



Civil Engineering | Surveying

February 12, 2024

Carolyn Eyerman
Gorham Town Planner
75 South Street
Gorham, Maine 04038

Re: Guardian Estates Subdivision – Waterhouse Road
Proposed 14-Lot Subdivision
Preliminary Subdivision Application

Dear Carol;

Enclosed please find 15 copies (7 full, 8 reduced) of the following materials in support of the Preliminary Subdivision Application for Guardian Estates Subdivision:

- Attachment 1 – Subdivision Application & Agent Authorization Form
- Attachment 2 – Maps (USGS, FEMA, & Beginning with Habitat) Attachment 3
- Attachment 3 – Parcel Deed (Book 39417, Page 77)
- Attachment 4 – Draft Deed Restrictions, RMA, and HOA
- Attachment 5 – Construction Schedule
- Attachment 6 – Public Water Supply Cost Estimate
- Attachment 7 – Public Sewer Extension Summary
- Attachment 8 – Trip Generation Analysis
- Attachment 9 – Technical Capacity
- Attachment 10 – Preliminary Soil Test Pits (septic) – Mark Hampton Associates
- Attachment 11 – Class A High Intensity Soil Survey – Mark Hampton Associates
- Attachment 12 – Wetland Delineation Report – Mainely Soils
- Attachment 13 – Vernal Pool Assessment – Mainely Soils
- Attachment 14 – Stormwater Report (3 full copies)
- Attachment 15 – Subdivision Plans – BH2M

The applicants, Gary and Megan Jordan & Donald Grant, are proposing to construct a 14-Lot residential subdivision off Waterhouse Road in Gorham. The proposed project will involve the construction of a 2,583' roadway and sidewalk, associated stormwater management infrastructure, and underground electric and communication utilities. The proposed roadway has been designed to meet the Towns Urban Access standard. The 14 lots will consist of 12 single family residential lots (1-12) and two lots that can support up to 4 dwelling units each (12 & 14). No multi-family housing is being proposed as part of this approval, but we would like to allocate density for 4 units to lots 13 & 14 understanding that any future development of lots 13 & 14 may require site plan

permitting. This will allow the parcels maximum conventional density of 20 dwelling units (40,000 sf lots) to be attained.

The proposed project is located on Waterhouse Road (an existing Town roadway) and lies within the Urban Residential Expansion zone on a parcel known as Tax Map 18 Lot 5-1. The existing 29.52 acre parcel consists of undeveloped woodland and fields that are adjacent to the Gorham bypass (Route 112).

Mark Hampton Associates has performed a Class A High Intensity Soil Survey and preliminary septic test pits on the property. These test pits showed that each lot has upland soils that qualify to receive discharge from a septic system. Individual systems will be designed and permitted as part of the building permit process for each lot. See Attachments 10 and 11 for additional information. A nitrate study will be completed for this project prior to the Final Subdivision submission.

A natural resource delineation for wetlands and vernal pools was performed onsite by Mainely Soils. These studies found multiple pockets of wetlands that bisect the parcel and there are two vernal pools onsite. The wetlands were not found to be significant. Vernal pool 1 is an isolated scrub shrub wetland that is classified as an ACOE non-significant vernal pool. Vernal pool 2 is a small manmade pool that is considered a non-jurisdictional feature. Since neither vernal pool is considered significant by DEP or ACOE standards, there is no setback required from these areas, and they are regulated as a wetland. For additional information on these natural resources please see Attachments 12 and 13. Approximately 3,875 sf of wetland impact is proposed for this project.

Construction of the proposed roadway and stormwater infrastructure will create approximately 77,248 sf of impervious area and 113,415 sf of newly vegetated area totaling 190,663 sf (4.38 acres) of newly developed area. This project will require an individual stormwater permit from the Maine DEP. Since the applicants intend to sell lots, the impervious and newly vegetated areas that will be created on each lot do not need to be counted towards the thresholds for Maine DEP permitting. Allocations of impervious and developed areas have been considered for stormwater modelling to accurately model the pre and post development watersheds and adequately size the proposed stormwater infrastructure. These allocations are outlined in the stormwater report (see Attachment 14).

Though we do not anticipate a significant redesign of the roadway as part of this approval process, we intend to wait until Town staff and the review consultants have completed an initial review of the project to file DEP and Army Corps permits. This will eliminate the need to submit revisions to the regulatory agencies later.

As part of this review, we have been asked to prove that extending public water and sewer utilities to the project is not reasonable. Currently, the nearest existing fire hydrant, water main, and sewer service are located approximately 7,400 feet away at the intersection of Quincy Drive and South Street. In order to extend these utilities to and within the site, almost 10,000 linear feet of sewer and water services would have to be constructed in Route 114, Waterhouse Road, and the proposed roadways. Based on the attached cost estimate (which utilizes max parcel density), the cost of extending these public utilities would be greater than installing wells and septic's for twice as

many units as the applicant is proposing . Please see Attachments 6 and 7 for additional information.

Similar to the water and sewer utilities, the nearest existing sidewalk is approximately 9,400 feet away at the intersection of Weeks Road and South Street. We understand that some form of sidewalk extension or in lieu fee may be required for this project. The applicant would prefer not to extend the sidewalk from the proposed project towards the existing sidewalks since there may never be a sidewalk extension down Rte. 114 from Weeks Road and any new segment will be difficult for the Town to maintain due to lack of connectivity.

The 9th edition of the ITE trip generation handbook estimates 191 average weekday vehicle trips with a peak hour total of 20 trips in the PM peak hour for the proposed development. These predicted traffic numbers are minor and do not warrant a formal traffic study.

Since this design is being submitted for it's first review by the Town, we have not provided a cost estimate because quantities of construction materials are likely to change. Once the Town has reviewed the design the applicant will provide a formal cost estimate and proof of financial capacity.

We anticipate that the project will require the following permits:

- Subdivision Permit (Town of Gorham)
- Stormwater Law Permit (Maine DEP)
- Maine general Permit – Self Verification (ACOE)

We are submitting one electronic copy and 15 complete application packages and would like to be considered for the next available Planning Board Agenda. If you have any questions or require any additional information, please feel free to contact me at afagan@bh2m.com or by phone at 207-839-2771. Thank you for your help and we look forward to working with you on this review.

Sincerely,



Austin G. Fagan, PE
Project Engineer

Encl.
Cc G. Jordan



**Community Development
Planning Division**

Thomas M. Poirier, *Director of Community Development*
tpoirier@gorham.me.us
 Carol Eyerman, *Town Planner*
ceyerman@gorham.me.us

GORHAM MUNICIPAL CENTER, 75 South Street, Gorham, ME 04038

Tel: 207-222-1620

SUBDIVISION APPLICATION

<input checked="" type="checkbox"/> PRELIMINARY SUBDIVISION	<input type="checkbox"/> FINAL SUBDIVISION	<input type="checkbox"/> SUBDIVISION AMENDMENT
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IF THIS PROJECT HAS SUBMITTED FOR PRE-APPLICATION REVIEW AND PAID THE \$300.00 FEE PLEASE CHECK THE BOX RELATED TO "CREDIT". THE FUNDS PAID ARE CREDITED TOWARD A SUBSEQUENT APPLICATION.	CREDIT <input checked="" type="checkbox"/>
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FEEES FOR PLAN REVIEW	PRELIMINARY	
	<input checked="" type="checkbox"/> \$1,500.00 FOR THE FIRST 3 LOTS OR DWELLING UNITS <input checked="" type="checkbox"/> + \$150.00 FOR EACH OF THE NEXT 4 TO 30 LOTS OR DWELLING UNITS: 17 LOTS/DU @ \$150.00 <input type="checkbox"/> + \$100.00 FOR EACH OF THE NEXT 31 OR MORE LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$100.00	\$ 4,050
	FINAL	
	<i>(additional fees will be due if there has been an increase in the number of lots since the application for preliminary review was submitted and fees paid accordingly.)</i>	
	<input type="checkbox"/> + \$150.00 FOR EACH OF THE NEXT 4 TO 30 LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$150.00 <input type="checkbox"/> + \$100.00 FOR EACH OF THE NEXT 31 OR MORE LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$100.00	\$ _____
	AMENDMENT	
<input type="checkbox"/> \$650.00 PER LOT OR REVISION	\$ _____	
ADDITIONAL FEES		
<input checked="" type="checkbox"/> PEER REVIEW AND LEGAL SERVICE ESCROW: \$3,500.00 (\$500.00 PLUS \$3,000.00 ENGINEER'S ESTIMATE - MAY NEED TO BE INCREASED DEPENDING ON PROJECT)	\$ 3500	

TOTAL APPLICATION FEES:	\$ 7,550
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SUBDIVISION APPLICATION

PROPERTY DESCRIPTION	Parcel ID	Map	18	Lot(s)	5-1	Zoning District	UREX	Total Land Area	29.52 acres	
	Physical Address/ Location	Waterhouse Road								
PROPERTY OWNER'S INFORMATION	Name	Gary & Megan Jordan Donald Grant				Mailing Address	33 Quincy Drive Gorham, Maine 04038			
	Phone	207-749-1354								
	Email	Jordangs4@gmail.com								
APPLICANT'S INFORMATION (If different from Owner)	Name					Mailing Address				
	Phone									
	Email									

APPLICANT'S AGENT INFORMATION	Name	Austin G. Fagan, PE	Name of Business	BH2M	
	Phone	207-839-2771	Mailing Address	380B Main Street Gorham, ME 04038	
	Email	afagan@bh2m.com			
PROPERTY DESCRIPTION	Existing Use:	The site is currently an undeveloped field and woodland.			
	Subdivision Name	Guardian Estates			
	Will There be a Homeowner's Association?			<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Dwelling Units	Single Family	Duplex	Multi-Family	Commercial Units
	Number of Dwelling Units	12		8	
YOU MUST COMPLETE THE APPROPRIATE SUPPLEMENT(S) TO THIS APPLICATION IF A DEVELOPMENT TRANSFER OVERLAY AND/OR A CLUSTER DEVELOPMENT IS PROPOSED.					

Proposed Use/ Amendment:	The applicant is proposing 12 single family house lots and two lots that can support up to 4 units each. No multi family housing is being permitted as part of this approval. Additional permitting will be required to develop the multi family lots.
Required documents that have been or are being submitted with final plan.	<input checked="" type="checkbox"/> Proposed Deed Restrictions <input checked="" type="checkbox"/> Easement <input type="checkbox"/> Trusteeships <input checked="" type="checkbox"/> Homeowners Association Documents <input type="checkbox"/> Conditions of Sale <input checked="" type="checkbox"/> Road Maintenance Association

CHECKLIST FOR SUBDIVISION REVIEW

The original signed copy of this form must be accompanied by the required application fee, required number of application forms, plans, and other necessary submissions.
(1 copy of original application/etc., 1 electronic copy, 8 reduced size (11x17) plans, 7 full size (24x36) plans)

Check All That Apply		THE FOLLOWING QUESTIONS MAY APPLY (Answer Yes/No or comment Does Not Apply)	Explain or comment as needed for clarification
YES	NO		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing and proposed elevations are based on State Plane NAD83 , and benchmarks locations and elevations are clearly indicated on the plans.	See plans for benchmark locations
<input checked="" type="checkbox"/>	<input type="checkbox"/>	An Agent Authorization form has been completed and submitted.	See attached form
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copies of documents that show 'Right, Title and/or Interest' in the property, or if applicable, contract to purchase or option to lease the property are attached.	See attached property deed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Owner holds an interest in abutting and/or contiguous property? If yes, please explain.	No ownership of abutting properties
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Documents for conservation provisions such as open space easements, covenants, agreements, etc. are attached.	All HOA and RMA documents are attached
<input checked="" type="checkbox"/>	<input type="checkbox"/>	All easements are shown and labeled on the property. Copies of all easement deeds are attached.	All easements are shown on the subdivision plan that will be recorded.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are waivers requests? If so, is the form attached.	

<input checked="" type="checkbox"/>	<input type="checkbox"/>	All phasing (streets, drainage, utilities, etc.) is clearly indicated on the plans.	Phasing TBD pending Prelim review
<input checked="" type="checkbox"/>	<input type="checkbox"/>	High Intensity Soils Survey with test logs and boring results is complete, and test pit locations are shown on the plans.	Class A soil survey attached
IS THE FOLLOWING INFORMATION SHOWN ON THE PLANS? PROVIDE CALCULATIONS, IF APPLICABLE, ON A SEPERATE SHEET THAT SHOWS HOW THE FOLLOWING IS CALCULATED.			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Total building area(s) (sq ft):	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lot Coverage Ratio:	Applicant plans to sell lots
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Net density calculations:	See sheet 1 of the plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lot frontages (ft):	See sheet 1 of the plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yard setbacks:	See sheet 1 of the plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Buffer Strips:	See attached plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distances between structures (ft):	Applicant plans to sell lots
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Open space or public use areas (sq ft/acres):	Access easements shown on plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Area(s) reserved for active recreational purposes (sq ft/acres):	Access easements shown on plans
YES	NO	ARE LOCATIONS AND DIMENSIONS OF THE FOLLOWING SHOWN ON THE PLANS?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Driveway entrance points	Applicant plans to sell lots
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Streets/Drives	See plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Parking areas	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Easements and right-of-ways	See Plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Building height and shape	Applicant plans to sell lots
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site distances	See plans
YES	NO	ARE WIDTHS AND CROSS SECTIONS, PER CHAPTER 2, SECTION 2-5, SHOWN ON THE PLANS?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Street, drives, curbs and sidewalks	See plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there proper continuation of streets from adjacent lands?	See plans
YES	NO	STORMWATER MANAGEMENT	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are significant water bodies, wetlands, woodlands, cleared areas; trees with diameter greater than 5"; gullies, ravines and ledge outcroppings shown on the plans?	Tree line shown on plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are floodplain boundaries and Base flood elevations (BFE) indicated?	None onsite. See attachment 2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are Shoreland zoning overlay districts indicated?	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there an erosion control plan?	See plans
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are areas of storage designated for snow storage?	The proposed esplanade and sides of the road will be used for snow storage
<input checked="" type="checkbox"/>	<input type="checkbox"/>	If phasing is proposed, is it reflected in the design and construction of the drainage plan?	Phasing to be determined
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Does this comply with Chapter 500?	See stormwater report

YES	NO	EARTHWORK AND STOCKPILING	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The work associated with this project is not subject to the gravel pit provisions of Chapter 2, Sections 2-1 C of the Code.	See plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The volume of earth moving, removal, grading or filling activities for the proposed project is ten thousand (10,000) cubic yards of material or more.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	There will be a temporary stockpile suitable for fill material for future use in construction of the project.	TBD
THE PLANNING BOARD MAY APPROVE TEMPORARY STOCKPILES FOR A PERIOD OF 12 MONTHS FOR CONSTRUCTION OF THE PROPOSED PROJECT. THE PLANNING BOARD WILL NOT APPROVAL TEMPORARY STOCKPILES FOR THE PURPOSE OF RESALE.			
YES	NO	UTILITIES	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Public Sewer: Attach a letter from the Portland Water District (PWD) that verifies that public sewer can be connected to, and that the existing system has available capacity. What is the estimated gallons per day?	Septics proposed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sewer mains, related infrastructure and stationing for manholes, cleanouts and individual service connections are shown in plan and profile.	Septics proposed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Septic System: Subsurface waste disposal. Attach a copy of the HHE 200 Report.	Preliminary test pits attached
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Public Water: Attach a letter from the PORTland Water District (PWD) that verifies the site can be served for the foreseeable future and that the proposed water plan meets or exceeds design requirements of the PWD.	Wells proposed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Potable water will be provided by an on-site well.	See plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the site be served with Natural Gas? If so, who is the supplier?	Septics proposed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are mailboxes to be clustered?	See plans
		Power will be: <input checked="" type="checkbox"/> underground <input type="checkbox"/> overhead <input type="checkbox"/> Single Phase <input type="checkbox"/> 2 Phase <input type="checkbox"/> 3 Phase	
		Who is the private hauler for Trash Pick-up?	TBD
		Who will be contracted for the disposal of construction and site debris?	TBD
YES	NO	SIGNAGE	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is there proposed new signage? Attach schematic drawings for EACH proposed sign, indicate the sign area in square feet, and show location on the site plan.	
YES	NO	HISTORIC PRESERVATION	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is the property an important historic or natural site, or adjacent to such a site? If yes, explain:	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is this within a Historic District?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Have you received a certificate of appropriateness from the Historic Preservation Commission? If so, please include in the submission.	To be determined during Army Corps permitting
YES	NO	OTHER	

<input checked="" type="checkbox"/>	<input type="checkbox"/>	Erosion Control (<i>see Chapters 2 and 4</i>)	See proposed plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (<i>see Chapters 2 and 4</i>)	No lighting proposed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landscaping (<i>see Chapters 2 and 4</i>)	No landscaping proposed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Noise	No excessive noise anticipated outside of construction
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Technical and Financial Capacity	See attached documents
YES	NO	POST CONSTRUCTION STORMWATER MAINTENANCE	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will the construction activity disturb one acre or more?	See plans
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is the parcel located within the Town of Gorham MS4 area?	See attached figure
YES	NO	STATE AND LOCAL PERMITS	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is a Maine Department of Environmental Protection (MDEP) Permit required? If so, list the permit.	Stormwater Management Law
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is an Army Corps of Engineers approval/permit required? If so, list the permit.	Maine General Permit
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are there any State or Federal approval required? If so, list the approval.	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A Maine Construction General Permit (MCGP) is required where the area of disturbance is greater than one acre. Is an MCGP permit required?	This will be part of the stormwater permit.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is a variance from the Zoning Board of Appeals required? If yes, please describe:	N/A
TRAFFIC: THE PLANNING BOARD MAY REQUEST A TRAFFIC STUDY			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicle trips entering and exiting the site on a daily basis.	191
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicles entering and exiting the site during the busiest a.m. hour.	15
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicles entering and exiting the site during the busiest p.m. hour.	20
TYPE OF SUBDIVISION STANDARDS UTILIZED:			
<input checked="" type="checkbox"/> STANDARD - SEE ZONING DIMENSIONAL REQUIREMENTS FOR ZONING DISTRICT <input type="checkbox"/> DEVELOPMENT TRANSFER OVERLAY - SEE CHAPTER 1 SECTION 1-18 AND ADDITIONAL FORM <input type="checkbox"/> CLUSTERED RESIDENTIAL DEVELOPMENT - SEE CHAPTER 2 SECTION 2-4 A AND ADDITIONAL FORM <input type="checkbox"/> PLANNED UNIT DEVELOPMENT - SEE CHAPTER 1A			
ADDITIONAL COMMENTS:			

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

Austin G. Fagan
SIGNATURE: APPLICANT OR APPLICANT'S AGENT

2-11-2024
DATE

Austin G Fagan - Agent
PRINT NAME

AGENT AUTHORIZATION

PROPERTY DESCRIPTION	PHYSICAL ADDRESS/ LOCATION	Waterhouse Road Gorham, Maine 04038		MAP(S)	18
				LOT(S)	5
APPLICANT(S) INFORMATION	NAME(S)	Gary & Megan Jordan, & Donald Grant		MAILING ADDRESS	33 Quincy Drive Gorham, Maine 04038
	PHONE	207-749-1354			
	EMAIL	jordangs4@gmail.com			
OWNER(S) INFORMATION	NAME(S)	Gary & Megan Jordan, Donald Grant		MAILING ADDRESS	33 Quincy Drive Gorham, Maine 04038
	PHONE	207-749-1354			
	EMAIL	jordangs4@gmail.com			
APPLICANT'S AGENT INFORMATION	NAME	Austin Fagan, P.E.	BUSINESS NAME	BH2M	
	PHONE	207-839-2771	MAILING ADDRESS	BH2M 380B Main Street Gorham, Maine 04038	
	EMAIL	afagan@bh2m.com			

Said agent(s) may represent me/us before Gorham Town officers and the Gorham Planning Board to expedite and complete the approval of the proposed development for this parcel.

Gary S. Jordan
9/11/2023
 APPLICANT SIGNATURE DATE

Gary Jordan, Megan Jordan
 PLEASE TYPE OR PRINT NAME HERE

9/11/2023
 CO-APPLICANT SIGNATURE (if applicable) DATE

Donald Grant
 PLEASE TYPE OR PRINT NAME HERE

Austin J Fagan
9-12-2023
 APPLICANT'S AGENT SIGNATURE DATE

Austin Fagan
 PLEASE TYPE OR PRINT NAME HERE

APPLICANT'S CHECKLIST FOR PLAN REQUIREMENTS

The following checklists includes items generally required for development by the GORHAM LAND USE ORDINANCES and, due to project specifics, are required to provide a complete and accurate set of plans, reports and supporting documentation. Please review Ordinances for complete requirements.

- A) Paper size:
 No less than 11" X 17" (reduced) or greater than 24" X 36" (full)
- B) Scale size:
 Under 10 acres: no greater than 1" = 30'
 10 + acres: 1" = 50'
- C) Title block:
 Applicant's name and address
 Name of preparer of professional consultants with license numbers and professional seals
 Parcel's tax map identification (map – lot)
 Date of plan preparation
- D) Boundary survey performed and sealed by licensed surveyor: Identify all existing boundary markers
 Benchmark based on State Plane NAD83
 Identify all existing boundary markers
 Show all proposed boundary monuments (per ordinance)
 Show all metes and bounds, rights of way and easements
 Show names of adjacent lot owners and parcel tax map numbers
- E) Provide orientation:
 Arrow showing true north and magnetic declination
 Graphic scale
 Parcel Owners and map and lot
 Signature block for planning board
- F) Show location and description of:
 Elevations of dwelling units. If applicable
 All structures within 50 feet of the project parcel
 All driveway entrances or accesses within 100 feet
- G) Show parcel data:
 Zoning District(s)
 Lots
 Lot Widths
 Lot Depths
 Street frontage
 Building setback lines
 Lot Areas
 Rights-of-way
 ROW area
 Exist. & new street names
 Wetlands
 Wetland setback
 Common tracts
 Easements
 undisturbed areas
 Shoreland Zoning setbacks
 Note on the subdivision plan regarding areas to be taped off and

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

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

- K) Indicate required landscaping including:
 Type of plant material
 Plant/Tree sizes
 Placement
 Irrigation systems
- L) Legal Documents:
 Easements
 Deed of Covenant
 PWD Agreement to serve
 Homeowners' Association
 Road Maintenance Docs
 Deed docket & page numbers
- M) Provide a vicinity map at a scale not more than **400 feet to the inch** showing the relation to other properties and geographic features and show:
 All the area within five hundred (500) feet of the boundary line of the proposed development;
 Any smaller area between the tract and all existing streets, provided any part of such a street used as part of the perimeter for the locus map is at least five hundred (500) feet from any boundary of the proposed development.
- N) Show the locations of any
 Parks
 Preserved Open space
 Conservation easements
 Note on the subdivision plan regarding areas to be dedicated for public use and conditions of such dedication.
- O) Include plans, profiles and typical sections of all roads and other paved ways, including all relevant street data.
 Intersections or
 Distance to nearest intersection
 Driveways onsite
 Distance to nearest driveway
 Sight visibility lines
- P) Show all existing and proposed lighting
 Map of all street lighting, attached lighting, and area lighting
 Location of lighted signs
 Photo-metrics map
- Q)
 Indicate the location of any permanently installed machinery likely to cause appreciable noise at the lot lines.
- R) Provide description of these materials stored on the property:
 Hazardous
 Toxic
 Raw Waste
- S)
 Show existing contours and finished grade elevations onsite

<p>protected until project construction is completed.</p> <p>H) <input type="checkbox"/> Label all zoning districts abutting the property boundaries.</p> <p>I) <input checked="" type="checkbox"/> Show locations of natural physical features such as water bodies, watercourses, forest cover, and ledge outcroppings.</p> <p>J) Show the location of existing and proposed Utilities and identify which utilities are to be privately owned/ municipally owned:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Overhead Electric <input checked="" type="checkbox"/> underground electric <input type="checkbox"/> Water mains <input type="checkbox"/> Wells <input type="checkbox"/> Gas mains <input type="checkbox"/> Cable TV <input type="checkbox"/> Sewer mains <input checked="" type="checkbox"/> Test pits <input type="checkbox"/> Septic tanks <input checked="" type="checkbox"/> Leach field <input checked="" type="checkbox"/> Storm drain lines <input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Culverts <input type="checkbox"/> Gutters <input checked="" type="checkbox"/> Stormwater storage basins <input checked="" type="checkbox"/> level spreaders <input type="checkbox"/> Rain gardens <input type="checkbox"/> Nearest fire hydrant 	<p>and sufficiently offsite to demonstrate how the project is situated in the surrounding environment.</p> <p>T) Indicate the location and dimensions of:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sidewalks <input checked="" type="checkbox"/> Curbs <input type="checkbox"/> Driveways <input type="checkbox"/> Fences <input type="checkbox"/> Retaining walls <input type="checkbox"/> Other artificial features <p>U) Copies of State and Local permit applications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify named streams, rivers, ponds on-or-within 250' of site <input type="checkbox"/> Notice of Intent <input type="checkbox"/> NRPA <input type="checkbox"/> Permit by Rule <input type="checkbox"/> All other applicable permits <p>V) <input checked="" type="checkbox"/> Copy of FIRM Map showing the proposed subdivision boundary to scale.</p> <p>W) Other:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clearly show how the approved plan will be amended. <input type="checkbox"/> Signature blocks for amended approval. <p>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 THE PROPOSED DEVELOPMENT.</p>
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**Community Development
Planning Division**

Thomas M. Poirier, *Director of Community Development*
tpoirier@gorham.me.us
 Carol Eyerman, *Town Planner*
ceyerman@gorham.me.us

GORHAM MUNICIPAL CENTER, 75 South Street, Gorham, ME 04038

Tel: 207-222-1620

STREET AND DRIVEWAY NAME APPROVAL FORM

STREET NAME APPROVAL

DRIVEWAY NAME APPROVAL

APPLICANT INFORMATION	Name(s)	Gary and Megan Jordan & Donald Grant	Mailing Address	33 Quincy Drive, Gorham, ME 04038
	Phone	207-749-1354		
	Email	Jordangs4@gmail.com		

THE PROPOSED IS:

- Planning Board Approved Private Way
- Subdivision Road constructed to public street specifications
- Driveway (not to be used for calculating frontage for buildable lot computations)
- Other _____

PROPOSED NAME: (MUST PROVIDE THREE NAME OPTIONS)

1. Guardian Heights (Main Road)
2. Mustang Way (Loop)
3. _____

STREET/DRIVEWAY ACCESSES OFF OF:	Guardian Heights	AT:	7
	Mustang Way	AT:	13
MAP AND LOT NUMBER(S) OF ACCESS POINTS:	Map 18 Lot 5-1		
LENGTH OF NEW STREET/DRIVEWAY:	2,583	NUMBER OF LOTS ACCESSED BY NEW STREET/DRIVEWAY:	18

FOR DRIVEWAY NAME APPROVAL ONLY BELOW THIS LINE:

NAME AND SIGNATURE OF EACH PARCEL OWNER TO BE READDRESSSED ON PROPOSED DRIVEWAY:

NAME:	ADDRESS:	SIGNATURE:
1.		
2.		
3.		
4.		

APPLICANT MUST PROVIDE SURVEY OR REASONABLY ACCURATE REPRESENTATION OF THE DRIVEWAY DEPICTING THE DIMENSIONS AND LOCATION OF THE DRIVEWAY TO BE NAMED.



**Community Development
Planning Division**

Thomas M. Poirier, *Director of Community Development*
tpoirier@gorham.me.us
 Carol Eyerman, *Town Planner*
ceyerman@gorham.me.us

GORHAM MUNICIPAL CENTER, 75 South Street, Gorham, ME 04038

Tel: 207-222-1620

FOR OFFICE USE ONLY BELOW THIS LINE:

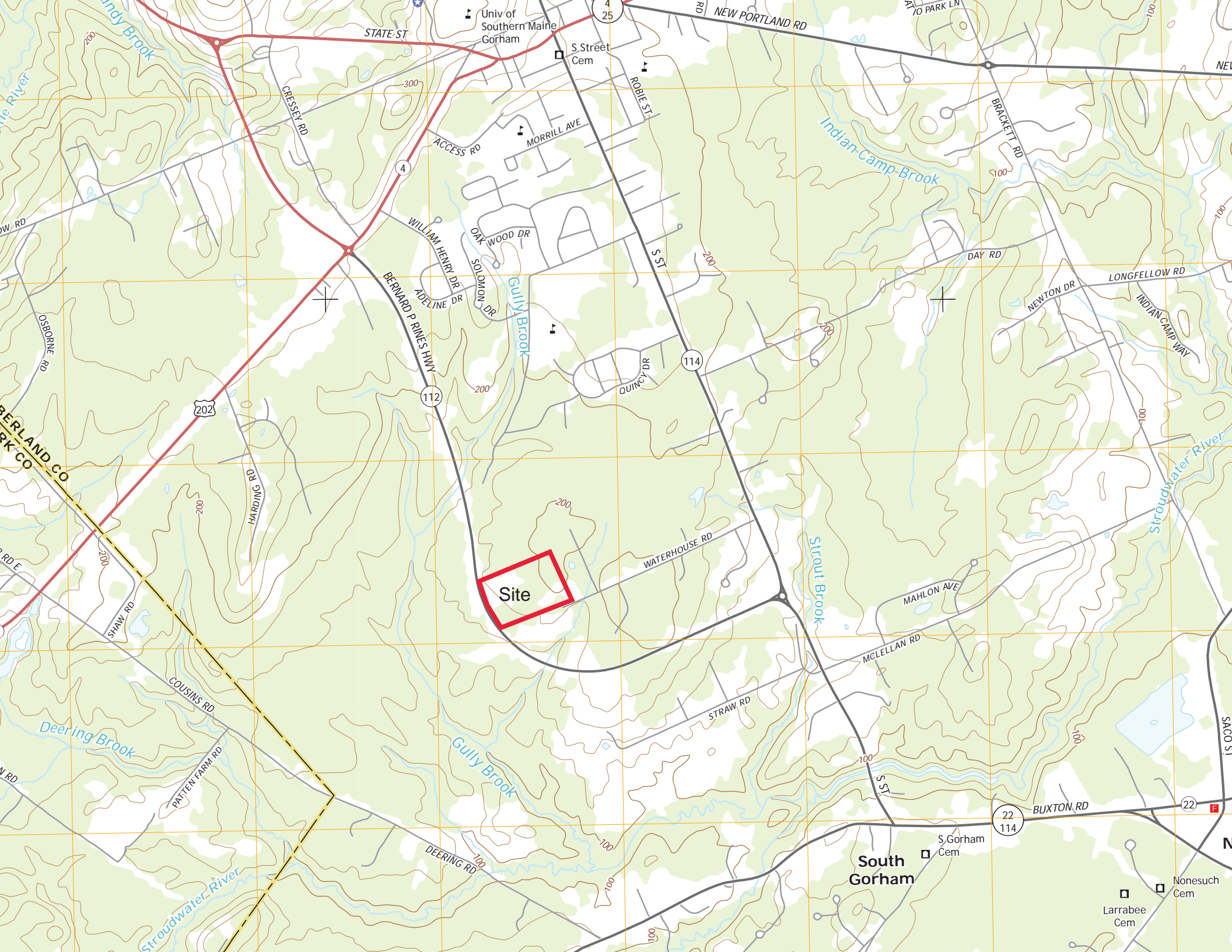
NAME APPROVED:	<small>The applicant is proposing 12 single family house lots and two lots that can support up to 4 units each. No multi family housing is being permitted as part of this approval. Additional permitting will be required to develop the multi family lots.</small>	
NAME APPROVED BY:	SIGNATURE:	DATE:
<input type="checkbox"/> TOWN PLANNER		
<input type="checkbox"/> FIRE CHIEF		
<input type="checkbox"/> POLICE CHIEF		
<input type="checkbox"/> PUBLIC WORKS DIRECTOR		

<input type="checkbox"/> ADDRESSING OFFICER		See attached form
---	--	-------------------

FOR PLANNING OFFICE USE ONLY BELOW THIS LINE:

DATE OF PLANNING BOARD APPROVAL:		
DATE OF TOWN COUNCIL ACCEPTANCE:		
CC:	<input type="checkbox"/> TAX ASSESSOR	<input type="checkbox"/> TOWN CLERK
	<input type="checkbox"/> PUBLIC WORKS DIRECTOR	<input type="checkbox"/> TOWN ENGINEER

Attachment 2
Maps



Site

Univ of Southern Maine
Gorham

South
Gorham

S Gorham
Cem

Larrabee
Cem

Nonesuch
Cem

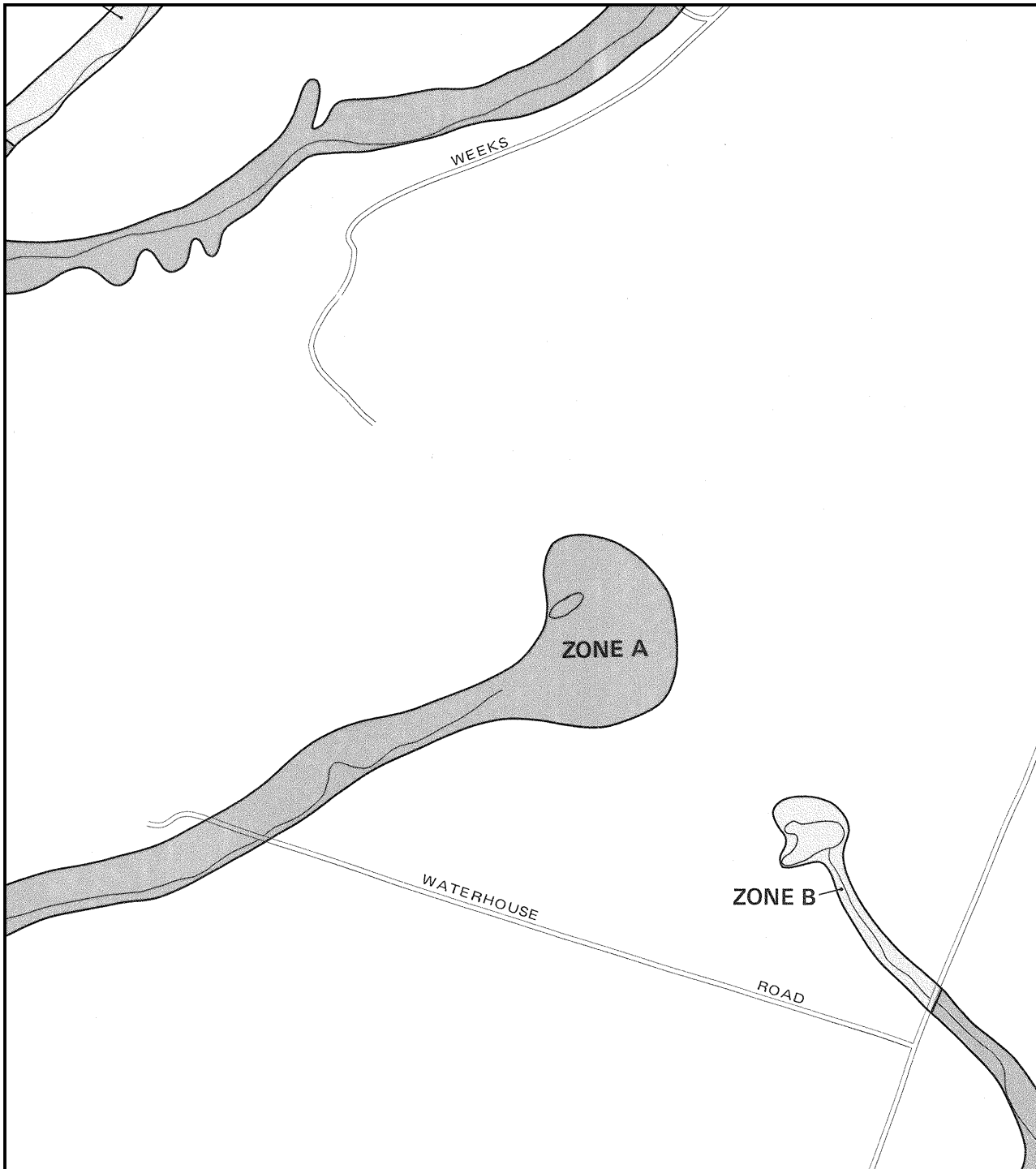
202

114

22
114

4
25

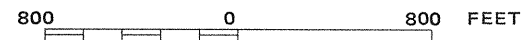
22



Program at (800) 638-6620.



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
GORHAM, MAINE
CUMBERLAND COUNTY

PANEL 25 OF 30
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230047 0025 B

EFFECTIVE DATE:
OCTOBER 15, 1981



federal emergency management agency
federal insurance administration

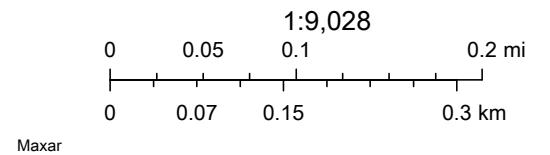
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current,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

Town of Gorham Public Map Viewer

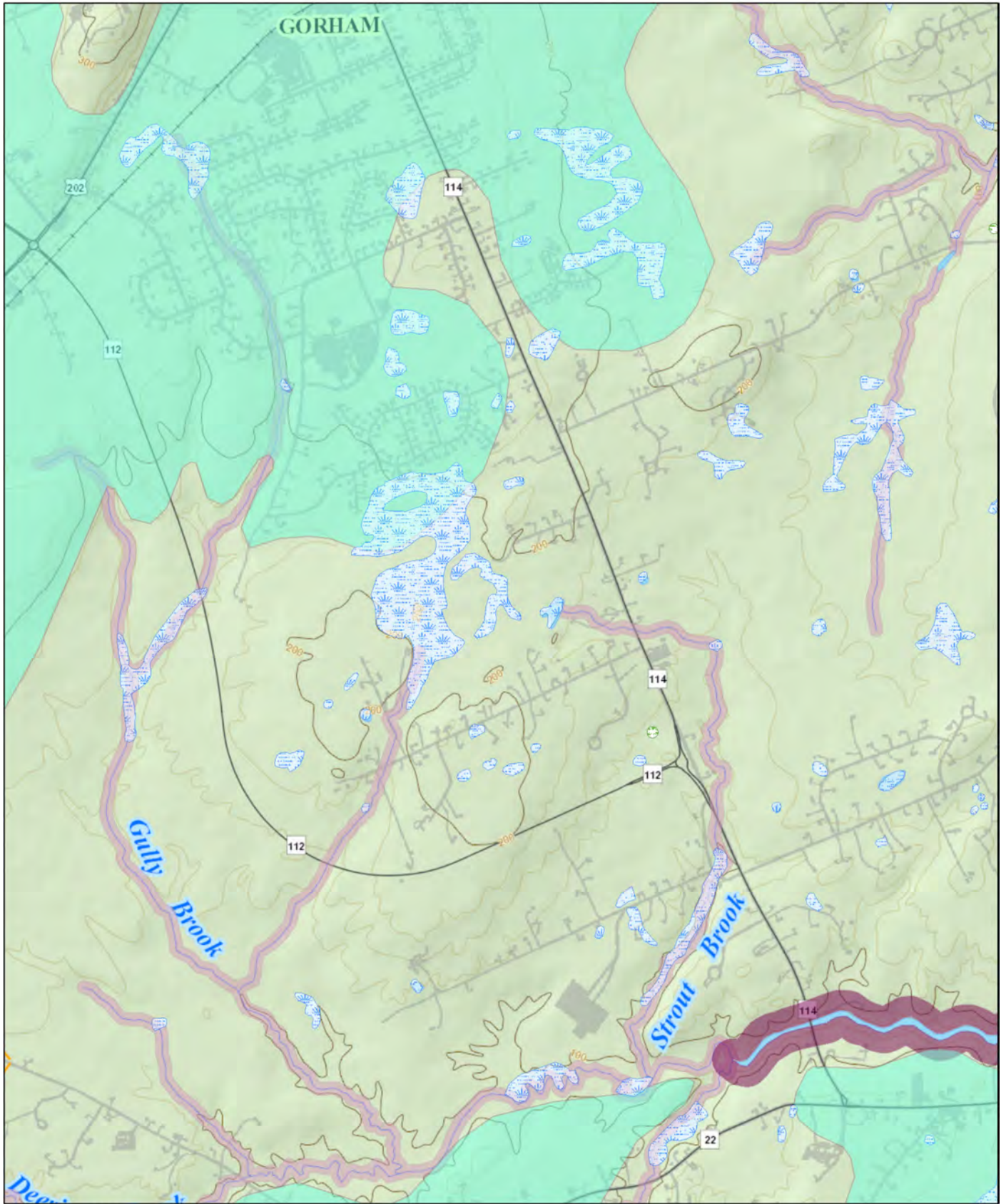


10/14/2022, 9:43:57 AM

- Roadways
- ▭ Parcel Labels
- ▭ Parcels
- ▭ Gorham Town Boundary



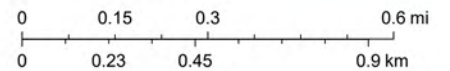
Beginning With Habitat



February 11, 2024

- | | |
|---|---|
| Aquifers | Tidal Waterfowl / Wading Bird Habitat |
| National Wetlands Inventory Wetlands | Inland Waterfowl / Wading Bird Habitat |
| Shellfish Beds | Significant Vernal Pools |
| Stream Buffer (75 feet) | Deer Wintering Areas |
| Great Ponds, Rivers and Coastal Buffer (250 feet) | Essential Wildlife Habitats |
| Atlantic Salmon Habitat | Endangered, Threatened, and Special Concern Species |
| Shorebird Habitat | Natural Communities |
| Seabird Nesting Island | Rare Plants and Natural Communities |

1:18,056



Attachment 3
Parcel Deed

DLN: 1002240193160

MAINE REAL ESTATE TAX-Paid

Prepared by:

Sawyer Law LLC, P.A.
P.O. Box One, 157 Main Street
Gorham, Maine 04038-0201

Above Space Reserved for Recording Information

**DEED OF SALE
BY PERSONAL REPRESENTATIVE (TESTATE)**

Know all persons by these presents that **Wendy A. Hansen**, of Andover, Oxford County, Maine, with a mailing address of P.O. Box 238, 1304 South Main Street, Andover, Maine 04216, duly appointed and acting **Personal Representative** of the **Estate of Wilbur R. Hansen**, late of Andover, Maine, deceased (testate), as shown by the probate records of the County of Oxford, Maine (Docket No. 2022-0057), having given notice at least ten (10) days prior to the sale to each person succeeding to an interest in the real property described below, by the powers conferred by the Probate Code, and every other power, for consideration paid, **grants to Gary S. Jordan, and Megan M. Jordan**, both of Gorham, Cumberland County, Maine, with a mailing address of 33 Quincy Drive, Gorham, Maine 04038-2047, and **Donald G. Grant**, of Hudson, Penobscot County, Maine, with a mailing address of 188 Old Town Road, Hudson, Maine 04449, *as joint tenants*, the real property in **Gorham**, County of Cumberland, State of Maine, described as follows:

All of the decedent's right, title and interest, being a one-third (1/3) interest, in and to the following described real property:

A certain lot or parcel of land, with any improvements thereon, situated in **Gorham**, Cumberland County, Maine, situated on the northerly side of the Waterhouse Road, so called, and being the homestead farm which was formerly owned and occupied by the late Howard F. Flint at the time of his decease on June 12, 1934, being bounded and described as follows:

Beginning at a split stone post located on the north side of the Waterhouse Road, so called, said stone post being six-tenths (0.6) of a mile, more or less, west of the intersection of the said Waterhouse Road and South Street; thence North 25 degrees 45 minutes West, eight hundred fifty (850) feet, more or less, to another split stone post; thence North 22 degrees West, five hundred seventy-two (572) feet to an iron pipe; thence South 84 degrees 45 minutes West one thousand eight hundred thirty-eight (1,838) feet to a split stone; thence South 2 degrees 15 minutes East, one thousand three hundred seventy-six (1,376) feet to a split stone post; thence North 85 degrees 45 minutes East along an old town road, said road being the discontinued portion of the Waterhouse Road, and by the improved portion of said Waterhouse Road for a total distance of two thousand three hundred seventy-two (2,372) feet to the point of beginning, containing sixty-nine (69) acres, more or less.

Together with the rights of the decedent, if any, in and to the discontinued portion of Waterhouse Road which is adjacent to the above described and conveyed premises.

Excepting and excluding a parcel of land of 6.57 acres, more or less, as set forth in a Notice of Layout and Taking by the Maine Department of Transportation dated June 4, 2007 and recorded in the Cumberland County Registry of Deeds in Book 25213, Page 163.

Also excepting, however, from the first above described premises, the real estate previously conveyed by the decedent, Karen A. Libby and Terri L. Hansen by the following deeds:

1. A warranty deed from Wilbur R. Hansen, Karen A. Libby and Terri L. Hansen to Ryan Libby dated October 6, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38745, Page 68.
2. A warranty deed from Wilbur R. Hansen, Karen A. Libby and Terri L. Hansen to Marsha Weeks Traill dated December 9, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38988, Page 199.

Meaning and intending to describe and convey and hereby conveying all of the decedent's interest in a parcel being a portion of the premises described in a warranty deed from Terri L. Hansen, Personal Representative of the Estate of Wilbur E. Hansen, to Wilbur R. Hansen, Karen A. Libby, formerly known as Karen A. Hansen, and Terri L. Hansen dated February 27, 2009 and recorded in the Cumberland County Registry of Deeds in Book 26708, Page 118.


This conveyance is made subject to municipal zoning and land use ordinances, utility easements of record, and real estate taxes payable to the local municipality for the current tax year, which taxes the Grantees herein agree to pay.

Also hereby conveying all rights, easements, privileges and appurtenances belonging to the premises hereinabove described.

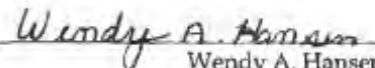
Dated this May 8th, 2022.

*Signed Sealed and Delivered
in the presence of*

Estate of Wilbur R. Hansen



Witness



Wendy A. Hansen
Personal Representative

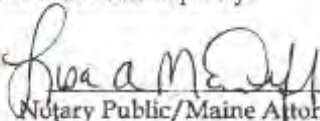
State of Maine
County of Cumberland, ss.

5/8, 2022

Then personally appeared the above named Wendy A. Hansen, Personal Representative of the Estate of Wilbur R. Hansen, and acknowledged the foregoing instrument to be his or her free act and deed in his or her said capacity.

My commission expires:

4/17/29
AFFIX SEAL



Notary Public/Maine Attorney at Law
Lisa A McDuff
Printed Name

Below Space Reserved for Recording Information

GUARDIAN ESTATES SUBDIVISION

DECLARATION OF PROTECTIVE COVENANTS, CONDITIONS, RESTRICTIONS AND COMMON EASEMENTS

This Declaration of Protective Covenants, Conditions, Restrictions and Common Easements, made this **March** _____, 2024, by Gary Jordan and Megan Jordan with an established place of residence at 33 Quincey Drive, Town of Gorham, Cumberland County, Maine and Donald Grant with an established place of residence of 188 Old Town Road, Town of Hudson, Penobscot County, Maine (hereinafter called "Declarant"); and

WHEREAS, Declarant owns, by deed from Wilbur Hansen May 8th, 2022 and recorded in Book 39417, Page 77 of the Cumberland County Registry of Deeds, certain real estate situated in the Town of Gorham, Cumberland County, Maine, and depicted upon a certain Subdivision Plan entitled "Subdivision Plan, Guardian Estates Subdivision", dated **XXXXXX, 2024**, prepared by BH2M, approved by the Town of Gorham on and recorded in said Registry of Deeds under Book ____, Page ____, through (hereinafter called the "Plan"), as Lots No. 1 through 14, and interior roads known as Guardian Heights and Mustang Way; and

WHEREAS, Declarant desires to develop a fourteen (14) lot residential subdivision on property to be known as Guardian Estates Subdivision (Lots No. 1 through 14 collectively called the "Property", the "lots" or in the singular "lot"); and

WHEREAS, Declarant desires to assure quality standards for the wholesome development of the property and to promote the interests and welfare of each owner of a part of the Property and therefore, desires to subject the property to protective covenants and common easements, all as set forth hereinafter; and

WHEREAS, Declarant is required by the Town of Gorham to form a Homeowners' Association, which shall be for the purpose of maintenance of the roadway, maintenance of stormwater detention basin, removal of waste/trash, and maintenance of the easements noted on the plan.

NOW, THEREFORE, Declarant declares that the Property is and shall be held, occupied, improved, transferred, leased and otherwise used and disposed of subject to the protective covenants and common easements set forth herein, all of which are declared to be in furtherance of a uniform scheme of mutual equitable servitudes upon each and every portion thereof, in favor of each and every other portion thereof, and to create reciprocal rights and privity of contract and estate between all persons acquiring or owning an interest in any portion thereof, which protective covenants and common easements shall be determined to run with the land and be a burden and benefit upon and to, and be enforceable by, all persons having any interest in any portion of the Property.

ARTICLE I
DEFINITIONS

Section 1. "Guardian Estates Subdivision" shall mean and refer to the lots and the property which is made subject to the terms of this Declaration, as the same may be amended from time to time.

Section 2. "Association" shall mean the Guardian Estates Subdivision Homeowners' Association, a Maine non-profit corporation with an initial place of business in Gorham, Maine.

Section 3. "Board" or "Board of Directors" shall mean the duly appointed or elected Board of Directors of the Association.

Section 4. "Bylaws" shall mean the duly adopted bylaws of the Association, including any amendments thereto as may be adopted from time to time.

Section 5. "Declarant" shall mean and refer to Gary Jordan, Megan Jordan and Donald Grant their successors, and assigns, if such successors or assigns should acquire more than one undeveloped lot from the Declarant for the purpose of development and if, in the conveyance to such successor or assign, the Declarant expressly transfers to such party Declarant's rights hereunder.

Section 6. "Declaration" shall mean and refer to this Declaration of Protective Covenants, Conditions, Restrictions and Common Easements applicable to the property and as recorded in the Cumberland County Registry of Deeds, as the same shall be amended from time to time.

Section 4. "Lot" shall mean and refer to those numbered parcels shown upon the Plan. Lot shall also mean any residential lot or parcel of land which Declarant elects to make subject to the terms of this Declaration and which is shown upon a survey plan or plans recorded in the Cumberland County Registry of Deeds.

Section 5. "Owner" shall mean and refer to the record owner, whether one or more persons or entities of a fee simple title to any lot which is a part of the Property, but excluding those having such interest merely as security for the performance of an obligation.

Section 6. "Property" shall mean and refer to that certain real property hereinbefore described and shown on the plan, together with the rights and easements for ingress, egress, and utilities in, on, over and across Wildflower Trail as shown on the Plan. In addition, the property shall include any lot or lots which may be created from any other property of the Declarant, whether now owned or acquired in the future, which is contiguous to the original property or contiguous to any property which has been so added (herein the 'Additional Property'); provided; however, that any such additional property will only become subject to the terms and provisions of this Declaration upon an amendment executed by the Declarant, expressly making such additional property subject to the terms hereof.

ARTICLE II
PROTECTIVE COVENANTS AND RESTRICTIONS

Each conveyance by Declarant, its successors, and assigns, of any lot within the Property shall be subject to the following protective covenants and restrictions:

Section 1. Subject to the rights of the Declarant set forth in ARTICLE VIII of this Declaration, residential building for a single-family dwelling with a minimum of 2,000 square feet of living space may be erected or maintained on each lot. Provided, however, that nothing in this paragraph shall be construed to prevent the construction of a swimming pool, accessory dwelling unit, or a single wooden storage shed directly related to the residential use of a single-family dwelling and properly permitted by the Town of Gorham under its local Land Use and Zoning Ordinance and all other applicable regulations.

Section 2. Further subdivision of lots is specifically prohibited.

Section 3. All exterior finishing on any building and all landscaping to the grounds must be completed within one year of the commencement of construction. Completed, as used herein, includes, but is not limited to, porches, steps, decks, platforms, other outside living terraces and grading and seeding of lawns.

Section 4. All disturbed areas on any lot must be revegetated in accordance with good erosion practice methods as soon as possible.

Section 5. The keeping of swine, dog kennels, livestock or other animals, other than household pets normally housed in a single-family residence and chickens, shall not be permitted on any lot.

Section 6. No junk or abandoned or unregistered vehicles shall be maintained or be permitted to remain on any lot and no accumulations of trash or debris shall be allowed on any lot.

Section 7. No mobile homes, trailers, doublewides, or temporary dwellings of any size shall be placed, erected or maintained on any of the lots.

Section 8. No trade, business, profession or commercial trade of any nature shall be conducted on the lots unless it (a) is conducted within the residence located on the lot; and (b) has no employees other than the lot owner, and (c) is not advertised on the lot, except that the lot owner shall be permitted to use one directional sign not larger than 150 square inches of surface area.

Section 9. Any home or other structure on a lot which is destroyed or damaged in whole or in part by fire, windstorm or other casualty must be rebuilt or all debris removed, and the affected portion of the property restored to its natural condition within a reasonable time, not to exceed twelve (12) months.

Section 10. The restrictions contained within this Section shall not apply to lots remaining in the ownership of the Declarant.

Section 11. Lot owners, their agents, employees, contractors, heirs or assigns, shall not alter the area encompassed within the bounds of the proposed drainage swales as indicated on the Plan in any manner which would impede or adversely affect the drainage of the subdivision.

Section 12. Until the expiration of five (5) years from the date of the sale of Declarant's entire interest in Guardian Estates Subdivision, all plans, specifications and designs including, but not limited to, the exterior finish, color and building placement for structures to be located on such lots must receive written approval of Declarant, its successors and assigns. Such approval shall not be unreasonably withheld but such plans, specifications and designs must, in the opinion of the Declarant, be harmonious with other structures in the subdivision.

Section 13. Notwithstanding any of the foregoing restrictions but only after Declaration no longer has no interest in the subdivision, the owners may, upon the application of any lot owner and with the vote of 3/5 (three fifths) of the lot owners, waive any of the foregoing covenants and restrictions. After Declarant no longer has title to or any part in the subdivision. These Covenants and Restrictions may be amended upon approval of three-fifths (3/5) of the lot owners. Any waiver or change to any provision related to the stormwater plan, including but not limited to the stormwater detention basin, will require the prior approval of the Town of Gorham Planning Board.

ARTICLE III

EASEMENTS

Section 1. Creation of Easements. The following easements are created:

(a) Declarant reserves the right to maintain on the Property such advertising signs as may comply with the applicable governmental regulations, which signs may be placed in any location on the property and may be relocated or removed, all at the sole discretion of the Declarant. This easement shall continue until the Declarant has conveyed all lots to owners other than the Declarant.

The Property shall be, and is, made subject to easements in favor of the Declarant, appropriate utility and service companies, cable television companies and governmental agencies or authorities for such utility and service lines and equipment as may be necessary or desirable to serve any portion of the Property. The easements created by this ARTICLE shall include, without limitation, rights of the Declarant, or the providing utility or service company, or governmental agency or authority, to install, lay, maintain, repair, remove and replace gas lines, pipes and conduits, water mains and pipes, sewer and drain lines, drainage ditches, pump stations and leach fields, telephone wires and equipment, television equipment and facilities (cable or otherwise), electrical wires, conduits and equipment and ducts and vents over, under, through, along and on the Property. Notwithstanding the foregoing provisions of this ARTICLE, any such easement through a lot shall be located either in substantially the same location as such facilities or similar facilities that existed at the time of first conveyance of the lot by Declarant or occupancy of the lot by its occupants'.

(b) The lots shall be and are made subject to an easement in favor of the Declarant, and the agents, employees and independent contractors thereof, for the purpose of the inspection,

upkeep, maintenance, repair and replacement, if applicable, of the lots and any improvements and fixtures located thereon, pursuant to its rights to enforce the provisions of this Declaration.

(c) All easements, rights and restrictions described and mentioned in this ARTICLE are easements appurtenant, running with the land and the property, and (except as may be otherwise expressly provided herein or in the instrument creating the same) shall continue in full force and effect until the termination of this Declaration.

Section 2. Reservation of Easement. So long as the Declarant has title to any lot or any other portion of the Property, Declarant reserves the right to grant to any third party any license or easement in, on, over or through the Property, in addition to and not in limitation of those set forth above, which license or easement is determined by Declarant, in Declarant's reasonable judgment, to be necessary or desirable for the development or improvement of the Property. Any such license or easement granted hereunder shall be located so as not to materially interfere with the use or occupancy of the lots by their occupants and may be recorded by Declarant at its sole cost and expense. Declarant will obtain Planning Board approval prior to the granting of easement rights.

ARTICLE IV

MEMBERSHIP AND VOTING RIGHTS IN THE ASSOCIATION; ASSOCIATION PURPOSE AND POWERS

Section 4.1. Membership: Prior to conveyance of any dwelling or lot on the properties, Declarant shall cause the Association to be formed. Every owner, as defined in Article 2 herein, shall be a member of the Association, provided that any person or entity who holds an interest in any dwelling or lot merely as a security for the performance of an obligation shall not be a member.

Upon termination of interest of any Owner in a lot, membership in the association and any interest in the Agreement shall thereupon automatically terminate and transfer and inure to the next Owner of the lot.

Each Owner of a lot shall be bound by the rules of Association and the Agreement, as the same may be amended from time to time, and each Owner of a lot shall comply strictly with the rules of the Association. No holder of a mortgage of a lot shall be considered as a lot owner until such holder shall acquire title to the lot by foreclosure, by deed in lieu of foreclosure, or by maintaining possession of the lot.

Section 4.2. Voting Rights: All members shall be entitled to one (1) vote for each residential lot, in which they hold the interests required for membership pursuant to this Article 6. When more than one person or entity holds such an interest or interests in any dwelling or lot, all such persons or entities shall be members, and the vote for such dwelling or lot shall be exercised as they among themselves determine by majority vote, but in no event shall more than one vote be cast with respect to any such dwelling or residential lot. A member's voting rights shall be suspended during any period in which the member is more than thirty (30) days in arrears for amounts due the Declarant or Association, including assessments.

Section 4.3. Declarant Control: Notwithstanding the foregoing, Declarant shall have the right to appoint, remove and replace the directors of the Association until the first meeting of members following the conveyance of ninety percent (90%) of the residential lots that Declarant

has the right to create within the properties pursuant to Section 3.2 above, or ten (10) years from the date of recording this Declaration, whichever comes later. Declarant shall call a meeting within sixty (60) days of such conveyance or within sixty (60) days following the tenth year anniversary of the recording hereof, as the case may be, for the purpose of the electing directors by the members. Declarant may also convey control to the Association at such earlier time as it may choose, following sixty (60) days advance written notice to the Association.

Section 4.4. Association Purpose and Powers: The Association is the governing body under this Declaration and shall have all powers generally reserved to community associations, except as otherwise stated in the Declaration or as limited by law, including, but not limited to, the power to:

- 4.4.1. Adopt and amend bylaws and rules and regulations;
- 4.4.2. Adopt and amend budgets for revenues, expenditures and reserves and collect assessments from owners;
- 4.4.3. Hire and terminate managing agents and other employees, agents and independent contractors;
- 4.4.4. Institute, defend or intervene in litigation or administrative proceedings in its own name on behalf of itself or two or more owners on matters affecting the Association;
- 4.4.5. Make contracts and incur liabilities;
- 4.4.6. Regulate the use, maintenance, repair, replacement and modification of the common properties including road repair and maintenance, trimming of trees and underbrush to maintain sightlines on roadways, maintain landscape plans which are part of the subdivision plans, maintain viewsheds and enforce compliance with ordinances applicable to the common properties;
- 4.4.7. Cause additional improvements to be made as part of the common properties;
- 4.4.8. Acquire, hold, encumber and convey in its own name and right, title or interest to real or personal property;
- 4.4.9. Grant easements, leases, licenses and concessions through or over the common properties;
- 4.4.10. Without in any way waiving the strict limitation on commercial activities on the Properties set forth herein, to impose and receive any payments, fees or charges for the use, rental or operation of the common properties;
- 4.4.11. Impose charges for the late payment of assessments and after notice and an opportunity to be heard, levy reasonable fines for violations of the Declaration, Bylaws and Rules and Regulations of the Association;
- 4.4.12. Impose reasonable charges for the preparation and recording of amendments to the Declaration;
- 4.4.13. Provide for the indemnification of its officers and directors and maintenance of directors and officers liability insurance;

4.4.14. Assign its right to future income;

4.4.15. Exercise any other powers conferred by the Declaration or Bylaws;

4.4.16. Exercise any other powers necessary and proper for the governance and operation of the Association; and

4.4.17. Enforce compliance with the Approved Subdivision Plan and any applicable shoreland zoning regulations.

ARTICLE V

COVENANT FOR MAINTENANCE ASSESSMENTS

Section 5.1. Assessments by Declarant and the Association:

5.1.1. Creation of the Lien and Personal Obligation of Assessments: Each owner of a lot, by acceptance of a deed therefor (whether or not it shall be so expressed in any such deed) shall be deemed to covenant for himself, his heirs, representatives, successors and assigns, to pay Declarant, prior to the conveyance of the common properties to the Association, or the Association, following such conveyance, assessments and charges as provided herein. All such assessments and charges shall be fixed, established and collected from time to time as hereinafter provided, shall be a charge on the lot or dwelling with respect to which such assessments and charges are made and shall be a lien against such lot or dwelling. Each such assessment and charge, together with the interest thereon and costs of collection thereof, shall also be the personal obligation of the member who is the owner of such assessed lot at the time the assessment fell due.

5.1.2. Purpose of the Assessment: The assessments may be levied against the lots for purposes of promoting the recreation, health, safety, and welfare of the residents of the properties, and in particular for the improvement and maintenance of the common properties, services and facilities devoted to such purpose and related to the use and enjoyment of the common properties and of the members including, but not limited to, discharge of the obligations of the Declarant or the Association as imposed by this Declaration and/or the Bylaws, payment of taxes, if any, upon the common properties assessed to the Declarant or the Association and repair, replacement and additions thereto, for repair and maintenance of streets, roadways, utility lines and drainage facilities, and for the cost of labor, equipment, materials management and supervision thereof.

5.1.3. Computation of Operating Budget and Assessment: It shall be the duty of the Board at least thirty (30) days prior to the Association's annual meeting to prepare a budget covering the estimated costs of operating the Association during the coming year. In determining assessments, the Board may take into account the benefit to specific lots or classifications of lots of particular expenditures. The Board shall cause the budget and the assessments to be levied against each lot for the following year, to be delivered to each member at least twenty-one (21) days prior to the meeting. The budget and assessments shall be deemed ratified and approved unless disapproved at the annual meeting by a vote of sixty percent (60%) of the total Association membership. In the event the budget is disapproved, the budget last approved by the members shall be continued until such time as the members approve a subsequent budget proposed by the Board. The Board shall determine the total amount required, including the operational items such as insurance, repairs,

reserves, maintenance and other operating expenses, as well as charges to cover any deficits from prior years and capital improvements and capital reserve accounts approved by the Board. The total annual requirements and any supplemental requirements shall be allocated between, assessed to and paid by the members as follows: Each lot shall be assessed, and the owner or owners thereof shall pay, a portion of said requirements, the numerator of which shall be one (1) and the denominator of which shall be equal to the number of lots on the properties subject to this Declaration. Each purchaser of a Lot shall pay one (1) month assessments in advance to the Association at the closing of the purchase of any Lot, unless waived by the Board or manager of the Subdivision. The Declarant's obligation for such assessments on unsold lots subject to this Declaration will be limited to the difference between the actual operating costs of the Association, including reserves, and the assessments levied on owners other than Declarant. In no event, however, will the Declarant be required to make a deficiency contribution in an amount greater than it would otherwise be liable for if it were paying assessments on unsold lots. The sum due the Association from each individual owner shall constitute an assessment of the Board of Directors and unpaid assessments shall constitute liens on the individual lots, subject to foreclosure as hereinafter provided.

5.1.4. Due Dates; Duties of the Board of Directors: All assessments shall be payable monthly in advance on the first day of each month as ordered by the Board. The Board shall fix the date of commencement and the amount of the assessment against each lot and shall prepare a roster of the lots and assessments applicable thereto which shall be kept in the office of the Association and shall be open to inspection by any member. Upon the written request of a member or from the member's mortgagee, the Board shall promptly furnish such member or the member's mortgagee with a written statement of the unpaid charges due from such member.

5.1.5. Initial, Revised and Emergency Assessments: An amount equal to the scheduled monthly assessment will be paid to the Association by the owner of each lot at the time of each lot acquisition, to be held by the Association and applied as it may elect for all authorized purposes. This initial assessment shall be in addition to, and not in lieu of, regular monthly assessments provided herein. Each lot owner shall be entitled to a refund from the Association of this initial assessment at the time the lot is re-sold or otherwise transferred and the replacement lot owner has paid its initial assessment to the Association. If at any time prior to or during the course of any fiscal year the Board shall deem the amount of the assessments to be inadequate by reason of a revision in its estimate of either expenses or other income, the Board shall prepare and cause to be delivered to the members a revised estimated annual budget for the balance of such fiscal year and shall call a meeting of the members to ratify such budget in the same manner as for an annual budget. After ratification, monthly assessments shall be determined and paid on the basis of such revisions. The Board may, upon finding that an emergency exists which requires immediate assessment of the members, make an emergency assessment not to exceed an amount equal to the then current monthly assessment for each lot, which shall be due and payable when communicated to the members.

5.1.6. Notice of Meetings: Written notice of any meeting called for the purpose of taking any action authorized under Section 5.1.3 or 5.1.5 of this Article V shall be sent to all members not less than twenty-one (21) days in advance of the meeting. Upon written request of any institutional holder of a first mortgage, that holder shall be entitled to written notice of any such meeting and shall be permitted to designate a representative to attend and observe the meeting.

Section 5.2. Effect of Non-Payment of Assessment of Other Charges; the Personal. Obligation of the Owner; the Lien; Remedies: If any assessment or any other charges payable

pursuant to this Declaration are not paid on the date when due as provided herein, then such assessments and charges shall become delinquent and shall, together with interest thereon and cost of collection thereof as provided hereinafter, thereupon become a continuing lien upon the lot against which such assessments are made and shall bind such property in the hands of the then owner, his heirs, devisees, personal representatives, successors and assigns. Such lien shall be prior to all other liens except: (s) tax or assessment liens on the lot by the taxing subdivision of any governmental authority, including but not limited to State, County, and Town taxing agencies; and (b) all sums unpaid on any first mortgage of record encumbering the lot. The personal obligation of the then owner to pay such assessment or personal charges shall remain his personal obligation for the statutory period and shall not pass to his successors in title unless expressly assumed by them. If any assessment or charges are not paid within thirty days after the delinquent date, the assessments or charges shall bear interest from the date of delinquency at the rate of 18% per annum and Declarant or the Association, whichever is applicable, may bring an action at law against the person personally obligated to pay the same or to foreclose the lien against the lot, and there shall be added to the amount of such assessment or charges the costs of preparing and filing the complaint in such action, and in the event a judgment is obtained, such judgment shall include interest on the assessment or charges as above provided and a reasonable attorney's fee to be fixed by the court, together with the costs of the action.

ARTICLE VI

MORTGAGES OF LOTS; RIGHTS OF MORTGAGES

Section 6.1. Right to Mortgage: Each lot owner shall have the right to mortgage or encumber his own respective lot, which mortgage shall be subject and subordinate to the Deed of Conservation Easement. A lot owner who mortgages his lot shall notify the Board of Directors in writing of the name and address of his mortgagee(s) and shall file a conformed copy of the note and mortgage with the Board.

Section 6.2. Mortgage Foreclosure: Any mortgagee of a lot holding a recorded first mortgage on a lot that obtains title to the lot pursuant to the remedies provided in the mortgage, or through a completed foreclosure of the mortgage, or through deed (or assignment) in lieu of foreclosure, shall take the lot free of such claims and liens for unpaid assessments for common expenses, interest and costs levied against such lot which accrue prior to the acquisition of title to such lot by the mortgagee, other than the proportionate share of the common expenses which become due and payable from and after the date on which the mortgagee shall acquire title to the lot through a completed foreclosure or deed (or assignment) in lieu of foreclosure.

Section 6.3. Notices to Eligible Mortgage Holder: The Association shall send written notice by prepaid United States mail to each Eligible Mortgage Holder of the following proposed actions either within a reasonable period prior to the taking of any of such proposed actions or at the time that notice thereof is given to owners unless another time is specified herein: (1) any condemnation loss or any casualty loss which affects a material portion of the properties or any lot on which there is a first mortgage held by such Eligible Mortgage Holder; (2) notice of any default or delinquency in the payment of assessments for common expenses or any other charges owed by an owner of a lot subject to a mortgage held of record by such an Eligible Mortgage Holder, or any other default in the performance or payment of such an owner of any obligation under this Declaration, the Bylaws or any rules and regulations of the Association, which delinquency or other default continues for a period of sixty (60) days, to the Eligible Mortgage Holder of the mortgage to which

such owner's lot is subject; (3) any lapse, cancellation or material modification of any insurance policy or fidelity bond required to be maintained under the Declaration or Bylaws by the Association; (4) any proposed action which would require the consent of a specified percentage of Eligible Mortgage Holders as specified in Section 6.4 of this Article VI. Upon written request of any Eligible Mortgage Holder, the Association will provide an audited financial statement of the Association for the preceding fiscal year. "Eligible Mortgage Holder" means the holder of record of a recorded first mortgage on a lot which has delivered written notice to the Association stating its name and address, the name and address of the owner of the lot, the identifying number of the lot, and that such mortgage is a recorded first mortgage.

Section 6.4. Mortgagee Approval Rights: For purposes of this Section 6.4, where approval by a stated percentage of Eligible Mortgage Holders is required, such approval shall be based upon one (1) vote for each lot on which a mortgage is held. Any repair, replacement or restoration of the properties, after a partial condemnation or damage due to an insurable hazard, shall be performed as provided in this Declaration or Bylaws, unless other action is approved by at least fifty-one percent (51%) of Eligible Mortgage Holders. Any election to terminate the legal status of the properties pursuant to this Declaration after substantial destruction or a substantial taking in condemnation of the properties shall require the approval of at least fifty-one percent (51%) of all Eligible Mortgage Holders. Any abandonment or termination of the legal status of the properties by act or omission for reasons other than the substantial destruction or taking shall require the prior written approval of at least sixty-seven percent (67%) of Eligible Mortgage Holders. Any abandonment, partition, subdivision, encumbrance, sale or transfer of any of the common properties (except for granting easements for utilities or other public purposes consistent with the intended use of the common properties) by act or omission shall require the prior written approval of at least fifty-one percent (51%) of the Eligible Mortgage Holders. The written consent or approval of at least fifty-one percent (51%) of the Eligible Mortgage Holders of lots affected by such amendments shall be required to add or amend any material provisions of this Declaration or the Bylaws which establish, provide for, govern or regulate any of the following matters: (i) voting; (ii) assessments, assessment liens or subordination of such liens; (iii) reserves for maintenance, repair and replacement of the common properties; (iv) insurance or fidelity bonds; (v) rights to use of the common properties; (vi) responsibility for maintenance and repair of the common properties or the addition, annexation or contraction of the common properties or the addition, annexation or withdrawal of common properties to or from the properties except as provided herein; (viii) the interests in the common properties; (ix) convertibility of lots into common properties or of common properties into lots; (x) lease of lots; (xi) imposition of any restriction on a lot owner's right to sell, transfer, or otherwise convey his lot; (xii) a decision by the Association to establish self-management when professional management had previously been require by an Eligible Mortgage Holder; (xiii) any provisions which are for the express benefit of mortgagees, Eligible Mortgage Holders or insurers or guarantors; (xiv) boundaries of any lot; (xv) restoration or repair of the common properties after hazard damage or partial condemnation in a manner other than that specified in this Declaration or the Bylaws, or (xvi) any action to terminate the legal status of the properties. An addition or amendment to the Declaration or Bylaws shall not be considered material if it is for the purposes of correcting technical errors. An Eligible Mortgage Holder who received written request to approve any additions or amendments which do not constitute either a material change to the Declaration or Bylaws or any amendment described in the preceding paragraph hereof who does not deliver to the requesting party a negative response within thirty (30) days after the giving of notice shall be deemed to have approved such request in writing.

Section 6.5. Rights of First Refusal: Notwithstanding anything to the contrary elsewhere contained in the Declaration, the Bylaws or the Rules and Regulations, in the event that the owners

in the future adopt any right of first refusal in the case of the sale of any lot, such right of first refusal shall not affect, impair or apply to the right of any mortgagee to: (1) foreclose or take title to the lot pursuant to the remedies provided in the mortgage, (2) accept a deed (or assignment) in lieu of foreclosure in the event of default by a mortgagor, or (3) sell or lease a lot acquired by the procedures hereinabove set forth.

ARTICLE VII

AMENDMENTS

Except in cases of amendments to this Declaration that may be unilaterally executed and recorded by the Declarant, and subject to the other provisions of this Declaration and the Bylaws, this Declaration, and the Plan may be amended as follows:

(a) **Before Any Conveyance:** Prior to the conveyance of any lot by the Declarant to a lot owner other than as security for an obligation, the Declarant shall have the right to amend and reamend this Declaration in any manner that the Declarant may deem appropriate.

(b) **After First Conveyance:** After the first conveyance of a lot by a Declarant, the terms of the following subparagraphs shall apply to the amendment of this Declaration:

(i) **Notice:** Notice of the subject matter of a proposed amendment shall be included in the notice of any meeting of the Board of Directors in which a proposed amendment is considered, and shall be served upon all owners in the manner provided for service of notices and upon Eligible Mortgage Holders in the manner provided.

(ii) **Resolution:** An amendment may be proposed by either the Board of Directors or by owners holding in the aggregate no less than twenty (20%) percent of the votes in the Association. No resolution of the Board of Directors adopting a proposed amendment shall be effective unless it has been adopted at a meeting of the Association duly called and held in accordance with the Bylaws by the affirmative vote of at least sixty-seven percent (67%) in voting interest of the owners and then executed and recorded as provided in paragraph (b)(v) of this Article VII.

(iii) **Agreement:** In the alternative, an amendment may be made by an agreement signed by the record owners of the lots to which at least sixty-seven percent (67%) of the votes in the Association are allocated in the manner required for the execution of a deed and acknowledged by at least one of them, and such amendment shall be effective when recorded.

(iv) **Certain Amendments:** Notwithstanding the foregoing provisions of this Article VII, except as otherwise provided in the Declaration, no amendment may increase the number of lots or change the boundaries of any lot, or the uses to which any lot is restricted without the consent of the owners and the consent of the Eligible Mortgage Holders representing or holding mortgages on lots having at least sixty-seven percent (67%) of the votes in the Association and, in the case of changes in the boundaries or permitted uses of a lot, the consent of the owners of the lots affected. No amendment of this Declaration shall make any change which would in any way affect any of the rights, privileges, powers and options of the Declarant, its successors or assigns, unless the Declarant or its successors or assigns shall join in the execution of such amendment.

(v) **Execution and Recording:** A copy of each amendment shall be attached to or included with a certificate, certifying that the amendment was duly adopted and all required notices

were duly served, which certificate shall be executed and acknowledged by such officer or officers of the Association and/or member or members of the Board of Directors designated for the purpose of the Bylaws. The amendment shall be effective when such certificate and copy of the amendment are recorded in the Cumberland County Registry of Deeds.

(vi) Notice and Challenge: No action to challenge the validity of an amendment to this Declaration adopted by the Association pursuant to this Article VII may be brought more than one year after such amendment is recorded. After each amendment to this Declaration adopted pursuant to this Article VII has been recorded, notice thereof shall be sent to all owners and to all Eligible Mortgage Holders at the address last furnished to the Board of Directors, but failure to send such notices shall not affect the validity of such amendment. The Association shall make copies of the Declaration and all amendments thereto available for inspection at reasonable times upon reasonable request for such inspection.

ARTICLE VIII

DECLARANT'S RIGHTS

Section 1. The conveyance of the lots to owners shall be subject to the right of Declarant, until the construction, marketing and sale of all lots has been completed, to:

(a) Change the size, number, layout and location of any lot or improvement for which a purchase and sale agreement has not been executed by Declarant or with respect to which the purchaser is in default under a purchase and sale agreement. The change or changes shall be effective upon the recording by Declarant or an amendment to this Declaration and/or the recording by the Declarant of a modified site plan indicating the changes made. Any reserved rights under this Section require prior Planning Board approval as amendments to the subdivision plan.

(b) Connect with and make use of utility lines, pipes and conduits located on the Property for construction and sale purposes, provided that the Declarant shall be responsible for the cost of services so used.

(c) Install and maintain signs and lighting for sale purposes.

(d) With respect to any lots remaining unsold by Declarant, Declarant may let or lease such lots to any person or persons as Declarant sees fit.

(e) Amend the restrictions as set forth in ARTICLE II by recording an amendment to the Declaration of Protective Covenants in the Cumberland County Registry of Deeds.

This ARTICLE VIII shall not be amended without the consent of the Declarant so long as the Declarant owns any part of the Property.

ARTICLE IX
ROAD MAINTENANCE

The interior access roads known as **Name & Name** shall be constructed to Town of Gorham public road standards. All lots will be subject to the following:

Section 1. All lots shall be benefitted by an appurtenant easement over **Name & Name** the road shown on the plan, for purposes of ingress and egress and location of utilities and all customary uses.

Section 2. The Association is responsible for plowing and sanding of the road in the winter and other repair, maintenance, and replacement, as well as the upkeep of the drainage and erosion control systems as originally approved by the Town of Gorham.

ARTICLE X
MISCELLANEOUS

Section 1. Enforcement. By the acceptance of a Lot deed, each owner covenants and agrees to comply with the covenants and restrictions set forth in this Declaration. Except as provided in Section 5 of this ARTICLE X, any failure to so comply shall be grounds for an action against the offending owner to recover damages or for injunctive relief, or both. Such action may be maintained by any aggrieved owner or by the Declarant so long as it owns any part of the Property. The person violating the restriction shall be responsible for all costs, including attorney's fees, in any enforcement action.

Section 2. Waiver. No delay or omission on the part of the Declarant or any lot owner in enforcing the covenants set forth herein, or in seeking a remedy for breach thereof, shall be construed as a waiver of any right to enforce or to seek such remedy or acquiescence in such breach.

Section 3. Severability. In the event any one or more of the provisions of this Declaration shall be found for any reason by a court of competent jurisdiction to be unenforceable or null and void, such judgment or decree shall not in any manner whatsoever affect, modify, change, abrogate or nullify any other provisions of this Declaration.

Section 4. Construction. Wherever used, the singular shall include the plural, the plural shall include the singular, and the use of any gender shall be applicable to all genders.

Section 5. Mediation. In the event a dispute arises between two or more owners, and if the dispute cannot be settled through negotiation, the owners agree first to try in good faith to settle the dispute by mediation. The expenses of such mediation shall be shared by each party to the mediator, or in such proportion as agreed during mediation.

Section 6. Amendments. Except as limited in ARTICLE VIII, the restrictions set forth in ARTICLE II may be amended from time to time by a three-fifths (3/5) majority vote of the lot

owners. Any amendment to the Protective Covenants shall be in writing signed by three-fifths (3/5) of the lot owners and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, Gary Jordan and Megan Jordan, being the owner of all of the Lots at the Property, has caused this Declaration of Protective Covenants and Common Easements to be executed in its name on this ___ day of _____, 2024.

Date: _____, 2024.

Gary Jordan, Declarant

Megan Jordan, Declarant

Donald Grant, Declarant

Personally appeared before me the above-named GARY JORDAN, and MEGAN JORDAN acknowledged the foregoing instrument to be his free act and deed.

Before me,

Notary Public (Seal)

Printed/Typed Name

My Commission Expires: _____

Attachment 5
Construction Schedule

**Guardian Estates Subdivision
Construction Plan**

The following schedule outlines the anticipated construction sequence:

Begin construction Summer 2024

- Install temporary erosion control measures
- Clear and grub access drives and pad areas
- Construct and stabilize Stormwater management system
- Stockpile and seed any available top soil
- Cut/fill to subgrade & install wetland crossing culverts
- Construct ditches and stabilize
- Construct closed drainage system
- Install utilities
- Final grading and reseeded all disturbed areas Fall 2024
- Remove erosion control devices Spring/Summer 2025 upon satisfactory growth of grass

COST ESTIMATOR
FOR WATER SUPPLY EQUIVALENT
Residential Subdivision/Development

REVISED:
03/25/05
03/15/11

PROJECT DESCRIPTION	MATERIALS DESCRIPTION	ANALYSIS
I. Name of Project: Waterhouse Road	Part A. Basic Information 1. Number of Units 40 2. Lineal Feet of Water Main in an Existing Street 7,400 3. Lineal Feet of Water Main in a proposed Street or R-O-W 2,583 4. Average Service Cost per Unit \$1,425	
II. Owner/Applicant: Gary Jordan	Part B. Determine Construction Cost Inflation Factor 5. Current Month and Year February-23 6. ENR CCI for the current month - See Link (below) 13473 7. ENR CCI for May of 2004 7065 8. Construction Cost Inflation Factor 1.907	
III. Zoning District: Urban Residential Expansion (UREXP)	Part C. Determine Ledge and Extraordinary Costs 9. Estimated Lineal Feet of Ledge Trench 0 10a. Estimated Inflation Adjusted Ledge Cost \$0 OR 10b. Alternative Estimate of Ledge Cost 11. Ledge Cost for Analysis \$0 12. Estimated Extraordinary Costs	
IV. Date of Application: 12-Feb-24	Part D. - Calculate Public Water Cost per Unit 17. Water Main and Service \$17,883 18. Inflation Adjusted \$34,102 19. Ledge and Extraordinary \$0 20. Public Water Cost Per Unit \$34,102	
V. Prepared By: BH2M	Part E. Calculate Maximum Private Water Cost per Unit 21. Average Well \$5,500 22. Average Residential Sprinkler \$5,000 23. Maximum Private Water \$17,600 24. Inflation Adjusted Maximum \$33,562	
VI. Assumptions Used in the Analysis 	Part F. Public Water Cost and Maximum Private Water Cost per Unit 25. Public Water \$34,102 26. Maximum Private Water \$33,562	

Click on link for the current ENR CCI:
<http://enr.construction.com/economics/default.asp>



Civil Engineering | Surveying

Public Sewer Extension Summary
Guardian Estates Subdivision
Waterhouse Road

Existing Conditions

Currently, the nearest existing sewer service is located approximately 7,400 feet (1.40 miles) away from the proposed project entrance at the intersection of Quincy Drive and South Street.

Cost to Extend

To install this infrastructure, the applicant would be tasked with paying the engineering design and construction costs for the extension. This project would require 1.40 miles of sewer main piping, manhole structures, connections to existing properties, and potentially a large pump stations that could cost millions of dollars to construct.

Cost for Septic's

Currently, the cost of a septic system is between \$12,000 and \$15,000 for a single family home depending on whether a stone bed or proprietary system is proposed. This means the maximum expected cost for sewer disposal for 14 lots will be approximately \$210,000.

Conclusion

Article IX, Section 1 of the Town's Waste Water Ordinance states the following:

"Any person who subdivides land within the Town, of which any part either is located within 500 feet of a public sanitary sewer, or is located that it can be connected to such a public sanitary sewer without undue hardship, as determined by the Planning Board, shall, if such subdivision has not been finally approved before the effective date of this Ordinance, and assuming capacity exists in the sewer system as determined by the Town Council, will, at his own expense, construct for dedication to the Town a sanitary sewer extension to serve all structures within such subdivision which will require the disposal of wastewater. Such sanitary sewer shall be designed by a registered engineer, its design shall be approved by the Town and its design, construction and acceptance shall be in accordance with the provisions of Article IX, Section 3, 4 and 5."

Since this project is located significantly further than 500' from the existing sewer service and would create undue hardship, extension of the sewer utility is not required.



Civil Engineering | Surveying

Traffic Summary
Guardian Estates Subdivision

Trip Generation and Distribution

Trip generation was determined for the proposed site based on data provided by the ITE Trip Generation Report, 9th Edition.

For Land Use Code 210 – Single Family Homes, the AM peak period rate is 0.75 trips per dwelling unit (DU), the PM peak period rate is 1.00 trips per DU, and the Weekday Daily Traffic rate is 9.52 trips per DU.

For the purpose of this analysis, we are assuming 4 single family houses the lots that can support up to 4 dwelling units. This is so we are assuming the most conservative trip generation rates since apartments predict 6.65 trips per unit while single family predicts 9.52.

The proposed development is predicted to create the following peak hour trip totals:

Daily Traffic: $(20 \text{ DU} \times 9.52 \text{ trips/DU}) = 190.40 \text{ trips} = 191 \text{ daily trips}$

AM Peak: $(20 \text{ DU} \times 0.75 \text{ trips/DU}) = 15 \text{ trips} = 15 \text{ AM peak hour trips}$

PM Peak: $(20 \text{ DU} \times 1.00 \text{ trips/DU}) = 20 \text{ trips} = 20 \text{ PM peak hour trips}$

The ITE Trip Generation Report also provides anticipated trip distribution. The AM & PM Peak trip distribution is as follows:

AM

4 enter the site

11 exiting the site

PM

13 enter the site

7 exiting the site

No significant traffic impacts to Waterhouse Road will be created as a result of this development.



Berry, Huff, McDonald, Milligan Inc.

COMPANY OVERVIEW

Founded in 1978 in Gorham, Maine to provide quality civil-site engineering and surveying services. Over the past 41 years BH2M has worked on over 6,200 projects for our diverse client base, which consists of Municipal and Private Sector clients.

BH2M has developed a reputation for a strong commitment to excellence in all portions of a project.

The staff structure at BH2M is unique in that all the engineers and project managers are partners within the company. This has been a successful formula that has resulted in many long standing relationships with our clients. Each project at BH2M is overseen by a senior principal within the company to assure the highest level of quality of work and performance.



SERVICES

- Site Development Design
- Subdivision Design
- Stormwater Management Analysis & Design
- Utility Design
- Roadway Design
- Development Permitting
- Construction Administration & Services
- Full Service Survey Department



Berry, Huff, McDonald, Milligan Inc.

ROBERT C. LIBBY, JR. PLS #2190

Bob has worked for BH2M for over 37 years with experience in both the public and private sector working throughout York, Cumberland, Oxford & Androscoggin Counties. His experience includes Boundary Survey, ALTA Surveys, Road Projects, Site Topography, As-Built Surveys and Construction Layout Surveys.

The following is a list of recent projects worked on by Bob:

- Town of Lyman Hill Street
Topography for Road Redesign
- Town of Old Orchard Beach Ross Road
Topography for Eastern Trail Connection
- Town of Standish Cargill Lot Beach Project
Boundary and Topographic Survey
- Route 25 & Oak Hill Road Intersection Relocation
and Sidewalk Project, for Town of Standish
- Town of York Public Safety Building Topography &
Boundary Survey
- Town of Limington Salt Shed & Boundary Survey
- Town of Standish, Route 25 and Oak Hill Road
Improvement Project Boundary & Topographic Survey
- Town of Gorham
Village Square Sidewalk Design
- Town of Gorham
Topography for design of 1.6 miles of recreational pedestrian
& bike trail along a discontinued railroad bed
- Idexx Synergy Center - Phase 2

Robert C. Libby, Jr.
Professional Land Surveyor
PLS #2190

REGISTRATION

Professional Land Surveyor
Maine #2190
Licensed since August 1990

EDUCATION

B.S. Forestry Management/
Recreational Park Management
University of Maine 1982

PROFESSIONAL SOCIETIES

Maine Society of Land Surveyors
President 2009 - 2011

Narragansett Chapter
Former President &
Current Treasurer

PROFESSIONAL BACKGROUND

Survey Party/Chief
Engineering Technician
BH2M Gorham, Maine
1985 - 1993

Survey Department Head
BH2M Gorham, Maine
1993 - Present

380B Main Street Gorham, Maine 04038 (207) 839-2771



Berry, Huff, McDonald, Milligan Inc.

AUSTIN G. FAGAN

Austin has worked for BH2M for 5 years.

Austin's expertise includes :
Residential subdivisions and site plan design
and permitting, stormwater design and permitting,
stormwater BMP certification, land consulting.

The following is a list of recent projects worked on by Austin:

- Merrill Ave Condominiums
7-Unit Residential Condominium Project
Lisbon, Maine
- Commercial Building Expansion
Site Plan permitting and design
Lebanon, Maine
- Acres of Wildlife Campground
After the Fact DEP Site Location permitting
Standish/Baldwin, Maine
- Plowman Road
Private Way permitting, family lot split
Stream Crossing permitting and design
Gorham, Maine

Austin G. Fagan
Professional Engineer
P.E. #16523

EDUCATION

B.S. Civil Engineering
University of Maine
Orono, Maine

PROFESSIONAL BACKGROUND

Project Engineer
BH2M - Gorham, Maine
2016 - Present

Fagan Construction
Sub Contractor
2014 - 2018

East Coast Pool & Spa
Crew Leader
2008 - 2013



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7348

December 6, 2023

Gary & Meghan Jordan
33 Quincy Drive
Gorham, ME 04038

Re: Preliminary soil evaluation, proposed 14 lot subdivision Waterhouse Road Gorham, ME

Dear Gary & Meghan,

We have completed a preliminary soil evaluation on the proposed 14 lot subdivision located on Waterhouse Road Gorham, ME. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated September 2023, as amended. We evaluated two hand excavated test pits on each lot. The soils found are glacial till soils with a limiting factor at approximately 15 to 24 inches. Ledge was found in a few locations.

The soils as evaluated meet the minimum requirements of the state rules. In my opinion, there are suitable soils and enough area on each lot for a septic system. A disposal bed for a 3-bedroom home could be a 20 Eljen In-drain GSF units comprising an area of 15 feet wide by 20 feet long. A septic designs can be completed at some time in the future.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton L.S.E., C.S.S.
Licensed Site Evaluator #263
Certified Soil Scientist #216

SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Waterhouse Road Subdivision	Applicant Name: Gary & Megan Jordan	Project Location (municipality): Gorham

Exploration Symbol # TP-1 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification 3 D Profile Condition	Slope 2 Percent	Limiting Factor 13 " Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Hydric Hydrologic <input checked="" type="checkbox"/> Non-hydric Soil Group
Soil series/phase name: _____			

Exploration Symbol # TP-2 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification 3 D Profile Condition	Slope 2 Percent	Limiting Factor 14 " Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Hydric Hydrologic <input checked="" type="checkbox"/> Non-hydric Soil Group
Soil series/phase name: _____			

Exploration Symbol # TP-3 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification 3 D Profile Condition	Slope 2 Percent	Limiting Factor 14 " Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Hydric Hydrologic <input checked="" type="checkbox"/> Non-hydric Soil Group
Soil series/phase name: _____			

Exploration Symbol # TP-4 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification 3 D Profile Condition	Slope 2 Percent	Limiting Factor 12 " Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Hydric Hydrologic <input checked="" type="checkbox"/> Non-hydric Soil Group
Soil series/phase name: _____			

INVESTIGATOR INFORMATION AND SIGNATURE	
Signature	Date 12/6/23
Name Printed/typed Mark J Hampton	Cert/Lic/Reg. # 263/216
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Waterhouse Road Subdivision	Applicant Name: Gary & Megan Jordan	Project Location (municipality): Gorham

Exploration Symbol # TP-5 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification Profile <u>3</u> Condition <u>D</u>	Slope <u>2</u> Percent	Limiting Factor <u>14</u> Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock	Hydrologic <input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric Soil Group _____
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Exploration Symbol # TP-6 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Classification Profile <u>3</u> Condition <u>D</u>	Slope <u>2</u> Percent	Limiting Factor <u>14</u> Depth	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock	Hydrologic <input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric Soil Group _____
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Exploration Symbol # TP-7 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	ΛΛΛ	Ledge	ΛΛΛ	
24				
30				
36				
42				
48				
54				
60				

Soil Classification Profile <u>2</u> Condition <u>AIII</u>	Slope <u>2</u> Percent	Limiting Factor <u>15</u> Depth	<input type="checkbox"/> Groundwater <input type="checkbox"/> Restrictive Layer <input checked="" type="checkbox"/> Bedrock	Hydrologic <input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric Soil Group _____
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Exploration Symbol # TP-8 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	ΛΛΛ	Ledge	ΛΛΛ	
24				
30				
36				
42				
48				
54				
60				

Soil Classification Profile <u>2</u> Condition <u>AIII</u>	Slope <u>2</u> Percent	Limiting Factor <u>15</u> Depth	<input type="checkbox"/> Groundwater <input type="checkbox"/> Restrictive Layer <input checked="" type="checkbox"/> Bedrock	Hydrologic <input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric Soil Group _____
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INVESTIGATOR INFORMATION AND SIGNATURE		
Signature 	Date 12/6/23	
Name Printed/typed Mark J Hampton	Cert/Lic/Reg. # 263/216	
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer		

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SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Waterhouse Road Subdivision	Applicant Name: Gary & Megan Jordan	Project Location (municipality): Gorham

Exploration Symbol # TP-9 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18		Ledge		
24				
30				
36				
42				
48				
54				
60				

Soil Classification	Slope	Limiting Factor	<input type="checkbox"/> Groundwater
<u>2</u> Profile <u>AIII</u> Condition	<u>2</u> Percent	<u>15</u> " Depth	<input type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-10 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18		Ledge		
24				
30				
36				
42				
48				
54				
60				

Soil Classification	Slope	Limiting Factor	<input type="checkbox"/> Groundwater
<u>2</u> Profile <u>AIII</u> Condition	<u>2</u> Percent	<u>15</u> " Depth	<input type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-11 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18		Ledge		
24				
30				
36				
42				
48				
54				
60				

Soil Classification	Slope	Limiting Factor	<input type="checkbox"/> Groundwater
<u>2</u> Profile <u>AIII</u> Condition	<u>2</u> Percent	<u>15</u> " Depth	<input type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-12 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18		Ledge		
24				
30				
36				
42				
48				
54				
60				

Soil Classification	Slope	Limiting Factor	<input type="checkbox"/> Groundwater
<u>2</u> Profile <u>AIII</u> Condition	<u>2</u> Percent	<u>15</u> " Depth	<input type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

INVESTIGATOR INFORMATION AND SIGNATURE	
Signature:	Date: <u>12/6/23</u>
Name Printed/typed: <u>Mark J Hampton</u>	Cert/Lic/Reg. #: <u>263/216</u>
Title: <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Waterhouse Road Subdivision Applicant Name: Gary & Megan Jordan Project Location (municipality): Gorham

Exploration Symbol # TP-13 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Friable	Brown	
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

S.E. Soil Classification: 3 D Slope: 2 Limiting Factor: 12 " Groundwater
 Profile Condition Percent Depth Restrictive Layer
 S.S. Soil series/phase name: Hydric Hydrologic
 Non-hydric Soil Group

Exploration Symbol # TP-14 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Friable	Brown	
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

S.E. Soil Classification: 3 D Slope: 2 Limiting Factor: 14 " Groundwater
 Profile Condition Percent Depth Restrictive Layer
 S.S. Soil series/phase name: Hydric Hydrologic
 Non-hydric Soil Group

Exploration Symbol # TP-15 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Friable	Brown	
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

S.E. Soil Classification: 3 D Slope: 2 Limiting Factor: 14 " Groundwater
 Profile Condition Percent Depth Restrictive Layer
 S.S. Soil series/phase name: Hydric Hydrologic
 Non-hydric Soil Group

Exploration Symbol # TP-16 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Friable	Brown	
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

S.E. Soil Classification: 3 D Slope: 2 Limiting Factor: 13 " Groundwater
 Profile Condition Percent Depth Restrictive Layer
 S.S. Soil series/phase name: Hydric Hydrologic
 Non-hydric Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Mark J Hampton Date: 12/6/23
 Name Printed/typed: Mark J Hampton Cert/Lic/Reg. #: 263/216
 Title: Licensed Site Evaluator Certified Soil Scientist Certified Geologist Professional Engineer

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SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Waterhouse Road Subdivision	Applicant Name: Gary & Megan Jordan	Project Location (municipality): Gorham

Exploration Symbol # TP-17 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Firm	Olive	Common and Distinct
18				
24				
30				
36				
42				
48				
54				
60				

Depth below mineral soil surface (inches)

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
<u>3</u> Profile <u>D</u> Condition	<u>2</u> Percent	<u>14</u> " Depth	<input checked="" type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-18 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Firm	Olive	Common and Distinct
18				
24				
30				
36				
42				
48				
54				
60				

Depth below mineral soil surface (inches)

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
<u>3</u> Profile <u>D</u> Condition	<u>2</u> Percent	<u>14</u> " Depth	<input checked="" type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-19 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Firm	Olive	Common and Distinct
18				
24				
30				
36				
42				
48				
54				
60				

Depth below mineral soil surface (inches)

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
<u>3</u> Profile <u>D</u> Condition	<u>2</u> Percent	<u>12</u> " Depth	<input checked="" type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

Exploration Symbol # TP-20 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12	Fine Sandy Loam	Firm	Olive	Common and Distinct
18				
24				
30				
36				
42				
48				
54				
60				

Depth below mineral soil surface (inches)

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
<u>3</u> Profile <u>D</u> Condition	<u>2</u> Percent	<u>12</u> " Depth	<input checked="" type="checkbox"/> Restrictive Layer
Soil series/phase name:		<input type="checkbox"/> Hydric	Hydrologic
		<input checked="" type="checkbox"/> Non-hydric	Soil Group

Soil Details by S.E. S.S.

INVESTIGATOR INFORMATION AND SIGNATURE			
Signature 	Date	12/6/23	
Name Printed/typed Mark J Hampton	Cert/Lic/Reg. #	263/216	
Title	<input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer		

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SOIL PROFILE / CLASSIFICATION INFORMATION **DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES**

Project Name: Waterhouse Road Subdivision Applicant Name: Gary & Megan Jordan Project Location (municipality): Gorham

Exploration Symbol # TP-21 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Texture	Consistency	Color	Mottling
0-6" Fine Sandy Loam	Friable	Dark Brown	
6-12" Fine Sandy Loam	Friable	Brown	
12-18" Fine Sandy Loam	Firm	Olive	Common and Distinct
18-24" Fine Sandy Loam			
24-30" Fine Sandy Loam			
30-36" Fine Sandy Loam			
36-42" Fine Sandy Loam			
42-48" Fine Sandy Loam			
48-54" Fine Sandy Loam			
54-60" Fine Sandy Loam			

Soil Details by S.E. Soil Classification: Profile 3 Condition C Slope 2 Percent Limiting Factor 16 Depth Groundwater Restrictive Layer Bedrock
 S.S. Soil series/phase name: _____ Hydric Non-hydric Hydrologic Soil Group _____

Exploration Symbol # TP-22 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Texture	Consistency	Color	Mottling
0-6" Fine Sandy Loam	Friable	Dark Brown	
6-12" Fine Sandy Loam	Friable	Brown	
12-18" Fine Sandy Loam	Firm	Olive	Common and Distinct
18-24" Fine Sandy Loam			
24-30" Fine Sandy Loam			
30-36" Fine Sandy Loam			
36-42" Fine Sandy Loam			
42-48" Fine Sandy Loam			
48-54" Fine Sandy Loam			
54-60" Fine Sandy Loam			

Soil Details by S.E. Soil Classification: Profile 3 Condition C Slope 2 Percent Limiting Factor 16 Depth Groundwater Restrictive Layer Bedrock
 S.S. Soil series/phase name: _____ Hydric Non-hydric Hydrologic Soil Group _____

Exploration Symbol # TP-23 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Texture	Consistency	Color	Mottling
0-6" Fine Sandy Loam	Friable	Dark Brown	
6-12" Fine Sandy Loam	Friable	Brown	
12-18" Fine Sandy Loam	Firm	Olive	Common and Distinct
18-24" Fine Sandy Loam			
24-30" Fine Sandy Loam			
30-36" Fine Sandy Loam			
36-42" Fine Sandy Loam			
42-48" Fine Sandy Loam			
48-54" Fine Sandy Loam			
54-60" Fine Sandy Loam			

Soil Details by S.E. Soil Classification: Profile 3 Condition C Slope 2 Percent Limiting Factor 15 Depth Groundwater Restrictive Layer Bedrock
 S.S. Soil series/phase name: _____ Hydric Non-hydric Hydrologic Soil Group _____

Exploration Symbol # TP-24 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Texture	Consistency	Color	Mottling
0-6" Fine Sandy Loam	Friable	Dark Brown	
6-12" Fine Sandy Loam	Friable	Brown	
12-18" Fine Sandy Loam	Firm	Olive	Common and Distinct
18-24" Fine Sandy Loam			
24-30" Fine Sandy Loam			
30-36" Fine Sandy Loam			
36-42" Fine Sandy Loam			
42-48" Fine Sandy Loam			
48-54" Fine Sandy Loam			
54-60" Fine Sandy Loam			

Soil Details by S.E. Soil Classification: Profile 3 Condition C Slope 2 Percent Limiting Factor 15 Depth Groundwater Restrictive Layer Bedrock
 S.S. Soil series/phase name: _____ Hydric Non-hydric Hydrologic Soil Group _____

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Mark J Hampton Date: 12/6/23
 Name Printed/typed: Mark J Hampton Cert/Lic/Reg. #: 263/216
 Title: Licensed Site Evaluator Certified Soil Scientist Certified Geologist Professional Engineer

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SOIL PROFILE / CLASSIFICATION INFORMATION **DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES**

Project Name: Waterhouse Road Subdivision Applicant Name: Gary & Megan Jordan Project Location (municipality): Gorham

Exploration Symbol # TP-25 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Details by S.E. Soil Classification: 3 Profile C Condition Slope: 2 Percent Limiting Factor: 16 Depth Groundwater Restrictive Layer Bedrock Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-26 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Details by S.E. Soil Classification: 3 Profile C Condition Slope: 2 Percent Limiting Factor: 15 Depth Groundwater Restrictive Layer Bedrock Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-27 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Details by S.E. Soil Classification: 3 Profile D Condition Slope: 2 Percent Limiting Factor: 14 Depth Groundwater Restrictive Layer Bedrock Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-28 Test Pit Boring
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam	Friable	Dark Brown	
6	Fine Sandy Loam	Friable	Brown	
12				
18	Fine Sandy Loam	Firm	Olive	Common and Distinct
24				
30				
36				
42				
48				
54				
60				

Soil Details by S.E. Soil Classification: 3 Profile D Condition Slope: 2 Percent Limiting Factor: 13 Depth Groundwater Restrictive Layer Bedrock Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: *Mark J Hampton* Date: 12/6/23
 Name Printed/typed: Mark J Hampton Cert/Lic/Reg. #: 263/216
 Title: Licensed Site Evaluator Certified Soil Scientist Certified Geologist Professional Engineer

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Legend for Soil Maps

1. Drainage Class

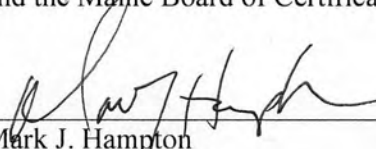
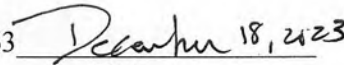
Excessively Well Drained	EWD
Well Drained	WD
Moderately Well Drained	MWD
Somewhat Poorly Drained	SPD
Poorly Drained	PD
Very Poorly Drained	VPD

2. Slope Designation

0-3%	A
3-8%	B
8-15%	C
15-25%	D
>25%	E

3. Note: 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.

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 
Mark J. Hampton Date



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7348

Waterhouse Road
Gorham, ME
Gary Jordan

Soil Narrative Report

DATE: Soil Profiles observed on January 10, 2023

BASE MAP: Base plan provided by BH2M 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 less.
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 accurately under the direction of a registered land surveyor or professional engineer.
Base Map –2 foot contour intervals

Provided:

Mapping units of 1/8 acre or less
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 under the direction of a registered land surveyor.
Ground topographic survey with two foot contours and ground control provided.



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7348

Waterhouse Road
Gorham, ME
Gary Jordan

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%

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:

<u>Surface Layer:</u>	Dark brown, stony sandy loam, 0-7"
<u>Subsurface Layer:</u>	Brown, sandy loam, 7-20"
<u>Subsoil Layer:</u>	Olive brown, stony sandy loam 16-31"
<u>Substratum:</u>	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: Colonel, Brayton, Lyman-Tunbridge

USE AND MANAGEMENT

Development: There are few limiting factors for building site development



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7348

Waterhouse Road
Gorham, ME
Gary Jordan

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:

<u>Surface Layer:</u>	Dk gray brown, stony sandy loam 0-3"
<u>Subsurface Layer:</u>	Dark Brown, stony sandy loam, 3-12"
<u>Subsoil Layer:</u>	Olive Brown, stony sandy loam, 12-18"
<u>Substratum:</u>	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: Lyman-Tunbridge, 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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7348

Waterhouse Road
Gorham, ME
Gary Jordan

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, Lyman-Tunbridge

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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7348

Waterhouse Road
Gorham, ME
Gary & Megan Jordan

LYMAN-TUNBRIDGE COMPLEX

SETTING

PARENT MATERIAL: Loamy glacial till
LANDFORM: Glaciated uplands
POSITION IN LANDSCAPE: Uppermost locations, sideslopes, shoulders and crests
SLOPE GRADIENT RANGES: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Excessively well drained Lyman (10-20 inches to bedrock) and Tunbridge (20-40 inches to bedrock)
These soils occur in a nonrepeating pattern with exposed bedrock outcrops and cannot be separated.

TYPICAL PROFILE:

<u>Surface Layer:</u>	Reddish brown fine sandy loam, 0-4 inches
<u>Subsurface Layer:</u>	Red brown fine sandy loam 4-12"
<u>Subsoil Layer:</u>	Dark red fine sandy loam 12-18"
<u>Substratum:</u>	Brown fine sandy loam 18-36"

HYDROLOGIC GROUP: Group C/D
PERMEABILITY: Slow to rapid, depending on slope and bedrock outcrops.
DEPTH TO BEDROCK: Shallow (Lyman 10-20 inches) to moderately deep (Tunbridge 20-40 inches).
HAZARD TO FLOODING: None

INCLUSIONS (Within Mapping Unit)

CONTRASTING: Dixfield, Colonel

USE AND MANAGEMENT

Development: The limiting factor for building site development is depth to bedrock which ranges from 0 to 40 inches within this complex. Tunbridge and Lyman (deeper than 11 inches) soils may be suitable for subsurface wastewater disposal.

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Waterhouse Road	Applicant Name: Gary & Megan Jordan	Project Location (municipality): Gorham
---	---	---

Exploration Symbol # SS-1 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox	
0	O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
10	Bhs	Reddish Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20	Bs1	Olive Brown	Fine Sandy Loam	Fine Grandu	Firm	Common and Distinct
40	Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Series/Phase Name: **Dixfield** Limiting Factor: 16 " 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-2 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox	
0	Ap	Black	F. Sandy Loam	Weak Angular	Very Friable	
10	Bg	Gray	F. Sandy Loam	Sub Ang Blocky	Friable	Common and Distinct
20	BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
40	Cd	Olive Gray	Sandy Loam	Medium Platy	Very Firm	

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

Horizon	Color	Texture	Structure	Consistence	Redox	
0	Ap	Black	Sandy Loam	Fine Grandu	Friable	
10	Bg	Gray	Sandy Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
20	BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
30	Cd	Olive Gray	Sandy Loam	Medium Platy	Very Firm	

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: _____

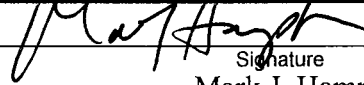
Exploration Symbol # SS-4 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox	
0	O/E	Dark Brown	F. Sandy Loam	Grand	Friable	
10	Bhs	Brown	F. Sandy Loam	Fine Grandu	Friable	
20	Bs1	Olive Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
30	Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Series/Phase Name: **Dixfield** Limiting Factor: 17 " 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

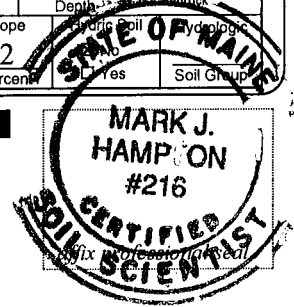

 Signature
Mark J. Hampton
 Name Printed

1/13/2023

Date

216

SS License No.



SOIL PROFILE / CLASSIFICATION INFORMATION **SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES**

Project Name: Waterhouse Road Applicant Name: Gary & Megan Jordan Project Location (municipality): Gorham

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	
0	O/E	Dark Brown	F. Sandy Loam	Grand	Very Friable	
10	Bhs	Reddish Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20	Bs1	Olive Brown	Fine Sandy Loam	Fine Grandu	Firm	Common and Distinct
40	Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Series/Phase Name: Dixfield Limiting Factor 16 " Groundwater
 _____ Depth 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-6 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox	
0	O/E	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
10	Bhs	Reddish Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
20	Bs1	Olive Brown	Sandy Loam	Thin Platy	Firm	Common and Distinct
40	Cd	Olive	Sandy Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Dixfield Limiting Factor 15 " Groundwater
 _____ Depth 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-7 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox	
0	Ap	Black	Sandy Loam	Fine Grandu	Friable	
10	Bg	Gray	Sandy Loam	Weak Sub Ang Blocky	Friable	Common and Distinct
20	BC	Olive Brown	Sandy Loam	Thin Platy	Firm	
30	Cd	Olive Gray	Sandy Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Brayton Limiting Factor 6 " Groundwater
 _____ Depth 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	
0	Ap	Black	F. Sandy Loam	Grand	Friable	
10	Bg	Gray	F. Sandy Loam	Fine Grandu	Friable	Common and Distinct
20	BC	Olive Brown	Sandy Loam	Fine Grandu	Firm	
30	Cd	Olive	Sandy Loam	Platy	Very Firm	

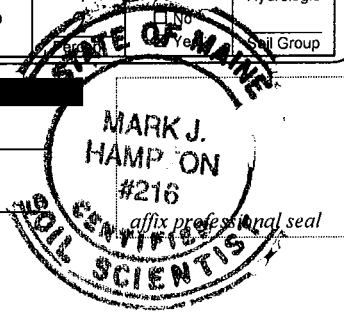
Soil Series/Phase Name: Brayton Limiting Factor 6 " Groundwater
 _____ Depth Restrictive Layer
 Bedrock

Drainage Class: ED SED WD MWD
 SPD PD VPD Slope _____ Percent Hydric Soil No Yes Hydrologic Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton
 Signature
Mark J. Hampton
 Name Printed

1/13/2023
 Date
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7346

SOIL PROFILE / CLASSIFICATION INFORMATION **SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES**

Project Name: Waterhouse Road Applicant Name: Gary & Megan Jordan Project Location (municipality): Gorham

Exploration Symbol # SS-9 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	Reddish Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
Bs1	Brown	Fine Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Series/Phase Name: Colonel Limiting Factor 13 " Groundwater Restrictive Layer Bedrock
 Depth
 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	Black	F. Sandy Loam	Weak Angular	Very Friable	
Bg	Gray	F. 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 Series/Phase Name: Brayton Limiting Factor 6 " Groundwater Restrictive Layer Bedrock
 Depth
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope: 2 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	Black	Sandy Loam	Fine Grandu	Friable	
Bg	Gray	Sandy Loam	Weak 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 Series/Phase Name: Brayton Limiting Factor 6 " Groundwater Restrictive Layer Bedrock
 Depth
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope: 2 Percent
 Hydric Soil: No Yes
 Hydrologic: _____
 Soil Group: _____

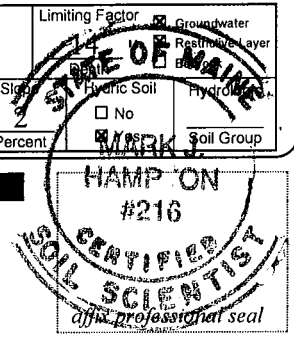
Exploration Symbol # SS-12 Test Pit Boring Probe
 " Organic horizon thickness Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
O/E	Dark Brown	F. Sandy Loam	Grand	Friable	
Bhs	Reddish Brown	F. Sandy Loam	Fine Grandu	Friable	
Bs1	Brown	Sandy Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive	Sandy Loam	Platy	Very Firm	

Soil Series/Phase Name: Colonel Limiting Factor 2 " Groundwater Restrictive Layer Bedrock
 Depth
 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 Date: 1/13/2023
 Name Printed: Mark J. Hampton SS License No.: 216



SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:
Waterhouse Road Subdivision

Applicant Name:
Gary & Megan Jordan

Project Location (municipality):
Gorham

Exploration Symbol # SS-13 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0	O/A	Dark Brown	Sandy Loam	Grand	Very Friable
10	Bs	Red Brown	Sandy Loam	Weak Fine Grand	Friable
20	R	LEDGE			None Noted
30					
40					
50					
60					

Soil Series/Phase Name: Lyman-Tunbridge Limiting Factor 16 " Groundwater
 Restrictive Layer Bedrock
 Depth _____

Drainage Class ED SED WD MWD SPD PD VPD
 Slope 4 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
0					
10					
20					
30					
40					
50					
60					

Soil Series/Phase Name: _____ Limiting Factor _____ " Groundwater
 Restrictive Layer Bedrock
 Depth _____

Drainage Class ED SED WD MWD SPD PD VPD
 Slope _____ 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
0					
10					
20					
30					
40					
50					
60					

Soil Series/Phase Name: _____ Limiting Factor _____ " Groundwater
 Restrictive Layer Bedrock
 Depth _____

Drainage Class ED SED WD MWD SPD PD VPD
 Slope _____ 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
0					
10					
20					
30					
40					
50					
60					

Soil Series/Phase Name: _____ Limiting Factor _____ " Groundwater
 Restrictive Layer Bedrock
 Depth _____

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

1/13/2023
 Date
 216
 SS License No.

affix professional seal



To: Austin Fagan
BH2M
380B Main Street
Gorham, Maine 04038

Date: October 14, 2022

From: Alexander A. Finamore, CWS, LSE
Mainely Soils, LLC

Re: Waterhouse Road Parcel, Gorham – Wetland Delineation
Memorandum

At the request of BH2M (the “Client”), Mainely Soils conducted on-site wetland and waterbody delineations on a parcel of land approximately 36 acres in size located on the north side of Waterhouse Road and the east side of the Gorham Bypass in Gorham, Maine. These field investigations were performed to provide baseline environmental data for the site. The natural resources assessments described in this memorandum were completed in October 2022. 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 site is located on the northern side of Waterhouse Road in the Town of Gorham. The site is currently occupied by hayfields, and forested areas along the fringes of the study area. Proposed use is residential. Surrounding land use of the site is residential. Access to the lot is from Waterhouse Road to the east. In total, the wetland and waterbody delineation survey area encompassed approximately 36 acres identified by the Town of Gorham as Tax Map 18, Lot 5.

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 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 at the site predominantly formed in glaciofluvial deposits on terraces, deltas, and outwash plains (Deerfield series) (Web Soil Survey, 2022). Other soil types found predominantly in uplands areas were formed in lodgment till on hills, drumlins, till plains, and ground moraines (Paxton series). Soils within wetland areas were predominantly formed within outwash and stratified drifton terraces and plains (Walpole series).

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on October 10, 2022. 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.

Six distinct wetland areas were identified within 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.

Mainly 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 identified 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 October outside of the vernal pool indicator breeding season, a preliminary Vernal pool survey was conducted within the Study Area to identify and potential pool locations. Wetland F consisted of an isolated basin that contained over 12 inches of standing water at the time of the delineation. This wetland may have the potential to support vernal pool indicator species breeding activity.

Study Results

Using the methodologies described above, a wetland delineation was performed on October 10, 2022. 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, B, C and D were forested features located within the north eastern portion of the site. These wetlands were classified as seasonally saturated forested palustrine wetlands (PFO1E) (Cowardin et al, 1979). Vegetation within these wetlands were dominated by red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), balsam fir (*Abies balsamea*), eastern hemlock (*Tsuga canadensis*), quaking aspen (*Populus tremula*), winterberry (*Ilex verticillata*), maleberry (*Lyonia ligustrina*), highbush blueberry (*Vaccinium corymbosum*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), fringed sedge (*Carex crinita*), and goldthread (*Coptis trifolia*). Evidence of wetland hydrology were saturated soils, small pockets of standing water, water stained vegetation, drainage patterns, geomorphic position, and buttressed tree roots. Soils within the wetland consisted of a thin dark surface underlain by a depleted silt loam meeting hydric soil criteria A11 (Depleted under dark surface).

Wetland E was located primarily within a fallow hayfield in the southern portion of the site and was classified as a seasonally saturated palustrine scrub-shrub wetland (PSS1E). Dominant vegetation within this wetland consisted of pussywillow (*Salix bicolor*), steeplebush (*Spiraea tomentosa*), highbush blueberry, sensitive fern, royal fern, rough stemmed goldenrod (*Solidago rugosa*), fringed sedge, soft rush (*Juncus effusus*), and woolgrass (*Scirpus cyperinus*). Evidence of wetland hydrology were water stained vegetation. Soils within the wetland consisted of a thin dark surface underlain by a depleted fine sandy loam meeting hydric soil criteria A11 (Depleted under dark surface).

Wetland F was an isolated basin within the center of the Study Area. Wetland F was characterized as a permanently saturated palustrine scrub-shrub wetland (PSS1B). Dominant vegetation included red maple, highbush blueberry, maleberry, winterberry, woolgrass, fringed sedge, and broadleaf cattail (*Typha latifolia*).

No jurisdictional streams were found onsite.

Wetland F showed evidence over a foot of standing water during spring conditions and may have the potential to support vernal pool indicator species breeding activity. A formal vernal pool survey is recommended during the indicator species peak breeding window, typically between April 10 and May 10 for Southern Maine.

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 planning needs. Six freshwater wetlands were delineated on the site, and were identified as Wetlands A-F. Wetlands exhibited an intertidal hydroperiod, and provided groundwater recharge, sediment/toxicant retention, wildlife habitat, fisheries, flood flow alteration, and stormwater/water quality maintenance functions.

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 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. 2022. U.S. Department of Agriculture – Natural Resources Conservation Service. <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Attachments:

1. Representative Site Photographs

Waterhouse Road Parcel, Gorham, ME – Wetland Delineation
Memorandum
Page 4 of 4
October 14, 2022

Attachment 1
Representative Site Photographs

Natural Resource Photographs – 10/10/2022
Waterhouse Road Parcel, Gorham, Maine



Photo 1: View looking southwest into Wetland A from flag 14



Photo 2: View looking southerly across the interior of Wetland B

Natural Resource Photographs – 10/10/2022
Waterhouse Road Parcel, Gorham, Maine



Photo 3: View looking easterly at Wetland C from flag 9



Photo 4: View looking northerly within the central portion of Wetland D

Natural Resource Photographs – 10/10/2022
Waterhouse Road Parcel, Gorham, Maine



Photo 5: View looking northwest across Wetland E



Photo 6: View looking southerly across Wetland F

Natural Resource Photographs – 10/10/2022
Waterhouse Road Parcel, Gorham, Maine



Photo 7: View of typical forested upland onsite



Photo 8: View of typical upland field area onsite



To: Austin Fagan
BH2M
380B Main Street
Gorham, Maine 04038

Date: May 17, 2023

From: Alexander A. Finamore, CWS,
LSE
Mainely Soils, LLC

Re: Waterhouse Road - Tax Map 18, Lot 5 , Gorham, ME - Vernal
Pool Survey Memorandum

At the request of BH2M, Inc (the "Client"), Mainely Soils conducted on-site a vernal pool survey at an approximately 43 acre area located on Waterhouse Road in Gorham, Maine. Mainely Soils conducted these field investigations to provide baseline environmental data to inform the proposed use of the site. The natural resources assessments described in this report were completed on April 24th and May 3rd, 2023. 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 site is located on the northern side of Waterhouse Road in the Town of Gorham. The site is currently occupied by hayfields, and forested areas along the fringes of the study area. Proposed use is residential. Surrounding land use of the site is residential. Access to the lot is from Waterhouse Road to the east. In total, the wetland and waterbody delineation survey area encompassed approximately 36 acres identified by the Town of Gorham as Tax Map 18, Lot 5.

SITE DESCRIPTION

The Study Area occurs in the Gulf of Maine Coastal Lowland biophysical region of Maine (McMahon, 1990). The Gulf of Maine Coastal Lowland 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).

The Natural Resource Conservation Service soil survey mapping identifies native soils at the site as being formed within two general parent materials. Wooded areas were located on glacial till soils formed within ground moraines and terraces. Soil series in these areas include Paxton, Lyman, Ridgebury, Tunbridge, and Abram series (Web Soil Survey, 2020). The open field areas were positioned on marine sediments formed on coastal lowlands and river valleys. Soil series in these areas include the Scantic and Biddeford series.

Study Methodology

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).

Chapter 335 of DEP Rules – Significant Wildlife Habitat defines a vernal pool as follows:

"A vernal pool, also referred to as a seasonal forest pool, is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal

pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.”

“Optimal times for counting egg masses of pool-breeding amphibians vary according to geographic location and weather. For instance, during cold springs, breeding can begin as much as 2 weeks later than it does in warm, wet springs. The optimal time to count masses is just past the peak breeding period. For wood frogs, this occurs approximately 2 weeks after they start full choruses. Wood frog egg masses hatch very quickly and are difficult to count much past peak breeding. Salamanders have a more extended breeding period and their eggs do not hatch as quickly as those of wood frogs. Therefore, surveys to count salamander egg masses should be conducted slightly later in the breeding season, generally 2-3 weeks following wood frog egg mass counts. The following are rough guidelines for optimal times for counting egg masses:”

Geographic Region	Wood Frogs	Spotted & Blue Spotted Salamanders
Northern Maine	May 5- May 20	June 5
Central Maine	April 5 – May 10	May 5 – May 25
Southern Maine	April 10 – April 25	April 20 – May 10

Vernal pool surveys were conducted at the subject site on April 24th and May 3rd, 2023. Mainely Soils identified pooled areas containing water and exhibiting other physical characteristics typically associated with vernal pools. Specifically, Mainely Soils evaluated the contour of the pool bottom and sides, the current depth of water in the pool, the substrate of the pool bottom, and the presence of an inlet or outlet in the form of a perennial stream. When a vernal pool depression is found, a standard field survey data form was completed to document the location and general surroundings and the pool was photographed. In addition, survey points were taken using a global positioning system (GPS) unit (Trimble GeoXT) to delineate the pool boundary.

Mainely Soils relied on two primary criteria: (1) direct evidence of amphibian breeding activity; and (2) evidence of seasonal flooding and drying within a topographic depression not connected to a river, stream or brook. Direct evidence of amphibian breeding activity included the observation of breeding adults, egg masses, and larvae of the following amphibian species: wood frog, spotted salamander, blue-spotted salamander, and four-toed salamander. Other evidence of vernal pool habitat may include the presence of fairy shrimp in the water column. Evidence of seasonal flooding and drying included the observation of water marks on trees, shrubs and boulders, water stained leaves with silt deposits, and buttressed tree trunks and exposed roots.

Confirmation of amphibian breeding included the presence of individual adults in the pool taking part in courtship activities, egg masses, wood frog tadpoles, or Ambystomid salamander larvae. Once it would be determined that an area was functioning as a vernal pool, further assessment was conducted to determine if it was significant (per state regulations). Criteria for identifying an SVP include:

- Species abundance (number of egg masses);
- Blue spotted salamanders – Presence of 10 or more egg masses

- Spotted salamanders – Presence of 20 or more egg masses
- Wood frogs – Presence of 40 or more egg masses
- Presence of fairy shrimp (presence in any life stage); or
- Use of the pool by one or more state-listed endangered or threatened species that commonly require a vernal pool to complete a critical life stage.

If any one of these criteria were met, the pool was considered significant.

Overall, vernal pools were classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man-made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features within the study area contained evidence of vernal pool indicator species. Some other areas of standing water were observed within the wetland areas present, but did not contain vernal pool indicator species.

Study Results

Overall, vernal pools are classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man-made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features have been identified within the study area (See Attachment 2 – Maine State Vernal Pool Assessment Forms) . Vernal Pool one was located within a large isolated scrub-shrub wetland (Wetland F) in the central portion of the property. The entire pool was surrounded by agricultural fields. The pool encompassed the entire wetland feature and contained up to 48 inches of standing water at the time of the survey. Wood frog egg masses were found primarily in the northeast extent of the pool while spotted salamander egg masses were found scattered throughout. A total of 33 wood frog egg masses and 10 spotted salamander egg masses were found within Vernal Pool one meeting the criteria as a category 3 “ACOE non-significant vernal pool”.

Vernal Pool two was located within a small irrigation pond in the northwest corner of the agricultural fields. GPS points were taken and provided to show the extent of the pool depression. The pool contained up to 36 inches of standing water at the time of the survey. Six spotted salamander egg masses were found in the pool. No other vernal pool indicator species were found. This is under the abundance threshold to be considered significant by the MDEP. Therefore, since Vernal Pool two was found within an excavated depression, it would be considered a category 4 “non-jurisdictional feature”. See attached photo log (Attachment 1) for representative views pools and vernal pool indicator species onsite.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding vernal pool resources. This information is intended to be used for project planning purposes and to support permitting needs. Two vernal pools were identified onsite. Vernal Pool one was characterized as ACOE non-significant vernal pool and Vernal Pool two was characterized as a “non-jurisdictional feature”.

Waterhouse Road – Tax Map 18, Lot 5 , Gorham, ME – Vernal Pool
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May 17, 2023

Please feel free to reach out to Mainely Soils for any questions regarding the information presented above.

References:

- Calhoun, A.J.K., and P.G. deMaynadier. 2004. Forestry habitat management guidelines for vernal pool wildlife. MCA Technical Paper No. 6, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.
- McMahon, J.S. 1990. The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation. University of Maine.
- Web Soil Survey. 2023. U.S. Department of Agriculture – Natural Resources Conservation Service.
<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Attachments:

- Attachment 1 – Photo Log
- Attachment 2 – Maine State Vernal Pool Assessment Forms

Waterhouse Road - Tax Map 18, Lot 5 , Gorham, ME - Vernal Pool
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Attachment 1 Representative Site Photographs

**Natural Resource Photographs - 4/24/2023 & 5/3/2023
Waterhouse Road - Tax Map 18, Lot 5 - Gorham, Maine**



Photo 1: View looking east across Vernal Pool 1



Photo 2: View looking north across Vernal Pool 1

Natural Resource Photographs - 4/24/2023 & 5/3/2023
Waterhouse Road - Tax Map 18, Lot 5 - Gorham, Maine



Photo 3: Spotted salamander egg mass in Vernal Pool 1



Photo 4: Wood frog egg mass in Vernal Pool 1

Natural Resource Photographs - 4/24/2023 & 5/3/2023
Waterhouse Road - Tax Map 18, Lot 5 - Gorham, Maine



Photo 5: View looking northwest at Vernal Pool 2



Photo 6: View looking east at Vernal Pool 2

Natural Resource Photographs - 4/24/2023 & 5/3/2023
Waterhouse Road - Tax Map 18, Lot 5 - Gorham, Maine



Photo 7: Spotted salamander egg mass in Vernal Pool 2

Waterhouse Road - Tax Map 18, Lot 5 , Gorham, ME - Vernal Pool
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Attachment 2

Maine State Vernal Pool Assessment Forms



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Floodplain depression, Pool associated with larger wetland complex, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Shrub swamp, Peatland (fen or bog), Emergent marsh, Wet meadow, Lake or pond cove, Abandoned beaver flowage, Active beaver flowage, Slow stream, Floodplain, Mostly unvegetated pool, ATV or skidder rut, Dug pond or borrow pit, Roadside ditch, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent (drying partially in all years and completely in drought years), Ephemeral (drying out completely in most years), Unknown

Explain:

Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: m ft Length: m ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Mineral soil (sphagnum moss present), Organic matter (peat/muck) shallow or restricted to deepest portion, Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.), Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern), Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern), Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle), Sphagnum moss (anchored or suspended), Wet site ferns (e.g. royal fern, marsh fern), Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly), Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes), Aquatic vascular spp. (e.g. pickerelweed, arrowhead), Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort), No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Intermittent inlet or outlet, Permanent inlet or outlet (channel with well-defined banks and permanent flow), Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog											
Spotted Salamander											
Blue-spotted Salamander											
Fairy Shrimp ³											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle					Wood Turtle				
Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only		Reviewed by MDIFW	Date:	Initials:
This pool is:	Significant	Potentially Significant but lacking critical data	Not Significant due to:	does not meet biological criteria. does not meet MDEP vernal pool criteria.
Comments:				



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- | | |
|-----------------------|---|
| Isolated depression | Pool associated with larger wetland complex |
| Floodplain depression | Other: |

■ Check all wetland types that best apply to this pool:

- | | | | |
|-----------------------|--------------------------|-------------------------|------------------------|
| Forested swamp | Wet meadow | Slow stream | Dug pond or borrow pit |
| Shrub swamp | Lake or pond cove | Floodplain | Roadside ditch |
| Peatland (fen or bog) | Abandoned beaver flowage | Mostly unvegetated pool | Other: |
| Emergent marsh | Active beaver flowage | ATV or skidder rut | |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- | | | | |
|-----------|---|--|---------|
| Permanent | Semi-permanent
(drying partially in all years and completely in drought years) | Ephemeral
(drying out completely in most years) | Unknown |
|-----------|---|--|---------|

Explain:

■ Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: m ft Length: m ft

■ Predominate substrate in order of increasing hydroperiod:

- | | |
|---|---|
| Mineral soil (bare, leaf-litter bottom, or upland mosses present) | Organic matter (peat/muck) shallow or restricted to deepest portion |
| Mineral soil (sphagnum moss present) | Organic matter (peat/muck) deep and widespread |

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|--|--|
| Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | Wet site ferns (e.g. royal fern, marsh fern) |
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| Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| Sphagnum moss (anchored or suspended) | Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | No vegetation in pool |

■ Faunal indicators (check all that apply):

- | | | |
|------|---------------------------------|--------|
| Fish | Bullfrog or Green Frog tadpoles | Other: |
|------|---------------------------------|--------|

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- | | |
|------------------------------|--|
| No inlet or outlet | Permanent inlet or outlet (channel with well-defined banks and permanent flow) |
| Intermittent inlet or outlet | Other or Unknown (explain): |



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

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Fairy Shrimp ³											

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	P	H	S			P	H	S	
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Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

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SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

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This pool is:	Significant	Potentially Significant but lacking critical data	Not Significant due to:	does not meet biological criteria. does not meet MDEP vernal pool criteria.
Comments:				

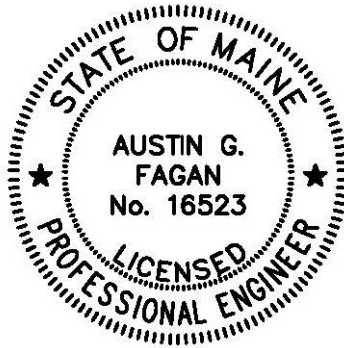
STORMWATER MANAGEMENT REPORT
GUARDIAN ESTATES SUBDIVISION

**Waterhouse Road
Gorham, Maine**

Submitted by:

**Gary and Megan Jordan
& Donald Grant**

Prepared by:



Date:
February 2024

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APPENDIX B	SOILS REPORT – Mark Hampton Associates
APPENDIX C	PRE DEVELOPMENT CALCULATIONS
APPENDIX D	POST DEVELOPMENT CALCULATIONS
APPENDIX E	WATER QUALITY CALCULATIONS & BMP SIZING
APPENDIX F	TEST PIT INFORMATION
APPENDIX G	INSPECTION AND MAINTENANCE MANUAL

1.0 INTRODUCTION

Gary and Megan Jordan & Donald Grant are proposing to construct a 14-lot residential subdivision known as Guardian Estates Subdivision (the project). The project is proposed to occupy approximately 29.52 acres on a parcel located off Waterman Road known as Tax Map 18, Lot 5-1. This project is required to obtain an Individual Stormwater Management Permit from the Maine DEP.

The scope of work includes but is not limited to:

- Tree clearing and grubbing
- Stump and boulder removal
- Construction of 2,600' of 22' wide paved roadway with a 5' sidewalk
- Installation of underground electric and communications conduit and transformer pads
- Installation of storm drain system including catch basins, stormdrain culverts, and vegetated swales.
- Construction of a wet pond
- Construction of a Grassed Underdrained Soil Filter

The proposed infrastructure improvements will create approximately 77,248 sf (1.77 acres) of new impervious area and 113,415 sf (2.60 acres) of newly vegetated area totaling 190,663 sf (4.38 acres) of newly developed area. To accurately size the proposed stormwater infrastructure and to assure that post development stormwater conditions will not impact the downstream properties, we have allocated 5,000 sf of impervious area and 30,000 sf of newly vegetated area on lots that are currently fully wooded with exception to lots 12, 13, & 14. Lot 12 has been allocated 10,000 sf of impervious and 60,000 sf of vegetated area. Lots 13 and 14 have been allocated 20,000 sf of impervious area. These allocations are not required to be counted towards the thresholds for Site Law permitting (3 acre of impervious and 20 acres of developed) because the applicant intends to sell the lots.

Lots 13 and 14 are intended to have density for up to 4 dwelling units each. No multi-family housing is being permitted or proposed on these lots at this time, so though we have made allocations for impervious area on each lot for stormwater quantity purposes, we are not considering these lots as multi family lots.

The Stormwater Management Plan has been prepared to satisfy the requirements of the Maine Department of Environmental Protections "Stormwater Management Rules" Chapters 500, 501 and 502, the most recent version of the "Maine Stormwater Best Management Practices Manual", and the Town of Gorham's Stormwater Ordinance.

1.1 OVERVIEW OF MODELING METHODOGY AND SOURCE INFORMATION

Hydrologic Analysis: The pre and post development conditions have been modeled using modeling software (Hydrocad Version 10) which is based upon the methodology contained within the USDA Soil Conservation Service Technical Release 55. Type III 24-hour storm distributions for Cumberland County were used for the analysis. The following return periods and 24-hour rainfall depths were used for the analysis:

Return Period	24-Hour Rainfall Depth
2-Year Storm	3.10 inches
10-Year Storm	4.60 inches
25-Year Storm	5.80 inches

Soils: The onsite soils used for the stormwater analysis were digitized from a high intensity soil survey that was completed by Mark Hampton Associates. The offsite soils used for the stormwater analysis were digitized from the Natural Resource Conservation Service (NRCS), web soil survey website. The source of the data is the Cumberland County Soil Survey (Class D). Refer to the following for additional documentation regarding the soils used for modelling:

- Appendix B of this Report
- Pre and Post Development Watershed Plans (Sheets A and B)

The onsite soils include:

Soil Map Unit	Unit Description	Hydrologic Soil Group
Brayton	Brayton fine sandy loam, 0-3% slopes	C
Colonel	Colonel stony sandy loam, 0-3% slopes	C
Dixfield	Dixfield stony sandy loam, 0-8% slopes	C
Lyman-Tunbridge Complex	Lyman-Tunbridge fine sandy loam, 3 to 8% slopes	C/D *

*Assumed D for wetland conditions

The offsite soils include:

Soil Map Unit	Unit Description	Hydrologic Soil Group
BgB	Nicholville very fine sandy loam, 0-8% slopes	C
DeB	Deerfield loamy fine sand, 3-8% slopes	A
HrB, HrC	Lyman-Tunbridge Complex, 0-15% slopes	D
PbB	Paxton fine sandy loam, 3 to 8% slopes	C
WmB	Windsor loamy sand, 0 to 8% slopes	A

Topography: LIDAR data from the Maine Office of GIS

Natural Resources: Wetland delineations performed by Mainely Soils

1.2 **DESCRIPTION OF POINTS OF ANALYSIS**

The watershed model analyzes the discharge of runoff at five Analysis Points as described below:

Analysis Point #1

Description: 15" driveway culvert at southeast corner of property land N/F Libby.

Pre Development Tributary Drainage Areas: 1.548 Acres

Post Development Tributary Drainage Areas: 1.863 Acres

Analysis Point #2

Description: Culmination of flow to northern property line land N/F Crosby.

Pre Development Tributary Drainage Areas: 18.187 Acres

Post Development Tributary Drainage Areas: 17.225 Acres

Analysis Point #3

Description: Culmination of flow to low point at western property line.

Pre Development Tributary Drainage Areas: 4.882 Acres

Post Development Tributary Drainage Areas: 3.829 Acres

Analysis Point #4

Description: Culmination of flow to ditch along Route 112 (Gorham bypass).

Pre Development Tributary Drainage Areas: 8.670 Acres

Post Development Tributary Drainage Areas: 12.627 Acres

Analysis Point #5

Description: Culmination of flow to southern property line land N/F Matthews.

Pre Development Tributary Drainage Areas: 8.462 Acres

Post Development Tributary Drainage Areas: 6.206 Acres

1.3 PRE DEVELOPMENT CONDITIONS

The Existing Conditions are shown on Sheet 2 and Sheet A of the accompanying plans. The parcel to be developed encompasses an area of approximately 29.52 acres and is located on Old Orchard Road in Gorham. The parcel is mostly wooded and lies within the Douglass Brook Watershed.

The watershed that was analyzed for this project is approximately 41.749 acres. The analysis points are described in Section 1.2 of this report. The watershed generally flows from east to west and is bounded by woodland to the north, residential land to the east and south, and the Gorham bypass to the west.

The Pre-Development Watershed Map is included as Sheet A of the accompanying plans and the Calculations are attached as Appendix C.

The Pre-Development Watershed Model predicts the following peak flow rates:

Pre-Development Peak Flows (cu. ft./sec)			
Analysis Point	2-Year	10-Year	25-Year
AP-1	1.29	2.75	4.02
AP-2	4.41	12.24	19.69
AP-3	2.47	5.63	8.45
AP-4	6.90	14.65	21.39
AP-5	4.40	10.29	15.61

1.4 POST DEVELOPMENT CONDITIONS

The proposed project will include construction of a 22' wide paved roadway and 5' sidewalk intended to support the development of 14 new lots. Below is a summary of the proposed developed areas associated with construction of the public infrastructure.

Proposed Impervious Area (Roadway)	=	77,248 sf
Proposed Landscaped Area	=	113,415 sf
Proposed Developed Area	=	190,663 sf

In order to accurately size all stormwater BMP's for post development stormwater modeling, allocations of impervious and landscaped area have been considered for each lot. These allocations consist of 5,000 sf of impervious area for lots 1-11, 10,000 sf for lot 12, and 20,000 sf for lots 13 and 14. Allocations of 30,000 sf of newly vegetated area for clearing have also been considered on wooded lots with the exception of lot 12 which has been allocated 60,000 sf.

Allocated Impervious Area (Lot Development)	=	105,000 sf
<u>Allocated Landscaped Area</u>	=	<u>397,198 sf</u>
Allocated Developed Area	=	502,198 sf

The project will include a Wet Pond and a Grassed Underdrained Soil Filter to provide treatment and attenuation of peak flows.

The Post Development Watershed Map is included as Sheet B of the accompanying plan set and the Calculations are attached as Appendix D.

The Post-Development Watershed Model predicts the following peak flow rates:

Post Development Peak Flows (cu. ft./sec)			
Analysis Point	2-Year	10-Year	25-Year
AP-1	1.10	2.16	3.79
AP-2	4.34	11.35	18.26
AP-3	2.43	5.15	7.52
AP-4	6.37	12.79	18.36
AP-5	3.37	7.90	11.98

1.5 BASIC STANDARDS

The proposed project is required to meet the Basic Standards for the Maine DEP. To meet the Basic Standards the project design must demonstrate that the erosion and sedimentation control, inspection and maintenance, and housekeeping standards specified in Appendices A, B, and C of 06-096 Chapter 500 (Maine DEP) are met, and that the grading or other construction activity will not impede or otherwise alter drainageways so as to have an unreasonable adverse impact on a wetland or waterbody, or an adjacent downslope parcel.

The proposed project will provide temporary (during construction) BMP's and post-construction BMP's. Refer to Sheets 7-9 of the project plans for erosion and sedimentation control narratives and details. The project requirements for inspection and maintenance during construction and post-construction are described in the Erosion and Sedimentation Control - Inspection and Maintenance Plan found in Appendix G of this Report. The housekeeping standards can also be found in the Inspection and Maintenance Plan.

1.6 GENERAL STANDARDS

The proposed project is required to meet the General Standards. To meet the general standards, the project design must demonstrate that the stormwater management system includes treatment measures that will provide pollutant removal or treatment and mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms and potential temperature impacts. This must be achieved by providing treatment of no less than 95% of the impervious area and no less than 80% of the developed area. For linear portions of projects, the treatment requirements can be reduced to no less than 75% of the impervious area and no less than 50% of the developed area (See 06-096 Chapter 500 4.C(5)(c)).

The stormwater management system includes a Wet Pond and a Grassed Underdrained Soil Filter. The proposed wet pond and soil filter have been designed in accordance with the design requirements outlined in the Maine Stormwater Best Management Practices Manual, Volume III, Chapters 4 and 7.1.

Below is a summary of the treatment areas associated with the proposed infrastructure. Refer to Appendix E for detailed calculations.

Stormwater Treatment Summary (Linear Project)	
Total Proposed (Linear) Impervious Area	77,248 sf
Total Proposed (Linear) Developed Area	113,415 sf
Total Treated (Linear) Impervious Area	69,935 sf
Total Treated (Linear) Developed Area	145,520 sf
Linear Impervious Area Treatment %	90.53% (75% required)
Linear Developed Area Treatment %	76.32% (50% required)

As shown in the Table above, the stormwater management system has been designed to meet the General Standard requirements. Detailed treatment calculations can be found in Appendix E.

Please note that a treatment credit for 1,780 sf of impervious area and 2,095 sf of grass (3,875 sf developed) has been considered for the proposed wetland crossing. Detailed treatment calculations can be found in Appendix E.

1.7 PHOSPHORUS STANDARD

The proposed project is located in the watershed of an unnamed stream tributary to Gully Brook. The proposed project is not located within the direct watershed of a lake or lake most-at-risk listed in 06-096 Chapter 502. The Phosphorus Standard does not apply to this project.

1.8 URBAN IMPAIRED STREAM STANDARD

The proposed project is located in the watershed of an unnamed stream tributary to Gully Brook. This stream and Gully Brook are not listed in 06-096 Chapter 502 as an Urban Impaired Stream. The Urban Impaired Stream Standard does not apply to this project.

1.9 FLOODING STANDARD

The proposed project is required to meet the Flooding Standards for the Town of Gorham. To meet the Flooding Standard, the project design must demonstrate that the stormwater management systems will accomplish the following:

- a) The system must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project.
- b) The design of piped or open channel systems must be based on a 25-year, 24-hour storm without overloading or flooding beyond channel limits.
- c) The areas expected to be flooded by runoff from a 10-year or 25-year, 24-hour storm must be defined, and no buildings or other similar facilities may be planned within such areas.
- d) Runoff from the project may not flood the primary access road to the project and any public roads bordering the project as a result of a 25-year, 24-hour storm.

The following table compares the Pre and Post Development peak flow rates for the 2-year, 10-year, and 25-year return periods. Refer to Appendix C for the Pre-Development model and Appendix D for Post Development model.

Peak Flow Comparison (cu. ft./sec)						
Analysis Point	2-Year		10-Year		25-Year	
	Pre	Post	Pre	Post	Pre	Post
AP-1	1.29	1.10	2.75	2.16	4.02	3.79
AP-2	4.41	4.34	12.24	11.35	19.69	18.26
AP-3	2.47	2.43	5.63	5.15	8.45	7.52
AP-4	6.90	6.37	14.65	12.79	21.39	18.36
AP-5	4.40	3.37	10.29	7.90	15.61	11.98

As illustrated in the table above, development of the proposed project will create a condition where the post development peak rates of runoff are decreased from the pre development peak rates of runoff for all storm events. No adverse impacts will be created to the downstream conditions as a result of this development.

1.10 CLOSURE

The proposed stormwater management facilities have been designed to mitigate stormwater impacts associated with development of the proposed project.

