 3/4/2026
Job #23056

Stormwater Treatment Table

	Total Watershed Area (SF)	New Roof Area (SF) **	New Paved/Gravel Area (SF)	New Landscaped Area (SF)	Existing/Offsite Impervious Area (SF)*	Existing/Offsite Landscaping Area (SF)*	Existing Undeveloped Area (SF)	Treatment Provided	New Impervious Area Treated (SF)	New Landscaped Area Treated (SF)	Treatment Device
WS-1***	121,736	0	0	26,949	0	0	94,322	No	0	0	None
WS-1B**	288	288	0	0	0	0	0	Dripedge	288	0	Dripedge Only
WS-11	47,205	0	9,500	37,693	0	0	12	Yes	9,500	37,693	Filter Basin -FB1
WS-11B**	2,412	2,412	0	0	0	0	0	Dripedge	2,412	0	Dripedge Only
WS-12	192,518	0	4,796	48,987	693	2,895	135,147	Yes	4,796	48,987	Filter Basin -FB2
WS-12B**	6,251	6,251	0	0	0	0	0	Dripedge	6,251	0	Dripedge Only
WS-13	1,985	0	1,871	114	0	0	0	Yes	1,871	114	Filter Basin -FB1
WS-14***	20,826	0	0	4,116	0	0	16,385	No	0	0	None
WS-2***	112,063	0	1,105	30,491	0	0	80,013	No	0	0	None
WS-2B**	3,600	3,600	0	0	0	0	0	Dripedge	3,600	0	Dripedge Only
WS-21***	401,112	0	0	24,534	5,394	20,145	350,531	No	0	0	None
WS-21B**	3,277	3,277	0	0	0	0	0	Dripedge	3,277	0	Dripedge Only
WS-22	4,284	0	4,125	159	0	0	0	Yes	4,125	159	Filter Basin -FB1
WS-23	4,209	0	4,023	186	0	0	0	Yes	4,023	186	Filter Basin -FB1
WS-24	20,075	0	7,804	12,272	0	0	0	Yes	7,804	12,272	Filter Basin -FB1
WS-24B**	1,512	1,512	0	0	0	0	0	Dripedge	1,512	0	Dripedge Only
WS-25	23,026	0	7,465	15,561	0	0	0	Yes	7,465	15,561	Filter Basin -FB1
WS-25B**	2,329	2,329	0	0	0	0	0	Dripedge	2,329	0	Dripedge Only
WS-26	266	0	266	0	0	0	0	Yes	266	0	Filter Basin -FB1
WS-3	29,031	0	0	2,855	0	8,766	17,410	No	0	0	None
WS-31*	55,285	0	0	26,438	0	0	28,846	Yes	0	26,438	Filter Basin -FB3
WS-31B**	2,700	2,700	0	0	0	0	0	Dripedge	2,700	0	Dripedge Only
WS-4	9,898	0	0	4,070	0	0	5,828	No	0	0	None
WS-41	41,249	0	10,723	28,101	0	0	2,425	Yes	10,723	28,101	Filter Basin -FB4
WS-41B**	2,088	2,088	0	0	0	0	0	Dripedge	2,088	0	Dripedge Only
WS-5	271,906	0	4,229	0	32,366	59,363	175,948	No	0	0	None
WS-51	102,079	0	0	4,581	9,809	11,580	76,109	No	0	0	None
WS-51B**	612	612	0	0	0	0	0	Dripedge	612	0	Dripedge Only
WS-52	167,531	0	13,881	60,689	2,942	7,968	82,051	Yes	13,881	60,689	Filter Basin -FB5
WS-52B**	5,531	5,531	0	0	0	0	0	Dripedge	5,531	0	Dripedge Only
WS-53	14,030	0	3,734	10,296	0	0	0	Yes	3,734	10,296	Filter Basin -FB5
WS-54	5,956	0	377	0	1,212	4,366	0	No	0	0	None
Total		**30,600**	**73,899**	**338,090**					**98,788**	**240,495**	

* The project is not taking credit for the Existing / Offsite impervious and landscaped areas, but are included in the BMP sizing calculations for each treatment device.
** All buildings shall install a roofline drip edge to provide treatment for the rooftop impervious surface.
The building's impervious area is included in the watershed and overall treatment calculations below, but not included
in the BMP sizing calculations for the wet pond or the underdrained filter basins.
*** Development associated with wetland & stream road crossings are exempt from the Chapter 500 General Standards:

WS-1 - 465.44± sf Grass WS-2 - 454.59± sf Grass
WS-14 - 324.77± sf Grass WS-21 - 507.13± sf Grass

New Impervious Area =	104,499	
New Impervious Area Requiring Treatment (90%)	94,049	
Provided New Impervious Treatment=	98,788	
	95%	New Impervious Area Treated
New Developed Area =	442,589	
New Developed Area Requiring Treatment (75%)=	331,942	
New Developed Area Treated=	339,282	
	77%	New Developed Area Treated

ATTACHMENT 3

UNDERDRAINED FILTER BASIN SIZING CALCULATIONS

Underdrained Filter Basin Sizing Calculations

Filter Basin 1

Tributary Impervious Area=	35,054	sf	(WS-11, 13 & 22-26 Impervious Area)
Tributary Landscaped Area=	65,985	sf	(WS-11, 13 & 22-26 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 5,121 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
138	3,169	0
139.5	4,235	5,533
140	4,624	7,747

Outlet Elevation = 139.50

Storage Volume Provided= 5,533 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 3,072 sf

Filter Area Provided = 3,169 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 35,054 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 44.7 cf

Sediment Volume (Provided): 100.5 cf > Required

Runoff is collected in four (4) CB's, and discharged into grassed swale:

CB/DMH with 2' sump = 25.13 cf of storage;

Total storage provided:

(4x 25.13) = **100.52 cf**

Level Spreader Sizing Calculations

Length of Level Spreader = Stormwater discharge flow during the 10-year storm event x 1/4" per foot

10-year discharge flow = 2.58 cfs

Required Length of Level Spreader = 10.32 ft

Provided Length of Level Spreader = 15 ft > Required

FILTER BASIN FB-1- SPILLWAY RUN

Summary for Pond FB1:

[62] Hint: Exceeded Reach R1 OUTLET depth by 2.99' @ 12.35 hrs

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 9.03 cfs @ 12.14 hrs, Volume= 36,499 cf
Outflow = 6.64 cfs @ 12.28 hrs, Volume= 24,493 cf, Atten= 27%, Lag= 8.6 min
Primary = 6.64 cfs @ 12.28 hrs, Volume= 24,493 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 141.25' @ 12.28 hrs Surf.Area= 5,795 sf Storage= 14,248 cf

PEAK WS ELEV. = 141.25
TOP OF BERM = 142.25
FREEBOARD =
142.25-141.25 = 1.00'

Plug-Flow detention time= 177.9 min calculated for 24,493 cf (67% of inflow)
Center-of-Mass det. time= 79.4 min (883.2 - 803.9)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	18,876 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
138.00	3,169	223.6	0	0	3,169
140.00	4,624	261.3	7,747	7,747	4,702
142.00	6,561	317.8	11,129	18,876	7,370

Device	Routing	Invert	Outlet Devices
#1	Primary	140.85'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	135.73'	**12.0" Round Culvert X 0.00** L= 39.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 135.73' / 135.50' S= 0.0058 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	139.50'	**8.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	140.75'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#5	Device 2	135.83'	**1.2" Vert. 1-1/4" DRILL HOLE IN END CAP** C= 0.600
#6	Device 5	135.83'	**4.0" Vert. 4" UD** C= 0.600
#7	Device 6	138.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=6.58 cfs @ 12.28 hrs HW=141.25' TW=135.91' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 6.58 cfs @ 1.65 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=138.00' TW=135.50' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)
  └─**5=1-1/4" DRILL HOLE IN END CAP** (Passes 0.00 cfs of 0.06 cfs potential flow)
    └─**6=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**7=Exfiltration** (Passes 0.00 cfs of 0.18 cfs potential flow)

FILTER BASIN FB-1- DRAWDOWN

23056 - DEVELOPED

Type III 24-hr WQ Event - FB-1 Rainfall=2.22"

Prepared by DM ROMA CONSULTING ENGINEERS

Printed 3/4/2026

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Hydrograph for Pond FB1:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	138.00	0.00	**0.00**	0.00
2.50	0.00	0	138.00	0.00	0.00	0.00
5.00	0.00	0	138.00	0.00	0.00	0.00
7.50	0.01	0	138.00	0.01	0.00	0.01
10.00	**0.03**	0	138.00	0.03	0.00	0.03
12.50	**0.91**	3,452	138.99	0.07	0.00	0.07
15.00	0.15	5,216	139.42	0.07	0.00	0.07
17.50	0.08	**5,539**	**139.50**	**0.07**	0.00	**0.07**
20.00	0.05	**5,452**	**139.48**	**0.07**	0.00	**0.07**
22.50	0.04	5,241	139.43	0.07	0.00	0.07
25.00	0.00	4,842	139.33	0.07	0.00	0.07
27.50	0.00	4,216	139.18	0.07	0.00	0.07
30.00	0.00	3,605	139.02	0.07	0.00	0.07
32.50	0.00	3,009	138.87	0.07	0.00	0.07
35.00	0.00	2,429	138.71	0.06	0.00	0.06
37.50	0.00	1,864	138.56	0.06	0.00	0.06
40.00	0.00	1,315	138.40	0.06	0.00	0.06
42.50	0.00	784	138.24	0.06	0.00	0.06
45.00	0.00	270	138.08	0.06	0.00	0.06
47.50	0.00	0	138.00	0.00	0.00	0.00
50.00	0.00	0	138.00	0.00	0.00	0.00
52.50	0.00	0	138.00	0.00	0.00	0.00
55.00	0.00	0	138.00	0.00	0.00	0.00
57.50	0.00	0	138.00	0.00	0.00	0.00
60.00	0.00	0	138.00	0.00	0.00	0.00
62.50	0.00	0	138.00	0.00	0.00	0.00
65.00	0.00	0	138.00	0.00	0.00	0.00
67.50	0.00	0	138.00	0.00	0.00	0.00
70.00	0.00	0	138.00	0.00	0.00	0.00
72.50	0.00	0	138.00	0.00	0.00	0.00
75.00	0.00	0	138.00	0.00	0.00	0.00
77.50	0.00	0	138.00	0.00	0.00	0.00
80.00	0.00	0	138.00	0.00	0.00	0.00
82.50	0.00	0	138.00	0.00	0.00	0.00
85.00	0.00	0	138.00	0.00	0.00	0.00
87.50	0.00	0	138.00	0.00	0.00	0.00
90.00	0.00	0	138.00	0.00	0.00	0.00
92.50	0.00	0	138.00	0.00	0.00	0.00
95.00	0.00	0	138.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 47.5 HRS
DRAWDOWN TIME = 47.5-17.5 = 30 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 2

Tributary Impervious Area=	5,489	sf	(WS-12 Impervious Area)
Tributary Landscaped Area=	51,883	sf	(WS-12 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 2,187 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
146	1,349	0
147.25	2,290	2,248
148	2,973	4,216

Outlet Elevation = 147.50

Storage Volume Provided= 2,248 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,312 sf

Filter Area Provided = 1,349 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 5,489 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 7.0 cf

Sediment Volume (Provided): 100.5 cf > Required

Runoff is collected in four (4) CB's, two (2) DMH's and one (1) Type F CB's:

CB/DMH with 2' sump = 25.13 cf of storage; Type F CB with 2' sump = 8 cf of storage

Total storage provided:

(4x 25.13) = **100.52 cf**

FILTER BASIN FB-2 - SPILLWAY RUN

Summary for Pond FB2:

Inflow Area = 198,769 sf, 5.56% Impervious, Inflow Depth = 3.31" for 25-Year event
Inflow = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf
Outflow = 11.38 cfs @ 12.33 hrs, Volume= 49,101 cf, Atten= 2%, Lag= 2.2 min
Primary = 11.38 cfs @ 12.33 hrs, Volume= 49,101 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 149.01' @ 12.33 hrs Surf.Area= 3,919 sf Storage= 7,700 cf

PEAK WS ELEV. = 149.01
TOP OF BERM = 150.0
FREEBOARD =
150.0-149.01 = 0.99' => 1.0'

Plug-Flow detention time= 76.1 min calculated for 49,101 cf (90% of inflow)
Center-of-Mass det. time= 26.1 min (863.5 - 837.4)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	12,068 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	1,349	239.6	0	0	1,349
148.00	2,973	292.5	4,216	4,216	3,651
150.00	4,963	356.5	7,851	12,068	7,020

Device	Routing	Invert	Outlet Devices
#1	Primary	148.45'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	143.73'	**12.0" Round Culvert X 0.00** L= 47.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 143.73' / 143.50' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	143.83'	**0.8" Vert. 13/16" DRILL HOLE IN END CAP** C= 0.600
#4	Device 3	143.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	146.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	147.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=11.32 cfs @ 12.33 hrs HW=149.01' TW=144.03' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 11.32 cfs @ 2.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=146.00' TW=143.50' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  └─**3=13/16" DRILL HOLE IN END CAP** (Passes 0.00 cfs of 0.02 cfs potential flow)
    └─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**5=Exfiltration** (Passes 0.00 cfs of 0.08 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

FILTER BASIN FB-2 - DRAWDOWN

Hydrograph for Pond FB2:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	146.00	0.00	**0.00**	0.00
2.50	0.00	0	146.00	0.00	0.00	0.00
5.00	0.00	0	146.00	0.00	0.00	0.00
7.50	0.00	0	146.00	0.00	0.00	0.00
10.00	**0.00**	0	146.00	0.00	0.00	0.00
12.50	**0.61**	692	146.46	0.03	0.00	0.03
15.00	0.11	**2,219**	**147.24**	**0.03**	0.00	**0.03**
17.50	0.06	**2,256**	**147.25**	**0.06**	0.00	**0.06**
20.00	0.04	2,251	147.25	0.04	0.00	0.04
22.50	0.03	2,249	147.25	0.03	0.00	0.03
25.00	0.00	2,169	147.22	0.03	0.00	0.03
27.50	0.00	1,895	147.09	0.03	0.00	0.03
30.00	0.00	1,626	146.96	0.03	0.00	0.03
32.50	0.00	1,362	146.83	0.03	0.00	0.03
35.00	0.00	1,105	146.70	0.03	0.00	0.03
37.50	0.00	853	146.55	0.03	0.00	0.03
40.00	0.00	609	146.41	0.03	0.00	0.03
42.50	0.00	371	146.26	0.03	0.00	0.03
45.00	0.00	141	146.10	0.03	0.00	0.03
47.50	0.00	0	146.00	0.00	0.00	0.00
50.00	0.00	0	146.00	0.00	0.00	0.00
52.50	0.00	0	146.00	0.00	0.00	0.00
55.00	0.00	0	146.00	0.00	0.00	0.00
57.50	0.00	0	146.00	0.00	0.00	0.00
60.00	0.00	0	146.00	0.00	0.00	0.00
62.50	0.00	0	146.00	0.00	0.00	0.00
65.00	0.00	0	146.00	0.00	0.00	0.00
67.50	0.00	0	146.00	0.00	0.00	0.00
70.00	0.00	0	146.00	0.00	0.00	0.00
72.50	0.00	0	146.00	0.00	0.00	0.00
75.00	0.00	0	146.00	0.00	0.00	0.00
77.50	0.00	0	146.00	0.00	0.00	0.00
80.00	0.00	0	146.00	0.00	0.00	0.00
82.50	0.00	0	146.00	0.00	0.00	0.00
85.00	0.00	0	146.00	0.00	0.00	0.00
87.50	0.00	0	146.00	0.00	0.00	0.00
90.00	0.00	0	146.00	0.00	0.00	0.00
92.50	0.00	0	146.00	0.00	0.00	0.00
95.00	0.00	0	146.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 47.5 HRS
DRAWDOWN TIME = 47.5-17.5 = 30 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 3

Tributary Impervious Area=	0	sf	(WS-31 Impervious Area)
Tributary Landscaped Area=	26,438	sf	(WS-31 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 881 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
172	591	0
173.1	1,316	1,023
175	3,041	5,124

Outlet Elevation =	173.10	
Storage Volume Provided=	1,023	cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 529 sf

Filter Area Provided = 591 sf > Required

FILTER BASIN FB-3 - SPILLWAY RUN

Summary for Pond FB3:

Inflow Area = 57,985 sf, 4.66% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf
Outflow = 3.92 cfs @ 12.24 hrs, Volume= 15,420 cf, Atten= 1%, Lag= 1.4 min
Primary = 3.92 cfs @ 12.24 hrs, Volume= 15,420 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 173.38' @ 12.24 hrs Surf.Area= 1,550 sf Storage= 1,429 cf

PEAK WS ELEV. = 173.38
TOP OF BERM = 175.0
FREEBOARD =
175.0-173.38 = 1.62'

Plug-Flow detention time= 50.3 min calculated for 15,412 cf (94% of inflow)
Center-of-Mass det. time= 17.3 min (846.5 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	172.00'	5,124 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.00	591	206.8	0	0	591
174.00	2,123	296.1	2,556	2,556	4,200
175.00	3,041	316.2	2,568	5,124	5,226

Device	Routing	Invert	Outlet Devices
#1	Primary	173.10'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	169.65'	**0.6" Vert. 5/8" DRILL HOLE IN 4" END CAP X 0.00** C= 0.600
#3	Device 2	169.83'	**4.0" Round Culvert X 0.00** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 169.83' / 169.65' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#4	Device 3	169.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	172.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=3.88 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 3.88 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=172.00' TW=0.00' (Dynamic Tailwater)
└─**2=5/8" DRILL HOLE IN 4" END CAP** (Controls 0.00 cfs)
└─**3=Culvert** (Controls 0.00 cfs)
└─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
└─**5=Exfiltration** (Passes 0.00 cfs of 0.03 cfs potential flow)

FILTER BASIN FB-3 - DRAWDOWN

23056 - DEVELOPED

Type III 24-hr WQ Event - FB-3 Rainfall=1.77"

Prepared by DM ROMA CONSULTING ENGINEERS

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Hydrograph for Pond FB3:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	172.00	0.00	0.00	0.00
2.50	0.00	0	172.00	0.00	0.00	0.00
5.00	0.00	0	172.00	0.00	0.00	0.00
7.50	0.00	0	172.00	0.00	0.00	0.00
10.00	**0.00**	0	172.00	0.00	0.00	0.00
12.50	**0.24**	437	172.58	0.02	0.00	0.02
15.00	0.04	**929**	**173.03**	**0.02**	**0.00**	**0.02**
17.50	0.02	**1,027**	**173.10**	**0.02**	**0.01**	**0.02**
20.00	0.02	1,019	173.10	0.02	0.00	0.02
22.50	0.01	987	173.07	0.02	0.00	0.02
25.00	0.00	902	173.01	0.02	0.00	0.02
27.50	0.00	748	172.88	0.02	0.00	0.02
30.00	0.00	598	172.74	0.02	0.00	0.02
32.50	0.00	451	172.59	0.02	0.00	0.02
35.00	0.00	307	172.43	0.02	0.00	0.02
37.50	0.00	168	172.25	0.02	0.00	0.02
40.00	0.00	34	172.06	0.01	0.00	0.01
42.50	0.00	0	172.00	0.00	0.00	0.00
45.00	0.00	0	172.00	0.00	0.00	0.00
47.50	0.00	0	172.00	0.00	0.00	0.00
50.00	0.00	0	172.00	0.00	0.00	0.00
52.50	0.00	0	172.00	0.00	0.00	0.00
55.00	0.00	0	172.00	0.00	0.00	0.00
57.50	0.00	0	172.00	0.00	0.00	0.00
60.00	0.00	0	172.00	0.00	0.00	0.00
62.50	0.00	0	172.00	0.00	0.00	0.00
65.00	0.00	0	172.00	0.00	0.00	0.00
67.50	0.00	0	172.00	0.00	0.00	0.00
70.00	0.00	0	172.00	0.00	0.00	0.00
72.50	0.00	0	172.00	0.00	0.00	0.00
75.00	0.00	0	172.00	0.00	0.00	0.00
77.50	0.00	0	172.00	0.00	0.00	0.00
80.00	0.00	0	172.00	0.00	0.00	0.00
82.50	0.00	0	172.00	0.00	0.00	0.00
85.00	0.00	0	172.00	0.00	0.00	0.00
87.50	0.00	0	172.00	0.00	0.00	0.00
90.00	0.00	0	172.00	0.00	0.00	0.00
92.50	0.00	0	172.00	0.00	0.00	0.00
95.00	0.00	0	172.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 42.5 HRS
DRAWDOWN TIME = 42.5-17.5 = 25 HRS

Underdrained Filter Basin Sizing Calculations

Filter Basin 4

Tributary Impervious Area=	10,723	sf	(WS-41 Impervious Area)
Tributary Landscaped Area=	28,101	sf	(WS-41 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 1,830 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
176	3,855	0
177.2	5,181	5,402
178.7	7,038	14,558

Outlet Elevation = 176.60

Storage Volume Provided= 5,402 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 1,098 sf

Filter Area Provided = 3,855 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 10,723 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 13.7 cf

Sediment Volume (Provided): 70.4 cf > Required

Runoff is collected in 440'± grassed swale:

Trap channel roadside swale provides 0.16 cf per lf of swale

Total storage provided:

(440 x 0.16) = **70.4 cf**

Underdrained Filter Basin Sizing Calculations

Filter Basin 5

Tributary Impervious Area=	20,557	sf	(WS-52 & 53 Impervious Area)
Tributary Landscaped Area=	78,952	sf	(WS-52 & 53 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 4,345 cf

Stage Storage Volume

Elevation	Area (sf)	Storage (cf)
176	2,936	0
177.2	4,700	4,540
178.7	7,269	13,526

Outlet Elevation = 177.40

Storage Volume Provided= 4,540 cf > Required

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

Filter Area Required = 2,607 sf

Filter Area Provided = 2,936 sf > Required

Sediment Forebay Sizing

Tributary Impervious Area Requiring Sanding: 20,557 sf

Required Sediment Forebay Volume :

10 storms/year x sanded area (acres) x 500lbs/acre-storm / 90 lbs/cf

Sediment Volume (Required) 26.2 cf

Sediment Volume (Provided): 118.4 cf > Required

Runoff is collected in 740'± grassed swale:

Trap channel roadside swale provides 0.16 cf per lf of swale

Total storage provided:

(740 x 0.16) = **118.4 cf**

FILTER BASIN FB-4 & 5 - SPILLWAY RUN

Summary for Pond FB4&5:

Inflow Area = 227,364 sf, 15.83% Impervious, Inflow Depth = 3.59" for 25-Year event
Inflow = 7.46 cfs @ 12.75 hrs, Volume= 68,034 cf
Outflow = 7.32 cfs @ 12.86 hrs, Volume= 57,080 cf, Atten= 2%, Lag= 6.5 min
Primary = 7.32 cfs @ 12.86 hrs, Volume= 57,080 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.73' @ 12.86 hrs Surf.Area= 11,433 sf Storage= 15,558 cf

PEAK WS ELEV. = 177.73
TOP OF BERM = 178.7
FREEBOARD =
178.70-177.73 = 0.97' =>1'

Plug-Flow detention time= 118.4 min calculated for 57,080 cf (84% of inflow)
Center-of-Mass det. time= 49.8 min (896.9 - 847.1)

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	28,097 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	6,791	877.0	0	0	6,791
178.00	12,279	952.4	18,801	18,801	17,919
178.70	14,307	978.8	9,296	28,097	22,032

Device	Routing	Invert	Outlet Devices
#1	Primary	177.30'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	173.73'	**15.0" Round Culvert X 0.00** L= 41.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 173.73' / 173.50' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 2	173.83'	**1.8" Vert. 1-3/4" DRILL HOLE IN 4" END CAP** C= 0.600
#4	Device 3	173.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	176.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	177.20'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=7.32 cfs @ 12.86 hrs HW=177.73' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 7.32 cfs @ 1.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=176.00' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)
  └─**3=1-3/4" DRILL HOLE IN 4" END CAP** (Passes 0.00 cfs of 0.12 cfs potential flow)
    └─**4=4" UD** (Passes 0.00 cfs of 0.59 cfs potential flow)
      └─**5=Exfiltration** (Passes 0.00 cfs of 0.38 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Controls 0.00 cfs)

FILTER BASIN FB-4 & 5 - DRAWDOWN

Hydrograph for Pond FB4&5:

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	176.00	0.00	**0.00**	0.00
2.50	0.00	0	176.00	0.00	0.00	0.00
5.00	0.00	0	176.00	0.00	0.00	0.00
7.50	0.00	0	176.00	0.00	0.00	0.00
10.00	0.01	0	176.00	0.01	0.00	0.01
12.50	**1.68**	2,700	176.37	0.13	0.00	0.13
15.00	**0.35**	**9,134**	**177.12**	**0.15**	0.00	**0.15**
17.50	0.18	**9,983**	**177.20**	**0.18**	0.00	**0.18**
20.00	0.12	9,824	177.19	0.15	0.00	0.15
22.50	0.10	9,416	177.15	0.15	0.00	0.15
25.00	0.02	8,703	177.07	0.15	0.00	0.15
27.50	0.00	7,396	176.93	0.15	0.00	0.15
30.00	0.00	6,084	176.78	0.14	0.00	0.14
32.50	0.00	4,802	176.64	0.14	0.00	0.14
35.00	0.00	3,555	176.48	0.14	0.00	0.14
37.50	0.00	2,345	176.33	0.13	0.00	0.13
40.00	0.00	1,173	176.17	0.13	0.00	0.13
42.50	0.00	42	176.01	0.12	0.00	0.12
45.00	0.00	0	176.00	0.00	0.00	0.00
47.50	0.00	0	176.00	0.00	0.00	0.00
50.00	0.00	0	176.00	0.00	0.00	0.00
52.50	0.00	0	176.00	0.00	0.00	0.00
55.00	0.00	0	176.00	0.00	0.00	0.00
57.50	0.00	0	176.00	0.00	0.00	0.00
60.00	0.00	0	176.00	0.00	0.00	0.00
62.50	0.00	0	176.00	0.00	0.00	0.00
65.00	0.00	0	176.00	0.00	0.00	0.00
67.50	0.00	0	176.00	0.00	0.00	0.00
70.00	0.00	0	176.00	0.00	0.00	0.00
72.50	0.00	0	176.00	0.00	0.00	0.00
75.00	0.00	0	176.00	0.00	0.00	0.00
77.50	0.00	0	176.00	0.00	0.00	0.00
80.00	0.00	0	176.00	0.00	0.00	0.00
82.50	0.00	0	176.00	0.00	0.00	0.00
85.00	0.00	0	176.00	0.00	0.00	0.00
87.50	0.00	0	176.00	0.00	0.00	0.00
90.00	0.00	0	176.00	0.00	0.00	0.00
92.50	0.00	0	176.00	0.00	0.00	0.00
95.00	0.00	0	176.00	0.00	0.00	0.00

POND AT CPV AT 17.5 HRS
EMPTY AT 45 HRS
DRAWDOWN TIME = 45-17.5 = 27.5 HRS

ATTACHMENT 4

ROOFLINE DRIPEDGE SIZING CALCULATIONS

Drip Edge Sizing Calculations

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

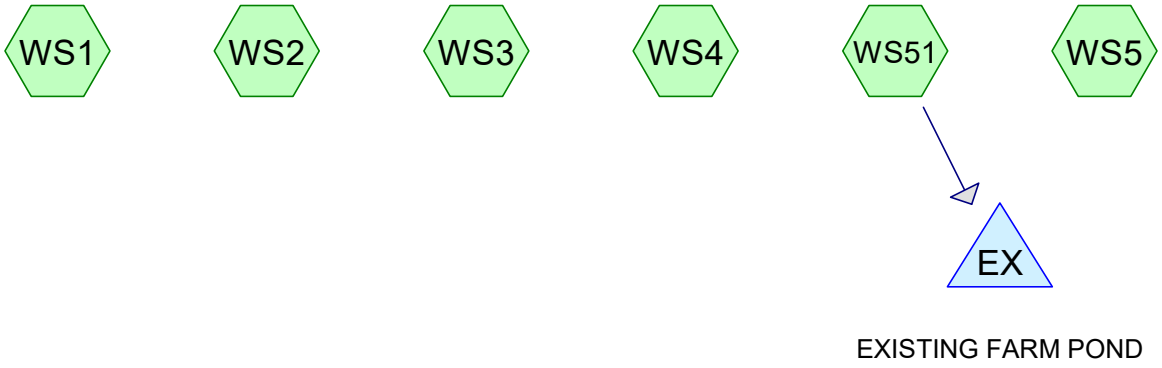
Void Ratio of Reservoir Layer	40%
Void Ratio of Filter Layer	30%

SINGLE-FAMILY UNITS:

Roof Watershed	Tributary Roof Area (sf)	WQV (Required)	Dripedge Surface Area (sf)	Reservoir Layer Depth (ft)	Filter Layer Depth (ft)	WQV (Provided)
1 (REAR PORTION)	900	75.00	150.00	1.00	1.50	127.50
2 (FRONT PORTION)	900	75.00	95.00	1.00	1.50	80.75

ATTACHMENT 5

STORMWATER MODEL OUTPUT



Subcat Reach Pond Link

Routing Diagram for 23056 - EXIST
Prepared by DM ROMA CONSULTING ENGINEERS, Printed 3/4/2026
HydroCAD® 10.00-26 s/n 09237 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=1.03"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=6.41 cfs 32,892 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=9.93 cfs 46,791 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=792' Tc=29.5 min CN=76 Runoff=3.91 cfs 22,218 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=1.08"
Flow Length=465' Tc=24.5 min CN=76 Runoff=1.46 cfs 7,667 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=1.03"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=4.30 cfs 24,724 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=1.03"
Flow Length=347' Tc=22.0 min CN=75 Runoff=1.59 cfs 8,069 cf

Pond EX: EXISTING FARM POND Peak Elev=183.01' Storage=3,792 cf Inflow=1.59 cfs 8,069 cf
Outflow=0.48 cfs 4,320 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=2.13"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=13.93 cfs 68,202 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=22.13 cfs 98,635 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=792' Tc=29.5 min CN=76 Runoff=8.28 cfs 45,337 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=2.21"
Flow Length=465' Tc=24.5 min CN=76 Runoff=3.10 cfs 15,645 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=2.13"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=9.33 cfs 51,267 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=2.13"
Flow Length=347' Tc=22.0 min CN=75 Runoff=3.46 cfs 16,732 cf

Pond EX: EXISTING FARM POND Peak Elev=183.03' Storage=3,930 cf Inflow=3.46 cfs 16,732 cf
Outflow=4.16 cfs 12,983 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=384,406 sf 0.00% Impervious Runoff Depth=3.11"
Flow Length=1,479' Tc=22.7 min CN=75 Runoff=20.53 cfs 99,700 cf

Subcatchment WS2: Runoff Area=577,497 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=1,183' Tc=17.9 min CN=74 Runoff=32.93 cfs 145,213 cf

Subcatchment WS3: Runoff Area=246,186 sf 0.00% Impervious Runoff Depth=3.21"
Flow Length=792' Tc=29.5 min CN=76 Runoff=12.09 cfs 65,818 cf

Subcatchment WS4: Runoff Area=84,956 sf 2.62% Impervious Runoff Depth=3.21"
Flow Length=465' Tc=24.5 min CN=76 Runoff=4.53 cfs 22,713 cf

Subcatchment WS5: Runoff Area=288,955 sf 11.21% Impervious Runoff Depth=3.11"
Flow Length=1,266' Tc=29.6 min CN=75 Runoff=13.75 cfs 74,944 cf

Subcatchment WS51: Runoff Area=94,307 sf 10.40% Impervious Runoff Depth=3.11"
Flow Length=347' Tc=22.0 min CN=75 Runoff=5.10 cfs 24,460 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,956 cf Inflow=5.10 cfs 24,460 cf
Outflow=5.09 cfs 20,710 cf

Summary for Subcatchment WS1:

Runoff = 20.53 cfs @ 12.32 hrs, Volume= 99,700 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	702	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	2,913	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	247,831	72	Woods/grass comb., Good, HSG C
	132,960	79	Woods/grass comb., Good, HSG D
	384,406	75	Weighted Average
	384,406		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	53	0.0569	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	12	0.0290	1.03		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
1.3	7	0.0447	0.09		**Sheet Flow, Seg C to D** Grass: Dense n= 0.240 P2= 3.10"
11.2	78	0.0640	0.12		**Sheet Flow, Seg D to E** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	100	0.0773	1.39		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
1.0	342	0.0351	5.84	221.18	**Channel Flow, Seg F to G** Area= 37.9 sf Perim= 76.0' r= 0.50' n= 0.030 Earth, grassed & winding
2.1	887	0.0502	6.96	155.21	**Channel Flow, Seg G to H** Area= 22.3 sf Perim= 44.9' r= 0.50' n= 0.030 Earth, grassed & winding
22.7	1,479	Total			

Summary for Subcatchment WS2:

Runoff = 32.93 cfs @ 12.25 hrs, Volume= 145,213 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	5,385	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	17,626	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	6,431	58	Meadow, non-grazed, HSG B
*	64,805	71	Meadow, non-grazed, HSG C
	26,072	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	281,045	72	Woods/grass comb., Good, HSG C
	176,133	79	Woods/grass comb., Good, HSG D
	577,497	74	Weighted Average
	577,497		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	109	0.0274	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	13	0.0233	0.96		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
2.8	232	0.0740	1.36		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
0.9	678	0.0339	13.24	712.42	**Channel Flow, Seg D to E** Area= 53.8 sf Perim= 107.8' r= 0.50' n= 0.013 Corrugated PE, smooth interior
0.1	35	0.0200	6.42	5.04	**Pipe Channel, Seg E to F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	116	0.0258	11.56	560.59	**Channel Flow, Seg F to G** Area= 48.5 sf Perim= 97.1' r= 0.50' n= 0.013
17.9	1,183	Total			

Summary for Subcatchment WS3:

Runoff = 12.09 cfs @ 12.41 hrs, Volume= 65,818 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
	8,985	58	Meadow, non-grazed, HSG B
*	33,453	71	Meadow, non-grazed, HSG C
	153,895	78	Meadow, non-grazed, HSG D
	634	58	Woods/grass comb., Good, HSG B
	33,443	72	Woods/grass comb., Good, HSG C
	15,776	79	Woods/grass comb., Good, HSG D
	246,186	76	Weighted Average
	246,186		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	150	0.0283	0.14		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.8	58	0.0068	1.24		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
4.1	84	0.0047	0.34		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
1.4	87	0.0047	1.03		**Shallow Concentrated Flow, Seg D to E** Grassed Waterway Kv= 15.0 fps
1.7	35	0.0047	0.34		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
3.2	199	0.0047	1.03		**Shallow Concentrated Flow, Seg F to G** Grassed Waterway Kv= 15.0 fps
0.8	179	0.0669	3.88		**Shallow Concentrated Flow, Seg G to H** Grassed Waterway Kv= 15.0 fps
29.5	792	Total			

Summary for Subcatchment WS4:

Runoff = 4.53 cfs @ 12.34 hrs, Volume= 22,713 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	788	98	Exist. roofs
*	1,440	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	7,074	80	>75% Exist. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	35,567	71	Meadow, non-grazed, HSG C
	40,087	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	84,956	76	Weighted Average
	82,728		97.38% Pervious Area
	2,228		2.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	150	0.0167	0.12		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.7	206	0.0073	1.28		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
0.2	109	0.0732	8.65	343.28	**Channel Flow, Seg C to D** Area= 39.7 sf Perim= 76.6' r= 0.52' n= 0.030 Earth, grassed & winding
24.5	465	Total			

Summary for Subcatchment WS5:

Runoff = 13.75 cfs @ 12.42 hrs, Volume= 74,944 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,298	98	Exist. roofs
*	29,091	98	Exist. paved surfaces
*	3,600	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	13,781	74	>75% Exist. grass cover, Good, HSG C
*	63,822	80	>75% Exist. grass cover, Good, HSG D
	85,188	58	Meadow, non-grazed, HSG B
*	7,724	71	Meadow, non-grazed, HSG C
	12,617	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	9,089	72	Woods/grass comb., Good, HSG C
	60,745	79	Woods/grass comb., Good, HSG D
	288,955	75	Weighted Average
	256,566		88.79% Pervious Area
	32,389		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	150	0.0233	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
3.0	185	0.0216	1.03		**Shallow Concentrated Flow, Seg B to C** Short Grass Pasture Kv= 7.0 fps
1.4	50	0.0149	0.61		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
5.0	399	0.0018	1.32	36.76	**Channel Flow, Seg D to E** Area= 27.9 sf Perim= 56.2' r= 0.50' n= 0.030 Earth, grassed & winding
0.1	29	0.0200	7.44	9.14	**Pipe Channel, Seg E to F** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.6	217	0.0132	6.04	96.57	**Trap/Vee/Rect Channel Flow, Seg F to G** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
0.3	74	0.0050	3.72	4.57	**Pipe Channel, Seg G to H** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.3	162	0.0247	8.26	132.10	**Trap/Vee/Rect Channel Flow, Seg H to I** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
29.6	1,266	Total			

Summary for Subcatchment WS51:

Runoff = 5.10 cfs @ 12.31 hrs, Volume= 24,460 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,328	98	Exist. roofs
*	4,481	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	11,580	80	>75% Exist. grass cover, Good, HSG D
	25,694	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	38,972	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	8,252	79	Woods/grass comb., Good, HSG D
	94,307	75	Weighted Average
	84,498		89.60% Pervious Area
	9,809		10.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0313	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.2	36	0.0029	0.27		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
3.0	161	0.0165	0.90		**Shallow Concentrated Flow, Seg C to D** Short Grass Pasture Kv= 7.0 fps
22.0	347	Total			

Summary for Pond EX: EXISTING FARM POND

Inflow Area = 94,307 sf, 10.40% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 5.10 cfs @ 12.31 hrs, Volume= 24,460 cf
Outflow = 5.09 cfs @ 12.33 hrs, Volume= 20,710 cf, Atten= 0%, Lag= 1.2 min
Primary = 5.09 cfs @ 12.33 hrs, Volume= 20,710 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 183.04' @ 12.33 hrs Surf.Area= 5,271 sf Storage= 3,956 cf

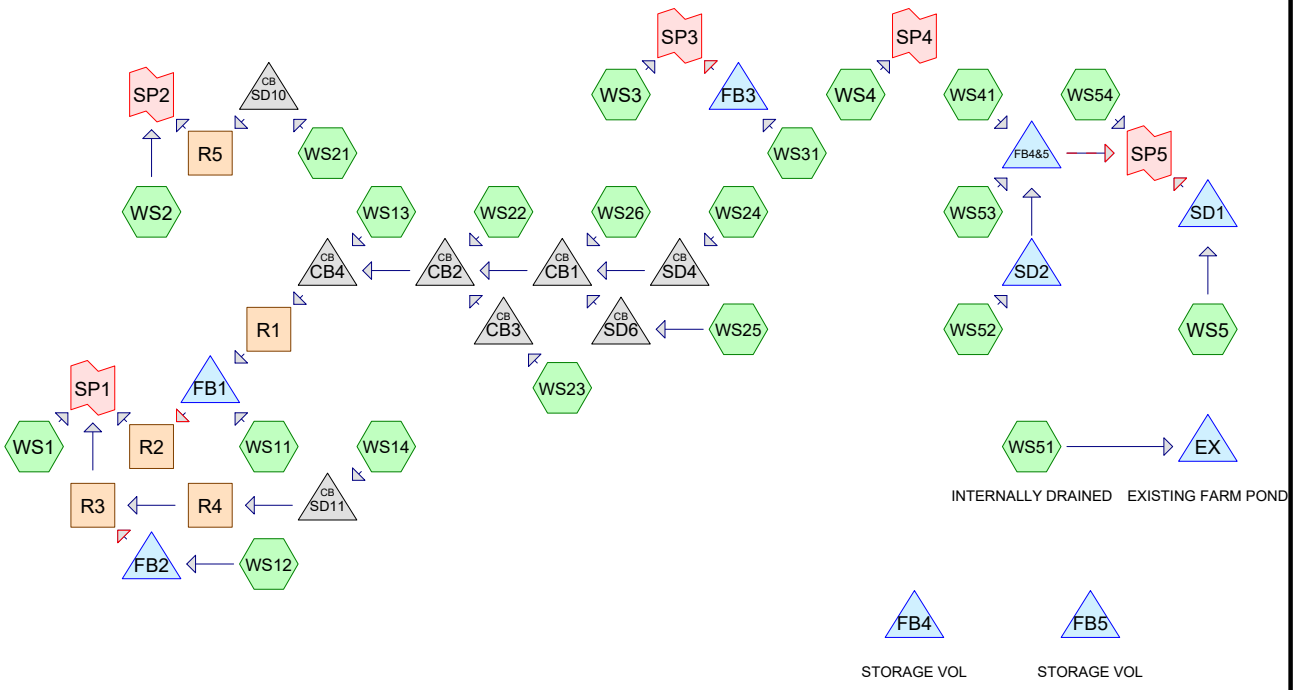
Plug-Flow detention time= 95.6 min calculated for 20,710 cf (85% of inflow)
Center-of-Mass det. time= 29.6 min (872.4 - 842.8)

Volume	Invert	Avail.Storage	Storage Description
#1	182.00'	6,564 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
182.00	2,462	192.9	0	0	2,462
183.00	5,206	276.1	3,749	3,749	5,576
183.50	6,063	295.5	2,815	6,564	6,470

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**275.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.05 cfs @ 12.33 hrs HW=183.04' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.05 cfs @ 0.47 fps)



Subcat Reach Pond Link

Routing Diagram for 23056 - DEVELOPED
Prepared by DM ROMA CONSULTING ENGINEERS, Printed 3/19/2026
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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=0.97"
Flow Length=490' Tc=12.5 min CN=74 Runoff=2.39 cfs 9,887 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=1.33"
Flow Length=245' Tc=14.0 min CN=80 Runoff=1.35 cfs 5,481 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=1.14"
Flow Length=926' Tc=21.4 min CN=77 Runoff=3.85 cfs 18,898 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.13 cfs 456 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.30 cfs 1,687 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=1.26"
Flow Length=414' Tc=16.6 min CN=79 Runoff=2.78 cfs 12,165 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=0.97"
Flow Length=818' Tc=18.0 min CN=74 Runoff=6.94 cfs 32,765 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.28 cfs 984 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.28 cfs 967 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=1.75"
Flow Length=363' Tc=11.9 min CN=86 Runoff=0.83 cfs 3,146 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=1.83"
Flow Length=337' Tc=6.6 min CN=87 Runoff=1.20 cfs 3,859 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.02 cfs 64 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=217' Tc=13.4 min CN=74 Runoff=0.56 cfs 2,352 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=1.20"
Flow Length=314' Tc=15.3 min CN=78 Runoff=1.36 cfs 5,801 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.28 cfs 1,050 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=1.60"
Flow Length=433' Tc=8.4 min CN=84 Runoff=1.57 cfs 5,366 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=0.97"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=3.83 cfs 22,031 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=1.03"
Flow Length=347' Tc=22.0 min CN=75 Runoff=1.73 cfs 8,787 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=1.26"
Flow Length=898' Tc=43.9 min CN=79 Runoff=2.70 cfs 18,202 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.49 cfs 1,550 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=1.67"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.20 cfs 830 cf

Reach R1: Avg. Flow Depth=0.23' Max Vel=4.20 fps Inflow=2.62 cfs 9,476 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=2.61 cfs 9,476 cf

Reach R2: Avg. Flow Depth=0.16' Max Vel=2.02 fps Inflow=0.56 cfs 14,961 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=0.56 cfs 14,961 cf

Reach R3: Avg. Flow Depth=0.35' Max Vel=3.16 fps Inflow=3.98 cfs 20,587 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=3.95 cfs 20,587 cf

Reach R4: Avg. Flow Depth=0.14' Max Vel=1.82 fps Inflow=0.30 cfs 1,687 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.29 cfs 1,687 cf

Reach R5: Avg. Flow Depth=0.51' Max Vel=3.02 fps Inflow=6.94 cfs 32,765 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=6.88 cfs 32,765 cf

Pond CB1: Peak Elev=165.59' Inflow=1.95 cfs 7,068 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=1.95 cfs 7,068 cf

Pond CB2: Peak Elev=163.12' Inflow=2.49 cfs 9,020 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=2.49 cfs 9,020 cf

Pond CB3: Peak Elev=163.12' Inflow=0.28 cfs 967 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.28 cfs 967 cf

Pond CB4: Peak Elev=155.56' Inflow=2.62 cfs 9,476 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=2.62 cfs 9,476 cf

Pond EX: EXISTING FARM POND Peak Elev=183.01' Storage=3,805 cf Inflow=1.73 cfs 8,787 cf
Outflow=0.71 cfs 5,037 cf

Pond FB1: Peak Elev=139.87' Storage=7,166 cf Inflow=3.74 cfs 14,957 cf
Primary=0.00 cfs 0 cf Secondary=0.56 cfs 14,961 cf Outflow=0.56 cfs 14,961 cf

Pond FB2: Peak Elev=147.52' Storage=2,890 cf Inflow=3.85 cfs 18,898 cf
Primary=0.00 cfs 0 cf Secondary=3.70 cfs 18,900 cf Outflow=3.70 cfs 18,900 cf

Pond FB3: Peak Elev=173.23' Storage=1,206 cf Inflow=1.36 cfs 5,801 cf
Primary=1.25 cfs 3,913 cf Secondary=0.02 cfs 1,889 cf Outflow=1.27 cfs 5,802 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.31' Storage=11,047 cf Inflow=2.88 cfs 25,117 cf
Primary=0.02 cfs 20 cf Secondary=1.19 cfs 25,106 cf Outflow=1.21 cfs 25,125 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=175.55' Storage=2,580 cf Inflow=3.83 cfs 22,031 cf
Primary=2.40 cfs 8,303 cf Secondary=0.69 cfs 13,728 cf Outflow=3.09 cfs 22,031 cf

Pond SD10: Peak Elev=162.39' Inflow=6.94 cfs 32,765 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=6.94 cfs 32,765 cf

Pond SD11: Peak Elev=161.73' Inflow=0.30 cfs 1,687 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.30 cfs 1,687 cf

Pond SD2: Peak Elev=177.91' Storage=947 cf Inflow=2.70 cfs 18,202 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=2.57 cfs 18,201 cf

Pond SD4: Peak Elev=165.74' Inflow=0.83 cfs 3,146 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=0.83 cfs 3,146 cf

Pond SD6: Peak Elev=165.80' Inflow=1.20 cfs 3,859 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=1.20 cfs 3,859 cf

Link SP1: Inflow=5.60 cfs 45,435 cf
Primary=5.60 cfs 45,435 cf

Link SP2: Inflow=9.55 cfs 44,930 cf
Primary=9.55 cfs 44,930 cf

Link SP3: Inflow=1.74 cfs 8,154 cf
Primary=1.74 cfs 8,154 cf

Link SP4: Inflow=0.28 cfs 1,050 cf
Primary=0.28 cfs 1,050 cf

Link SP5: Inflow=3.30 cfs 47,987 cf
Primary=3.30 cfs 47,987 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=2.05"
Flow Length=490' Tc=12.5 min CN=74 Runoff=5.32 cfs 20,841 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=2.55"
Flow Length=245' Tc=14.0 min CN=80 Runoff=2.63 cfs 10,531 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=2.29"
Flow Length=926' Tc=21.4 min CN=77 Runoff=7.99 cfs 37,966 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.20 cfs 703 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.66 cfs 3,557 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=2.46"
Flow Length=414' Tc=16.6 min CN=79 Runoff=5.53 cfs 23,717 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=2.05"
Flow Length=818' Tc=18.0 min CN=74 Runoff=15.46 cfs 69,068 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.43 cfs 1,517 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.42 cfs 1,490 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=3.10"
Flow Length=363' Tc=11.9 min CN=86 Runoff=1.46 cfs 5,569 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=3.19"
Flow Length=337' Tc=6.6 min CN=87 Runoff=2.07 cfs 6,744 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.03 cfs 97 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=217' Tc=13.4 min CN=74 Runoff=1.24 cfs 4,958 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=2.38"
Flow Length=314' Tc=15.3 min CN=78 Runoff=2.77 cfs 11,479 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.62 cfs 2,214 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=2.91"
Flow Length=433' Tc=8.4 min CN=84 Runoff=2.85 cfs 9,755 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=2.05"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=8.50 cfs 46,441 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=2.13"
Flow Length=347' Tc=22.0 min CN=75 Runoff=3.77 cfs 18,220 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=2.46"
Flow Length=898' Tc=43.9 min CN=79 Runoff=5.37 cfs 35,486 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=2.55"
Tc=6.0 min CN=80 Runoff=0.94 cfs 2,978 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=3.00"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.35 cfs 1,489 cf

Reach R1: Avg. Flow Depth=0.31' Max Vel=4.91 fps Inflow=4.40 cfs 16,120 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=4.39 cfs 16,120 cf

Reach R2: Avg. Flow Depth=0.29' Max Vel=2.95 fps Inflow=2.58 cfs 26,653 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=2.58 cfs 26,653 cf

Reach R3: Avg. Flow Depth=0.44' Max Vel=3.71 fps Inflow=7.43 cfs 41,524 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=7.42 cfs 41,524 cf

Reach R4: Avg. Flow Depth=0.19' Max Vel=2.23 fps Inflow=0.66 cfs 3,557 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.65 cfs 3,557 cf

Reach R5: Avg. Flow Depth=0.69' Max Vel=3.69 fps Inflow=15.46 cfs 69,068 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=15.40 cfs 69,068 cf

Pond CB1: Peak Elev=165.94' Inflow=3.39 cfs 12,410 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=3.39 cfs 12,410 cf

Pond CB2: Peak Elev=163.64' Inflow=4.21 cfs 15,417 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=4.21 cfs 15,417 cf

Pond CB3: Peak Elev=163.64' Inflow=0.42 cfs 1,490 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.42 cfs 1,490 cf

Pond CB4: Peak Elev=155.89' Inflow=4.40 cfs 16,120 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=4.40 cfs 16,120 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,951 cf Inflow=3.77 cfs 18,220 cf
Outflow=5.09 cfs 14,470 cf

Pond FB1: Peak Elev=140.61' Storage=10,731 cf Inflow=6.65 cfs 26,651 cf
Primary=0.00 cfs 0 cf Secondary=2.58 cfs 26,653 cf Outflow=2.58 cfs 26,653 cf

Pond FB2: Peak Elev=147.97' Storage=4,120 cf Inflow=7.99 cfs 37,966 cf
Primary=0.00 cfs 0 cf Secondary=6.77 cfs 37,967 cf Outflow=6.77 cfs 37,967 cf

Pond FB3: Peak Elev=173.32' Storage=1,336 cf Inflow=2.77 cfs 11,479 cf
Primary=2.71 cfs 9,498 cf Secondary=0.02 cfs 1,982 cf Outflow=2.73 cfs 11,480 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.46' Storage=12,584 cf Inflow=5.49 cfs 48,219 cf
Primary=1.59 cfs 4,552 cf Secondary=3.73 cfs 43,673 cf Outflow=5.32 cfs 48,225 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=176.32' Storage=7,164 cf Inflow=8.50 cfs 46,441 cf
Primary=4.77 cfs 25,373 cf Secondary=0.86 cfs 21,068 cf Outflow=5.63 cfs 46,441 cf

Pond SD10: Peak Elev=162.98' Inflow=15.46 cfs 69,068 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=15.46 cfs 69,068 cf

Pond SD11: Peak Elev=161.88' Inflow=0.66 cfs 3,557 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.66 cfs 3,557 cf

Pond SD2: Peak Elev=178.38' Storage=2,218 cf Inflow=5.37 cfs 35,486 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=4.97 cfs 35,486 cf

Pond SD4: Peak Elev=166.09' Inflow=1.46 cfs 5,569 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=1.46 cfs 5,569 cf

Pond SD6: Peak Elev=166.14' Inflow=2.07 cfs 6,744 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=2.07 cfs 6,744 cf

Link SP1: Inflow=13.17 cfs 89,018 cf
Primary=13.17 cfs 89,018 cf

Link SP2: Inflow=20.82 cfs 92,785 cf
Primary=20.82 cfs 92,785 cf

Link SP3: Inflow=3.93 cfs 16,438 cf
Primary=3.93 cfs 16,438 cf

Link SP4: Inflow=0.62 cfs 2,214 cf
Primary=0.62 cfs 2,214 cf

Link SP5: Inflow=10.95 cfs 96,155 cf
Primary=10.95 cfs 96,155 cf

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS1: Runoff Area=122,024 sf 0.24% Impervious Runoff Depth=3.02"
Flow Length=490' Tc=12.5 min CN=74 Runoff=7.91 cfs 30,683 cf

Subcatchment WS11: Runoff Area=49,618 sf 24.01% Impervious Runoff Depth=3.60"
Flow Length=245' Tc=14.0 min CN=80 Runoff=3.70 cfs 14,891 cf

Subcatchment WS12: Runoff Area=198,769 sf 5.56% Impervious Runoff Depth=3.31"
Flow Length=926' Tc=21.4 min CN=77 Runoff=11.56 cfs 54,745 cf

Subcatchment WS13: Runoff Area=1,985 sf 94.26% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.25 cfs 901 cf

Subcatchment WS14: Runoff Area=20,826 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=211' Tc=28.3 min CN=74 Runoff=0.98 cfs 5,237 cf

Subcatchment WS2: Runoff Area=115,663 sf 4.07% Impervious Runoff Depth=3.50"
Flow Length=414' Tc=16.6 min CN=79 Runoff=7.87 cfs 33,750 cf

Subcatchment WS21: Runoff Area=404,389 sf 0.81% Impervious Runoff Depth=3.02"
Flow Length=818' Tc=18.0 min CN=74 Runoff=23.00 cfs 101,684 cf

Subcatchment WS22: Runoff Area=4,284 sf 87.56% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.54 cfs 1,944 cf

Subcatchment WS23: Runoff Area=4,209 sf 90.83% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.53 cfs 1,910 cf

Subcatchment WS24: Runoff Area=21,588 sf 40.11% Impervious Runoff Depth=4.22"
Flow Length=363' Tc=11.9 min CN=86 Runoff=1.97 cfs 7,591 cf

Subcatchment WS25: Runoff Area=25,353 sf 36.29% Impervious Runoff Depth=4.33"
Flow Length=337' Tc=6.6 min CN=87 Runoff=2.77 cfs 9,140 cf

Subcatchment WS26: Runoff Area=266 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.03 cfs 123 cf

Subcatchment WS3: Runoff Area=29,031 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=217' Tc=13.4 min CN=74 Runoff=1.84 cfs 7,300 cf

Subcatchment WS31: Runoff Area=57,985 sf 4.66% Impervious Runoff Depth=3.40"
Flow Length=314' Tc=15.3 min CN=78 Runoff=3.97 cfs 16,443 cf

Subcatchment WS4: Runoff Area=12,962 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=105' Slope=0.0681 '/' Tc=9.2 min CN=74 Runoff=0.93 cfs 3,259 cf

Subcatchment WS41: Runoff Area=40,273 sf 29.34% Impervious Runoff Depth=4.01"
Flow Length=433' Tc=8.4 min CN=84 Runoff=3.90 cfs 13,457 cf

Subcatchment WS5: Runoff Area=271,906 sf 13.07% Impervious Runoff Depth=3.02"
Flow Length=1,060' Tc=29.0 min CN=74 Runoff=12.65 cfs 68,371 cf

Subcatchment WS51: INTERNALLY Runoff Area=102,691 sf 10.15% Impervious Runoff Depth=3.11"
Flow Length=347' Tc=22.0 min CN=75 Runoff=5.56 cfs 26,634 cf

Subcatchment WS52: Runoff Area=173,061 sf 12.12% Impervious Runoff Depth=3.50"
Flow Length=898' Tc=43.9 min CN=79 Runoff=7.64 cfs 50,499 cf

Subcatchment WS53: Runoff Area=14,030 sf 22.83% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=1.33 cfs 4,210 cf

Subcatchment WS54: Runoff Area=5,956 sf 24.92% Impervious Runoff Depth=4.11"
Flow Length=146' Slope=0.0348 '/' Tc=15.7 min CN=85 Runoff=0.48 cfs 2,042 cf

Reach R1: Avg. Flow Depth=0.36' Max Vel=5.34 fps Inflow=5.84 cfs 21,608 cf
n=0.030 L=209.2' S=0.0717 '/' Capacity=225.07 cfs Outflow=5.82 cfs 21,608 cf

Reach R2: Avg. Flow Depth=0.41' Max Vel=3.67 fps Inflow=6.30 cfs 36,503 cf
n=0.030 L=244.7' S=0.0470 '/' Capacity=443.92 cfs Outflow=6.28 cfs 36,503 cf

Reach R3: Avg. Flow Depth=0.51' Max Vel=4.08 fps Inflow=10.94 cfs 59,982 cf
n=0.030 L=457.9' S=0.0426 '/' Capacity=422.57 cfs Outflow=10.89 cfs 59,982 cf

Reach R4: Avg. Flow Depth=0.22' Max Vel=2.46 fps Inflow=0.98 cfs 5,237 cf
n=0.030 L=268.0' S=0.0476 '/' Capacity=356.54 cfs Outflow=0.97 cfs 5,237 cf

Reach R5: Avg. Flow Depth=0.80' Max Vel=4.08 fps Inflow=23.00 cfs 101,684 cf
n=0.030 L=301.4' S=0.0232 '/' Capacity=263.28 cfs Outflow=22.94 cfs 101,684 cf

Pond CB1: Peak Elev=166.38' Inflow=4.55 cfs 16,854 cf
15.0" Round Culvert n=0.013 L=298.7' S=0.0075 '/' Outflow=4.55 cfs 16,854 cf

Pond CB2: Peak Elev=164.26' Inflow=5.60 cfs 20,708 cf
15.0" Round Culvert n=0.013 L=141.4' S=0.0103 '/' Outflow=5.60 cfs 20,708 cf

Pond CB3: Peak Elev=164.27' Inflow=0.53 cfs 1,910 cf
15.0" Round Culvert n=0.013 L=22.0' S=0.0091 '/' Outflow=0.53 cfs 1,910 cf

Pond CB4: Peak Elev=156.20' Inflow=5.84 cfs 21,608 cf
18.0" Round Culvert n=0.013 L=223.6' S=0.0076 '/' Outflow=5.84 cfs 21,608 cf

Pond EX: EXISTING FARM POND Peak Elev=183.04' Storage=3,968 cf Inflow=5.56 cfs 26,634 cf
Outflow=5.55 cfs 22,885 cf

Pond FB1: Peak Elev=140.93' Storage=12,441 cf Inflow=9.03 cfs 36,499 cf
Primary=0.58 cfs 306 cf Secondary=5.72 cfs 36,196 cf Outflow=6.30 cfs 36,503 cf

Pond FB2: Peak Elev=148.66' Storage=6,388 cf Inflow=11.56 cfs 54,745 cf
Primary=2.54 cfs 1,762 cf Secondary=7.42 cfs 52,983 cf Outflow=9.96 cfs 54,745 cf

Pond FB3: Peak Elev=173.38' Storage=1,428 cf Inflow=3.97 cfs 16,443 cf
Primary=3.90 cfs 14,400 cf Secondary=0.02 cfs 2,044 cf Outflow=3.92 cfs 16,444 cf

Pond FB4: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond FB4&5: Peak Elev=177.53' Storage=13,371 cf Inflow=7.46 cfs 68,166 cf
Primary=2.84 cfs 10,915 cf Secondary=4.52 cfs 57,256 cf Outflow=7.37 cfs 68,171 cf

Pond FB5: STORAGE VOL Peak Elev=0.00' Storage=0 cf

Pond SD1: Peak Elev=177.05' Storage=12,785 cf Inflow=12.65 cfs 68,371 cf
Primary=6.22 cfs 42,154 cf Secondary=1.00 cfs 26,218 cf Outflow=7.22 cfs 68,371 cf

Pond SD10: Peak Elev=163.47' Inflow=23.00 cfs 101,684 cf
48.0" Round Culvert w/ 24.0" inside fill n=0.013 L=64.6' S=0.0248 '/' Outflow=23.00 cfs 101,684 cf

Pond SD11: Peak Elev=161.98' Inflow=0.98 cfs 5,237 cf
15.0" Round Culvert n=0.013 L=74.3' S=0.0700 '/' Outflow=0.98 cfs 5,237 cf

Pond SD2: Peak Elev=178.77' Storage=3,652 cf Inflow=7.64 cfs 50,499 cf
18.0" Round Culvert n=0.013 L=65.5' S=0.0046 '/' Outflow=6.78 cfs 50,499 cf

Pond SD4: Peak Elev=166.55' Inflow=1.97 cfs 7,591 cf
15.0" Round Culvert n=0.013 L=26.0' S=0.0077 '/' Outflow=1.97 cfs 7,591 cf

Pond SD6: Peak Elev=166.61' Inflow=2.77 cfs 9,140 cf
15.0" Round Culvert n=0.013 L=41.8' S=0.0048 '/' Outflow=2.77 cfs 9,140 cf

Link SP1: Inflow=20.28 cfs 127,168 cf
Primary=20.28 cfs 127,168 cf

Link SP2: Inflow=30.66 cfs 135,435 cf
Primary=30.66 cfs 135,435 cf

Link SP3: Inflow=5.72 cfs 23,744 cf
Primary=5.72 cfs 23,744 cf

Link SP4: Inflow=0.93 cfs 3,259 cf
Primary=0.93 cfs 3,259 cf

Link SP5: Inflow=14.66 cfs 138,584 cf
Primary=14.66 cfs 138,584 cf

Summary for Subcatchment WS1:

Runoff = 7.91 cfs @ 12.18 hrs, Volume= 30,683 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	288	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	27,003	74	>75% Prop. grass cover, Good, HSG C
*	411	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	72,859	72	Woods/grass comb., Good, HSG C
	21,463	79	Woods/grass comb., Good, HSG D
	122,024	74	Weighted Average
	121,736		99.76% Pervious Area
	288		0.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	108	0.1153	0.16		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.0	382	0.0419	6.38	257.62	**Channel Flow, Seg B to C** Area= 40.4 sf Perim= 81.0' r= 0.50' n= 0.030 Earth, grassed & winding
12.5	490	Total			

Summary for Subcatchment WS11:

Runoff = 3.70 cfs @ 12.19 hrs, Volume= 14,891 cf, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,412	98	Prop. roofs
*	0	98	Exist. paved surfaces
	9,500	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	32,993	74	>75% Prop. grass cover, Good, HSG C
*	4,700	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	13	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	49,618	80	Weighted Average
	37,706		75.99% Pervious Area
	11,912		24.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	94	0.0319	0.14		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.4	28	0.1451	0.20		**Sheet Flow, Seg B to C** Grass: Dense n= 0.240 P2= 3.10"
0.2	123	0.0326	9.49	151.76	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
14.0	245	Total			

Summary for Subcatchment WS12:

Runoff = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	6,251	98	Prop. roofs
*	0	98	Exist. roofs
	4,796	98	Prop. paved surfaces
*	0	98	Exist. paved surfaces
*	693	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	26,576	74	>75% Prop. grass cover, Good, HSG C
*	22,411	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	2,895	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	80,765	72	Woods/grass comb., Good, HSG C
	54,382	79	Woods/grass comb., Good, HSG D
	198,769	77	Weighted Average
	187,722		94.44% Pervious Area
	11,047		5.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	53	0.0569	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	12	0.0290	1.03		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
1.3	7	0.0447	0.09		**Sheet Flow, Seg C to D** Grass: Dense n= 0.240 P2= 3.10"
11.2	78	0.0640	0.12		**Sheet Flow, Seg D to E** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	100	0.0773	1.39		**Shallow Concentrated Flow, Seg E to F** Woodland Kv= 5.0 fps
1.0	342	0.0351	5.84	221.18	**Channel Flow, Seg F to G** Area= 37.9 sf Perim= 76.0' r= 0.50' n= 0.030 Earth, grassed & winding
0.8	334	0.0478	6.79	151.46	**Channel Flow, Seg G to H** Area= 22.3 sf Perim= 44.9' r= 0.50' n= 0.030 Earth, grassed & winding
21.4	926	Total			

Summary for Subcatchment WS13:

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 901 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	1,871	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	35	74	>75% Prop. grass cover, Good, HSG C
*	79	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	1,985	97	Weighted Average
	114		5.74% Pervious Area
	1,871		94.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS14:

Runoff = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	2,079	74	>75% Prop. grass cover, Good, HSG C
*	2,362	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	12,343	72	Woods/grass comb., Good, HSG C
	4,042	79	Woods/grass comb., Good, HSG D
	20,826	74	Weighted Average
	20,826		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	150	0.0271	0.09		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.6	61	0.0161	0.63		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
28.3	211	Total			

Summary for Subcatchment WS2:

Runoff = 7.87 cfs @ 12.23 hrs, Volume= 33,750 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	3,600	98	Prop. roofs
*	0	98	Exist. paved surfaces
	1,105	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	16,349	74	>75% Prop. grass cover, Good, HSG C
*	14,596	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	9,141	72	Woods/grass comb., Good, HSG C
	70,872	79	Woods/grass comb., Good, HSG D
	115,663	79	Weighted Average
	110,958		95.93% Pervious Area
	4,705		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	115	0.0607	0.12		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.0	299	0.0234	4.78	286.72	**Channel Flow, Seg B to C** Area= 60.0 sf Perim= 119.8' r= 0.50' n= 0.030 Earth, grassed & winding
16.6	414	Total			

Summary for Subcatchment WS21:

Runoff = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	3,277	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	5,394	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	20,145	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	7,813	74	>75% Prop. grass cover, Good, HSG C
*	17,228	80	>75% Prop. grass cover, Good, HSG D
	6,216	58	Meadow, non-grazed, HSG B
	52,917	71	Meadow, non-grazed, HSG C
	5,933	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	226,718	72	Woods/grass comb., Good, HSG C
	58,748	79	Woods/grass comb., Good, HSG D
	404,389	74	Weighted Average
	401,112		99.19% Pervious Area
	3,277		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	109	0.0274	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.2	13	0.0233	0.96		**Sheet Flow, Seg B to C** Smooth surfaces n= 0.011 P2= 3.10"
2.8	232	0.0740	1.36		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
1.3	464	0.0354	5.86	315.47	**Channel Flow, Seg D to E** Area= 53.8 sf Perim= 107.8' r= 0.50' n= 0.030 Earth, grassed & winding
18.0	818	Total			

Summary for Subcatchment WS22:

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 1,944 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,751	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	374	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	159	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	4,284	97	Weighted Average
	533		12.44% Pervious Area
	3,751		87.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS23:

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,823	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	200	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	186	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	4,209	97	Weighted Average
	386		9.17% Pervious Area
	3,823		90.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS24:

Runoff = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	1,512	98	Prop. roofs
*	0	98	Exist. paved surfaces
	7,146	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	658	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	6,540	74	>75% Prop. grass cover, Good, HSG C
*	5,732	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	21,588	86	Weighted Average
	12,930		59.89% Pervious Area
	8,658		40.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	89	0.0282	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.1	64	0.0236	8.09	9.92	**Pipe Channel, Seg B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.3	210	0.0710	14.00	223.97	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
11.9	363	Total			

Summary for Subcatchment WS25:

Runoff = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,329	98	Prop. roofs
*	0	98	Exist. paved surfaces
	6,871	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	594	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	15,559	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	25,353	87	Weighted Average
	16,153		63.71% Pervious Area
	9,200		36.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	47	0.0368	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.4	290	0.0635	13.24	211.81	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
6.6	337	Total			

Summary for Subcatchment WS26:

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 123 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	266	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	266	98	Weighted Average
	266		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min**

Summary for Subcatchment WS3:

Runoff = 1.84 cfs @ 12.19 hrs, Volume= 7,300 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	7,704	74	>75% Exist. grass cover, Good, HSG C
*	1,063	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	2,855	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	13,642	72	Woods/grass comb., Good, HSG C
	3,767	79	Woods/grass comb., Good, HSG D
	29,031	74	Weighted Average
	29,031		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	118	0.1059	0.23		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
4.1	32	0.1328	0.13		**Sheet Flow, Seg B to C** Woods: Light underbrush n= 0.400 P2= 3.10"
0.8	67	0.0783	1.40		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
13.4	217	Total			

Summary for Subcatchment WS31:

Runoff = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,700	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	26	74	>75% Prop. grass cover, Good, HSG C
*	26,413	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	11,371	71	Meadow, non-grazed, HSG C
	17,475	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	57,985	78	Weighted Average
	55,285		95.34% Pervious Area
	2,700		4.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	130	0.0327	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
0.6	184	0.0167	5.17	37.15	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=1.25' Z= 3.0 '/' Top.W=9.50' n= 0.030 Earth, grassed & winding
15.3	314	Total			

Summary for Subcatchment WS4:

Runoff = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
*	0	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	3,029	74	>75% Prop. grass cover, Good, HSG C
*	1,382	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	6,871	71	Meadow, non-grazed, HSG C
	1,680	78	Meadow, non-grazed, HSG D
	0	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	0	79	Woods/grass comb., Good, HSG D
	12,962	74	Weighted Average
	12,962		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	105	0.0681	0.19		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Subcatchment WS41:

Runoff = 3.90 cfs @ 12.12 hrs, Volume= 13,457 cf, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
	2,088	98	Prop. roofs
*	0	98	Exist. paved surfaces
	9,727	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	996	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	8,983	74	>75% Prop. grass cover, Good, HSG C
*	17,137	80	>75% Prop. grass cover, Good, HSG D
	917	71	Meadow, non-grazed, HSG C
	425	78	Meadow, non-grazed, HSG D
	40,273	84	Weighted Average
	28,458		70.66% Pervious Area
	11,815		29.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	55	0.0323	0.12		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
1.0	378	0.0152	6.48	103.63	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
8.4	433	Total			

Summary for Subcatchment WS5:

Runoff = 12.65 cfs @ 12.41 hrs, Volume= 68,371 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	2,723	98	Exist. roofs
*	0	98	Prop. roofs
*	28,698	98	Exist. paved surfaces
	4,117	98	Prop. paved surfaces
*	3,668	96	Exist. gravel surfaces
*	112	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	3,395	74	>75% Exist. grass cover, Good, HSG C
*	55,968	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	83,425	58	Meadow, non-grazed, HSG B
	1,805	71	Meadow, non-grazed, HSG C
	18,447	78	Meadow, non-grazed, HSG D
	11,338	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	58,210	79	Woods/grass comb., Good, HSG D
	271,906	74	Weighted Average
	236,368		86.93% Pervious Area
	35,538		13.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	150	0.0233	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
3.0	185	0.0216	1.03		**Shallow Concentrated Flow, Seg B to C** Short Grass Pasture Kv= 7.0 fps
1.4	50	0.0149	0.61		**Shallow Concentrated Flow, Seg C to D** Woodland Kv= 5.0 fps
5.0	399	0.0018	1.32	36.76	**Channel Flow, Seg D to E** Area= 27.9 sf Perim= 56.2' r= 0.50' n= 0.030
0.1	29	0.0200	7.44	9.14	**Pipe Channel, Seg E to F** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	217	0.0132	6.04	96.57	**Trap/Vee/Rect Channel Flow, Seg F to G** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030
0.0	30	0.1988	23.42	374.77	**Trap/Vee/Rect Channel Flow, Seg G to H** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030
29.0	1,060	Total			

Summary for Subcatchment WS51: INTERNALLY DRAINED

Runoff = 5.56 cfs @ 12.31 hrs, Volume= 26,634 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,328	98	Exist. roofs
*	612	98	Prop. roofs
*	4,481	98	Exist. paved surfaces
*	0	96	Exist. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	11,580	80	>75% Exist. grass cover, Good, HSG D
*	4,581	80	>75% Prop. grass cover, Good, HSG D
	25,694	58	Meadow, non-grazed, HSG B
*	0	71	Meadow, non-grazed, HSG C
	42,163	78	Meadow, non-grazed, HSG D
	2,548	58	Woods/grass comb., Good, HSG B
	0	72	Woods/grass comb., Good, HSG C
	5,704	79	Woods/grass comb., Good, HSG D
	102,691	75	Weighted Average
	92,270		89.85% Pervious Area
	10,421		10.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0313	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"
2.2	36	0.0029	0.27		**Shallow Concentrated Flow, Seg B to C** Woodland Kv= 5.0 fps
3.0	161	0.0165	0.90		**Shallow Concentrated Flow, Seg C to D** Short Grass Pasture Kv= 7.0 fps
22.0	347	Total			

Summary for Subcatchment WS52:

Runoff = 7.64 cfs @ 12.60 hrs, Volume= 50,499 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	1,362	98	Exist. roofs
	5,531	98	Prop. roofs
	1,580	98	Exist. paved surfaces
	12,500	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	1,381	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	7,968	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	3,805	74	>75% Prop. grass cover, Good, HSG C
*	56,884	80	>75% Prop. grass cover, Good, HSG D
	9,249	58	Meadow, non-grazed, HSG B
	14,626	71	Meadow, non-grazed, HSG C
	31,523	78	Meadow, non-grazed, HSG D
	735	58	Woods/grass comb., Good, HSG B
	12,338	72	Woods/grass comb., Good, HSG C
	13,579	79	Woods/grass comb., Good, HSG D
	173,061	79	Weighted Average
	152,088		87.88% Pervious Area
	20,973		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	125	0.0241	0.09		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.10"
1.3	110	0.0091	1.43		**Shallow Concentrated Flow, Seg B to C** Grassed Waterway Kv= 15.0 fps
1.2	388	0.0114	5.61	89.74	**Trap/Vee/Rect Channel Flow, Seg C to D** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
16.6	66	0.0062	0.07		**Sheet Flow, Seg D to E** Grass: Dense n= 0.240 P2= 3.10"
0.6	209	0.0186	6.06	59.05	**Trap/Vee/Rect Channel Flow, Seg E to F** Bot.W=2.00' D=1.50' Z= 3.0 '/' Top.W=11.00' n= 0.030 Earth, grassed & winding
43.9	898	Total			

Summary for Subcatchment WS53:

Runoff = 1.33 cfs @ 12.09 hrs, Volume= 4,210 cf, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	0	98	Exist. paved surfaces
	3,203	98	Prop. paved surfaces
*	0	96	Exist. gravel surfaces
*	531	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	0	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	10,296	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	14,030	80	Weighted Average
	10,827		77.17% Pervious Area
	3,203		22.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Tc<6.0 min.**

Summary for Subcatchment WS54:

Runoff = 0.48 cfs @ 12.21 hrs, Volume= 2,042 cf, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	0	98	Exist. roofs
*	0	98	Prop. roofs
*	1,147	98	Exist. paved surfaces
	337	98	Prop. paved surfaces
*	65	96	Exist. gravel surfaces
*	40	96	Prop. gravel surfaces
*	0	61	>75% Exist. grass cover, Good, HSG B
*	0	74	>75% Exist. grass cover, Good, HSG C
*	4,367	80	>75% Exist. grass cover, Good, HSG D
*	0	61	>75% Prop. grass cover, Good, HSG B
*	0	74	>75% Prop. grass cover, Good, HSG C
*	0	80	>75% Prop. grass cover, Good, HSG D
	0	58	Meadow, non-grazed, HSG B
	0	71	Meadow, non-grazed, HSG C
	0	78	Meadow, non-grazed, HSG D
	5,956	85	Weighted Average
	4,472		75.08% Pervious Area
	1,484		24.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	146	0.0348	0.15		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.10"

Summary for Reach R1:

Inflow Area = 57,685 sf, 47.79% Impervious, Inflow Depth = 4.50" for 25-Year event
Inflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf
Outflow = 5.82 cfs @ 12.11 hrs, Volume= 21,608 cf, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.34 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 2.2 min

Peak Storage= 228 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 225.07 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 209.2' Slope= 0.0717 '/'
Inlet Invert= 153.00', Outlet Invert= 138.00'



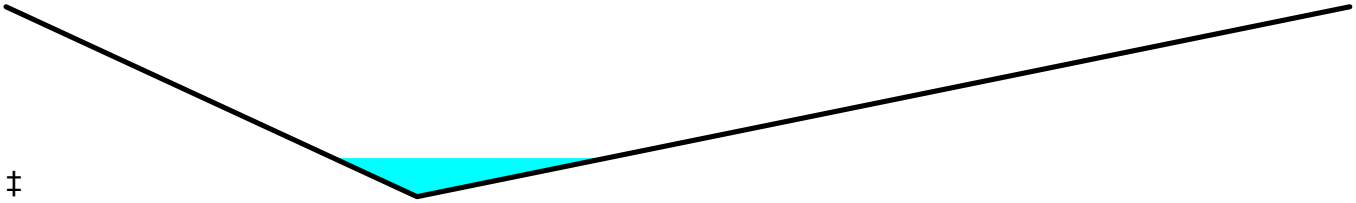
Summary for Reach R2:

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 6.30 cfs @ 12.31 hrs, Volume= 36,503 cf
Outflow = 6.28 cfs @ 12.32 hrs, Volume= 36,503 cf, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.67 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 3.1 min

Peak Storage= 417 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 2.00' Flow Area= 41.5 sf, Capacity= 443.92 cfs

Custom cross-section, Length= 244.7' Slope= 0.0470 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 135.50', Outlet Invert= 124.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	132.00	0.00
12.69	130.00	2.00
41.49	132.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	41.5	41.7	10,153	443.92

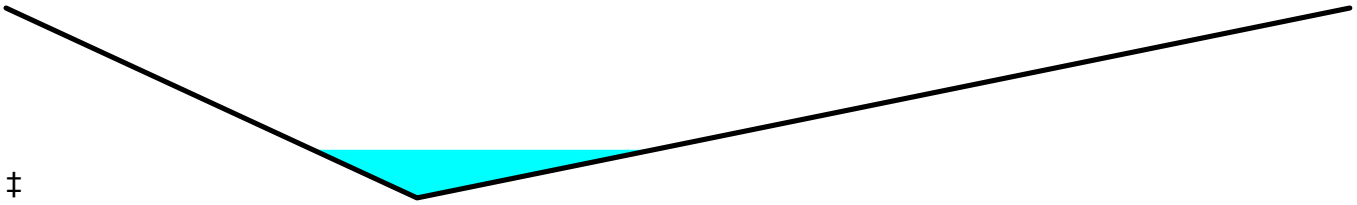
Summary for Reach R3:

Inflow Area = 219,595 sf, 5.03% Impervious, Inflow Depth = 3.28" for 25-Year event
Inflow = 10.94 cfs @ 12.43 hrs, Volume= 59,982 cf
Outflow = 10.89 cfs @ 12.46 hrs, Volume= 59,982 cf, Atten= 0%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 5.9 min

Peak Storage= 1,222 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 2.00' Flow Area= 41.5 sf, Capacity= 422.57 cfs

Custom cross-section, Length= 457.9' Slope= 0.0426 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 143.50', Outlet Invert= 124.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	132.00	0.00
12.69	130.00	2.00
41.49	132.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	41.5	41.7	18,998	422.57

Summary for Reach R4:

Inflow Area = 20,826 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf
Outflow = 0.97 cfs @ 12.42 hrs, Volume= 5,237 cf, Atten= 0%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.46 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 3.9 min

Peak Storage= 106 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 2.00' Flow Area= 33.2 sf, Capacity= 356.54 cfs

Custom cross-section, Length= 268.0' Slope= 0.0476 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 156.25', Outlet Invert= 143.50'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	150.00	0.00
16.89	148.00	2.00
33.16	150.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	33.2	33.4	8,887	356.54

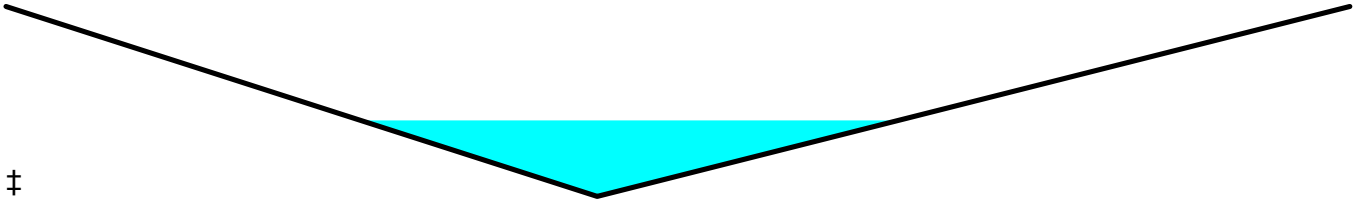
Summary for Reach R5:

Inflow Area = 404,389 sf, 0.81% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf
Outflow = 22.94 cfs @ 12.27 hrs, Volume= 101,684 cf, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.73 fps, Avg. Travel Time= 2.9 min

Peak Storage= 1,693 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 2.00' Flow Area= 35.0 sf, Capacity= 263.28 cfs

Custom cross-section, Length= 301.4' Slope= 0.0232 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 160.00', Outlet Invert= 153.00'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	160.00	0.00
15.41	158.00	2.00
35.03	160.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	35.0	35.3	10,558	263.28

Summary for Pond CB1:

Inflow Area = 47,207 sf, 38.39% Impervious, Inflow Depth = 4.28" for 25-Year event
Inflow = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf
Outflow = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.55 cfs @ 12.11 hrs, Volume= 16,854 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.38' @ 12.11 hrs
Flood Elev= 169.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.80'	**15.0" Round SD-5** L= 298.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 164.80' / 162.55' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.46 cfs @ 12.11 hrs HW=166.34' TW=164.19' (Dynamic Tailwater)
1=SD-5 (Inlet Controls 4.46 cfs @ 3.63 fps)

Summary for Pond CB2:

Inflow Area = 55,700 sf, 46.14% Impervious, Inflow Depth = 4.46" for 25-Year event
Inflow = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf
Outflow = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.60 cfs @ 12.11 hrs, Volume= 20,708 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 164.26' @ 12.11 hrs
Flood Elev= 166.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.20'	**15.0" Round SD-7** L= 141.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 162.20' / 160.75' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.51 cfs @ 12.11 hrs HW=164.22' TW=156.18' (Dynamic Tailwater)
1=SD-7 (Inlet Controls 5.51 cfs @ 4.49 fps)

Summary for Pond CB3:

Inflow Area = 4,209 sf, 90.83% Impervious, Inflow Depth = 5.44" for 25-Year event
Inflow = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf
Outflow = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.09 hrs, Volume= 1,910 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 164.27' @ 12.16 hrs
Flood Elev= 166.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.30'	**15.0" Round SD-8** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 162.30' / 162.10' S= 0.0091 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=163.73' TW=164.15' (Dynamic Tailwater)
1=SD-8 (Controls 0.00 cfs)

Summary for Pond CB4:

Inflow Area = 57,685 sf, 47.79% Impervious, Inflow Depth = 4.50" for 25-Year event
Inflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf
Outflow = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.84 cfs @ 12.11 hrs, Volume= 21,608 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 156.20' @ 12.11 hrs
Flood Elev= 165.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.70'	**18.0" Round SD-9** L= 223.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 154.70' / 153.00' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.78 cfs @ 12.11 hrs HW=156.19' TW=153.35' (Dynamic Tailwater)
1=SD-9 (Inlet Controls 5.78 cfs @ 3.28 fps)

Summary for Pond EX: EXISTING FARM POND

Inflow Area = 102,691 sf, 10.15% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 5.56 cfs @ 12.31 hrs, Volume= 26,634 cf
Outflow = 5.55 cfs @ 12.33 hrs, Volume= 22,885 cf, Atten= 0%, Lag= 1.3 min
Primary = 5.55 cfs @ 12.33 hrs, Volume= 22,885 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 183.04' @ 12.33 hrs Surf.Area= 5,275 sf Storage= 3,968 cf

Plug-Flow detention time= 90.8 min calculated for 22,885 cf (86% of inflow)

Center-of-Mass det. time= 27.4 min (870.2 - 842.8)

Volume	Invert	Avail.Storage	Storage Description
#1	182.00'	6,564 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
182.00	2,462	192.9	0	0	2,462
183.00	5,206	276.1	3,749	3,749	5,576
183.50	6,063	295.5	2,815	6,564	6,470

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**275.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.50 cfs @ 12.33 hrs HW=183.04' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.50 cfs @ 0.48 fps)

Summary for Pond FB1:

Inflow Area = 107,303 sf, 36.79% Impervious, Inflow Depth = 4.08" for 25-Year event
Inflow = 9.03 cfs @ 12.14 hrs, Volume= 36,499 cf
Outflow = 6.30 cfs @ 12.31 hrs, Volume= 36,503 cf, Atten= 30%, Lag= 10.2 min
Primary = 0.58 cfs @ 12.31 hrs, Volume= 306 cf
Secondary = 5.72 cfs @ 12.31 hrs, Volume= 36,196 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 140.93' @ 12.31 hrs Surf.Area= 5,483 sf Storage= 12,441 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 268.0 min (1,071.8 - 803.9)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	18,876 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
138.00	3,169	223.6	0	0	3,169
140.00	4,624	261.3	7,747	7,747	4,702
142.00	6,561	317.8	11,129	18,876	7,370

Device	Routing	Invert	Outlet Devices
#1	Primary	140.85'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	135.73'	**12.0" Round Culvert** L= 39.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 135.73' / 135.50' S= 0.0058 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	139.50'	**8.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	140.75'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#5	Device 2	135.83'	**1.2" Vert. 1-1/4" DRILL HOLE IN END CAP** C= 0.600
#6	Device 5	135.83'	**4.0" Vert. 4" UD** C= 0.600
#7	Device 6	138.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.55 cfs @ 12.31 hrs HW=140.93' TW=135.90' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.55 cfs @ 0.71 fps)

Secondary OutFlow Max=5.65 cfs @ 12.31 hrs HW=140.93' TW=135.90' (Dynamic Tailwater)
└─**2=Culvert** (Passes 5.65 cfs of 7.99 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 3.49 cfs @ 4.19 fps)
  ├─**4=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 2.08 cfs)
  └─**5=1-1/4" DRILL HOLE IN END CAP** (Orifice Controls 0.08 cfs @ 10.79 fps)
    └─**6=4" UD** (Passes 0.08 cfs of 0.93 cfs potential flow)
      └─**7=Exfiltration** (Passes 0.08 cfs of 0.31 cfs potential flow)

Summary for Pond FB2:

Inflow Area = 198,769 sf, 5.56% Impervious, Inflow Depth = 3.31" for 25-Year event
Inflow = 11.56 cfs @ 12.30 hrs, Volume= 54,745 cf
Outflow = 9.96 cfs @ 12.43 hrs, Volume= 54,745 cf, Atten= 14%, Lag= 7.7 min
Primary = 2.54 cfs @ 12.43 hrs, Volume= 1,762 cf
Secondary = 7.42 cfs @ 12.43 hrs, Volume= 52,983 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 148.66' @ 12.43 hrs Surf.Area= 3,577 sf Storage= 6,388 cf

Plug-Flow detention time= 65.7 min calculated for 54,717 cf (100% of inflow)
Center-of-Mass det. time= 66.4 min (903.7 - 837.4)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	12,068 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	1,349	239.6	0	0	1,349
148.00	2,973	292.5	4,216	4,216	3,651
150.00	4,963	356.5	7,851	12,068	7,020

Device	Routing	Invert	Outlet Devices
#1	Primary	148.45'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	143.73'	**12.0" Round Culvert** L= 47.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 143.73' / 143.50' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	143.83'	**0.8" Vert. 13/16" DRILL HOLE IN END CAP** C= 0.600
#4	Device 3	143.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	146.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	147.25'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=2.47 cfs @ 12.43 hrs HW=148.66' TW=144.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.47 cfs @ 1.18 fps)

Secondary OutFlow Max=7.42 cfs @ 12.43 hrs HW=148.66' TW=144.00' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 7.42 cfs @ 9.44 fps)
  └─**3=13/16" DRILL HOLE IN END CAP** (Passes < 0.04 cfs potential flow)
    └─**4=4" UD** (Passes < 0.91 cfs potential flow)
      └─**5=Exfiltration** (Passes < 0.20 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Passes < 11.65 cfs potential flow)

Summary for Pond FB3:

Inflow Area = 57,985 sf, 4.66% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 3.97 cfs @ 12.21 hrs, Volume= 16,443 cf
Outflow = 3.92 cfs @ 12.24 hrs, Volume= 16,444 cf, Atten= 1%, Lag= 1.4 min
Primary = 3.90 cfs @ 12.24 hrs, Volume= 14,400 cf
Secondary = 0.02 cfs @ 12.24 hrs, Volume= 2,044 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 173.38' @ 12.24 hrs Surf.Area= 1,549 sf Storage= 1,428 cf

Plug-Flow detention time= 86.0 min calculated for 16,435 cf (100% of inflow)
Center-of-Mass det. time= 86.5 min (915.8 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	172.00'	5,124 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.00	591	206.8	0	0	591
174.00	2,123	296.1	2,556	2,556	4,200
175.00	3,041	316.2	2,568	5,124	5,226

Device	Routing	Invert	Outlet Devices
#1	Primary	173.10'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	169.65'	**0.6" Vert. 5/8" DRILL HOLE IN 4" END CAP** C= 0.600
#3	Device 2	169.83'	**4.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 169.83' / 169.65' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#4	Device 3	169.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	172.00'	**2.410 in/hr Exfiltration over Surface area**

Primary OutFlow Max=3.87 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 3.87 cfs @ 1.37 fps)

Secondary OutFlow Max=0.02 cfs @ 12.24 hrs HW=173.38' TW=0.00' (Dynamic Tailwater)
└─**2=5/8" DRILL HOLE IN 4" END CAP** (Orifice Controls 0.02 cfs @ 9.27 fps)
└─**3=Culvert** (Passes 0.02 cfs of 0.52 cfs potential flow)
└─**4=4" UD** (Passes 0.02 cfs of 0.77 cfs potential flow)
└─**5=Exfiltration** (Passes 0.02 cfs of 0.09 cfs potential flow)

Summary for Pond FB4: STORAGE VOL

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	14,558 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	3,855	367.5	0	0	3,855
178.00	6,173	405.2	9,937	9,937	6,299
178.70	7,038	418.4	4,621	14,558	7,210

Summary for Pond FB4&5:

Inflow Area = 227,364 sf, 15.83% Impervious, Inflow Depth = 3.60" for 25-Year event
Inflow = 7.46 cfs @ 12.75 hrs, Volume= 68,166 cf
Outflow = 7.37 cfs @ 12.84 hrs, Volume= 68,171 cf, Atten= 1%, Lag= 5.3 min
Primary = 2.84 cfs @ 12.84 hrs, Volume= 10,915 cf
Secondary = 4.52 cfs @ 12.84 hrs, Volume= 57,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.53' @ 12.84 hrs Surf.Area= 10,845 sf Storage= 13,371 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 210.3 min (1,058.1 - 847.8)

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	28,097 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	6,791	877.0	0	0	6,791
178.00	12,279	952.4	18,801	18,801	17,919
178.70	14,307	978.8	9,296	28,097	22,032

Device	Routing	Invert	Outlet Devices
#1	Primary	177.30'	**10.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#2	Secondary	173.73'	**15.0" Round Culvert** L= 41.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 173.73' / 173.50' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 2	173.83'	**1.8" Vert. 1-3/4" DRILL HOLE IN 4" END CAP** C= 0.600
#4	Device 3	173.83'	**4.0" Vert. 4" UD** C= 0.600
#5	Device 4	176.00'	**2.410 in/hr Exfiltration over Surface area**
#6	Device 2	177.20'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600

Primary OutFlow Max=2.84 cfs @ 12.84 hrs HW=177.53' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.84 cfs @ 1.24 fps)

Secondary OutFlow Max=4.52 cfs @ 12.84 hrs HW=177.53' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 4.52 cfs of 8.31 cfs potential flow)
  ├─**3=1-3/4" DRILL HOLE IN 4" END CAP** (Orifice Controls 0.16 cfs @ 9.17 fps)
  │ └─**4=4" UD** (Passes 0.16 cfs of 0.79 cfs potential flow)
  │ └─**5=Exfiltration** (Passes 0.16 cfs of 0.60 cfs potential flow)
  └─**6=Neenah R4345 Beehive Grate Light Duty-req. structure** (Custom Controls 4.36 cfs)

Summary for Pond FB5: STORAGE VOL

Volume	Invert	Avail.Storage	Storage Description
#1	176.00'	13,526 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
176.00	2,936	509.5	0	0	2,936
178.00	6,106	547.2	8,851	8,851	6,278
178.70	7,269	560.4	4,675	13,526	7,504

Summary for Pond SD1:

Inflow Area = 271,906 sf, 13.07% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 12.65 cfs @ 12.41 hrs, Volume= 68,371 cf
Outflow = 7.22 cfs @ 12.77 hrs, Volume= 68,371 cf, Atten= 43%, Lag= 21.6 min
Primary = 6.22 cfs @ 12.77 hrs, Volume= 42,154 cf
Secondary = 1.00 cfs @ 12.77 hrs, Volume= 26,218 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 177.05' @ 12.77 hrs Surf.Area= 8,311 sf Storage= 12,785 cf

Plug-Flow detention time= 19.0 min calculated for 68,336 cf (100% of inflow)
Center-of-Mass det. time= 19.0 min (870.7 - 851.7)

Volume	Invert	Avail.Storage	Storage Description
#1	174.00'	25,636 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
174.00	112	40.4	0	0	112
176.00	6,526	339.1	4,995	4,995	9,141
178.00	10,101	427.6	16,497	21,493	14,594
178.40	10,618	435.1	4,143	25,636	15,137

Device	Routing	Invert	Outlet Devices
#1	Primary	174.65'	**15.0" Round SD-1** L= 58.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 174.65' / 174.01' S= 0.0109 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	174.00'	**6.0" Round Culvert** L= 66.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 174.00' / 173.67' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=6.22 cfs @ 12.77 hrs HW=177.05' TW=0.00' (Dynamic Tailwater)
↑—**1=SD-1** (Inlet Controls 6.22 cfs @ 5.07 fps)

Secondary OutFlow Max=1.00 cfs @ 12.77 hrs HW=177.05' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Barrel Controls 1.00 cfs @ 5.10 fps)

Summary for Pond SD10:

Inflow Area = 404,389 sf, 0.81% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf
Outflow = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf, Atten= 0%, Lag= 0.0 min
Primary = 23.00 cfs @ 12.25 hrs, Volume= 101,684 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 163.47' @ 12.25 hrs
Flood Elev= 168.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.60'	**48.0" Round SD-10 w/ 24.0" inside fill** L= 64.6' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 159.60' / 158.00' S= 0.0248 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 6.28 sf

Primary OutFlow Max=22.94 cfs @ 12.25 hrs HW=163.47' TW=160.80' (Dynamic Tailwater)
└**1=SD-10** (Inlet Controls 22.94 cfs @ 3.72 fps)

Summary for Pond SD11:

Inflow Area = 20,826 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf
Outflow = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.40 hrs, Volume= 5,237 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 161.98' @ 12.40 hrs
Flood Elev= 164.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.45'	**15.0" Round SD-11**
			L= 74.3' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 161.45' / 156.25' S= 0.0700 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.98 cfs @ 12.40 hrs HW=161.98' TW=156.47' (Dynamic Tailwater)
└**1=SD-11** (Inlet Controls 0.98 cfs @ 1.96 fps)

Summary for Pond SD2:

Inflow Area = 173,061 sf, 12.12% Impervious, Inflow Depth = 3.50" for 25-Year event
Inflow = 7.64 cfs @ 12.60 hrs, Volume= 50,499 cf
Outflow = 6.78 cfs @ 12.78 hrs, Volume= 50,499 cf, Atten= 11%, Lag= 10.9 min
Primary = 6.78 cfs @ 12.78 hrs, Volume= 50,499 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 178.77' @ 12.78 hrs Surf.Area= 4,211 sf Storage= 3,652 cf
Flood Elev= 180.46' Surf.Area= 8,160 sf Storage= 11,132 cf

Plug-Flow detention time= 9.1 min calculated for 50,499 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (861.4 - 853.2)

Volume	Invert	Avail.Storage	Storage Description
#1	177.00'	11,132 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
177.00	250	250.0	0	0	250
178.00	2,400	650.0	1,142	1,142	28,901
180.00	8,160	850.0	9,990	11,132	52,822

Device	Routing	Invert	Outlet Devices
#1	Primary	177.00'	**18.0" Round SD-2**

L= 65.5' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 177.00' / 176.70' S= 0.0046 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.78 cfs @ 12.78 hrs HW=178.77' TW=177.53' (Dynamic Tailwater)
└**1=SD-2** (Inlet Controls 6.78 cfs @ 3.83 fps)

Summary for Pond SD4:

Inflow Area = 21,588 sf, 40.11% Impervious, Inflow Depth = 4.22" for 25-Year event
Inflow = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf
Outflow = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.97 cfs @ 12.16 hrs, Volume= 7,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.55' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	165.10'	**15.0" Round SD-4** L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.10' / 164.90' S= 0.0077 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.55 cfs @ 12.16 hrs HW=166.51' TW=166.22' (Dynamic Tailwater)
└**1=SD-4** (Inlet Controls 2.55 cfs @ 2.08 fps)

Summary for Pond SD6:

Inflow Area = 25,353 sf, 36.29% Impervious, Inflow Depth = 4.33" for 25-Year event
Inflow = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf
Outflow = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.77 cfs @ 12.10 hrs, Volume= 9,140 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 166.61' @ 12.15 hrs
Flood Elev= 166.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	165.10'	**15.0" Round SD-6** L= 41.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.10' / 164.90' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.18 cfs @ 12.10 hrs HW=166.40' TW=166.34' (Dynamic Tailwater)
└**1=SD-6** (Inlet Controls 1.18 cfs @ 0.96 fps)

Summary for Link SP1:

Inflow Area = 448,922 sf, 11.32% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 20.28 cfs @ 12.39 hrs, Volume= 127,168 cf
Primary = 20.28 cfs @ 12.39 hrs, Volume= 127,168 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP2:

Inflow Area = 520,052 sf, 1.53% Impervious, Inflow Depth = 3.13" for 25-Year event
Inflow = 30.66 cfs @ 12.26 hrs, Volume= 135,435 cf
Primary = 30.66 cfs @ 12.26 hrs, Volume= 135,435 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP3:

Inflow Area = 87,016 sf, 3.10% Impervious, Inflow Depth = 3.27" for 25-Year event
Inflow = 5.72 cfs @ 12.22 hrs, Volume= 23,744 cf
Primary = 5.72 cfs @ 12.22 hrs, Volume= 23,744 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP4:

Inflow Area = 12,962 sf, 0.00% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf
Primary = 0.93 cfs @ 12.13 hrs, Volume= 3,259 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Link SP5:

Inflow Area = 505,226 sf, 14.45% Impervious, Inflow Depth = 3.29" for 25-Year event
Inflow = 14.66 cfs @ 12.81 hrs, Volume= 138,584 cf
Primary = 14.66 cfs @ 12.81 hrs, Volume= 138,584 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

ATTACHMENT 6

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

EVENTIDE SUBDIVISION
WINDHAM, MAINE

Responsible Party

Applicant: ROW EVEN, LLC
17 Bucket Lane
Yarmouth, ME 04096

The owner/applicant is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records until such time that a condominium association is created. Once the association is established, maintenance will be the responsibility of the association. A permit transfer will be required to be issued to the Maine Department of Environmental Protection (MDEP) upon conveyance of the maintenance responsibility to the condominium association.

Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town and MDEP upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP* and *Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

During Construction

1. **Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected, including winter work, at least once a week as well as 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. 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 BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Construction vehicles and equipment:** Construction vehicles and equipment shall not be driven or stored within any proposed stormwater treatment pond or buffer. To ensure the buffer's natural condition and filtration capacity is maintained, prohibiting vehicles and equipment from these areas will limit the risk of inhibiting the function of the buffer due to compaction or vegetation impact.

4. **Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials 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.

2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for

treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (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.

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.

5. **Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

6. **Authorized Non-stormwater discharges:** It is the contractor's responsibility to 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:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town'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.

Post construction

1. **Inspection and Corrective Action:** All measures must be maintained by the owner in effective operating condition. A Qualified Post-Construction Stormwater Inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control, including the standards and conditions of the site's approvals. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   A. **Vegetated Areas:** 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 is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. **Vegetated Swales:** Inspect swales in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Grass to be mowed to a minimum height of six inches. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

C. **Culverts:** Inspect culverts in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the riprap inlet, at the riprap outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

D. **Catch Basins and Outlet Control Structures:** Inspect and, if required, clean out catch basins at least once a year, preferably in early spring. 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).

E. **Underdrained Filter Basins:** The filter basins are not intended to function as snow storage areas. Inspector to verify that winter plowing operations are not dumping or pushing snow into the basins. The basins shall also not be used for vehicle or heavy equipment storage. Basins should be inspected after several major storm events (0.5 inches rainfall over 24 hours) to determine drawdown time during the first year. The basins to be inspected every six months thereafter with at least one inspection after a major storm event.

   The basins should drain dry within 24 to 48 hours following a one-inch storm. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If water ponds on the surface of the bed for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up in the forebays and basins and remove as needed. Mowing of the basins can only occur semi-annually to a height of no less than 6 inches utilizing a hand-held string trimmer or push-mower. Any bare areas or erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. The basins should also be inspected annually for destabilization of side slopes, embankment settling and other signs of structural failure.

F. **Level Spreaders:** Level spreader should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Stormwater runoff should discharge from the level spreader as sheet flow, and any observed channelization of flows or erosion should be corrected immediately. Any woody vegetation growing through riprap must be removed. Replace riprap on areas where any underlying soil or sediment buildup is showing through the stone or where stones have been dislodged.

G. **Emergency Spillway:** Spillways should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Any woody vegetation growing through riprap lining must be removed. Replace riprap on areas where any underlying filter fabric is showing through the stone or where stones have been dislodged.

H. **Roofline Drip edges:** The drip edges should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The reservoir crushed stone should drain within 24 to 48 hours following a major storm event. If ponding exceeds 48 hours, the stone reservoir course shall be removed and the filter bed be rototilled to reestablish the soil's filtration capacity. If water ponds in the reservoir course for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up at surface and remove as needed. The drip edges are part of the stormwater management plan and cannot be paved over or altered in anyway.

I. **Regular Maintenance:** Clear accumulations of winter sand along roadway once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

J. **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 Town staff 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. Attached is a sample log.

Re-certification

As a requirement of the MDEP, a certification of the following items must be submitted 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.

Town of Windham Re-certification

As a requirement of the Town, the stormwater infrastructure shall be inspected yearly by a qualified third-party inspector. The third-party inspector shall perform an initial inspection to determine the status of the stormwater management facilities. If the initial inspection identifies any deficiencies with the facilities, the same third-party inspector shall re-inspect the facilities after they have been maintained or repaired to determine if they are performing as intended. Once the site is satisfactory, the third-party inspector shall submit the Annual Stormwater Management Facilities Certification form and report to the Office of Code Enforcement. The certification form shall be submitted to the Town prior to May 1 of each year.

Duration of Maintenance

Perform maintenance as described.

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(GENERAL INSPECTION FORM PAGE 1 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Vegetated Swales	Inspect after major rainfall event			
	Inspect for erosion or slumping & repair			
	Mowed at least annually.			
Culverts	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap within inlet and outlet aprons.			
	Clean accumulated sediment in culverts when >20% full.			
Catch Basins	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(GENERAL INSPECTION FORM PAGE 2 OF 2)

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Roofline Dripedges	Check after each rainfall event to ensure that the stone reservoir drains within 24-48 hours.			
	Replace top several inches of filter if reservoir does not drain within 72 hours.			
	Inspect and remove sediment or debris build up on the surface of the stone			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

MAINTENANCE LOG

EVENTIDE SUBDIVISION
WINDHAM, MAINE
(UNDERDRAINED FILTER BASIN FB-_____)

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Underdrained Filter Basin	Check after each rainfall event to ensure that pond drains within 24-48 hours.			
	Replace top several inches of filter if pond does not drain within 72 hours.			
	Mow grass no more than twice a year to no less than 6 inches in height.			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
	Inspector to verify basin not utilized for snow storage			
	Inspector to verify basin not utilized for vehicle or heavy equipment storage.			
Outlet Control Structure	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			
Emergency Spillway	Inspect and remove obstructions as necessary.			
	Remove woody vegetation.			
	Replace riprap as necessary.			

SECTION 17

SOILS INFORMATION AND NATURAL RESOURCES

Section 17 – Soils Information and Natural Resources

A Class-A High Intensity Soil Survey was performed by Mark Hampton. The Soils Report and test pit logs are included in this section, and the Soils Map is included in the plan set. A wetlands evaluation and vernal pool assessment was also performed by Alex Finamore with Mainely Soils, LLC, and the Wetlands Report is included in this section for review.

MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Soil Narrative Report

DATE:	Soil Profiles observed on September 23, 2025
BASE MAP:	Base plan prepared by DM Roma Consulting Engineers Scale 1 inch equals 100 feet and two foot contours.
GROUND CONTROL:	Soil survey boundaries located by Mark Hampton Associates, Inc. for Class A Soil Survey

Class A-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1/8 acre or larger.
Scale of 1"= 100 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located under direction of professional land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or larger
Base map scale of 1"= 100 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from know survey control points.
Ground topographic survey with two foot contours and ground control provided.

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Mark J. Hampton C.S.S. #216, L.S.E. #263 9/29/25

Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.
SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEY • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%, (C) 8-15%, (D) 15-25%

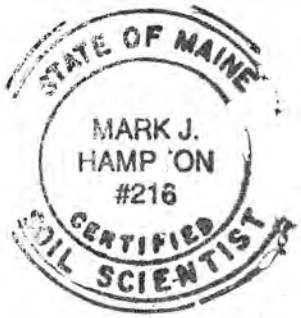
COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Olive brown, silt loam, 8-15"
Subsoil Layer:	Olive gray silty clay loam, 15-32"
Substratum:	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Scantic, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A)3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark Brown, fine sandy loam 0-7"
Subsurface Layer:	Lt. Olive brown silt loam, 7-14"
Subsoil Layer:	Olive silty clay loam, 14-21"
Substratum:	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

Surface Layer:	Dark grayish brown, silt loam 0-9"
Subsurface Layer:	Olive gray silt loam, 9-16"
Subsoil Layer:	Olive silty clay loam, 16-29"
Substratum:	Olive gray clay loam, 29-65"

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None



INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine, Lyman-Tunbridge

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

8431

100 River Road
Windham, ME
DM Roma Consulting Engineers

Made Land

SETTING

PARENT MATERIAL:	Derived from various fill materials.
LANDFORM:	N/A
POSITION IN LANDSCAPE:	N/A
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Generally well drained to moderately well drained
TYPICAL PROFILE:	Varies in profile and onsite from gravel to sandy loam
HYDROLOGIC GROUP:	Group B
SURFACE RUNOFF:	Rapid
PERMEABILITY:	Slow
DEPTH TO BEDROCK:	Less than 65 inches
HAZARD TO FLOODING:	None

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Lamoine

USE AND MANAGEMENT

Development: There may be limiting factors for building site development.

P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

Quality services that meet your deadline

8431

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	Silt Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon *(inches)*

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST official professional seal

8431

PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Lamoine

Limiting Factor: 13 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: ____

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details: Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group: ____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton

Signature

Mark J. Hampton

Name Printed

09/29/2025

Date

216

SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST

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PAGE ____ OF ____

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road

Applicant Name:

Project Location (municipality): Windham

Exploration Symbol # SS-9 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
Bw	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Lamoine

Limiting Factor: 12 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-10 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-11 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
Bw	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bc	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-12 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg	Gray	Silt Loam	Fine Grandul	Friable	Common and Distinct
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cd	Olive Gray	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: ____ " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group:

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST affix professional seal

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

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FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road		Windham

Exploration Symbol # SS-13 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-14 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 16 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-15 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-16 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bw	Brown	F. Sandy Loam	Fine Grandul	Friable	
BC	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive	Silty Clay	Platy	Very Firm	

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 16 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 12 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

STATE OF MAINE MARK J. HAMPTON #216 CERTIFIED SOIL SCIENTIST

official professional seal

8431

PAGE ____ OF ____

FORM F (SS1) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: 100 River Road | Applicant Name: | Project Location (municipality): Windham

Exploration Symbol # SS-17 ☐ Test Pit ☒ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Very Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cd	Olive	Silty Clay	Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-18 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F.Sandy Loam	Weak Angular	Very Friable	
Bw	Brown	F.Sandy Loam	Sub Ang Blocky	Friable	
BC	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive Gray	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Buxton

Limiting Factor: 15 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 10 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group:

Exploration Symbol # SS-19 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cd	Olive	Silty Clay	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name: Scantic

Limiting Factor: 6 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: 2 Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group:

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. ____

____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details

Soil Series/Phase Name:

Limiting Factor: ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD

Slope: ____ Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group:

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

09/29/2025
Date

Mark J. Hampton
Name Printed

216
SS License No.

STATE OF MAINE
MARK J. HAMPTON
#216
CERTIFIED SOIL SCIENTIST
affix professional seal

To: Dustin Roma
DM Roma Consulting Engineers
PO BOX 1116
Windham, ME 04062

Date: September 4, 2025

From: Alexander A. Finamore, LSE
Mainely Soils, LLC

Re: 100 River Road, Windham, ME – Wetland Delineation Memorandum

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At the request of DM Roma Consulting Engineers (the "Client"), Mainely Soils conducted on-site wetland and waterbody delineations on an approximately 27.89 acre parcel located at 100 River Road in Windham, Maine. The property owner proposes to create more residential lots. These field investigations were performed to provide baseline environmental data to inform the proposed expansion of use of the site. The natural resources assessments described in this memorandum were completed in August of 2025. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within a zone of residential development along the River Road corridor identified as the Farming District in the Town of Windham. The proposed development site is currently occupied by a farmhouse, barn, open fields, and forested land on the southwestern portion of the site leading down to a railroad along the southwestern extent of the site. Surrounding land use of the site is residential. Access to the site will be from River Road. In total, the wetland and waterbody delineation survey area encompassed approximately 27.89 acres, identified by the Town of Windham as Tax Map 1, Lot 8.

SITE DESCRIPTION

The Study Area occurs in the Southern Coastal biophysical region of Maine (McMahon, 1990). The Southern Coastal biophysical region is characterized by relatively flat terrain, with elevations generally ranging up to 100 feet above sea level. Bedrock is frequently exposed and covered by thin glacial deposits. Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Extensive coarse-grained glaciomarine deposits occur in the central portion of the South Coastal Region and along its western margin. The survey area is located within the Presumpscot River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060001), although surface water drainage within the site and vicinity is highly altered by existing developed land surfaces and stormwater management systems.

The Natural Resource Conservation Service soil survey mapping identifies the majority of the native soils at the site as being formed within wind or water deposited material having a high content of silt and very fine sand. They are on lake plains and low benches on uplands.(Nicholville and Hartland series) (Web Soil Survey, 2025). Soils within the center portion of the Study Area are shown to have formed within glaciomarine or glaciolacustrine deposits on coastal lowlands and river valleys (Scantic series). The Nicholville series is moderately well drained, the Hartland series is well drained, and the Scantic series is poorly drained.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on August 7th, 2025. The boundary of wetlands were delineated in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987

Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and demarcated using pink day-glo flagging, with each flag labeled with the corresponding alphabetic wetland identification code and a flag number (i.e. A-1). Wetland flag locations were recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Representative photographs of each wetland were taken, field sketches were labeled of the wetland boundary on an aerial photograph-based map, and notes were recorded on the flagging sequence for each wetland.

Mainely Soils also surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. One intermittent stream and two perennial streams were delineated within the Study Area.

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

As onsite investigations took place in September outside of the vernal pool indicator breeding season, a preliminary Vernal pool survey was conducted at the 100 River Road site to identify and potential pool locations. No potential pools were identified onsite.

Study Results

Using the methodologies described above, a wetland delineation was performed on August 7th, 2025. A description of the identified resources follows. Supporting attachments include Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request.

Wetlands at the project site consisted of six distinct wetland features. Wetlands A, C, and D were isolated features within depressions in the surrounding landscape. Wetlands B, E, and F were located within narrow forested ravines and all drained in a westerly direction

Wetland A was located within a maintained hayfield and was classified as a seasonally saturated palustrine wet meadow wetland dominated by non-persistent emergent vegetation (PEM2E). Dominant vegetation included reed canary grass (*Phalaris arundinacea*), fringed sedge (*Carex crinita*), woolgrass (*Scirpus cyperinus*), purple loosestrife (*Lythrum salicaria*), and arrowleaf tearthumb (*Persicaria sagittata*). The soils within the wetland had a thick, dark loamy surface overlaying a depleted very fine sandy loam substratum. Evidence of wetland hydrology included small pockets of water, water stained leaves, and saturation to the soil surface at the time of field investigations on August 7th, 2025.

Wetlands C and D were located within the forested portion of the site and were located in natural depressions within the surrounding landscape. Vegetation was dominated by red maple (Acer rubrum), green ash (*Fraxinus pennsylvanica*), glossy buckthorn (*Frangula alnus*), winterberry (*Ilex verticillata*), sensitive fern (*Onoclea sensibilis*), fringed sedge, and

trillium (*Trillium erectum*). The soils within the wetland had a thin, dark loamy surface overlaying a depleted very fine sandy loam substratum. Evidence of wetland hydrology included water stained leaves, geomorphic position, and saturation to the soil surface at the time of field investigations on August 7th, 2025. Wetlands were characterised as seasonally saturated palustrine deciduous forested wetlands (PFO1E) and had similar vegetative dominance to Wetlands C and D. Wetlands B and E were associated with stream channels.

One intermittent stream was delineated within Wetland B. It was approximately 2 feet wide with 6" vertical banks. It had a sand/mud substrate with no flowing water at the time of the delineation. One perennial stream was located within Wetland E. It was approximately 3-4 feet wide, had 10-12 inch vertical banks, a sand/gravel substrate, and 1 inch of flowing water at the time of the delineation.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support permitting needs. Six wetland areas were delineated on the site, and were identified as Wetlands A, B, C, D, E, and F. All wetlands generally exhibited a saturated hydroperiod, and provided groundwater discharge, floodflow alteration, and stormwater/water quality maintenance functions. One intermittent stream and One perennial stream was identified on the site. No potential vernal pools were identified.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as "wetlands of special significance" (WOSS). Only those wetlands within 25 feet of the perennial streams constitute as a WOSS under NRPA, although all wetlands are still subject to NRPA jurisdiction as non-WOSS wetlands.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances. Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe.1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

McMahon, J.S. 1990. The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation. University of Maine.

U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Web Soil Survey. 2025. U.S. Department of Agriculture – Natural Resources Conservation Service. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Attachments:

1. Representative Site Photographs

Attachment 1

Representative Site Photographs



Photo 1: View looking southerly at Wetland A from flag 3



Photo 2: View looking southwesterly at Wetland B from flag 3



Photo 3: View looking northerly at Wetland C from flag 1



Photo 4: View looking easterly within the central portion of Wetland D



Photo 5: View looking westerly at Wetland E from flag 19



Photo 6: View looking northeasterly at Wetland F from flag 58



Photo 7: View looking upstream at Stream S1 within Wetland E



Photo 8: View looking upstream at Stream S1 within Wetland E



Photo 9: View looking upstream at Stream S2 within Wetland B



Photo 10: View looking southwesterly at the existing farm pond onsite



Photo 11: View looking at existing residential dwelling onsite

SECTION 18

WATER SUPPLY FOR DOMESTIC AND FIRE PROTECTION USE

Section 18 – Water Supply for Domestic and Fire Protection Use

Private on-site wells are proposed to serve each lot. The wells are intended to provide a potable water and fire protection source, with each proposed dwelling being required to have fire sprinklers installed.

Included in Section 19 - Provisions for Wastewater Disposal is a Nitrate and Groundwater Feasibility Assessment report prepared by Main-Land Development Consultants, Inc. Included within the section titled "Groundwater Feasibility Assessment" is information related to the groundwater and surrounding well's capacity with their determination of capacity for review.

SECTION 19

PROVISIONS FOR WASTEWATER DISPOSAL

Section 19 – Provisions for Wastewater Disposal

The project has a total wastewater design flow of approximately 6,120 gallons per day based on each house containing four (4) bedrooms or less. To ensure adequate existing soil conditions for a first-time septic system, Mainely Soils, LLC performed test pits within each lot. A narrative and the test pit logs have been included in this section for review. Site specific HHE-200 wastewater disposal system designs will need to be performed by a licensed site evaluator for each lot prior to construction.

Since the project site and abutting properties are served by private on-site wastewater disposal systems and on-site potable wells, a hydrogeologic assessment was performed on the project. Scott Dixon, certified geologist with Main-Land Development Consultants, Inc., performed the assessment and the report has been included in this section for review.

December 16, 2025

Dustin Roma
DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062

RE: Soil Evaluation for Subsurface Wastewater Disposal Systems and Stormwater
100 River Road, Windham, Maine

Dear Mr. Roma:

On December 16, 2025, twenty test pits were dug and assessed on 17 proposed residential house lots within the proposed subdivision located on the southwest side of River Road in Windham by Alexander Finamore, LSE #391. Each test pit was located by DM Roma Consulting Engineers and marked in the field with a stake and pink flag. All of the test pits were located in deep lacustrine silt loam soils and contained suitable soils to support a 'First Time System' according to the Maine Subsurface Waste Water Disposal Rules. Please find the soil profile descriptions of the test pits attached.

If you have any questions, please feel free to email me at: mainelysoils@gmail.com or call 207-650-4313.

Sincerely,

Alexander A. Finamore, LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-1** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
LOAM			OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	FEW, FINE FAINT

[X] hydric [ ] non-hydric | Slope %: 2-5 | Limiting factor: 28" | [x] ground water [x] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-2** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
LOAM			OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM		FEW, FINE FAINT
	FIRM		COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[x] hydric [ ] non-hydric | Slope %: 3 | Limiting factor: 17" | [X] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-3** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
	FRIABLE	DARK BROWN	NONE
SANDY LOAM			OBSERVED
		BROWN	
SILT LOAM		YELLOWISH BROWN	
	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE & FAINT
LARGE BOULDER/POTENTIAL BEDROCK @ 30"			

[ ] hydric [■] non-hydric | Slope %: 0-2 | Limiting factor: 30" | [■] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8/AIII (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-4** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE
			OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 32"			

[■] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 27" | [ ] ground water [■] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-5 [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
VERY FINE SANDY LOAM		BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[X] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 13" | [x] ground water [x] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-6 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	FEW, FINE FAINT

[x] hydric [ ] non-hydric | Slope %: 0-2 | Limiting factor: 28" | [X] ground water [X] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-7 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM,
LIMIT OF EXCAVATION = 26"			

[ ] hydric [■] non-hydric | Slope %: 3-5 | Limiting factor: 13" | [■] ground water restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-8 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 28"			

[■] hydric [ ] non-hydric | Slope %: 0-3 | Limiting factor: 18" | [■] ground water [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-9** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM w/ COBBLES			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 28"			

[X] hydric [ ] non-hydric | Slope %: 0-3 | Limiting factor: 18" | x ground water, x restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-10** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 32"			

[x] hydric [ ] non-hydric | Slope %: 5 | Limiting factor: 26" | X ground water, X restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-11** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 30"			

[ ] hydric [■] non-hydric | Slope %: 3-5 | Limiting factor: 15" | ■ ground water, restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-12** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 30"			

[■] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 20" | ■ ground water, [ ] restrictive layer bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-13 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		BROWN	
VERY FINE SANDY LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

[X] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 26" | [x] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 3 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-14 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
FINE SANDY LOAM		YELLOWISH BROWN	
		LIGHT YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE, & FAINT
LIMIT OF EXACATION = 32"			

[x] hydric [ ] non-hydric | Slope %: 8 | Limiting factor: 26" | [X] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-15 | [X] Test Pit | [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 30"			

[ ] hydric [■] non-hydric | Slope %: 3 | Limiting factor: 19" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-16 | [X] Test Pit | [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM		YELLOWISH BROWN	
SILT LOAM	FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXACATION = 30"			

[■] hydric [ ] non-hydric | Slope %: 3-5 | Limiting factor: 20" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: | Drainage Class | Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) | C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

FORM F

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
100 River Road	DM ROMA Consulting Engineers	Windham

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-17** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
FINE SANDY LOAM			
VERY FINE SANDY LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
X non-hydric	3-5	26"	x ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 3 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-18** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		YELLOWISH BROWN	
FINE SANDY LOAM			
		LIGHT YELLOWISH BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	FEW, FINE, & FAINT
LIMIT OF EXACATION = 32"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
x non-hydric	3	24"	X ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-19** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
		BROWN	
VERY FINE SANDY LOAM			
SILT LOAM	SOMEWHAT FIRM	OLIVE	FEW, FINE FAINT
	FIRM	OLIVE GRAY	COMMON, MEDIUM, & DISTINCT
LIMIT OF EXCAVATION = 34"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
[ ] non-hydric	5-8	22"	[ ] ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-16** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	NONE OBSERVED
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
	FIRM	GRAY	
			MANY, COARSE, & PROMINENT
LIMIT OF EXACATION = 28"			

hydric / non-hydric	Slope %	Limiting factor	ground water / restrictive layer / bedrock
[ ] non-hydric	0-3	6"	[ ] ground water

C.S.S. Soil Series / phase name: — Drainage Class — Hydrologic Group

L.S.E. Soil Classification: 8 (Profile) — C (Soil Condition)

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature: Alexander A. Finamore	Date: 12/16/25
	name printed/typed: Alexander A. Finamore	Lic.#: LSE #391

Nitrate and groundwater feasibility assessments

Proposed Eventide Subdivision
100 River Road
Windham, Maine

Prepared for: DM Roma Consulting Engineers

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
PO BOX Q, 69 MAIN STREET, LIVERMORE FALLS, MAINE 04254
367 U.S. ROUTE 1, N. BUILDING, FALMOUTH, MAINE 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
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MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

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TEL: (207) 897-6752
WWW.MAIN-LANDDCI.COM

March 24, 2026

DM Roma Consulting Engineers
P.O. Box 1116
Windham, ME 04062
Attention: Mr. Jayson Haskell, P.E.
Mr. Dustin Roma, P.E.

Subject: Nitrate-nitrogen Impact and Groundwater Feasibility Assessments
Proposed Eventide Subdivision
100 River Road, Windham, Maine

Dear Gentlemen,

In conjunction with Local permitting requirements which you are pursuing, Main-Land Development Consultants, Inc. (Main-Land) is pleased to submit the following nitrate-nitrogen impact and groundwater availability assessments for the proposed project. The project site is depicted on the attached *Site Location Map*.

Nitrate-Nitrogen Assessment

Main-Land has reviewed your Drawing SB-1, *Subdivision Plan*, dated 3/6/26. The concept leachfields for all lots except Lots 1 through 3 are considered exempt from a nitrate-nitrogen assessment because they are oriented such that subsurface wastewater flow is toward a drainage divide and/or are internal to the property. Based on the inferred directions of topographic and groundwater gradients, flow from these leachfields is not directly toward and is not anticipated to impact a downgradient property boundary. Please see Drawing E1.0, *Existing Conditions and Groundwater Assessments* attached, which depicts estimated groundwater flow directions for the lots.

Proposed leachfields for Lots 1 through 3 are oriented such that groundwater flow is toward a downgradient property boundary. For the purposes of Local review, Main-Land has selected these three concept leachfield locations for nitrate attenuation analysis. Main-Land performed a nitrate-nitrogen attenuation analysis for soil conditions at each of these areas based on the Baetsle equation for modeling migration of a substance (nitrate) dissolved in groundwater through porous media. This approach allows an estimate of nitrate plume concentrations relative to time, distance, and initial concentration from a constant point source (i.e, the leachfield). Ultimately, this approach allows an estimate of the distribution of steady state plume concentrations downgradient from the leachfield.

As an example, the concept leachfield for Lot 2 (explored by Main-Land TP-A) will be used to show input parameters for the Baetsle equation which include the following:

Main-Land estimated hydraulic conductivity (k) of the observed lacustrine/Profile 8 soils using the Kozeny-Carmen equation and our grain size analysis of test pit samples. The estimated k-value based on the K-C analysis is approximately 1.5 feet/day. In addition, Main-Land reviewed hydraulic conductivity data of the mapped Lamoine/Buxton soils provided in the USDA SCS *Soil Survey of Cumberland County, Maine*. The k value provided in this document over the upper 20 inches of silt loam soil is approximately 0.5 feet/day. Based on this, Main-Land selected of value of k = 1 feet/day for the following analyses. Main-Land's log for TP-A, as well as the grain size and Kozeny-Carmen analyses are attached.

Based on soil type and estimated in-situ density, the average effective porosity, n, of 0.39 has been assigned. Based on Main-Land's review of provided topographic site plan and observations during our field visit, the gradient of the seasonal high groundwater surface is approximately 4%. Based on this, the groundwater seepage velocity, v, is found as:

$V = ki/n = (1 \text{ ft/day})(0.04)/0.39 = 1.02 \sim 1 \text{ ft/day}$

This velocity is used to determine dispersion coefficients for the x, y, and z directions downgradient of the leachfield used in the Baetsle analysis. For this example, the 10 mg/l isocon (i.e., the contour of the plume where 10 mg/l concentration occurs) for Lot 1 extends approximately 132 feet from the center of that lot's concept leachfield.

A summary of the Baetsle analyses conducted for the three concept leachfields is provided below:

Conceptual Leachfield Site	Design Flow	Estimated Hydraulic Conductivity, k	Estimated Distance to 10 mg/l Nitrate Isocon Downgradient from Leachfield (current distance to property boundary)
Lot 1	360 gpd	1 ft/day	132 feet (approx. 158 feet to property boundary along flow line)
Lot 2	360 gpd	1 ft/day	132 feet (approx. 200 feet to property boundary)
Lot 3	360 gpd	1 ft/day	132 feet (approx. 220 feet to property boundary)

This analysis was made assuming an initial standard nitrate concentration of 40 mg/l in residential wastewater from a 4-bedroom residential home (i.e., 360 gpd design flow), with no dilution by coincident rainwater. Baetsle analysis printouts for the estimated 10 mg/l plumes for the three leachfields analyzed are attached.

Concept leachfield locations for Lots 1 through 3, location of Main-Land's TP-A, estimated groundwater flow directions, and estimated nitrate plumes and shown on Drawing E1.0. An existing drilled well that serves the property at Map 1/Lot 10-A is depicted on this drawing. The estimated nitrate concentration at this well from the upgradient concept leachfield on Lot 2 is approximately 4.4 mg/l; this nitrate concentration is below the EPA's National Primary Drinking Water Standard of 10 mg/l and therefore does not exceed the standard.

In summary, the nitrate plumes from Lots 1 through 3 meet the intent of the standard of ***not exceeding*** 10 mg/l at the closest downgradient property line toward which the subsurface effluent will be

flowing. Furthermore, for existing wells and properly placed wells on the new lots, the 10 mg/l nitrate standard will also ***not be exceeded***.

Groundwater Feasibility Assessment

Main-Land reviewed groundwater data available from the Maine Geological Survey with respect to drilled bedrock water supply wells in the vicinity of the proposed subdivision. The proposed development will be served by private wells for water supply. Wells will be drilled into the underlying bedrock aquifer, which is mapped as Silurian/Ordovician-aged metamorphosed calcareous sandstone of the Vassalboro Formation.

Information provided on Maine Geological Survey (MGS) maps relative to existing bedrock water supply wells in the area indicates that twenty-three wells are located within an approximately 0.5 mile-radius of the project site for which well information is available. The wells mapped by the MGS range from about 71 to 500 feet in depth, and reported yields range from about 0.5 to 30 gpm; the average of the reported yields is approximately 11.5 gpm. See the attached *Well Data Map* for this supporting information.

Based on the above information regarding existing bedrock water supply wells in the area, the bedrock aquifer is likely to have adequate capacity to supply potable water to meet domestic demand without resulting in adverse on- or off-site influences such as excessive drawdown. In addition, review of the *Site Location Map* shows that the site is bounded on the west by the Presumpscot river, with uplands to the east. Due to the site's relative location in the lower part of the local watershed, groundwater will flow toward it to discharge at or near the river. The location relative to groundwater flow is beneficial to recharge groundwater extracted from the bedrock aquifer by the site and surrounding lots, and helps to buffer against adverse offsite impacts of the proposed subdivision.

Main-Land appreciates the opportunity to provide environmental consulting services for this project, and we look forward to providing future input as needed.

Sincerely,
Main-Land Development Consultants, Inc.

STATE OF MAINE
SCOTT R. DIXON
LSE 406
SITE EVALUATOR

STATE OF MAINE
SCOTT R. DIXON
NO. 435
CERTIFIED GEOLOGIST

Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist and GeoEngineer

Attachments: *Site Location Plan*
Drawing E1.0 - *Existing Conditions and Groundwater Assessments*

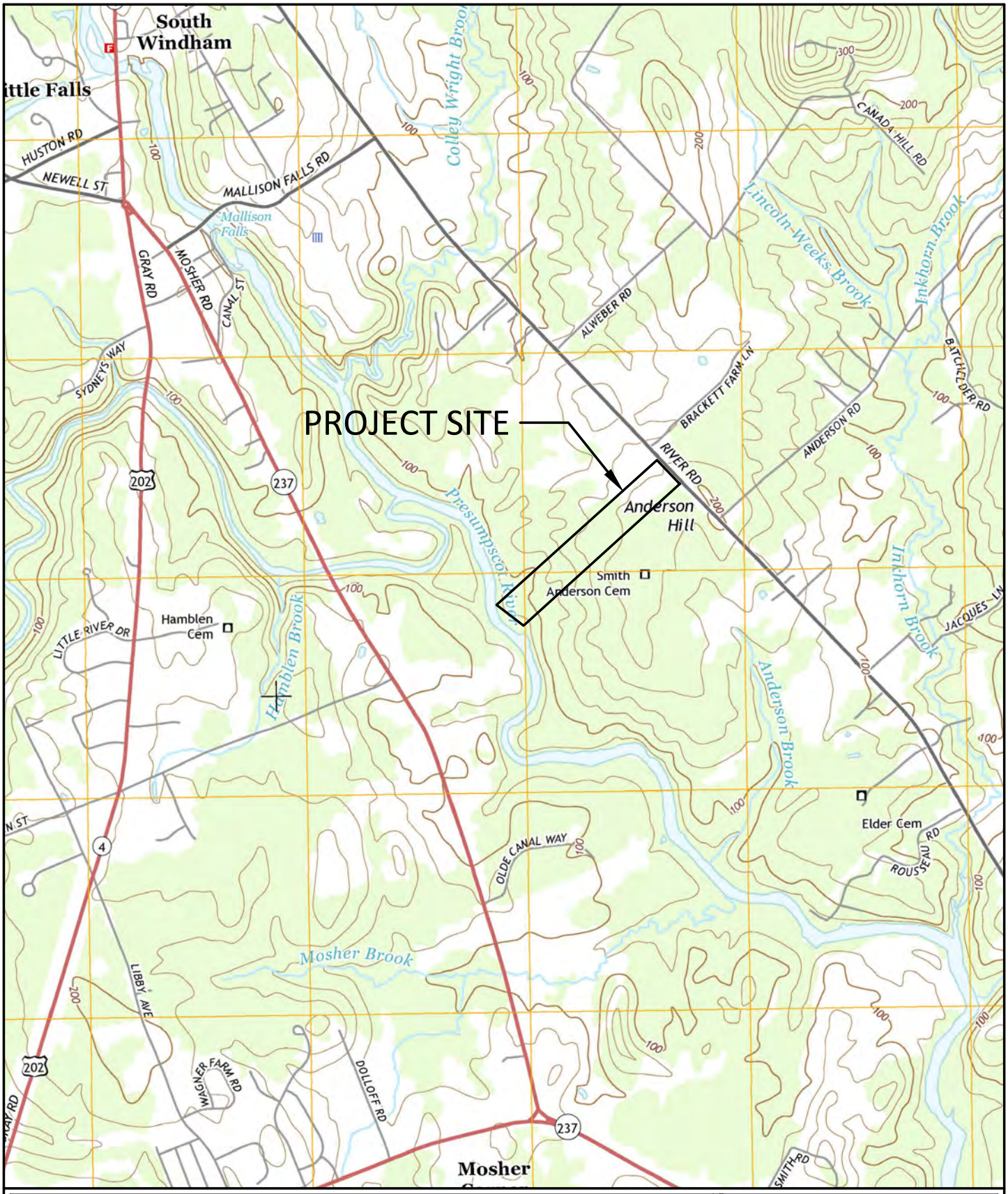
Test Pit Log
Grain Size and Kozeny-Carmen Analyses of test pit sample
Baetsle analysis printouts for nitrate assessments
Well Data Map

References

Chang, Tan-yueh "Philip", et. al., *Utilizing Baetsle's Equation to Model the Fate and Transport of MTBE in Groundwater*, Proceedings of the Petroleum Hydrocarbons and Organic Chemicals in Ground Water Prevention, Detection, and Remediation Conference, 1998, Houston, Texas.

Domenico, Patrick A., and Schwartz, Franklin W., 1990, Physical and Chemical Hydrogeology, John Wiley & Sons, Inc. publisher, New York City, New York, pp. 24-27

United States Dept. of Agriculture, Soil Conservation Service, Issued August 1974, *Soil Survey of Cumberland County, Maine*

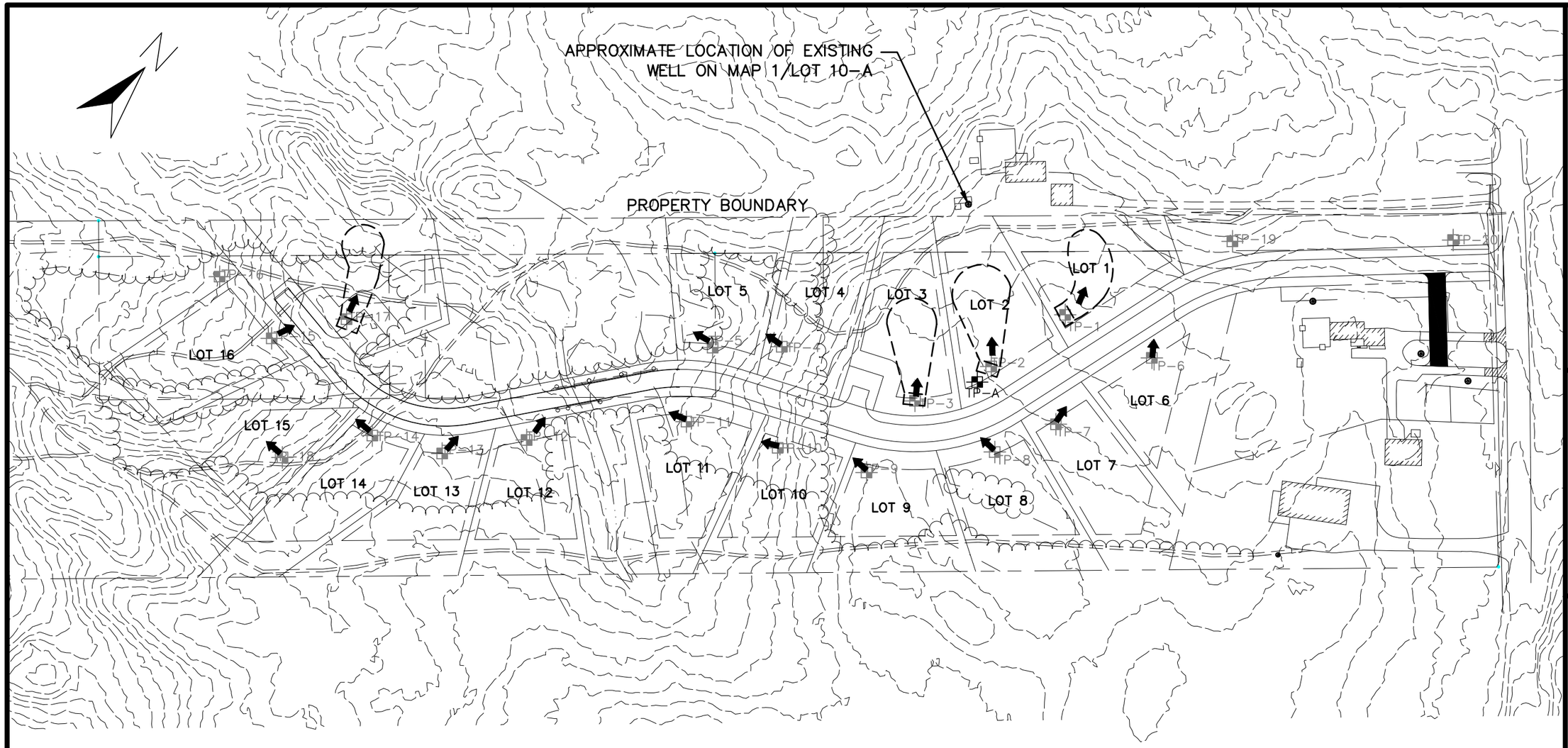


SITE LOCATION MAP

100 RIVER ROAD
WINDHAM, MAINE

SCALE: 1"=2000'
DATE: 09-30-2025
JOB NUMBER: 23056

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055



150 0 75 150

(IN FEET)

1 INCH = 150 FT

LEGEND

- INFERRED GROUNDWATER FLOW DIRECTION
- CONCEPT 4-BR LEACHFIELD LOCATIONS
- ESTIMATED EXTENT OF 10 mg/l NITRATE PLUME
- TP-A — MAIN-LAND TEST PIT MADE ON 03/12/26
- TP-2 — SEPTIC SUITABILITY TEST PITS BY OTHERS

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL, NEWPORT, MAINE
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WWW.MAIN-LANDDCI.COM

MLDC NO. 26-099
PROJ. MGR: SRD
DRAWN BY: HRD
CHECKED BY: SRD
REVISION NO. N/A
SURVEY DATE: N/A
ISSUE DATE: 2026-03-24
ISSUED FOR: REVIEW

NOT FOR CONSTRUCTION

PROJECT
PROPOSED EVENTIDE SUBDIVISION
100 RIVER ROAD, WINDHAM, ME

MADE FOR

EXISTING CONDITIONS AND GROUNDWATER ASSESSMENTS

DRAWING NO. E1.0

1 OF 1

PAGE 1 OF 1

FORM F Rev. 07/11a

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Eventide Subd.	DiRoma Cons. Engrs	Windham, ME

Exploration Symbol # TP-A ☑ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–10	Loam	Friable	Dark brown	None
10–20	Silt Loam		Light yellowish brown	
20–30				Few, faint
30–40	Probable till	Firm		
40–50				
50–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
B / C	3-5	18 "	☑	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0–60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification (Profile / Condition)	Slope (Percent)	Limiting Factor (Depth)	Groundwater	Restrictive Layer	Bedrock
		"	☐	☐	☐

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Scott R. Dixon	Date: 3/12/26
Name Printed: Scott R. Dixon	Cert/Lic/Reg. #: SE 406

Title: ☒ Licensed Site Evaluator ☐ Certified Soil Scientist ☐ Certified Geologist ☒ Professional Engineer

STATE OF MAINE — SCOTT R. DIXON LSE 406 — SITE EVALUATOR — Professional Seal

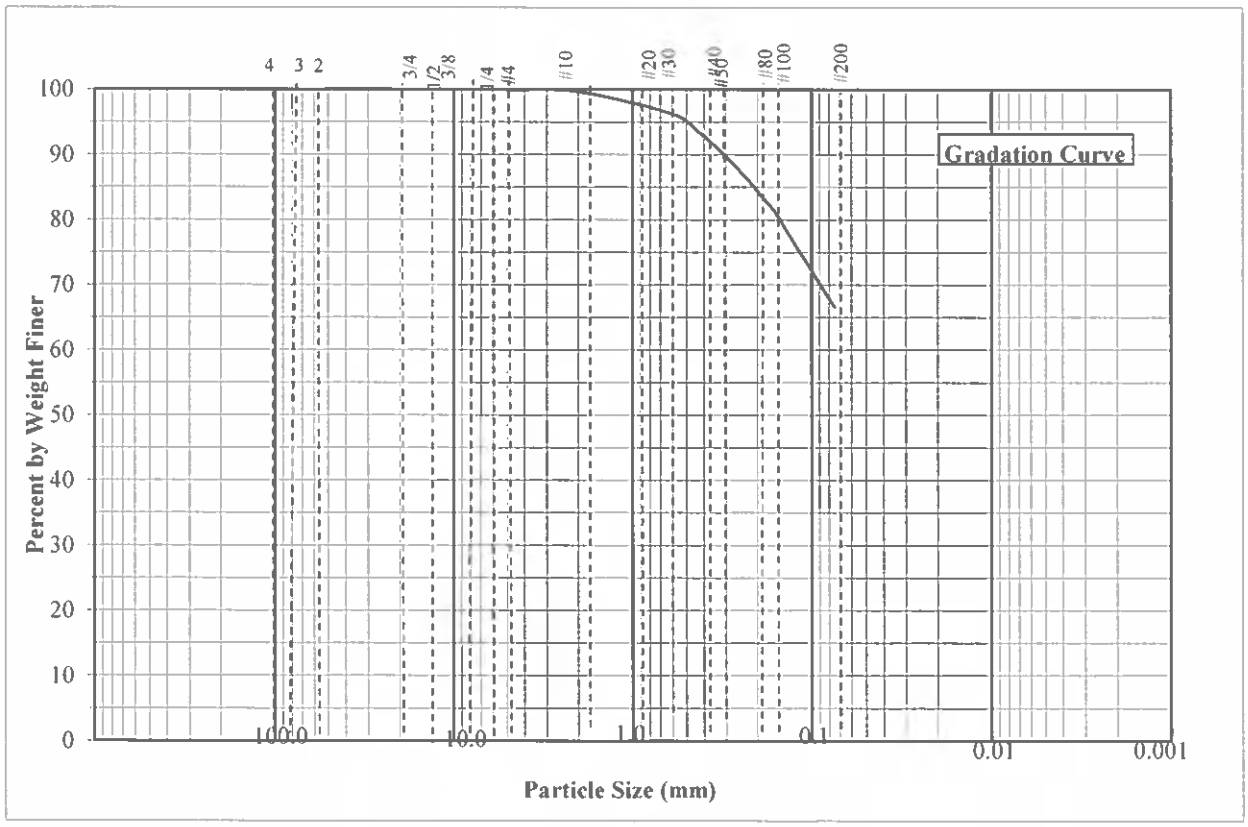
Main-Land Development Consultants, INC.
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WWW.MAIN-LANDDCI.COM

GRAIN SIZE ANALYSIS - ASTM D422

PROJECT NAME:	Eventide Subdivision	PROJECT #:	26-099
CLIENT:	DM Roma Cons. Eng.	MAIN-LAND SAMPLE:	TP-A
M-L SOIL DES:	Silt Loam	INTENDED USE:	Gradation
SOURCE:	TP-A	SPECIFICATION:	N/A
DATE:	Sampled 3/12/26	TECHNICIAN:	JLD

DATA

PARTICLE SIZE mm		% BY WT FINER	STRUCTURAL FILL SPECIFICATION	COMMENTS
50.80	(2 in)	100	N/A	N/A
38.10	(1-1/2 in)	100		
25.40	(1 in)	100		
19.05	(3/4 in)	100		
12.70	(1/2 in)	100		
9.53	(3/8 in)	100		
6.35	(1/4 in)	100		
4.75	(No. 4)	99.9		
2.00	(No. 10)	99.6		
0.60	(No. 30)	96.2		
0.43	(No. 40)	93.4		
0.30	(No. 50)	89.6		
0.18	(No. 80)	82.8		
0.15	(No. 100)	79.8		
0.075	(No. 200)	66.6		



REMARKS:

Reviewed: Scott R. Dixon, P.E.
Date 3/17/26

Eventide TP-A

Sieve Sizes			Gradation Results		
Sieve size I.S. Standar		D_{ave}			
metric	Sieve No.	cm	% Pass	Fi	Fi/D_{ave}
10	4		100		
7.5	3	8.407395	100	0	0
5	2	5.880468	100	0	0
3.75	1.5	4.206612	100	0	0
2.5	1	2.942273	100	0	0
1.9	3/4	2.121418	100	0	0
1.25	1/2	1.480055	100	0	0
0.95	3/8	1.061444	100	0	0
0.63	1/4	0.74406	100	0	0
0.475	#4	0.532803	99.9	0.1	0.187687
0.2	#10	0.284117	99.6	0.3	1.055903
0.085	#20	0.120398	98	1.6	13.28922
0.0425	#40	0.056413	93.4	4.6	81.54196
0.018	#80	0.025572	82.8	10.6	414.5239
0.0106	#140	0.013188	71	11.8	894.736
0.0075	#200	0.008667	66.6	4.4	507.6538
0.00325	hyd #1	0.004582		0	0
0.00207	Hyd#2	0.002499		0	0
0.0012	Hyd#3	0.001506		0	0
0.00085	hyd#4	0.000984		0	0
0.0006	hyd#5	0.000696		0	0
0.0003	hyd#6	0.0004		0	0
0.00012	hyd#7	0.000175	0	66.6	33466.55

D_o est (cm)
0.0008

Sum= 35379.54
porosity, n= 0.38
void ratio, e= 0.612903

Shape Factor	
Shape	SF
Spherical	6
Rounded	6.1
Worn	6.4
Sharp	7.4
Angular	7.7

k=	0.000629 cm/sec	k=	1.783358	feet/day
k=	0.000609 cm/sec	k=	1.725367	feet/day
k=	0.000553 cm/sec	k=	1.567405	feet/day
k=	0.000414 cm/sec	k=	1.172405	feet/day
k=	0.000382 cm/sec	k=	1.082828	feet/day

about 1.5 ft/d

Spreadsheet for Nitrate attenuation after Baetsle and Chang: Eventide Subd. 10 mg/l extent at Lot 1

Proposed Eventide Subd., 100 River Rd., Windham, ME

$$C(x,y,z,t) = [CoVo/8(\pi t)^{1.5}((DxDyDz)^{.5}] \, e[-((x-vt)^2/4Dxt)-(y^2/4Dyt)-(z^2/4Dzt)]$$

Co = nitrate initial concetration
Vo = daily volume
T = time in days
Dxyt = Dispersion coefficient in x,y,z directions
x = distance of interest from source, parallel to g.w. flow
v = g.w. velocity
n = porosity 0.39
D = av
ax = dispersivity in x direction = $(0.83)[(\log_{10}(Lp)]^{2.414}$
Lp = vt

k=hydr. Cond	1	ft/day				
i=gradient	0.04	ft/ft	from site plan			
Variables:						
g.w. velocity	0.10	ft/day				
time	4380	days				
x, from source	132	feet		10.05388 mg/l	AFTER	12.0 years
y, from source cl	0	feet				
z, from source cl	2	feet				
Volume	360	gal/day	48.1283422 cubic feet			
Lp, plume length						
to center of mass	449.2307692	feet				
ax	17.01773141					
ay	5.672577138					
az	0.850886571					
Dx	1.74540835					
Dy	0.581802783					
Dz	0.087270418					
Initial concen	40					

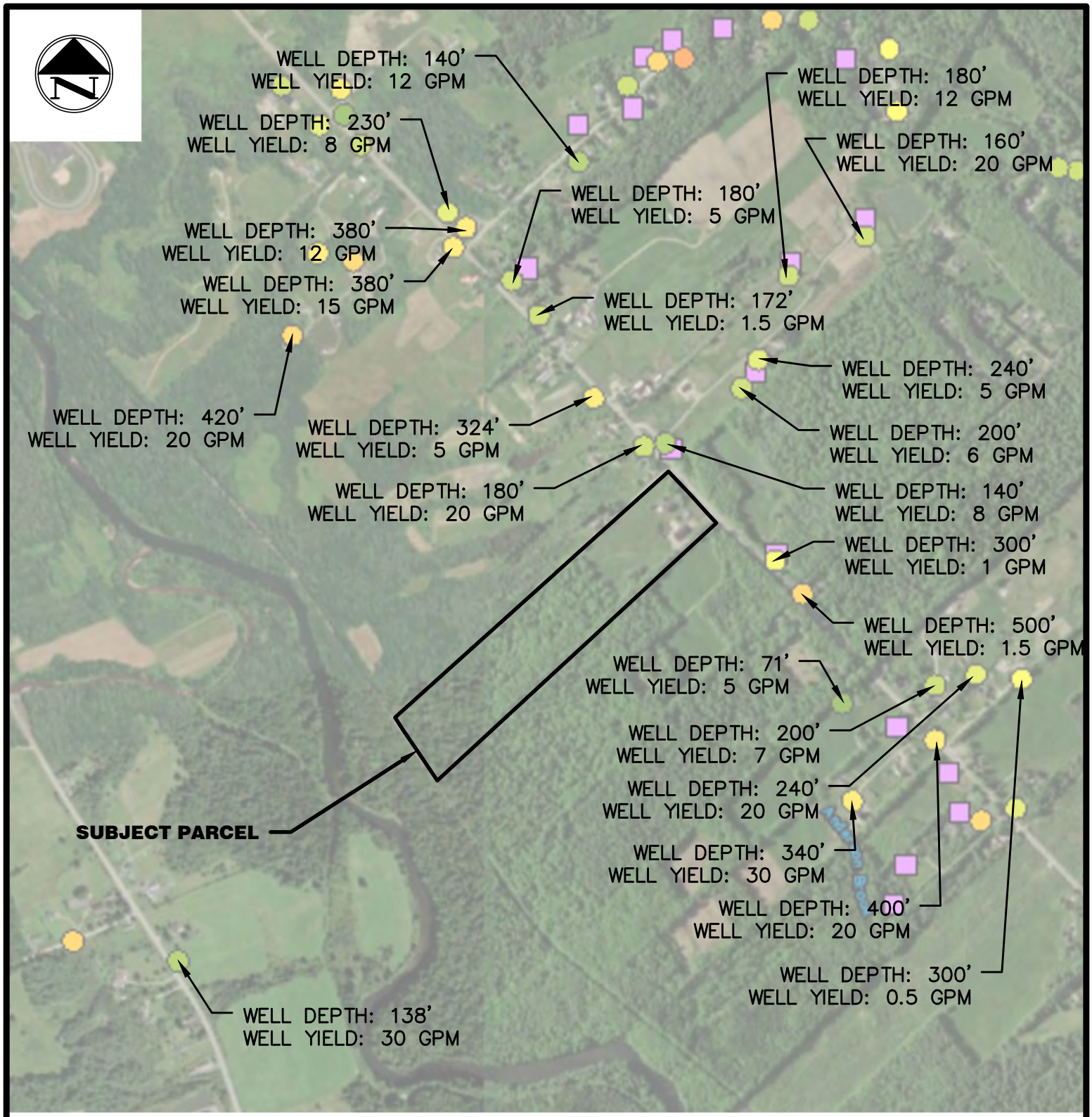
Spreadsheet for Nitrate attenuation after Baetsle and Chang: Eventide Subd., Nitrate at nearest exist. well below Lot 2

Proposed Eventide Subd., 100 River Rd., Windham, ME

$$C(x,y,z,t) = [CoVo/8(\pi t)^{1.5}((DxDyDz)^{.5}] \, e[-((x-vt)^2/4Dxt)-(y^2/4Dyt)-(z^2/4Dzt)]$$

Co = nitrate initial concetration
Vo = daily volume
T = time in days
Dxyt = Dispersion coefficient in x,y,z directions
x = distance of interest from source, parallel to g.w. flow
v = g.w. velocity
n = porosity 0.39
D = av
ax = dispersivity in x direction = $(0.83)[(\log_{10}(Lp)]^{2.414}$
Lp = vt

k=hydr. Cond	1	ft/day				
i=gradient	0.04	ft/ft	from site plan			
Variables:						
g.w. velocity	0.10	ft/day				
time	4380	days				
x, from source	220	feet		4.40895 mg/l	AFTER	12.0 years
y, from source cl	0	feet				
z, from source cl	2	feet				
Volume	360	gal/day	48.1283422 cubic feet			
Lp, plume length						
to center of mass	449.2307692	feet				
ax	17.01773141					
ay	5.672577138					
az	0.850886571					
Dx	1.74540835					
Dy	0.581802783					
Dz	0.087270418					
Initial concen	40					



NOTES

1. WELL DATA SHOWN DOWNLOADED FROM MAINE.MAPS.ARCGIS.COM

NOT FOR CONSTRUCTION

PROJECT:
PROPOSED EVENTIDE SUBD.
100 RIVER ROAD, WINDHAM, ME

DRAWING:
WELL DATA MAP
SCALE: 1" =1000'

MLDC NO.	26-099
PROJ. MGR:	SRD
DRAWN BY:	HRD
CHECKED BY:	SRD
REVISION NO.	N/A
ISSUE DATE:	2026-03-19
ISSUED FOR:	REVIEW

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

1PLN-SITE MAPS.dwg – 3/19/2026 4:15 PM – PLOTTED BY: HUNTER DALTON

SECTION 20

PROJECT COST ESTIMATE AND FINANCIAL CAPACITY

Section 20 – Project Cost Estimate and Financial Capacity

The project sitework costs are estimated to be the following:

1.	Site Preparation	$30,000
2.	Aggregates for Roads	$160,000
3.	Bituminous Pavement	$150,000
4.	Curbing	$20,000
5.	Electrical Conduit and Risers	$55,000
6.	Stormwater BMPs	$100,000
7.	Storm Drain Collection	$55,000
8.	Other Road Improvements	$45,000
9.	Loam and Seed	$35,000
	Total Sitework Estimate:	$650,000

Enclosed is a letter indicating that the applicant has the financial capacity to complete the project.

InnoVestus, LLC

March 31, 2026

Northeast Building and Development LLC
Ronald Goddard
17 Bucket Ln Yarmouth, ME 04096

RE: Loan Proposal – River Road

Dear Mr. Goddard:

This loan proposal letter is merely an indication of interest in the proposed financing of 17 lot subdivision located at 100 River Road in Windham Maine. This in no way represents a commitment for financing. A formal loan commitment would require ratification via our lender credit approval process, following additional due diligence, which has yet to be completely identified. However, our review indicates that you have creditworthiness and financial capacity to complete this project.

Borrower	Entity TBD
Co-Borrower	None
Guarantor (s)	Ron Goddard
Funding Amount	Up to $5 million (capped at 75% LTV)
Loan Terms	Interest only with construction revolver
Interest Rate	Market
Prepayment	None
Broker Fee:	1% of loan amount
Third Party Reports	As required
Other Closing Costs	The borrower will be responsible for all out of pocket expenses incurred by the lender in connection with the documentation, closing, and servicing of this transaction. These expenses may include, but are not limited to, filing fees, title insurance or other legal fees.

Borrower is responsible for all legal, recording, and out of pocket expenses incurred by the lender relative to this loan proposal whether or not this transaction is consummated.

The borrower must agree to deliver any documents that may be required by the lender to properly underwrite this transaction. Such documentation may include, but is not limited to the following:

CREDIT APPROVAL CONDITIONS

All conditions satisfied at this time.

LOAN COMMITMENT CONDITIONS

1. Confirmation of Town approval of the project
2. Acceptable MAI certified appraisal
3. Acceptable environmental phase 1 report (if necessary)
4. Acceptable survey report
5. Preliminary Title Commitment
6. Current insurance policy or premium quote on subject property.
7. Entity Documentation if title to be held in a name other than individual name.

If you have any questions on this conditional pre-approval or at any time during the loan process, please contact your Representative listed above.

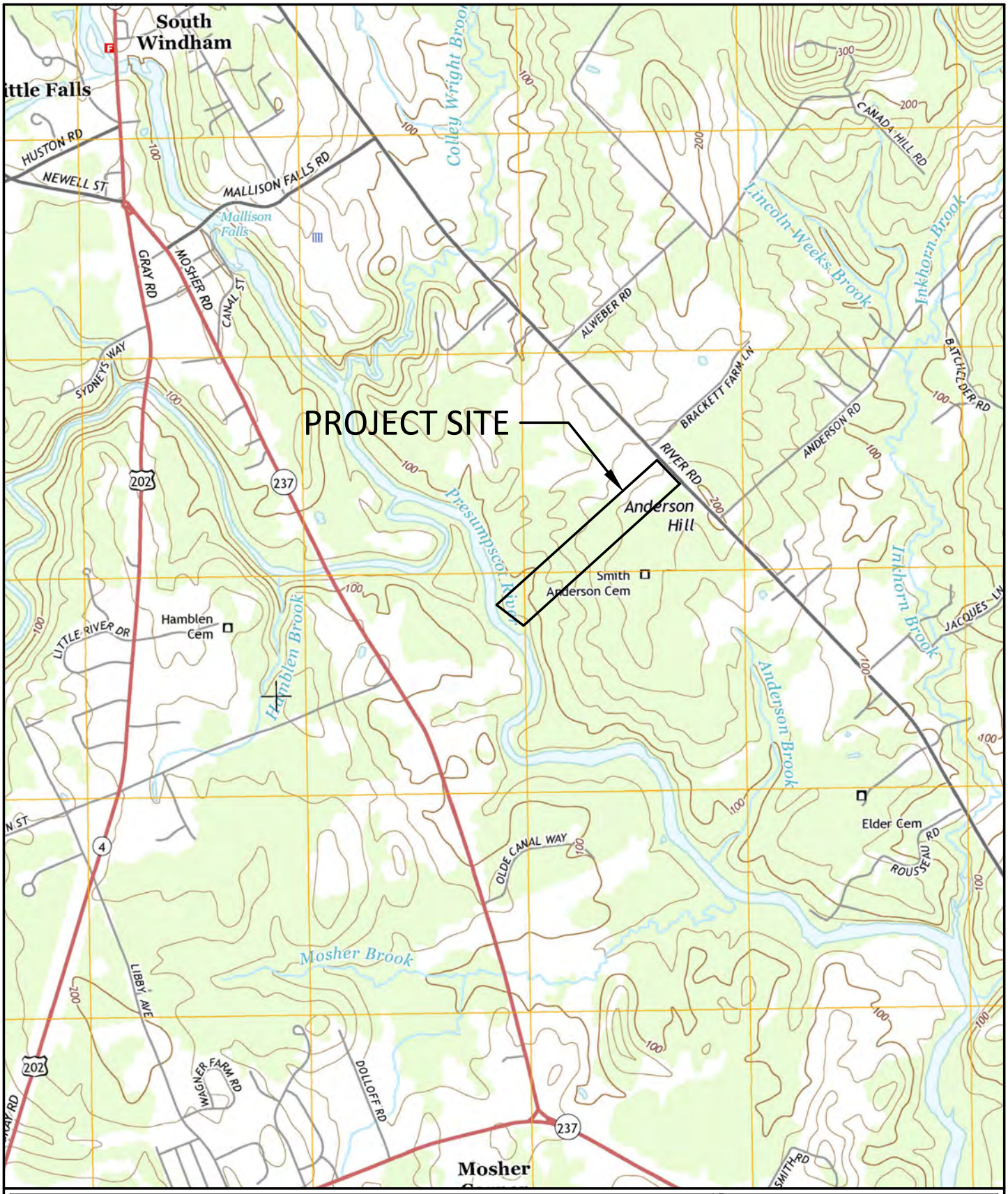
Sincerely,



David A. Richards
Managing Member

SECTION 21

SITE VICINITY MAP – USGS QUADRANGLE



SITE LOCATION MAP

100 RIVER ROAD
WINDHAM, MAINE

SCALE: 1"=2000'
DATE: 09-30-2025
JOB NUMBER: 23056

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

SECTION 22

FLOOD HAZARD AREAS

Section 22 – Flood Hazard Areas

Lot 9, not part of the subdivision, is located partially within the 100-year floodplain boundary. FEMA FIRMETTE is included as part of this application, and the limits of the 100-year floodplain boundary are shown on the project plans.

National Flood Hazard Layer FIRMette

FEMA

70°24'25"W 43°43'1"N



70°23'47"W 43°42'35"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/26/2025 at 1:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SECTION 23

IMPACT TO SITES OF HISTORICAL SIGNIFICANCE

Section 23 – Impacts to Sites of Historical Significance

The attached review letter from the Maine Historic Preservation Commission indicates that there will be no historic properties affected by the proposed project.

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

October 8, 2025

Mr. J.P. Connolly
DM Roma
PO Box 1116
Windham, ME 04062

Project: MHPC #1713-25 100 Rivers Road
Family Subdivision

Town: Windham, ME

Dear Mr. Connolly:

In response to your recent request, I have reviewed the information received September 30, 2025 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I have concluded that there will be no historic properties (architectural or archaeological) affected by this proposed undertaking, as defined by Section 106.

Please contact Megan Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

SECTION 24

MDEP STORMWATER PERMIT SUPPLEMENTAL MATERIALS

PUBLIC NOTICE INSTRUCTIONS AND CERTIFICATION

The Department's Chapter 2 rules, *Processing of Applications and Other Administrative Matters*, require an applicant to provide public notice within 30 days prior to filing a license application for most projects or activities requiring a permit from the Department (see Chapter 2, §13). In the notice, the applicant must provide the information included in the Department's Notice of Intent to File form. "Abutter" for the purposes of public notice means any person who owns property that is contiguous with the property on which the project requiring a license from the Department is proposed.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication.

2. **Abutters and Others Owning Land Within 1,000 Feet:** You must mail a copy of the Notice of Intent to File to abutters and all persons owning land within 1,000 feet of the proposed project. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office or County Commissioner(s):** You must mail a copy of the Notice of Intent to File and a duplicate of the entire application to the Municipal Office or, if the proposed project is located in an unorganized or deorganized area of the State, to the county commissioner(s). The Municipal Office or county commissioner(s) must receive notice within 30 days prior to the filing of the application with the Department.

ATTACH a copy of the published notice and a list of persons to whom notice was provided.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;

2. A mailing of the Notice of Intent to File was sent to all abutters and all other persons owning land within 1,000 feet of the proposed project within 30 days prior to filing of the application;

3. A mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located or, if applicable, to the county commissioner(s); and

4. Provided notice of and held a public informational meeting, if required, in accordance with the Department's Chapter 2 rules, §12, prior to filing the application. Notice of the meeting was sent to abutters and all other persons owning land within 1,000 feet of the proposed project and to the town office of the municipality in which the project is located or to the county commissioner(s), as applicable, at least at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on NA (Date).

Approximately NA members of the public attended the Public Informational Meeting.

Signature of Applicant or Authorized Agent

4-6-2026
Date

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that Row Even LLC, with a mailing address of 17 Bucket Lane, Yarmouth, Maine 04096, is intending to file a Stormwater Law permit application pursuant to the provisions of 38 M.R.S.A. §§ 420-D with the Maine Department of Environmental Protection on or about February 23, 2026. The application is for the construction of a 17-lot residential subdivision with approximately 1,800 feet of new paved roads located adjacent to 100 River Road in Windham, Maine. A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the application processing period. The application will be filed for public inspection on the DEP's website at: https://www.maine.gov/mels/hub.html. Written public comments may be sent through the website. A copy of the application may also be seen at the municipal offices in Windham, Maine. For more information on how to submit public comment with the DEP, please go to the DEP's website: Public Participation in the Licensing Process (information sheet) Maine DEP.

