

CIVIL ENGINEERING - SURVEYING - LANDSCAPE ARCHITECTURE

Town of Windham Preliminary Major Subdivision Application

For 120 Land of Nod Road Subdivision

Prepared for Grondin Corporation 39 Belanger Road Windham, ME 04062

Prepared by Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, Maine 04106

February 2019

Cover Letter/Narrative

Preliminary Major Subdivision Application / Fee Schedule

Agent Authorization

- EXHIBIT 1 Location Map, Tax Map
- EXHIBIT 2 Right, Title, or Interest Purchase & Sale Agreement, Deed
- EXHIBIT 3 A. Existing or Proposed Covenants or Deed Restrictions and B. Existing or Proposed Easements
- EXHIBIT 4 Abutter List
- EXHIBIT 5 Technical Capacity
- EXHIBIT 6 Financial Capability Cost estimate, Funding Letter, Corporate Status
- EXHIBIT 7 Adequacy and Availability of Public Utilities
- EXHIBIT 8 Solid Waste
- EXHIBIT 9 Lighting Information Light Cut Sheets, Photometric Plan
- EXHIBIT 10 Traffic
- EXHIBIT 11 Unique Natural Areas MDIFW Inquiry, MNAP Response, Historic, FEMA FIRM, Wetland Memorandum, Sand/Gravel Aquifer Map
- EXHIBIT 12 Stormwater Management Report
- EXHIBIT 13 Landscaping
- EXHIBIT 14 Waiver Requests
- EXHIBIT 15 Hydrogeological Assessment



February 4, 2019 16236

Ms. Amanda Lessard, Town Planner Town of Windham 8 School Road Windham, ME 04063

Proposed Major Cluster Subdivision Preliminary Application Land of Nod Road Subdivision Tax Map 7, Lot 29

Dear Ms. Lessard:

On behalf of Grondin Corporation we are pleased to submit (5) full copies of the attached Preliminary Major Subdivision Application for the proposed Cluster Subdivision located at 120 Land of Nod Road, in Windham. We are requesting that the project be scheduled for Preliminary Subdivision Review by the Planning Board at their next available scheduled meeting.

The proposed subdivision development will consist of a cluster subdivision for 30 lots. Since the last Sketch Plan Application, the density bonus for lots where public land access for open space was to be offered has been eliminated by the Town Council and consequently so has the proposed public access. Total area of the parcel is shown as 65.67 acres on property currently owned by the Heirs of Leonard Sanborn, Jr., Leonard Sanborn/and Chris Wilson. The site is identified as Lots 29 on the Town of Windham Tax Map 7 accessing of Land of Nod Road nearly opposite of Morgan Drive and zoned Farm (F) District. The proposed site will consist of a dead end cul-de-sac road, and a short hammerhead terminus ROW showing opportunity for a future connection to the proposed Highland Woods Subdivision that is off of Highland Cliff Road. At this time the applicant will not pursue an actual physical connection between the developments.

The site lots will be served by private wells and subsurface wastewater systems, as there is no public water supply in proximity of the property. We anticipate that the lots could be required to provide sprinkler systems, but we intend to work with the fire department to finalize NFPA requirements. Electric and communication services will be provided underground, and no other services will be required.

A Traffic Impact Study addressing routing, crash history and impacts to traffic is included in this application submittal. The 10/22/18 study concludes that the surrounding area roadways are able to accommodate the expected increase in traffic due to this proposed Land of Nod Road residential subdivision development. The development driveway is projected to operate with little delay and is to be at a location with adequate site distance.

A Stormwater Management Report is included in this submittal in **Section 12**. The estimated runoff from the proposed project appears to break into two direction heading to the rear of the site and to the front of the site but eventually all the project discharges into the Colley Wright Brook which is a tributary of the Presumpscot River. Colley Wright Brook is not defined as a river, stream or brook "most at risk" from new

development or a sensitive or threatened region or watershed as defined by the Maine Department of Environmental Protection (MDEP).

Due to the size and scope of the project it will require a Site Location of Development Application Permit from the Maine DEP. That process will take up to six months from time of permit submittals, which we intend to file concurrently with the Windham Subdivision Review process likely looking to submit both in February 2019. In addition, the site will also require an updated Wetland Fill/Alteration Permit for the filling proposed by the road coming off of Land of Nod Road.

At this time we believe we have provided the Town with the requirements for the Preliminary Major Subdivision Application. We are also seeking one waiver of the submission requirements. Going forward, the applicant Ken Grondin, of the Grondin Corporation has requested that a Subdivision Street Performance Requirement for the Road Monuments to be set with granite monuments at each point of curvature be reduced to allow for only one side of the proposed road be provided with such monuments, thereby reducing the substantial cost, and installation.

We have provided for the Board review a general layout following our last lot configuration using the cluster subdivision lot sizing for the (F) Farm Zone, when we were land swapping and connecting into Highland Woods and this preferred revised cluster subdivision layout showing 30 lots still meets the requirements for the standard cluster subdivision ordinance requirements. The open space as shown is for the benefit of the subdivision lot owners and does not include public use. We have also provided updated soils information for each individual septic system design on each proposed lot, see **Section 15**.

We look forward to meeting with the Planning Board to discuss the project in greater detail. We request that the project be placed on the Board's next available agenda for Preliminary Subdivision review, assumed to be February 25, 2019.

In the interim, please give me a call if you have any questions or if you need any additional information.

Sincerely,

SEBAGO TECHNICS, INC.

mon

James R. Seymour, P.E. Senior Project Manager

JRS:sn

enc.

cc: K. Grondin, Grondin Corporation

TOWN OF WINDHAM MAJOR SUBDIVISION APPLICATION

Preliminary Plan

(Section 910 – Subdivision Review, Submission Requirements)

The original signed copy of this application must be accompanied by:

- The required application and review escrow fees,
- Five (5) collated submission packets, which must include
 - Full size paper copies of each plan, map, or drawing, and
 - A bound copy of the required information found in Section 910 of the Land Use Ordinance.
 - The checklist below offers a brief description of these requirements for the purpose of determining the completeness of a submission. Please use the Ordinance for assembling the submission packets.
 - Only two (2) full copies of Stormwater Management Plan and Traffic Impact Study are required. Summaries and conclusions of the Stormwater Management Plan and Traffic Impact Study are adequate for the remaining three (3) submission packets.
- Electronic submission in PDF format of:
 - All plans, maps, and drawings.
 - These may be submitted as a single PDF file or a PDF for each sheet in the plan set.
 - o A PDF of the required information found in Section 910 of the Land Use Ordinance

The submission deadline for Preliminary plans is three (3) weeks before the Planning Board meeting for which it will be scheduled.

Applicants are strongly encouraged to schedule a brief submission meeting with Planning Staff, to walk through the application checklist at the time a Planning Board submission is made. This will allow applicants to receive a determination of completeness, or a punch list of outstanding items, at the time a submission is made.

If you have questions about the submission requirements, please contact:

Windham Planning Department	(207) 894-5960, ext. 2
Amanda Lessard, Planner	allessard@windhammaine.us
Ben Smith, Planning Director	bwsmith@windhammaine.us

Preliminary Plan - Major Subdivision

Project Name: Land of Nod Road Subdivision	
Tax Map: 7 Lot: 29	
Number of lots/dwelling units:30	Estimated road length:2,034 LF + 371 LF = 2,405 LF
Is the total disturbance proposed > 1 acre?	D No
Contact Information 1. <u>Applicant</u>	
Name: Grondin Corporation, c/o Ken Grond	lin
Mailing Address: 39 Belanger Road, Windham	n, ME 04062
Telephone: (207) 749-6691 Fax:	E-mail: k.grondin@grondincorporation.com
2. <u>Record owner of property</u>	
(Check here if same as applicant)	
Name: Heirs of Leonard Sanborn, Jr.	
Mailing Address: 169 Highland Road, Standis	n, ME 04084
Telephone: (207) 892-9285 Fax:	Email:
	plicant's agent, provide written documentation of
Company Name: Sebago Technics, Inc.	

Mailing Address: 75 John Roberts Road, Suite 4A, South Portland, ME 04106

Telephone: (207) 200-2083 Fax: (207) 856-2206 E-mail: jseymour@sebagotechnics.com

I certify all the information in this application form and accompanying materials is true and accurate to the best of my knowledge.

- 2/4/2019 Pate' Mm Signature

Preliminary Plan - Major Subdivision: Submission Requirements

Α.	Mandatory Written Information	Applicant	Staff
1	A fully executed and signed application form	X	
2	Evidence of payment of the application and escrow fees	X	
3	Proposed name of the subdivision	X	
4	Verification of right, title, or interest in the property, and any abutting property, by deed, purchase and sales agreement, option to purchase, or some other proof of interest.	X	
5	Copy of the most recently recorded deed for the parcel, along with a copy of all existing deed restrictions, easements, rights-of-way, or some other proof of interest	X	
6	Copy of any existing or proposed covenants or deed restrictions intended to cover all or part of the lots or dwellings in the subdivision	X	
7	Copy of any existing or proposed easements on the property		
8	Name, registration number and seal of the Maine Licensed Professional Land Surveyor who conducted the survey	X	
9	Name, registration number and seal of any other licensed professional of the state who prepared the plan (if applicable)	X	
10	An indication of the type of sewage disposal to be used in the subdivision	X	
	i. If connecting to public sewer, provide a letter from Portland Water District stating the District has the capacity to collect and treat the waste water		
	 ii. If using subsurface waste water disposal systems (septic), submit test pit analyses prepared by a Maine Licensed Site Evaluator or Certified Soil Scientist. Test pit locations must be shown on a map. 	X	
11	Indicate type of water supply system(s) to be used in the subdivision.	x	
12	If connecting to public water, submit a written statement from the Portland Water District indicating there is adequate supply and pressure for the subdivision.	n/a	
13	Names and addresses of the record owner, applicant, and adjoining property owners	X	
14	An acceptable title opinion proving right of access to the proposed subdivision or site for any property proposed for development on or off of a private way or private road.	n/a	
15	The name and contact information for the road association who's private way or road is used to access the subdivision.	n/a	

Applicant Staff

16	Financial Capacity.	X	
	i. Estimated costs of development, and itemization of major costs	X	
	ii. Financing - provide one of the following:		
	a. Letter of commitment to fund from financial institution, governmental agency, or other funding agency	x	
	 Annual corporate report with explanatory material showing availability of liquid assets to finance development 		
	c. Bank statement showing availability of funds if personally financing development		
	d. Cash equity commitment		
	e. Financial plan for remaining financing		
	f. Letter from financial institution indicating an intention to finance		
	iii. If a corporation, Certificate of Good Standing from the Secretary of State	X	
17	Technical Capacity	X	
	 A statement of the applicant's experience and training related to the nature of the development, including developments receiving permits from the Town. 	X	
	ii. Resumes or similar documents showing experience and qualifications of full-time, permanent or temporary staff contracted with or employed by the applicant who will design the development.	x	

В.	Mandatory Plan Information	1	
1	Name of subdivision, date and scale	x	
2	Stamp of the Maine License Professional Land Surveyor that conducted the survey, including at least one copy of original stamped seal that is embossed and signed	x	
3	Stamp with date and signature of the Maine Licensed Professional Engineer that prepared the plans.	x	
4	North arrow identifying all of the following: Grid North, Magnetic North, declination between Grid and Magnetic, and whether Magnetic or Grid bearings were used in the plan design	x	
5	Location map showing the subdivision within the municipality	X	
6	Vicinity plan showing the area within 250 feet, to include:		
	i. approximate location of all property lines and acreage of parcels		
	 ii. locations, widths, and names of existing, filed, or proposed streets, easements or building footprints 		
	iii. location and designations of any public spaces		
	iv. outline of proposed subdivision, together with its street system and indication of future probably street system, if the proposed subdivision encompasses only part of the applicants entire property.		
7	Standard boundary survey of parcel, including all contiguous land in common ownership within the last 5 years	x	
8	Proposed lot lines with approximate dimensions and area of each lot.	X	
9	Contour lines at 2-foot intervals, or at intervals required by the Board, showing elevations in relation to the required datum.	x	

		Applicant	Staff
10	Typical cross sections of the proposed grading for roadways, sidewalks, etc., including width, type of pavement, elevations, and grades.	X	
11	Wetland areas shall be delineated on the survey. If none, please note.	Х	
12	Number of acres within the proposed subdivision, location of property lines, existing buildings, vegetative cover type, specimen trees, if present, and other essential existing physical features.	x	
13	Rivers, streams, and brooks within or adjacent to the proposed subdivision. If any portion of the proposed subdivision is located in the direct watershed of a great pond, note which great pond.	x	
14	Zoning district in which the proposed subdivision is located, and the location of any zoning boundaries affecting the subdivision.	X	
15	Location & size of existing and proposed sewers, water mains, culverts, bridges, and drainage ways on or adjacent to the property to be subdivided. The Board may require this information to be depicted via cross-section, plan or profile views.	x	
16	Location, names, and present width of existing streets, highways, easements, building lines, parks, and other open spaces on or adjacent to the subdivision	x	
17	Location and widths of any streets, public improvements, or open space within the subdivision (if any) shown on the official map and the comprehensive plan	x	
18	All parcels of land proposed to be dedicated to public use and the conditions of such dedication.	X	
19	Location of any open space to be preserved or common areas to be created, and general description of proposed ownership, improvement, and management	x	
20	Approximate location of treeline after development	Х	
21	Delineate boundaries of any flood hazard areas and the 100-year flood elevation as depicted on the Town's Flood Insurance Rate Map	X	
22	Show any areas within or adjacent to the proposed subdivision which have been identified by the Maine Department of Inland Fisheries and Wildlife "Beginning with Habitat project maps or within the Comprehensive Plan	n/a	
23	Show areas within or adjacent to the proposed subdivision which are either listed on or eligible for the National Register of Historic Places, or have been identified in the comprehensive plan or by the Maine Historic Preservation Commission as sensitive or likely to contain such sites	x	
24	Erosion & Sedimentation control plan, prepared in accordance with MDEP Stormwater Law Chapter 500 Basic Standards, and the MDEP Maine Erosion and Sediment Control Best Management Practices, published March 2003.	x	
25	Stormwater management plan, prepared by a Maine Licensed Professional Engineer in accordance with the most recent edition of Stormwater Management for Maine: BMPS Technical Design Manual, published by the MDEP 2006.	x	

C.	Submission information for which a waiver may be granted.	Applicant	Staff
1	High-intensity soil survey by a Certified Soil Scientist	Х	
2	Landscape Plan	n/a	
3	Hydrogeologic assessment - required if i) subdivision is not served by public sewer and <u>either</u> any part of the subdivision is over a sand and gravel aquifer <u>or</u> has an average density of more than one dwelling unit per 100,000 square feet, or ii) where site considerations or development design indicate greater potential of adverse impacts on groundwater quality.	x	
	a) map showing basic soil types	X	
	b) depth to the water table at representative points	X	
	c) Drainage conditions throughout the subdivision		
	d) data on existing ground water quality		
	e) analysis and evaluation of the effect of the subdivision on groundwater		
	f) map showing location of any subsurface wastewater disposal systems and drinking water wells within the subdivision & within 200 feet of the subdivision boundaries.		
4	Estimate of the amount and type of vehicular traffic to be generated on a daily basis and at peak hours	х	
5	Traffic Impact Analysis for subdivisions involving 28 or more parking spaces or projected to generate more than 140 vehicle trips per day.	х	
6	If any portion of the subdivision is in the direct watershed of a great pond,	n/a	
	i) phosphorous impact analysis and control plan		
	ii) long term maintenance plan for all phosphorous control measures		
	iii) contour lines at an interval of 2 feet		
	iv) delineate areas with sustained slopes greater than 25% covering more than one acre		

Electronic Submission

#16236-Land of Nod

Subdivision Review				
Item		Fee	Review Escrow	Effective Date
Development Team			\$100	10/22/09
Minor or Major Subdivision	on Sketch Plan	\$200	\$300	7/28/11
Minor Subdivision				7/28/11
Final Plan	1-4 lots	\$900	\$1,500	
Major Subdivision Preliminary Plan	(1-10 lots) PLU Each lot over 10 20 x \$300. = \$6,00	\$300	Up to 10 lots = \$2,500 11-15 lots = \$3,000 16-30 lots = \$4,000 30+ lots = \$5,000	Total ^{7/28/11} \$1,300.00 \$6,000.00 <u>\$4,000.00</u> \$11,300.00
Major Subdivision Final Plan		\$350	\$250	
Amended Sudivsion Each Lot/Revision		\$350	\$250	7/28/11

Site Plan Review					
Item		Fee	Review Escrow	Effective Date	
Development Team			\$100	10/22/09	
Minor or Major Site Plan Sk	etch Plan	\$200	\$300	7/28/11	
Minor Site Plan				7/28/11	
Final Plan		\$850	\$2,000		
Major Site Plan				7/28/11	
Final Plan	\$1,300		2K to 5K s.f. GFA = \$2,000		
	PLUS		5K to 15K s.f. GFA = \$3,000		
	\$25 each 1K s.f. ove	r 5K s.f. GFA	15K to 35K s.f. GFA = \$4,000		
			over 35K s.f. GFA = \$5,000		
Amended Site Plan				7/28/11	
Each Revision		\$350	\$250		

Zone Change & Other Review Fees					
Item	Fee	Review Escrow	Effective Date		
Zone Change Request	\$600	n/a	7/28/11		
Contract Zone Request	\$800	\$500	7/28/11		
Conditional Use	\$400	\$250	7/28/11		
Board of Appeals			7/28/11		
Incl. Variances and Appeals	\$400	n/a			
Mineral Extraction			7/28/11		
New Operation	\$100 + \$100/acre	\$500			
Expansion over 5 acres	\$100 + \$100/acre	\$500			
Renewal	\$50	n/a			
Renewal, Late Fee	\$50	n/a			

Zone Change & Other Review Fees (Cont.)							
Item	Fee	Review Escrow	Effective Date				
Shoreland Zoning							
Planning Board Review	\$100	n/a	10/24/02				
	PLUS						
	\$50 for Public Hearing						
Code Enforcement Review		11/26/02					
Minor	\$50	n/a					
Major	\$100	n/a					
Wireless Telecommunications	Facility		7/28/11				
Planning Board Review	\$400	n/a					
Co-Location Application	\$250	n/a					
Water Protection Ordinance	\$30	n/a	11/26/02				
Postage. Applicants are respo	Postage. Applicants are responsible for postage costs of all notification requirements.						

		Impact Fees*	•	
Item		Fee	Review Escrow	Effective Date
Sidewalk Impact Fee	5 feet of sidewa	lk x (GFA/100)	n/a	6/7/13
	x \$35 p	er foot		
Recreation Impact Fee (pe	er dwelling unit)			4/10/14
Single Family Detached	l	\$1,080	n/a	
Single Family Attached	(duplex/condos)	\$800	n/a	
Manufactured Housing		\$800	n/a	
Multifamily (3+ Unit) apartment structure		\$600	n/a	
Accessory Apartment		\$400	n/a	
North Route 302 Road Improvement Impact Fee		e		8/26/14
\$382.65 per primary peak hour trip		required if not covered by		
through Route 302 intersection with		site plan or subdivision review		
	Anglers Rd/Wh	ites Bridge Rd	-	

Notes:

"K" = 1,000;

"s.f." = Square Feet;

"GFA" = Gross Floor Area (See Section 300 Definitions)

Postage - Notification cost requirement applies to all applications

Performance Bonds & Post Approval Inspection Fee must be established with the Town prior to the commencement of construction.

Building Permits - Contact the Code Enforcement Department or download from www.windhammaine.us

NPDES Post Construction Inspection Fee - See Post Construction Ordinance.

* - See Section 1200 of the Windham Land Use Ordinance for more details and applicability. A project's impact fee shall be paid prior to the issuance of any building permits.

AGENT	AUTH	ORIZATION	1				
APPLICANT/ OWNER	Name	Kenneth Grondin, Grondin Corporation					
PROPERTY DESCRIPTION	Physical Address	39 Belanger Road Windham, ME 04062			Мар	7	
	Name	James Seymour, P.I			Lot	29	
APPLICANT'S AGENT INFORMATION	Phone	(207) 200-2083		Sebago Technics, Inc.			
			Business Name & 75 John Roberts Mailing Address South Portland, 7			ts Road, Suite 4A	
1 1-	1						

KEig APPLICANT SIGNATURE DATE FEB. 2, 2019

Kenneth Grondin, Grondin Corporation

PLEASE TYPE OR PRINT NAME HERE

KENNETH BRONOW

APPLICANT'S AGENT SIGNATURE

James Seymour, P.E., Sebago Technics, Inc.

DATE

ennon PLEASE TYPE OR PRINT NAME HERE

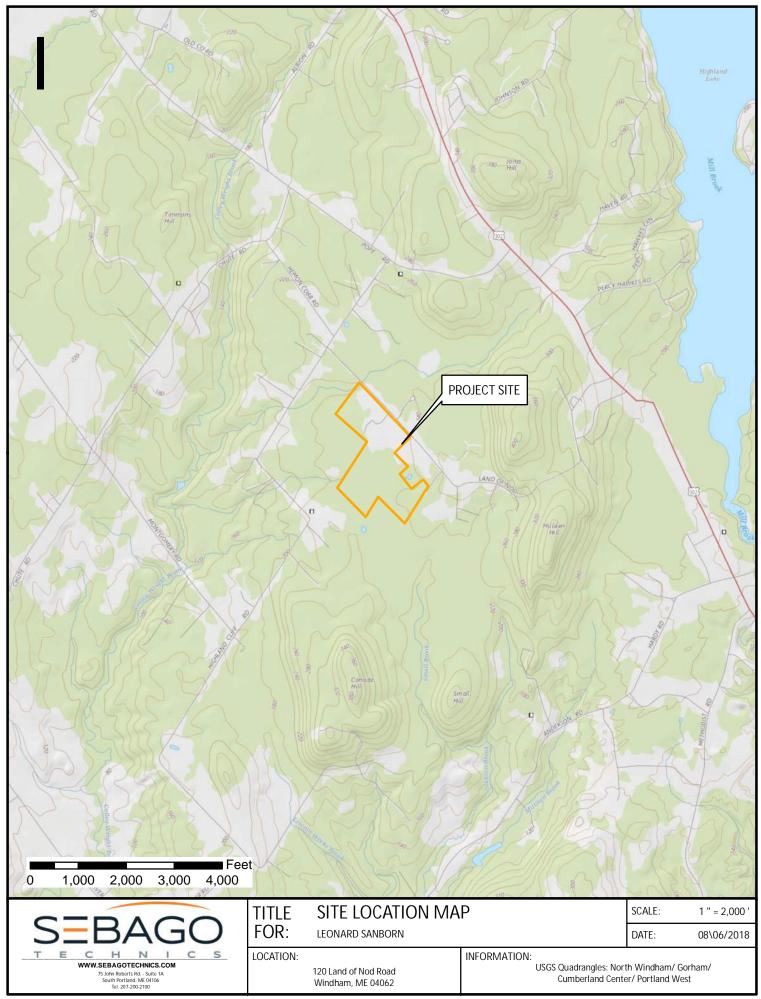
Exhibit 1

Vicinity Maps

Exhibit 1: Vicinity Maps

Enclosed please find the following vicinity maps associated with the site:

- Figure 1 USGS Location Map
- Figure 2 Tax Map



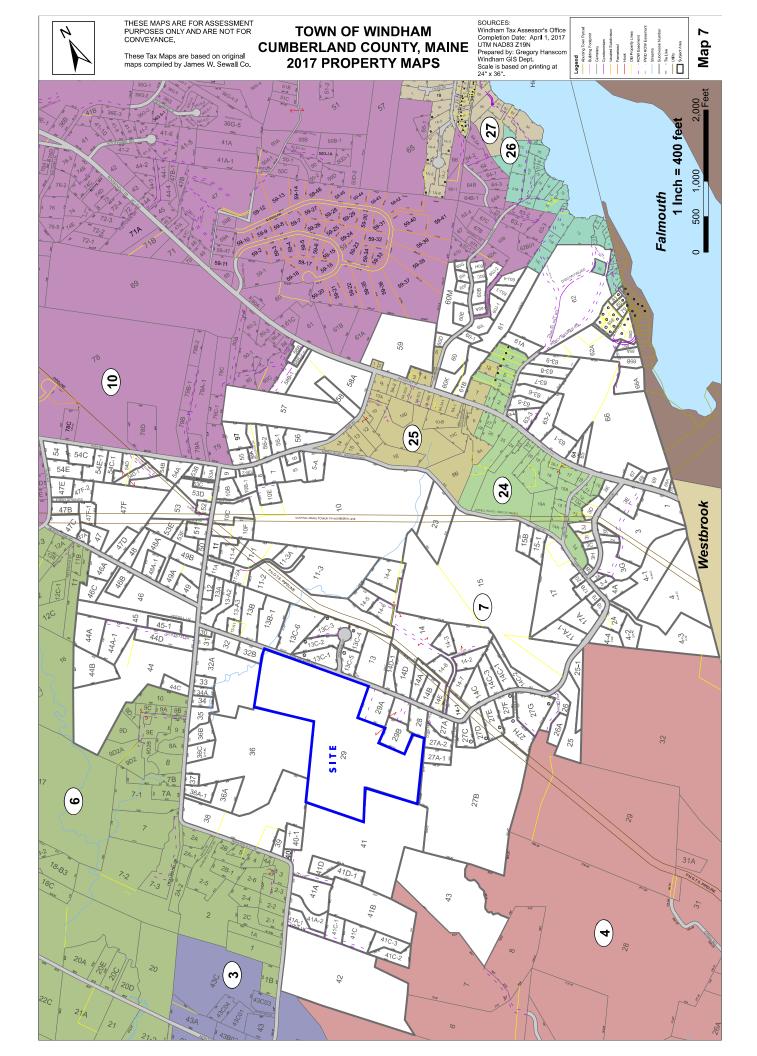


Exhibit 2

Right, Title or Interest

Exhibit 2: Right, Title, or Interest

The record owner of the subject property is Heirs of Leonard Sanborn, Jr. and the property is shown on the Town of Windham Tax Map 7, Lot 29. A copy of the Purchase and Sale Agreement (PSA) between the record owner and Grondin Corporation and the deed (Cumberland County Registry of Deeds Book 4617, Page 205) are enclosed in this section.

PURCHASE AND SALE AGREEMENT:

- 1) **Parties:** Grondin Corporation of Windham, Maine (the "Purchaser"), agrees to purchase from Timothy and Leonard Sanborn of Windham, Maine (the "Seller"), a certain piece of real estate under the terms and conditions provided herein.
- 2) **Real Estate:** The piece of real estate to be purchased is 65.67 Acres/Land as shown on Exhibit A, part of Lot 29 Map 7 in Windham, Maine.
- 3) **Purchase Price:** The total price to be paid by Purchaser for the above named real estate is
- 4) Payment Terms: Purchaser shall give to Seller a non-refundable down payment in the amount of Ten Thousand Dollars (\$10,000) unless due to seller default. The remaining purchase price of shall be paid in cash at closing, which shall occur no later than two weeks after final approval by Windham Planning Board.
- 5) **Closing Adjustments:** Real estate property taxes shall be prorated as of the closing date. The Seller and Purchaser shall pay real estate transfer taxes equally in accordance with Maine law.
- 6) Acceptance/Closing: Seller shall have two (2) business days from date of Purchaser's signing for acceptance hereof. Closing to take place after satisfaction of all contingencies.
- 7) **Contingencies:** Seller will have obtained clear title to subject Property, which is currently owned by Seller.
- 8) **Conveyance at Closing:** The property shall be conveyed to Purchaser at closing by Quitclaim Deed conveying good, clear and marketable record title.
- 9) Title: Purchaser will cause to be conducted, at Purchaser's expense, any title search, title examination, or purchase of any title insurance policies. Purchaser shall give written notice to Seller of any title defects, and Seller shall have thirty (30) days thereafter to remedy the title, after which time, if such defects are not corrected, Purchaser may, at its option, withdraw its offer and be relieved from all obligations hereunder relative to the purchase of the Property.

10) Miscellaneous:

A. This Agreement shall be binding upon and inure to the benefit of the parties and the heirs, personal representatives, successors and assigns of each of them.

1. RETAIN CONTENTS OF OID HOUSE 122 LANDOF Nod Rd 2. TO PUT DID BARN SHELL & GASHOUSE INTO OID PIT TO BE BURIED.

- B. This Agreement is the entire understanding of the parties with respect to the transactions contemplated herein and may be amended only by a written instrument signed by both parties.
- C. This Agreement and the documents relating thereto are to be construed in accordance with the laws of the State of Maine.
- D. All communications required or permitted to be given hereunder shall be in writing and shall be deemed to have been duly given to either the Seller or Purchaser if delivered personally or by certified mail, return receipt requested.
- E. Provisions herein regarding specific dates, time and deadlines are an essential part of this Agreement and shall be strictly observed and construed.

Timothy Sanborn (Selle

Date: 4-5-12

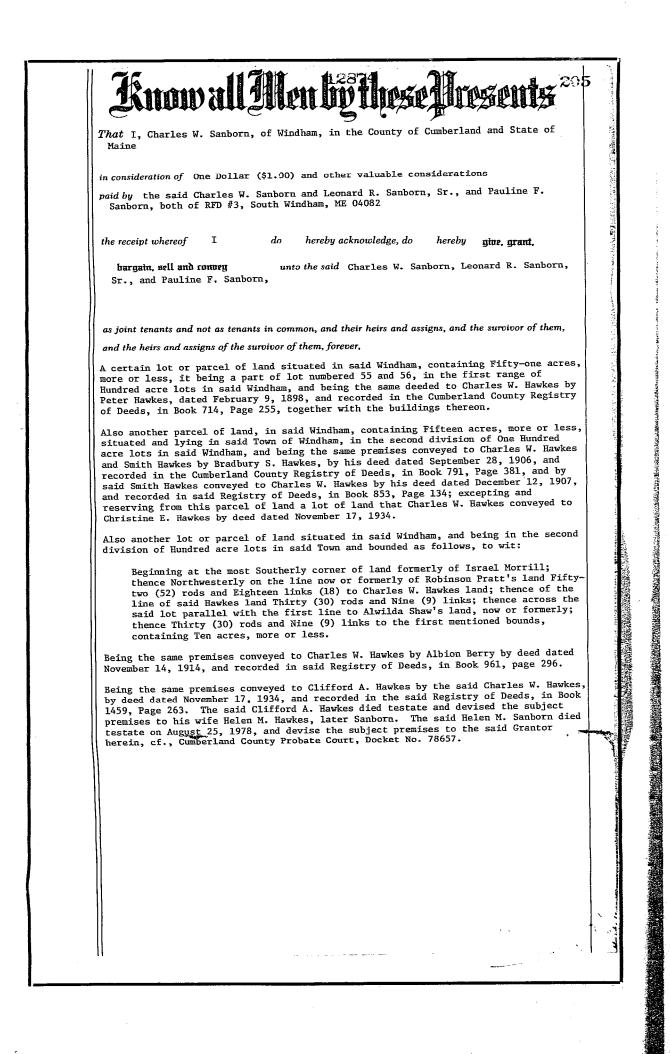
Leonard Am

Leonard Sanborn (Seller

Date: 4-5-18

Kenneth Grondin (Purchaser) Grondin Corporation

Date: _ AP211 4,2018



206	To Have and to Rold the aforegranted and bargained premises with all the privileges and appurte-						
	nances thereof, to the said Charles W. Sanborn, Leonard R. Sanborn, Sr., and Pauline E.						
	Sanborn,						
	as joint tenants and not as tenants in common, and their heirs and assigns, and the survivor of them, and						
	the heirs and assigns of the survivor of them, to them and their use and behoof forever.						
	And I do COVENANT with the said Grantees. as aforesaid, that I am						
	lawfully seized in fee of the premises, that they are free of all incumbrances,						
	that I have good right to sell and convey the same to the said Grantees						
-	to hold as aforesaid, and that I and wy heirs shall and will						
	Warrant and Defend the same to the said Grantees, their heirs and assigns, and the survivor of them,						
	and the heirs and assigns of the survivor of them, forever, against the lawful claims and demands of all						
	persons.						
	In Milnens Mhereof, I, the said Charles W. Sanborn, being unmarried,						
	jo ining in this deetken Soontoo e, and						
	relinquishing and conveying ^{my} right by descent and all other rights in the above						
	described premises, have hereunto set my hand and seal this 19th						
willing for	day of June in the year of our Lord one thousand nine hundred and						
	Bigned, Bealed and Belivered in presence of Tredesicle T. M. Goway Charles M. Sanborn						
	State of Maine, Cumberland June 19,1980						
	Personally appeared the above named						
	Charles W. Sanborn						
	the foregoing instrument to be his free act and deed. JUN 1 9 1980 Before me,						
	F DEEDS CULTERLAND COUNTY, MAINE						
Received a	t / H55 MpW, and recorded in Justice of the Peace Notary Bublic Justice of the Peace Attorney at-Law						
	t / H55 M. PM, and recorded in hatice of the Peace Notary Bublic						
Received a	t / H55 MpW, and recorded in Justice of the Peace Notary Bublic Justice of the Peace Attorney at-Law						

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Exhibit 3

Covenants / Deed Restrictions Easements

Exhibit 3: Existing or Proposed Covenants or Deed Restrictions and Existing or Proposed Easements on the Property

A. Covenants and Deed Restrictions None

B. Existing or Proposed Easements on the Property

- Homeowners Open Space
- Street Right-of-Ways
- Grading Drainage Easement

Exhibit 4

Abutter List

Exhibit 4: Abutting Property Owners

Map 7/Lot 28 Steven Valente 92 Land of Nod Road Windham, ME 04062

Map 7/Lot 29A Timothy & Kathleen Sanborn 100 Land of Nod Road Windham, ME 04062

> Map 7/Lot 29B Janice Tetrault 96 Land of Nod Road Windham, ME 04062

Map 7/Lot 32B Scott & Denise Dyer 128 Land of Nod Road Windham, ME 04062

Map 7/Lot 13C-2 Eric & Ellen Hjelm 6 Morgan Lane Windham, ME 04062 Map 7/Lot 36 MTR Development LLC PO Box 1028 Westbrook, ME 04092

Map 7/Lot 32A Richard & Judith Butts, Richard E., Jr. & Eleanor Butts 40 Highland Cliff Road Windham, ME 04062

Map 7/Lot 41 Francis L. & Dorothy Riley 8 Riley Drive Windham, ME 04062

Map 7/Lot 27B Riding To The Top 14 Lilac Drive Windham, ME 04062

Map 7/Lot 27A-2 Craig Newton 8 Cobb Farm Road Windham, ME 04062

Map 7/Lot 27A-1 Gerald Campbell Karen Lugee 12 Cobb Farm Road Windham, ME 04062 Map 7/Lot 29 - LOCUS Heirs of Leonard Sanborn, Jr. 169 Highland Road Standish, ME 04084

Map 7/Lot 38 Heirs of Joyce F. Fullerton 86 Highland Cliff Road Windham, ME 04062

Map 7/Lot 13 Jane Flahive 113 Land of Nod Road Windham, ME 04062

Map 7/Lot 13B-1 Richard Hawkes Living Trust & Lynn Hawkes Living Trust 123 Land of Nod Road Windham, ME 04062

> Map 7/Lot 13C-6 Leclerc Properties LLC 89 Summit Spring Road Poland, ME 04274

Map 7/Lot 13C-1 Kathleen Barnhart 2 Morgan Lane Windham, ME 04062

Map 7/Lot 13C-5 Mary McSweeney 1 Morgan Lane Windham, ME 04062

Direct Abutters

Exhibit 5

Technical Capacity

Exhibit 5: Technical Capacity

Sebago Technics, Inc. (STI) is a multi-disciplinary engineering firm with over 35 years of experience, which offers a wide range of services specializing in land development, planning, permitting and engineering design services. STI maintains a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, geotechnical services, land surveying, and environmental engineering.

A firm biography and resumes of the STI Project Manager, Mr. James Seymour, P.E. and other pertinent staff are included in this section.

Introduction to Sebago Technics, Inc.



Year Established: 1981 (36 years in business)

About Us: Sebago Technics, Inc. (STI) is a consulting firm of more than 65 design professionals and technical staff providing services throughout New England. From the start, our business plan was simple: "to provide quality, cost-effective civil engineering services that are responsive to a customer's goals, schedule and budget." Our One Company capabilities and resources provide clients with experience and solutions to respond to their planning, permitting and design needs.

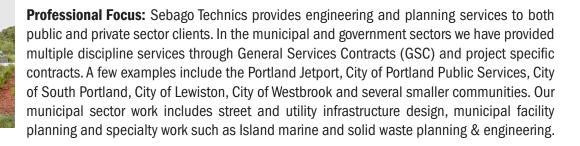


Structure: Employee-owned since 1998

Services: Civil, environmental, transportation & traffic engineering; municipal engineering; local/state/federal permitting and planning; land surveying & laser scanning; GIS; landscape architecture; environmental services; and natural resources.

Employee Disciplines:

Professional Engineers, Civil Engineers, Transportation Engineers, Landscape Architects, Professional Land Surveyors, Survey Technicians, CADD Designers, Wetland Scientist, Soil Scientist, Construction Inspectors, Environmental Scientists, GIS Professionals, Marketing, Administrative & Financial



Location: South Portland, ME



Geographic Service Area: Maine, New Hampshire, Vermont, Massachusetts

Web Site: www.sebagotechnics.com

JAMES R. SEYMOUR, PE

Senior Project Manager



Mr. Seymour has been with Sebago Technics, Inc. since 1993. His role encompasses management of projects relating to civil engineering designs for private residential and commercial developments, and providing planning and development review services for municipal clients. His specific engineering design experience includes roadways, sewer/utilities, stormwater management plans and permitting, sediment and erosion control plans, State and Federal wetland/environmental permits for residential and commercial developments.

Mr. Seymour has strong experience in providing municipal planning and permitting review services. He has consulted with planning, code enforcement, and public services departments to assist Planning Boards in various roles.

EXPERIENCE

Municipal Planning/Engineering Review Experience:

1998 - 2004: Consulted with the City of Portland, as Acting Development Review Coordinator providing engineering peer review services and onsite construction observations to assure compliance with approved plans.

1998 - 2008: Provided construction monitoring for the Town of Windham with responsibilities of reviewing bonding, stormwater management review, and provided and onsite construction observations/reports.

2008 - Present: Provided the Town of Casco planning services to assist the Planning Board with processing various site/subdivision applications, and prepared ordinance revisions, to the Shoreland Zoning per State requirements, and assisted in instituting a contract zone for Camp Sunshine.

2012 - Present: Mr. Seymour has been the consulting Planner for the Town of Raymond in charge of directing the Planning Board with processing various site/ subdivision applications, coordinating new ordinance revisions, and maintains weekly hours at the Town for general planner assistance.

2011 - Present: Mr. Seymour has been the consulting engineer for the Town of Brunswick assisting the Town with peer reviews of site/subdivision applications, and has drafted new ordinance revisions.

2012 - **Present:** Mr. Seymour has been providing planning and engineering consultation to the Town of Poland on an as-needed basis to assist the Planning Board with plan reviews and drafting ordinances.

The variety of projects that Mr. Seymour has been involved with provides him with a well-balanced technical knowledge of planning and land use development issues and engineering experience. Additionally, his involvement with a variety of clientele gives him a unique and positive insight to successfully communicate and coordinate projects from design to construction stages.



University of Maine, Orono, ME Bachelor of Science, Civil Engineering

REGISTRATIONS

Professional Engineering: Maine #9984

Certified Training for Hazardous Waste Operations 40 hr. Training Compliance with OSHA 29CFR 1910.120

Certified Professional in Maintenance and Inspection for Best Management Practices by Maine DEP and Inclusion on the Qualified Third Party Inspector List for the Long Creek Watershed Management District (May 2011)

MEMBERSHIPS

Former Town of Windham Planning Board member

New England Sports Turf Manager's Association (NESTMA)

Scarborough Little League Board of Directors League - President 2015 to Present



BRYAN A. WALSH Civil Engineer



Mr. Walsh joined the Sebago Technics team in the summer of 2018 and is a graduate of the University of Massachusetts - Amherst. Bryan has worked in Massachusetts, Colorado and Maine on a variety of site civil projects including commercial, residential, utilities and roadways. He is experienced in stormwater analysis, environmental permitting and Civil 3D.

EXPERIENCE

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Project Engineer at ProTerra Design Group - Hadley, MA

Completed the Plans and Bid Documents for MassDOT and municipal construction projects. Worked with City of Northampton to design ADA/AAB accessible routes, ramps, ROW and sidewalk improvements in the downtown district. Designed telecommunication facilities in New England for major national carriers and tower development companies. Managed scope and deliverables for over 70 cellular antenna installations throughout Boston for Verizon. Designed residential and commercial sites; roadways, drainage and utilities using Civil 3D modeling.

Contract Project Engineer at Tidewater Engineering - Kittery, ME

Engineered various utility and roadway designs for municipalities in MA, NH and ME. Provided the design of major water and sanitary sewer systems in Maine between August and October 2017. Designed several large storage facilities with special consideration to earthwork volumes and stormwater requirements. Projects were modeled and optimized using Civil 3D which streamlined the design process. Performed surveying and stake outs with robotic total station.

Project Manager at Phelps Engineering - Denver, CO

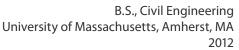
Recruited to manage the submittals of several private mountain communities. Managed the design of an 900+ acre 1200+ unit multi-phase residential community between August 2016 and April 2017. This project was particularly challenging due to steep terrain with high-volume stormwater requirements in environmentally sensitive areas. The roadways and utility systems were modeled with Civil 3d and designed to function throughout construction phases. Conducted meetings with municipality officials and developers. Duties included pump station and reservoir design, stormwater planning, traffic flow planning; roadway design and lot grading; federal and local permitting.

Project Engineer at Civil Design Group North Andover, MA

Designed construction plans and drainage reports for various commercial and residential developments. Performed stormwater and ADA inspections throughout New England. Engineered construction plans and drainage reports for more than 30 Cumberland Farms gas stations using Civil 3D and HydroCAD. Completed site and utility plans for 300+ unit residential subdivisions in MA, NH, and CT.

Project Engineer at Lynnfield Engineering Danvers, MA

Designed Photovoltaic power stations on post-closure landfills throughout New England using Civil 3D. Submitted various environmental permits and inspection reports. Performed monthly landfill gas-monitoring and stormwater inspections. Performed topographic land survey of 100+ acre conservation land using robotic total station.





CHARLES D. MARCHESE, PLS

Director of Survey Operations



Mr. Marchese has over 40 years of experience in the land surveying field with an emphasis on boundary and engineering related projects. He joined Sebago Technics in November of 2009 after eighteen years with Civil Consultants as a survey project manager. Since joining Sebago Technics, Mr. Marchese has assisted with field and office duties relating to private, residential and public works projects. In his role as a Director, he continues to manage his survey team and provide the experience and knowledge necessary to provide quality and timely survey work to a wide variety of clients.

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EXPERIENCE

During 1991 to 2009 while employed at Civil Consultants, Charlie worked on an assortment of boundary retracement surveys for various government agencies. This work included thirty-three miles of United States Forest Service boundary retracement in Lovell, Stoneham, Gilead and Bethel, Maine. Boundary work for the United States Fish and Wildlife Service comprised surveys for the acquisition of tracts for addition to the many refuges located throughout Maine and New Hampshire. The bulk of this work involved the establishment of the Lake Umbagog National Wildlife Refuge located in Errol, New Hampshire and localities along the shores of Lake Umbagog and its many waterways. This project ultimately surveyed in excess of 30,000 acres for inclusion within the National Wildlife Refuge System.

During the summers of 1994 through 1996 Charlie was the party chief for survey crews working on approximately 30 miles of boundary corridor survey along the Appalachian Trail for the National Park Service. This work involved surveying and monumenting the actual ownership lines of the lands surrounding the trail and other scenic areas owned by the National Park Service.

Charlie was the project surveyor, subcontracted through Sebago Technics, for the boundary and topographic survey associated with the Sanford, Maine site for the new Wal-Mart and Lowe's stores. He was responsible for the layout of the Wal-Mart site for Cleveland Construction throughout the building phase of the project. He has an extensive background in construction layout ranging from residential development to large scale retail and public works projects.

EDUCATION

The University of Maine, Orono, ME

Established 60 credit hours towards Bachelor of Science in Civil Engineering, 1976

Attended Business Administration classes University of Maine, Portland

Annual seminars and meetings pertaining to survey topics current to continuing practice

CERTIFICATIONS

OSHA 10-hour Construction Safety and Health

MEMBERSHIPS

Maine Society of Land Surveyors

National Society of Professional Land Surveyors

REGISTRATIONS

Professional Land Surveyor: Maine #2009



DEREK H. CALDWELL, PE, PTOE

Transportation/Traffic Engineer



Mr. Caldwell joined Sebago Technics in 2016 as a Transportation/Traffic Engineer. He was previously employed by the Massachusetts Department of Transportation as a Traffic Engineer in the District Four office. Derek is a graduate of Worcester Polytechnic Institute with a B.S. in Civil Engineering and also has a M.S. in Transportation Engineering from the University of Massachusetts – Lowell.

He is proficient in the use of AutoCad, ArcGIS, Microstation, Synchro/SimTraffic and Vissim. Since joining the firm he has been actively involved in a variety of projects including traffic impact studies, traffic signal design, traffic signal operations, intersection design, and planning studies.

EXPERIENCE

Broadway at Evans Street and Lincoln Street – South Portland, ME: Design engineer for signal reconstruction project. Project involves two signalized intersections being modified from isolated to coordinated operation. Improvements are to address traffic operational efficiency as well as vehicle and pedestrian safety. Project completed under the MaineDOT Local Project Administration (LPA) program.

Route 108 Corridor Study – Dover, NH: Developed a VISSIM traffic simulation model to compare alternatives along an existing signalized corridor. The model contained multiple scenarios to include both signalized and roundabout traffic control.

Dirigo Plaza Off-Site Improvements - Portland/Westbrook, ME: Design of new traffic signals at five locations as part of mitigation for a major commercial development.

State of Maine Office Building - Augusta, ME: Traffic Impact Study for 125,000 square feet of new office space. Study including the analysis of an existing coordinated signal system.

383 Commercial Street - Portland, ME: Traffic Impact Study for hotel, residential and commercial mixed use development in Portland's Waterfront District. Study included alternatives analysis of proposed traffic signal configurations.

Municipal Peer Review Services- Portsmouth, Dover, Newington, and Somersworth, NH: Provide peer review of roadway plans and traffic studies for various municipalities.

CERTIFICATIONS

IMSA Work Zone Temporary Traffic Control Technician ACI Concrete Field Testing Technician - Grade I **NETTCP** Concrete Inspector IMSA Traffic Signal Design/Engineering Technician Level II IMSA Traffic Signal Construction Technician Level II

IMSA Traffic Signal Field Technician Level II

EDUCATION

Worcester Polytechnic Institute Worcester, MA B.S., Civil Engineering, 2008

University of Massachusetts - Lowell Lowell, MA M.S., Civil Engineering -Transportation, 2013

MEMBERSHIPS

Institute of Transportation Engineers

REGISTRATIONS

Professional Engineer: Maine #14400 Massachusetts #52626 New Hampshire #15272 Vermont #127175

Professional Traffic Operations Engineer #4273



GARY M. FULLERTON, CSS, LSE

Director, Natural Resources



Mr. Fullerton joined Sebago Technics in 2000 as a Soil Scientist. Gary is a Maine Licensed Site Evaluator and Certified Subsurface Wastewater Disposal Systems Inspector. He has experience with septic system design, field delineation of coastal and freshwater wetlands, and site evaluations and inspections for septic system designs. He is responsible for preparing designs for residential and commercial septic systems and management and support for natural resource issues on both residential and commercial properties. He is responsible for conducting field assessments of natural resource issues which involve performing soil evaluations for septic system designs, performing wetland delineations, and preparing high intensity soil surveys. Mr. Fullerton is also responsible for providing appropriate permitting applications and supporting documentation for wetland impacts of projects.

Prior to joining Sebago Technics, Inc., Mr. Fullerton was a Soil Evaluator for a Rhode Island based environmental consulting and engineering firm for two years, where he worked in conjunction with the University of Rhode Island to research and design alternative and innovative septic systems for environmentally sensitive areas. While in school, he delineated freshwater wetlands in both Rhode Island and Massachusetts. Mr. Fullerton has over 18 years of experience in Maine as a natural resource specialist.

EXPERIENCE

- Maine Turnpike Authority: Seven mile stretch of vernal pools and wetlands
- Sanford High School & Regional Technical Center Sanford, Maine Wetlands and vernal pools mapping on a 69-acre site
- Brewer Business Park Brewer, Maine: Natural resource mapping, surveying, preliminary planning and design
- **Bigelow Laboratory East Boothbay**, **Maine**: Soils and subsurface conditions investigation
- Thornton Heights and Pleasantdale Sewer Separation, City of South Portland, ME: Residential sewer inspections for illicit connections as part of the Thornton Heights Sewer Separation project



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University of Rhode Island Kingston, RI Bachelor of Science Soil and Water Resources, 1998

REGISTRATIONS

Licensed Site Evaluator: Maine #355

Certified Soil Scientist: Maine #462

Certified Subsurface Wastewater Disposal System Inspector: Maine #291

> Certified Wetland Scientist: New Hampshire #246

Certified Designer of Subsurface Disposal Systems: New Hampshire #1796



MEMBERSHIPS

Public Service Leadership Award, 2004, Maine Association of Professional Soils Scientists

Maine Association of Site Evaluators

Maine Association of Wetland Scientists

Maine Historic Preservation Association

National Main Street Foundation

TRAINING

U.S.A.C.O.E. Wetlands Delineations Training Course

Exhibit 6

Financial Capacity

Cost Estimate, Funding Letter, Corporate Status

Exhibit 6: Financial Capacity

A. Anticipated Project Costs

A preliminary estimate of probable cost associated with the proposed site development is approximately \$361,212.00

General Conditions		\$ 5,420.00
Site Preparation		\$ 9,220.00
Earthwork		\$ 15,764.00
Electrical		\$ 47 <i>,</i> 090.00
Erosion Control		\$ 14,135.00
Pavement		\$ 206,820.25
Stormdrainage/Fire Tank		\$ 44,000.00
Loam & Seed		\$ 18,762.75
	TOTAL	\$361,212.00

B. Financing

A letter of financial capacity written on behalf of Grondin Corporation will be delivered directly to the Town Planner when it is available.



Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Fri Jan 18 2019 14:22:42. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
GRONDIN CORPORATION	20160133 D	BUSINESS CORPORATION	GOOD STANDING
Filing Date	Expiration Date	Jurisdiction	
08/14/2015	N/A	MAINE	
Other Names		(A=Assumed ; F=Fo	rmer)
NONE			
Clerk/Registered Age	nt		

ANTHONY M. CALCAGNI P.O. BOX 586 PORTLAND, ME 04112 0586

Exhibit 7

Public Utilities

Exhibit 7: Adequacy and Availability of Public Utilities

Public utility required for development of the site is limited to electric/communications that will be coordinated directly with the respective companies. Public water and sewer service is not available. Lots will be serviced by individual subsurface wastewater disposal systems and wells.

Exhibit 8

Solid Waste

Exhibit 9

Lighting

Exhibit 9: Lighting Information

Per Section 500 – Performance Standards, 544 Streets 8.-Standards (b) proposed lighting will include a street light at the development entrance at Land of Nod Road. Additional street lights are not proposed in an effort to avoid excessive light pollution. The proposed light fixture cut sheet will be submitted as part of the Final Subdivision review.

Exhibit 10

Traffic

Exhibit 10: Traffic

A Traffic Impact Study dated October 22, 2018 prepared by Sebago Technics Transportation Division is included in this application. The study concludes that the roadway can accommodate the expected increase in traffic and provides adequate sight distance in each direction.



CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Traffic Impact Study

Land of Nod Property Windham, Maine

Prepared For: Grondin Corporation 39 Belanger Road Windham, Maine 04062

Prepared By: Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, Maine 04106

Project No. 16236

October 22, 2018

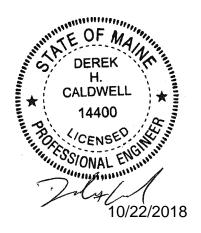


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ight Distance Analysis	12

Appendix

Synchro/SimTraffic Reports Crash Data Traffic Count Data

Introduction

The purpose of this Traffic Impact Study (TIS) is to identify the impacts the proposed Land of Nod residential subdivision. on the surrounding area roadways. The project proposes to develop 32 single family homes. The development area also contains two existing homes which are to be retained, resulting in the subdivision containing a total of 34 single family homes.

Site Access

The project is to include one new roadway to serve the subdivision intersecting with Land of Nod Road opposite Morgan Lane. The roadway is proposed to be 24 feet wide and operate under stop control.

Trip Generation

The *ITE Trip Generation Manual,* 10th *Edition was used* to estimate the trip generation for the proposed development combined with the two existing homes for a total of 34 single family homes. Table 1 shows the calculated trip generation.

Time Period	Equation	Total	Entering	Exiting
Thile Ferrou	Equation	Total	Lincening	LAILing
Weekday	Ln(T) = 0.92 Ln(X) + 2.71	385	192	193
AM Adjacent Street	T = 0.71(X) + 4.80	29	7	22
PM Adjacent Street	Ln(T) = 0.96 Ln(X) + 0.20	36	23	13
AM Generator	Ln(T) = 0.91 Ln(X) + 0.20	30	8	22
PM Generator	Ln(T) = 0.94 Ln(X) + 0.34	39	25	14
Saturday	Ln(T) = 0.94 Ln(X) + 2.56	356	178	178
Saturday Peak Hour	T = 0.84(X) + 17.99	47	25	22
Sunday	T = 8.87(X) - 65.12	236	118	118
Sunday Peak Hour	T = 0.79(X) + 11.02	38	20	18

Table 1 – Trip Generation Land Use Code 210– Single Family Detached Housing (34 Dwelling Units)

*T=Trip Ends, X=Dwelling Unit

Existing Traffic Volumes

Turning movement counts were obtained for the following four intersections on Tuesday September 18, 2018 for the hours of 7 AM-9 AM and 4 PM-6 PM:

- Route 302 at Land of Nod Road
- Route 302 at Pope Road
- Highland Cliff Road at Pope Road
- Highland Cliff Road at Land of Nod Road/Verrill Lane

Using the MaineDOT weekly group mean factors, the turning movement counts were adjusted to represent a 30th highest design hour. The counts were then grown to a three-year future design year of 2021. This annual growth factor was determined from a MaineDOT count station on Route 302 shown in Table 2 below, which resulted in a 2.5% increase per year. The 2021 No-Build volumes for the study area intersections are shown in Figure 1.

Table 2: MaineDOT Count Data

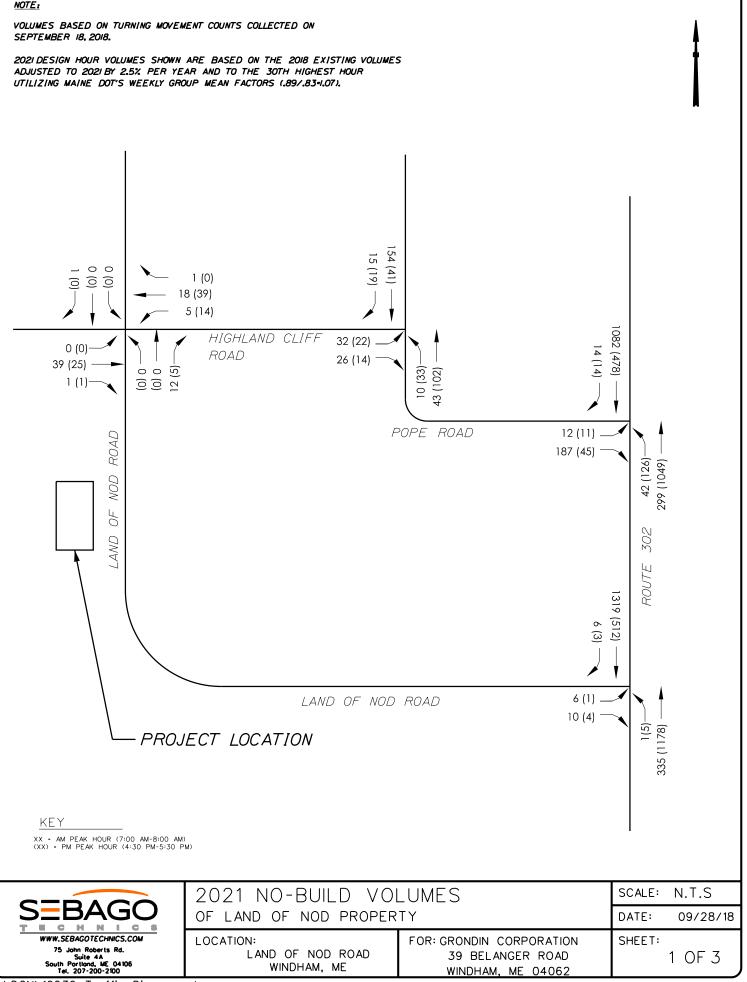
		A	ADT	
STA	Location	2013	2016	Growth/yr
07500	US 302 (BRIDGTON RD) @ WINDHAM TL	13,600	14,650	2.5%

Trip Distribution and Assignment

Trip distribution and assignment was based upon the previously referenced turning movement counts. It is assumed that the trips destined for Route 302 to the south will be split evenly between travelling by way of Land of Nod Road to the south and Highland Cliff Road/Pope Road. The following trip distribution is assumed:

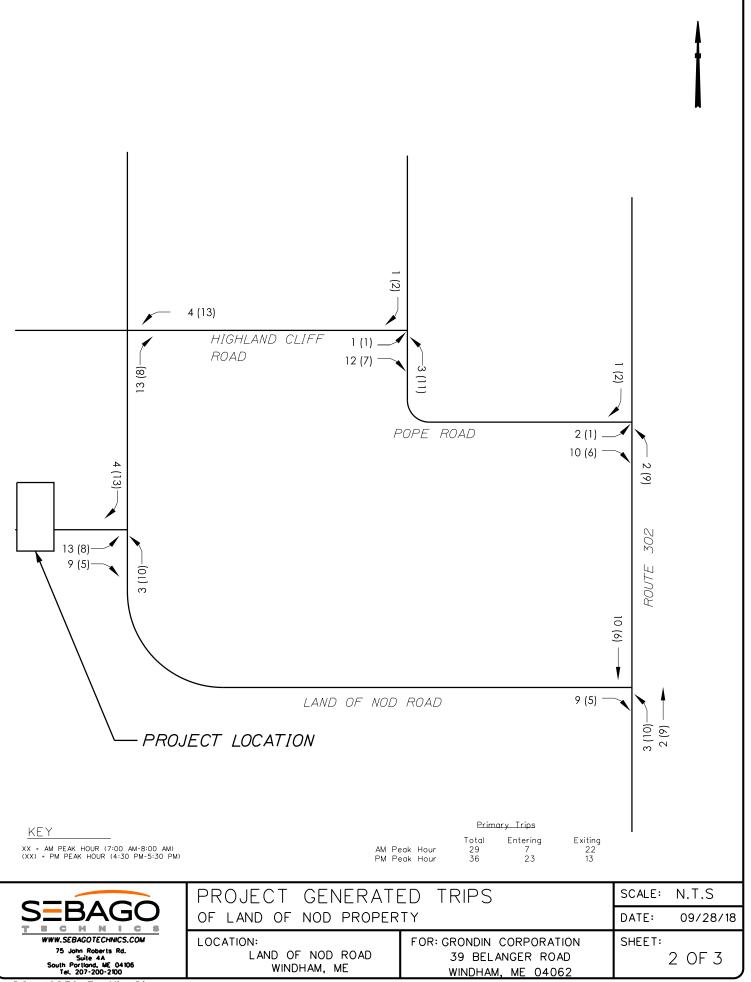
- 80% of trips to/from Route 302 to the South
 - $\circ~~$ 50% to travel by Land of Nod Road
 - 50% to travel by Highland Cliff Road/Pope Road
- 10% of trips to/from Route 302 to the north
- 10% of trips to/from Pope Road to the north

The proposed trip distribution and assignment is shown in Figure 2. 2021 Full Build volumes are shown in Figure 3.

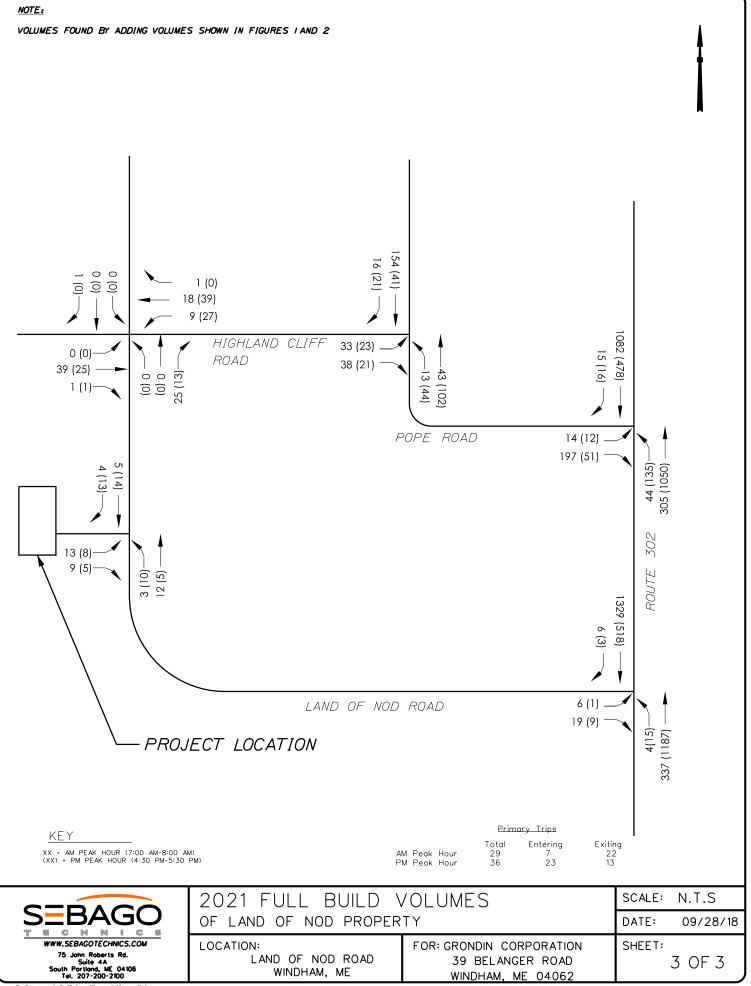


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Capacity Analysis

An intersection capacity analysis was performed for the 2021 No-Build and 2021 Build Volumes. Synchro/SimTraffic Version 10 was used for this analysis. The focus of our analysis was on the control delay (or the average amount of delay that a vehicle experiences as it travels through an intersection or section of roadway). This is defined by Level of Service (LOS), in terms of A through F, with A being optimal and E/F being unacceptable.

Ta	ble 3: LOS from Control Dela	ly
Level of Service (LOS)	Unsignalized Control Delay (Sec./Vehicle)	Signalized Control Delay (Sec./Vehicle)
А	≤10	≤10
В	>10-≤15	>10-≤20
С	>15-≤25	>20-≤35
D	>25-≤35	>35-≤55
E	>35-≤50	>55-≤80
F	>50	>80

Source: Highway Capacity Manual 6

The following five intersections were included in this analysis:

- Highland Cliff Road at Pope Road
- Highland Cliff Road at Land of Nod Road
- Route 302 at Pope Road
- Route 302 at Land of Nod Road
- Land of Nod at the Site Driveway

All study intersections are unsignalized. The following tables summarize the results of the capacity analysis.

		(1	L of 2)					
	2021 AM N	lo-Build	2021 AN	/I Build	2021 PM	No-Build	2021PN	/I Build
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
	Hi	ghland Cli	ff Road and	d Pope Ro	pad			
Highland Cliff Rd NB LT	5	А	6	А	4	А	5	А
Highland Cliff Rd NB RT	3	А	3	А	2	А	2	А
Pope Rd SE TH	1	А	1	А	0	А	1	А
Pope Rd SE RT	0	А	0	А	0	А	0	А
Pope Rd NW LT	3	А	3	А	3	А	3	А
Pope Rd NW TH	1	А	2	А	1	А	1	А
INTERSECTION	1	А	2	А	2	А	2	А
	Highla	and Cliff Ro	oad and La	nd of No	d Road			
Highland Cliff Rd NB LT	0	А	0	А	0	А	0	А
Highland Cliff Rd NB TH	0	А	0	А	0	А	0	А
Highland Cliff Rd NB RT	0	А	0	А	0	А	0	А
Highland Cliff Rd SB LT	1	А	2	А	2	А	2	А
Highland Cliff Rd SB TH	0	А	0	А	1	А	1	А
Highland Cliff Rd SB RT	0	А	1	А	1	А	2	А
Land of Nod Rd WB LT	0	А	0	А	0	А	0	А
Land of Nod Rd WB RT	2	А	2	А	2	А	2	А
INTERSECTION	1	А	1	А	1	А	1	А
		Route 3	02 and Po	pe Road	-		-	
Route 302 SB TH	3	А	3	А	1	А	1	А
Route 302 SB RT	1	А	2	А	0	А	0	А
Route 302 NB LT	16	С	22	С	10	В	11	В
Route 302 NB TH	3	А	3	А	7	А	7	А
Pope Rd EB LT	285	F	433	F	50	D	38	D
Pope Rd EB RT	231	F	360	F	13	В	10	В
INTERSECTION	32	D	49	D	6	А	6	А

Table 4: Capacity Analysis

			(2 of 2)					
	2021 AM	No-Build	2021 AN	/I Build	2021 PM	No-Build	2021P	M Build
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
		Route 3	02 and Land	of Nod Ro	bad			
Route 302 SB TH	7	А	8	А	3	А	3	А
Route 302 SB RT	6	А	8	А	1	А	2	А
Route 302 NB LT	14	В	14	В	5	А	5	А
Route 302 NB TH	1	А	1	А	2	А	3	А
Land of Nod Rd EB LT	25	С	43	D	20	В	20	В
Land of Nod Rd EB RT	14	В	25	C	4	А	4	А
INTERSECTION	6	А	7	А	2	А	3	А
	н	ighland Clif	f Road and	Land of No	od Road			
Land of Nod Rd SB TH			0	А			1	А
Land of Nod Rd SB RT			0	А			0	А
Land of Nod Rd NB LT			1	А			2	А
Land of Nod Rd NB TH			0	А			1	А
Site EB LT			4	А			4	А
Site EB RT			3	А			3	А
INTERSECTION			2	А			1	А

Table 4: Capacity Analysis

As shown in the above tables, all study area intersections are shown to operate with LOS D or better under both build and no-build conditions. The Pope Road eastbound movements at Route 302 are shown to operate with LOS F during the AM Peak Hour under both no-build and build conditions. This is a function of heavy southbound traffic volumes on Route 302.

Crash Analysis

The most recent 3-year crash history (2015-2017) was obtained from MaineDOT for the intersections and roadway links in the vicinity of the project site. Intersections and roadway links are considered to be High Crash Locations (HCL's) if they have a Critical Rate Factor (CRF) greater than 1.0 and have a minimum of 8 accidents in a three-year period. A summary of this information is presented below and the MaineDOT Summary Report is contained in the Appendix.

Intersections

Node	Description	# of Crashes	CRF	HCL
11027	Highland Cliff Road & Land of Nod Road	0	0.00	No
59475	Land of Nod Road & Morgan Lane	0	0.00	No
11029	Land of Nod Road & Vance Drive	0	0.00	No
16902	Land of Nod Road & Route 302	1	0.17	No
11030	Highland Cliff Road & Pope Road	1	1.11	No
64857	Pope Road & Route 302	3	0.52	No

Roadway Segments

Link	Description	# of Crashes	CRF	HCL
11027-59475	Land of Nod Road – Highland Cliff Road to Morgan Lane	1	0.57	No
59475-12486	Land of Nod Road – Morgan Lane to Lowell Road	0	0.00	No
11029-12486	Land of Nod Road – Lowell Road to Vance Drive	0	0.00	No
11029-16902	Land of Nod Road – Vance Drive to Route 302	2	3.00	No
11027-11030	Highland Cliff Road – Land of Nod Road to Pope Road	0	0.00	No
11030-16905	Pope Road – Highland Cliff Road to Route 302	3	0.53	No

As can be seen in the preceding tables, no intersections or roadway segments in the study area are identified as a high crash location.

Sight Distance Analysis

Sight distance was measured on October 1, 2018 at the proposed site driveway on Land of Nod Road. This measurement was taken using a height of eye of 3.5 feet located 10 feet behind the traveled way with a height of object of 4.25 feet located in the center of the opposing travel lane. Sight distance was found to be in excess of 500 feet when looking both left and right from the proposed driveway location. This exceeds the minimum MaineDOT required sight distance of 305 feet for a 35 mile per hour roadway.

Conclusion

The surrounding area roadways are shown to be able to accommodate the expected increase in traffic due to the proposed Land of Nod residential subdivision development. The development driveway is projected to operate with little delay and is to be at a location with adequate sight distance.

Appendix

Synchro/SimTraffic Reports

2: Highland Cliff Road & Pope Road Performance by movement

Movement	NBL	NBT	NBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.1
Total Del/Veh (s)	5.7	0.2	3.1	0.6	0.3	3.1	1.6	1.6

3: Highland Cliff Road & Land of Nod Road Performance by movement

Movement	NBT	NBR	SBL	SBT	SBR	SER	NWT	NWR	All
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	0.1		1.7	0.4	0.6	1.5	0.3	2.0	0.8

4: Pope Road & Route 302 Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NER	All
Denied Del/Veh (s)	1.3	1.6	0.1	0.0	0.1	0.0	0.8
Total Del/Veh (s)	3.1	1.7	21.7	2.8	433.3	359.7	48.8

8: Route 302 & Land of Nod Road Performance by movement

Movement	EBL	EBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.0	0.2	0.3	0.1
Total Del/Veh (s)	42.9	25.2	7.6	7.8	14.4	1.1	6.7

10: Site Roadway & Land of Nod Road Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NER	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.1	0.1	1.4	0.4	4.0	2.6	1.8

Total Network Performance

Denied Del/Veh (s)	0.9	
Total Del/Veh (s)	52.7	

Intersection: 2: Highland Cliff Road & Pope Road

Movement	NB	NW
	IND	
Directions Served	LR	LT
Maximum Queue (ft)	56	31
Average Queue (ft)	24	3
95th Queue (ft)	49	17
Link Distance (ft)	2188	2795
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Highland Cliff Road & Land of Nod Road

Movement	SB	SE	NW
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	11	20	27
Average Queue (ft)	0	1	9
95th Queue (ft)	6	9	26
Link Distance (ft)	2188	553	2009
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Pope Road & Route 302

Movement	SE	NW	NE
Directions Served	TR	L	LR
Maximum Queue (ft)	4	81	1066
Average Queue (ft)	0	27	561
95th Queue (ft)	3	62	1118
Link Distance (ft)	682		2795
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		145	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Route 302 & Land of Nod Road

Mayanant	FD	NIVA/
Movement	EB	NW
Directions Served	LR	LT
Maximum Queue (ft)	68	130
Average Queue (ft)	17	7
95th Queue (ft)	49	57
Link Distance (ft)	4989	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Site Roadway & Land of Nod Road

Movement	NE
Directions Served	LR
Maximum Queue (ft)	40
Average Queue (ft)	16
95th Queue (ft)	42
Link Distance (ft)	910
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

2: Highland Cliff Road & Pope Road Performance by movement

Movement	NBL	NBT	NBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1
Total Del/Veh (s)	5.2	0.1	2.7	0.6	0.4	2.6	1.0	1.3

3: Highland Cliff Road & Land of Nod Road Performance by movement

Movement	NBT	NBR	SBL	SBT	SBR	SER	NWR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.1	0.0	1.4	0.2	0.1	2.0	1.9	0.5

4: Pope Road & Route 302 Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NER	All
Denied Del/Veh (s)	1.2	1.0	0.1	0.0	0.0	0.0	0.8
Total Del/Veh (s)	2.7	0.9	16.4	2.6	284.7	231.3	32.0

8: Route 302 & Land of Nod Road Performance by movement

Movement	EBL	EBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.3	0.1
Total Del/Veh (s)	25.0	14.2	7.1	6.4	13.8	0.6	5.9

10: Site Roadway & Land of Nod Road Performance by movement

Movement	SET NWT	All
Denied Del/Veh (s)	0.0 0.0	0.0
Total Del/Veh (s)	0.1 0.2	0.2

Total Network Performance

Denied Del/Veh (s)	0.9	
Total Del/Veh (s)	36.9	

Intersection: 2: Highland Cliff Road & Pope Road

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	51	24
Average Queue (ft)	24	1
95th Queue (ft)	48	11
Link Distance (ft)	2188	2795
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Highland Cliff Road & Land of Nod Road

Movement	SE	NW
Directions Served	LTR	LTR
Maximum Queue (ft)	19	22
Average Queue (ft)	1	6
95th Queue (ft)	8	20
Link Distance (ft)	553	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Pope Road & Route 302

Movement	SE	NW	NE
Directions Served	TR	L	LR
Maximum Queue (ft)	4	66	812
Average Queue (ft)	0	24	384
95th Queue (ft)	3	54	838
Link Distance (ft)	682		2795
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		145	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Route 302 & Land of Nod Road

Movement	EB	NW
Directions Served	LR	LT
Maximum Queue (ft)	45	45
Average Queue (ft)	9	2
95th Queue (ft)	30	22
Link Distance (ft)		1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Site Roadway & Land of Nod Road

Novement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
ink Distance (ft)
Jpstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

2: Highland Cliff Road & Pope Road Performance by movement

Movement	NBL	NBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.4	2.1	0.6	0.1	2.8	1.3	1.8

3: Highland Cliff Road & Land of Nod Road Performance by movement

Movement	NBT	SBL	SBT	SER	NWT	NWR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	0.1	1.7	0.7	1.6	0.4	1.8	1.0

4: Pope Road & Route 302 Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NET	NER	All
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	1.0	0.3	10.8	7.4	37.5	0.8	10.3	6.1

8: Route 302 & Land of Nod Road Performance by movement

Movement	EBL	EBT	EBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	1.3	1.4	1.0
Total Del/Veh (s)		0.3	4.1	3.4	2.4	5.2	2.6	2.9

10: Site Roadway & Land of Nod Road Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.4	2.0	0.5	4.2	3.2	1.3

Total Network Performance

Denied Del/Veh (s)	1.1	
Total Del/Veh (s)	10.0	

Intersection: 2: Highland Cliff Road & Pope Road

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	62	35
Average Queue (ft)	23	3
95th Queue (ft)	48	20
Link Distance (ft)	2188	2795
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Highland Cliff Road & Land of Nod Road

Movement	SB	SE	NW
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	12	15	35
Average Queue (ft)	1	1	7
95th Queue (ft)	7	6	23
Link Distance (ft)	2188	553	2009
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Pope Road & Route 302

Movement	SE	NW	NE
Directions Served	TR	L	LR
Maximum Queue (ft)	4	71	112
Average Queue (ft)	0	33	33
95th Queue (ft)	3	58	82
Link Distance (ft)	682		2795
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		145	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Route 302 & Land of Nod Road

Movement	EB	NW
Directions Served	LR	LT
Maximum Queue (ft)	31	135
Average Queue (ft)	5	12
95th Queue (ft)	21	64
Link Distance (ft)	4989	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Site Roadway & Land of Nod Road

LT 12	LR
12	
	30
0	10
5	33
4989	910
	5

Network Summary

Network wide Queuing Penalty: 0

2: Highland Cliff Road & Pope Road Performance by movement

Movement	NBL	NBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.4	2.4	0.3	0.2	3.0	1.4	1.7

3: Highland Cliff Road & Land of Nod Road Performance by movement

Movement	NBT	NBR	SBL	SBT	SER	NWR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.0	0.0	1.7	0.5	1.2	1.5	0.6

4: Pope Road & Route 302 Performance by movement

Movement	SET	SER	NWL	NWT	NEL	NET	NER	All
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.8	0.3	10.2	7.1	50.0	0.7	13.1	6.0

8: Route 302 & Land of Nod Road Performance by movement

Movement	EBL	EBR	SET	SER	NWL	NWT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	1.3	1.4	1.0
Total Del/Veh (s)	19.5	3.7	3.3	1.2	4.9	2.0	2.4

10: Site Roadway & Land of Nod Road Performance by movement

Movement	SET NWT	All
Denied Del/Veh (s)	0.0 0.0	0.0
Total Del/Veh (s)	0.1 0.3	0.2

Total Network Performance

Denied Del/Veh (s)	1.0	
Total Del/Veh (s)	9.4	

Intersection: 2: Highland Cliff Road & Pope Road

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	59	29
Average Queue (ft)	19	2
95th Queue (ft)	46	14
Link Distance (ft)	2188	2795
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Highland Cliff Road & Land of Nod Road

Movement	SE	NW
Directions Served	LTR	LTR
Maximum Queue (ft)	15	21
Average Queue (ft)	1	3
95th Queue (ft)	10	15
Link Distance (ft)	553	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Pope Road & Route 302

Movement	SE	NW	NE
Directions Served	TR	L	LR
Maximum Queue (ft)	4	98	90
Average Queue (ft)	0	31	33
95th Queue (ft)	3	65	74
Link Distance (ft)	682		2795
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		145	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 8: Route 302 & Land of Nod Road

Movement	EB	NW
Directions Served	LR	LT
Maximum Queue (ft)	22	60
Average Queue (ft)	4	3
95th Queue (ft)	17	25
Link Distance (ft)		1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Site Roadway & Land of Nod Road

Novement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
ink Distance (ft)
Jpstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Appendix

Crash Data

1320 Summary Exclude First Node ✓ Exclude First Node **Exclude First Node** Exclude Last Node Exclude Last Node Exclude Last Node 1320 Private 1320 Public Report Selections and Input Parameters Start Offset: 0 End Offset: 0 Start Offset: 0 End Offset: 0 Start Offset: 0 0 End Offset: End Offset: Crash Summary II Year 2015, Start Month 1 through Year 2017 End Month: 12 End Node: 16902 Start Node: 11030 Start Node: 11030 End Node: 16905 Start Node: 11027 End Node: 11027 Section Detail Land of Nod Rd., Highland Cliff Rd., Pope Rd. **REPORT PARAMETERS REPORT DESCRIPTION REPORT SELECTIONS** Crash Summary I Route: 0500712 Route: 0500692 Route: 0500694 Windham

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Traffic Engineering, Crash Records Section	
- Traffic Enginee	Summary
Maine Department Of Transportation -	Crash

				Nodoe										
Node	Route - MP	Node Description	U/R	U/R Total	-	Injury Crashes	Cras	hes	Å	ircent A	Critical M کیریہ Critical) Dato (Critical	
				Crashes	¥	•	ß		PD II	PD Injury E	Ent-Veh		Rate	
11027 (11027 0500694 - 0	Int of HIGHLAND CLIFF RD, LAND OF NOD RD	~	0	0	0	0	0	0	0.0	0.466 Statewide	36 0.00 Statewide Crash Rate:	0.56 0.13	00.0
59475 (0500694 - 0.41	59475 0500694 - 0.41 Int of LAND OF NOD RD, MORGAN LN	~	0	0	0	0	0	0	0.0	0.134 Statewide	34 0.00 Statewide Crash Rate:	0.35 0.13 0.35	00.0
12486 0	0500694 - 1.31	0500694 - 1.31 Non-Int LAND OF NOD RD	~	0	0	0	0	0	0	0.0	0.087 Statewide	37 0.00 Statewide Crash Rate:	: 0.03 0.13	0.00
11029 0	0500694 - 1.40	0500694 - 1.40 Int of LAND OF NOD RD, VANCE DR	~	0	0	0	0	0	0	0.0	0.130 Statewide	30 0.00 Statewide Crash Rate:	: 0.34 0.13	0.00
16902 (0500694 - 1.74	16902 0500694 - 1.74 Int of LAND OF NOD RD, ROOSEVELT TRL	7		0	0	0	0	-	0.0	5.406 Statewide	0.06 Statewide Crash Rate:	0.35 0.14	0.00
11030 (11030 0500712 - 0	Int of HIGHLAND CLIFF RD, POPE RD	-		0	0	0	0	-	0.0	0.545 Statewide	45 0.61 Statewide Crash Rate:		1.11
11028 0	0500712 - 0.37	0500712 - 0.37 Int of HERMAN COBB RD, HIGHLAND CLIFF RD	~	0	0	0	0	0	0	0.0	0.507 Statewide)7 0.00 Statewide Crash Rate:	0.55 0.13	0.00
16905 C	0500692 - 2.78	0500692 - 2.78 Int of POPE RD ROOSEVELT TRL	7	ი	0	0	0	2	-	66.7	5.453 Statewide	53 0.18 Statewide Crash Rate:	0.35 0.14	0.00
Study Ye	Study Years: 3.00	NODE TOTALS:	LS:	2	0	0	0	5	ę	40.0	12.728	0.13	0.28	0.47

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laine Department Of Transportation	Crash

1.00 0.00 0.00 0.00 3.00 0.00 0.00 0.00 0.59 CRF 995.19 514.63 0.00 662.46 Statewide Crash Rate: 231.92 **306.93 577.57** Statewide Crash Rate: 231.92 852.24 0.00 845.55 Statewide Crash Rate: 231.92 0.00 722.79 Statewide Crash Rate: 231.92 3001.12 1001.28 Statewide Crash Rate: 231.92 476.49 Statewide Crash Rate: 231.92 Statewide Crash Rate: 231.92 Critical Rate 0.00 482.13 512.92 279.77 **Crash Rate** Annual 0.00069 0.00072 0.00715 0.00715 0.00008 0.00022 0.00192 0.00026 0.00326 MVMH Percent Injury 27.3 0.0 0.0 0.0 0.0 0.0 0.0 33.3 16.7 2 S ω 2 ~ 0 0 2 0 0 Injury Crashes က C 0 0 0 0 0 0 <u>_</u> ~ മ 0 0 0 0 0 0 0 0 0 ∢ 0 0 0 0 0 0 0 0 0 Sections 0 0 ¥ 0 0 0 0 0 0 0 Crashes Section U/R Total 7 ശ ~ 0 0 2 0 0 က ~ <u>_</u> Length 2.74 2.74 0.41 0.09 0.34 0.06 0.90 0.37 0.57 Section Totals: Route - MP RD INV 05 00712 Grand Totals: RD INV 05 00712 RD INV 05 00692 RD INV 05 00694 RD INV 05 00694 RD INV 05 00694 RD INV 05 00694 0500694 - 0.41 0500694 - 1.40 0500712 - 0.37 0500694 - 1.31 0500692 - 2.21 0500712 - 0 0500694 - 0 Begin - End Int of HERMAN COBB RD, HIGHLAND CLIFF RD 11027 59475 2029753 0 - 0.41 Int of HIGHLAND CLIFF RD, LAND OF NOD RD 11027 11028 184835 0 - 0.06 Int of HIGHLAND CLIFF RD, LAND OF NOD RD 0 - 0.09 0 - 0.34 0 - 0.37 0 - 0.57 06.0 - 0 Offset 59475 12486 2029754 0 . Int of LAND OF NOD RD, MORGAN LN Int of HIGHLAND CLIFF RD, POPE RD 11029 12486 184840 Int of LAND OF NOD RD, VANCE DR nt of LAND OF NOD RD, VANCE DR Element 16902 184841 16905 184844 11030 184838 3.00 End Node Study Years: 11030 11029 11028 Start Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary

Node Node 11027 59475 20 59475 12486 20 11029 12486 18 11029 16902 18		Offset	Route - MP	Total		Injul	Injury Crashes	shes		Crash Report	Crash Date	Crash	Injury
59475 12486 12486 16902		Begin - End		Crashes K	¥	۲	ß	C PD	PD			Mile Point	Degree
12486 12486 16902	2029753	0 - 0.41	0500694 - 0	~	0	0	0	0	~	2016-1165	01/14/2016	0.05	PD
12486 16902	2029754	0 - 0.90	0500694 - 0.41	0	0	0	0	0	0				
16902	184840	0 - 0.09	0500694 - 1.31	0	0	0	0	0	0				
	34841		0500694 - 1.40	7	0	0	0	0	2	2017-36206	11/29/2017	1.54	PD
										2016-26299	09/18/2016	1.69	PD
11030	184838	0 - 0.37	0500712 - 0	0	0	0	0	0	0				
	184835	0 - 0.06	0500712 - 0.37	0	0	0	0	0	0				
16905	184844	0 - 0.57	0500692 - 2.21	ო	0	0	0	-	2	2017-37873	12/09/2017	2.51	PD
										2016-9873	03/31/2016	2.52	PD
										2017-1407	01/13/2017	2.70	ပ

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Totals:

Traffic Engineering, Crash Records Section	II - Characteristics
Maine Department Of Transportation -	Crash Summary

١	Crashes by Day and Hour

						AM					ĭ	Hour of	Day					ΡM	۲						
Day Of Week 12	12	-	7	e	4	S	9	7	ω	6	10	1	12	-	2	с	4	2	9	~	œ	9	10 11	- L	Tot
SUNDAY	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	-
MONDAY	0	0	0	0	0	0	0	0	0	0	~	0	-	0	0	0	0	~	0	0	0	0	0	0	ო
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	~	0	0	0	0	0	-
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	0	0	0	0	0	7
FRIDAY	0	0	0	0	0	0	0	~	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	7
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0 0	-
Totals	0	0	0	-	0	0	0	~	0	0	-	0	-	2	0	Ł	0	~	с С	0	0	0	0	0	11

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

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affic Engineering, Crash Records Section	II - Characteristics
Maine Department Of Transportation - Tra	Crash Summary II

Crashes by Driver Action at Time of Crash	er Acti	on at ⁻	Time o	of Cras	Ч			Crashes by Apparent Physical Condition And Driver	ent Physic	al Con	dition A	nd Driv	er	
Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5 (Other	Total	Apparent Physical Condition	Dr 1 D	Dr 2 Dr	r 3 Dr 4	Dr 5	Other	Total
								Apparently Normal	໑	e	000	0	0	12
No Contributing Action	5	7	0	0	0	0	7	Physically Impaired or Handicapped	0	0	0 0	0	0	0
Ran Off Roadway	ю	0	0	0	0	0	ю	Emotional(Depressed, Angry, Disturbed. etc.)	0	0	0	0	0	0
Failed to Yield Right-of-Way	-	-	0	0	0	0	7	III (Sick)	0	0	0	0	0	0
Ran Red Light	0	0	0	0	0	0	0	Asleep or Fatigued				0	0	0
Ran Stop Sign	0	0	0	0	0	0	0	Under the Influence of Medications/Drugs/Alcohol	7	0	0	0	0	2
Disregarded Other Traffic Sign	0	0	0	0	0	0	0	Other	0	~	0 0	0	0	~
Disregarded Other Road Markings	0	0	0	0	0	0	0	Total	7			c		12 12
Exceeded Posted Speed Limit	0	0	0	0	0	0	0					•	•	2
Drove Too Fast For Conditions	7	0	0	0	0	0	7							
Improper Turn	0	0	0	0	0	0	0	Driv	Driver Age by Unit		Type			
Improper Backing	0	0	0	0	0	0	0	Age Driver Bicycle	SnowMobile		Pedestrian	ATV		Total
Improper Passing	0	0	0	0	0	0	0	¢				¢		(
	c	c	c	c	c	c	c	09-Under 0 0	0		Ð	C		Ð
wrong way	Þ	D	D	þ	D	D	D	10-14 0 0	0		0	0		0
Followed Too Closely	0		0	0	0	0	-	15-19 1 0	0		0	0		-
Failed to Keep in Proper Lane	0	0	0	0	0	0	0	20-24 3 0	0		0	0		ю
Operated Motor Vehicle in Erratic ,	0	0	0	0	0	0	0	25-29 1 0	0		0	0		-
Reckless, Careless, Negligent or Aggressive Manner								30-39 1 0	0		0	0		-
								40-49 2 0	0		0	0		2
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle,	0	0	0	0	0	0	0	50-59 2 0	0		0	0		7
Object, Non-Motorist in Roadway								60-69 4 0	0		0	0		4
Over-Correcting/Over-Steering	0	0	0	0	0	0	0	70-79 1 0	0		0	0		-
Other Contributing Action	0	0	0	0	0	0	0	80-Over 0 0	0		0	0		0
Unknown	0	0	0	0	0	0	0	Unknown 0 0	0		0	0		0
								Total 15 0	0		0	0		15
Total	7	4	0	0	0	0	15	2	•)	•		2

Maine Department Of Transportation - Traffic Engineering, Crash Records Section Crash Summary II - Characteristics

W	Most Harmful	'mful Event			Injury Data	
Most Harmful Event	Total	Most Harmful Event	Total			Number Of
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0	severity Code	injury crasnes	Injuries
2-Fire / Explosion	0	39-Unknown	0	¥	0	0
3-Immersion	0	40-Gate or Cable	0	A	0	0
4-Jackknife	0	41-Pressure Ridge	0	В	0	0
5-Cargo / Equipment Loss Or Shift	0	Total	15	O	ю	5
6-Fell / Jumped from Motor Vehicle	0		2	DD	8	0
7-Thrown or Falling Object	0				:	
8-Other Non-Collision	0			lotal	11	5
9-Pedestrian	0					
10-Pedalcycle	0				Road Character	
11-Railway Vehicle - Train, Engine	0				Road Grade	Total
12-Animal	-			1-Level		7
13-Motor Vehicle in Transport	11			2-On Grade		4
14-Parked Motor Vehicle	0			3-Top of Hill		0
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0	Traffic Control Devices		4-Bottom of Hill		0
16-Work Zone / Maintenance Equipment	С		Total	5-Other		0
17-Other Non-Fixed Object	0 0		0	Total		11
18-Impact Attenuator / Crash Cushion	0	2-Traffic Signals (Flashing)	0			
19-Bridge Overhead Structure	0	3-Advisory/Warning Sign	0			
20-Bridge Pier or Support	0	4-Stop Signs - All Approaches	0			
21-Bridge Rail	0	5-Stop Signs - Other	ю		Light	ŀ
22-Cable Barrier	0	6-Yield Sign	0		Light Condition	l otal ĉ
23-Culvert	0	7-Curve Warning Sign	0	n-Dayligni		0 0
24-Curb	0	8-Officer, Flagman, School Patrol	0	2-Dawii		
25-Ditch	-	9-School Bus Stop Arm	0	3-DUSK		C
26-Embankment	0		0	4-Dark - Lighted	7	. •
27-Guardrail Face	0	11-R.R. Crossing Device	0	5-Dark - Not Lighted	ea	4 (
28-Guardrail End	0	12-No Passing Zone	0	6-Dark - Unknown Lignting	ı Lıgntıng	5 (
29-Concrete Traffic Barrier	0	13-None	ø	/-Unknown		ъ
30-Other Traffic Barrier	0	14-Other		Total		11
31-Tree (Standing)	0		, :			
32-Utility Pole / Light Support	~	l Otal				
33-Traffic Sign Support	0					
34-Traffic Signal Support	0					
35-Fence	0					
36-Mailbox	-					
37-Other Post Pole or Support	0					

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Maine Department Of Transportation - Traffic Engineering, Crash Records Section Crash Summary II - Characteristics

Crashes by Year and Month

Month	2015	2016	2017	Total
JANUARY	0	۲	-	2
FEBRUARY	0	0	0	0
MARCH	0		0	
APRIL	0		0	-
MAY	0	0	0	0
JUNE	0	0		~
JULY	0		0	-
AUGUST	0	0	0	0
SEPTEMBER	0	. 	0	-
OCTOBER	0	0	0	0
NOVEMBER	0	0	7	2
DECEMBER	0	-	-	Ν
Total	0	Q	5	7

Report is limited to the last 10 years of data.

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary II - Characteristics Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Straight Curved Road Road I	Curved Three Leg Four Leg Road Intersection Intersection		Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Parking Lot Private Way	Cross Over	Railroad Crossing	Traffic Circle- Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	.	0	0	0	0	0	0	0	0	0	0	0	-
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	ю	0	0	0	0	0	0	0	0	0	0	0	e
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	.	e	-	0	0	.	0	0	0	0	0	0	0	0	9
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	~	0	0	0	0	0	0	0	0	0	0	0	0	0	~
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	e	5	0	0	-	0	0	0	0	0	0	0	0	7

Maine Department Of Transportation - Traffic Engineering, Crash Records Section Crash Summary II - Characteristics

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

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Maine Department Of Transportation - Traffic Engineering, Crash Records Section Crash Summary II - Characteristics

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

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Crash Summary II - Characteristics

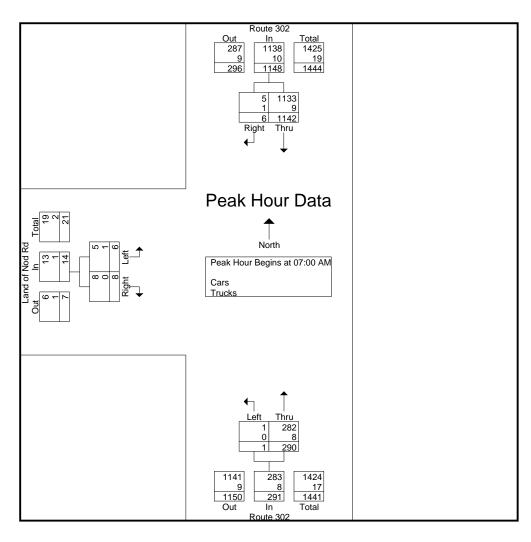
Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	ĪŌ	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)	rizzle)											
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	÷	£
Dark - Not Lighted	0	0	0	0	0	0	0	-	0	0	0	-
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	0	7
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	ъ	-	0	0	0	0	0	e	0	0	2	1

Appendix

Traffic Count Data

		Land of Nod F From West		<u>inted- Cars - Truc</u> Route 302 From South		Route 302 From North	
Int. Total	Right	Left	Thru	Left	Right	Thru	Start Time
373	2	1	67	0	1	302	07:00 AM
381	2	1	65	0	3	310	07:15 AM
362	1	1	76	0	1	283	07:30 AM
337	3	3	82	1	1	247	07:45 AM
1453	8	6	290	1	6	1142	Total
261	1	1	86	0	2	171	08:00 AM
284	1	0	64	0	0	219	08:15 AM
292	2	0	76	0	2	212	08:30 AM
233	0	1	90	1	1	140	08:45 AM
1070	4	2	316	1	5	742	Total
	1				1		
2523	12	8	606	2	11	1884	Grand Total
	60	40	99.7	0.3	0.6	99.4	Apprch %
	0.5	0.3	24	0.1	0.4	74.7	Total %
2489	12	7	588	2	10	1870	Cars
98.7	100	87.5	97	100	90.9	99.3	% Cars
34	0	1	18	0	1	14	Trucks
1.3	0	12.5	3	0	9.1	0.7	% Trucks

		Route 302			Route 302		L	and of Nod F	۲d	
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	08:45 AM -	Peak 1 of 1							
Peak Hour for Entire Inte	rsection Begi	ns at 07:00 A	M							
07:00 AM	302	1	303	0	67	67	1	2	3	373
07:15 AM	310	3	313	0	65	65	1	2	3	381
07:30 AM	283	1	284	0	76	76	1	1	2	362
07:45 AM	247	1	248	1	82	83	3	3	6	337
Total Volume	1142	6	1148	1	290	291	6	8	14	1453
% App. Total	99.5	0.5		0.3	99.7		42.9	57.1		
PHF	.921	.500	.917	.250	.884	.877	.500	.667	.583	.953
Cars	1133	5	1138	1	282	283	5	8	13	1434
% Cars	99.2	83.3	99.1	100	97.2	97.3	83.3	100	92.9	98.7
Trucks	9	1	10	0	8	8	1	0	1	19
% Trucks	0.8	16.7	0.9	0	2.8	2.7	16.7	0	7.1	1.3

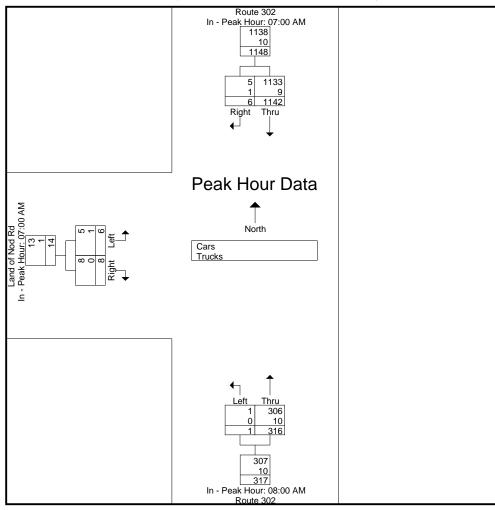


N/S Street : Route 302 E/W Street : Land of Nod Road City/State : Windham, ME Weather : Rain

		Route 302			Route 302	2		Land of Nod	Rd	
		From North	ı		From Sout	h		From West	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM te	o 08:45 AM -	Peak 1 of 1							

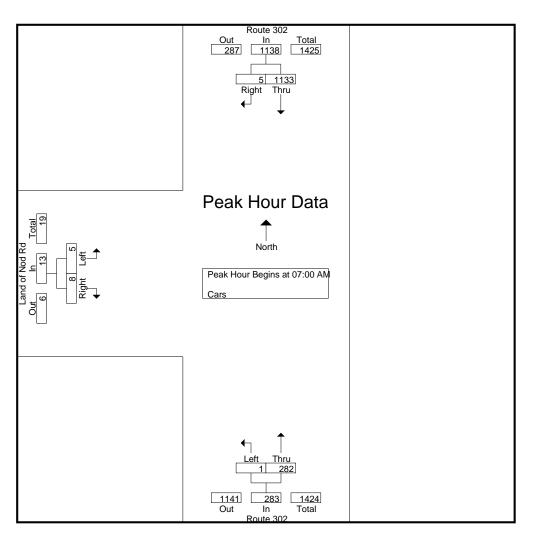
Peak Hour for Each Approach Begins at:

07:00 AM			08:00 AM			07:00 AM		
302	1	303	0	86	86	1	2	3
310	3	313	0	64	64	1	2	3
283	1	284	0	76	76	1	1	2
247	1	248	1	90	91	3	3	6
1142	6	1148	1	316	317	6	8	14
99.5	0.5		0.3	99.7		42.9	57.1	
.921	.500	.917	.250	.878	.871	.500	.667	.583
1133	5	1138	1	306	307	5	8	13
99.2	83.3	99.1	100	96.8	96.8	83.3	100	92.9
9	1	10	0	10	10	1	0	1
0.8	16.7	0.9	0	3.2	3.2	16.7	0	7.1
-	302 310 283 247 1142 99.5 .921 1133 99.2 9	302 1 310 3 283 1 247 1 1142 6 99.5 0.5 .921 .500 1133 5 99.2 83.3 9 1	302 1 303 310 3 313 283 1 284 247 1 248 1142 6 1148 99.5 0.5	302 1 303 0 310 3 313 0 283 1 284 0 247 1 248 1 1142 6 1148 1 99.5 0.5 0.3 0.3 .921 .500 .917 .250 1133 5 1138 1 99.2 83.3 99.1 100 9 1 10 0	302 1 303 0 86 310 3 313 0 64 283 1 284 0 76 247 1 248 1 90 1142 6 1148 1 316 99.5 0.5 0.3 99.7 .921 .500 .917 .250 .878 1133 5 1138 1 306 99.2 83.3 99.1 100 96.8 9 1 10 0 10	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3021 303 0 86 86 16 12 310 3 313 0 64 64 12 283 1 284 0 76 76 11 247 1 248 1 90 91 33 1142 6 1148 1 316 317 6 8 99.5 0.5 0.3 99.7 42.9 57.1 $.921$ $.500$ $.917$ $.250$ $.878$ $.871$ $.500$ $.667$ 1133 5 1138 1 306 307 5 8 99.2 83.3 99.1 100 96.8 96.8 83.3 100 9 1 10 0 10 10 10 1 0



			Groups Printed- C				_
	Route 30		Route	∋ 302		Nod Rd	/
Start Time	From Nor Thru	Right	Left	South Thru	Left	West Right	Int. Total
07:00 AM	301	1	0	65	1	2	
07:15 AM	309	3	0	65	1	2	380
07:30 AM	279	0	0	71	0	1	351
07:45 AM	244	1	1	81	3	3	333
Total	1133	5	1	282	5	8	1434
							ſ
08:00 AM	170	2	0	82	1	1	256
08:15 AM	217	0	0	62	0	1	280
08:30 AM	210	2	0	73	0	2	287
08:45 AM	140	1	1	89	1	0	232
Total	737	5	1	306	2	4	1055
							l
Grand Total	1870	10	2	588	7	12	2489
Apprch %	99.5	0.5	0.3	99.7	36.8	63.2	
Total %	75.1	0.4	0.1	23.6	0.3	0.5	

		Route 302			Route 302		l	and of Nod I	Rd	
		From North			From South	1		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	08:45 AM -	Peak 1 of 1	I	I			I		
Peak Hour for Entire Inte	rsection Begi	ns at 07:00 A	М							
07:00 AM	301	1	302	0	65	65	1	2	3	370
07:15 AM	309	3	312	0	65	65	1	2	3	380
07:30 AM	279	0	279	0	71	71	0	1	1	351
07:45 AM	244	1	245	1	81	82	3	3	6	333
Total Volume	1133	5	1138	1	282	283	5	8	13	1434
% App. Total	99.6	0.4		0.4	99.6		38.5	61.5		
PHF	.917	.417	.912	.250	.870	.863	.417	.667	.542	.943



N/S Street : Route 302 E/W Street : Land of Nod Road City/State : Windham, ME Weather : Rain

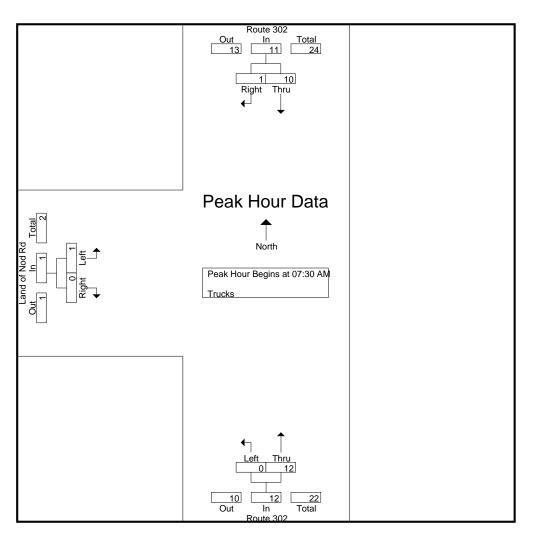
		Route 302	0		Route 302)		Land of Nod Rd		
		From North	n		From Sout	h				
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	08:45 AM -	Peak 1 of 1							
Peak Hour for Each Appr	oach Begins	at:								
	07:00 AM			08:00 AM			07:00 AM			
+0 mins.	301	1	302	0	82	82	1	2	3	
+15 mins.	309	3	312	0	62	62	1	2	3	
+30 mins.	279	0	279	0	73	73	0	1	1	

+45 mins.	244	1	245	1	89	90	3	3	6
Total Volume	1133	5	1138	1	306	307	5	8	13
% App. Total	99.6	0.4		0.3	99.7		38.5	61.5	
PHF	.917	.417	.912	.250	.860	.853	.417	.667	.542
	Land of Nod Rd In - Peak Hour: 07:00 AM	Right Left		Peak He	te 302 our: 07:00 AM 138 ↓ 1133 Thru ↓ 0 Our Data]			
				Left Left In - Peak H Rou	Thru 306 307 Dur: 08:00 AM te 302				

Start Date	. 9/10/2010
Page No	: 7

	Groups Printed- Trucks												
		Land of Nod R		Route 302		Route 302							
Int. Total	Right	From West Left	Thru	From South Left	Right	From North Thru	Start Time						
3	0	0	2	0	0	1	07:00 AM						
1	о	0	0	0	0	1	07:15 AM						
11	0	1	5	0	1	4	07:30 AM						
4	0	0	1	0	0	3	07:45 AM						
19	0	1	8	0	1	9	Total						
	' I		'		' I								
5	0	0	4	0	0	1	08:00 AM						
4	0	0	2	0	0	2	08:15 AM						
5	0	0	3	0	0	2	08:30 AM						
1	0	0	1	0	0	0	08:45 AM						
15	0	0	10	0	0	5	Total						
24		4	40	0		A A	Crand Total						
34	0	1	18	0	1	14	Grand Total						
	0	100	100	0	6.7	93.3	Apprch %						
	0	2.9	52.9	0	2.9	41.2	Total %						

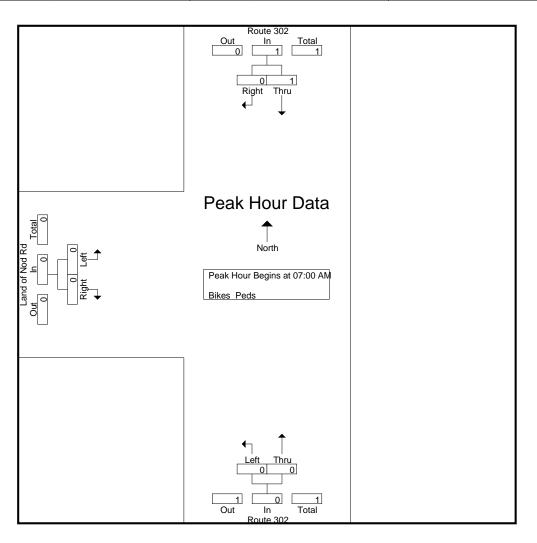
		Route 302			Route 302		L	Land of Nod R	۶d	
		From North	,		From South	ו		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	1 07:00 AM to	08:45 AM - I	Peak 1 of 1							
Peak Hour for Entire Inter	rsection Begir	ns at 07:30 A	M							I
07:30 AM	4	1	5	0	5	5	1	0	1	11
07:45 AM	3	0	3	0	1	1	0	0	0	4
08:00 AM	1	0	1	0	4	4	0	0	0	5
08:15 AM	2	0	2	0	2	2	0	0	0	4
Total Volume	10	1	11	0	12	12	1	0	1	24
% App. Total	90.9	9.1		0	100		100	0		
PHF	.625	.250	.550	.000	.600	.600	.250	.000	.250	.545



		Route 302			Route 302		La	and of Nod R	d	
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fron	n 07:00 AM to	08:45 AM - F	Peak 1 of 1							
Peak Hour for Each App	roach Begins	at:								
	07:30 AM			07:30 AM			07:00 AM			
+0 mins.	4	1	5	0	5	5	0	0	0	
+15 mins.	3	0	3	0	1	1	0	0	0	
+30 mins.	1	0	1	0	4	4	1	0	1	
+45 mins.	2	0	2	0	2	2	0	0	0	
Total Volume	10	1	11	0	12	12	1	0	1	
% App. Total	90.9	9.1		0	100		100	0		
PHF	.625	.250	.550	.000	.600	.600	.250	.000	.250	
				Rou In - Peak He	te 302 our: 07:30 AM					
					11					
				Right	Thru					
				•	+					
				Deskul		_				
				Peak H	our Data	а				
	AM				↑					
	Land of Nod Rd In - Peak <u>Hour: 0</u> 7:00 AM	, ⊢		N	orth					
	Nod 1			Trucks		_				
	, T⊂ of	↓ Right		Irucks						
	- Pe	∝ ≁								
	⊆									
					↑					
				Left	Thru					
) 12					
					12					
					12 our: 07:30 AM					
				Rou	te 302					

					Groups Prin	<u>ited- Bike</u>				7		ļ
		Route 302			Route 302			nd of Nod Ro	d			I
Start Time	Fr Thru	rom North Right	Peds	Left	rom South Thru	Peds	Left	From West Right	Peds	Exclu. Total	Inclu. Total	Int. Total
			0	0		0		-	0			
07:00 AM	0	U	0	U	0	0	0	0	U	U	U	0
07:15 AM	1	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	1
												I
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	0	0	0	0	0	0	1	1
Apprch %	100	0		0	0		0	0	I			
Total %	100	0		0	0		0	0	l	0	100	

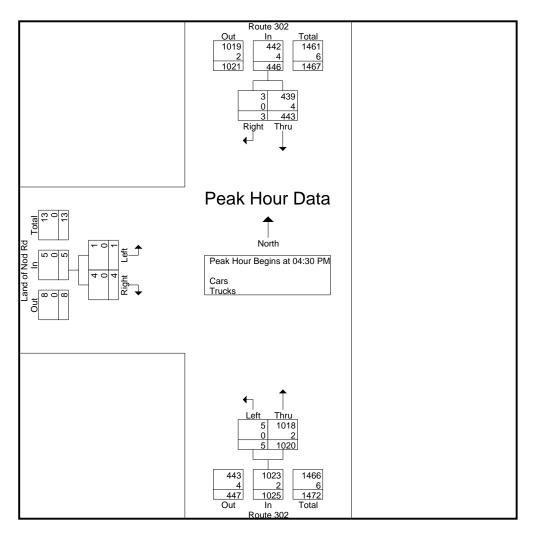
		Route 302			Route 302		L	and of Nod F	Rd	
		From North	1		From South	ı		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	07:00 AM to	08:45 AM -	Peak 1 of 1	I				I		,
Peak Hour for Entire Inter	rsection Begi	ns at 07:00 A	M							
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250



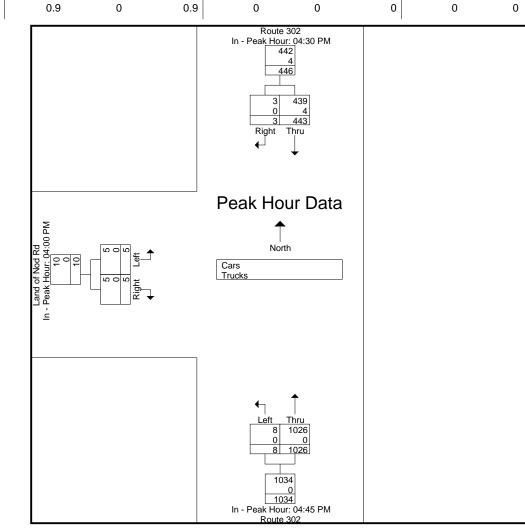
					<u> </u>					
		Route 302			Route 302		Li	and of Nod R	d	
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From			eak 1 of 1							
Peak Hour for Each Appr		at:								
	07:00 AM			07:00 AM			07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	
+15 mins.	1	0	1	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	
Total Volume	1	0	1	0	0	0	0	0	0	
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	
				Rou	te 302					
				In - Peak Ho	our: 07:00 AM					
				0 Right) <u>1</u> Thru					
				ل	\perp					
					•					
				Dook U	our Data					
				Feaking	Jui Dala					
	AM			4	↑					
	Land of Nod Rd In - Peak <u>Hour: 0</u> 7:00 AM			N	orth					
	Nod 0			Bikes Peds		,				
	⊒ H ot	Right		Bikes Peas						
	Lan - Pea	<u></u> <u> </u>								
	Ē									
					•					
				€_	Ţ					
				Left 0	Thru					
					our: 07:00 AM te 302					

			ups Printed- Cars -				,
	Route 302 From North		Route 3 From Sc		Land of N From V		1
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
04:00 PM	101	3	1	188	2	1	296
04:15 PM	91	1	3	238	3	2	338
04:30 PM	117	0	1	232	0	0	350
04:45 PM	96	0	2	247	0	2	347
Total	405	4	7	905	5	5	1331
	1	1			r.	,	1
05:00 PM	102	2	1	280	1	1	387
05:15 PM	128	1	1	261	0	1	392
05:30 PM	88	2	4	238	1	1	334
05:45 PM	74	1	4	236	0	1	316
Total	392	6	10	1015	2	4	1429
		1				I ſ	
Grand Total	797	10	17	1920	7	9	2760
Apprch %	98.8	1.2	0.9	99.1	43.8	56.2	I
Total %	28.9	0.4	0.6	69.6	0.3	0.3	I
Cars	792	10	17	1916	7	9	2751
% Cars	99.4	100	100	99.8	100	100	99.7
Trucks	5	0	0	4	0	0	9
% Trucks	0.6	0	0	0.2	0	0	0.3

		Route 302			Route 302		La	and of Nod F	۲d	
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 04:00 PM to	05:45 PM -	Peak 1 of 1			I				
Peak Hour for Entire Inte	rsection Begi	ns at 04:30 P	M							
04:30 PM	117	0	117	1	232	233	0	0	0	350
04:45 PM	96	0	96	2	247	249	0	2	2	347
05:00 PM	102	2	104	1	280	281	1	1	2	387
05:15 PM	128	1	129	1	261	262	0	1	1	392
Total Volume	443	3	446	5	1020	1025	1	4	5	1476
% App. Total	99.3	0.7		0.5	99.5		20	80		
PHF	.865	.375	.864	.625	.911	.912	.250	.500	.625	.941
Cars	439	3	442	5	1018	1023	1	4	5	1470
% Cars	99.1	100	99.1	100	99.8	99.8	100	100	100	99.6
Trucks	4	0	4	0	2	2	0	0	0	6
% Trucks	0.9	0	0.9	0	0.2	0.2	0	0	0	0.4

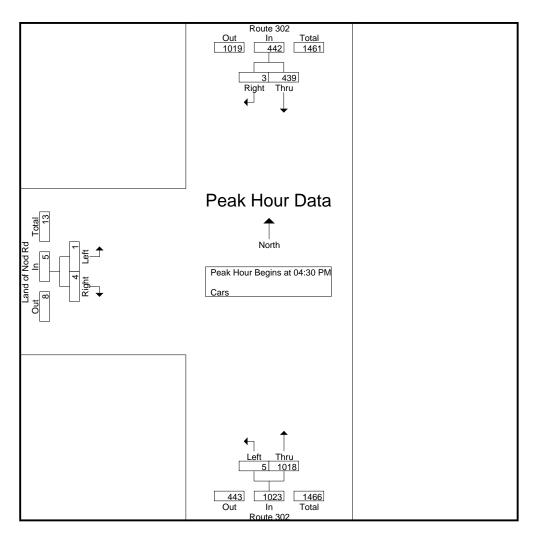


	Route 302				Route 302		L				
		From North			From South			From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total	
Peak Hour Analysis From	n 04:00 PM to	05:45 PM - I	Peak 1 of 1								
Peak Hour for Each Appr	oach Begins	at:									
	04:30 PM			04:45 PM			04:00 PM				
+0 mins.	117	0	117	2	247	249	2	1	3		
+15 mins.	96	0	96	1	280	281	3	2	5		
+30 mins.	102	2	104	1	261	262	0	0	0		
+45 mins.	128	1	129	4	238	242	0	2	2		
Total Volume	443	3	446	8	1026	1034	5	5	10		
% App. Total	99.3	0.7		0.8	99.2		50	50			
PHF	.865	.375	.864	.500	.916	.920	.417	.625	.500		
Cars	439	3	442	8	1026	1034	5	5	10		
% Cars	99.1	100	99.1	100	100	100	100	100	100		
Trucks	4	0	4	0	0	0	0	0	0		
% Trucks	0.9	0	0.9	0	0	0	0	0	0		



Groups Printed- Cars													
	Route 302		Route	e 302		Nod Rd							
Start Time	From Nort	tn Right	Left	South Thru	Left	West Right	Int. Total						
04:00 PM		3	1	188	2	1	296						
04:15 PM	90	1	3	236	3	2	335						
04:30 PM	115	0	1	230	0	0	346						
04:45 PM	96	0	2	247	0	2	347						
Total	402	4	7	901	5	5	1324						
05:00 PM	101	2	1	280	1	1	386						
05:15 PM	127	1	1	261	0	1	391						
05:30 PM	88	2	4	238	1	1	334						
05:45 PM	74	1	4	236	0	1	316						
Total	390	6	10	1015	2	4	1427						
				1									
Grand Total	792	10	17	1916	7	9	2751						
Apprch %	98.8	1.2	0.9	99.1	43.8	56.2							
Total %	28.8	0.4	0.6	69.6	0.3	0.3							

	Route 302				Route 302		L			
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	04:00 PM to	05:45 PM - F	Peak 1 of 1	I						
Peak Hour for Entire Inter	rsection Begir	ns at 04:30 PI	M							
04:30 PM	115	0	115	1	230	231	0	0	0	346
04:45 PM	96	0	96	2	247	249	0	2	2	347
05:00 PM	101	2	103	1	280	281	1	1	2	386
05:15 PM	127	1	128	1	261	262	0	1	1	391
Total Volume	439	3	442	5	1018	1023	1	4	5	1470
% App. Total	99.3	0.7		0.5	99.5		20	80		
PHF	.864	.375	.863	.625	.909	.910	.250	.500	.625	.940



N/S Street : Route 302 E/W Street : Land of Nod Road City/State : Windham, ME Weather : Clear

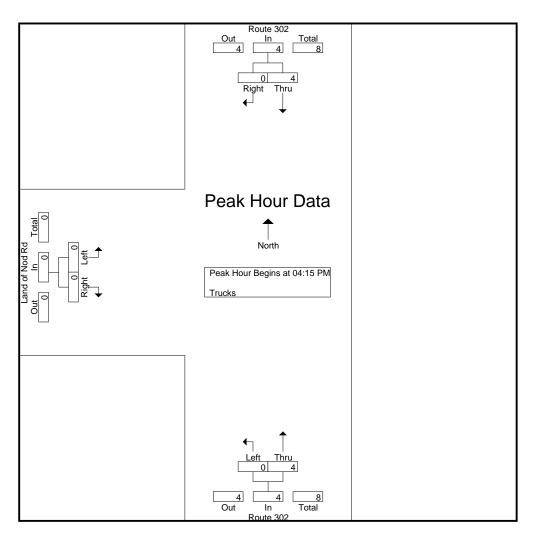
		Route 302			Route 302	,	L	and of Nod F	٦d	
		From North		1	From South			From West		
Start Time		Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From			eak 1 of 1							
Peak Hour for Each Appr		at:								
	04:30 PM			04:45 PM			04:00 PM			
+0 mins.	115	0	115		247	249	2	1	3	
+15 mins.		0	96	1	280	281	3	2	5	
+30 mins.	101	2	103	1	261	262	0	0	0	
+45 mins.	121	1	128		238	242		2	2	
Total Volume		3	442		1026	1034	5	5	10	
% App. Total		0.7	I	0.8	99.2	I	50	50		
PHF	.864	.375	.863	.500	.916	.920	.417	.625	.500	
				In - Peak H	ute 302 <u>tour</u> : 04:30 PM <u>442</u> <u>3</u> 439 th Thru <u>439</u> th Thru					
	Σ				▲				1	
	Land of Nod Rd In - Peak <u>Hour: 04</u> :00 PM			N Cars	 North					

Left Thru 8 1026

In - Peak Hour: 04:45 PM Route 302

Route 302 From North Route 302 From South Route 302 From South Land of Nod Rd From West Start Time Thru Right Left Thru Left Right Int. 04:00 PM 0 <th>,</th> <th colspan="13">Groups Printed- Trucks</th>	,	Groups Printed- Trucks												
Start Time Thru Right Left Thru Left Right Int. 04:00 PM 0	,			02	Route	e 302								
04:00 PM 0<	<u></u>	 Nest	From	uth T	From	North								
04:15 PM 1 0 0 2 0 0 04:30 PM 2 0 0 2 0 0 0 04:45 PM 0 0 0 0 0 0 0 0 Total 3 0 0 0 0 0 0 0 05:00 PM 1 0 0 0 0 0 0 0	Total	Right				-								
04:30 PM 2 0 0 2 0 0 04:45 PM 0 0 0 0 0 0 0 Total 3 0 0 4 0 0 0 05:00 PM 1 0 0 0 0 0 0	0	0	0	0	0	0	0	04:00 PM						
04:45 PM 0 0 0 0 0 0 0 0 Total 3 0 0 4 0 <t< td=""><td>3</td><td>0</td><td>0</td><td>2</td><td>0</td><td>0</td><td>1</td><td>04:15 PM</td></t<>	3	0	0	2	0	0	1	04:15 PM						
Total 3 0 0 4 0 0 05:00 PM 1 0 0 0 0 0 0 0	4	0	0	2	0	0	2	04:30 PM						
05:00 PM 1 0 0 0 0 0	0	 0	0	0	0	0	0	04:45 PM						
	7	0	0	4	0	0	3	Total						
	ļ	1	I	1		I	I							
05:15 PM 1 0 0 0 0	1	0	0	0	0	0	1	05:00 PM						
	1	0	0	0	0	0	1	05:15 PM						
05:30 PM 0 0 0 0 0 0 0	0	0	0	0	0	0	0	05:30 PM						
05:45 PM 0 0 0 0 0 0	0	0	0	0	0	0	0	05:45 PM						
Total 2 0 0 0 0 0	2	0	0	0	0	0	2	Total						
Grand Total 5 0 0 4 0 0	9	0		4	0	0	5	Grand Total						
	3	-												
Apprch % 100 0 0 100 0 0		0	0	100	0	0	100	Apprch %						
Total % 55.6 0 0 44.4 0 0		0	0	44.4	0	0	55.6	Total %						

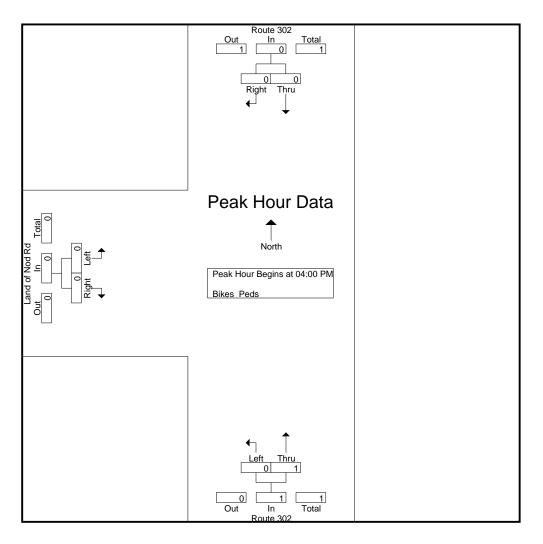
		Route 302			Route 302		L	Rd	l	
		From North	l		From South	ı		From West		l .
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	04:00 PM to	05:45 PM - 1	Peak 1 of 1			I	l	I		
Peak Hour for Entire Inter	rsection Begin	ıs at 04:15 P	M							
04:15 PM	1	0	1	0	2	2	0	0	0	3
04:30 PM	2	0	2	0	2	2	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	4	0	4	0	4	4	0	0	0	8
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000	.500



		Route 302			Route 302			and of Nod R	d	
							L		u I	
		From North			From South	·		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From			eak 1 of 1							
Peak Hour for Each App				04-00 DM			04:00 DM			
0	04:15 PM	0		04:00 PM	0	0	04:00 PM	0		
+0 mins.	1	0	1	0	0	0	0	0	0	
+15 mins.	2	0	2	0	2	2	0	0	0	
+30 mins.	0	0	0	0	2	2	0	0	0	
+45 mins.	1	0	1	0	0	0	0	0	0	
Total Volume	4	0	4	0	4	4	0	0	0	
% App. Total	100	0		0	100	500	0	0		
PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000	
				Rou In - Peak H	ite 302 our: 04:15 PM					
					4					
				Right	D 4 Thru					
				€	\downarrow					
				Peak H	our Data	a				
	5			i oun ii						
	Land of Nod Rd In - Peak <u>Hour:</u> 04:00 PM				T					
	0 04:C			Ν	lorth					
	f Noc	↓ 凵 ┛		Trucks						
	ak F	L Right		-						
	el - Pe									
	-									
										
				↓						
				Left						
				In - Peak H	4 our: 04:00 PM					
					ite 302					

· · · · · · · · · · · · · · · · · · ·	Groups Printed- Bikes Peds												
		Route 302			Route 302			nd of Nod Ro	t t	1		I	
Start Time	En Thru	rom North Right	Peds	Left	rom South Thru	Peds	Left	From West Right	Peds	Exclu. Total	Inclu. Total	Int. Total	
		-						-					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
04:30 PM	0	0	0	0	1	0	0	0	0	0	1	1	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	1	0	0	0	0	0	1	1	
												ļ	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
05:30 PM	1	0	0	0	0	0	0	0	0	0	1	1	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1	0	0	0	0	0	0	0	0	0	1	1	
Grand Total	1	0	0	0	1	0	0	0	0	0	2	2	
Apprch %	100	0		0	100		0	0	I	1			
Total %	50	0		0	50		0	0	l	0	100		

		Route 302	2		Route 302		L	۲d		
		From North	ı		From South	n		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 04:00 PM to	05:45 PM -	Peak 1 of 1	I	I			I	I	
Peak Hour for Entire Inte	rsection Begi	ns at 04:00 I	PM							
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

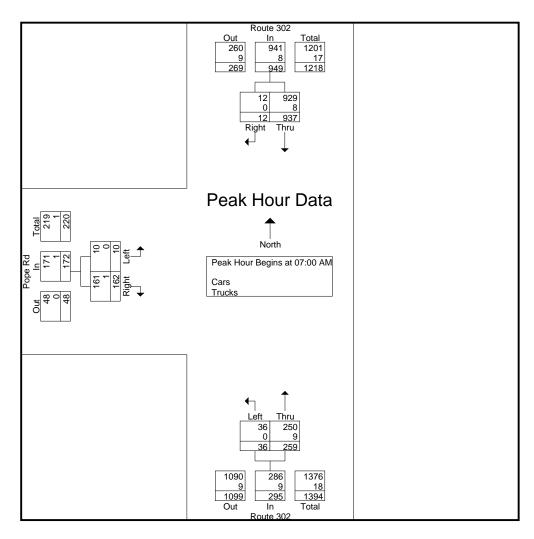


N/S Street : Route 302 E/W Street : Land of Nod Road City/State : Windham, ME Weather : Clear

	Route 302				Route 302		La			
		From North			-rom South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 04:00 PM to	05:45 PM - P	eak 1 of 1	II	I		II	I		
Peak Hour for Each App	roach Begins	at:								
	04:45 PM			04:00 PM			04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	1	1	0	0	0	
+45 mins.	1	0	1	0	0	0	0	0	0	
Total Volume	1	0	1	0	1	1	0	0	0	
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000	
	Land of Nod Rd In - Peak Hour: 04:00 PM			In - Peak H	Thru	1				
				Left Left In - Peak He Rou						

		Gro	ups Printed- Cars	- Trucks			_
	Route : From N	302	Route	9 302	Pope From		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	237	2	14	50	3	50	356
07:15 AM	273	4	9	56	3	44	389
07:30 AM	225	3	5	72	0	37	342
07:45 AM	202	3	8	81	4	31	329
Total	937	12	36	259	10	162	1416
	1	, 1	í.		1	'	1
08:00 AM	147	3	4	78	1	18	251
08:15 AM	197	3	3	70	3	26	302
08:30 AM	176	1	6	72	1	16	272
08:45 AM	141	2	6	78	1	11	239
Total	661	9	19	298	6	71	1064
		1		I			
Grand Total	1598	21	55	557	16	233	2480
Apprch %	98.7	1.3	9	91	6.4	93.6	
Total %	64.4	0.8	2.2	22.5	0.6	9.4	
Cars	1585	20	55	538	16	232	2446
% Cars	99.2	95.2	100	96.6	100	99.6	98.6
Trucks	13	1	0	19	0	1	34
% Trucks	0.8	4.8	0	3.4	0	0.4	1.4

		Route 302			Route 302			Pope Rd		
		From North		From South				From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	07:00 AM to	7:00 AM to 08:45 AM - Peak 1 of 1								
Peak Hour for Entire Inte	rsection Begi	ns at 07:00 A	M							
07:00 AM	237	2	239	14	50	64	3	50	53	356
07:15 AM	273	4	277	9	56	65	3	44	47	389
07:30 AM	225	3	228	5	72	77	0	37	37	342
07:45 AM	202	3	205	8	81	89	4	31	35	329
Total Volume	937	12	949	36	259	295	10	162	172	1416
% App. Total	98.7	1.3		12.2	87.8		5.8	94.2		
PHF	.858	.750	.856	.643	.799	.829	.625	.810	.811	.910
Cars	929	12	941	36	250	286	10	161	171	1398
% Cars	99.1	100	99.2	100	96.5	96.9	100	99.4	99.4	98.7
Trucks	8	0	8	0	9	9	0	1	1	18
% Trucks	0.9	0	0.8	0	3.5	3.1	0	0.6	0.6	1.3

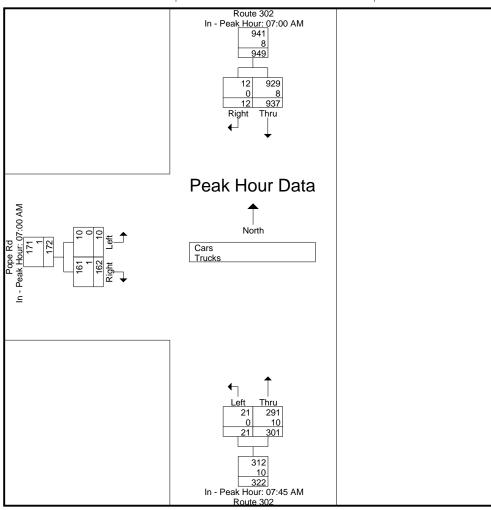


N/S Street : Route 302 E/W Street : Pope Road City/State : Windham, ME Weather : Rain

	Route 302			Route 302						
		From North	ı		From Sout	h		From Wes	t	
Start Time	Thru Right App. Total			Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										

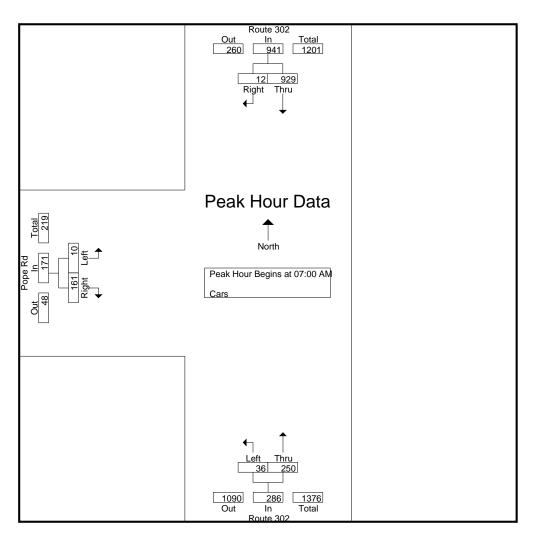
Peak Hour for Each Approach Begins at:

	07:00 AM			07:45 AM			07:00 AM		
+0 mins.	237	2	239	8	81	89	3	50	53
+15 mins.	273	4	277	4	78	82	3	44	47
+30 mins.	225	3	228	3	70	73	0	37	37
+45 mins.	202	3	205	6	72	78	4	31	35
Total Volume	937	12	949	21	301	322	10	162	172
% App. Total	98.7	1.3		6.5	93.5		5.8	94.2	
PHF	.858	.750	.856	.656	.929	.904	.625	.810	.811
Cars	929	12	941	21	291	312	10	161	171
% Cars	99.1	100	99.2	100	96.7	96.9	100	99.4	99.4
Trucks	8	0	8	0	10	10	0	1	1
% Trucks	0.9	0	0.8	0	3.3	3.1	0	0.6	0.6



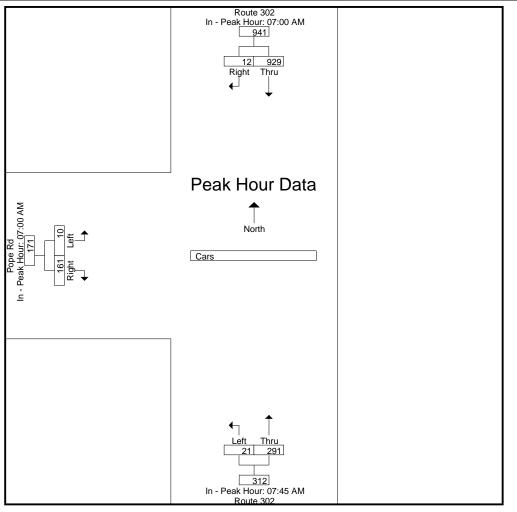
	Route 30	02	Groups Printed- C Route	e 302	Pop	e Rd	
Start Time	From Nor Thru	Right	From S Left	South Thru	Left	West Right	Int. Total
07:00 AM	236	2	14	48	3	50	353
07:15 AM	271	4	9	56	3	43	386
07:30 AM	222	3	5	66	0	37	333
07:45 AM	200	3	8	80	4	31	326
Total	929	12	36	250	10	161	1398
08:00 AM	146	3	4	75	1	18	247
08:15 AM	195	2	3	67	3	26	296
08:30 AM	174	1	6	69	1	16	267
08:45 AM	141	2	6	77	1	11	238
Total	656	8	19	288	6	71	1048
		'		,		'	
Grand Total	1585	20	55	538	16	232	2446
Apprch %	98.8	1.2	9.3	90.7	6.5	93.5	
Total %	64.8	0.8	2.2	22	0.7	9.5	

		Route 302			Route 302			Pope Rd		
		From North			From South	1		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	07:00 AM to 08:45 AM - Peak 1 of 1								,
Peak Hour for Entire Inte	rsection Begi	ns at 07:00 A	М							
07:00 AM	236	2	238	14	48	62	3	50	53	353
07:15 AM	271	4	275	9	56	65	3	43	46	386
07:30 AM	222	3	225	5	66	71	0	37	37	333
07:45 AM	200	3	203	8	80	88	4	31	35	326
Total Volume	929	12	941	36	250	286	10	161	171	1398
% App. Total	98.7	1.3		12.6	87.4		5.8	94.2		
PHF	.857	.750	.855	.643	.781	.813	.625	.805	.807	.905



N/S Street : Route 302 E/W Street : Pope Road City/State : Windham, ME Weather : Rain

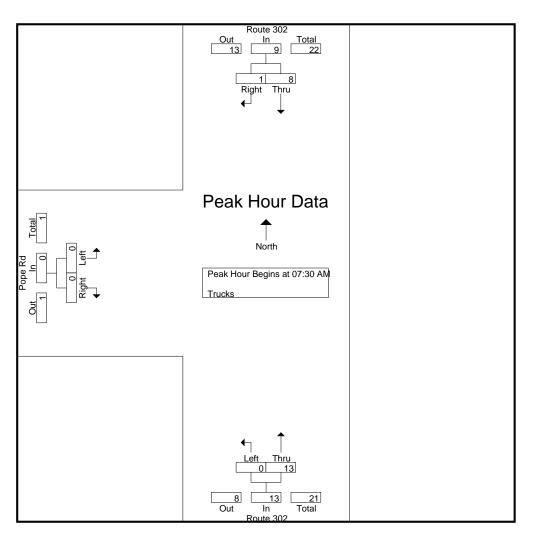
		Route 302			Route 302			Pope Rd		
		From North		From South			From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From	n 07:00 AM to	08:45 AM - F	Peak 1 of 1		I			I		
Peak Hour for Each App	roach Begins a	at:								
	07:00 AM			07:45 AM			07:00 AM			
+0 mins.	236	2	238	8	80	88	3	50	53	
+15 mins.	271	4	275	4	75	79	3	43	46	
+30 mins.	222	3	225	3	67	70	0	37	37	
+45 mins.	200	3	203	6	69	75	4	31	35	
Total Volume	929	12	941	21	291	312	10	161	171	
% App. Total	98.7	1.3		6.7	93.3		5.8	94.2		
PHF	.857	.750	.855	.656	.909	.886	.625	.805	.807	
					ite 302 our: 07:00 AM 941					



Start Date	. 3/10/201
Page No	:7

	Groups Printed- Trucks										
	Route 30	J2	Route	302	Pop	e Rd					
Start Time	From Nor Thru	Right	From S Left	South Thru	From Left	West Right	Int. Total				
07:00 AM		0	0	2	0	0					
07:15 AM	2	0	0	0	0	1	3				
07:30 AM	3	0	0	6	0	0	9				
07:45 AM	2	0	0	1	0	0	3				
Total	8	0	0	9	0	1	18				
08:00 AM	1	0	0	3	0	0	4				
08:15 AM	2	1	0	3	0	0	6				
08:30 AM	2	0	0	3	0	0	5				
08:45 AM	0	0	0	1	0	0	1				
Total	5	1	0	10	0	0	16				
Grand Total	13	1	0	19	0	1	34				
Apprch %	92.9	7.1	0	100	0	100					
Total %	38.2	2.9	0	55.9	0	2.9					

		Route 302		1	Route 302	Ţ		Pope Rd		
		From North	, I	1	From South	1	1	From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	1 07:00 AM to	08:45 AM - /	Peak 1 of 1		· · ·		i		i	,
Peak Hour for Entire Inter	rsection Begir	ns at 07:30 A	M							
07:30 AM	3	0	3	0	6	6	0	0	0	9
07:45 AM	2	0	2	0	1	1	0	0	0	3
08:00 AM	1	0	1	0	3	3	0	0	0	4
08:15 AM	2	1	3	0	3	3	0	0	0	6
Total Volume	8	1	9	0	13	13	0	0	0	22
% App. Total	88.9	11.1		0	100	ļ	0	0		
PHF	.667	.250	.750	.000	.542	.542	.000	.000	.000	.611



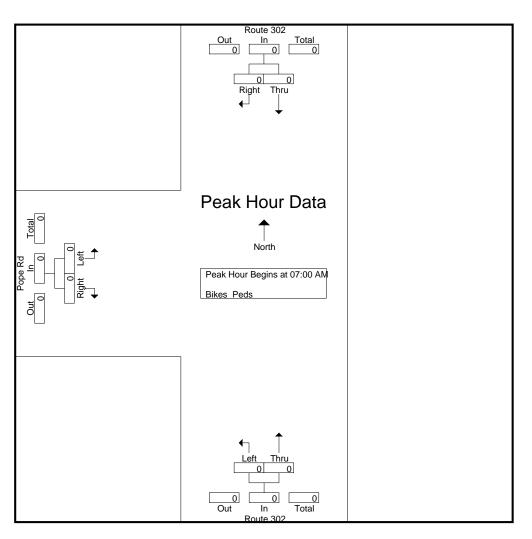
N/S Street : Route 302 E/W Street : Pope Road City/State : Windham, ME Weather : Rain

		Route 302		Route 302						
		From North			From South			From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	o 08:45 AM - P	eak 1 of 1		I			I		
Peak Hour for Each App	roach Begins	at:								
	07:30 AM			07:30 AM			07:00 AM			
+0 mins.	3	0	3	0	6	6	0	0	0	
+15 mins.	2	0	2	0	1	1	0	1	1	
+30 mins.	1	0	1	0	3	3	0	0	0	
+45 mins.	2	1	3	0	3	3		0	0	
Total Volume	8	1	9	0	13	13	0	1	1	
% App. Total		11.1		0	100		0	100		
PHF	.667	.250	.750	.000	.542	.542	.000	.250	.250	
				R In - Peak	oute 302 Hour: 07:30 AM					
					9					
					1 8					
				Ri(←	ght Thru					
					+					
				Dook I	Hour Dat	•				
				Peak		a				
	07:00 AM				1					
	00:20				North					
	· · · ·			Trucks						
	Pope R In - Peak Hour	L India		TTUCKS						
	- Pe									
	<u> </u>									
				4	^					
				_Le	eft Thru					
					0 13					
					13					
				In - Peak	Hour: 07:30 AM					
				P						

Start Date	: 9/18/2018
Page No	: 10

	Groups Printed-						s Peds			-		
		Route 302			Route 302		I .	Pope Rd				l
Start Time	Thru	rom North Right	Peds	Left	From South Thru	Peds	Left	From West Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0				
Total %				ĺ			1			0	0	
			1			1				1		

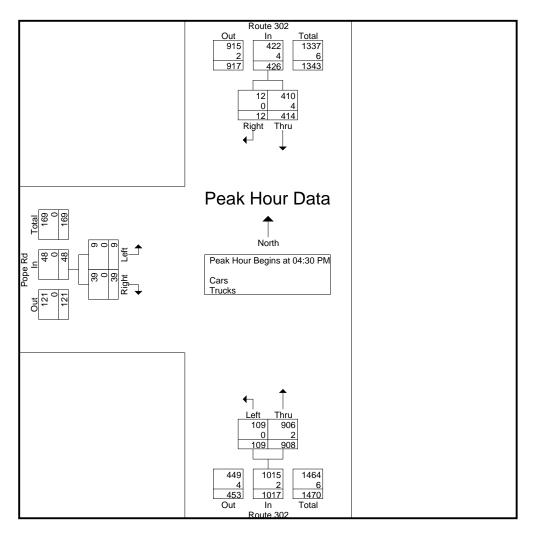
		Route 302			Route 302			Pope Rd			
		From North	1		From South			From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total	
Peak Hour Analysis From	07:00 AM to	08:45 AM -	Peak 1 of 1	I							
Peak Hour for Entire Inte	rsection Begin	s at 07:00 A	M								
07:00 AM	0	0	0	0	0	0	0	0	0	0	
07:15 AM	0	0	0	0	0	0	0	0	0	0	
07:30 AM	0	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	0		0	0		0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	



	Τ	Route 302			Route 302					
		From North			From South			Pope Rd From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM t	o 08:45 AM - F	'eak 1 of 1	·			L	I	I	
Peak Hour for Each Appr	-	at:								
	07:00 AM			07:00 AM			07:00 AM			
+0 mins.		0	0	0	0	0	0	0	0	
+15 mins.		0	0	0	0	0	0	0	0	
+30 mins.			0		0	0		0	0	
+45 mins.		0	0		0	0		0	0	
Total Volume		0	0	0	0	0	0	0	0	
% App. Total				0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	I
				Rou In Baak b	ute 302				Ī	
					Hour: 07:00 AM				1	
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			ı	Peak H	lour Data	ล			1	
				1 0000		2			1	
	00 AN				T				1	
	5:20 P			N	North				1	
	Pope Rd In - Peak <u>Hour: 0</u> 7:00 AM			Bikes Peds		¬			1	
	eak ⊢ □	0							1	
	- E	∐ ╙ ▼							1	
	-								1	
									1	
									1	
									1	
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									1	
I				4	↑				1	
I				▼ Left	t <u>Thru</u>				1	
I									1	
I									1	
I					0 Hour: 07:00 AM				1	
1				Rou	ute 302				1	

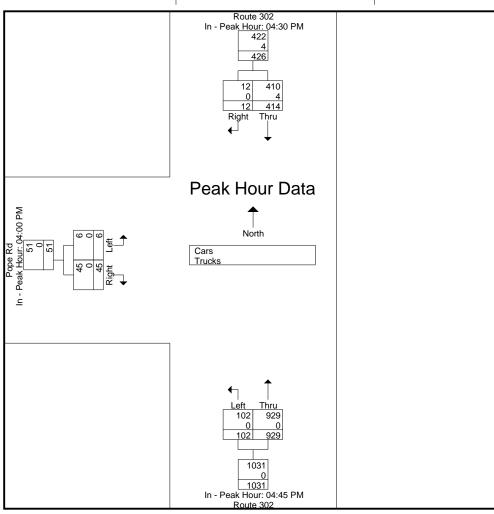
	Groups Printed- Cars - Trucks						
Pope Rd From West		Route 3 From So		Route From N			
	Thru	Left	Right	Thru	Start Time		
	168	20	2	92	04:00 PM		
2 2 13 332	212	15	1	89	04:15 PM		
4 0 13 340	194	25	3	105	04:30 PM		
9 2 4 349	229	24	2	88	04:45 PM		
3 6 45 1320	803	84	8	374	Total		
			, 				
7 4 10 401	247	36	4	100	05:00 PM		
8 3 12 401	238	24	3	121	05:15 PM		
5 1 9 336	215	18	4	89	05:30 PM		
6 1 4 307	196	34	3	69	05:45 PM		
6 9 35 1445	896	112	14	379	Total		
		100					
	1699	196	22	753	Grand Total		
	89.7	10.3	2.8	97.2	Apprch %		
4 0.5 2.9	61.4	7.1	0.8	27.2	Total %		
5 15 80 2757	1695	196	22	749	Cars		
8 100 100 99.7	99.8	100	100	99.5	% Cars		
4 0 0 8	4	0	0	4	Trucks		
2 0 0 0.3	0.2	0	0	0.5	% Trucks		

		Pope Rd			Route 302			Route 302		
		From West			From South			From North		
Int. Total	App. Total	Right	Left	App. Total	Thru	Left	App. Total	Right	Thru	Start Time
				I			Peak 1 of 1	05:45 PM - I	4:00 PM to	Peak Hour Analysis From 0
							M	ns at 04:30 P	ection Begir	Peak Hour for Entire Interse
340	13	13	0	219	194	25	108	3	105	04:30 PM
349	6	4	2	253	229	24	90	2	88	04:45 PM
401	14	10	4	283	247	36	104	4	100	05:00 PM
401	15	12	3	262	238	24	124	3	121	05:15 PM
1491	48	39	9	1017	908	109	426	12	414	Total Volume
		81.2	18.8		89.3	10.7		2.8	97.2	% App. Total
.930	.800	.750	.563	.898	.919	.757	.859	.750	.855	PHF
1485	48	39	9	1015	906	109	422	12	410	Cars
99.6	100	100	100	99.8	99.8	100	99.1	100	99.0	% Cars
6	0	0	0	2	2	0	4	0	4	Trucks
0.4	0	0	0	0.2	0.2	0	0.9	0	1.0	% Trucks



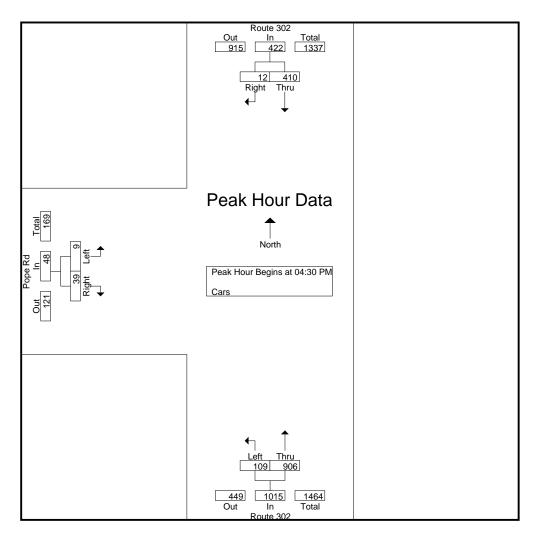
		Route 302	2		Route 302	2		Pope Rd		
		From North	า		From Sout	h		From Wes	st	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	n 04:00 PM to	o 05:45 PM -	Peak 1 of 1							
Peak Hour for Each Appr	oach Begins	at:								

	0								
	04:30 PM			04:45 PM			04:00 PM		
+0 mins.	105	3	108	24	229	253	2	15	17
+15 mins.	88	2	90	36	247	283	2	13	15
+30 mins.	100	4	104	24	238	262	0	13	13
+45 mins.	121	3	124	18	215	233	2	4	6
Total Volume	414	12	426	102	929	1031	6	45	51
% App. Total	97.2	2.8		9.9	90.1		11.8	88.2	
PHF	.855	.750	.859	.708	.940	.911	.750	.750	.750
Cars	410	12	422	102	929	1031	6	45	51
% Cars	99	100	99.1	100	100	100	100	100	100
Trucks	4	0	4	0	0	0	0	0	0
% Trucks	1	0	0.9	0	0	0	0	0	0
	1					1			



Groups Printed- Cars								
	Route 302)2	Route	e 302	Popr	e Rd		
Start Time	From Nort	<u>rtn</u> Right	From S Left	South Thru	From Left	West Right	Int. Total	
04:00 PM	92	2	20	168	2	-	299	
04:15 PM	89	1	15	210	2	13	330	
04:30 PM	103	3	25	192	0	13	336	
04:45 PM	88	2	24	229	2	4	349	
Total	372	8	84	799	6	45	1314	
05:00 PM	99	4	36	247	4	10	400	
05:15 PM	120	3	24	238	3	12	400	
05:30 PM	89	4	18	215	1	9	336	
05:45 PM	69	3	34	196	1	4	307	
Total	377	14	112	896	9	35	1443	
Grand Total	749	22	196	1695	15	80	2757	
Apprch %	97.1	2.9	10.4	89.6	15.8	84.2		
Total %	27.2	0.8	7.1	61.5	0.5	2.9		

		Route 302			Route 302			Pope Rd			
		From North			From South			From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total	
Peak Hour Analysis From	04:00 PM to	05:45 PM - I	Peak 1 of 1			1					
Peak Hour for Entire Inter	rsection Begin	is at 04:30 P	M								
04:30 PM	103	3	106	25	192	217	0	13	13	336	
04:45 PM	88	2	90	24	229	253	2	4	6	349	
05:00 PM	99	4	103	36	247	283	4	10	14	400	
05:15 PM	120	3	123	24	238	262	3	12	15	400	
Total Volume	410	12	422	109	906	1015	9	39	48	1485	
% App. Total	97.2	2.8		10.7	89.3		18.8	81.2			
PHF	.854	.750	.858	.757	.917	.897	.563	.750	.800	.928	



N/S Street : Route 302 E/W Street : Pope Road City/State : Windham, ME Weather : Clear

						Pope Rd	1			
		Route 302			Route 302					
		From North		F	From South	l		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
eak Hour Analysis Fron	n 04:00 PM to	05:45 PM - F	Peak 1 of 1						I	
eak Hour for Each App	roach Begins a	at:								
	04:30 PM			04:45 PM			04:00 PM			
+0 mins.	103	3	106	24	229	253	2	15	17	
+15 mins.	88	2	90	36	247	283	2	13	15	
+30 mins.	99	4	103	24	238	262	0	13	13	
+45 mins.	120	3	123	18	215	233	2	4	6	
Total Volume	410	12	422	102	929	1031	6	45	51	
% App. Total	97.2	2.8		9.9	90.1		11.8	88.2		
PHF	.854	.750	.858	.708	.940	.911	.750	.750	.750	
				L 12 Right ↓	2 <u>410</u> Thru					
]	Peak H	our Dat	ta				

Thru 929

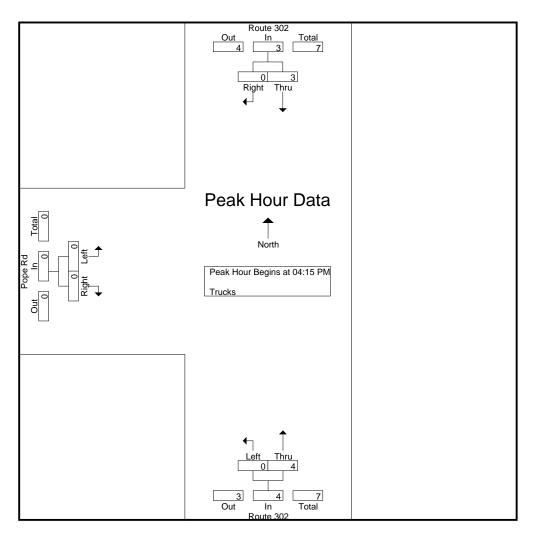
Left 102

In - Peak Hour: 04:45 PM Route 302

Start Date	: 9/18/20 ⁻
Page No	: 7

	Groups Printed- Trucks						
		Pope Rd From West		Route 302 From South		Route 302 From North	
Int. Total	Right	Left	Thru	Left	Right	Thru	Start Time
0	0	0	0	0	0	0	04:00 PM
2	0	0	2	0	0	0	04:15 PM
4	0	0	2	0	0	2	04:30 PM
0	0	0	0	0	0	0	04:45 PM
6	0	0	4	0	0	2	Total
1	0	0	0	0	0	1	05:00 PM
1	0	0	0	0	0	1	05:15 PM
0	0	0	0	0	0	0	05:30 PM
0	0	0	0	0	0	0	05:45 PM
2	0	0	0	0	0	2	Total
8	0	0	4	0	0	4	Grand Total
U U							
	0	0	100	0	0	100	Apprch %
	0	0	50	0	0	50	Total %

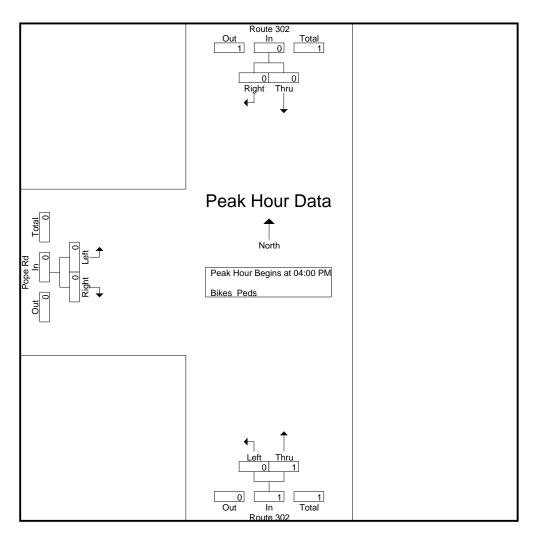
		Route 302			Route 302			Pope Rd		
		From North	1		From South	ı		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	04:00 PM to	05:45 PM -	Peak 1 of 1	I	I		I	I		
Peak Hour for Entire Inter	rsection Begir	ns at 04:15 F	PM							
04:15 PM	0	0	0	0	2	2	0	0	0	2
04:30 PM	2	0	2	0	2	2	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	3	0	3	0	4	4	0	0	0	7
% App. Total	100	0		0	100		0	0		
PHF	.375	.000	.375	.000	.500	.500	.000	.000	.000	.438



Notifie Notifie Notifie Notifie Prom North From North Start Time Thru Right App. Total Left Thru App. Total Left Right App. Total Int. Total Peak Hour Analysis From 04:00 PM to 00:46 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at: 0 <t< th=""><th></th><th></th><th></th><th></th><th>1</th><th></th><th></th><th></th><th></th><th></th><th></th></t<>					1						
Start Time Thru Right App. Total Left Thru App. Total Int. Total Pack Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 Peak Hour for Each Apprech Begins at: 04:00 PM 04:00 PM 04:00 PM 0 <t< td=""><td></td><td></td><td>Route 302</td><td></td><td></td><td>Route 302</td><td></td><td></td><td>Pope Rd</td><td></td><td></td></t<>			Route 302			Route 302			Pope Rd		
Peak Hour for Each Approach Begins at: Peak Hour for Each Approach Begins at: +15 mins, 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0											
Peak Hour for Each Approach Begins at:					Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:30 PM 04:30 PM 04:00 PM 04:00 PM 0				eak 1 of 1							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Peak Hour for Each Appr	-	at:								
+15 mins. 1 0 1 0 2 2 2 0 0 0 0 +45 mins. 1 0 1 0 0 0 0 0 0 0 0 Total Volume 4 0 4 0 4 4 0 0 0 9 K App. Total 100 0 0 000 500 000 000 000 000 000 PHF 500 .000 500 000 500 000 000 000 000 00		04:30 PM									
+30 mins. 1 0 1 0 2 2 2 0 0 0 0 +45 mins. 1 0 1 0 0 0 0 0 0 0 0 Total Volume 4 0 4 0 4 0 4 0 0 0 0 9% App. Total 100 0 0 0 000 .500 .500 .000 .000 .000			0			0	0				
+45 mins. 1 0 1 0 0 0 0 0 % App. Total 100 0 100 0 0 0 0 PHF .500 .000 .500 .500 .000 .000 .000 .000 PHF .500 .000 .500 .500 .000 .000 .000 In - Peak Hour Data In - Peak Hour Data In - Peak		0	0	0					0	0	
Total Volume 4 0 4 0 4 0 0 0 0 PHF 500 .000 .500 .000 .500 .000 <		1	0	1		2				0	
% App. Total 100 0 0 0 0 0 PHF .500 .000 .500 .500 .500 .000 .000 .000 Image: State of the state of		1	0	1	0	0	0	0		0	
PHF .500 .000 .500 .000 .500 .000			0	4	0		4	0	0	0	
Peak Hour Data											l
Peak Hour Data	PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000	
Peak Hour Data					Rc	oute 302					
					In - Peak I						
Peak Hour Data											
North North North Trucks					↓						
North North North Trucks						•					
North North North Trucks											
North North North Trucks											
North North North Trucks											
North North North Trucks					Dealel	laur Dat	_				
					Реак г	iour Data	a				
		M				1					
		74:00			I	North					
		a Rd 0					_				
		Pope A Ho			Trucks						
Left Thru Left Thru 4 h - Peak Hour: 04:00 PM		Pea									
0 4 4 1 10 - Peak Hour: 04:00 PM		_ _									
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM											
0 4 4 1 10 - Peak Hour: 04:00 PM					€	1					
In - Peak Hour: 04:00 PM					L						
In - Peak Hour: 04:00 PM Route 302					Γ						
					in - Peak I Rc	Hour: 04:00 PM					

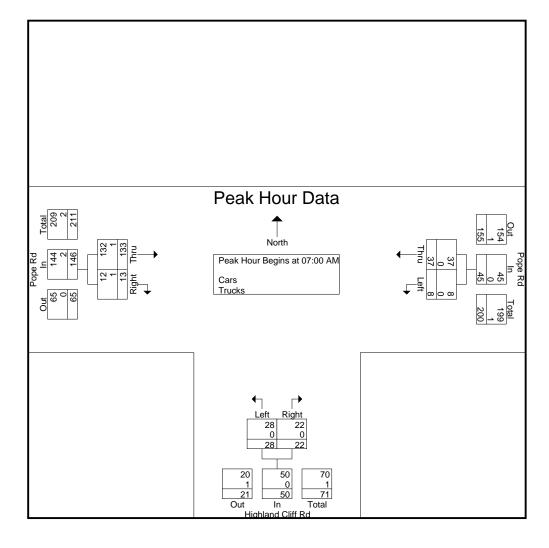
	Groups Printed- Bikes Peds													
		Route 302			Route 302		r	Pope Rd	I	1		ļ		
Start Time	Fr Thru	rom North Right	Peds	Left	rom South Thru	Peds	Left	From West Right	Peds	Exclu. Total	Inclu. Total	Int. Total		
		-						-						
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0		
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0		
04:30 PM	0	0	0	0	1	0	0	0	0	0	1	1		
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	1	0	0	0	0	0	1	1		
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0		
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0		
05:30 PM	0	1	0	0	0	0	0	0	0	0	1	1		
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	1	0	0	0	0	0	0	0	0	1	1		
Grand Total	0	1	0	0	1	0	0	0	0	0	2	2		
Apprch %	0	100		0	100		0	0	1					
Total %	0	50		0	50		0	0	1	0	100			

		Route 302			Route 302			Pope Rd		
		From North	1		From South	ı		From West		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	04:00 PM to	05:45 PM -	Peak 1 of 1		L					
Peak Hour for Entire Inter	rsection Begin	ns at 04:00 P	M							
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250



Groups Printed- Cars - Trucks													
	Pope F From E	Rd	Highland From S	Cliff Rd	Pope From		ĺ						
Start Time	Left	tast Thru	Left	Right	Thru	Right	Int. Total						
07:00 AM		13	15	3	41	0	72						
07:15 AM	3	10	3	6	38	7	67						
07:30 AM	3	6	5	8	27	1	50						
07:45 AM	2	8	5	5	27	5	52						
Total	8	37	28	22	133	13	241						
	1	, 1	(r I		1						
08:00 AM	2	5	3	4	14	1	29						
08:15 AM	3	5	1	4	26	4	43						
08:30 AM	1	8	1	2	14	3	29						
08:45 AM	2	6	2	3	8	0	21						
Total	8	24	7	13	62	8	122						
		1		I	1	I							
Grand Total	16	61	35	35	195	21	363						
Apprch %	20.8	79.2	50	50	90.3	9.7	1						
Total %	4.4	16.8	9.6	9.6	53.7	5.8	1						
Cars	16	60	35	35	194	20	360						
% Cars	100	98.4	100	100	99.5	95.2	99.2						
Trucks	0	1	0	0	1	1	3						
% Trucks	0	1.6	0	0	0.5	4.8	0.8						

		Pope Rd		Н	lighland Cliff	Rd		Pope Rd		
		From East			From South			From West		
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	08:45 AM -	Peak 1 of 1					I		
Peak Hour for Entire Inte	rsection Begir	ns at 07:00 A	M							
07:00 AM	0	13	13	15	3	18	41	0	41	72
07:15 AM	3	10	13	3	6	9	38	7	45	67
07:30 AM	3	6	9	5	8	13	27	1	28	50
07:45 AM	2	8	10	5	5	10	27	5	32	52
Total Volume	8	37	45	28	22	50	133	13	146	241
% App. Total	17.8	82.2		56	44		91.1	8.9		
PHF	.667	.712	.865	.467	.688	.694	.811	.464	.811	.837
Cars	8	37	45	28	22	50	132	12	144	239
% Cars	100	100	100	100	100	100	99.2	92.3	98.6	99.2
Trucks	0	0	0	0	0	0	1	1	2	2
% Trucks	0	0	0	0	0	0	0.8	7.7	1.4	0.8



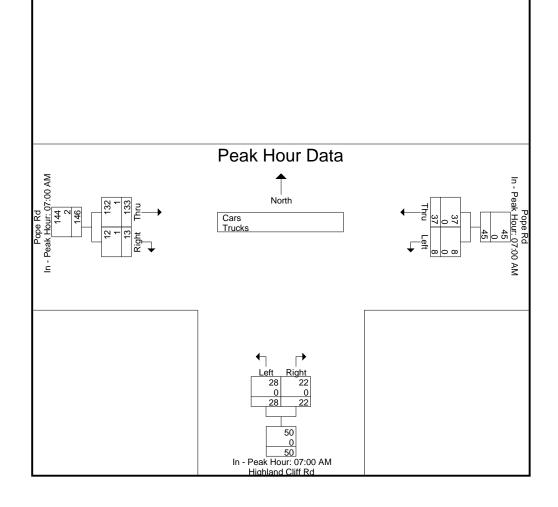
N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Rain

	Pope Rd			H	Highland Cliff	Rd			[
		From East			From Sout	h		From Wes	st	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

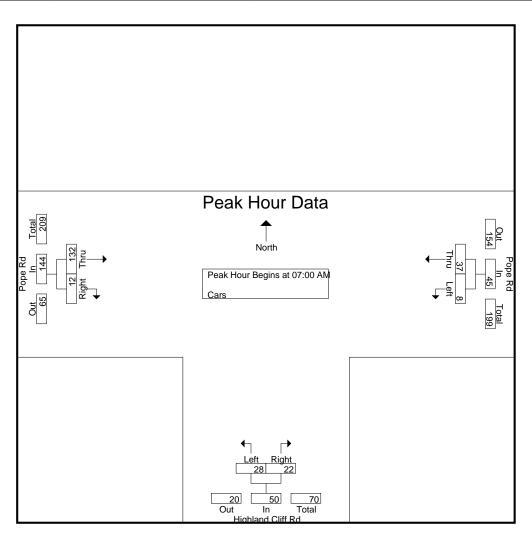
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	13	13	15	3	18	41	0	41
+15 mins.	3	10	13	3	6	9	38	7	45
+30 mins.	3	6	9	5	8	13	27	1	28
+45 mins.	2	8	10	5	5	10	27	5	32
Total Volume	8	37	45	28	22	50	133	13	146
% App. Total	17.8	82.2		56	44		91.1	8.9	
PHF	.667	.712	.865	.467	.688	.694	.811	.464	.811
Cars	8	37	45	28	22	50	132	12	144
% Cars	100	100	100	100	100	100	99.2	92.3	98.6
Trucks	0	0	0	0	0	0	1	1	2
% Trucks	0	0	0	0	0	0	0.8	7.7	1.4



	Groups Printed- Cars													
	.+	Pope Rd From Wes	Rd	Highland Cliff From South		Pope Rd From East								
Int. Total	Right	Thru	Right	Left	Thru	Left	Start Time							
72	0	41	3	15	13	0	07:00 AM							
66	7	37	6	3	10	3	07:15 AM							
49	0	27	8	5	6	3	07:30 AM							
52	5	27	5	5	8	2	07:45 AM							
239	12	132	22	28	37	8	Total							
29	1	14	4	3	5	2	08:00 AM							
42	4	26	4	1	4	3	08:15 AM							
29	3	14	2	1	8	1	08:30 AM							
21	0	8	3	2	6	2	08:45 AM							
121	8	62	13	7	23	8	Total							
			· ·											
360	20	194	35	35	60	16	Grand Total							
	9.3	90.7	50	50	78.9	21.1	Apprch %							
	5.6	53.9	9.7	9.7	16.7	4.4	Total %							

		Pope Rd		F	lighland Cliff	Rd		Pope Rd		
		From East			From South	ı		From West		
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From	07:00 AM to	08:45 AM -	Peak 1 of 1					I		
Peak Hour for Entire Inter	rsection Begir	ns at 07:00 A	M							
07:00 AM	0	13	13	15	3	18	41	0	41	72
07:15 AM	3	10	13	3	6	9	37	7	44	66
07:30 AM	3	6	9	5	8	13	27	0	27	49
07:45 AM	2	8	10	5	5	10	27	5	32	52
Total Volume	8	37	45	28	22	50	132	12	144	239
% App. Total	17.8	82.2		56	44		91.7	8.3		
PHF	.667	.712	.865	.467	.688	.694	.805	.429	.818	.830



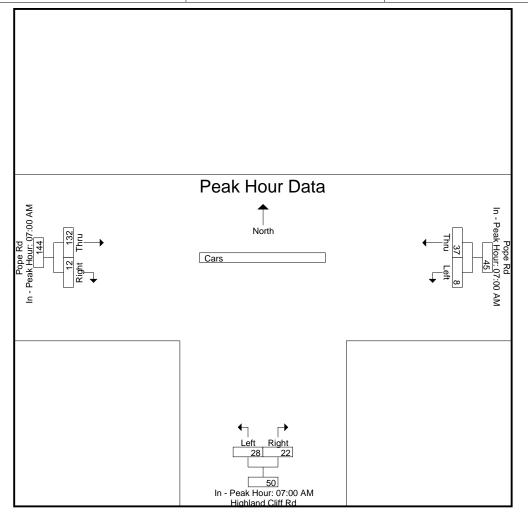
N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Rain

	Pope Rd			H	Highland Clif	Rd				
		From East	t		From Sout	h		From Wes	st	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

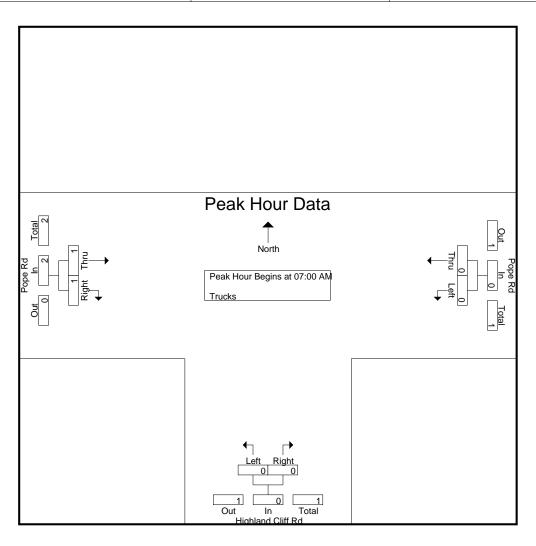
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	13	13	15	3	18	41	0	41
+15 mins.	3	10	13	3	6	9	37	7	44
+30 mins.	3	6	9	5	8	13	27	0	27
+45 mins.	2	8	10	5	5	10	27	5	32
Total Volume	8	37	45	28	22	50	132	12	144
% App. Total	17.8	82.2		56	44		91.7	8.3	
PHF	.667	.712	.865	.467	.688	.694	.805	.429	.818



Start Date	. 9/10/201
Page No	: 7

	,	ç	Groups Printed- Tr	ucks			٦
	Pope R From Ea	.d ast	Highland From S	Cliff Rd South	Pope From	e Rd West	
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM		0	0	0	0	-	0
07:15 AM	0	0	0	0	1	0	1
07:30 AM	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	2
08:00 AM	0	0	0	0	0	0	0
08:15 AM	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1
	· 0			0	1		- -
Grand Total		1	0	0	1	1 /	3
Apprch %	0	100	0	0	50	50	
Total %	0	33.3	0	0	33.3	33.3	

		Pope Rd		ŀ	lighland Cliff	Rd		Pope Rd		
	From East				From South	n				
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From	n 07:00 AM to	08:45 AM -	Peak 1 of 1					I		
Peak Hour for Entire Inter	rsection Begi	ns at 07:00 A	M							
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	1	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	2	2
% App. Total	0	0		0	0		50	50		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.500	.500



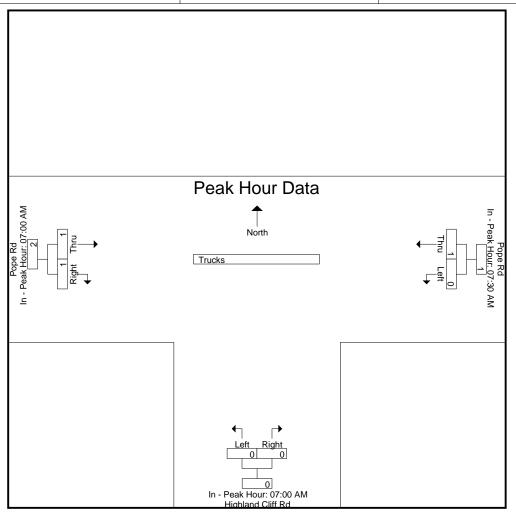
N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Rain

		Pope Rd		ł	Highland Clif	f Rd		Pope Rd		
		From East	t		From Sout	h		From Wes	st	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

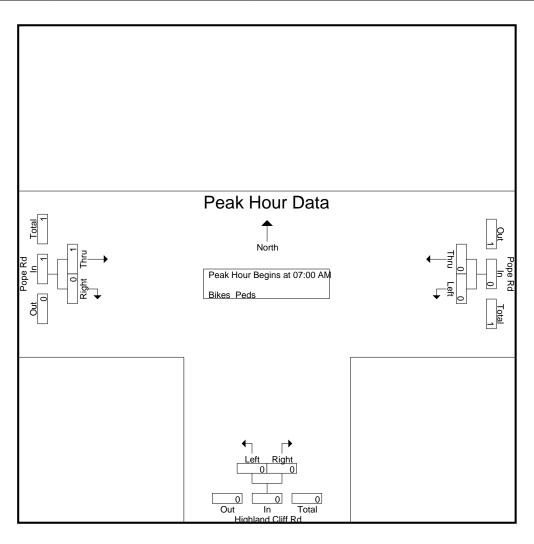
Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	1	1
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	1	1	2
% App. Total	0	100		0	0		50	50	
PHF	.000	.250	.250	.000	.000	.000	.250	.250	.500



T					Groups Prin	nted- Bike	s Peds			7		
	F	Pope Rd		Hig	hland Cliff R	.d	I ,	Pope Rd	I			I
Start Time		rom East	Dodo		From South	- Dodo	<u>†</u>	From West				Int. Total
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds		Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	1	1
1	1		T	ł			I			1		
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
			_ 1									
Grand Total	0	0	0	0	0	0	1	0	0	0	1	1
Apprch %	0	0		0	0	ļ	100	0				
Total %	0	0		0	0	ļ	100	0	l	0	100	

		Pope Rd		ŀ	lighland Cliff	Rd		Pope Rd		
		From East			From South	ı				
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From	07:00 AM to	08:45 AM -	Peak 1 of 1		I					,
Peak Hour for Entire Inter	rsection Begir	ns at 07:00 A	۸M							
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250



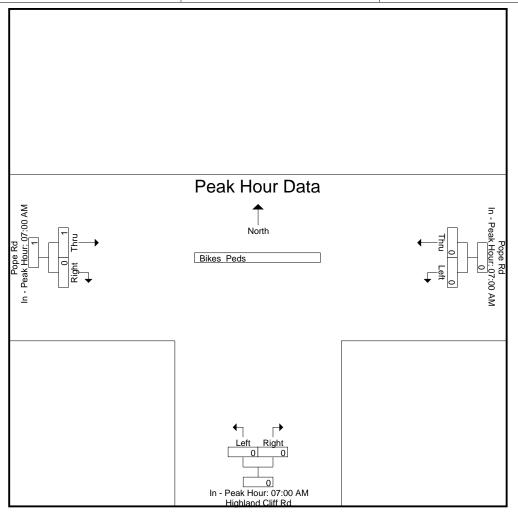
N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Rain

		Pope Rd		ł	Highland Cliff	Rd		Pope Rd		
		From East			From Sout	h		From Wes	st	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250

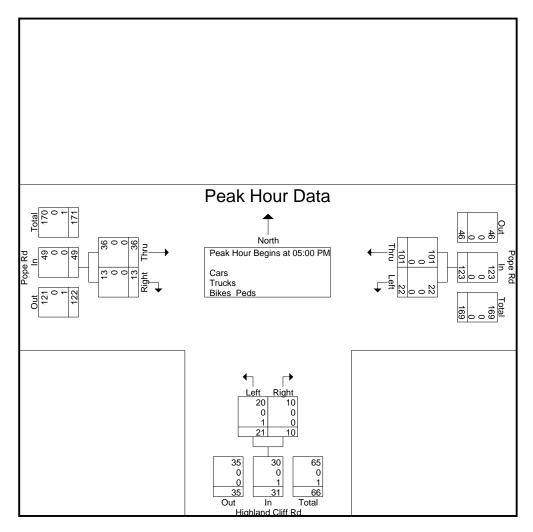


N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Clear

		Groups Prij	nted- Cars - Truck	<u>s - Bikes Peds</u>			1
	Pope R From Ea	₹d	Highland From S	Cliff Rd	Pope	e Rd West	
Start Time	Left	Thru	Left	Right	Thru		Int. Total
04:00 PM	2	18	2	2	13	3	40
04:15 PM	5	10	3	2	9	7	36
04:30 PM	8	20	4	0	13	4	49
04:45 PM	6	19	4	2	4	5	40
Total	21	67	13	6	39	19	165
1		1		I		1	
05:00 PM	9	25	7	4	11	4	60
05:15 PM	6	25	4	6	7	4	52
05:30 PM	2	19	5	0	10	3	39
05:45 PM	5	32	5	0	8	2	52
Total	22	101	21	10	36	13	203
I		I		I		I	
Grand Total	43	168	34	16	75	32	368
Apprch %	20.4	79.6	68	32	70.1	29.9	
Total %	11.7	45.7	9.2	4.3	20.4	8.7	1
Cars	43	168	33	16	75	32	367
% Cars	100	100	97.1	100	100	100	99.7
Trucks	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0
Bikes Peds	0	0	1	0	0	0	1
% Bikes Peds	0	0	2.9	0	0	0	0.3

N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Clear

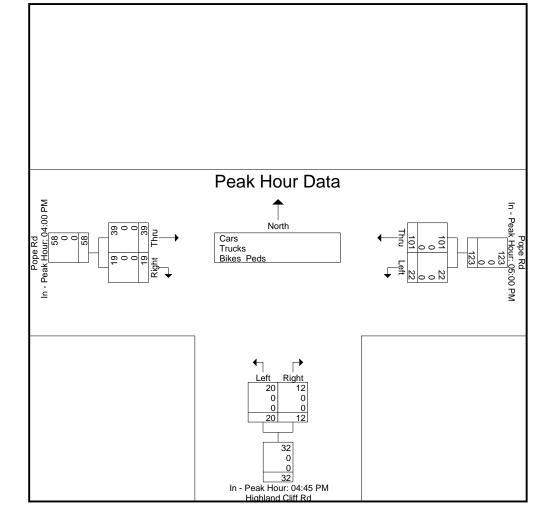
		Pope Rd		Hiç	ghland Cliff I	٦d		Pope Rd		
		From East			From South			From West		
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From	04:00 PM to	05:45 PM - F	Peak 1 of 1	1		L. L		L. L	L	
Peak Hour for Entire Inter	section Begin	s at 05:00 Pl	Μ							
05:00 PM	9	25	34	7	4	11	11	4	15	60
05:15 PM	6	25	31	4	6	10	7	4	11	52
05:30 PM	2	19	21	5	0	5	10	3	13	39
05:45 PM	5	32	37	5	0	5	8	2	10	52
Total Volume	22	101	123	21	10	31	36	13	49	203
% App. Total	17.9	82.1		67.7	32.3		73.5	26.5		
PHF	.611	.789	.831	.750	.417	.705	.818	.813	.817	.846
Cars	22	101	123	20	10	30	36	13	49	202
% Cars	100	100	100	95.2	100	96.8	100	100	100	99.5
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0
Bikes Peds	0	0	0	1	0	1	0	0	0	1
% Bikes Peds	0	0	0	4.8	0	3.2	0	0	0	0.5



N/S Street : Highland Cliff Road E/W Street : Pope Road City/State : Windham, ME Weather : Clear

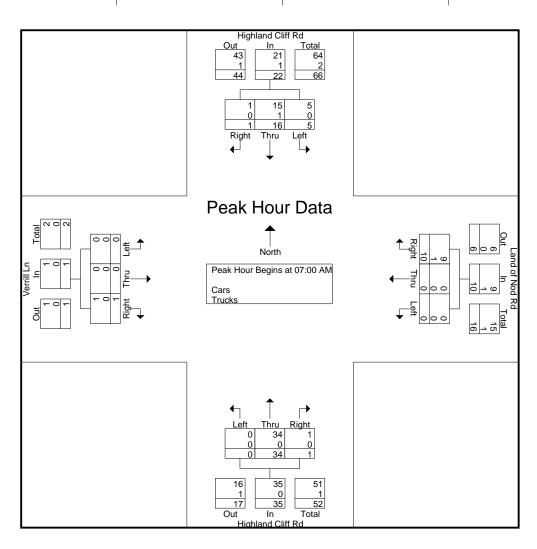
		Pope Rd		ŀ	Highland Cliff	Rd		Pope Rd		
		From East	t		From Sout	h		From Wes	t	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis Fron	n 04:00 PM te	o 05:45 PM -	Peak 1 of 1							

	05:00 PM			04:45 PM			04:00 PM		
+0 mins.	9	25	34	4	2	6	13	3	16
+15 mins.	6	25	31	7	4	11	9	7	16
+30 mins.	2	19	21	4	6	10	13	4	17
+45 mins.	5	32	37	5	0	5	4	5	9
Total Volume	22	101	123	20	12	32	39	19	58
% App. Total	17.9	82.1		62.5	37.5		67.2	32.8	
PHF	.611	.789	.831	.714	.500	.727	.750	.679	.853
Cars	22	101	123	20	12	32	39	19	58
% Cars	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0
Bikes Peds	0	0	0	0	0	0	0	0	0
% Bikes Peds	0	0	0	0	0	0	0	0	0



							ars - Trucks		r				
		land Cliff R om North	d		d of Nod Ro rom East	t		nland Cliff R rom South	٤d		/errill Ln rom West		
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	1	0	0	0	5	0	11	0	0	0	0	18
07:15 AM	2	6	1	0	0	0	0	6	0	0	0	1	16
07:30 AM	0	5	0	0	0	2	0	11	1	0	0	0	19
07:45 AM	2	4	0	0	0	3	0	6	0	0	0	0	15
Total	5	16	1	0	0	10	0	34	1	0	0	1	68
			'			'			1			1	
08:00 AM	0	3	0	1	0	2	0	3	0	0	0	0	9
08:15 AM	1	5	0	0	0	0	0	3	0	0	0	0	9
08:30 AM	1	1	0	2	0	0	0	2	2	0	0	0	8
08:45 AM	0	1	0	1	0	1	0	1	1	0	0	0	5
Total	2	10	0	4	0	3	0	9	3	0	0	0	31
			1						I			1	
Grand Total	7	26	1	4	0	13	0	43	4	0	0	1	99
Apprch %	20.6	76.5	2.9	23.5	0	76.5	0	91.5	8.5	0	0	100	
Total %	7.1	26.3	1	4	0	13.1	0	43.4	4	0	0	1	
Cars	7	25	1	4	0	12	0	43	4	0	0	1	97
% Cars	100	96.2	100	100	0	92.3	0	100	100	0	0	100	98
Trucks	0	1	0	0	0	1	0	0	0	0	0	0	2
% Trucks	0	3.8	0	0	0	7.7	0	0	0	0	0	0	2

		Highlan	d Cliff R	d		Land of	f Nod Ro	b		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			Fron	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	07:00 A	M to 08		eak 1 of	1											
Peak Hour for Er	ntire Inter	section	Begins a	at 07:00 Al	Ν												
07:00 AM	1	1	0	2	0	0	5	5	0	11	0	11	0	0	0	0	18
07:15 AM	2	6	1	9	0	0	0	0	0	6	0	6	0	0	1	1	16
07:30 AM	0	5	0	5	0	0	2	2	0	11	1	12	0	0	0	0	19
07:45 AM	2	4	0	6	0	0	3	3	0	6	0	6	0	0	0	0	15
Total Volume	5	16	1	22	0	0	10	10	0	34	1	35	0	0	1	1	68
% App. Total	22.7	72.7	4.5		0	0	100		0	97.1	2.9		0	0	100		
PHF	.625	.667	.250	.611	.000	.000	.500	.500	.000	.773	.250	.729	.000	.000	.250	.250	.895
Cars	5	15	1	21	0	0	9	9	0	34	1	35	0	0	1	1	66
% Cars	100	93.8	100	95.5	0	0	90.0	90.0	0	100	100	100	0	0	100	100	97.1
Trucks	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
% Trucks	0	6.3	0	4.5	0	0	10.0	10.0	0	0	0	0	0	0	0	0	2.9

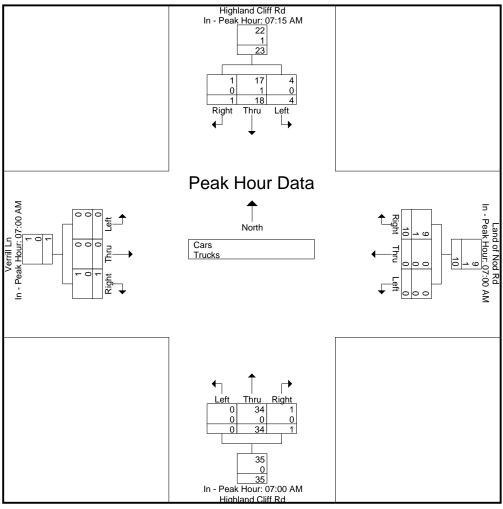


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Rain

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		ĺ
		From	n North			Fron	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

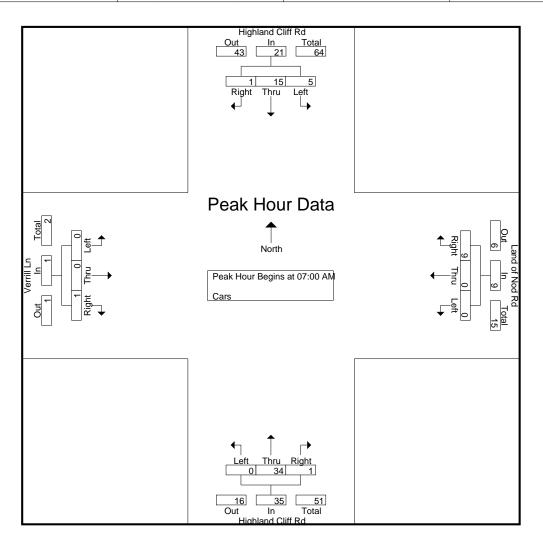
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

	07:15 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	2	6	1	9	0	0	5	5	0	11	0	11	0	0	0	0
+15 mins.	0	5	0	5	0	0	0	0	0	6	0	6	0	0	1	1
+30 mins.	2	4	0	6	0	0	2	2	0	11	1	12	0	0	0	0
+45 mins.	0	3	0	3	0	0	3	3	0	6	0	6	0	0	0	0
Fotal Volume	4	18	1	23	0	0	10	10	0	34	1	35	0	0	1	1
% App. Total	17.4	78.3	4.3		0	0	100		0	97.1	2.9		0	0	100	
PHF	.500	.750	.250	.639	.000	.000	.500	.500	.000	.773	.250	.729	.000	.000	.250	.250
Cars	4	17	1	22	0	0	9	9	0	34	1	35	0	0	1	1
% Cars	100	94.4	100	95.7	0	0	90	90	0	100	100	100	0	0	100	100
Trucks	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0
% Trucks	0	5.6	0	4.3	0	0	10	10	0	0	0	0	0	0	0	0



					Grou	ps Printed	d- Cars					,	I
	High F	hland Cliff Ro From North	.d		d of Nod Ro rom East	L t	High F	hland Cliff R From South	۶d		Verrill Ln From West		l
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	1	0	0	0	5	0	11	0	0	0	0	18
07:15 AM	2	6	1	0	0	0	0	6	0	0	0	1	16
07:30 AM	0	4	0	0	0	2	0	11	1	0	0	0	18
07:45 AM	2	4	0	0	0	2	0	6	0	0	0	0	14
Total	5	15	1	0	0	9	0	34	1	0	0	1	66
08:00 AM	0	3	0	1	0	2	0	3	0	0	0	0	9
08:15 AM	1	5	0	0	0	0	0	3	0	0	0	0	9
08:30 AM	1	1	0	2	0	0	0	2	2	0	0	0	8
08:45 AM	0	1	0	1	0	1	0	1	1	0	0	0	5
Total	2	10	0	4	0	3	0	9	3	0	0	0	31
Grand Total	7	25	1	4	0	12	0	43	4	0	0	1	97
Apprch %	21.2	75.8	3	25	0	75	0	91.5	8.5	0	0	100	i
Total %	7.2	25.8	1	4.1	0	12.4	0	44.3	4.1	0	0	1	

		Highlan	d Cliff R	d		Land of	f Nod Ro	ł		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			From	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	07:00 A	M to 08	:45 AM - F	Peak 1 of	1											
Peak Hour for Er	ntire Inter	section	Begins a	at 07:00 Al	N												
07:00 AM	1	1	0	2	0	0	5	5	0	11	0	11	0	0	0	0	18
07:15 AM	2	6	1	9	0	0	0	0	0	6	0	6	0	0	1	1	16
07:30 AM	0	4	0	4	0	0	2	2	0	11	1	12	0	0	0	0	18
07:45 AM	2	4	0	6	0	0	2	2	0	6	0	6	0	0	0	0	14
Total Volume	5	15	1	21	0	0	9	9	0	34	1	35	0	0	1	1	66
% App. Total	23.8	71.4	4.8		0	0	100		0	97.1	2.9		0	0	100		
PHF	.625	.625	.250	.583	.000	.000	.450	.450	.000	.773	.250	.729	.000	.000	.250	.250	.917

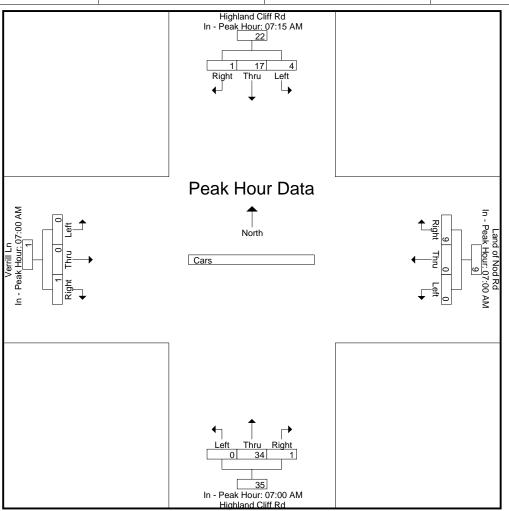


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Rain

ſ			Highlan	d Cliff R	d		Land o	f Nod R	d		Highlan	d Cliff R	d		Ver	rill Ln		
			From	n North			From	n East			From	South			From	n West		
ľ	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

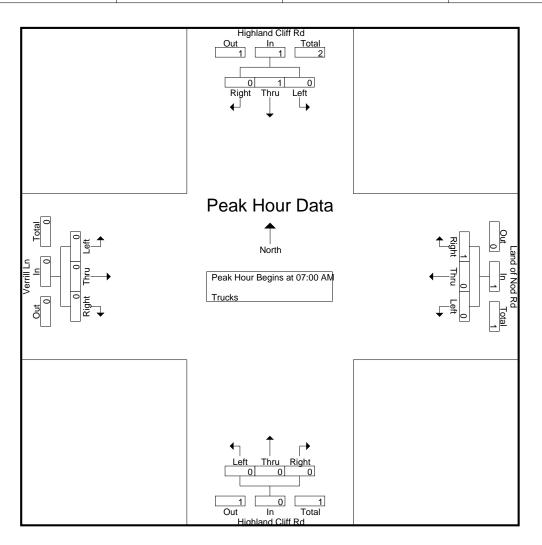
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

	07:15 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	2	6	1	9	0	0	5	5	0	11	0	11	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	6	0	6	0	0	1	1
+30 mins.	2	4	0	6	0	0	2	2	0	11	1	12	0	0	0	0
+45 mins.	0	3	0	3	0	0	2	2	0	6	0	6	0	0	0	0
Total Volume	4	17	1	22	0	0	9	9	0	34	1	35	0	0	1	1
% App. Total	18.2	77.3	4.5		0	0	100		0	97.1	2.9		0	0	100	
PHF	.500	.708	.250	.611	.000	.000	.450	.450	.000	.773	.250	.729	.000	.000	.250	.250



		errill Ln	V	b	nd Cliff Ro	Highla	Printed- T	of Nod Rd	Land	d	and Cliff Ro	Highla	
		om West			m South			om East			m North	Fro	
Int. Tot	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Start Time
	0	0	0	0	0	0	0	0	0	0	0	0	07:00 AM
	0	0	0	0	0	0	0	0	0	0	0	0	07:15 AM
	0	0	0	0	0	0	0	0	0	0	1	0	07:30 AM
	0	0	0	0	0	0	1	0	0	0	0	0	07:45 AM
	0	0	0	0	0	0	1	0	0	0	1	0	Total
	1						I			I			I
	0	0	0	0	0	0	0	0	0	0	0	0	08:00 AM
	0	0	0	0	0	0	0	0	0	0	0	0	08:15 AM
	0	0	0	0	0	0	0	0	0	0	0	0	08:30 AM
	0	0	0	0	0	0	0	0	0	0	0	0	08:45 AM
	0	0	0	0	0	0	0	0	0	0	0	0	Total
	0	0	0	0	0	0	1	0	0	0	1	0	Grand Total
	0	0	0	0	0	0	100	0	0	0	100	0	Apprch %
	0	0	0	0	0	0	50	0	0	0	50	0	Total %

		Highlan	d Cliff R	d		Land of	f Nod Ro	ł		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			Fron	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	07:00 A	M to 08	:45 AM - F	Peak 1 of	1											
Peak Hour for Er	ntire Inter	section	Begins a	at 07:00 Al	Ν												
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0		0	0	100		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

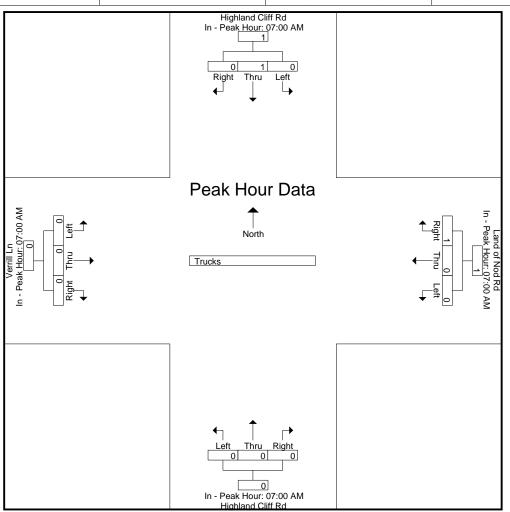


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Rain

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
	From North					Fron	n East			From	n South			From	n West		
Start Time	Left Thru Right			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

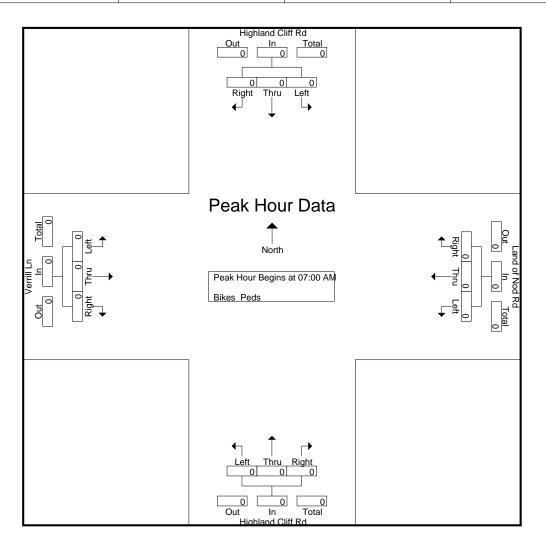
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	100		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000



l	,								s Printed								-		
	і н		d Cliff Rd	i r	L	and of I		1	Н	lighland		t	1	Verri		I			
Start Time	Left	From Thru	North Right	Peds	Left	From Thru		Peds	Left	From S		Peds	Left	From Thru		Peds	+		Int. Total
					1		-				-								
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Apprch %	0	0	0		0	0	0		0	0	0	ļ	0	0	0				
Total %	l												1				100	0	

		Highland	d Cliff R	d		Land of	Nod Ro	b		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			From	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	07:00 A	M to 08	:45 AM - F	eak 1 of	1											
Peak Hour for Er	ntire Inter	section I	Begins a	at 07:00 Al	Ν												
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

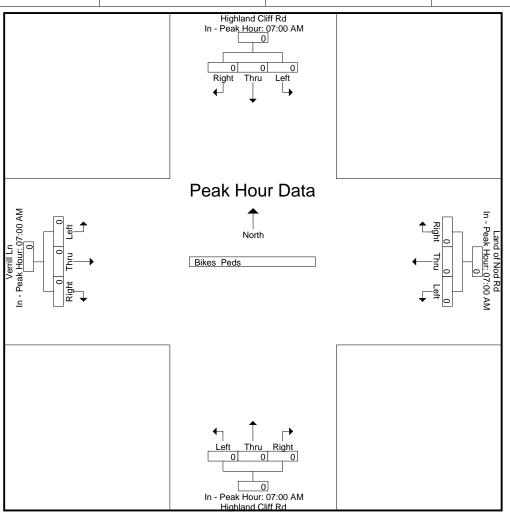


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Rain

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
	From North					Fron	n East			From	n South			From	n West		
Start Time	Left Thru Right			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

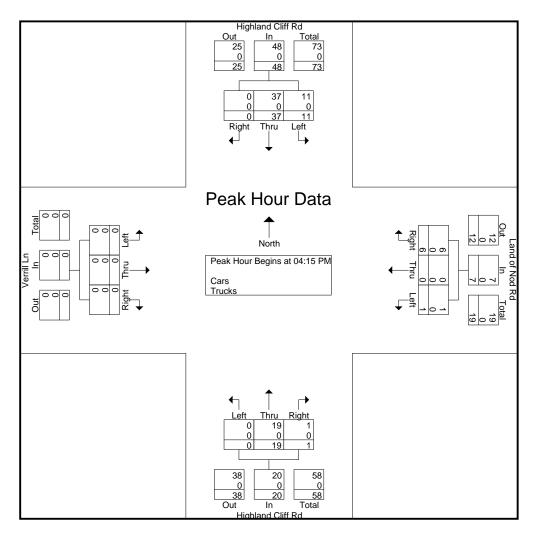
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

	07:00 AM				07:00 AM				07:00 AM	l			07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



l							ars - Trucks						1
		land Cliff R om North	.d		d of Nod Ro rom East	L L		nland Cliff R rom South			Verrill Ln rom West		1
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Thru	Right	Int. Total
04:00 PM	1	4	0	0	0	1	0	3	1	0	0	0	10
							1			Ĺ			I
04:15 PM	2	8	0	1	0	1	0	8	1	0	0	0	21
04:30 PM	4	10	0	0	0	0	0	2	0	0	0	0	16
04:45 PM	1	8	0	0	0	2	0	3	0	0	0	0	14
Total	8	30	0	1	0	4	0	16	2	0	0	0	61
						I						I	
05:00 PM	4	11	0	0	0	3	0	6	0	0	0	0	24
05:15 PM	3	5	0	0	0	0	0	10	1	0	0	0	19
05:30 PM	0	9	0	0	0	2	0	4	1	0	0	0	16
05:45 PM	1	4	0	2	0	1	0	2	0	0	0	0	10
Total	8	29	0	2	0	6	0	22	2	0	0	0	69
			I			I			Ι			I	
Grand Total	16	59	0	3	0	10	0	38	4	0	0	0	130
Apprch %	21.3	78.7	0	23.1	0	76.9	0	90.5	9.5	0	0	0	I
Total %	12.3	45.4	0	2.3	0	7.7	0	29.2	3.1	0	0	0	I
Cars	16	59	0	3	0	10	0	38	4	0	0	0	130
% Cars	100	100	0	100	0	100	0	100	100	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			Fron	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	04:00 F	PM to 05	:45 PM - F	eak 1 of	1											
Peak Hour for Er	ntire Inter	section	Begins a	at 04:15 PI	Ν												
04:15 PM	2	8	0	10	1	0	1	2	0	8	1	9	0	0	0	0	21
04:30 PM	4	10	0	14	0	0	0	0	0	2	0	2	0	0	0	0	16
04:45 PM	1	8	0	9	0	0	2	2	0	3	0	3	0	0	0	0	14
05:00 PM	4	11	0	15	0	0	3	3	0	6	0	6	0	0	0	0	24
Total Volume	11	37	0	48	1	0	6	7	0	19	1	20	0	0	0	0	75
% App. Total	22.9	77.1	0		14.3	0	85.7		0	95	5		0	0	0		
PHF	.688	.841	.000	.800	.250	.000	.500	.583	.000	.594	.250	.556	.000	.000	.000	.000	.781
Cars	11	37	0	48	1	0	6	7	0	19	1	20	0	0	0	0	75
% Cars	100	100	0	100	100	0	100	100	0	100	100	100	0	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

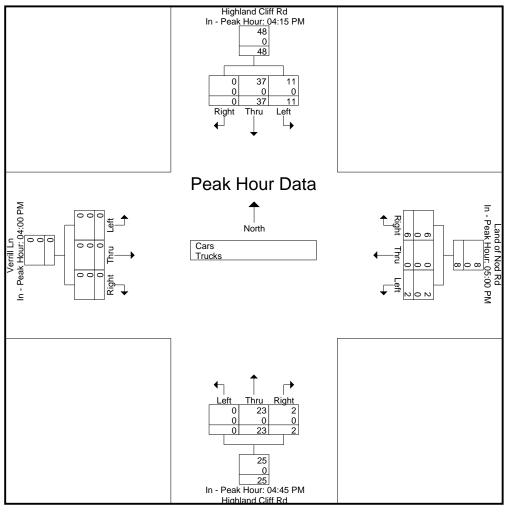


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Clear

		Highlan	d Cliff R	d		Land of	f Nod R	d		Highlan	d Cliff R	d		Ver	rill Ln		1
	From North					Fron	n East			From	South			From	n West		
Start Time	Left Thru Right			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

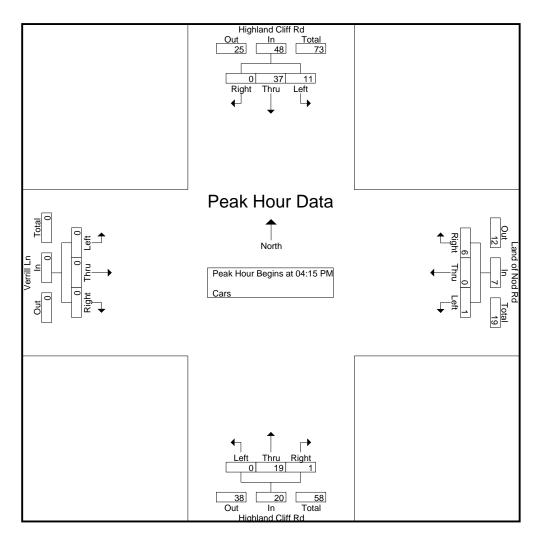
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

	04:15 PM				05:00 PM				04:45 PM				04:00 PM			
+0 mins.	2	8	0	10	0	0	3	3	0	3	0	3	0	0	0	0
+15 mins.	4	10	0	14	0	0	0	0	0	6	0	6	0	0	0	0
+30 mins.	1	8	0	9	0	0	2	2	0	10	1	11	0	0	0	0
+45 mins.	4	11	0	15	2	0	1	3	0	4	1	5	0	0	0	0
Fotal Volume	11	37	0	48	2	0	6	8	0	23	2	25	0	0	0	0
% App. Total	22.9	77.1	0		25	0	75		0	92	8		0	0	0	
PHF	.688	.841	.000	.800	.250	.000	.500	.667	.000	.575	.500	.568	.000	.000	.000	.000
Cars	11	37	0	48	2	0	6	8	0	23	2	25	0	0	0	0
% Cars	100	100	0	100	100	0	100	100	0	100	100	100	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



					Grour	ps Printed	J- Cars						
	High	hland Cliff R	٤d		d of Nod Ro rom East	L L		nland Cliff R rom South	٤d		Verrill Ln rom West		I
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	1	4	0	0	0	1	0	3	1	0	0	0	10
04:15 PM	2	8	0	1	0	1	0	8	1	0	0	0	21
04:30 PM	4	10	0	0	0	0	0	2	0	0	0	0	16
04:45 PM	1	8	0	0	0	2	0	3	0	0	0	0	14
Total	8	30	0	1	0	4	0	16	2	0	0	0	61
05:00 PM	4	11	0	0	0	3	0	6	0	0	0	0	24
05:15 PM	3	5	0	0	0	0	0	10	1	0	0	0	19
05:30 PM	0	9	0	0	0	2	0	4	1	0	0	0	16
05:45 PM	1	4	0	2	0	1	0	2	0	0	0	0	10
Total	8	29	0	2	0	6	0	22	2	0	0	0	69
Grand Total	16	59	0	3	0	10	0	38	4	0	0	0	130
Apprch %	21.3	78.7	0	23.1	0	76.9	0	90.5	9.5	0	0	0	
Total %	12.3	45.4	0	2.3	0	7.7	0	29.2	3.1	0	0	0	

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			Fron	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	04:00 F	PM to 05	:45 PM - F	eak 1 of	1											
Peak Hour for Er	ntire Inter	rsection	Begins a	at 04:15 PI	Ν												
04:15 PM	2	8	0	10	1	0	1	2	0	8	1	9	0	0	0	0	21
04:30 PM	4	10	0	14	0	0	0	0	0	2	0	2	0	0	0	0	16
04:45 PM	1	8	0	9	0	0	2	2	0	3	0	3	0	0	0	0	14
05:00 PM	4	11	0	15	0	0	3	3	0	6	0	6	0	0	0	0	24
Total Volume	11	37	0	48	1	0	6	7	0	19	1	20	0	0	0	0	75
% App. Total	22.9	77.1	0		14.3	0	85.7		0	95	5		0	0	0		
PHF	.688	.841	.000	.800	.250	.000	.500	.583	.000	.594	.250	.556	.000	.000	.000	.000	.781

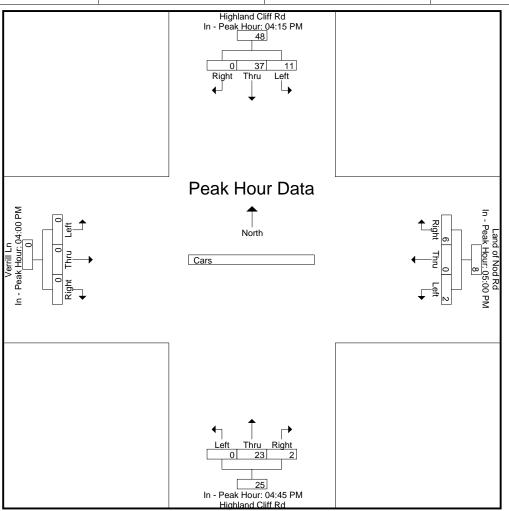


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Clear

		Highlan	d Cliff R	d		Land of	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		[
	From North					Fron	n East			From	South			From	n West		
Start Time	Left Thru Right App. Tota				Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

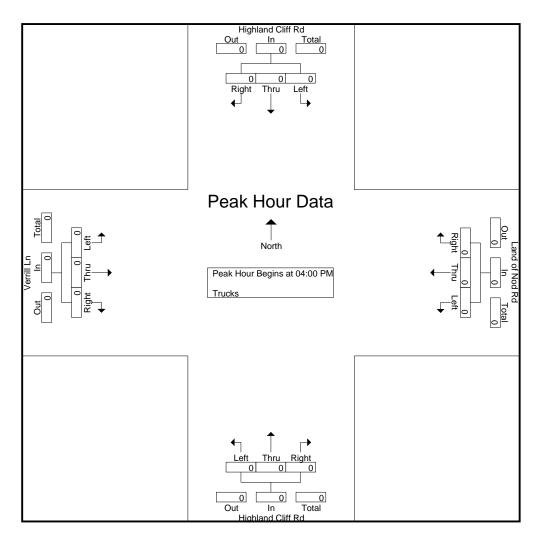
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

	04:15 PM				05:00 PM				04:45 PM				04:00 PM			
+0 mins.	2	8	0	10	0	0	3	3	0	3	0	3	0	0	0	0
+15 mins.	4	10	0	14	0	0	0	0	0	6	0	6	0	0	0	0
+30 mins.	1	8	0	9	0	0	2	2	0	10	1	11	0	0	0	0
+45 mins.	4	11	0	15	2	0	1	3	0	4	1	5	0	0	0	0
Total Volume	11	37	0	48	2	0	6	8	0	23	2	25	0	0	0	0
% App. Total	22.9	77.1	0		25	0	75		0	92	8		0	0	0	
PHF	.688	.841	.000	.800	.250	.000	.500	.667	.000	.575	.500	.568	.000	.000	.000	.000



						UCKS	Printed-T			1			
		errill Ln		ł	nd Cliff Ro	Highla		of Nod Rd		d	and Cliff Ro	Highla	
Int. Tot	Right	om West Thru	Left	Right	m South Thru	Left	Right	om East Thru	Left	Right	m North Thru	Left	Start Time
<u> </u>	0	0	0	0	0	0	0	0	0	0	0	0	04:00 PM
	0	0	0	0	0	0	0	0	0	0	0	0	04.00 PIVI
	0	0	0	0	0	0	0	0	0	0	0	0	04:15 PM
	0	0	0	0	0	0	0	0	0	0	0	0	04:30 PM
	0	0	0	0	0	0	0	0	0	0	0	0	04:45 PM
	0	0	0	0	0	0	0	0	0	0	0	0	Total
	0	0	0	0	0	0	0	0	0	0	0	0	05:00 PM
	0	0	0	0	0	0	0	0	0	0	0	0	05:15 PM
	0	0	0	0	0	0	0	0	0	0	0	0	05:30 PM
	0	0	0	0	0	0	0	0	0	0	0	0	05:45 PM
	0	0	0	0	0	0	0	0	0	0	0	0	Total
	0	0	0	0	0	0	0	0	0	0	0	0	Grand Total
	0	0	0	0	0	0	0	0	0	0	0	0	Apprch %
		-	-	-	-	-	-	-	-	-	-	-	Total %

	l	Highland	d Cliff R	d		Land of	Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			From	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	04:00 F	M to 05		Peak 1 of	1											
Peak Hour for Er	ntire Inter	section	Begins a	at 04:00 PI	M												
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

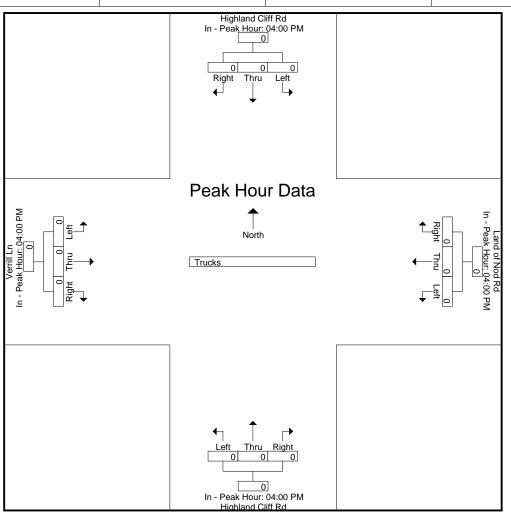


N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Clear

ſ			Highlan	d Cliff R	d		Land o	f Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		ĺ
		From North					From	n East			From	South			From	n West		
	Start Time	Left Thru Right App. Total			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

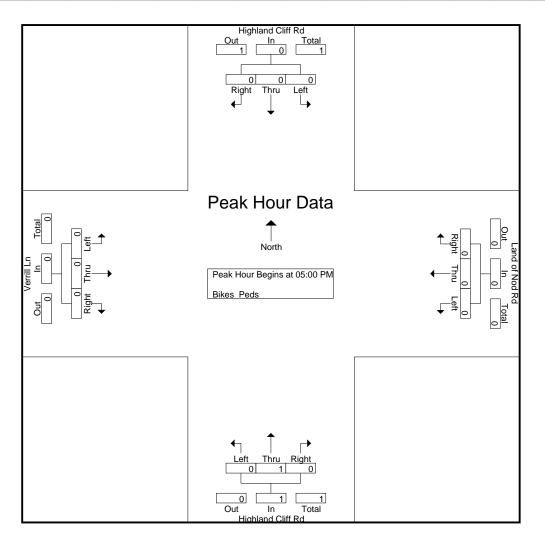
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

+0 mins. 04:00 (РМ 0 0	0 0		04:00 PM				04:00 PM				04:00 DM			
+15 mins.	0 0	0 0	0					04.00 F IVI				04:00 PM			
			0	0	0	0	0	0	0	0	0	0	0	0	0
	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0 0	0 0		0	0	0		0	0	0		0	0	0	
PHF .000		00.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



									s Printed								-		
	Н		d Cliff Ro	l t	L		Nod Rd	1	Н		d Cliff Rd	t	1		ill Ln	,			
Start Time	Left	From Thru		Peds	Left	From Thru		Peds	Left	From SThru		Peds	Left	From Thru		Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 Excit. 10tai	0 Inciu. Total	0
	Ŭ	Ŭ	v	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ	Ĭ	Ŭ	Ŭ	Ŭ	Ĭ	Ŭ	0	v	Ŭ	Ū.	Ŭ
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.30 F IVI	U	U	U	0	0	U	U	U		U	U	0	0	U	0	U	0	U	U
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
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1	1				1				1			r	1				1		
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ļ				ļ	1			ļ				I			
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
					-					·			-				-		
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
1	1			I				I				I				I	1		
Grand Total	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	2
Apprch %	0	0	0	1	0	0	0	ļ	0	100	0	ļ	0	0	0	I			
Total %	0	0	0	ļ	0	0	0	ļ	0	100	0	ļ	0	0	0	I	50	50	
	Ĩ	Ŭ	÷	ļ	Ĭ	č	÷	ļ	ĩ	100	č	ļ	ı Č	÷	v	I			

		Highlan	d Cliff R	d		Land of	Nod Ro	d		Highlan	d Cliff R	d		Ver	rill Ln		
		From	North			From	n East			From	South			From	n West		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	sis From	04:00 F	PM to 05	:45 PM - P	eak 1 of	1					•						
Peak Hour for Er	ntire Inter	section	Begins a	at 05:00 PN	Л												
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250



N/S Street : Highland Cliff Road E/W Street : Land of Nod Rd / Verrill Ln City/State : Windham, ME Weather : Clear

		Highlan	d Cliff R	d		Land o	f Nod R	d		Highlan	d Cliff R	d		Ver	rill Ln]
	From North					Fror	n East			From	South			From	n West		
Start Time	Left Thru Right App. Total			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

			-													
	04:00 PM				04:00 PM				05:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

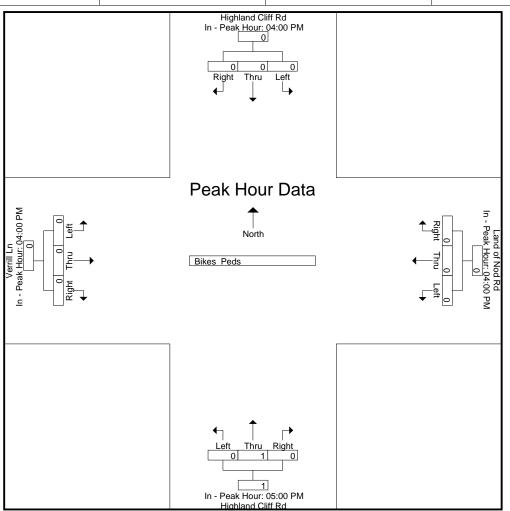


Exhibit 11

Unique Natural Areas

A - Maine Department of Inland Fisheries & Wildlife

B - Maine Natural Areas Program

C - Maine Historic Preservation Commission

D - FEMA FIRM Map

E - Wetland Memorandum

F - Sand & Gravel Aquifer Map

Exhibit 11: Unique Natural Areas

We have solicited a review or reviewed the available maps and information regarding natural resources/unique natural areas as follows:

- A. A letter of inquiry for site review has been sent to the Maine Department of Inland Fisheries and Wildlife (MDIFW). A copy of the letter is enclosed in this section and the response will be included in the Final Subdivision Application. The project site does not include identified high value plant or animal habitat per the Town of Windham *MDIFW Beginning with Habitats-High Value Plant & Animal Habitats, Primary Map 2.*
- B. A letter of inquiry has been submitted to the Maine Natural Areas Program (MNAP) for review unique botanical communities, natural areas, and threatened, endangered or rare plant species. A copy of the 01/18/19 response from MNAP indicates that they do not have record of rare botanical features specifically within the project area.
- C. Per the Town Comprehensive Plan Historic Resources Map, the proposed site is not located in an identified historic or archaeological resources. A copy of the Comprehensive Plan Historic Map with the Land of Nod Road Subdivision site superimposed is located in this section. STI has also requested a site review for the presence of historic or archaeologic resources from the Maine Historic Preservation Commission (MHPC). A copy of the letter to MHPC is enclosed in this section. The MHPC reply will be included in the Final Subdivision application.
- D. A copy of FEMA Flood Insurance Rate Map Community Panel 230189 0030 B, 9/2/81, Panel 30 of 35 with the project area is enclosed. The map indicates that there is one small area of flooding (Zone A) located at the northerly property line. We note that the area of flooding as shown is not located within an area of proposed disturbance or development.
- E. A wetland delineation and vernal pool survey was performed by Gary Fullerton, CSS, LSE of Sebago Technics in June and May 2018 respectively. Wetland and vernal pool locations are shown on the enclosed Existing Conditions and Site Plans. A copy of the delineation/survey memorandum dated July 17, 2018 is enclosed in this section.
- F. An excerpt from the Significant Sand and Gravel Aquifers Map from Maine Geological Survey is enclosed in this section. No portion of the site is located over a significant sand and gravel aquifer.



January 16, 2019 16236

Mr. John Perry Environmental Coordinator Maine Department of Inland Fisheries 41 State House Station Augusta, Maine 04333 john.perry@maine.gov

<u>Proposed Cluster Subdivision – 120 Land of Nod Road, Windham</u> <u>Applicant: Grondin Corporation</u>

Dear John:

On behalf of the applicant, Grondin Corporation, we respectfully request a project review for a 65.67-acre± property located at 120 Land of Nod Road in the Town of Windham shown on Tax Map 7, Lot 29. The applicant proposes the construction of a residential subdivision consisting of approximately 35 lots. We are currently preparing an application for the Town of Windham Planning Board review. The project design will also require Maine Department of Environmental Protection and U.S. Army Corps of Engineers review.

For your reference, I have enclosed a USGS Site Location Map and a reduced-size copy of Tax Map 7. If you have any questions please do not hesitate to contact me at snichols@sebagotechnics.com or on my direct line at (207) 200-2120. I look forward to hearing from you.

Sincerely,

SEBAGO TECHNICS, INC.

Atyanii Elichols

Stefanie Nichols Permitting Specialist/Project Coordinator

enc.



STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

93 STATE HOUSE STATION AUGUSTA, MAINE 04333

JANET T. MILLS GOVERNOR

January 18, 2019

Stefanie Nichols Sebago Technics 75 John Roberts Road, Suite 4A South Portland, ME 04106

Via email: snichols@sebagotechnics.com

Re: Rare and exemplary botanical features in proximity to: #16236, Land of Nod Road Subdivision, Windham, Maine

Dear Ms. Nichols:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received January 17, 2019 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Windham, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

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

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

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

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

MOLLY DOCHERTY, DIRECTOR MAINE NATURAL AREAS PROGRAM



PHONE: (207) 287-8044 Fax: (207) 287-8040 WWW.MAINE.GOV/DACF/MNAP Letter to Sebago Technics Comments RE: #16236, Land of Nod Road subdivision, Windham January 18, 2019 Page 2 of 2

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

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

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

Sincerely,

Kist Pung

Kristen Puryear | Ecologist | Maine Natural Areas Program 207-287-8043 | <u>kristen.puryear@maine.gov</u>

Rare and Exemplary Botanical Features Project: #16236, Land of Nod Road	emplary ∣ 3236, Lá	Botanical F and of Noc		within 4 miles of Subdivision, Windham, Maine	of Windham	, Maine
Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	ш	S1	G4	1860-10	6	Rocky summits and outcrops (non-forested, upland),Dry barrens (partly forested, upland)
American Sea-blite						
	F	S2	G5	1932-09-12	2	Tidal wetland (non-forested, wetland)
Broad Beech Fern						
	sc	S2	G5	1872-08	15	Hardwood to mixed forest, upland)
	sc	S2	G5	2001-08-28	28	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	ш	S1	G5	2000-06-06	2	Dry barrens (partly forested, upland)
Ebony Spleenwort						
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested, upland), Hardwood to mixed forest (forest, upland)
Engelmann's Spikerush	Ish					
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Enriched Northern Hardwoods Forest	ardwoods Foi	rest				
	<nul></nul>	S3	GNR	2001-08-28	34	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove	oxglove					
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Great Blue Lobelia						
	ΡE	SX	G5	1905-09	ę	Forested wetland, Non-tidal rivershore (non-forested, seasonally wet)
Horned Pondweed						
	SC	S2	G5	1913-09-13	6	Tidal wetland (non-forested, wetland)
Marsh Milkwort						

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Page 1 of 2

Maine Natural Areas Program

WWW.F.

www.maine.gov/dacf/mnap

Project: #16236, Land of Nod Road	3236, Le	and of Noc		division,	Subdivision, Windham, Maine	Maine
Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	ЫЕ	HS	G5T4	1903-08-18	£	Dry barrens (partly forested, upland),Open wetland, not coastal nor rivershore (non-forested, wetland)
Missouri Rockcress						
	F	S1	G5	1905-06-11	ب م	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Mountain Honeysuckle	e					
	ш	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Pitch Pine Woodland						
		S3	G2	2005-12-08	28	Rocky summits and outcrops (non-forested, upland)
Small Reed Grass						
	sc	S3	G5	2011-08-28	18	Old field/roadside (non-forested, wetland or upland)
Spotted Pondweed						
	μ	S1	G5	1995-10-01	с Ю	Open water (non-forested, wetland)
Vasey's Pondweed						
	sc	S2	G4	1901-08-04	L	Open water (non-forested, wetland)

Rare and Exemplary Botanical Features within 4 miles of

www.maine.gov/dacf/mnap

Page 2 of 2

Maine Natural Areas Program

STATE RARITY RANKS

- **S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- **S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- **S3** Rare in Maine (20-100 occurrences).
- S4 Apparently secure in Maine.
- **S5** Demonstrably secure in Maine.
- SU Under consideration for assigning rarity status; more information needed on threats or distribution.
- **SNR** Not yet ranked.
- **SNA** Rank not applicable.
- **S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).
- **Note:** State Rarity Ranks are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- **G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- **G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3 Globally rare (20-100 occurrences).
- G4 Apparently secure globally.
- G5 Demonstrably secure globally.
- **GNR** Not yet ranked.
- Note: Global Ranks are determined by NatureServe.

STATE LEGAL STATUS

- **Note:** State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.
- **E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- **T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- **SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- **PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species! http://www.maine.gov/dacf/mnap

ELEMENT OCCURRENCE RANKS - EO RANKS

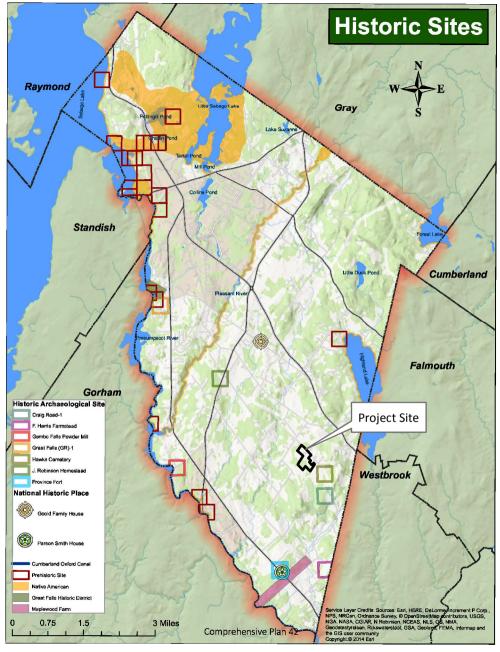
Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- <u>Size</u>: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- <u>Condition</u>: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: Element Occurrence Ranks are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species! http://www.maine.gov/dacf/mnap





January 17, 2019 16236

Mr. Kirk Mohney, State Historic Preservation Officer Maine Historic Preservation Commission 65 State House Station Augusta, ME 04039-0065

Re:Proposed New Residential Subdivision120 Land of Nod Road, WindhamTax Map 7, Lot 29

Dear Mr. Mohney

On behalf of the project applicant, Grondin Corporation, Sebago Technics respectfully requests site review for a proposed new \pm 35-lot residential subdivision on a 66 \pm acre parcel located at 120 Land of Nod Road in the Town of Windham. This project includes the construction of a new road to access the lots, utilities, stormwater management features and other associated site improvements. The site is located in a rural area of Windham in the Farm (F) zoning district allowing for clustered subdivision development as proposed.

There are currently two homes on the site that are accessed by a single drive extending from Land of Nod Road. Per available assessor records, the homes were built in 1900 and 1982. The homes will remain and be incorporated into the subdivision. We have enclosed photographs of the two homes that were retrieved from the Town Assessor information. We have also reviewed Town resources and determined that the site is not located within a designated Historic District. We enclose keyed photos of neighboring structures built in 1969 or earlier (50 years) for your reference and record. We respectfully request a review by the Maine Historic Preservation Commission for any Archaeological or Historic Sites within or adjacent to the redevelopment area in accordance with the provisions of 36 CFR, Part 800, Section 106.

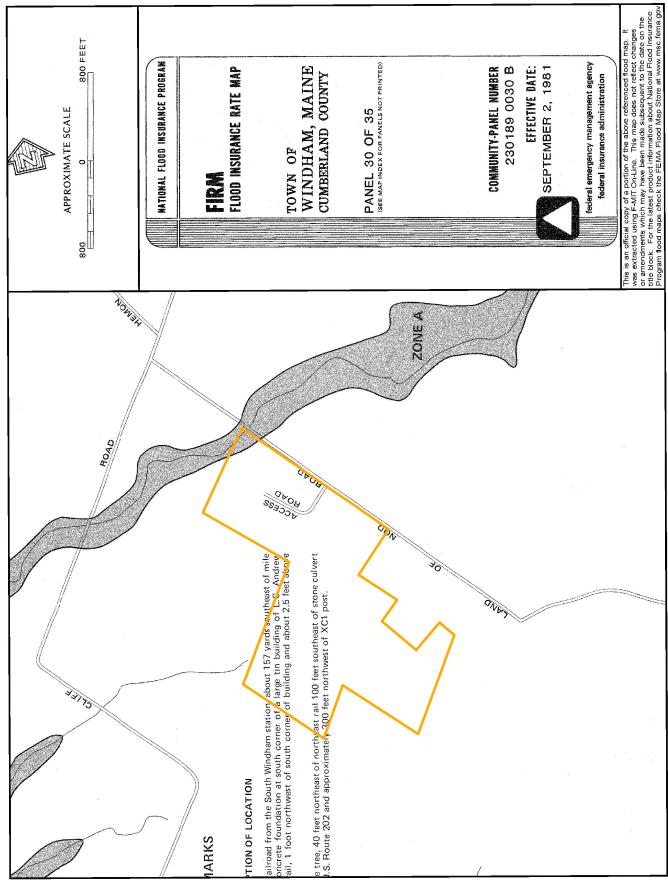
At your earliest convenience, please review and forward your findings. If you have any questions or need further information please do not hesitate to contact me at <u>snichols@sebagotechnics.com</u> or by telephone at (2070 200-2120.

Sincerely,

SEBAGO TECHNICS, INC.

Atyanii Clichols

Stefanie Nichols Permitting Specialist/Project Coordinator





Memorandum

To: Matthew Ek, PLS From: Gary Fullerton, CSS, LSE

Date: July 17, 2017

Subject: #16236 - 120 Land of Nod Road

The wetlands on this site were delineated by Gary M. Fullerton of Sebago Technics, Inc. in June, 2017. This delineation conforms to the standards and methods outlined in the 1987 Wetlands Delineation Manual and Regional Supplement authored and published by the U.S. Army Corps of Engineers. The wetlands were marked in the field with alpha numeric pink "wetland delineation" flagging. The flags were then located using a Trimble gps backpack unit capable of decimeter accuracy.

Wetlands found are classified as forested wetlands (PFO), scrub-shrub wetlands (PSS), wet meadow wetlands (PEM) and man-made open water borrow pits (POW). PFO vegetation primarily consists of birch (*Betula spp.*), maple (*Acer spp.*), speckled alder (*Alnus incana*), cinnamon fern (*Osmundastrum cinnamomeum*), sensitive fern (*Onoclea sensibilis*), and sphagnum moss (*Sphagnum spp.*). PSS vegetation primarily consists of speckled alder, willow (*Salix spp.*), highbush blueberry (*Vaccinium corymbosum*), meadowsweet (*Spiraea alba*), cranberry (*Vaccinium oxycoccos*), cinnamon fern (*Osmundastrum cinnamomeum*), sensitive fern PEM vegetation is primarily soft rush (*Juncus effuses*), various carex species (*Carex spp.*), swamp candles (*Lysimachia terrestris*), and broadleaf cattail (*Typha latifolia*). POW vegetation primarily consists of white pine (*Pinus strobus*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), sheep laurel (*Kalmia angustifolia*), bracken fern (*Pteridium aquilinum*), and lowbush blueberry (*Vaccinium angustifolium*).

A vernal pool survey was conducted in May, 2017 following the standards and methods outlined in Chapter 335, Section 9, of the Natural Resources Protection Act. This survey yielded three vernal pools present on the site. Two vernal pools are located in the excavated borrow pit found in the northwest portion of the site and one is located in the southern portion of the field.

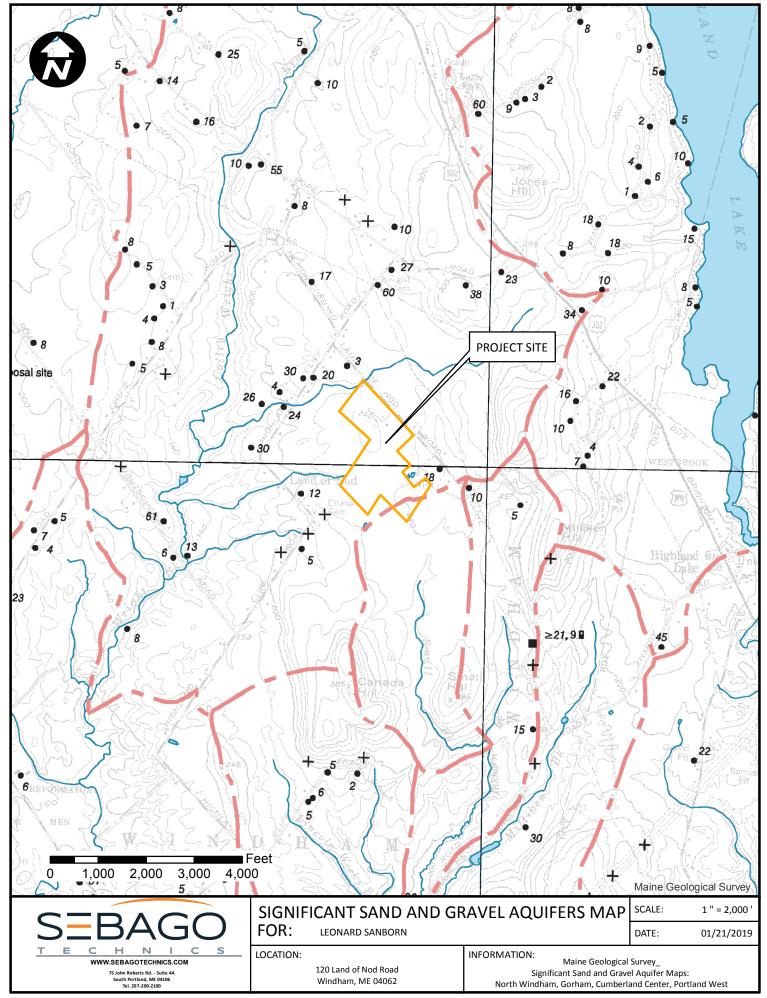


Exhibit 12

Stormwater Management

Exhibit 12: Stormwater Management Report

Please refer to the Stormwater Management Report included in this section. The enclosed plan set shows stormwater management features, construction details, erosion and sedimentation controls and the written erosion and sedimentation control plan.

Exhibit 13

Landscaping

Exhibit 13: Landscaping

Proposed landscaping is limited to areas near the entrance of the proposed Sanborn Lane near Land of Nod Road. The concept is to provide a line of trees and shrubs with the subdivision sign, such that it will be placed on upland areas, out of the wetland limits, so that it will screen those homes to be located in the meadow from Land of Nod Road view. Additionally, Mr. Grondin intends to save specimen trees along the road frontage where possible where lots are to be located in woodland areas.

Exhibit 14

Waiver Requests

Exhibit 14: Waiver Requests

The applicant respectfully requests that the subdivision street performance requirement for road monumentation be set with granite monuments at each point of curvature be reduced to allow for only one side of the proposed road right-of-way be provided with such monuments. The reduction in monumentation will provide a substantial cost savings while providing the permanent street location identification as required by the Town.

Exhibit 15

Hydrogeological Assessment



Groundwater Impact Study Land of Nod Road Property 120 Land of Nod Road, Windham

INTRODUCTION:

The purpose of this study is to make an assessment of the hydrogeologic conditions of the abovementioned site and estimate the groundwater quality impact caused by the proposed on-site subsurface wastewater disposal systems for 30 four-bedroom houses.

The proposed development is located along the southwest side of Land of Nod Road at the position indicated on the attached Site Locus Map (Appendix A, Figure 1). Data used for this project includes a site plan titled *Subdivision Plan Land of Nod Road Property* prepared by Sebago Technics, Inc. and dated January 18, 2019 along with a High-Intensity Soil Survey Report generated by Sebago Technics and published regional maps and literature.

DISPOSAL FIELDS AND WATER SUPPLY:

The proposed disposal fields will be 30 individual subsurface wastewater disposal systems (SSWD) each designed to serve a four-bedroom home. The development will be served by individual on-site wells. One existing drilled well, on Lot 3, will be incorporated into the new development. The location of test pits, wastewater disposal systems, and simulated nitrate-nitrogen (NO₃-N) plumes are shown on the Groundwater Impact Study Map (Appendix A, Figure 2).

SURFICIAL GEOLOGY AND TOPOGRAPHY:

The site is located on the U.S.G.S. North Windham and Gorham, Maine 7.5-Minute Quadrangles, 7.5 Minute Series (Appendix A, Figure 1). Site area topography slopes generally downward from a generally northwest to southeast-trending surface water flow divide which is located roughly from Lot 6 to the cul-de-sac.

The Significant Sand and Gravel Aquifer Map of the Maine Geological Survey (MGS) Web-Based Digital Significant Sand and Gravel Aquifer Map, Maine Quadrangle (Appendix A, Figure 3) shows that the site does not fall within a Significant Sand and Gravel Aquifer.

The Surficial Geology Map of the MGS Web-Based Digital Surficial Geology Map, Maine Quadrangle (Appendix A, Figure 5) shows that northern portion of the site was mapped as an end moraine complex (see Figure 4). Three individual end moraines are depicted as red lines on the MGS map. End moraines were deposited at the glacial margin (the southern end of the glacier where it bordered the ocean) during the melting phase of most recent glaciation event.

Land of Nod Road Property 16236

The southern portion of the site was mapped as marine regressive sand deposits, massive to stratified and cross-stratified, well-sorted sand. These were deposited under the ocean as the glacier melted back towards the northwest.

STI complete a Class 'B' High Intensity Soil Survey Report (submitted separately). Test pit logs from that report are included in Appendix B. Attached to the report is a summary table of soil types encountered (Form E) and a map depicting the distribution of soils at the site. Ten types of soil are described. In general, sandy soils were encountered in the central portion of the site. Fine sandy loam was mapped in the areas of lots 1, 2, and 30.

HYDROGEOLOGY:

Precipitation falling on this site enters the open pore spaces on the upper soil horizon, and percolates vertically downward until the water table is encountered. Thereupon, flow is both horizontal and downhill. Two factors of importance in determining the amount of recharge of precipitation into the soil on this site are the groundwater slope or gradient and soil texture. The groundwater seepage velocity is used to calculate the extent of groundwater impact downgradient of the disposal field sites and has been calculated utilizing the following equation:

v = K*i*/n

where,

v	= groundwater seepage velocity (ft/day)
К	= hydraulic conductivity (ft/day)
i	= hydraulic gradient (ft/ft)
n	= effective porosity (dimensionless)

The hydraulic conductivity of the soil in the disposal area is estimated at 10 feet per day for outwash areas and 2 for areas with mixed-origin soils. The average hydraulic gradient under the areas downgradient of the disposal fields varied from 4% to 5% in mixed-origin soil areas and 1% to 8% under sandy areas. A groundwater surface gradient of 1% was used as the slope parameter in the model.

CONTAMINATION POTENTIAL:

It is assumed that the worst potential for contamination is the nitrate-nitrogen (NO₃-N) released from wastewater disposal fields. NO₃-N is known to cause methemoglobinemia in infants and is a suspected cause of stomach cancer. The average NO₃-N concentration value of untreated septic tank effluent entering a disposal field is assumed to be 40 milligrams per liter (mg/L). A level of 1 mg/L was used as a background nitrate concentration in the aquifer. The Federal and State Drinking Water Limit for NO₃-N in public water supplies is 10 mg/L.

The primary mechanism of NO₃-N concentration reduction is through dilution in groundwater and surface water. Since groundwater is always slowly flowing beneath a disposal field, the NO₃-N intercepting the water table below a disposal field mixes and dilutes in the groundwater and moves in the direction of groundwater flow in the form of a plume. NO₃-N is more concentrated in the center than near the edges of a plume. A source that emanates a constant quantity of potential contaminants

2

The method of analysis used to assess the impact of the septic systems on groundwater is an analytical model used to simulate individual plumes. Analysis of the results of this model is instructive in assessing the possible shape and size of wastewater plumes. The model was developed by Baetsle (1969) to depict the migration of radionuclides in porous media, which is adapted here to represent the subsurface migration of NO₃-N. It is a three-dimensional transport model of plumes generated by continuous, point sources in a uniform groundwater flow field. Variables employed include seepage velocity (hydraulic conductivity multiplied by hydraulic gradient, divided by effective porosity), nitrate mass, time, and dispersivity. The concentration of NO₃-N is calculated at a downgradient point at a specified time by use of the following equation:

$$C(x, y, z, t) = \left[\frac{CoVo}{8(\pi t)^{1.5}\sqrt{DxDyDz}}\right] \exp\left[-\frac{(x-vt)^2}{4Dxt} - \frac{y^2}{4Dyt} - \frac{z^2}{4Dzt}\right] ;$$

where,

C(x,y,z,t)	=	NO ₃ -N concentration at specified location and time (mg/L)
Х	=	specified distance from source parallel to the direction of groundwater flow (ft)
У	=	specified distance from source perpendicular to the direction of groundwater flow (ft)
Z	=	specified vertical distance from source (ft)
Со	=	initial concentration at the source (mg/L)
Vo	=	volume of source (ft ³)
t	=	time elapsed (day)
Dx,Dy,Dz	=	dispersion coefficient along the x,y,z axes (ft ² /day)
v	=	average linear velocity (ft/day).

Assuming that groundwater flow is horizontal, the dispersion coefficient can be calculated as follows:

 $\mathsf{D}_{\mathsf{x},\mathsf{y},\mathsf{z}} \qquad = \qquad \mathsf{v}_{\mathsf{x},\mathsf{y},\mathsf{z}};$

where x,y,z is dispersivity (ft).

х

The contaminant velocity of a solute subject to sorption/adsorption is calculated as follows:

 $V_p = v/R_d;$

where V_p is the contaminant velocity (ft/day) and R_d is the retardation factor (unitless). The retardation factor for NO₃-N is equal to one, however, so the contaminant velocity is equal to the average linear velocity ($V_p = v$). Dispersivity is estimated by an equation based on a weighted least-squares statistical analysis of collected longitudinal dispersivity data versus scale (Xu, Eckstein, 1995). Longitudinal dispersivity can be estimated based on the following calculation:

 $= (0.83)[\log_{10}(L_p)]^{2.414};$

where $_x$ is longitudinal dispersivity (ft), and L_p is the plume length (ft). The plume length is a function of the elapsed time and is calculated by the following equation:

 $L_p = V_p t.$

It has already been established that for NO₃-N, the contaminant velocity (V_p) is equal to the average linear velocity (v). Thus, $L_p = vt$. The transverse and vertical dispersivities are related to the longitudinal dispersivity, as shown below:

y = x/3z = x/20.

This method is used to calculate a downgradient NO₃-N concentration at a specified elapsed time for a single release of NO₃-N. However, by applying the superposition technique, the estimated concentration of NO₃-N downgradient at a specified time can be calculated for reoccurring daily NO₃-N releases to simulate the NO₃-N plume of a septic system (Chang, *et al.* 1998).

In the main equation, CoVo is represented as a daily mass of nitrate-nitrogen loaded into the subsurface wastewater disposal systems. This is estimated by multiplying the design flow volume of effluent by the assumed NO₃-N concentration in the effluent. The simulations were run based on average annual precipitation during drought conditions (60% of average annual precipitation). The NO₃-N concentration of the wastewater is diluted by the rainfall infiltrating the disposal fields during drought conditions. The rainfall is assumed to have a NO₃-N concentration of 0.5 mg/L. The percent of rainfall infiltrating the soils above the disposal fields is estimated based on the soil type and ground surface slope (Maine Department of Environmental Protection, 1991).

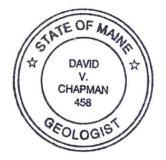
Parameters and results for the disposal field are displayed in Appendix C. The resulting $10 \text{ mg/L NO}_3\text{-N}$ concentration plume lengths for the disposal fields are shown on the site plan. The 10 mg/L plumes do not cross the boundaries of the subdivision.

CONCLUSION:

According to the assumptions made for this simulation, the wastewater disposal system will not result in an increase of NO₃-N concentrations above 10 mg/L in groundwater at the subdivision perimeter property line.

Dad v. Chepman

Dave Chapman Maine Certified Geologist #458



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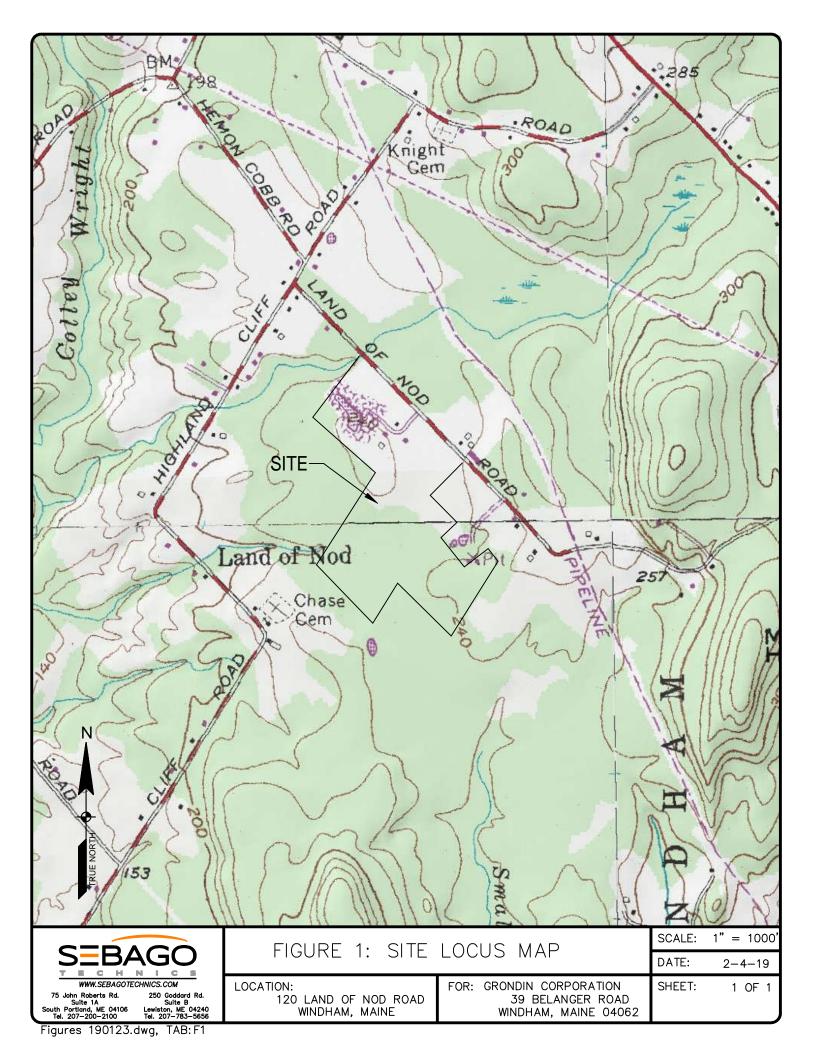
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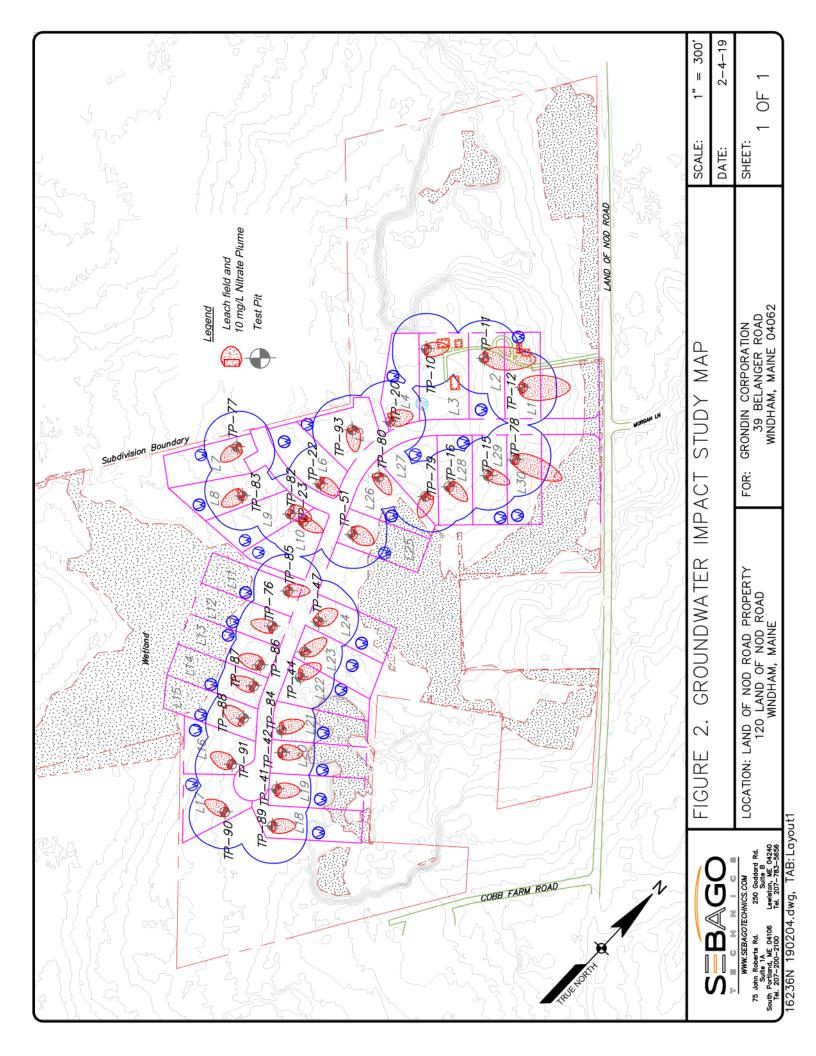
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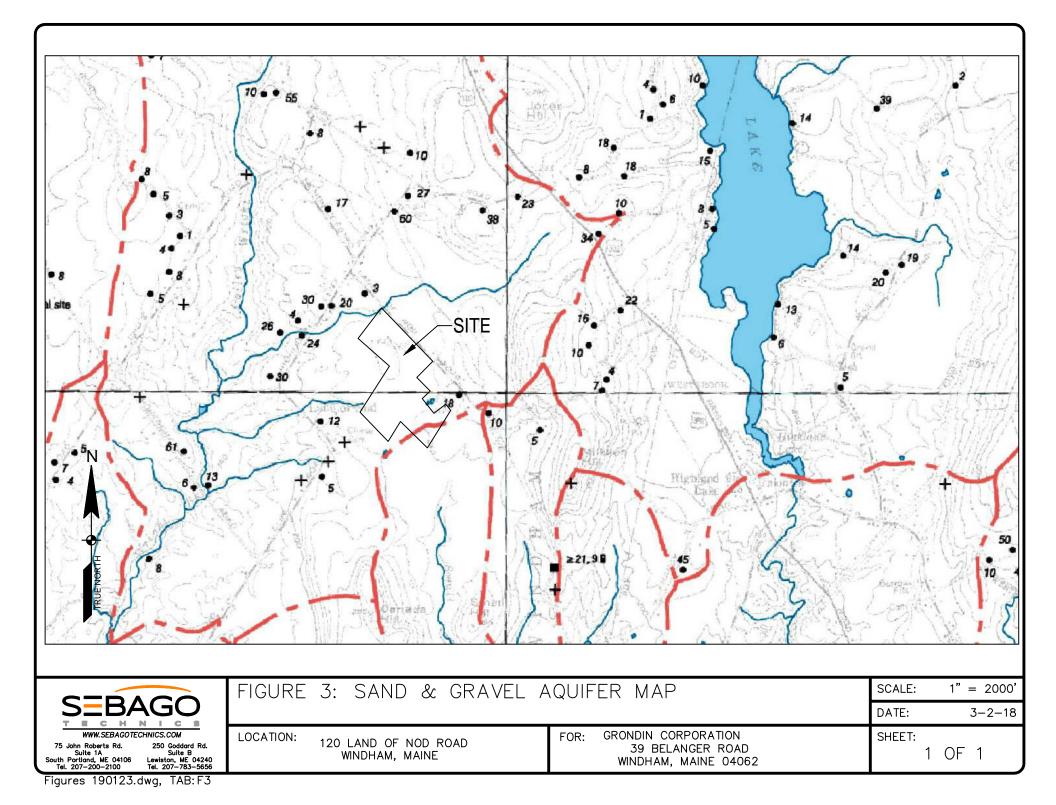
Maine Geological Survey, MGS Web-Based Digital Surficial Geology Map Quadrangle (Maine), Surficial Geology.

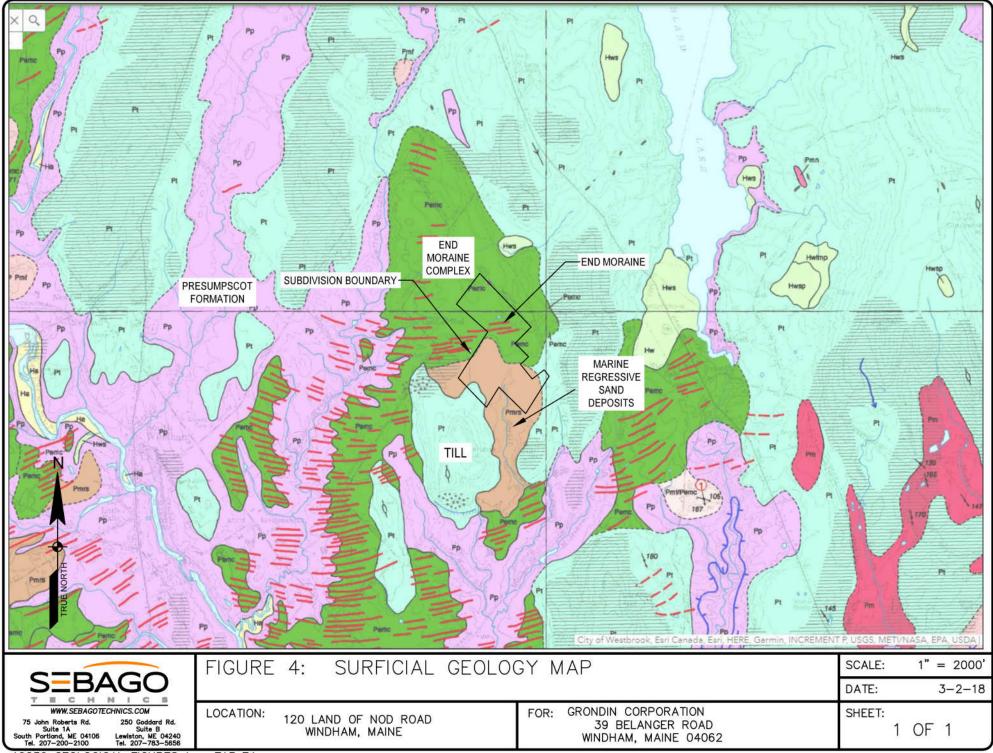
U.S.G.S., North Windham and Gorham, Maine 7.5-Minute Quadrangles Quadrangle (Maine) 7.5' Quadrangle 1:24,000, Topographic Map.

Xu, M. and Y. Eckstein, 1995, Use of Weighted Least-Squares Method in Evaluation of the Relationship Between Dispersivity and Field Scale: Ground Water, vol.33, No.6, pp.905-908. APPENDIX A FIGURES









¹⁶²³⁶ GEOLOGICAL FIGURES.dwg, TAB:F4

APPENDIX B TEST PIT LOGS

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

	120 LAND OF N	NOD ROAD		LEONARD SANBO	RN			WINDHAM	
	Exploration Symbol:	SOIL DESCRIPTION AN TP-1	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-2		Boring
0		Depth of Organic Horizon Above	Mineral Soil Color	Mottling			Depth of Organic Horizon Above	Mineral Soil Color	Mottling
1					_	1			inetinig
3						3			
(a) 6			2.5Y 6/6					10YR 3/2 VERY DARK	
Inches			OLIVE YELLOW		(Inches	7	FRIABLE	GRAYISH BROWN	
BELOW MINERAL SOIL SURFACE (Inches)	MEDIUM SAND	FRIABLE		NONE OBSERVED					
					SURFACE				
16 18 7/OS					≊ ≊			2.5Y 5/4	
20 21 21			2.5Y 6/4		ERAL	2		LIGHT OLIVE BROWN	COMMON, MEDIUM, & DISTINCT
NIW A			LIGHT YELLOWISH BROWN	1	NIW A		LIMIT OF EXC	AVATION = 22"	
≈ 3ELOV		LIMIT OF EXC	CAVATION = 23"		BELOW	0			
<i>DEPTH I</i>					DEPTH E				
DE DE					DE				
40					40				
60						0			
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	 ground water
•	non-hydric	3-8		 restrictive layer bedrock 	•	non-hydric	3-8	18"	restrictive layer bedrock
c.s.s.	Soil Series / phase name:	ADAMS	SWED Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	CROGHAN	MWD Drainage Class	A Hydrologic Group
L.S.E.	Soil Classification:	5 Profile	 Drainage Class	Design Class	L.S.E.	Soil Classification:	5_ Profile	C Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AN TP-3		Boring		Exploration Symbol:	SOIL DESCRIPTION AN B-4	ID CLASSIFICATION Test Pit	Boring
	1	" Depth of Organic Horizon Above	Mineral Soil			1	Depth of Organic Horizon Above	Mineral Soil	
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
3						3			
5	LOAMY SAND		10YR 3/4 DARK					10YR 4/4 DARK	
(inches)	LOAWIT SAND		YELLOWISH BROWN	1	(Inches)	7	FRIABLE	YELLOWISH BROWN	
		FRIABLE		NONE OBSERVED		9			
					SURFACE	2		10YR 4/6	
5 7/OS					≊ ≊ SOIT S	8		DARK YELLOWISH BROWN	
	MEDIUM SAND		10YR 5/6 YELLOWISH BROWN		ERAL :			10YR 5/6	COMMON, MEDIUM
TOW MINERAL					NIW 2	4		YELLOWISH BROWN	& DISTINCT
 €LOM			CAVATION = 26"		× ELOW	D		AVATION = 24"	
<i>DEPTH BE</i> 					DEPTH B				
DEF					DEF				
40					40	D			
60									
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	 ground water
•	non-hydric	<u>0-3</u>	<u>>26"</u>	 restrictive layer bedrock 	•	non-hydric	0-3		 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	ADAMS	SWED Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	CROGHAN	MWD Drainage Class	A Hydrologic Group
L.S.E.	Soil Classification:	6 Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	6 Profile	C Drainage Class	Design Class
,		1 Tome	Brainage erase	Boogh blabb	<i>'</i>				
								ATE OF MA	1111
Profe	essional Endorsemen	ts (as applicable)						GARY	
C.S.S.		\bigcap	1 1)	D	ate:		GARY	
	signature:	Chy	12			7/5/17		FULLERTON	
	name printed/typed:	Gary M. Fu	llerton	2	LI	c.#: 462		NO. 462	1
	name printed/typed.	\bigcirc	1	2	ח	ate:		A GEDTIER	
L.S.E.	signature:	the	RJ	/		7/5/17	111	SOUS	SILIN
		Gary M. Fu	llerton		Li	c.#: 355	affor professional seal		<i>III</i> .
1	name printed/typed:				1		attix professional seal		

16236

SOIL PROFILE/CLASSIFICATION INFORMATION

16236

Proj	Project Name: 120 LAND OF NOD ROAD		Applicant Name:		rface Conditions at Project Site	Project Location (municipality):			
	120 LAND OF NOD ROAD SOIL DESCRIPTION AN		LEONARD SANBORN		RN	WINDHAM			
	Exploration Symbol:	SOIL DESCRIPTION AN TP-5	Test Pit	Boring	Exploration Symbol:	SOIL DESCRIPTION AN	D CLASSIFICATION Test Pit	Boring	
	• Texture	1 " Depth of Organic Horizon Above	Mineral Soil	Mottling	• Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling	
		Consistency		inotaing		Consistency			
	3 SANDY LOAM		10YR 4/4		3				
_	5		DARK YELLOWISH BROWN		5				
(seuch	6	FRIABLE			(luches)		/	/	
SOIL SURFACE (Inches)	8 9 LOAMY SAND		10YR 4/6						
RFAC			DARK YELLOWISH BROWN						
			10YR 5/6	COMMON, MEDIUM,	10 10 10 10 10 10				
/ERA			YELLOWISH BROWN	DISTINCT		/	/		
BELOW MINERAL									
nol Ielov	30								
DEPTH						-/			
4	10				40	¥——			
5	50				50				
6	30				60				
	hydric	Slope %	CAVATION = 20" Limiting factor	 ground water 	n hydric	Slope %	Limiting factor	ground water	
•	non-hydric			 restrictive layer bedrock 	non-hydric			 restrictive layer bedrock 	
C.S.S.	Soil Series / phase name	CROGHAN	<u>MWD</u> Drainage Class	A Hydrologic Group	C.S.S. Soil Series / phase name	:	Drainage Class	Hydrologic Group	
L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design Class	LS.E. Soil Classification:	Profile	Drainage Class	Design Class	
		SOIL DESCRIPTION AN	D CLASSIFICATION			SOIL DESCRIPTION AN	D CLASSIFICATION		
	Exploration Symbol:	" Depth of Organic Horizon Above	Mineral Soil	Boring	Exploration Symbol:	* Depth of Organic Horizon Above	Mineral Soil	Boring	
_	o Texture	Consistency	Color	Mottling	o Texture	Consistency	Color	Mottling	
	2				2				
	0				2				
	3				3				
s)	3 4 5 6				3 4 6 0				
Inches)	3 4 6 6 7 7 8				3 4 6 7 7 8				
ACE (Inches)	3 4 6 7 7 8 9 9				a CE (Inches)				
SURFACE (Inches)	2				9 10 12				
SURF/	2 4 6				SURFACE				
± 1 SO/L	12 14 16				SOIL SURFACE				
INERAL SOIL	12 14 16				NEFAL SOIL SURFACE				
INERAL SOIL	2 4 6 7 7 8 9 7 9 7 9 7 7 7 7 7 7 7 7 7 7 7 7				NEFAL SOIL SURFACE				
INERAL SOIL	2 4 6 7 7 8 9 7 9 7 9 7 7 7 7 7 7 7 7 7 7 7 7				NEFAL SOIL SURFACE				
INERAL SOIL	2 4 6 7 7 8 9 7 9 7 9 7 7 7 7 7 7 7 7 7 7 7 7				NEFAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL	2 4 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7				DEPTH BELOW MINERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL	2 4 4 6 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8				DEPTH BELOW MINERAL SOIL SURFACE 8 9 10 10 10 11 12 14 15 16 17 17 18 19 10 10 10 10 10 10 10 11 12 13 14 15 16 17 18 10				
DEPTH BELOW MINERAL SOIL					DEPTH BELOW MINERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL					DEPTH BELOW MINERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL		Slope %	Limiting factor	a ground water a restrictive layer	DEPTH BELOW MINERAL SOIL SURFACE	Slope %	Limiting factor	a ground water a restrictive layer	
DEPTH BELOW MINERAL SOIL o	2 4 6 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Limiting factor		DEDJH REFORMUNESS		Limiting factor		
DEPTH BELOW MINERAL SOIL	2 4 4 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		Limiting factor	restrictive layer	NO 10<		Limiting factor	restrictive layer	
DEPTH BELOW MINERAL SOIL o	2 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			restrictive layer bedrock	DEDJH REFORMUNESS	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
DEPTH BELOW MINERAL SOIL o	2 4 4 6 6 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		Drainage Class	restrictive layer bedrock	NO 10<	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
DEPTH BELOW MINERAL SOIL o	2 4 4 6 6 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		Drainage Class	restrictive layer bedrock	NO 10<	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
	2 4 4 6 6 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Profile	Drainage Class	restrictive layer bedrock	NO 10<	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
	2 4 4 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Profile	Drainage Class	restrictive layer bedrock	Date:	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
	2 4 4 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Profile	Drainage Class	restrictive layer bedrock	0 0	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
		Profile	Drainage Class Drainage Class	restrictive layer bedrock	Date: 7/5/17	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
		Profile	Drainage Class Drainage Class	restrictive layer bedrock	0 0	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
	2 4 4 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Profile	Drainage Class Drainage Class	restrictive layer bedrock	Date: 7/5/17 Lic.#: 462	· · · · · · · · · · · · · · · · · · ·	Drainage Class	restrictive layer bedrock	
	2 4 4 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Profile	Drainage Class Drainage Class	restrictive layer bedrock	0 0	· · · · · · · · · · · · · · · · · · ·		restrictive layer bedrock	

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-10 Test Pit Exploration Symbol: **TP-11** Test Pit 0-1 " Depti 0-1 Depth Drgani Texture Consistency Color Mottling Texture Consistency Color Mottling LOAMY SAND 10YR 4/6 DAR YELLOWISH SANDY 10YR 4/3 BROWN BROWN (Inches) Inches FRIABLE UR B FACE 10 12 14 10 FRIABLE 10YR 5/6 NONE SURF SILT 10YR 4/4 YELLOWISH OBSERVED BROWN DARK 16 16 SOIL SOIL 18 18 YELLOWISH BROWN 20 22 20 VERAL g FINE 2.5Y 5/6 MEDIUM SAND 2.5Y 6/3 SAND LIGHT OLIVE LIGHT МО BROWN BELOW 28 YELLOWISH 30 BH BROWN Ξ SILT FIRM 2.5Y 5/3 Ξ Ш LOAM LIGHT DEP OI IVE BROWN 40 2.5Y 6/3 50 COARSE SAND VERY FINE FRIABLE LIGHT YELLOWSIH FEW. FINE SAND BROWN FAINT 60 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 55 Slope % ground water Limiting facto ground wate hydric hydric Slope % Limiting fact non-hydric restrictive layer non-hydric restrictive layer 0-3 >55" 3-8 28' bedrock bedrock ADAMS MEL ROSE WD SWED Soil Series / phase name: Α Soil Series / phase name: С \$ 9 s.s Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 в Soil Classification: 7 С SE S.E Profile Drain Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-12 Test Pit Exploration Symbol: **TP-13** Test Pit 0-1 " Depth of Organic Ho n Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil Texture Mottling Color Mottling Color Texture Consistency Consistency 10YR 3/2 VERY LOAM SANDY FRIABLE 10YR 4/3 DARK LOAM BROWN GRAYISH (Inches) Inches, FRIABLE BROWN COMMON MEDIUM, DISTINCT 9 4 OE SURFACE 2.5Y 5/3 10 SANDY LIGHT 12 12 SURF 14 14 I OAM OI IVE 2.5Y 5/4 LIGHT OLIVE BROWN 16 18 16 17 SOIL SOIL COMMON, BROWN MEDIUM. 2 20 MINERAL MINERAL DISTINCT SILTY CLAY 5Y 5/1 GRAY MANY, COARSE SILT LOAM FIRM 2.5Y 5/3 BELOW LIGHT LOAM PROMINENT FIRM OLIVE BEL BROWN F 36 Ē ШU SILTY 40 50 5 FRIABLE FINE 2.5Y 7/3 PALE BROWN SAND 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 48 Limiting facto Limiting fact ground wate hydric Slope % ground wate hydrio Slope non-hydric restrictive layer non-hydric restrictive layer 3-8 12" 3-8 4" bedro bedrock SWANTON SWANTON Soil Series / phase name: SWPD B/D Soil Series / phase name: PD B/D . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 7 Soil Classification: 7 D S.E. S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas file Drainage Class Design Clas Design Class Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring П Exploration Symbol: TP-14 Test Pit Exploration Symbol TP-15 Test Pit 0-1 " Depti 0-1 Drgani Texture Consistency Color Mottling Texture Consistency Color Mottling LOAM SANDY 10YR 3/3 2.5Y 4/3 LOAM DARK OLIVE BROWN FRIABLE BROWN (Inches) Inches FRIABLE SURFACE SURFACE 10 12 14 LOAM 2.5Y 5/6 LIGHT 10 12 14 FINE VERY FINE 2.5Y 6/4 COMMON SAND OLIVE SANDY LOAM LIGHT YELLOWISH MEDIUM, DISTINCT 16 16 SOIL SOIL 18 18 BROWN SILTY FIRM 5Y 5/2 COMMON 20 20 IERAL IERAL CLAY OLIVE MEDIUM. LOAM FINE GRAY DISTINCT 2.5Y 6/3 SAND LIGHT MO YELLOWISH <u></u>M0 28 BROWN 30 BEL BH SILTY VERY Ξ Ξ CLAY FIRM UEP. DEP 40 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 53 Slope % hydric Limiting facto ground wate hydric Slope % ground wate Limiting facto non-hydric restrictive layer non-hydric ۵ restrictive layer 3-8 16" 3-8 ۹" bedrock bedrock FI MWOOD MWD NAUMBURG SWPD Soil Series / phase name: B/D Soil Series / phase name: A/D \$ 9 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 7 С Soil Classification: 5 D S.E S.E Profile Cla Draina Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Exploration Symbol: TP-16 Test Pit Exploration Symbol: **TP-17** Test Pit Boring Depth of Organic Ho on Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil 0-1 Mottling Mottling Texture Color Texture Consistency Color Consistency SANDY FRIABI F 10YR 3/4 DARK SANDY 10YR 3/3 YELLOWISH DARK BROWN BROWN (Inches) Inches, SURFACE (SURFACE MEDIUM 10YR 5/6 FRIABLE 10 YELLOWISH SAND 12 14 BROWN 2.5Y 5/6 LIGHT OLIVE BROWN LOAMY 16 18 16 17 SOIL SOIL 20 20 *MINERAL* **MINERAL** MEDIUM 2.5Y 5/4 SAND LIGHT OLIVE COMMON 26 MEDIUM BROWN BELOW 10YR 6/4 BELOW DISTINCT LIGHT 30 YELLOWISH Ξ BROWN Ē Ш 5 50 COMMON, MEDIUM DISTINCT 60 60 LIMIT OF EXCAVATION = 60 LIMIT OF EXCAVATION = 60 Limiting factor ground wate ground wate Limiting fac hydric Slope % hydrid Slode non-hydric restrictive layer non-hydric restrictive layer 3-8 55" 0-3 20" bedrock bedrock ADAMS SWED CROGHAN MWD Soil Series / phase name: Α Soil Series / phase name: Α . . . 22 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: в c S.E S.E. Profile Profile The Drainage Class Design Class Drainage Cla Design Cla Drainage Class Design Clas Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 9/20/18 signatur Lic.#: Gary M. Fullerton 355

16236

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-18 Test Pit Exploration Symbol: TP-19 Test Pit 0-1 " Depti 0-1 Depth Drgani Texture Consistency Color Mottling Texture Consistency Color Mottling SANDY 10YR 3/3 SAND 2.5Y 4/3 LOAM OLIVE DARK BROWN BROWN COMMON MEDIUM (Inches) Inches DISTINCT FRIABLE 01L SURFACE (**G** 2.5Y 5/4 10 12 14 SURF/ FRIABLE LIGHT YELLOWISH BROWN LOAMY 10YR 5/6 16 SOIL SOIL SAND 18 18 YELLOWISH MEDIUN 2.5Y 6/4 BROWN 20 20 23 ERAL LIGHT YELLOWISH BROWN MEDIUM 2.5Y 5/6 COMMON MO. SAND LIGHT MEDIUM BELOW OLIVE DISTINCT 30 30 32 BH BROWN Ξ 2.5Y 6/2 Ц DEP LIGHT BROWNISH 40 40 GRAY 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 60 Slope % hydric ground wate hydric Slope % ground wate Limiting facto Limiting facto . non-hydric restrictive layer non-hydric ٥ restrictive layer 3-8 3" 0-3 23' bedrock bedrock NAUMBURG CROGHAN MWD PD Soil Series / phase name: A/D Soil Series / phase name: Α 55 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 E Soil Classification: 5 С S.E S.E Cla Profile Draina Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-20 Test Pit Exploration Symbol: TP-21 Test Pit 0-1 " Depth of Organic Ho on Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil Mottling Texture Color Mottling Color Consistency Texture Consistency SANDY 10YR 3/4 SANDY 10YR 3/4 LOAM DARK LOAM DARK YELLOWISH YELLOWISH (Inches) FRIABLE BROWN NONE OBSERVED Inches, BROWN SURFACE (SURFACE 10YR 4/6 FRIABLE NONE 10 OBSERVED DARK 12 14 16 18 YELLOWISH BROWN LOAMY 10YR 4/6 SOIL 16 18 20 SOIL SAND DARK YELLOWISH 2 WINERAL **MINERAL** BROWN MEDIUM 2.5Y 6/4 26 SAND LIGHT YELLOWISH MEDIUM 2.5Y 6/4 BELOW BROWN 30 SAND LIGHT BEL YELLOWISH BROWN Ē DEP 40 5 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 55 Limiting fact Limiting fac ground wate ground wate hydric Slope % hydrio Slope . non-hydric restrictive layer non-hydric restrictive layer 0-3 >55" 3-8 >55" bedrock bedrock ADAMS ADAMS Soil Series / phase name: SWED Α Soil Series / phase name SWED Α 222 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: в в S.E S.E. Profile Profile file Drainage Class Design Clas Design Class Design Clas Drainage Cla Design Cla Drainage Class Design Class Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-22 Test Pit Exploration Symbol: TP-23 Test Pit 0-1 " Depti 0-1 Drgan Texture Consistency Color Mottling Texture Consistency Color Mottling 10YR 3/4 10YR 4/3 SANDY SAND LOAM DAR LOAM BROWN YELLOWISH BROWN (Inches) FRIABLE FRIABLE 9 ЧÖ FACE 10 12 10 12 SURF FINE FINE 10YR 5/6 2.5Y 7/4 16 16 SOIL SOIL 18 SAND PAI F 18 SAND YELLOWISH BROWN BROWN 20 20 IERAL 2.5Y 5/6 LIGHT 90 МО OLIVE 29 BROWN 30 BEL BH COMMON 36 MEDIUN 49 0EP DISTINCT Ц 2.5Y 7/2 COMMON LIGHT MEDIUM 40 DISTINCT 54 55 VERY FINE FIRM 5Y 4/3 SANDY LOAM OLIVE 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 55 Slope % hydric ground wate hydric Slope % ground wate Limiting facto Limiting facto non-hydric restrictive layer non-hydric ٥ restrictive layer 0-3 36" 0-3 29' bedrock bedrock CROGHAN CROGHAN MWD MWD Soil Series / phase name: Α Soil Series / phase name: Α s.s. 55 Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 С Soil Classification: 5 С S.E S.E Profile Cla Draina Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Exploration Symbol: TP-24 Test Pit Exploration Symbol: TP-25 Test Pit Boring 2 " Depth of Organic Ho on Above Mineral Soil Pepth of Organic Horizon Above Mineral Soil Mottling Mottling Texture Consistency Color Texture Consistency Color LOAMY SAND SANDY 10YR 4/3 BROWN 10YR 4/4 DARK YELLOWISH BROWN Inches, (Inches) FRIABLE FRIABLE 9 10 ACE 10 SURFACE 12 SURF 12 LOAMY SAND 10YR 5/6 YELLOWISH 14 16 18 20 10YR 4/6 14 DARK SOIL 16 18 SOIL BROWN BROWN 20 MINERAL JERAL 22 2 2.5Y 5/6 LIGHT OLIVE BROWN MEDIUM 10YR 5/6 YELLOWISH ⋚ FINE 25 BELOW MO. BROWN 30 BEL COMMON MEDIUM, 2.5Y 6/4 DEPTH LIGHT YELLOWISH DISTINCT Щ COMMON. 2.5Y 5/6 BROWN LIGHT MEDIUM 40 OLIVE DISTINCT BROWN 5 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 55 Limiting fact Limiting fac ground wate Slope % ground wate hydric hydrid Slope . non-hydric restrictive layer non-hydric restrictive layer 3-8 34" 3-8 25" bedrock bedrock CROGHAN MWD CROGHAN MWD Soil Series / phase name: Α Soil Series / phase name: Α 222 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: С C S.E. S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas rofile Drainage Class Design Cl Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

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Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-26 Test Pit Exploration Symbol TP-27 Test Pit Drgan Texture Consistency Color Mottling Texture Consistency Color Mottling 10YR 3/4 LOAM SAND DARK SANDY FRIABLE 10YR 4/4 YELLOWISH LOAM DARK YELLOWISH BROWN FRIABLE BROWN (Inches) SURFACE SURFACE COMMON 2.5Y 5/6 10 12 LIGHT MEDIUM MEDIUM 14 2.5Y 5/6 OLIVE DISTINCT SAND LIGHT LOAMY CEMENTED BROWN 16 16 SOIL SOIL 18 OI IVE 18 SAND BROWN 20 20 22 ERAL *MNERAL* 7.5Y 4/4 COMMON MEDIUM FINE FRIABLE MO CEMENTED DISTINCT SAND <u></u>M0 30 30 32 BEL BH Ξ 7.5Y 4/6 Ē Ы 38 40 2.5Y 5/3 LIGHT 2.5Y 6/4 50 FINE LIGHT YELLOWISH OLIVE BROWN SAND BROWN 60 60 LIMIT OF EXCAVATION = 50 LIMIT OF EXCAVATION = 60' hydric Slope % ground wate hydric Slope % ground wate Limiting facto Limiting fact non-hydric restrictive layer non-hydric ٥ restrictive layer 3-8 20" 0-3 8" bedrock bedrock CROGHAN MWD NAUMBURG SWPD Soil Series / phase name: Α Soil Series / phase name: A/D 55 s.s. Drainage Clas Hydrologic Group Drainage CI Hydrologic Group Soil Classification: 5 С Soil Classification: 5 Е S.E S.E Profile Cla Draina Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-28 Test Pit Exploration Symbol: TP-29 Test Pit 2 " Depth of Organic Ho on Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Mottling Mottling Texture Consistency Color Texture Consistency Color SANDY FRIABI F 10YR 4/3 BROWN SANDY FRIABLE 10YR 4/4 DARK YELLOWISH BROWN (Inches) Inches, 40E SURFACE 10YR 5/6 10 LOAMY 10YR 4/6 12 14 16 14 16 YELLOWISH 12 14 16 18 SAND DARM BROWN YELLOWISH BROWN SOIL SOIL 18 GRAVELLY 2.5Y 5/6 20 20 WINERAL **MINERAL** MEDIUM CEMENTED 2.5Y 5/6 COMMON COARSE LIGHT LIGHT MEDIUM, SAND OLIVE SAND DISTINCT BELOW BROWN 28 2 BEL GRAVELLY 2.5Y 6/3 FINE 2.5Y 6/6 COMMON COARSE LIGHT YELLOWISH FIRM OLIVE MEDIUM, DISTINCT SAND Ē Ы 38 BROWN 38 FINE 40 SAND GRAVELLY COARSE 5 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 55 Limiting facto Slope % Limiting fac ground wate ground wate hydric hydric Slope non-hydric restrictive layer non-hydric restrictive laver 3-8 18" 3-8 27" bedrock bedrock CROGHAN MWD CROGHAN MWD Soil Series / phase name: Α Soil Series / phase name: Α . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: С C S.E S.E. Profile Profile Drainage Cla Design Cla ortile Drainage Class Design Cla Drainage Class Design Clas Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

SOIL PROFILE/CLASSIFICATION INFORMATION

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Project Name: 120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-30 Test Pit Exploration Symbol TP-31 Test Pit Drgani Consistency Texture Consistency Color Mottling Texture Color Mottling 10YR 4/4 10YR 3/2 SANDY SAND FRIABLE DARK VERY DARK GRAYISH BROWN LOAM LOAM BROWN 2.5Y 5/6 (Inches) Inches FRIABLE LIGHT BROWN SURFACE SURFACE GRAVELLY 10YR 5/6 YELLOWISH 10 12 14 SAND BROWN VERY FINE FIRM 5Y 5/2 COMMON 16 16 SOIL SOIL 18 18 SANDY LOAM OI IVE MEDIUM GRAY DISTINCT 20 20 ERAL VERAL SILT 5Y 4/2 CLAY OLIVE 26 WO. LOAM GRAY BELOW 2.5Y 6/3 COMMON 30 30 BEL LIGHT MEDIUM YELLOWISH Ξ DISTINCT Ξ Ш BROWN DEP 40 4 FINE FRIABLE 2.5Y 5/6 50 SAND LIGHT OLIVE BROWN 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 55 Slope % hydric Limiting facto ground wate hydric Slope % ground wate Limiting facto non-hydric restrictive layer non-hydric п restrictive layer 3-8 26" 3-8 12' bedrock bedrock DUANE SWANTON SWPD MWD Soil Series / phase name: Α Soil Series / phase name: B/D 55 s.s Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 6 С Soil Classification: 8 D S.E S.E Profile Draina Cla Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: **TP-32** Test Pit Exploration Symbol: **TP-33** Test Pit 2 " Depth of Organic Ho n Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Mottling Texture Mottling Consistency Color Texture Consistency Color LOAMY LOAMY 10YR 5/6 YELLOWISH 10YR 4/4 FRIABLE DARK YELLOWISH SAND BROWN BROWN Inches, Inches, 2.5Y 6/1 NONE OBSERVED FINE SAND FRIABLE GRAY 9 10 ACE 10 SURFACE SURF. 12 12 LOAMY 10YR 4/6 14 14 FINE DARK SOIL 16 18 16 18 20 DARK YELLOWISH BROWN SOIL MEDIUM 2.5Y 5/6 LIGHT SAND 20 RAL WINERAL OLIVE AINEP FINE 2.5Y 5/6 BROWN 25 SAND LIGHT 26 BELOW OLIVE FEW, FINE, 25 FIRM BROWN 30 FAINT BEL SILT FIRM 5Y 6/2 LOAM LIGHT Ē Ш 36 GRAY FRIABLE 2.5Y 6/3 40 LIGHT YELLOWISH 5 50 60 60 LIMIT OF EXCAVATION = 50 LIMIT OF EXCAVATION = 48 Limiting fact Slope % Limiting fac ground wate ground wate hydric hydrid Slope . non-hydric restrictive layer non-hydric restrictive laver 0-3 26" 0-3 29" bedrock bedrock MELROSE ADAMS SWED Soil Series / phase name: Α Soil Series / phase name: WD с 222 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 5 Soil Classification: 7 С C S.E S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas acrial seal Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

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120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: **TP-34** Test Pit Exploration Symbol TP-35 Test Pit _ Depti Drgan Texture Consistency Color Mottling Texture Consistency Color Mottling SANDY 2.5Y 4/4 10YR 4/4 SAND LOAM OLIVE LOAM DARK YELLOWISH BROWN FRIABLE BROWN (Inches) Inches 9 SURFACE SURFACE 10 12 14 2.5Y 4/1 DARK MEDIUM FRIABLE 2.5Y 5/6 NONE LOAMY NONE SAND LIGHT OBSERVED SAND OBSERVED 16 16 SOIL SOIL GRAY 18 OI IVE 18 BROWN 20 20 ERAL SILT 2.5Y 5/3 MO WO. LOAM FIRM LIGHT 28 OLIVE 30 BEL BH GRAVELLY 2.5Y 5/4 BROWN COARSE SAND LIGHT OLIVE Ξ Ш BROWN DEP 2.5Y 6/4 IGHT YELLOWISH FINE 40 BROWN SAND 2.5Y 5/3 50 SILT FIRM LIGHT OLIVE LOAM BROWN 60 60 LIMIT OF EXCAVATION = 52 LIMIT OF EXCAVATION = 48 hydric Slope % Limiting facto ground wate hydric Slope % Limiting facto ground wate non-hydric restrictive layer non-hydric . restrictive layer 0-3 41" 0-3 23" bedrock bedrock MEL ROSE MEL ROSE WD WD Soil Series / phase name: С Soil Series / phase name: С 55 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 7 С Soil Classification: 7 С S.E S.E Profile Cla Draina Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: **TP-36** Test Pit Exploration Symbol: TP-37 Test Pit 1_" Depth of Organic Ho on Above Mineral Soil Pepth of Organic Horizon Above Mineral Soil Mottling Texture Color Mottling Consistency Texture Consistency Color SANDY LOAMY 10YR 4/4 10YR 4/4 DARK DARK YELLOWISH YELLOWISH BROWN BROWN FRIABLE NONE OBSERVED (Inches) Inches, 2.5Y 5/6 LOAMY NONE OBSERVED FRIABLE 10YR 4/6 LIGHT 9 10 9 40E SURFACE OLIVE DARK YELLOWISH BROWN 12 SURF. 12 14 BROWN 14 GRAVELLY 2.5Y 6/6 OLIVE 16 18 16 18 20 SOIL SOIL SAND YELLOW 20 *MINERAL <i><i>INERAL* COARSE 2.5Y 4/6 SAND OI IVE 23 BROWN BELOW SILT FIRM 2.5Y 5/3 BELOW 30 LOAM LIGHT OLIVE 32 BROWN Ē FINE Ы SAND 5Y 6/3 LIGHT FINE FRIABLE 5 50 LIMIT OF EXCAVATION = 49" 60 60 LIMIT OF EXCAVATION = 48 Limiting fac Limiting fact ground wate ground wate hydric Slope % hydric Slope . non-hydric restrictive layer non-hydric restrictive laver 0-3 >49" 0-3 23" bedrock bedrock ADAMS MELROSE Soil Series / phase name: SWED Α Soil Series / phase name: WD с . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 5 Soil Classification: 7 в c S.E S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas ofile Drainage Class Design Cla Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 signatur Lic.#: Gary M. Fullerton 355

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring П Exploration Symbol: TP-38 Test Pit Exploration Symbol TP-39 Test Pit Drgani Texture Consistency Color Mottling Texture Consistency Color Mottling SANDY 10YR 4/4 10YR 4/4 SAND LOAM DARK LOAM DARK YELLOWISH YELLOWISH BROWN BROWN (Inches) Inches SURFACE SURFACE LOAMY FRIABLE 10YR 4/6 NONE 10 12 14 10 12 14 SAND DARK OBSERVED LOAMY FRIABLE 10YR 4/6 YELLOWISH BROWN SAND DARK YELLOWISH 16 16 SOIL SOIL 18 18 BROWN GRAVELLY 2.5Y 5/6 20 20 ERAL IERAL SAND LIGHT 2.5Y 6/6 OLIVE OLIVE FINE 26 YELLOW MO 2.5Y 5/4 BELOW LIGHT OLIVE 30 34 30 32 BEL BROWN DEP FINE 2.5Y 6/4 2.5Y 7/3 COMMON БŪ SAND LIGHT PALE MEDIUM YELLOWISH BROWN DISTINCT (RELIC MOTTLES) BROWN 40 55 MEDIUM SAND 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 60 Slope % hydric Limiting facto ground wate hydric Slope % Limiting facto ground wate non-hydric restrictive layer non-hydric ٥ restrictive layer 0-3 >48" 0-3 >60" bedrock bedrock ADAMS ADAMS SWFD SWED Soil Series / phase name: Α Soil Series / phase name: Α \$ 9 \$ \$ Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 в Soil Classification: 5 в S.E S.E Profile Draina Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-40 Test Pit Exploration Symbol: **TP-41** Test Pit Depth of Organic Ho n Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Mottling Texture Mottling Consistency Color Texture Consistency Color SANDY 10YR 5/6 YELLOWISH SANDY 10YR 4/4 DARK YELLOWISH BROWN BROWN (Inches) (Inches) LOAMY 2.5Y 5/6 LIGHT SAND 9 10 9 40E SURFACE LOAMY FRIABLE 10YR 4/6 NONE BROWN SAND DARK OBSERVED 12 SURF. 12 FRIABI F YELLOWISH 14 NONE 14 OBSERVED BROWN 16 16 18 SOIL SOIL 18 20 20 *MINERAL* **MINERAL** 24 26 BELOW FINE 2.5Y 6/4 BELOW VERY 5Y 7/2 LIGHT SAND LIGHT 30 FIN YELLOWISH SAND GRAY COARSE SAND H BROWN Ē DEP 40 FINE SAND 50 4 COARSE SAND 60 60 LIMIT OF EXCAVATION = 58 LIMIT OF EXCAVATION = 52 Limiting fact Limiting fac ground wate hydric ground wate Slope % hydrid Slode non-hydric restrictive layer non-hydric restrictive laver 0-3 >58" 0-3 >52' bedrock bedrock ADAMS ADAMS SWED Soil Series / phase name: Α Soil Series / phase name SWED Α . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: в в S.E. S.E Profile Drainage Cla Design Cla Profile B Drainage Class Design Class Class Des Drainage Class Design Clas Professional Endorsements (as applicable) Date 9/20/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/20/18 Lic.#: Gary M. Fullerton 355

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-42 Test Pit Exploration Symbol TP-43 Test Pit Drgani Texture Consistency Color Mottling Texture Consistency Color Mottling 10YR 4/4 SANDY LOAM DAR 10YR 3/6 YELLOWISH DARK YELLOWISH BROWN LOAMY BROWN (Inches) Inches SAND FRIABLE SURFACE SURFACE 10 12 14 10 12 14 LOAMY FRIABLE 10YR 4/6 NONE DARK YELLOWISH BROWN OBSERVED 10YR 5/6 SAND NONE YELLOWISH BROWN OBSERVED 16 16 SOIL SOIL 18 18 20 IERAL 20 22 g 2.5Y 5/6 LIGHT FINE 2.5Y 5/6 20 CEMENTED OLIVE 90 SAND LIGHT BROWN 90 27 OLIVE FINE 30 30 32 BEL Ë BROWN 5Y 6/3 PALE COARSE 2.5Y 6/3 OLIVE Ц 36 38 БŪ 40 SAND LIGHT YELLOWISH FRIABLE 40 43 5Y 7/2 BROWN LIGHT MEDIUN 50 SAND GRAY 60 60 LIMIT OF EXCAVATION = 60 LIMIT OF EXCAVATION = 50 hydric Slope % Limiting facto ground wate hydric Slope % ground wate Limiting facto non-hydric restrictive layer non-hydric . restrictive layer 0-3 >60" 0-3 18' bedrock bedrock ADAMS ADAMS SWFD SWED Soil Series / phase name: Α Soil Series / phase name: Α \$ 9 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 в Soil Classification: 5 С S.E S.E Profile Drain Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-44 Test Pit Exploration Symbol: **TP-45** Test Pit 2 " Depth of Organic Ho on Above Mineral Soil Pepth of Organic Horizon Above Mineral Soil Mottling Mottling Texture Consistency Color Texture Consistency Color SANDY SANDY 10YR 4/4 10YR 4/4 DARK DARK YELLOWISH YELLOWISH BROWN BROWN Inches, (Inches FRIABLE LOAMY FRIABLE 10YR 4/6 NONE DARK OBSERVED SAND 9 10 ÅĈĒ, 9 SURFACE BROWN 12 SURF 12 LOAMY SAND 14 10YR 4/6 14 DARK YELLOWISH 16 18 16 18 SOIL SOIL BROWN 20 20 MINERAL **MINERAL** GRAVELLY 24 2.5Y 5/6 LIGHT SAND FINE CEMENTED 5Y 6/3 BELOW SAND PALE BROWN OLIVE 30 BEL 33 Ē SILTY FIRM 5Y 4/2 COMMON Ш CLAY OLIVE MEDIUM 40 LOAM GRAY DISTINCT 5 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 52 Limiting facto Limiting fac ground wate ground wate hydric Slope % hydrio Slope . non-hydric restrictive layer non-hydric restrictive layer 0-3 24" 0-3 32' bedrock bedrock ADAMS SWED CROGHAN MWD Soil Series / phase name: Α Soil Series / phase name: Α 222 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 5 Soil Classification: 7 С C S.E S.E. Profile Profile Drainage Cla Design Cla ile Drainage Class Design Class Drainage Class Design Clas Professional Endorsements (as applicable) Date 9/21/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/21/18 signatur Lic.#: Gary M. Fullerton 355

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
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Project Name: 120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring П Exploration Symbol: **TP-46** Test Pit Exploration Symbol **TP-47** Test Pit neral Se Organi Texture Consistency Color Mottling Texture Consistency Color Mottling FINE FRIABLE 2.5Y 5/4 SANDY 10YR 4/4 SANDY DARK YELLOWISH LIGHT LOAM OLIVE BROWN BROWN (Inches) Inches SILT LOAM FIRM COMMON, FRIABLE 2.5Y 6/3 SURFACE FACE MEDIUM 10 12 14 LIGHT 10 YELLOWISH DISTINCT SURF 12 14 LOAMY 10YR 4/6 SAND DARK 16 16 SOIL 16 18 YELLOWISH 18 BROWN 20 IERAL VERAL 19 FINE 2.5Y 5/4 20 SANDY LIGHT GRAVELLY 2.5Y 5/6 LOAM OLIVE COARSE LIGHT SAND BELOW BROWN MO. OLIVE 28 BROWN 30 BH SILTY 2.5Y 5/2 CLAY GRAYISH Ξ Ē LOAM BROWN DEP 40 COMMON 50 MEDIUM DISTINCT 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 50 Slope % hydric ground wate hydric Slope % Limiting facto ground wate Limiting facto non-hydric restrictive layer non-hydric ۵ restrictive layer 0-3 7' 0-3 42' bedrock bedrock SWANTON ADAMS SWFD SWPD Soil Series / phase name: B/D Soil Series / phase name: Α 55 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 8 E Soil Classification: 6 С S.E S.E Profile Draina Cla Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-48 Test Pit Exploration Symbol: **TP-49** Test Pit 2 " Depth of Organic Ho on Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Mottling Texture Color Mottling Texture Color Consistency Consistency 2.5Y 4/3 OLIVE BROWN FINE SANDY FINE SANDY 2.5Y 4/2 DARK GRAYISH LOAM COMMON. COMMON, (Inches) (Inches) FRIABLE MEDIUM FRIABLE MEDIUM, DISTINCT SILT 2.5Y 6/3 DISTINCT LIGHT LOAM 9 10 HOLE ACE SURFACE BROWN SURF. 14 12 2.5Y 6/2 LIGHT BROWNISH GRAY 15 14 SOIL 16 18 16 18 SOIL 20 20 MINERAL MINERAL MEDIUM 2.5Y 5/6 FINE 7.5YR 4/6 LIGHT SAND STRONG SAND 26 BELOW BROWN BELOW 28 5YR 5/6 30 FINE 2.5Y 6/2 YELLOWISH LIGHT BROWNISH SAND RED Ē Ш GRAY 40 5 50 60 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 50 Limiting fact Slope % Limiting facto ground wate ground wate hydric hydrid . Slode non-hydric restrictive layer non-hydric restrictive laver 3-8 4" 3-8 4" bedro bedrock NAUMBURG NAUMBURG Soil Series / phase name: PD B/D Soil Series / phase name: PD A/D 222 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 7 Soil Classification: E F S.E. S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas ofile Drainage Class Design Class Professional Endorsements (as applicable) Date 9/21/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/21/18 signatur Lic.#: Gary M. Fullerton 355

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
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120 LAND OF NOD ROAD GRONDIN CORPORATION WINDHAM AND CLASSIFICATION SOIL DESCRIPTION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring П Exploration Symbol: TP-50 Test Pit Exploration Symbol TP-51 Test Pit Drgan Texture Consistency Color Mottling Texture Consistency Color Mottling FINE 10YR 4/4 2.5Y 4/4 FRIABLE SANDY DAR OLIVE YELLOWISH LOAM BROWN BROWN Inches 2.5Y 5/3 COMMON Inches LIGHT MEDIUM. SANDY FRIABLE OLIVE DISTINCT 9 SURFACE ACE 10 12 14 SURFACE BROWN 2.5Y 5/6 LIGHT 16 16 SOIL SOIL 18 18 OI IVE 5Y 6/3 PALE BROWN 20 24 20 VERAL WINERAL OLIVE 24 90 FINE CEMENTED 2.5Y 5/6 МО COMMON, 28 SAND LIGHT MEDIUM. 30 32 BEL BEL OLIVE FINE DISTINCT Ξ BROWN SAND Ш 5Y 5/4 DEP -36 OLIVE 5Y 5/4 40 40 OLIVE 50 60 60 LIMIT OF EXCAVATION = 55 LIMIT OF EXCAVATION = 48 Slope % hydric ground wate hydric Slope % Limiting facto ground water Limiting facto . non-hydric restrictive layer non-hydric ٥ restrictive layer 3-8 5" 0-3 24" bedrock bedrock NAUMBURG CROGHAN MWD PD Soil Series / phase name: A/D Soil Series / phase name: Α .s.s s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 E Soil Classification: 5 С S.E S.E Profile Draina Cla Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Exploration Symbol: TP-52 Test Pit Exploration Symbol: TP-53 Test Pit Boring 2 " Depth of Organic Ho on Above Mineral Soil Depth of Organic Horizon Above Mineral Soil Mottling Texture Color Mottling Consistency Texture Consistency Color SILT LOAM 2.5Y 4/1 DARK SANDY LOAM FRIABLE 2.5Y 5/4 LIGHT GRAY OLIVE BROWN (Inches) Inches, SURFACE FRIABLE COMMON, 10 MEDIUM, 12 14 DISTINCT SOIL 16 LOAMY 5Y 5/2 18 20 SAND OLIVE FINE FIRM 2.5Y 6/4 20 *MINERAL* MINERAL LIGHT YELLOWISH BROWN GRAY SANDY 24 26 BELOW 2.5Y 5/4 SILTY 5Y 4/2 FEW LIGHT OLIVE 30 BEL BROWN CLAY OLIVE FINE 32 H LOAM GRAY FAINT Ē SILT LOAM 5Y 4/2 Ш 40 SILTY FIRM CLAY 50 50 60 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 38 Limiting facto Limiting fact ground wate hydric Slope % ground wate hydrio Slope . non-hydric restrictive layer non-hydric restrictive layer 0-3 0" 0-3 15" bedro bedrock MELROSE SWANTON Soil Series / phase name: PD B/D Soil Series / phase name: WD С 222 8.8 Drainage Class Drainage Class Hydrologic Group Hydrologic Group Soil Classification: Soil Classification: 8 8 E c S.E. S.E. Profile Profile Drainage Cla Design Cla nal seal Drainage Class Design Clas Professional Endorsements (as applicable) Date .s.: 9/21/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/21/18 signatur Lic.#: Gary M. Fullerton 355

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120 LAND OF NOD ROAD GRONDIN CORPORATION WINDHAM AND CLASSIFICATION SOIL DESCRIPTION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: B-54 Test Pit Exploration Symbol B-55 Test Pit 3 " Depth Mineral S Drganic Ho e Mineral Texture Consistency Color Mottling Texture Consistency Colo Mottling FINE COMMON FRIABLE 5Y 3/1 COMMON FRIABLE 2.5Y 3/1 SILT SANDY VERY MEDIUM, LOAM VERY MEDIUM DISTINCT LOAM DARK DISTINCT DARK GRAY GRAY (Inches) Inches SURFACE SURFACE 10 12 14 FIRM MANY, COARSE 5Y 4/1 DARK GRAY 16 16 SOIL SOIL PROMINENT 18 18 FINE 5Y 5/3 OLIVE LOAMY 5Y 5/1 GRAY MANY 20 26 20 WINERAL VERAL COARSE, PROMINENT SAND FINE SAND BELOW SILTY FIRM <u></u> BH LOAM Ξ 5Y 5/6 Ш OLIVE DEP 40 40 50 60 60 LIMIT OF EXCAVATION = 36 LIMIT OF EXCAVATION = 42 Slope % ground water hydric hydric ground water Limiting facto Slope % Limiting facto . non-hydric restrictive layer non-hydric ٥ restrictive layer 0-3 0" 0-3 0" bedrock bedrock NAUMBURG SWANTON PD PD Soil Series / phase name: A/D Soil Series / phase name: B/D 55 s.s. Drainage Clas Drainage Cl Hydrologic Group Hydrologic Group Soil Classification: 5 E Soil Classification: 8 Е S.E S.E Profile Drainage Clas Profile Design Class Drain Design Class SOIL DESCRIPTION AND CLASSIFICATION Test Pit Boring Boring Exploration Symbol: Exploration Symbol: Test Pit zon Above Mineral Soil Depth of Organic Hor Depth of Organic Horizon Above Mineral Soil Consistency Mottling Texture Color Mottlin Texture Consistency Colo (Inches) (Inches) 9 10 SURFACE (SURFACE 12 14 16 18 14 16 18 20 SOIL SOIL 20 MINERAL MINERAL BELOW BELOW 30 DEPTH F DEP 40 50 50 60 60 LIMIT OF EXCAVATION = X LIMIT OF EXCAVATION = X Limiting facto ground wate hyd Slope % Limiting facto ground wate Slope % hydj nonvdric restrictive layer non-hydric restrictive layer bedrock bedrock Soil Series / phase name: Soil Series / phase name: \$ \$ Drainage Class Drainage Class Hydrologic Group Hydrologic Group Soil Classification: Soil Classification: Profile Profile ie Drainage Class Design Class Drainage Clas Design Cla Drainage Class Design Clas Professional Endorsements (as applicable) Date .S.S 9/21/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 9/21/18 signatur Lic.#: Gary M. Fullerton 355 e printed/typ

Detailed Description of Subsurface Conditions at Project Sites								
Project Name:	Applicant Name:		Project Location (municipality):					
120 LAND OF NOD ROAD	GRONDIN CORPORAT	ION	WINDHAM					
SOIL DESCRIPTION AND	SOIL DESCRIPTION AND CLASSIFICATION							

<u> </u>	Exploration Symbol:	SOIL DESCRIPTION AN TP-56		Boring	-	Exploration Symbol:	SOIL DESCRIPTION AN TP-57	Test Pit	Boring
	0-1	" Depth of Organic Horizon Above	e Mineral Soil	_		0-1	Depth of Organic Horizon Above	Mineral Soil	
	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
- 2	SILT LOAM	FRIABLE	5Y 4/2		2	LOAM	FRIABLE	10YR 3/4	
	8		OLIVE GRAY		4			DARK YELLOWISH BROWN	
6					5				
(Inches)					(Inches)				
			5Y 5/2	COMMON,	SURFACE	SANDY LOAM		10YR 5/6	
			OLIVE GRAY	MEDIUM, DISTINCT	5 7/OS			YELLOWISH BROWN	
RAL S)			DioTitio	ERAL S	FINE SANDY		5Y 5/4	COMMON,
₩	SILTY CLAY LOAM	FIRM	5Y 5/3 OLIVE		9	LOAM		OLIVE	MEDIUM, DISTINCT
NW A					IIW A				
BELOW					BELOW				
HB					H B	SILT LOAM	FIRM	5Y 5/2	
DEP1					DEPTH	OILT LOAM	1 100	OLIVE GRAY	
1 40					J 40				
					42				
50		<u> </u>	1		50	SILTY CLAY		5Y 4/2	
60		LIMIT OF EXC	CAVATION = 90"		60	LOAM	LIMIT OF EXC	OLIVE GRAY AVATION = 90"	
•	hydric pop-bydric	Slope %	Limiting factor	 ground water rostrictive laver 	•	hydric pop-bydric	Slope %	Limiting factor	 ground water restrictive layer
Ľ.	non-hydric			restrictive layer bedrock	L.	non-hydric	3-8	16"	bedrock
C.S.S.	Soil Series / phase name:	LAMOINE	SWPD Drainage Class	<u>C/D</u> Hydrologic Group	C.S.S.	Soil Series / phase name:	NICHOLVILLE	MWD Drainage Class	<u>B</u> Hydrologic Group
L.S.E.	Soil Classification:	9	D		L.S.E.	Soil Classification:	8	C	
		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class	-0.2.		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-58	-	Boring		Exploration Symbol:	TP-59	Test Pit	Boring
		Depth of Organic Horizon Above		M = 441 in m			Depth of Organic Horizon Above		M - 441
	Texture	Consistency	Color	Mottling	- 0	Texture	Consistency	Color	Mottling
- 2	SANDY LOAM	FRIABLE	10YR 4/4 DARK YELLOWISH		2	SANDY LOAM	FRIABLE	10YR 4/4 DARK YELLOWISH	
4	•		BROWN		4			BROWN	
	8								
(Inches)					(Inches,				
Щ 9	2				<u>د</u>				
RFAC			2.5Y 5/6 LIGHT OLIVE		SURFACE	LOAMY SAND		10YR 4/6 DARK YELLOWISH	
I'IS			BROWN					BROWN	
	8				10 18				
ZAL					IERAL 102				
MINERAL 2	MEDIUM SAND				#INE	MEDIUM SAND	10005	0. FX E/0	
	COARSE		2.5Y 5/4 LT. OLIVE BROWN		MV -	MEDIUM SAND	LOOSE	2.5Y 5/6 LIGHT OLIVE	
H BELOW	SAND	LOOSE	LT. OLIVE BROWN		BELOW MIN			BROWN	
	COARSE LOAMY	FRIABLE	2.5Y 5/3	COMMON,	E				
DEP	SAND		LIGHT OLIVE BROWN	MEDIUM, DISTINCT	DEP				
40					40				
50	2		1		44				COMMON,
6/	,				60	COARSE SAND	FRIABLE	2.5Y 5/3 LT. OLIVE BROWN	MEDIUM, DISTINCT
	hydria		CAVATION = 50" Limiting factor	ground water		budria		AVATION = 60" Limiting factor	
•	hydric non-hydric	Slope % 3-8	Limiting factor	 restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor	 restrictive layer
	Soil Series / phase name:		MWD	bedrock A		Soil Series / phase name:		SWED	bedrock A
C.S.S.			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design Class
,					<u> </u>				
								IN TEOF M	1111
								XA	IN III
Profe	essional Endorsemer	nts (as applicable)			-			TATE OF M	VU. I
C.S.S			Λ		Da	ate:		GARY	
	signature:	Chr	14.2			12/11/18			NIE
		0			Lie	c.#:		FULLERTO NO. 462	
	name printed/typed:	Gary M. Fu	llierton			462	三*	GARY M. FULLERTO NO. 462	
L.S.E.		()	1 /1		Da	ate:	III.	M. CEDNERED	and all
L.J.E.	signature:	Chr	K. 2			12/11/18	111	SO	15,111
	orginataro.	- 0			Lie	c.#:		IL SCIEN	inne.
L	name printed/typed:	Gary M. Fu	<u>illert</u> on		_	355	affix professional seal		

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Site Applicant Name: Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-60 Test Pit Exploration Symbol: TP-61 Test Pit 0-1 " Depti 0-1 Organ Consistency Texture Consistency Color Mottling Texture Colo Mottling SANDY LOAM 10YR 4/4 10YR 3/3 NONE DARK YELLOWISH OBSERVED DARK BROWN BROWN SANDY LOAM (Inches) FACE SURFACE LOAMY SAND 10YR 4/6 SURFACE 10 12 14 DARK YELLOWISH FRIABLE FRIABLE 10YR 4/6 DARK YELLOWISH BROWN 16 16 SOIL SOIL 18 18 BROWN 20 20 22 VERAL Å MEDIUM SAND 2.5Y 5/4 LIGHT OLIVE MEDIUM SAND 2.5Y 5/6 MO BROWN LIGHT OLIVE <u></u>M0 BROWN BEL BH COMMON Ξ COARSE SAND 2.5Y 5/4 MEDIUM DEP DEP. LT. OLIVE BROWN DISTINCT 40 COARSE SAND FINE SAND MANY 2.5Y 5/2 40 GRAYISH BROWN COARSE OLIVE PROMINENT 50 60 60 LIMIT OF EXCAVATION = 54 LIMIT OF EXCAVATION = 60 Slope % ground water hydric ground wate Slope % Limiting facto hydric Limiting fact non-hydric restrictive layer non-hydric ٥ restrictive layer 3-8 >54" 3-8 30' bedrock bedrock ADAMS CROGHAN MWD SWED Soil Series / phase name: Α Soil Series / phase name Α 55 \$ \$ Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 5 в Soil Classification: 5 С SE S.E Profile Drain Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Exploration Symbol: TP-62 Test Pit Exploration Symbol: **TP-63** Test Pit Boring 0-1 " Depth of Organic Ho n Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil Mottling Mottling Texture Consistency Color Texture Consistency Color FINE SANDY LOAM 2.5Y 4/3 OLIVE BROWN FINE SANDY LOAM 2.5Y 4/3 OLIVE BROWN (Inches) Inches, FRIABLE 2.5Y 5/3 LIGHT OLIVE MANY, COARSE BROWN PROMINENT ACE 10 ÅĈE SANDY LOAM 2.5Y 5/3 COMMON, FRIABLE 10 LIGHT OLIVE MEDIUM, SURF. 12 SURF 12 14 BROWN DISTINCT 14 16 18 16 18 SOIL SOIL 20 20 WINERAL JERAL 24 ⋚ FINE SAND 5Y 5/2 26 BELOW OLIVE GRAY BELOW LOAMY SAND CEMENTED MANY 5Y 5/2 30 OLIVE GRAY COARSÉ 32 Ε PROMINENT Ē FINE SAND FRIABLE 5Y 4/4 Ш OLIVE COMMON 5 SILTY CLAY FIRM 5Y 4/2 MEDIUM OLIVE GRAY DISTINCT 60 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 9.5 Limiting facto Limiting fact ground wate ground wate hydric Slope % hvdrig Slope non-hydric restrictive layer non-hydric restrictive layer 0-3 8" 0-3 5" bedrock bedro SWANTON NAUMBURG Soil Series / phase name: SWPD A/D Soil Series / phase name: PD B/D . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: Soil Classification: 7 5 F S.E S.E. Profile Profile Drainage Cla Design Cla Ile Drainage Class Design Class Drainage Class Design Clas Professional Endorsements (as applicable) Date 12/11/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 12/11/18 Lic.#: Gary M. Fullerton 355

WINDHAM

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM AND CLASSIFICATION SOIL DESCRIPTION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-64 Test Pit Exploration Symbol: TP-65 Test Pit 0-1 " Depti 0-1 Drgani Consistency Mottling Texture Consistency Color Texture Color Mottling 10YR 4/4 NONE SANDY LOAM 10YR 4/3 SANDY FRIABLE FRIABLE LOAM DARK YELLOWISH OBSERVED BROWN BROWN Inches Inches **G** FACE 10YR 4/6 SURFACE 10 12 14 10YR 4/6 DARK YELLOWISH SURF/ DARK YELLOWISH BROWN BROWN 16 SOIL SOIL 18 18 2.5Y 5/4 LIGHT OLIVE COARSE SAND LOOSE 20 20 g 2.5Y 5/6 BROWN LIGHT OLIVE MO BROWN <u></u>M0 28 30 B BH FINE SAND 10YR 5/6 YELLOWISH BROWN Ξ Ш 36 БŪ SILTY CLAY FIRM 5Y 4/2 40 40 OLIVE GRAY 50 60 60 LIMIT OF EXCAVATION = 60 LIMIT OF EXCAVATION = 55 Slope % hydric ground wate hydric Slope % Limiting facto ground wate Limiting facto non-hydric restrictive layer non-hydric ٥ restrictive layer 0-3 36" 0-3 >55" bedrock bedrock FI MWOOD ADAMS SWFD MWD Soil Series / phase name: B/D Soil Series / phase name: Α 55 s.s. Drainage Clas Hydrologic Group Drainage Cl Hydrologic Group Soil Classification: 7 С Soil Classification: 6 в SE S.E Profile Draina Cla Design Class Profile Drai Design Class Profile Drainage Clas OIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-66 Test Pit Exploration Symbol: **TP-67** Test Pit Depth of Organic Ho n Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil 0-1 Mottling Texture Consistency Color Mottling Texture Consistency Color FRIABI F 10YR 4/4 DARK YELLOWISH NONE OBSERVED FRIABLE 10YR 4/4 DARK YELLOWISH SANDY LOAM SANDY LOAM BROWN BROWN Inches, Inches, ACE (9 10 Щ <u>-</u> 10YR 4/6 LOAMY SAND 10YR 4/6 DARK YELLOWISH DARK YELLOWISH SURF. 12 SURF 12 14 BROWN 14 BROWN 16 18 16 18 SOIL SOIL 20 20 MINERAL **MINERAL** SILTY CLAY FIRM 2.5Y 5/4 LOAM LIGHT OLIVE BROWN 26 BELOW SILTY CLAY VERY FIRM 5Y 5/2 BEL OLIVE GRAY 2.5Y 5/4 LIGHT OLIVE BROWN FINE SAND Ē Ш COARSE SAND 5Y 5/2 OLIVE GRAY COMMON MEDIUM, 5 DISTINCT 60 60 LIMIT OF EXCAVATION = 50 LEDGE @ 90 Limiting fac Limiting fact Slope ground wate ground wate hydric Slope % hvdrig non-hydric restrictive layer non-hydric restrictive layer 0-3 18" 0-3 50" bedro bedrock ADAMS ELMWOOD MWD Soil Series / phase name: B/D Soil Series / phase name SWED Α . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: Soil Classification: 8 С в S.E S.E. Profile Drainage Cla Design Cla Profile Le Drainage Class Design Class Drainage Class Design Clas Professional Endorsements (as applicable) Date 12/11/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 12/11/18 signatur Lic.#: Gary M. Fullerton 355

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

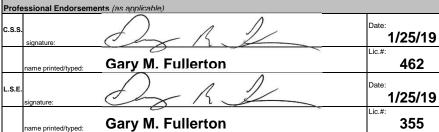
120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM AND CLASSIFICATION SOIL DESCRIPTION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: **TP-68** Test Pit Exploration Symbol: **TP-69** Test Pit 0-1 " Depti 0-1 Drgan Mottling Consistency Texture Consistency Color Texture Color Mottling SANDY LOAM 2.5Y 5/6 SANDY LOAM 10YR 4/4 FRIABLE NONE FRIABLE LIGHT OLIVE OBSERVED DARK YELLOWISH BROWN BROWN Inches Inches UR B FACE SURFACE 10 12 14 SURF 16 SOIL SOIL 18 18 LOAMY SAND 2.5Y 5/6 LIGHT OLIVE 20 20 g BROWN MO <u></u>M0 28 30 B BH FINE SAND 2.5Y 6/4 LIGHT YELLOWISH BROWN Ξ FINE SAND 2.5Y 5/3 COMMON Ш LIGHT OLIVE MEDIUN DEP BROWN DISTINCT - 4 5 SILTY CLAY LOAM FIRM 5Y 4/2 OLIVE GRAY 60 60 LIMIT OF EXCAVATION = 60' LIMIT OF EXCAVATION = 52 Slope % hydric Limiting facto ground wate hydric ground wate Limiting facto Slope % non-hydric restrictive layer non-hydric п restrictive layer 0-3 >52" 0-3 30' bedrock bedrock ADAMS FI MWOOD MWD SWED Soil Series / phase name: Α Soil Series / phase name: B/D 55 s.s. Drainage Clas Hydrologic Group Drainage C Hydrologic Group Soil Classification: 5 в Soil Classification: 7 С SE S.E Profile Drain Design Class Profile Drain Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: **TP-70** Test Pit Exploration Symbol: TP-71 Test Pit " Depth of Organic Ho n Above Mineral Soil 0-1 * Depth of Organic Horizon Above Mineral Soil 0-1 Mottling Mottling Texture Consistency Color Texture Consistency Color FRIABLE 10YR 4/6 DARK YELLOWISH 10YR 4/4 DARK YELLOWISH NONE OBSERVED SANDY LOAM SANDY LOAM FRIABLE BROWN BROWN (Inches) Inches, ACE 10 SURFACE 10 SURF. 12 12 14 13 16 16 18 SOIL SOIL LOAMY SAND LOAMY SAND 10YR 4/6 2.5Y 5/6 18 LIGHT OLIVE BROWN DARK YELLOWISH 20 20 MINERAL JERAL 2 BROWN ş FINE SAND 2.5Y 5/4 26 LIGHT OLIVE BROWN BELOW COMMON, FINE SAND 2.5Y 5/3 BEL LIGHT OLIVE MEDIUM BROWN DISTINCT 36 Ē DEP 40 MEDIUM SAND 2.5Y 5/3 LIGHT OLIVE BROWN 5 50 60 60 LIMIT OF EXCAVATION = 52 LIMIT OF EXCAVATION = 54 Limiting facto Limiting fac ground wate ground wate hydric Slope % hydrio Slope non-hydric restrictive layer non-hydric restrictive layer 0-3 26" 3-8 >54" bedrock bedrock ADAMS CROGHAN MWD Soil Series / phase name: Α Soil Series / phase name SWED Α . . . 22 Drainage Class Hydrologic Group Drainage Class Hydrologic Group 5 Soil Classification: 5 Soil Classification: С В S.E S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas rofile Drainage Class Design Cl Professional Endorsements (as applicable) Date 12/11/18 Lic.#: Gary M. Fullerton 462 me printed/typ Date 0 12/11/18 Lic.#: Gary M. Fullerton 355

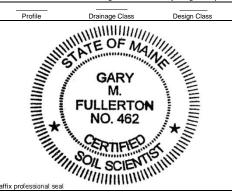
16236

Project Name:		Applicant Name:	Detailed Description of Subs	urface Co	onditions at Project Sites	Project Location (n	unicipality):	
	D OF NOD ROAD	Applicant Name.	GRONDIN CORPOR	ATION		WINDHAM		
	SOIL DESCRIPTION AN	D CLASSIFICATION				SOIL DESCRIPTION A	ND CLASSIFICATION	
Exploration Symbol	ol: TP-72	Test Pit	Boring		Exploration Symbol:	TP-73	Test Pit	Boring
Taxtura	0-1 " Depth of Organic Horizon Above		Mottling			Depth of Organic Horizon Abo Consistency		Mottling
	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2		10YR 3/3 DARK						
4		BROWN			LOAMY		2.5Y 5/6	
5					SAND WITH		LIGHT OLIVE	
GRAVELL	Y FRIABLE			(set	STONES		BROWN	
SAND				(Inches				
9 10		10YR 5/6		FACE		FRIABLE		
12 12			None	12				
7S 14 J 16		YELLOWISH BROWN	NONE OBSERVED	≓ ≐ r Sr				
1/OS 7				solt ≡	LOAMY		2.5Y 5/3	
RA				≊RAL	FINE			
				MINE	SAND		LIGHT OLIVE BROWN	
V MO:							BROWN	
BELO				BELOW				
E COARSE	LOOSE	2.5Y 5/4			1			
SAND		LIGHT OLIVE BROWN		<i>DЕРТН</i> _≜		FIRM	EV 5/2	
60		BROWN		-	SILTY CLAY	FIRW	5Y 5/2 GRAYISH BROWN	
				65			0.57.5/0	
GRAVELLY CO SAND	ANGE	10YR 5/4 YELLOWISH			LOAMY FINE SAND WITH SILT LOAM	FRIABLE	2.5Y 5/3 LIGHT OLIVE	FINE, FEW, FAINT
		BROWN CAVATION = 11'			VARVES		BROWN CAVATION = 11'	
n hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground water
 non-hydric 	0-3	>11'	 restrictive layer 	•	non-hydric	0-3	48"	 restrictive layer bedrock
Soil Series / phase	e name: ADAMS	SWED	bedrock A		Soil Series / phase name:	ADAMS	SWED	
c.s.s.		Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
L.S.E. Soil Classification:	: <u>6</u> Profile	B Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	B Drainage Class	Design Class
	SOIL DESCRIPTION AN		Boolgin oldoo			SOIL DESCRIPTION A		Boolgin oldoo
Exploration Symbol		Test Pit	Boring		Exploration Symbol:	TP-75	Test Pit	Boring
• Texture	1-2 " Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		Texture	Depth of Organic Horizon Abo Consistency	ve Mineral Soil Color	Mottling
1	Consistency		motaning			Consistency		mottning
2		10YR 4/4			SANDY LOAM		10YR 4/4	
4		DARK			Lohan		DARK	
	FRIABLE	YELLOWISH BROWN					YELLOWISH BROWN	
	TRABLE	BROWN		(Inches)			Вкони	
4) <u>*</u>						FRIABLE		
ACE 10				ACE				
42 12 14				SURF ⊧ ≞				
					MEDIUM		2.5Y 5/6	
1/OS 1 20 FINE		2.5Y 5/6		≊ ≊ ≈ 7 SOIT	SAND		LIGHT OLIVE	
SAND				ERAL			BROWN	
		LIGHT OLIVE BROWN		NIN				
W MOTE				¤ ≈ BELOW M				
30 00				BEL				
HL 34				DEPTH				
DE		2.5Y 5/3	COMMON,	DEF	FINE SAND		2.5Y 5/3	COMMON, MEDIUM,
40			MEDIUM,	40			LIGHT OLIVE	DISTINCT
50		LIGHT OLIVE BROWN	DISTINCT	50			BROWN	
60	LIMIT OF EXC	CAVATION = 60"		6(LIMIT OF EX	CAVATION = 48"	l
n hydric	Slope %	Limiting factor	 ground water 		hydric	Slope %	Limiting factor	 ground water
non-hydric	3-8	34"	 restrictive layer bedrock 	•	non-hydric	3-8	32"	 restrictive layer bedrock
C.S.S. Soil Series / phase	e name: CROGHAN	MWD	Α	C.S.S.	Soil Series / phase name:	CROGHAN	MWD	Α
	5	Drainage Class	Hydrologic Group		0.11.01	5	Drainage Class	Hydrologic Group
L.S.E. Soil Classification:	Profile	Drainage Class	Design Class	L.S.E.	Soil Classification:	Profile	Drainage Class	Design Class
							TATE OF MA	1111
							XA	IN IL
Professional Endors	sements (as applicable)						O server ??	N. W. III
	\cap	1	Λ	D	ate:		GARY	1 1
C.S.S.	1 har	. 15 1			1/25/19	= 1	M.	
signature:	28			Li	c.#:		FULLERTO	
name printed/type	d Gary M. Fu	llerton			462	=_1	NO. 462	1. 5
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L.S.E.	(\mathcal{A})	1 1	//	D		11.	ERTIFIEV	
signature:	Cor	12			1/25/19	11	UNON SCIENT	Suth
				Li	c.#:		1111111	III.
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FORM	1F			DIL PROFILE/CLASS			I		16236
Project N	Name: 120 LAND OF N	IOD ROAD	Applicant Name:	GRONDIN CORPOR			Project Location (mu	nicipality): WINDHAM	
		SOIL DESCRIPTION AN					SOIL DESCRIPTION AN		
Expl	oloration Symbol:	<u>TP-76</u>	Test Pit	Boring		Exploration Symbol:			Boring
	1-2 Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling	0	1-2 Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1					1	SANDY		10YR 4/4	
3			40/10 4/4		3	LOAM			
5	SANDY		10YR 4/4		4			DARK YELLOWISH BROWN	
(incres)	LOAM		DARK YELLOWISH		(lnches)				
е ц			BROWN						
		FRIABLE			SURFACE	FINE SAND	FRIABLE	10YR 5/6	
14					INS 7			YELLOWISH BROWN	
16 18 20	LOAMY		2.5Y 5/6		10S			-	
	FINE		LIGHT OLIVE BROWN		MINERAL				
24					NIW A				
	MEDIUM SAND		2.5Y 5/4		28 30 MOT38				
E			LIGHT OLIVE BROWN		Ξ.	MEDIUM SAND		2.5Y 5/4	COMMON, MEDIUM,
а 36					DEPT			LIGHT OLIVE BROWN	DISTINCT
40	COARSE SAND				40				
50	SAND			COMMON,	50				
60				MEDIUM, DISTINCT	60				
0	hydric	LIMIT OF EXC Slope %	AVATION = 48" Limiting factor	 ground water 		hydric	LIMIT OF EXC. Slope %		 ground water
• •	non-hydric	0-3	40"	 restrictive layer bedrock 	•	non-hydric	0-3		 restrictive layer bedrock
.s.s. Soil	Series / phase name:	ADAMS	SWED Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	CROGHAN	MWD Drainage Class	A Hydrologic Group
.s.e. Soil	Classification:	5 Profile	Drainage Class		L.S.E.	Soil Classification:	5 Profile	С	Design Class
		SOIL DESCRIPTION ANI	D CLASSIFICATION	Design Class			SOIL DESCRIPTION AN		/
Expl	oloration Symbol:	* Depth of Organic Horizon Above	Test Pit	Boring		Exploration Symbol:	* Depth of Organic Horizon Above	-	Boring
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2					2				
3					3				
5									/
			/		(Inches,			/	
ц <u>9</u> 10					FACE (II				
DC 14					14 16 DIT ST				
					OS 74			/	
2		/	1		NER.		/	/	
					BELOW MINERAL SOIL SUF				
30					BELC				
5					<i>DEPTH</i>				
<u> </u>					DE				
_		/			40		/		
40	/				50				
40						/			
40 50 60					60				
40 50 60	hydric non hydric	Slope %	Limiting factor	ground water restrictive layer hedrock	60 0	hydric non-hydric	Slope %		ground water restrictive layer bedrock
	hydric non-hydric Series / phase name:	Slope %	Limiting factor		0	hydric non hydric Sof Series / phase name:	Slope %		
40 50 60 0 0 0 0 0 0 0 0	non-hydric		Drainage Class	restrictive layer bedrock		non-hydric		Drainage Class	restrictive layer bedrock Hydrologic Group
40 50 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	non-hydric Series / phase name:	Slope % 		restrictive layer bedrock		non-hydric Soil Series / phase name:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
40 50 60 .s.s. Soft	non-hydric Series / phase name:		Drainage Class	restrictive layer bedrock		non-hydric Soil Series / phase name:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class





	-			GRONDIN CORPOR					
Explo [.]	s pration Symbol:	SOIL DESCRIPTION AN TP-78	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AI	Test Pit	Boring
	0-1 "	Depth of Organic Horizon Abov	ve Mineral Soil			0-1	" Depth of Organic Horizon Abov	e Mineral Soil	_
	Texture	Consistency	Color	Mottling	- 0	Texture	Consistency	Color	Mottlin
			10YR 3/3		2			10YR 4/3	
	FINE		DARK		4		5514.51.5	BROWN	
5	SANDY LOAM	FRIABLE	BROWN		(m) = 6	SANDY LOAM	FRIABLE		
					(Inches,				
					1) = 1) =				
2					BEACE				
			2.5Y 5/3		14 14			10VD 4/6	
r			LIGHT OLIVE		7/OS	LOAMY SAND		10YR 4/6 DARK YELLOWISH	
	LOAMY VERY		BROWN	COMMON,	17 20			BROWN	
	FINE SAND			MEDIUM, DISTINCT	23			2.5Y 4/4	
				DISTINCT	V MO	MEDIUM SAND		OLIVE	DISTIN
					BEL(BROWN	
					HLa				
2					DE				
SIL	TY CLAY LOAM	FIRM	5Y 4/3 OLIVE		40				
					50				
<u> </u>				+	60	L		+	
2	hydric	LIMIT OF EX Slope %	CAVATION = 56" Limiting factor	 ground water 	x	hydric	LIMIT OF EXC Slope %	CAVATION = 52" Limiting factor	■ ground
nc	on-hydric	3-8	17"	restrictive layer	•	non-hydric	3-8	17"	n restrictive
Soil S	Series / phase name:	ELMWOOD	MWD	bedrock B/D		Soil Series / phase name:		MWD	bedroo
			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic
Soil C	Classification:	Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design C
Evola		OIL DESCRIPTION AN TP-80	Test Pit	Boring			SOIL DESCRIPTION AI TP-81	Test Pit	Boring
Exbioi	oration Symbol: 0-1 "	I P-80 Depth of Organic Horizon Abov				Exploration Symbol: 0-1	P-81	-	
	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottlin
			10YR 3/3		2				
			DARK		4	SANDY		10YR 3/4	
S	SANDY LOAM		BROWN		5	LOAM		DARK YELLOWISH	
-					(inches)		FRIABLE	BROWN	NON
9									
		FRIABLE			() =				OBSER
		FRIABLE			= 10			10YR 4/6	OBSER
		FRIABLE			SURFACE	LOAMY SAND		DARK YELLOWISH	OBSER
	LOAMY SAND	FRIABLE	10YR 5/6 YELLOWISH		SURFACE			DARK	OBSER
3 L 7 3	LOAMY SAND	FRIABLE	YELLOWISH BROWN		24L SOIL SURFACE			DARK YELLOWISH	
s L 7 3	LOAMY SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE		24L SOIL SURFACE	SAND		DARK YELLOWISH BROWN 2.5Y 6/4	
7 3 0	MEDIUM SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4		MINERAL SOIL SURFACE	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH	
M		FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE	COMMON, MEDIUM.	BELOW MINERAL SOIL SURFACE [6] [7] [8] [3] [7] [0] [6]	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT	
M	MEDIUM SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE	COMMON, MEDIUM, DISTINCT	BELOW MINERAL SOIL SURFACE [6] [7] [8] [3] [7] [0] [6]	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH	
M	MEDIUM SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3	MEDIUM,	DEPTH BELOW MINERAL SOIL SURFACE % % % % % % %	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH	
M	MEDIUM SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE	MEDIUM,	BELOW MINERAL SOIL SURFACE [6] [7] [8] [3] [7] [0] [6]	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH	
6 L 6 7 7 7 7 7 7 7 7 7 7	MEDIUM SAND	FRIABLE	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE	MEDIUM, DISTINCT MANY,	DEPTH BELOW MINERAL SOIL SURFACE % % % % % % %	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH	
	MEDIUM SAND		YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN	MEDIUM, DISTINCT	DEPTH BELOW MINERAL SOIL SURFACE	SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN	
	FINE SAND	LIMIT OF EX	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54"	MEDIUM, DISTINCT MANY, COARSE, PROMINENT	DEPTH BELOW MINERAL SOIL SURFACE 8 8	SAND MEDIUM SAND		DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN	
	MEDIUM SAND		YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN	MEDIUM, DISTINCT MANY, COARSE, PROMINENT	DEPTH BELOW MINERAL SOIL SURFACE	SAND	LIMIT OF EXC Slope % 0-3	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN	a ground c restrictive
	FINE SAND FINE SAND	LIMIT OF EX Slope %	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water	■ □ DEPTH BELOW MINERAL SOIL SURFACE	SAND MEDIUM SAND hydric	Slope % 	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor	a ground o restrictive b bedroc
	MEDIUM SAND FINE SAND hydric on-hydric Series / phase name:	LIMIT OF EX Slope % CROGHAN	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 24" MWD Drainage Class	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water ground water ground water bedrock	BEPTH BELOW MINERAL SOIL SURFACE 8 8 1 8 1 <	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name:	Slope % ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor >24" SWED Drainage Class	a ground a restrictive a bedroc
	FINE SAND FINE SAND	LIMIT OF EX Slope % 	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 24" MWD_	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water restrictive layer bedrock A	Bet H Bet H Bet OW MINERAL SOIL SURFACE 8 8 8 10	SAND MEDIUM SAND hydric non-hydric	Slope % 	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN AVATION = 24" Limiting factor >24" SWED	a ground o restrictive b bedroc
	MEDIUM SAND FINE SAND	LIMIT OF EX Slope % CROGHAN 5	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group	BEPTH BELOW MINERAL SOIL SURFACE 8 8 1 8 1 <	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name:	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" CAVATION = 24" SWED Drainage Class B Drainage Class D	a ground o restrictive betwee Hydrologic Design C
	MEDIUM SAND FINE SAND	LIMIT OF EX Slope % CROGHAN 5	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group	BEPTH BELOW MINERAL SOIL SURFACE 8 8 1 8 1 <	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
M M Soil S	MEDIUM SAND FINE SAND FINE SAND hydric on-hydric Series / phase name: Classification:	LIMIT OF EX Slope % CROGHAN Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group	2011 - 2011 SURFACE 2011 SURFACE 2011 SURFACE 2011 SURFACE	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
M M Soil S	MEDIUM SAND FINE SAND	LIMIT OF EX Slope % CROGHAN Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 18 18 18 12	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
L L	MEDIUM SAND FINE SAND FINE SAND hydric on-hydric Series / phase name: Classification:	LIMIT OF EX Slope % CROGHAN Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 18 18 18 12	SAND MEDIUM SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
L L	MEDIUM SAND FINE SAND Nydric Nydric Series / phase name: Classification: nal Endorsements	LIMIT OF EX Slope % CROGHAN Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor 	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group		SAND MEDIUM SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
Soil Signal	MEDIUM SAND	LIMIT OF EX Slope % <u>0-3</u> CROGHAN <u>5</u> Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor CAVATION = 54" Limiting factor Drainage Class C Drainage Class	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group		SAND MEDIUM SAND Nydric non-hydric Soil Series / phase name: Soil Classification: tite: 1/31/19 :#:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
Soil Signal	MEDIUM SAND FINE SAND FINE SAND hydric on-hydric Series / phase name: Classification: nal Endorsements ature:	LIMIT OF EX Slope % CROGHAN Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor CAVATION = 54" Limiting factor Drainage Class C Drainage Class	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group		SAND MEDIUM SAND Nydric non-hydric Soil Series / phase name: Soil Classification: tite: 1/31/19 :#: 462	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBDrainage ClassB	a ground a restrictive a bedror A Hydrologic
Soil Signal	MEDIUM SAND	LIMIT OF EX Slope % <u>0-3</u> CROGHAN <u>5</u> Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor CAVATION = 54" Limiting factor Drainage Class C Drainage Class	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group		SAND MEDIUM SAND Nydric non-hydric Soil Series / phase name: Soil Classification: te: 1/31/19 :#: 462 tte:	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 24" Limiting factor24" SWED Drainage ClassBB Drainage ClassB	a ground a restrictive a bedror A Hydrologic
Soil Signal	MEDIUM SAND FINE SAND FINE SAND hydric on-hydric Series / phase name: Classification: nal Endorsements ature: e printed/typed:	LIMIT OF EX Slope % <u>0-3</u> CROGHAN <u>5</u> Profile	YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/3 LIGHT OLIVE BROWN CAVATION = 54" Limiting factor CAVATION = 54" Limiting factor Drainage Class C Drainage Class	MEDIUM, DISTINCT MANY, COARSE, PROMINENT ground water ground water restrictive layer bedrock <u>A</u> Hydrologic Group		SAND MEDIUM SAND Nydric non-hydric Soil Series / phase name: Soil Classification: tite: 1/31/19 :#: 462	Slope % 0-3 ADAMS	DARK YELLOWISH BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CALLORIT YELLOWISH BROWN CALLORIT YELLOWISH BROWN CALLORIT YELLOWISH BROWN CALLORIT SWED Drainage Class CALLORIT CAL	a ground a restrictive a bedror A Hydrologic

roject	Name: 120 LAND OF N	NOD ROAD	Applicant Name:	GRONDIN CORPOR			Project Location (m	unicipality): WINDHAM	
E	xploration Symbol:	SOIL DESCRIPTION AN	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-83	Test Pit	Boring
0	Texture	Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1	SANDY		10YR 4/3		1			10YR 3/3	
3	LOAM		BROWN		3			DARK BROWN	
5					4				
6					(Se) 7	SANDY LOAM			
8		FRIABLE			(Inches				
10		TRABLE			9 10 12 14 14 14				
12 14				-	HAN 12		FRIABLE	10YR 4/6	
16 18	FINE SAND		10YR 5/6 YELLOWISH		3 TIOS			DARK YELLOWISH BROWN	
20	0,402		BROWN	-				2.10111	
			2.5Y 5/6		MINERAL				
29			LIGHT			MEDIUM SAND		2.5Y 5/6 LIGHT OLIVE	
30			BROWN	COMMON	BELOW			BROWN	COMMON
				COMMON, MEDIUM,		COARSE SAND		2.5Y 5/4	COMMON, MEDIUM,
40				DISTINCT	DEPTH %			LT. OLIVE BROWN	DISTINCT
					40				
54					50				
60					60				
00			CAVATION = 30"					AVATION = 31"	
	hydric non-hydric	Slope % 0-3	Limiting factor 29"	 ground water restrictive layer 	•	hydric non-hydric	Slope % 3-8	Limiting factor 30"	 ground water restrictive layer
s	oil Series / phase name:		MWD	bedrock A		Soil Series / phase name:		MWD	bedrock A
· /	•		Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
S	oil Classification:	5 Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design Class
		SOIL DESCRIPTION AN	ID CLASSIFICATION	-			SOIL DESCRIPTION AN	ID CLASSIFICATION	
E	xploration Symbol:	TP-84	Test Pit	Boring	4	Exploration Symbol:	* Depth of Organic Horizon Above	Test Pit	Boring
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
1					1				
3			10YR 3/6 DARK		3				
5			YELLOWISH		-				-/
_					-				/
6	LOAMY SAND	FRIABLE	BROWN		ves)				
6 7 8		FRIABLE			(inches)				
6 7 8 9 10		FRIABLE							
6 7 8 9 10 12 14		FRIABLE	BROWN	NONE					
6 7 8 9 10 12 14 16 18		FRIABLE	BROWN 10YR 5/6 YELLOWISH	NONE OBSERVED	SURFACE				
12 14 16		FRIABLE	BROWN 10YR 5/6 YELLOWISH BROWN	NONE OBSERVED	8 10 12 12 14 14 18 18 18				
12 14 16 18			BROWN 10YR 5/6 YELLOWISH	NONE OBSERVED	8 10 12 12 14 14 18 18 18				
12 14 16 18 20 26		CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	MINERAL SOIL SURFACE				
12 14 16 18 20 20 26 27			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT	NONE OBSERVED	MINERAL SOIL SURFACE				
12 14 16 18 20 20 26 27			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	BELOW MINERAL SOIL SURFACE				
12 14 16 18 20 26 27 30 30			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	MINERAL SOIL SURFACE				
12 14 16 18 20 20 26 27			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	BELOW MINERAL SOIL SURFACE				
12 14 16 18 20 26 27 30 30 36 38 40			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	DEPTH BELOW MINERAL SOIL SURFACE 8 1 8 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5				
12 14 16 18 20 26 27 30 36 38 40 50			BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	NONE OBSERVED	DEPTH BELOW MINERAL SOIL SURFACE				
12 14 16 18 20 26 27 30 36 38 40	SAND	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24"	OBSERVED	DEPTH BELOW MINERAL SOIL SURFACE				
12 14 16 18 20 26 27 30 30 36 38 40 50		CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor	OBSERVED	DEPTH BELOW MINERAL SOIL SURFACE	hydyfe	Slope %	Limiting factor	
12 14 16 18 20 27 30 36 38 40 50 60 60	SAND	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor 18"	OBSERVED	□ □ □ □ □ □	_/		Limiting factor	
12 14 16 18 20 27 30 38 38 40 50 50 50 50 50 50 50 50 50 50	SAND hydric non-hydric oil Series / phase name:	CEMENTED LIMIT OF EXC Slope %	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor 18" SWED Drainage Class	OBSERVED	a a	Soil Series / phase name:		Limiting factor	restrictive layer
12 14 16 18 20 26 27 30 36 38 40 50 60 50 51 51 51 51 51 51 51 51 51 51	SAND	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED	a a	_/			restrictive layer bedrock
12 14 16 18 20 28 27 30 38 40 50 60 	SAND hydric non-hydric oil Series / phase name:	CEMENTED LIMIT OF EXC Slope %	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor 18" SWED Drainage Class	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group	a a	Soil Series / phase name:	Profile	Drainage Class	a restrictive layer a bedrock Hydrologic Group Design Class
12 14 16 18 20 28 27 30 38 40 50 60 	SAND hydric non-hydric oil Series / phase name:	CEMENTED LIMIT OF EXC Slope %	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group	a a	Soil Series / phase name:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
12 14 16 18 20 26 27 30 38 40 50 50 50 50 50 50 50 50 50 5	SAND hydric non-hydric oil Series / phase name: oil Classification:	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group	a a	Soil Series / phase name:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
12 14 16 18 20 27 30 38 40 50 50 E. S	SAND hydric non-hydric oil Series / phase name:	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Soil Series / phase name Soil Classification:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
12 14 16 18 20 28 27 30 38 40 1 50 50 50 50 50 50 50 50 50 50	SAND hydric non-hydric oil Series / phase name: oil Classification:	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group	a a	Soil Series / phase name Soil Classification:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
12 14 16 18 20 26 27 30 30 30 30 50 60 50 50 50 50 50 50 50 50 50 5	SAND hydric non-hydric oil Series / phase name: oil Classification:	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor18"	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Soil Series / phase name Soil Classification: te: 1/31/19	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class
12 14 16 20 22 22 30 	SAND SAND hydric non-hydric oil Series / phase name: oil Classification: sional Endorsemen ignature:	CEMENTED	BROWN	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Soil Series / phase name: Soil Classification: te: 1/31/19 .#:	Profile	Drainage Class	a restrictive layer a bedrock Hydrologic Group Design Class
12 14 16 20 22 22 30 	SAND SAND bydric	CEMENTED	BROWN	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Soil Series / phase name Soil Classification: te: 1/31/19	Profile	Drainage Class	a restrictive layer a bedrock Hydrologic Group Design Class
12 14 16 18 27 30 28 27 30 36 38 50 60 60 60 60 60 60 60 60 60 6	SAND SAND Sanna hydric non-hydric oil Series / phase name: oil Classification: sional Endorsemen ignature: ame printed/typed:	CEMENTED	BROWN	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Soil Series / phase name Soil Classification: te: 1/31/19 .#: 462 te:	Profile	Drainage Class	a restrictive layer a bedrock Hydrologic Group Design Class
12 14 16 17 20 22 22 22 23 24 40 60 60 60 60 60 60 60 60 60 6	SAND SAND hydric non-hydric oil Series / phase name: oil Classification: sional Endorsemen ignature:	CEMENTED	BROWN 10YR 5/6 YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN CAVATION = 24" Limiting factor	OBSERVED OBSERVED ground water restrictive layer bedrock A Hydrologic Group		Sof Series / phase name: Soil Classification: te: 1/31/19 #: 462 te: 1/31/19	Profile	Drainage Class Drainage Class TATE OF MA ATE OF MA GARY M.	a restrictive layer a bedrock Hydrologic Group Design Class

	/ F		SOI	L PROFILE/CLASS	IFICAT	TION INFORMATION	1		
niect l	Name:		Deta Applicant Name:	ailed Description of Sub	surface C	conditions at Project Sites	Project Location (m	unicipality):	
	120 LAND OF NO	D ROAD		GRONDIN CORPOR	ATION			WINDHAM	
1		OIL DESCRIPTION A	-	_			SOIL DESCRIPTION A		_
Exp	ploration Symbol: 1-2 "	TP-85 Depth of Organic Horizon Abor	Test Pit	Boring		Exploration Symbol: 1-2	 Depth of Organic Horizon Abov		Boring
0	Texture	Consistency	Color	Mottling	_	• Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 3/3			2 SANDY LOAM	FRIABLE	10YR 3/3	
3			DARK BROWN			4		DARK BROWN	
5						6			
7					(Inches	7			
9					ACE (I	9			
12			10//5 1/0		<u></u>	12		10)/D 1/0	
14 16	LOAMY SAND		10YR 4/6 DARK YELLOWISH			16		10YR 4/6 DARK YELLOWISH	
18 20			BROWN		TI SOIT			BROWN	
24			10YR 5/6 YELLOWISH BROWN		MINERAL				
	MEDIUM SAND		2.5Y 5/4	COMMON,	IW MO	GRAVELLY SAND		2.5Y 5/4	
30			LIGHT OLIVE BROWN	MEDIUM, DISTINCT	BELO	80		LIGHT OLIVE BROWN	
			БКОИМ	Distinct					0011101
					DEI	FINE SAND		2.5Y 6/3 LIGHT YELLOWISH	COMMON MEDIUM,
40					4	10		BROWN	DISTINCT
50					_	50			
60			CAVATION = 48"		_	80		CAVATION = 45"	
	hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric	Slope %		 ground was restrictive la
	non-hydric	0-3		bedrock		non-hydric	3-8	32"	bedrock
Sol	il Series / phase name:	CROGHAN	MWD Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	CROGHAN	MWD Drainage Class	A Hydrologic Gr
Soi	il Classification:	5 Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	Profile	Drainage Class	Design Clas
<u> </u>		OIL DESCRIPTION A	ND CLASSIFICATION	—		1	SOIL DESCRIPTION A	ND CLASSIFICATION	-
Exp	ploration Symbol: 1-2 "	TP-87 Depth of Organic Horizon Abor	Test Pit	Boring		Exploration Symbol: 1-2	* Depth of Organic Horizon Abov	Test Pit	Boring
0	Texture	Consistency	Color	Mottling	_	• Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 3/3 DARK BROWN				FRIABLE	10YR 3/3 DARK BROWN	
4			DAKK BROWN			4		DARKBROWN	
5 6					(s)	6			
7					(Inches	8			
9 10					ACE (9			
12 14	LOAMY SAND		10YR 4/6		SURF,			10YR 4/6	
16			DARK YELLOWISH BROWN		S NOS			DARK YELLOWISH BROWN	
18 20			BROWN			8		BROWN	
(GRAVELLY SAND		10YR 5/6		MINERAL	FINE SAND		2.5Y 6/4	
_			YELLOWISH BROWN		W MC			LIGHT YELLOWISH BROWN	
30 32					BELOW	80			
	FINE SAND		2.5Y 6/4	COMMON,	DEPTH				
40			LIGHT YELLOWISH BROWN	MEDIUM, DISTINCT		0			
						12			COMMON
50								1	MEDIUM,
60	L		CAVATION = 48"					CAVATION = 48"	DISTINCT
	hydric non-hydric	Slope % 3-8		 ground water restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor 42"	 ground war restrictive la
Soi	il Series / phase name:	CROGHAN	 MWD	bedrock A		Soil Series / phase name:	ADAMS		bedrock A
· /			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Gro
	il Classification:	5 Profile	 Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	 Drainage Class	Design Clas
. 50								TATE OF MA	NAMIL
fessi	ional Endorsemen <u>ts</u>	a (as applicable)	1		0	Date:		GARY	
ofessi .s.	inature:	Gary M. Fu	- <u>A</u> Jllerton			2/1/19 ic.#: 462		GARY M. FULLERTON NO. 462	
ofessi .S. sig nan	nature: (Do	- <u>R</u> Jllerton - <u>R</u>		L	2/1/19 ic.#:		IVI.	1 E

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites
Applicant Name:
Project Location (municipality):

120 LAND OF NOD ROAD **GRONDIN CORPORATION** WINDHAM SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring П Boring Exploration Symbol: TP-89 Test Pit Exploration Symbol **TP-90** Test Pit Drgan Consistency Mottling Texture Consistency Color Texture Color Mottling SANDY LOAM 10YR 3/3 SANDY LOAM 10YR 3/3 FRIABLE NONE FRIABLE NONE DARK BROWN OBSERVED DARK BROWN OBSERVED Inches LOAMY SAND 10YR 4/6 DARK YELLOWISH Ю FACE 10YR 4/6 DARK YELLOWISH SURFAC BROWN 10 12 14 SURF BROWN 16 SOIL SOIL 18 18 COARSE SAND 10YR 5/6 YELLOWISH BROWN 20 20 ERAL g LOAMY SAND BELOW 90 30 BH Ξ MEDIUM SAND 2.5Y 6/4 Ш LIGHT YELLOWISH Ы BROWN 40 50 GRAVELLY SAND 60 60 LIMIT OF EXCAVATION = 48 LIMIT OF EXCAVATION = 50 Slope % Limiting facto ground wate Slope % ground wate hydric hydric Limiting facto non-hydric restrictive layer non-hydric ٥ restrictive layer 0-3 >50" 0-3 **\48**' bedrock bedrock ADAMS ADAMS SWFD SWED Soil Series / phase name: Α Soil Series / phase name Α \$ 9 s.s. Drainage Cla Hydrologic Group Drainage C Hydrologic Group Soil Classification: 5 в Soil Classification: 5 в SE S.E Profile Drain Design Class Profile Drai Design Class Profile Drainage Clas SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Boring Boring Exploration Symbol: TP-91 Test Pit Exploration Symbol: TP-92 Test Pit 1-2 " Depth of Organic Ho n Above Mineral Soil 1-2 " Depth of Organic Horizon Above Mineral Soil Mottling Texture Consistency Color Mottling Texture Consistency Colo FRIABLE 10YR 3/3 DARK BROWN NONE OBSERVED 10YR 3/3 DARK BROWN NONE OBSERVED SANDY LOAM SANDY LOAM FRIABLE (Inches) (Inches) GRAVELLY LOAMY 10YR 4/6 LOAMY SAND 10YR 4/6 DARK YELLOWISH BROWN DARK YELLOWISH BROWN SAND 9 10 9 10 10 SURFACE 12 SURF. 12 14 14 16 18 16 SOIL SOIL 2.5Y 5/6 LIGHT OLIVE 20 20 JERAL JERAL COARSE SAND 2.5Y 5/6 LIGHT OLIVE BROWN 26 BELOW BELOW GRAVELLY SAND 2.5Y 5/4 30 30 (WITH FINE SAND LIGHT OLIVE DEPTH LENSES @ 40") BROWN Ш 5 50 60 60 LIMIT OF EXCAVATION = 50 LIMIT OF EXCAVATION = 48 Limiting fact Limiting fac ground wate ground wate hydric Slope % hydrid Slode non-hydric restrictive layer non-hydric restrictive layer >48' 0-3 >50" 0-3 bedrock bedrock ADAMS ADAMS Soil Series / phase name: SWED Α Soil Series / phase name SWED Α . . . 8.8 Drainage Class Hydrologic Group Drainage Class Hydrologic Group Soil Classification: 5 Soil Classification: 6 в В S.E S.E. Profile Profile Drainage Cla Design Cla Drainage Class Design Clas rofile Drainage Class Design Cl Professional Endorsements (as applicable) Date 2/1/19 Lic.#: Gary M. Fullerton 462 ne printed/typ Date 0 2/1/19 Lic.#: Gary M. Fullerton 355

Detailed Description of Subsurface Conditions at Project Sites						
Project Name:	Applicant Name:	Project Location (municipality):				
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM				

	SOIL DESCRIPTION AND CLASSIFICATION					SOIL DESCRIPTION AND CLASSIFICATION			
	Exploration Symbol:	TP-93	Test Pit	Boring		Exploration Symbol:		Test Pit	Boring
		Depth of Organic Horizon Above		Mattin		Tautana	Depth of Organic Horizon Above		Mattilizza
	Texture	Consistency	Color	Mottling	- 0	Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 3/4	NONE	2				
			DARK YELLOWISH BROWN	OBSERVED	- 3				
ŧ					5				
(se)					(se)				
(Inches	8				(Inches				
U U U								/	
LEA 12					SURFACE				
NS	LOAMY SAND		10YR 4/6		7 I 16				
NOS 18			DARK YELLOWISH		10S				
20 22			BROWN						
INE					INE		/		
M MO	FINE SAND		2.5Y 5/4 LIGHT OLIVE		MM		/		
BELO ∝)		BROWN		BELOW MINERAL				
H B					HB -				
EP					DEPTH				
					1		/		
							ŕ		
50	2				50	├ ──∕			
60	5				60				
0	hydric	LIMIT OF EXC Slope %	EXAMPLE AND A CONTRACT CONTRACTOR CONTRACTON	ground water		hydric	Slope %	Limiting factor	ground water
•	non-hydric	3-8	>24"	 restrictive layer bedrock 		non-hydric			 restrictive layer bedrock
C.S.S.	Soil Series / phase name:		SWED	Bedrock	C.S.S.	Soil Series / phase name:	1	-	
C.S.S.			Drainage Class	Hydrologic Group	0.8.5.	/		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5 Profile	C Drainage Class	Design Class	LSÆ.	Soil Classification:	Profile	Drainage Class	Design Class
		SOIL DESCRIPTION AN	D CLASSIFICATION				SOIL DESCRIPTION AN	ID CLASSIFICATION	/
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:		Test Pit	Boring
0	Texture	Depth of Organic Horizon Above Consistency	Color	Mottling	o	Texture	Depth of Organic Horizon Above Consistency	Color	Mottling
					1				
	8				-2				
4					4				
(s)					(s)				
(Inches			/		(Inches			/	
ACE (I									
ц.									
					SURFACE				
					TIOS				
AL S			/					/	
VER 		/			MINERAL		/		
III M					IW A				
0					BELOW				
B									
DEPTH					<i>DЕРТН</i>				
Q _					<u>a</u>		/		
40	/	/			40		/		
50					50	/			
60					60				
0	hydric	Slope %	Limiting factor	 ground water 		hydric	Slope %	Limiting factor	 ground water
0	non-hydric			restrictive layer		non-hydric			restrictive layer
C.S.S.	Soil Series / phase name:			bedrock	C.S.S.	Soil Series / phase name:			bedrock
C.S.S.	/		Drainage Class	Hydrologic Group	0.8.5.	/		Drainage Class	Hydrologic Group
LSÆ.	Soil Classification:	Profile	Drainage Class	Design Class	LSE.	Soil Classification:	Profile	Drainage Class	Design Class
			*	· ·					10
								IN SEOFA	1111
								XA	IN.111.
Profe	essional Endorsemen	nts (as applicable)						TATE OF MA	M. E
C.S.S			Λ		Da	ate:		GARY	1 =
	signature:	Chr	12. 2			2/1/19	= 1	M.	. 1 🗉
		0			Lie	c.#:	3 (FULLERTO	
	name printed/typed:	Gary M. Fu	llerton			462	≡* !	NO. 462	
		\cap	1)	D	ate:		M. Como	
L.S.E.		the	15. 2	/		2/1/19		SOUTH	S III
<u> </u>	signature:	~ 0			Lie	c.#:		SCIEN!	IIIII.
1	name printed/typed:	Gary M. Fu	llerton			355	attin and animal and		

APPENDIX C PARAMETERS AND RESULTS

Groundwater Impact Study, Nitrates Model Input Parameters and Solution Land of Nod Subdivision 120 Land of Nod Road, Windham Lots 1, 2, and 30

Annual rainfall (inches):	44
Hydrologic soil group* (above disposal field):	C/D
% Slope (above disposal field):	1-7%
% Infiltration* (into disposal field):	21
Assumed rainfall flow into disposal field (gal/day):	6.63
Assumed rainfall flow into disposal field during drought conditions^(gal/day):	3.98
Background NO3-N concentration (mg/L):	1
Assumed effluent NO3-N concentration (mg/L):	41
Assumed effuent flow into disposal field (gal/day):	360
Assumed NO3-N concentration in rainfall (mg/L):	0.5
Hydraulic conductivity of aquifer (ft/day):	2
Hydraulic gradient of aquifer (ft/ft):	0.010
Effective porosity of aquifer:	0.21
Seepage velocity of aquifer (ft/day):	0.10
Retardation factor	1
Half-Life (0 for no decay)	0
Simulation duration to reach NO3-N concentration equilibrium (days)	4,364
Longitudinal dispersivity at end of simulation duration (ft)	1.56
Lateral dispersivity at end of simulation duration (ft)	0.52
Vertical dispersivity at end of simulation duration (ft)	0.78
Disposal bed length (ft)	15
Disposal bed width (ft)	28
Length of 10 mg/L plume during drought conditions (ft)	150

Notes:

- * from The State of Maine Department of Environmental Protection, 1991, The guidelines for expediating the processing of applications under the site location of development act.
- ^ drought conditions equals 60% of average annual rainfall
- % percent
- gal/day gallons per day
 - ft feet
- mg/L milligrams per liter
- NO3-N Nitrate-Nitrogen

Groundwater Impact Study, Nitrates Model Input Parameters and Solution Land of Nod Subdivision 120 Land of Nod Road, Windham Lots 3 to 29

Annual rainfall (inches):	44
Hydrologic soil group* (above disposal field):	A
% Slope (above disposal field):	1-5%
% Infiltration* (into disposal field):	21
Assumed rainfall flow into disposal field (gal/day):	4.86
Assumed rainfall flow into disposal field during drought conditions^(gal/day):	2.92
Background NO3-N concentration (mg/L):	1
Assumed effluent NO3-N concentration (mg/L):	41
Assumed effuent flow into disposal field (gal/day):	360
Assumed NO3-N concentration in rainfall (mg/L):	0.5
Hydraulic conductivity of aquifer (ft/day):	10
Hydraulic gradient of aquifer (ft/ft):	0.010
Effective porosity of aquifer:	0.21
Seepage velocity of aquifer (ft/day):	0.48
Retardation factor	1
Half-Life (0 for no decay)	0
Simulation duration to reach NO3-N concentration equilibrium (days)	651
Longitudinal dispersivity at end of simulation duration (ft)	6.71
Lateral dispersivity at end of simulation duration (ft)	2.24
Vertical dispersivity at end of simulation duration (ft)	0.34
Disposal bed length (ft)	11
Disposal bed width (ft)	28
Length of 10 mg/L plume during drought conditions (ft)	65

Notes:

- * from The State of Maine Department of Environmental Protection, 1991, The guidelines for expediating the processing of applications under the site location of development act.
- ^ drought conditions equals 60% of average annual rainfall
- % percent
- gal/day gallons per day
 - ft feet
- mg/L milligrams per liter
- NO3-N Nitrate-Nitrogen



CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

CLASS 'B' HIGH INTENSITY SOIL SURVEY REPORT

Prepared for:

Land of Nod Property

Grondin Corporation

39 Belanger Road Windham, ME 04062

Prepared by:

Sebago Technics, Inc. 75 John Roberts Road Suite 4A South Portland, Maine 04106

February 4, 2019

CLASS 'B' HIGH INTENSITY SOIL SURVEY

Land of Nod Property

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3.	Site Location and Description	1
4.	Site Investigation	2
5.	Soil Characteristics	2
6.	Soil Map and Map Unit Descriptions	3
7.	Conclusions	4
8.	Limitations	5

APPENDICES

APPENDIX A - Soil Narrative Report
APPENDIX B - Soil Legend/MDEP Form E
APPENDIX C - Soil Survey Interpretations
APPENDIX D - Soil Test Pits/MDEP Form F
APPENDIX E - Class 'B' High Intensity Soil Map

Section 1 Introduction

Sebago Technics has completed a Class 'B' High Intensity Soil Survey for the proposed subdivision, located at Land of Nod Property in Windham, Maine for Grondin Corporation. The soils found on the above referenced site have been observed in the field using test pits and/or borings dug either by an excavator or by hand (see Soil Map for Survey Limits in Appendix G). The test pits were located by Global Positioning Systems (GPS) technology and incorporated into the soil map. The soil map has been merged into the existing base plan prepared by Sebago Technics, Inc. Topography is based on two-foot contour intervals prepared by Sebago Technics, Inc.

The soil map units and soil boundaries have been drawn, reviewed, and forwarded to the Project Manager, James R. Seymour, P.E., for consideration during engineering design and layout of the proposed facility. Soils found at the site are described below and were examined and classified to identify potential soil limitations relating to the development of the property. This report has been prepared as part of the project requirements for the Maine Department of Environmental Protection, and may be used to support permitting procedures as required under the Site Location of Development Act, Natural Resources Protection Act (NRPA), Stormwater Management Law, or other pertinent regulation.

Section 2 Purpose of Soil Survey

The purpose of this Class 'B' High Intensity Soil Survey was to investigate, identify, describe, and map the soils on the above referenced site for the proposed residential subdivision. The accompanying soil survey map depicts the location and types of soil found on the project site. The soil information may be used to obtain hydrologic soil group ratings to assist in the calculations for stormwater runoff curve values required by the Maine Department of Environmental Protection (MDEP). This soil information may also be used to evaluate soil suitability relating to development as a residential subdivision.

Section 3 Site Location and Description

The site is located at Land of Nod Property in Windham, Maine. The abutting properties include residential dwellings and undeveloped forested areas with a mix of wetlands and uplands. The proposed development area includes approximately 55 acres of land. The property consists of a mix of wetlands, uplands, and inactive gravel pits in a forested and field setting. The wetlands on the property were delineated by Sebago Technics, Inc. in June and July of 2017.

Section 4 Site Investigation

Site-specific soil information was collected at various locations across the site by Gary M. Fullerton, CSS of Sebago Technics, Inc. in July, 2017, September and December, 2018, and January, 2019. The areas examined were marked in the field with pink flagging and designated with letters such as "TP-1" or "B-2". Test pits were observed using an excavator and borings were observed with a hand auger. The sequence of test pitting/ boring numbers include 10 through 93, excluding test pits 65 through 70 which were excavated on an adjacent parcel to determine septic system suitability.

Test pit locations were selected based on topographic relief, landforms and vegetation stands, which typically are indicative of soil type variations. Excavated test pits were examined for soil colors, rock content, texture, consistence, root depths, redoximorphic features, and depth to bedrock. From this information, soil logs were completed and are included in Appendix E. In addition to these test pits and borings, several additional hand-augured borings were reviewed to verify consistency within map units for which detailed information was not gathered.

The test pits observed in the field were then located using a GPS unit capable of submeter accuracy on the respective dates that they were excavated. These points were then incorporated into the topographic survey to aid in the preparation of a soil map of the project area. The provided base map has a scale of 1 inch = 100 feet, with two-foot contour intervals on the site.

Drainage classifications of the soils on the site were determined by parameters found in the *Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping*, published by the Maine Association of Professional Soil Scientists in April 1989 and revised in March 2009.

Section 5

Soil Characteristics

The soils found on the site are predominantly developed from glaciofluvial and glaciolacustrine/ glaciomarine deposits. The landforms typically associated with glaciofluvial deposits are low sand plains and terraces. The landforms typically associated with glaciolacustrine and glaciomarine deposits are depressional areas on marine and lake plains, outwash plains, or deltas.

The most dominant soil series in the project area is the somewhat excessively well drained Adams loamy fine sand found throughout the northern, eastern, and southern extents of the site. This map unit does not contain wetland areas. Adams soils are sandy glaciofluvial materials. The test pit information revealed seasonal high watertable and restrictive layers were well below 40 inches of the ground surface. These map units include level to gentle slopes of 0 to 8 percent.

The southern portion of the project area contains the poorly to somewhat poorly drained Naumburg loamy fine sand, the well-drained Melrose fine sandy loam, and the moderately well-drained Croghan fine sand. The Naumburg soils are glaciofluvial deposits and generally have

seasonal high watertables less than 16 inches and sometimes had a cemented horizon. This map unit was typically found on level to gently sloping land in depressional areas and contained wetlands. Melrose soils are loamy outwash over marine/lacustrine deposits and generally have seasonal high watertables greater than 40 inches below the ground surface. This map unit was found on level land in upland areas. Croghan soils are glaciofluvial deposits and generally have seasonal high watertables between 16 and 40 inches below the ground surface and some cemented horizons were found. Croghan soils include level to gentle slopes of 0 to 8 percent. No bedrock was observed in either of these map units.

The western portion of the site contained the somewhat excessively well drained Adams loamy fine sand and the moderately well-drained Croghan fine sand. These areas are generally level upland areas.

The northern and eastern portions of the site contained the somewhat excessively well drained Adams loamy fine sand, the poorly to somewhat poorly drained Swanton fine sandy loam, and gravel pits. The Adams areas are generally level uplands adjacent to the gravel pits. Swanton soils are loamy outwash over marine/lacustrine deposits with water tables and restrictive layers at or near the ground surface, impeding infiltration and percolation of water. The Swanton soils contain wetlands. Swanton soils include level to gentle slopes of 0 to 8 percent. The gravel pits have heavily altered characteristics and cannot be generalized. Wetlands and vernal pools have formed in the gravel pits

These soils should respond to use and management as determined and described in the Soil Series of Maine Soil Interpretations published by the Maine Association of Professional Soil Scientists in cooperation with the USDA Natural Resources Conservation Service, dated January 1987 and revised January 1988 and 1989. Soil survey interpretations are enclosed in Appendix C of this report.

This site may contain inclusions of soil types that differ from the soil map units. The areas where these soils were found are too small to be mapped and, for the purpose of this soil survey, there appears to be less than 1 contiguous acre of this soil in any part of the site. It also appears that the total area of this soil type in any given map unit is less than 25 percent, therefore classifying these soil types as inclusions.

Section 6

Soil Map and Map Unit Descriptions

The attached soil survey map depicts the size and location of the soil map units relative to each other and existing site features. Each soil map unit typically consists of three letters (e.g., AdB), with the first two letters representing a phase of the established soil series found within soil map unit areas as shown on the soil map. This soil map unit phase name is a representation of the soil characteristics, such as texture, stoniness, drainage, and depth to bedrock, all of which may

affect the use and management of the soil. The third capitalized letter represents the surface slope gradient of the area within the soil map unit (e.g., B represents 3 to 8 percent slopes). Therefore in this example "AdB" is interpreted as Adams loamy sand on a 3 to 8 percent slope. There may be small areas of different soils within a soil map unit, known as inclusions. Inclusions may exist within a delineated soil map unit, although the size of the inclusion may be too small to stand as a soil map unit alone (<1 acre). The soil map units found at the site are listed and described in Appendix C of this report.

Section 7 Conclusions

The soils found consist of glaciofluvial and glaciolacustrine/ glaciomarine deposits. The glaciofluvial soils generally contained loamy sand overlying fine sand with lenses of fine-textured soil. The glaciolacustrine/ glaciomarine deposits generally contained sandy textured soils overlying fine-textured soils.

Site investigations suggest some limitations inherent to some of the soils identified at the site, mainly high water tables and fine-textured soils. Most may be overcome by appropriate planning, engineering and site preparation of these areas. Such site features as the depth to bedrock, runoff volumes, seasonal soil saturation depths, potential for frost and erosion activity, rock outcrops, and jurisdictional wetland areas were examined. The following is a summary of areas and on-site features identified in the field with potential negative effects relating to the development of this parcel for a residential subdivision:

- 1. Jurisdictional wetland areas, vernal pools, and streams were identified on the property. Alteration to wetland areas will require regulatory permitting together with appropriate engineering practices to support structures and parking areas. These hydric soils are not suitable for commercial development in their current state and would require filling if developed. Wetlands were found in the Swanton and Naumburg soil map units as well as the gravel pits.
- 2. The wetland soils are not stable and would require deep footings for buildings. These soils generally require larger stormwater management areas, have higher erosion potential, and have high frost potential for paved areas. Best management practices are highly recommended to prevent erosion and sedimentation.
- 3. Seasonal high water tables are somewhat common throughout the property. These areas make construction difficult during wet season conditions. Structures need to have proper drainage to avoid water around foundations.
- 4. There are fine-textured silt loam to silty clay subsoils which may require specific engineering practice for foundations. In addition, these soils are not suitable for road base material and may need to be removed prior to road construction.

Section 8 Limitations

The scope of this investigation has been limited to this Class 'B' High Intensity Soil Survey in general accordance with standards and guidelines established by the Maine Association of Professional Soil Scientists. The soil survey report and soil map have been prepared for the exclusive use of Grondin Corporation and Sebago Technics, Inc. for specific application for the proposed Land of Nod Property on this site off Land of Nod Road in Windham, Maine.

No other warranty, expressed or implied, is made. The conclusions and recommendations presented in this soil report are based on data obtained at the referenced site and our interpretations of this information. This report and soil map may not reflect soil variations that may occur between our observation test pits. Data from this soil report and soil map should not be used for any other purpose. Soils which are considered non-limiting for one use may be considered limiting for another use. The soil mapping units used in the soil report and on the soil map are at least in part influenced by the intended use of the soil survey and information provided may not always be adequate for uses other than that which the soil survey was originally developed.

APPENDICES

APPENDIX A

SOIL NARRATIVE REPORT

SOIL NARRATIVE REPORT

Land of Nod Property

Date:Soil profiles observed July, 2017, September and December, 2018, and January,
2019 by Sebago Technics, Inc.

Base Map: Topographic Survey Map by Sebago Technics, Inc.

2 (two) foot contour intervals on-site

Map Scale 1 inch = 100 feet

Ground Control: Test pits located by GPS with sub-meter accuracy

The Maine Association of Professional Soil Scientists has adopted standards for soil surveys. Soil surveys are divided into four classes of survey, which are dependent upon the amount of information required for the project. The following is a summary of requirements for this High Intensity Soil Survey.

Class 'B' High Intensity Soil Survey Standards

- 1. Map units will not contain dissimilar limiting inclusions larger than one acre.
- 2. Scale of 1 inch = 200 feet or larger.
- 3. Dissimilar limiting inclusions may total more than one acre per map unit delineation, in the aggregate, if not continuous.
- 4. Ground control test pits for which detailed data is recorded are located by means of a compass by chaining, pacing, or taping from known survey points; or other methods of equal or greater accuracy.
- 5. Base map with 5-foot contour lines with ground survey.

The accompanying soil profile descriptions, soil survey map and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, March 2009.

This Soil Survey was prepared in relation to a proposed subdivision.

THINNIN ERTON Gary M. Fullerton, C.S.S. #462

February 4, 2019 Date

APPENDIX B

SOIL LEGEND/MDEP FORM E

CLASS 'B' HIGH INTENSITY SOIL SURVEY

Land of Nod Property

February 4, 2019

SOIL LEGEND

SOIL TYPES:

<u>Symbol</u>	Soil Series	Phase	Slope	HSG	Drainage Class
AdA	Adams	Loamy Fine Sand	0-3%	Α	SWED
AdB	Adams	Loamy Fine Sand	3-8%	Α	SWED
CrA	Croghan	Fine Sand	0-3%	Α	MWD
CrB	Croghan	Fine Sand	3-8%	Α	MWD
GP	N/A	Gravel Pit	Varies	N/A	N/A
MeA	Melrose	Fine Sandy Loam	0-3%	С	WD
NaA	Naumburg	Loamy Fine Sand	0-3%	A/D	PD/SWPD
NaB	Naumburg	Loamy Fine Sand	3-8%	A/D	PD/SWPD
SzA	Swanton	Fine Sandy Loam	0-3%	B/D	PD/SWPD
SzB	Swanton	Fine Sandy Loam	3-8%	B/D	PD/SWPD

FORM E	
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SOIL CONDITIONS SUMMARY TABLE								
for SUBSURFACE INVESTIGATIONS at DEP SITE LOCATION PROJECTS								
Pro	ject Name			DEP Pro	oject #:			
		Land	of Nod Property					
App	olicant Nar	ne:		Consult	ant Name:			
			ndin Corporation			Seh	ago Techni	ics Inc
Dro	iaat Laaati		-	Tung of	Investigation		ugo roonn	00, 1110.
	ject Locati	011 (1110		Type of	Investigatio			•
			Windham		Class	B' High Inte	ensity Soil	Survey
	Exploration	√ or ×	• soil profile/conditio	n <i>(L.S.E.)</i>	Depths to (che	eck onel: 🗵 in	ches □ cm	Ground
Lot		if at	 soil series name (C 					Surface
No.	Symbol	SSWD	• geologic unit (C.G.,		Mottling	Bedrock	Restrictive	Slope
	(alph/num)	field	(as appropriate to the				Layer	(%)
			investigation)					
	TP-10		ADAMS		-	-	-	0-3
	TP-11		MELROSE		-	-	28	3-8
	TP-12		SWANTON		12	-	20	3-8
	TP-13		SWANTON		4	-	17	3-8
	TP-14		ELMWOOD		16	-	16	3-8
	TP-15		NAUMBURG		9	-	-	3-8
	TP-16		ADAMS		55	-	-	3-8
	TP-17		CROGHAN		20	-	-	0-3
	TP-18		NAUMBURG		3	-	-	3-8
	TP-19		CROGHAN		23	-	-	0-3
	TP-20		ADAMS		-	-	-	0-3
	TP-21		ADAMS		-	-	-	3-8
	TP-22		CROGHAN		36	-	-	0-3
	TP-23		CROGHAN		29	-	54	0-3
	TP-24 TP-25		CROGHAN CROGHAN		34 25	-	-	3-8 3-8
	TP-25		CROGHAN		23	-	24	3-8
	TP-20		NAUMBURG		8		11	0-3
-	TP-28		CROGHAN		18	_	18	3-8
	TP-29		CROGHAN		27	-	30	3-8
	TP-30		DUANE		26	-	-	3-8
	TP-31		SWANTON		12	_	12	3-8
	TP-32		ADAMS		-	-	26	0-3
	TP-33		MELROSE		25	-	29	0-3
	TP-34	1	MELROSE		-	-	41	0-3
	TP-35		MELROSE		-	-	22	0-3
	TP-36		ADAMS		-	-	-	0-3
	TP-37		MELROSE		-	-	23	0-3
	TP-38		ADAMS		-	-	-	0-3
	TP-39		ADAMS		34	-	-	0-3
	TP-40		ADAMS		-	-	-	0-3
	TP-41		ADAMS		-	-	-	0-3
	TP-42	ļ	ADAMS		-	-	-	0-3
	TP-43		ADAMS		-	-	18	0-3
	TP-44		ADAMS		-	-	24	0-3
	TP-45		CROGHAN		32	-	32	0-3
	TP-46		SWANTON		7	-	7	0-3
	TP-47				42	-	-	0-3
	TP-48 TP-49		NAUMBURG NAUMBURG		4	-	-	3-8 3-8
1	11-43	1	DADAMON		4	-		5-0

TP-50	NAUMBURG	5	-	24	3-8
TP-51	CROGHAN	24	-	-	0-3
TP-52	SWANTON	0	-	38	0-3
TP-53	MELROSE	26	-	15	0-3
B-54	NAUMBURG	0	-	10	0-3
B-55	SWANTON	0	-	26	0-3
TP-56	LAMOINE	10	-	18	3-8
TP-57	NICHOLVILLE	16	-	30	3-8
TP-58	CROGHAN	30	-	-	3-8
TP-59	ADAMS	44	-	-	0-3
TP-60	ADAMS	-	-	-	3-8
TP-61	CROGHAN	30	-	-	3-8
TP-62	NAMBURG	8	-	26	0-3
TP-63	SWANTON	5	-	42	0-3
TP-64	ELMWOOD	-	-	-	-
TP-65	NOT USED IN SOIL SURVEY	-	-	-	-
TP-66	NOT USED IN SOIL SURVEY	-	-	-	-
TP-67	NOT USED IN SOIL SURVEY	-	-	-	-
TP-68	NOT USED IN SOIL SURVEY	-	-	-	-
TP-69	NOT USED IN SOIL SURVEY	-	-	-	-
TP-70	NOT USED IN SOIL SURVEY	-	-	-	-
TP-71	ADAMS	-	-	-	3-8
TP-72	ADAMS	-	-	-	0-3
TP-73	ADAMS	-	-	48	0-3
TP-74	CROGHAN	34	-	-	3-8
TP-75	CROGHAN	32	-	-	3-8
TP-76	ADAMS	40	-	-	0-3
TP-77	CROGHAN	28	-	-	0-3
TP-78	ELMWOOD	17	-	42	3-8
TP-79	CROGHAN	17	-	-	3-8
TP-80	CROGHAN	24	-	-	0-3
TP-81	ADAMS	-	-	-	0-3
TP-82	CROGHAN	29	-	-	0-3
TP-83	CROGHAN	30	-	-	3-8
TP-84	ADAMS	-	-	18	0-3
TP-85	CROGHAN	24	-	-	0-3
TP-86	CROGHAN	32	-	-	3-8
TP-87	CROGHAN	32	-	-	3-8
TP-88	ADAMS	42	-	-	0-3
TP-89	ADAMS	-	-	-	0-3
TP-91	ADAMS	-	-	-	3-8
TP-92	ADAMS	-	-	-	0-3
TP-93	ADAMS	-	-	-	0-3
		1	1	1	1

Professional Endorsements (as applicable)			
L.S.E.	signature:	Date: 2-4-19	GARY
	name printed/typed: Gary M. Fullerton	Lic. # : 355	
C.S.S.	signature:	Date: 2-4-19	GARY M. FULLERTON NO. 462
	name printed/typed: Gary M. Fullerton	Cert. #: 462	Sernere (
C.G.	signature:	Date:	SOL SCIENTS
	name printed/typed:	Cert. #:	affix professional seal

APPENDIX C

SOIL SURVEY INTERPRETATIONS

SOIL SURVEY INTERPRETATIONS

Soil survey interpretations are derived from the inherent soil characteristics found within the soil profile. The interpretations are predictions (numeric and descriptive) of soil suitability for a specific use, based on the soil's characteristics. These interpretations have many practical applications, such as estimating costs for land development, calculating storm water runoff, determining structural bearing strengths, estimating erodibility, etc. <u>Soil potential ratings</u> have been developed using soil survey interpretations to compare soil series, based on limitations or potentials, for a given use.

Limitations of Soil Interpretations

Soil interpretations are very useful for many purposes and projects, although they do have limitations, including:

- 1. An interpretation for a specific purpose is rarely adaptable for another use without management considerations.
- 2. Use of interpretations for specific areas has an inherent limitation relating to variability of the soil map unit. As the size of the soil survey area and the soil map units increase, soil interpretations provide a less reliable prediction of actual soil conditions.
- 3. Interpretations are also limited by the natural variability within a soil profile, which directly affects the precision of the soil interpretation.
- 4. Soil interpretations are predictions of potentials or limitations based on soil properties. A soil may possess several limiting factors and therefore all site specific soil properties must be known for accurate interpretations.
- 5. Soil interpretations are used to predict the costs of development and to ultimately determine feasibility of a project. It should be noted that most soil limitations can be overcome with engineering solutions to make a soil suitable for a proposed use.

Soil Potential Rating Factors

Soil potential ratings have been developed as a useful form of soil interpretations. These ratings are based on local conditions, local experience and expertise, and laws, codes and rules governing the use of soils for various purposes. Potential ratings include the feasibility of a soil for a particular use relative to other soils within a given area. Factors considered in preparing soil potential ratings are the feasibility of using certain technology and practices to overcome limiting factors and the relative cost of implementing these practices. Some examples of unfavorable soil qualities inherent in Maine soils are listed below:

- 1. **Depth to Water Table** The depth to water table affects the natural drainage of the soil in which in turn affects the soils potential for development. A soil with a shallow depth to seasonal high water table requires construction methods such as added fill and artificial drainage to overcome this limitation. A soil with a seasonal high water table deeper than 6 feet below the soil surface would have higher potential than a soil with a seasonal high water table at 18 inches.
- Flooding Soils are rated on the basis of whether they are subject to flooding or not. Flooding is separated into three categories: none, occasional (floods at least once in ten years), and frequent (floods at least once every two years). Soils subject to flooding have less potential for development than those that do not flood.

- 3. **Slope** Soils are rated on the basis of slope. The less sloping areas require less corrective measures than the steeper areas and thus have a greater potential for development.
- 4. **Depth to Bedrock** The presence of bedrock affects the use of soils for development. Soils with shallow depth over bedrock have less potential for development than deep soils.
- 5. **Surface Stones** The presence of stones and boulders on the soil surface affect the use of the soil for development. In preparing a site for a dwelling or septic sewage disposal area, surface stones have to be removed.
- 6. **Depth to Restrictive Layer** Some soils have a restrictive layer that begins at a shallow depth. This layer can impede natural drainage and permeability. This soil factor is important when designing a septic sewage disposal system.
- 7. **Soil Profile and Condition** The Maine Subsurface Wastewater Disposal Rules provides a table by which each soil can be categorized by profile group and soil condition. The profile group is based on parent material or origin of the soil, texture of the soil, and the presence of any restricting layer within the soil profile. The soil condition refers to the depth to bedrock or drainage class.

Low density development includes single family unit residences with basements and comparable buildings and septic tank absorption fields, with or without on-site sources of water. Development may be as a single unit or as a cluster of units in a development. Paved roads in a development are also included in the rating. Soil potentials have been developed by selecting the best soil in a county for low density development. This "reference soil" is the best because it has all the best characteristics for all rated uses with regards to development. For low density urban development, a reference soil has the following properties:

- A water table level greater than 6 feet
- The soil does not flood
- Slope is 0-3 percent
- The soil lacks a restrictive layer
- The depth to bedrock is more than 5 feet
- Surface stone cover is 0.1 to 15 percent
- The soil requires a medium sized rating for a septic sewage disposal field
- There is low potential for groundwater contamination from septic field effluent

This reference soil is assigned a value of 100 index points. Costs are also developed for all other soils in the county for overcoming the various soil limitations. These costs are converted to index points and subtracted from the reference soil. The result is a method of comparing development costs for the soils in a county. Environmental constraints as well as long term maintenance costs are also a factor in developing soil potentials.

The Soil Potential index is a mathematical expression of a soil's position in the overall range of potentials which is 100 to 0. Since the entire range is large, these numerical ratings are separated into Soil Potential Rating Classes of very low to very high.

The composite rating for development was determined by a weighted average of individual soil potential indices as follows: septic tank absorption fields, 45 percent; dwellings with basements, 20 percent; and local roads and streets, 35 percent.

Soil Potential Rating Classes

Soil Potential Rating Classes are based on the expected performance of a soil if feasible measures are taken to overcome its limitations, the cost of such measures, and the magnitude of the limitations that remain after measures have been applied. The development rating (fourth column in the rating tables) is a weighted sum of the septic, dwelling, and road indices. The septic system has the most restrictive site requirements and the dwelling has the least restrictive site requirements.

Very High Potential – Site conditions and soil properties are favorable. Installation costs are lowest for that use and there are no soil limitations. Soils in the group have soil properties similar to the reference soil. The Soil Potential Index for this rating class is 100 for each soil use.

High Potential – Site conditions and soil properties are not as favorable as the reference soil condition. The cost of measures for overcoming soil limitations is slight. The index for this rating class ranges from 83 to 99 for each soil use.

Medium Potential – Site conditions and soil properties are below soils with high potential. Costs of the measures for overcoming soil limitations are significant. The index for this rating class ranges from 60 to 82.

Low Potential – Site conditions and soil properties are significantly below soils with medium potential. Costs of measures required to overcome soil limitations are very high. The index for this rating class ranges from 40 to 59 for each soil use.

Very Low Potential – There are severe soil limitations for which economical corrective measures are prohibitive or unavailable and costs of these measures are extremely high. Also, soil limitations which detract from environmental quality may continue even after installation of corrective measures. The index for this rating class is less than 40. They may also be prohibited for use by local or state laws.

Drainage Classes

Drainage classes are the relative wetness that a soil under normal conditions has relating to the soil water table. The following seven drainage classes are used for the soils found in Maine:

- 1. **Excessively Drained (ED)** soils with water that is removed very rapidly. The occurrence of internal free water is very rare or very deep.
- 2. **Somewhat Excessively Drained (SWED)** soils with water that is removed rapidly through the soil. Internal free water occurrence is very rare or very deep.
- 3. **Well Drained (WD)** soils with water that is removed from the soil readily but not rapidly. Internal free water occurrence commonly is deep or very deep.
- 4. **Moderately Well Drained (MWD)** soils with water that is moved somewhat slowly during some periods of the year. Internal free water is moderately deep and transitory to permanent throughout the soil profile.
- 5. **Somewhat Poorly Drained (SWPD)** soils with water that is removed from the soil slowly and remains wet from significant periods of time during the growing season. The depth to internal free water is shallow to moderately deep, transitory to permanent.
- 6. **Poorly Drained (PD)** soils with water that is removed so slowly that the soil is wet at shallow depths during the growing season or remains in a wet state for long periods.

7. **Very Poorly Drained (VPD)** soils with water that is removed from the soil so slowly that the free water remains at or near the ground surface during the growing season. Internal free water is very shallow and persistent or permanent.

Slope Class

Α	Level and nearly level	0-3 percent
В	Gently sloping (undulating)	3-8 percent
С	Strongly sloping (rolling)	8-15 percent
D	Moderately steep (hilly)	15-25 percent
E	Steep	25-45 percent
F	Very Steep	45+ percent

Depth to Bedrock

1.	Very Shallow	Less than 10-inches to bedrock
2.	Shallow	10-inches to less than 20-inches to bedrock
3.	Moderately Deep	20-inches to less than 40-inches to bedrock
4.	Deep	40-inches to less than 60-inches to bedrock
5.	Very Deep	Greater than 60-inches to bedrock

Classes of Surface Stones

1.	Stony or bouldery	0.01 to 0.1 percent surface coverage
2.	Very stony/ boulder	0.1 to 3.0 percent surface coverage
3.	Extremely stony/ bouldery	3.0 to 15 percent surface coverage
4.	Rubbly	15 to 50 percent surface coverage
5.	Very Rubbly	More than 50 percent surface coverage

CLASS 'B' HIGH INTENSITY SOIL SURVEY

Land of Nod Property

February 4, 2019

SOIL POTENTIAL RATING CLASSES

MAP UNIT	SEPTICS	BUILDINGS	ROADS	DEVELOPMENT
AdA				
Adams, 0 to 3 percent	LOW	VERY HIGH	HIGH	MEDIUM
AdB				
Adams, 3 to 8 percent	LOW	VERY HIGH	VERY HIGH	MEDIUM
CrA				
Croghan, 0 to 3 percent	VERY LOW	HIGH	MEDIUM	MEDIUM
CrB				
Croghan, 3 to 8 percent	VERY LOW	HIGH	HIGH	MEDIUM
GP				
Gravel pit, varies	N/A	N/A	N/A	N/A
MeA				
Melrose, 0 to 3 percent	HIGH	HIGH	VERY HIGH	HIGH
NaA				
Naumburg, 0 to 3 percent	VERY LOW	MEDIUM	MEDIUM	VERY LOW
NaB				
Naumburg, 3 to 8 percent	VERY LOW	MEDIUM	MEDIUM	VERY LOW
SzA				
Swanton, 0 to 3 percent	VERY LOW	VERY LOW	VERY LOW	VERY LOW
SzB				
Swanton, 3 to 8 percent	VERY LOW	VERY LOW	VERY LOW	VERY LOW

ADAMS (AdA, AdB)

(Frigid Sandy Typic Haplorthods)

SETTING

Parent Material:	Glacial-fluvial or glacial-lacustrine sand.
Landform:	Outwash plains, deltas, lake plains, moraines, terraces, and eskers.
Position in Landscape:	Nearly level to uppermost elevations.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat excessively drained		
Typical Profile	Surface layer:	Pinkish gray sand, 0 to 4 inches;	
Description:	Subsurface layer:	Dark reddish brown loamy sand, 4 to 10 inches;	
	Subsoil layer:	Brown loamy sand, 10 to 26 inches;	
	Substratum:	Grayish brown loose sand, 26 to 70 inches.	
Hydrologic Group:	А		
Surface Run Off:	Very slow to medium, depending upon slope		
Permeability:	Rapid to very rapid in subsurface and upper part of the subsoil soil, very rapid in the lower part of the subsoil and substratum		
Depth to Bedrock:	Very deep, greater than 60 inches		
Hazard to Flooding:	None		

INCLUSIONS

(Within Mapping Unit)

Similar: Contrasting: Melrose None within mapping unit

USE AND MANAGEMENT

Development with subsurface wastewater disposal is rated "low" due to poor filtering capabilities. The limiting factor for building site development is compaction of soil. This soil consists primarily of medium to coarse sand with little or no fines. The soil potential is rated "high" for buildings and roads.

CROGHAN (CrA, CrB)

(Frigid Aquic Haplaquods)

SETTING

Parent Material:	Glaciofluvial or sandy deltaic outwash deposits
Landform:	Nearly level to strongly sloping areas on low plains and terraces
Position in Landscape:	Lower to intermediate positions with flat gentle slopes
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well drained				
Typical Profile Description:	Surface layer: Subsurface layer: Subsoil layer: Substratum:	Dark brown sand 0 to 5 inches; Dark reddish brown fine sand 5 to 8 inches; Strong brown, yellowish brown, brown and pale brown sand 8 to 53 inches, mottled below 13 inches; Grayish brown loose sand 53 to 60 inches.			
Hydrologic Group:	А				
Surface Runoff:	Slow to medium				
Permeability:	Rapid (A horizon), very rapid in the B and C horizons				
Depth to Bedrock:	Very deep, greater than 60 inches				
Hazard to Flooding:	None				

INCLUSIONS (Within Mapping Unit)

Similar:
Contrasting:

Adams, Duane Swanton

USE AND MANAGEMENT

Development with subsurface wastewater disposal is "very low" due to wetness and a poor filtering capability. A limiting factor for building site development is that the soil is prone to cutbanks caving in. Croghan soils are rated "medium" for road fill materials. Proper foundation drainage or site modification is recommended for construction. Underground piping has "severe" limitations due to a seasonal high water table within 40 inches. Overall development potential is rated "medium".

MELROSE (MeA)

(Frigid Oxyaquic Dystrudepts)

SETTING

Parent Material:	Formed in a thin mantle of loamy materials over finer textured marine or lacustrine sediments				
Landform:	Glaciolacustrine, mar	rine or outwash plains, deltas			
Position in Landscape:	Intermediate to high	positions			
Slope Gradient Ranges:	(A) 0-3%				
<u>cc</u>	MPOSITION AND SOI	L CHARACTERISTICS			
Drainage Class:	Well drained				
Typical Profile:	Surface layer:	Very dark grayish brown fine sandy loam, 7"			
	Subsoil layer: Yellowish brown fine sandy loam and yellowish brown sandy loam, 23"				
	Substratum:	Olive silty clay, 65"			
Hydrologic Group:	С				
Surface Run-off:	Moderate				
Permeability:	Moderately rapid in s clayey substratum	the loamy mantle, slow or very slow in the			
Depth to Bedrock:	Deep, >60"				
Hazard to Flooding:	None				
	INCLUSIONS WITHIN MAPPING UNIT				
Similar:	None within mapping	g unit			
Contrasting:	None within mapping	g unit			

USE AND MANAGEMENT

Development with subsurface wastewater disposal is rated "fair" due to slow permeability in the substratum. Proper foundation drainage or site modification is recommended for construction. Use of this soil for roadways is "fair".

NAUMBURG (NaA, NaB)

(Frigid Sandy Typic Endoaquods)

SETTING

Parent Material:	Glaciofluvial or sandy deltaic outwash deposits			
Landform:	Nearly level to strongly sloping areas on low plains and terraces			
Position in Landscape:	Lower to intermediate positions with flat gentle slopes			
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%			

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat poorly and poorly drained				
Typical Profile	Surface layer: Black organic, 6"				
Description:	Subsurface layer:	Reddish gray loamy fine sand, 6"			
	Subsoil layer:	Dark reddish brown loamy fine sand, 30"			
	Substratum:	Light brownish gray sand, 60"			
Hydrologic Group:	A/D				
Surface Runoff:	Slow				
Permeability:	Rapid				
Depth to Bedrock:	Very deep, >60"				
Hazard to Flooding:	Medium				

INCLUSIONS (Within Mapping Unit)

Similar:

Croghan

Contrasting: Swanton

USE AND MANAGEMENT

A limiting factor for building site development is the soil is prone to cutbanks caving in. Naumburg soils are rated "poor" for road fill materials. Proper foundation drainage or site modification is recommended for construction. Use of this soil for roadways is "poor" due to wetness. Underground piping has "severe" limitations due to wetness.

SWANTON (SzA, SzB)

(Frigid Aeric Haplaquepts)

SETTING

Parent Material:	Loamy outwash over clayey marine or lacustrine sediments				
Landform:	Level or gently sloping marine or lake plains				
Position in Landscape:	Lower to intermediate positions				
Slope Gradient Ranges:	(A) 0-3% (b) 3-8%				
<u>cc</u>	MPOSITION AND SOI	L CHARACTERISTICS			
Drainage Class:	Somewhat poorly dra	ained, poorly drained			
Typical Profile:	Surface layer: Very dark gray sandy loam, 7"				
	Subsoil layer:	Grayish brown fine sandy loam, mottled, 22"; light brownish gray sandy loam, 40"			
	Substratum:	Olive silt clay, mottled, 60"			
Hydrologic Group:	B/D				
Surface Runoff:	Slow to medium				
Permeability:	Moderately rapid in the coarse-loamy mantle, slow or very slow in the underlying materials				
Depth to Bedrock:	Very deep, >60"				
Hazard to Flooding:	None				

INCLUSIONS (Within Mapping Unit)

Similar:	Elmwood
Contrasting:	Naumburg, Nicholville, Lamoine

USE AND MANAGEMENT

A limiting factor for building site development is wetness due to the presence of shallow water table from November through May. Proper foundation drainage or site modification is recommended for construction. Use of this soil for roadways is "poor" due to wetness. Underground piping has "severe" limitations due to wetness.

APPENDIX D

SOIL TEST PITS

Detailed Description of Subsurface Conditions at Project Sites				
Project Name: Project Location (municipality):				
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM		

	SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION								
	Exploration Symbol:	TP-10	Test Pit	Boring		Exploration Symbol:	TP-11	Test Pit	Boring
		Depth of Organic Horizon Above	Mineral Soil			0-1	Depth of Organic Horizon Above	Mineral Soil	
0	Texture	Consistency	Color	Mottling		o Texture	Consistency	Color	Mottling
2	LOAMY SAND		10YR 4/6		-	2			
3			DARK			3			
4			YELLOWISH BROWN			4 SANDY 5 LOAM		10YR 4/3 BROWN	
s)					s)	6			
(Inches)					(Inches)	7			
						9	FRIABLE		
SURFACE				NONE	SURFACE	10			
2 12 14		FRIABLE	10YR 5/6 YELLOWISH	NONE OBSERVED				10YR 4/4	
S 7/0			BROWN		1 S 70	6 LOAM		DARK	
16 18 20					ין דן מ ד 20וד			YELLOWISH BROWN	
14 22								2.10111	
4INE	MEDIUM SAND		2.5Y 6/3		4INE	FINE SAND		2.5Y 5/6 LIGHT OLIVE	
N N	MEDIUM SAND		LIGHT					BROWN	
07J			YELLOWISH		BELOW	30			
H B			BROWN		H B	SILT	FIRM	2.5Y 5/3	
DEPTH BELOW MINERAL					DEPTH	LOAM	1	LIGHT	
					D			OLIVE	
40				+	4	15		BROWN	
50					5	50		2.5Y 6/3	
60	COARSE SAND			┼────┤		VERY FINE SAND	FRIABLE	LIGHT YELLOWSIH BROWN	FEW, FINE FAINT
			AVATION = 55"	<u>•</u>				AVATION = 48"	
•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer
			_>55"	bedrock	Ľ		3-8		bedrock
C.S.S.	Soil Series / phase name:	ADAMS	SWED	A	C.S.S.	Soil Series / phase name:	MELROSE	WD	_ <u>C</u>
⊢╎	Soil Classification:	5	Drainage Class	Hydrologic Group		Soil Classification:	7	Drainage Class C	Hydrologic Group
L.S.E.	Soli Classification:	Profile	Drainage Class	Design Class	L.S.E.	Soli Classification:	Profile	Drainage Class	Design Class
		SOIL DESCRIPTION AND		<u> </u>			SOIL DESCRIPTION AN		
	Exploration Symbol:	<u> </u>	Test Pit	Boring		Exploration Symbol:	TP-13	Test Pit	Boring
	0-1	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling		• Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1	Texture	consistency	00101	motting		1	consistency	00101	motanig
2					_	2		40VD 2/2	
4						3 LOAM		10YR 3/2 VERY	
5	SANDY	FRIABLE	10YR 4/3			5		DARK	
es)	LOAM		BROWN		es)	6	FRIABLE	GRAYISH BROWN	COMMON,
(Inches)					(Inches)	8	FRIADLE	BROWN	MEDIUM,
с) ГС						9		0.5% 5/0	DISTINCT
SURFACE					SURFACE	2 SANDY		2.5Y 5/3 LIGHT	
					SUF			OLIVE	
16 18 18			2.5Y 5/4 LIGHT OLIVE	COMMON,	- - SOIL	6		BROWN	
S 71			BROWN	MEDIUM,	S 7k				
MINERAL				DISTINCT	MINERAL	SILTY		5Y 5/1	MANY,
	SILT	FIRM	2.5Y 5/3			CLAY		GRAY	COARSE,
NO NO	LOAM		LIGHT		MO	LOAM			PROMINENT
30 100			OLIVE BROWN		BEL	30	FIRM		
DEPTH BELOW			2.00		DEPTH BEL	66			
DEF					DEF	SILTY			
40			<u> </u>		4	CLAY			
49					-				
50	FINE	FRIABLE	2.5Y 7/3	┼───┤	_ 6				
60	SAND		PALE BROWN		6	30			
0	hydric	Slope %	AVATION = 55" Limiting factor	 ground water 		hydric	Slope %	AVATION = 48" Limiting factor	 ground water
•	non-hydric	3-8	12"	 restrictive layer 	•	non-hydric	3-8	4"	 restrictive layer
k	Soil Series / phase name:	SWANTON	SWPD	bedrock B/D		Soil Series / phase name:	SWANTON		bedrock B/D
C.S.S.	osnos / pridae name.		Drainage Class	Hydrologic Group	C.S.S.	con concor phase halle.		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	7	D		L.S.E.	Soil Classification:	7	E	
/		Profile	Drainage Class	Design Class			Profile	Drainage Class	Design Class
									1111
								TE OF M	
								TATE OF MA	Nille,
Prote	Professional Endorsements (as applicable)						1	MART CARV	NE
c.s.s.			1 1	2	C	Date:	1	M	1 =
	signature:	O have	K. Z			9/20/18	3 1	IVI.	. 1 E
		0			L	ic.#:	= (FULLERTO	NIE
	name printed/typed: Gary M. Fullerton					462	34	NO. 462	1.5
							I.	No. ~	
L.S.E.					C	Date:	11,	SRITFLEY	6
signature:				9/20/18	T E BUL Drainage Class Hydrologic Group T E Profile Drainage Class Design Class Profile Drainage Class Design Class Design C				
					L	.ic.#:			llu.
name printed/typed: Gary M. Fullerton					355	affix professional seal			

Detailed Description of Subsurface Conditions at Project Sites				
Project Name:	Project Location (municipality):			
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM		

	SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION								
	Exploration Symbol:	TP-14	Test Pit	Boring		Exploration Symbol:	TP-15	Test Pit	Boring
0	0-1 Texture	Depth of Organic Horizon Above	e Mineral Soil Color	Mottling	_	0-1	Depth of Organic Horizon Above	Mineral Soil Color	Mottling
2									
3	SANDY LOAM		10YR 3/3 DARK			3		2.5Y 4/3 OLIVE BROWN	
5	LOAM	FRIABLE	BROWN			5		OLIVE BROWN	
es)					les)	6			
(Inches)					(Inches)	8			
4CE	LOAMY		2.5Y 5/6		SURFACE	9	FRIABLE		
SURFACE	FINE		LIGHT		IRF/	2 VERY FINE		2.5Y 6/4	COMMON, MEDIUM.
14 15 7	SAND		OLIVE BROWN		1 - 1 1 S N			LIGHT YELLOWISH	DISTINCT
16 18 20 7/OS 7	SILTY	FIRM	5Y 5/2	COMMON,	1 1 2 7 SOIL			BROWN	
MINERAL	CLAY	1 11/10	OLIVE	MEDIUM,	RAL				
AINE	LOAM		GRAY	DISTINCT	AINE	FINE SAND		2.5Y 6/3 LIGHT	
V MC 28					MO	SAND		YELLOWISH	
BELOW	SILTY	VERY			_ BELO	D		BROWN	
РТН I	CLAY	FIRM			DEPTH BELOW MINERAL				
DEF					DEF				
40					4	D			
50				+	5	D			┟─────┤
					-				
60			AVATION = 53"	<u> </u>	6			AVATION = 55"	
•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer
-				bedrock	Ľ			9"	bedrock
c.s.s.	Soil Series / phase name:	ELMWOOD	<u>MWD</u> Drainage Class	B/D Hydrologic Group	C.S.S.	Soil Series / phase name:	NAUMBURG	_ SWPD Drainage Class	 Hydrologic Group
L.S.E.	Soil Classification:	7			L.S.E.	Soil Classification:	5	D	
		Profile SOIL DESCRIPTION ANI	Drainage Class	Design Class	E.O.E.	1	Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-16	Test Pit	Boring		Exploration Symbol:	TP-17	Test Pit	Boring
		_ Depth of Organic Horizon Above					Depth of Organic Horizon Above		
	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2	SANDY	FRIABLE	10YR 3/4			2			
3	LOAM		DARK YELLOWISH		-	SANDY		10YR 3/3 DARK	
5			BROWN			5		BROWN	
(seu					les)	6			
(Inches)					(Inches)	8			
9 4CE	MEDIUM		10YR 5/6		- QE	9	FRIABLE		
SURFACE	SAND		YELLOWISH		SURFACE			0 FV F/6	
14 14 16			BROWN		1 SN			2.5Y 5/6 LIGHT OLIVE	
16 18 20					MINERAL SOIL			BROWN	
MINERAL					ERAL	MEDIUM		2.5Y 5/4	
					NINE	SAND		LIGHT OLIVE BROWN	COMMON, MEDIUM,
ow/			10YR 6/4		I NO			Вкоти	DISTINCT
			LIGHT YELLOWISH		- 2	0			
DEPTH BEL ₈			BROWN		DEPTH BE				
DEF					DEF				
40					4	0			
55					5	D			
60				COMMON, MEDIUM DISTINCT	6	0			<u> </u>
	lass de la		CAVATION = 60"					AVATION = 60"	-
•	hydric non-hydric	Slope %	Limiting factor 55"	 ground water restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor 20"	 ground water restrictive layer
ĥ	Soil Series / phase name:			bedrock A		Soil Series / phase name:			bedrock A
C.S.S.	oon denes / priase ridfile:		Drainage Class	Hydrologic Group	C.S.S.	con denes / priase name:		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:		<u> </u>	Derine Oleve	L.S.E.	Soil Classification:	<u> </u>	C	During Oliver
/		Profile	Drainage Class	Design Class			Profile	Drainage Class	Design Class
								TATE OF MA	1111
								XA	VINIUS.
Profe	ssional Endorsement	ts (as applicable)						O	
		\frown	n 1)	п	ate:		GARY	N E
C.S.S.		them	15. 1	/		9/20/18	= 1	M.	\ 🖹
	signature:	58			L	ic.#:	= [FULLERTO	NJE
	name printed/typed:	Gary M. Fu	llerton			462	1	NO. 462	1.5
	name prineu/typeu.	\sim		1			II.	Man on	
L.S.E.	.s.e / / / _				C	ate:	14	SRITFIE	S IN
signature:				,	9/20/18 ic.#:	- 11	L SCIEN	inth.	
		Gary M. Fu	llerton		Ľ	355			<i>Iu</i> .
	name printed/typed:					300	affix professional seal		
	essional Endorsements (as applicable) signature: name printed/typed: Gary M. Fullerton are printed/typed: Gary M. Fullerton name printed/typed: Gary M. Fullerton Sebago Technics, Inc. 1000 10								

	Detailed Description of Subsurface Conditions at Project Sites	
Project Name:	Applicant Name:	Project Location (municipality):
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM

		SOIL DESCRIPTION AN	D CLASSIFICATION		1		SOIL DESCRIPTION AN	D CLASSIFICATION	
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:	TP-19	Test Pit	Boring
	0-1 Texture	_ Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		• Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1		Consistency		Mottillig	_	1	Consistency		Mottillig
2	SANDY LOAM		2.5Y 4/3 OLIVE		-	2 SANDY 3 LOAM		10YR 3/3 DARK	
4			BROWN	COMMON,	_	4		BROWN	
es)				MEDIUM,	(s)	6			
nche				DISTINCT	(Inches)	8	FRIABLE		
CE (2.5Y 5/4			9			
		FRIABLE	LIGHT		RF/	12			
14 15 7			YELLOWISH BROWN		ן ר צר	14 16 LOAMY		10YR 5/6	
10S 18	MEDIUM		2.5Y 6/4		• • •	18 SAND 20		YELLOWISH BROWN	
	SAND		LIGHT			20 23		BROWN	
NIN			YELLOWISH BROWN		NIN	MEDIUM		2.5Y 5/6	COMMON,
MO					MO	SAND		LIGHT OLIVE	MEDIUM, DISTINCT
30 32 32					BEL	30		BROWN	DISTINCT
HT			2.5Y 6/2		DEPTH				
DE			LIGHT		DE				
40			BROWNISH GRAY		-	40			
50					_	50			
60				1		60			
	hydric	LIMIT OF EXC Slope %	CAVATION = 55" Limiting factor	 ground water 	0	hydric	LIMIT OF EXC Slope %	AVATION = 60" Limiting factor	 ground water
•	non-hydric	3-8	3"	 restrictive layer bedrock 	•	non-hydric	0-3	23"	 restrictive layer bedrock
c.s.s.	Soil Series / phase name:	NAUMBURG	PD	A/D	C.S.S.	Soil Series / phase name	CROGHAN	MWD	A
{	Soil Classification:	5	Drainage Class E	Hydrologic Group		Soil Classification:	5	Drainage Class C	Hydrologic Group
L.S.E.	Son Classification.	Profile	Drainage Class	Design Class	L.S.E.	Soli Classification.	Profile	Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AN TP-20	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-21	Test Pit	Boring
		_ Depth of Organic Horizon Above	—				Depth of Organic Horizon Above	—	
0	Texture	Consistency	Color	Mottling	-	• Texture	Consistency	Color	Mottling
2						2			
4	SANDY		10YR 3/4		-	3 4 SANDY		10YR 3/4	
5	LOAM		DARK YELLOWISH		_	s LOAM		DARK YELLOWISH	
(Inches)		FRIABLE	BROWN	NONE	(Inches)	7		BROWN	
e (h				OBSERVED	E (In	8			
2 III	LOAMY SAND		10YR 4/6 DARK			10	FRIABLE		NONE OBSERVED
	UAND .		YELLOWISH		SUR	14			OBOERVED
16 18 7/OS			BROWN		1	16 LOAMY 18 SAND		10YR 4/6 DARK	
20 T R2					RAL S	20		YELLOWISH BROWN	
I	MEDIUM		2.5Y 6/4			26		BROWN	
W M	SAND		LIGHT YELLOWISH		MMC	MEDIUM		2.5Y 6/4	
073 EFO			BROWN			30 SAND		LIGHT	
DEPTH BEL(DEPTH BELO			YELLOWISH BROWN	
					DEP				
40					_	40			
50						50			
60				+	-	60			
	bydric		CAVATION = 55"	a ground unter				AVATION = 55" Limiting factor	a ground water
•	hydric non-hydric	Slope %	Limiting factor >55"	 ground water restrictive layer 	•	hydric non-hydric	Slope % 3-8	Limiting factor	 ground water restrictive layer
k	Soil Series / phase name:		SWED	bedrock A		Soil Series / phase name		SWED_	bedrock A
C.S.S.			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5 Profile	B Drainage Class	Design Class	L.S.E.	Soil Classification:	5_ Profile	B Drainage Class	Design Class
								TE OF M	
								ATE OF M	NKII.
Profe	essional Endorsement	ts (as applicable)		1	Т			GARY	NE
c.s.s.		()	1 1	1	[Date:		M.	1 1
	signature:	Chy	12			9/20/18		FULLERTO	NIE
		Gary M. Fu	llorton		ľ	.ic.#: 462		NO. 462	1.5
	name printed/typed:			Λ		402	Ex.	GARY M. FULLERTO NO. 462	
L.S.E.		(\mathcal{A})	1 1	/_	C	Date:	11,	SRIFE	
	signature:	CA	12			9/20/18	- 11	UNOIL SCIEN	1. MILL
		Com/ M . F	llortor		L	_ic.#:		HIIIIIIII	llu.
	name printed/typed:	Gary M. Fu	nerton			355	affix professional seal		

	Detailed Description of Subsurface Conditions at Project Sites	
Project Name:	Applicant Name:	Project Location (municipality):
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM

		SOIL DESCRIPTION ANI	D CLASSIFICATION				SOIL DESCRIPTION AN	ID CLASSIFICATION	
	Exploration Symbol:	TP-22	Test Pit	Boring		Exploration Symbol:	TP-23	Test Pit	Boring
		Depth of Organic Horizon Above	Mineral Soil			0-1	_ Depth of Organic Horizon Above	Mineral Soil	
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	SANDY		10YR 3/4		2	SANDY		10YR 4/3	
3	LOAM		DARK YELLOWISH		3	LOAM		BROWN	
4			BROWN		-4				
ss) 					(Se				
SURFACE (Inches)		FRIABLE			(Inches)				
) = (I							FRIABLE		
EPAC					SURFACE				
16 18 7/OS	FINE SAND		2.5Y 7/4 PALE		16	FINE SAND		10YR 5/6 YELLOWISH	
S 7	JAND		BROWN		OS 7	SAND		BROWN	
					BELOW MINERAL			0 FV F/0	
MIN.					NIN -			2.5Y 5/6 LIGHT	
BELOW					A 29			OLIVE	
BEL(3EL(BROWN	COMMON,
EPTH I									MEDIUM,
DEP			0.57.7/0	COMMON	DEPTH				DISTINCT
40			2.5Y 7/2 LIGHT	COMMON, MEDIUM,	[-				
			GRAY	DISTINCT	54				
55					-	VERY FINE	FIRM	5Y 4/3	<u> </u>
60				1	60	SANDY LOAM		OLIVE	
0	hydric	LIMIT OF EXC Slope %	AVATION = 55" Limiting factor	 ground water 	0	hydric	LIMIT OF EXC Slope %	AVATION = 55" Limiting factor	 ground water
•	non-hydric	0-3	36"	restrictive layer	•	non-hydric	0-3	29"	 restrictive layer
	Soil Series / phase name:	CROGHAN		bedrock A		Soil Series / phase name:		MWD	bedrock A
C.S.S.			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5	C		L.S.E.	Soil Classification:	5		
/		Profile SOIL DESCRIPTION ANI	Drainage Class	Design Class	-		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-24	Test Pit	Boring		Exploration Symbol:	TP-25	Test Pit	Boring
	2	Depth of Organic Horizon Above	Mineral Soil			2	_ Depth of Organic Horizon Above	Mineral Soil	
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	LOAMY		10YR 4/4		2	SANDY		10YR 4/3	
3	SAND		DARK		3	LOAM		BROWN	
4			YELLOWISH BROWN		4				
s)					° s)				
che					(Inches)		FRIABLE		
E (h		FRIABLE					TRIABLE		
FAC ₀					SURFACE				
¹² 14			10YR 4/6		UN 12	LOAMY		10YR 5/6	
16 S 7/C			DARK		16	SAND		YELLOWISH	
18 0S 71			YELLOWISH BROWN		OS 18			BROWN	
20 22 22			БКОТИ		20				
MINERAL SOIL SURFACE (Inches)	MEDIUM		10YR 5/6		MINERAL 20 22	FINE		2.5Y 5/6 LIGHT OLIVE	
I NC	SAND		YELLOWISH		MO 25			BROWN	
DEPTH BELOW			BROWN		- 20			2.5Y 6/4	COMMON,
4 HL					DEPTH BEI			LIGHT	MEDIUM,
DEP			2.5Y 5/6	COMMON,	DEP			YELLOWISH BROWN	DISTINCT
40			LIGHT	MEDIUM,	40			BIOTIN	
			OLIVE BROWN	DISTINCT	=				
50			BRUWIN		50				
60			AVATION = 55"		60			AVATION = 55"	
0	hydric	Slope %	Limiting factor	 ground water 	•	hydric	Slope %	Limiting factor	 ground water
•	non-hydric	3-8	34"	 restrictive layer bedrock 	•	non-hydric	3-8	25"	 restrictive layer bedrock
c.s.s.	Soil Series / phase name:	CROGHAN	MWD	A	C.S.S.	Soil Series / phase name:	CROGHAN	MWD	A
C.S.S.			Drainage Class	Hydrologic Group	0.5.5.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5_ Profile	 Drainage Class	Design Class	L.S.E.	Soil Classification:	5_ Profile	C Drainage Class	Design Class
		Tione	Drainage Class	Design Class			Tione		Design Class
									111.
								ATEOFMA	IN IL
Profe	essional Endorsement	s (as applicable)						A A A A A A A A A A A A A A A A A A A	
1 1010				1				GARY	NE
c.s.s.			Λ	/	Da	ate:	= (M.	1 =
	signature:	Chy	12 5			9/20/18	= 1	FULLERTO	. 1 E
		0	ll a nt		Li	o.#: 400	3 (NO 462	1 8
	name printed/typed:	Gary M. Fu	ilerton			462	=*	GARY M. FULLERTON NO. 462	/*§
			n 1	2	D	ate:		M. Q. DINTED	
L.S.E.	- 1	the	15. 2			9/20/18	14	S	S.III
	signature:	00			Lie	.#:	-11	L SCIEN	IIII.
		Gary M. Fu	llerton			355			
	name printed/typed:					555	affix professional seal		

Sebago Technics, Inc.

 Detailed Description of Subsurface Conditions at Project Sites

 Project Name:
 Applicant Name:
 Project Location (municipality):

 120 LAND OF NOD ROAD
 GRONDIN CORPORATION
 WINDHAM

	120 LAND OF N			GRONDIN CORFORA				WINDHAW	
	Exploration Symbol:	SOIL DESCRIPTION AN TP-26	Test Pit	Boring	-	Exploration Symbol:	SOIL DESCRIPTION A	Test Pit	Boring
		_ Depth of Organic Horizon Abov		Mattling			Depth of Organic Horizon Abov		Mottlin
1	Texture	Consistency	Color	Mottling	1	Texture	Consistency	Color	Mottling
2	LOAMY SAND	 	10YR 3/4 DARK		3	SANDY	FRIABLE	10YR 4/4	
4			YELLOWISH BROWN		4	LOAM		DARK YELLOWISH	
es) °		FRIABLE			es)			BROWN	ļ
(Inches)		1			(Inches,	8			1
ACE (2.5Y 5/6	COMMON,
12 12	MEDIUM		2.5Y 5/6		SURFACE			LIGHT OLIVE	MEDIUM, DISTINCT
S 7/C	SAND		LIGHT		14 16 18 IS TIOS	LOAMY	CEMENTED	BROWN	
¹⁸ 20			OLIVE BROWN						
24 NER4	<u>_</u>	<u>_</u>	7.5Y 4/4	COMMON,	MINERAL [2] [2]				
IN M		CEMENTED		MEDIUM, DISTINCT		FINE SAND	FRIABLE		
8EL0			ļ	2.011101	BELOW				ļ
31 H BI	<u> </u>	<u> </u>			TH E				1
DEF	l		7.5Y 4/6		DEPTH				
40					40			2.5Y 5/3	
50	FINE		2.5Y 6/4 LIGHT YELLOWISH		50			LIGHT OLIVE	
60	SAND		BROWN		60			BROWN	1
٥	hydric	Slope %	CAVATION = 50" Limiting factor	 ground water 	•	hydric	LIMIT OF EX Slope %	CAVATION = 60" Limiting factor	 ground water
•	non-hydric	3-8		 restrictive layer bedrock 	•	non-hydric	0-3	8"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	CROGHAN	 Drainage Class	 Hydrologic Group	C.S.S.	Soil Series / phase name:	NAUMBURG	SWPD Drainage Class	 Hydrologic Group
L.S.E.	Soil Classification:	5	C		L.S.E.	Soil Classification:	5	E	
		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class			Profile SOIL DESCRIPTION A	Drainage Class	Design Class
	Exploration Symbol:	TP-28	Test Pit	Boring		Exploration Symbol:	TP-29	Test Pit	Boring
0	2 Texture	Depth of Organic Horizon Abov Consistency	e Mineral Soil Color	Mottling	0	2	Depth of Organic Horizon Abov Consistency	e Mineral Soil Color	Mottling
1	SANDY	FRIABLE	10YR 4/3		1	SANDY	FRIABLE	10YR 4/4	
3	LOAM		BROWN		3	LOAM		DARK	ļ
4					5			BROWN	1
(Inches)					(Inches)				
		<u>_</u>		<u> </u>		· · · · · · · · · · · · · · · · · · ·			┥─────┤
RFACE	LOAMY		10YR 4/6		SURFACE			10YR 5/6 YELLOWISH	
	SAND		DARK					BROWN	<u> </u>
16 18 7/OS			BROWN		- 7/OS				4
20 ERAL	MEDIUM	CEMENTED	2.5Y 5/6	COMMON,		COARSE		2.5Y 5/6 LIGHT	<u> </u>
MINE	SAND		LIGHT OLIVE	MEDIUM, DISTINCT	W MINERAL	SAND		OLIVE BROWN	
28 30 MOT:			BROWN						<u> </u>
H BEL	GRAVELLY COARSE		2.5Y 6/3 LIGHT		DEPTH BELO	FINE SAND	FIRM	2.5Y 6/6 OLIVE	COMMON, MEDIUM,
DEPTI ₈	SAND		YELLOWISH		Т –	JAND	FIKW	YELLOW	DISTINCT
] ⁴	FINE	 	BROWN		J 38				
50	SAND				50	GRAVELLY COARSE			
60					60	SAND			
	bydric		CAVATION = 55" Limiting factor	ground water	0	hydric		CAVATION = 55" Limiting factor	 ground water
•	hydric non-hydric	Slope % 	Limiting factor	 restrictive layer 	•	non-hydric	Slope % 3-8	Limiting factor	 restrictive layer
c.s.s.	Soil Series / phase name:		MWD	bedrock A	C.S.S.	Soil Series / phase name:	CROGHAN	MWD	bedrock A
(Soil Classification:	5	Drainage Class C	Hydrologic Group		Soil Classification:	5	Drainage Class	Hydrologic Group
L.S.E.	COIL CIASSINGAUON:	Profile	Drainage Class	Design Class	L.S.E.	Con Classification:	Profile	Drainage Class	Design Class
								IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	1111
								ATEOFM	ALA
Profe	essional Endorsemen	ts (as applicable)						TATE OF M	AN IL
C.S.S.)	Da	ate:		GARY	
	signature:	they	K_L	/		9/20/18		M.	. 1 E
			llantar		Li	c.#:	3 1	FULLERTO NO. 462	
	name printed/typed:	Gary M. Fu	lilerton	,		462	<u>=</u> *	110.402	/*≣
L.S.E.		()	1 /1	/	Da	ate:		GARY M. FULLERTO NO. 462	
	signature:	Chy	19			9/20/18	11	SOIL SCIEN	US IIII
		Gany M. E.		-	Li	c.#: 255		HIIIIIIII	mu.
	name printed/typed:	Gary M. Fu	merton			355	affix professional seal		

Sebago Technics, Inc.

	Detailed Description of Subsurface Conditions at Project Sites	
Project Name:	Applicant Name:	Project Location (municipality):
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM

		SOIL DESCRIPTION AN	D CLASSIFICATION				SOIL DESCRIPTION AN	ID CLASSIFICATION	
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:	TP-31	Test Pit	Boring
		Depth of Organic Horizon Abov					_ Depth of Organic Horizon Above		
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	SANDY		10YR 4/4		2	SANDY	FRIABLE	10YR 3/2	
3	LOAM		DARK YELLOWISH		4	LOAM		VERY DARK GRAYISH BROWN	
5			BROWN		5			2.5Y 5/6	
seus)		FRIABLE			(Inches)			LIGHT	
: (Inc								OLIVE BROWN	
-ACE	GRAVELLY		10YR 5/6		SURFACE			2.00	
12 14	SAND		YELLOWISH BROWN		42 12 14				
16					S 7/OS	VERY FINE	FIRM	5Y 5/2	COMMON,
18 OS 7						SANDY LOAM		OLIVE GRAY	MEDIUM, DISTINCT
ERA					ERAL	SILTY		5Y 4/2	
NW 26					MINE!	CLAY		OLIVE	
NO.			2.5Y 6/3	COMMON,	MO	LOAM		GRAY	
BEL			LIGHT	MEDIUM,	BEL				
РТН			YELLOWISH BROWN	DISTINCT	<i>DЕРТН</i>				
DE			BROWN		DE				
40		+			40				
50			<u> </u>		50	FINE	FRIABLE	2.5Y 5/6	
60					60	SAND		LIGHT OLIVE BROWN	
			CAVATION = 55"	1				AVATION = 55"	
•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer
		<u>3-8</u>		bedrock			<u>3-8</u>	<u>12"</u>	bedrock
c.s.s.	Soil Series / phase name	DUANE	<u>MWD</u> Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	SWANTON	_SWPD Drainage Class	B/D Hydrologic Group
L.S.E.	Soil Classification:	6	C		L.S.E.	Soil Classification:	8	D	
/		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class			Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-32	Test Pit	Boring		Exploration Symbol:	TP-33	Test Pit	Boring
		Depth of Organic Horizon Abov					_ Depth of Organic Horizon Above		
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	LOAMY		10YR 4/4		2	LOAMY	FRIABLE	10YR 5/6	
3	FINE SAND		DARK YELLOWISH		3	SAND		YELLOWISH BROWN	
5			BROWN		5				
e 19									
(Inch			2.5Y 6/1		(Inches)				
P I I	FINE SAND	FRIABLE	GRAY	NONE OBSERVED					
L 12					SURFACE				
7 S 7	LOAMY FINE		10YR 4/6 DARK						
16 18	SAND		YELLOWISH BROWN		16 18	MEDIUM SAND		2.5Y 5/6 LIGHT	
20 BAL			BROWN		20 784.	SAND		OLIVE	
MINE 26	FINE SAND		2.5Y 5/6 LIGHT					BROWN	
ow∧ ∎	SAND		OLIVE		V MO 29				FEW, FINE,
		FIRM	BROWN		- 30	SILT	FIRM	5Y 6/2	FAINT
DEPTH BEL s s					DEPTH BE	LOAM	T IIXM	LIGHT	
<u>зе</u>					DEP			OLIVE GRAY	
40		FRIABLE	2.5Y 6/3		40			ORAT	
			LIGHT YELLOWISH		-				
υa			BROWN		50				
60			CAVATION = 50"	<u> </u>	60			AVATION = 48"	
0	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric			 restrictive layer bedrock 	•	non-hydric		29"	 restrictive layer bedrock
c.s.s.	Soil Series / phase name	ADAMS	SWED	A	C.S.S.	Soil Series / phase name:	MELROSE	WD	<u>C</u>
	Soil Classification:	5	Drainage Class C	Hydrologic Group		Soil Classification:	7	Drainage Class	Hydrologic Group
L.S.E.	Con Classification.	Profile	Drainage Class	Design Class	L.S.E.	con classification.	Profile	Drainage Class	Design Class
								IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	b .
								TE OF MA	1111
								ATE OF MA	NILL.
Profe	essional Endorsemen	nts (as applicable)		Δ				CARY .	Nº E
c.s.s.		()	1 1		Da	te:		M	1 1
	signature:	Chy	18 2			9/20/18	= /	ELILI EDTO	, 1 =
					Lic	.#:		NO 462	1 =
	name printed/typed:	Gary M. Fu	illerton			462	<u>=</u> *	110, 402	
			n 1	2	Da	te:		M. Qanner	
L.S.E.	signature:	Chy	- 16. 2			9/20/18	14	S	E.III
	signature:	0			Lic	#:		SCIEN!	IIII
	name printed/typed:	Gary M. Fu	illerton			355	affix professional seal		
	Sebago Techni		-				prorobolional acai		30-33
									30-33

Proje	ect Name: 120 LAND OF	NOD ROAD	Applicant Name:	GRONDIN CORPORA		onditions at Project Sites	Project Location (mu	inicipality): WINDHAM	
	Exploration Symbol:	SOIL DESCRIPTION AN TP-34	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-35	Test Pit	Boring
	Texture	1 " Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		Texture 1	Depth of Organic Horizon Above Consistency	Mineral Soil	Mottling
1		Concisionery			1		concisioney		
2	SANDY LOAM		2.5Y 4/4 OLIVE			SANDY LOAM		10YR 4/4 DARK	
4	LOAM		BROWN			LOAM		YELLOWISH	
5					ŧ		FRIABLE	BROWN	
(se)					(es)				
(Inches)					(Inches)	8			
					FACE (
SURFACE					SEA0				
	MEDIUM	FRIABLE	2.5Y 5/6	NONE		LOAMY		2.5Y 4/1	NONE
5 7/OS	SAND		LIGHT	OBSERVED		SAND		DARK	OBSERVED
			OLIVE BROWN			8		GRAY	
			BROWN			2			
W M0 28						SILT LOAM	FIRM	2.5Y 5/3 LIGHT	
107:					MOT	Lonin		OLIVE	
	GRAVELLY		2.5Y 5/4					BROWN	
DEPTH	COARSE SAND		LIGHT OLIVE BROWN		-11-				
DE			2.5Y 6/4		DE				
40	FINE		LIGHT YELLOWISH		40				
41	SAND		BROWN 2.5Y 5/3		-				
50	SILT	FIRM	LIGHT OLIVE		50				
60	LOAM		BROWN		60	5			
	bydric	LIMIT OF EXC Slope %	Limiting factor	n around water		bydric	LIMIT OF EXC Slope %	AVATION = 48" Limiting factor	ground water
•	hydric non-hydric		Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor	 ground water restrictive layer
\vdash	-			bedrock					bedrock
C.S.S.	Soil Series / phase name	e: MELROSE	WD		C.S.S.	Soil Series / phase name	MELROSE	WD	_ <u>C</u>
	Soil Classification:	7	Drainage Class	Hydrologic Group		Soil Classification:	7	Drainage Class C	Hydrologic Group
L.S.E.	Soli Classification.	Profile	Drainage Class	Design Class	L.S.E.	Son classification.	Profile	Drainage Class	Design Class
		SOIL DESCRIPTION AN					SOIL DESCRIPTION AN		
	Exploration Symbol:	TP-36	Test Pit	Boring		Exploration Symbol:	TP-37	Test Pit	Boring
	Texture	1 * Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		2	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1	Texture	Consistency	000	Motting		Texture	Consistency	000	wotting
2	SANDY		10YR 4/4		- 2	LOAMY		10YR 4/4	
3	LOAM		DARK YELLOWISH			SAND		DARK YELLOWISH	
4			BROWN					BROWN	
6 8					(s)		FRIABLE		NONE
(Inches,					(Inches	,		0 EV E/C	OBSERVED
<u>"</u>	LOAMY	FRIABLE	10YR 4/6	NONE				2.5Y 5/6 LIGHT	
SURFACE	SAND		DARK	OBSERVED	SURFACE			OLIVE	
12			YELLOWISH		HH 12			BROWN	
)S			BROWN			GRAVELLY		2.5Y 6/6	
						COARSE		OLIVE	
20 BAL					EAL 3	SAND		YELLOW	
ш —	COARSE SAND		2.5Y 4/6 OLIVE		ш —				
JIW			BROWN		JIW I				
MO					MO	SILT	FIRM	2.5Y 5/3	
DEPTH BELOW MIN		+			BELOW MIN	LOAM		LIGHT	
TH I					HL -			BROWN	
DEP	FINE				EP				
40	SAND				7 40				
40	<u> </u>		5Y 6/3			<u> </u>	<u> </u>		
50			LIGHT		50	FINE	FRIABLE		
60		+	YELLOWISH BROWN	+	60	SAND			
			CAVATION = 49"	-				AVATION = 48"	
•	hydric	Slope %	Limiting factor	ground water ground water		hydric non-hydric	Slope %	Limiting factor	 ground water restrictive laver
Ľ	non-hydric		_>49"	 restrictive layer bedrock 	L	non-nyanc	0-3	23"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name	e: ADAMS	SWED	A	C.S.S.	Soil Series / phase name	MELROSE	WD	C
		_	Drainage Class	Hydrologic Group				Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5_ Profile	B Drainage Class	Design Class	L.S.E.	Soil Classification:	7 Profile	C Drainage Class	Design Class
<u> </u>		PIOIIIE	Drainage Class	Design CidSS			PTOTILE		
									1111.
								TE OF M	ANU
								TATEOFM	No 11
Profe	essional Endorseme	nts (as applicable)		A	-			MARTIN CADL	Nº E
C.S.S.		()	1 1	2	D	ate:		GARY	$\langle \Xi \rangle$
5.5.3.		a han	15 1			9/20/18	31	M.	I E
<u> </u>	signature:	0			i	c.#:		FULLERTO	NIE
		Gary M. Fu	llerton			462	1. 5	NO. 462	1 5
	name printed/typed:			٨		402	3		
L.S.E.		()	1 1	1	D	ate:		M. Comate	
L.3.E.	1	Ch-	16. 2			9/20/18	14.	S	15,111
		\sim					- 7	WU SCIEN	
	signature:				l i	c.#:	- /		
	signature: name printed/typed:	Gary M. Fu	llerton		Li	°.#: 355	affix professional seal	HIIIIIIII	WIII.

Sebago Technics, Inc.

	ct Name: 120 LAND OF I	NOD ROAD	Applicant Name:	GRONDIN CORPOR	ATION		Project Location (mu	unicipality): WINDHAM	
г		SOIL DESCRIPTION AN					SOIL DESCRIPTION AN		
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:		Test Pit	Boring
	Texture	Depth of Organic Horizon Above Consistency	Mineral Soil	Mottling		2 Texture	Depth of Organic Horizon Above Consistency	Mineral Soil	Mottling
1		Consistency		motting	1		consistency		motting
2	SANDY LOAM		10YR 4/4 DARK		2	SANDY LOAM		10YR 4/4 DARK	
4			YELLOWISH BROWN		4			YELLOWISH BROWN	
s) 6			Вкоти		s) °			Bitofilt	
(Inches,					(Inches)				
		EDIADI E	40)/D 4/0	NONE					
10 12	LOAMY SAND	FRIABLE	10YR 4/6 DARK	NONE OBSERVED	SURFACE	LOAMY	FRIABLE	10YR 4/6	
NS 14			YELLOWISH BROWN			SAND		DARK YELLOWISH	
10 18					10S			BROWN	
LAL 50	GRAVELLY SAND		2.5Y 5/6 LIGHT		PAL 8			2.5Y 6/6	
AINE			OLIVE BROWN		MINE 26	FINE SAND		OLIVE YELLOW	
MO			Вкоти		8 8 7 0 M V	GAND		2.5Y 5/4	
30 30 32					30 34 BET(LIGHT OLIVE BROWN	
DEPTH BELOW MINERAL SOIL SURFACE	CNIC		0.5% 0/4		HLa				0011101
DEI	FINE SAND		2.5Y 6/4 LIGHT		DEF			2.5Y 7/3 PALE	COMMON, MEDIUM,
40			YELLOWISH BROWN		55			BROWN	DISTINCT (RELIC MOTTLES)
50		1	2						(
60		+		╡────┤	_	MEDIUM SAND			+
0	budria	LIMIT OF EXC Slope %	CAVATION = 48" Limiting factor	ground water		hydric		AVATION = 60" Limiting factor	 ground water
•	hydric non-hydric	0-3	_>48"	restrictive layer	•	non-hydric	Slope % 0-3	>60"	 restrictive layer
	Soil Series / phase name		SWED	bedrock A		Soil Series / phase name		SWED	bedrock A
C.S.S.	con conce / prideo name		Drainage Class	Hydrologic Group	C.S.S.	con conce, phase name		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5 Profile	B Drainage Class	Design Class	L.S.E.	Soil Classification:	5 Profile	B Drainage Class	Design Class
		SOIL DESCRIPTION AN	D CLASSIFICATION				SOIL DESCRIPTION AN	ID CLASSIFICATION	_
	Exploration Symbol:	TP-40	Test Pit	Boring		Exploration Symbol:	TP-41	Test Pit	Boring
0	Texture	Consistency	Color	Mottling	0	Texture	Depth of Organic Horizon Above Consistency	Color	Mottling
1	SANDY		10YR 5/6		1	SANDY		10YR 4/4	
3	LOAM		YELLOWISH		3	LOAM		DARK	
4			BROWN		4			YELLOWISH BROWN	
(Se					(Se				
SURFACE (Inches)	LOAMY		2.5Y 5/6		(Inches)				
9 10	SAND		LIGHT						
4 12						LOAMY	FRIABLE	10YR 4/6	NONE
5		EDIADI E	OLIVE BROWN	NONE		LOAMY SAND	FRIABLE	10YR 4/6 DARK	NONE OBSERVED
14 16		FRIABLE	OLIVE	NONE OBSERVED	SURFACE		FRIABLE		
14 16 18 20 HOS TIOS T		FRIABLE	OLIVE		SOIL SURFACE		FRIABLE	DARK YELLOWISH	
ERAL SOIL SUF		FRIABLE	OLIVE		RAL SOIL SURFACE		FRIABLE	DARK YELLOWISH	
AERAL SOIL		FRIABLE	OLIVE BROWN		NERAL SOIL SURFACE		FRIABLE	DARK YELLOWISH BROWN	
AERAL SOIL	FINE SAND	FRIABLE	OLIVE BROWN 2.5Y 6/4		NERAL SOIL SURFACE	SAND	FRIABLE	DARK YELLOWISH BROWN 5Y 7/2	
AERAL SOIL	SAND	FRIABLE	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH		NERAL SOIL SURFACE	SAND	FRIABLE	DARK YELLOWISH BROWN	
AERAL SOIL		FRIABLE	OLIVE BROWN 2.5Y 6/4 LIGHT		NERAL SOIL SURFACE	SAND VERY FINE	FRIABLE	DARK YELLOWISH BROWN 5Y 7/2 LIGHT	
DW MINERAL SOIL	SAND	FRIABLE	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH		RAL SOIL SURFACE	SAND VERY FINE	FRIABLE	DARK YELLOWISH BROWN 5Y 7/2 LIGHT	
DEPTH BELOW MINERAL SOIL 8 <td>SAND COARSE SAND FINE</td> <td>FRIABLE</td> <td>OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH</td> <td></td> <td>NERAL SOIL SURFACE</td> <td>SAND VERY FINE</td> <td>FRIABLE</td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT</td> <td></td>	SAND COARSE SAND FINE	FRIABLE	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH		NERAL SOIL SURFACE	SAND VERY FINE	FRIABLE	DARK YELLOWISH BROWN 5Y 7/2 LIGHT	
EPTH BELOW MINERAL SOIL	SAND COARSE SAND FINE SAND	FRIABLE	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH		NERAL SOIL SURFACE	SAND VERY FINE	FRIABLE	DARK YELLOWISH BROWN 5Y 7/2 LIGHT	
DEPTH BELOW MINERAL SOIL 8 <td>SAND COARSE SAND FINE</td> <td></td> <td>OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN</td> <td></td> <td>NERAL SOIL SURFACE</td> <td>SAND VERY FINE</td> <td></td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY</td> <td></td>	SAND COARSE SAND FINE		OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN		NERAL SOIL SURFACE	SAND VERY FINE		DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY	
DEPTH BELOW MINERAL SOIL 8 <td>SAND COARSE SAND FINE SAND COARSE SAND hydric</td> <td></td> <td>OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH</td> <td>OBSERVED</td> <td>□ DEPTH BELOW MINERAL SOIL SURFACE 8 8 8 5 5 5 5 </td> <td>SAND VERY FINE SAND</td> <td></td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT</td> <td>OBSERVED</td>	SAND COARSE SAND FINE SAND COARSE SAND hydric		OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH	OBSERVED	□ DEPTH BELOW MINERAL SOIL SURFACE 8 8 8 5 5 5 5	SAND VERY FINE SAND		DARK YELLOWISH BROWN 5Y 7/2 LIGHT	OBSERVED
DEPTH BELOW MINERAL SOIL 0 <td>SAND COARSE SAND FINE SAND COARSE SAND</td> <td>LIMIT OF EXC</td> <td>OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58"</td> <td>OBSERVED</td> <td>DEPTH BELOW MINERAL SOIL SURFACE 8 8 1 1 8 1<!--</td--><td>SAND VERY FINE SAND</td><td>LIMIT OF EXC</td><td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY CRAY</td><td>OBSERVED</td></td>	SAND COARSE SAND FINE SAND COARSE SAND	LIMIT OF EXC	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58"	OBSERVED	DEPTH BELOW MINERAL SOIL SURFACE 8 8 1 1 8 1 </td <td>SAND VERY FINE SAND</td> <td>LIMIT OF EXC</td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY CRAY</td> <td>OBSERVED</td>	SAND VERY FINE SAND	LIMIT OF EXC	DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY CRAY	OBSERVED
DEPTH BELOW MINERAL SOIL 0 <td>SAND COARSE SAND FINE SAND COARSE SAND hydric</td> <td>LIMIT OF EXC Slope % </td> <td>OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN AVATION = 58" Limiting factor </td> <td>OBSERVED</td> <td>□ DEPTH BELOW MINERAL SOIL SURFACE 8 8 8 5 5 5 5 </td> <td>SAND VERY FINE SAND</td> <td>LIMIT OF EXC Slope % </td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY AVATION = 52" Limiting factor </td> <td>OBSERVED OBSERVED Generation of the second se</td>	SAND COARSE SAND FINE SAND COARSE SAND hydric	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN AVATION = 58" Limiting factor 	OBSERVED	□ DEPTH BELOW MINERAL SOIL SURFACE 8 8 8 5 5 5 5	SAND VERY FINE SAND	LIMIT OF EXC Slope % 	DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY AVATION = 52" Limiting factor 	OBSERVED OBSERVED Generation of the second se
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 2: ADAMS	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN AVATION = 58" Limiting factor S8" S8" SWED Drainage Class	OBSERVED	Depth BELOW MINERAL SOIL SURFACE a bepth BELOW MINERAL SOIL SURFACE b <td>SAND VERY FINE SAND hydric non-hydric Soil Series / phase name</td> <td>LIMIT OF EXC Slope % </td> <td>DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY GRAY </td> <td>OBSERVED</td>	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 	DARK YELLOWISH BROWN 5Y 7/2 LIGHT GRAY GRAY 	OBSERVED
Image: second	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN AVATION = 58" Limiting factor 	OBSERVED	● □ DEPTH BELOW MINERAL SOIL SURFACE	SAND VERY FINE SAND hydric non-hydric	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" 	OBSERVED OBSERVED organization organization	Depth BELOW MINERAL SOIL SURFACE a bepth BELOW MINERAL SOIL SURFACE b <td>SAND VERY FINE SAND hydric non-hydric Soil Series / phase name</td> <td>LIMIT OF EXC Slope % 0-3 ADAMS </td> <td>DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class</td> <td>OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class</td>	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	Depth BELOW MINERAL SOIL SURFACE a bepth BELOW MINERAL SOIL SURFACE b <td>SAND VERY FINE SAND hydric non-hydric Soil Series / phase name</td> <td>LIMIT OF EXC Slope % 0-3 ADAMS </td> <td>DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class</td> <td>OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class</td>	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	Depth BELOW MINERAL SOIL SURFACE a bepth BELOW MINERAL SOIL SURFACE b <td>SAND VERY FINE SAND hydric non-hydric Soil Series / phase name</td> <td>LIMIT OF EXC Slope % 0-3 ADAMS </td> <td>DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class</td> <td>OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class</td>	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	DEPTH BELOW MINERAL SOIL SURFACE 18 18 18 18 18 16 16 16	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	DEPTH BELOW MINERAL SOIL SURFACE 18 18 18 18 18 16 16 16	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor >52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
1 1	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" Limiting factor >58" SWATION = 58" Limiting factor >58" 	OBSERVED OBSERVED organization organization	□ □ □ DEPTH BELOW MINERAL SOIL SURFACE □ □ □ □	VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor >52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10 10 100 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification:	LIMIT OF EXC Slope % 2: ADAMS 2: ADAMS Profile	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	□ □ □ DEPTH BELOW MINERAL SOIL SURFACE □ □ □ □	SAND VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification: ite: 9/20/18	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor >52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10 10 100 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification:	LIMIT OF EXC Slope % 	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	Image: Second	VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor >52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
10 10 10 100 10<	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification:	LIMIT OF EXC Slope % 2: ADAMS 2: ADAMS Profile	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	Image: Second	VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification: tte: 9/20/18 :#: 462 tte:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
1 1	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification:	LIMIT OF EXC Slope % 2: ADAMS 2: ADAMS Profile	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN CAVATION = 58" Limiting factor >58" SWED Drainage Class 	OBSERVED OBSERVED organization organization	Image: Second	VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification: tte: 9/20/18	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN ST/2 LIGHT GRAY AVATION = 52" Limiting factor _>52" Drainage Class	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class
1 1	SAND COARSE SAND FINE SAND COARSE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification:	LIMIT OF EXC Slope % 2: ADAMS 2: ADAMS Profile	OLIVE BROWN 2.5Y 6/4 LIGHT YELLOWISH BROWN BROWN CAVATION = 58" CAVATION = 58" CA	OBSERVED OBSERVED organization organization	Image: Second	VERY FINE SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification: tte: 9/20/18 :#: 462 tte:	LIMIT OF EXC Slope % 0-3 ADAMS 	DARK YELLOWISH BROWN SY7/2 LIGHT GRAY GRAY CLIMITIN = 52" CLIMITING factor SWED Drainage Class B	OBSERVED OBSERVED Group ground water restrictive layer bedrock A Hydrologic Group Design Class

SOIL

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PROFILE/CLASSIFICATION INFORMATION	
ailed Description of Subsurface Conditions at Project Sites	

Proje	ect Name: 120 LAND OF N		Applicant Name:	GRONDIN CORPOR	ATION		Project Location (m	WINDHAM	
	Exploration Symbol:	SOIL DESCRIPTION AN TP-42	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-43	Test Pit	Boring
		_ Depth of Organic Horizon Abov	_				_ Depth of Organic Horizon Above		_
0	Texture	Consistency	Color	Mottling	1	Texture	Consistency	Color	Mottling
2	SANDY		10YR 4/4		2			10//5 0/0	
3	LOAM		DARK YELLOWISH		3			10YR 3/6 DARK	
5			BROWN		6	LOAMY		YELLOWISH BROWN	
snes,					(Inches,	SAND	FRIABLE	2	
9					= (Inc				
	LOAMY	FRIABLE	10YR 4/6	NONE	SOIL SURFACE				
	SAND	FRIADLE	DARK	OBSERVED	212 212			10YR 5/6	NONE
16 18			YELLOWISH BROWN		- TIO			YELLOWISH BROWN	OBSERVED
					24L S			2.5Y 5/6	
22					MINERAL 8			LIGHT	
w w	FINE SAND		2.5Y 5/6 LIGHT		26 W M0		CEMENTED	OLIVE BROWN	
30 30			OLIVE		BELOW	FINE SAND			
32			BROWN		THE	SAND		5Y 6/3 PALE	
ц "	COARSE SAND		2.5Y 6/3 LIGHT		DEPTH ³⁸			OLIVE	
43			YELLOWISH		40		FRIABLE	FV 9/4	
50	MEDIUM		BROWN		50			5Y 7/2 LIGHT	
60	SAND				60			GRAY	
_			CAVATION = 60"					CAVATION = 50"	
•	hydric non-hydric	Slope % 0-3	Limiting factor _>60"	 ground water restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor 18"	 ground water restrictive layer
-	Soil Series / phase name:		<u>>60*</u>	bedrock	- h	Soil Series / phase name:		SWED	bedrock A
.s.s.	oon oenes / priase name:		Drainage Class	Hydrologic Group	C.S.S.	con cenes / priase name:		Drainage Class	<u> </u>
.S.E.	Soil Classification:	5_ Profile	<u>B</u>		L.S.E.	Soil Classification:	5 Profile	<u>C</u>	Design Class
		SOIL DESCRIPTION AN	Drainage Class	Design Class			SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-44	Test Pit	Boring		Exploration Symbol:	TP-45	Test Pit	Boring
0	2 Texture	_" Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling	0	2 Texture	_" Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling
1					1				
2	SANDY LOAM		10YR 4/4 DARK		2	SANDY LOAM		10YR 4/4 DARK	
4			YELLOWISH BROWN		4			YELLOWISH BROWN	
s) 			БКОТИ		s) 			BROWN	
nches) [®] ¹		FRIABLE		NONE	(Inches) [®] [⊥] [®]	LOAMY	FRIABLE	10YR 4/6	
с 1 10				OBSERVED	aCE (SAND		DARK YELLOWISH	
12					Í 12			BROWN	
フ - 14 - 16	LOAMY SAND		10YR 4/6 DARK		14 NS 71				
18			YELLOWISH BROWN		10S 18				
20			BROWN		ERAL 10	GRAVELLY		2.5Y 5/6	
	FINE	CEMENTED	5Y 6/3			SAND		LIGHT	
BELOW	SAND		PALE OLIVE		MO.			BROWN	
			OLIVE		30 32 7798				
					DEPTH BELOW N	SILTY	FIRM	5Y 4/2	COMMON,
5 <u> </u>					DF	CLAY		OLIVE	MEDIUM, DISTINCT
40					40	LOAM	<u> </u>	GRAY	ושאוויפוע
50			<u> </u>		50		<u> </u>		
60			CAVATION = 55"		60			CAVATION = 52"	
0	hydric	Slope %	Limiting factor	ground water	۵	hydric	Slope %	Limiting factor	 ground water
•	non-hydric	0-3	24"	 restrictive layer bedrock 	•	non-hydric			 restrictive layer bedrock
:.s.s.	Soil Series / phase name:	ADAMS	SWED	A	C.S.S.	Soil Series / phase name:	CROGHAN	MWD	A
.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:	7	Drainage Class	Hydrologic Group
.J.E.		Profile	Drainage Class	Design Class	L.S.E.		Profile	Drainage Class	Design Class
									1111
							.3	WATE OF M	AINIL
Profe	essional Endorsement	ts (as applicable)						STATE OF M	
				2	-			GARY	NE
:.s.s.		the -	. R 1	/	Da	ate: 9/21/18		GARY M. FULLERTC NO. 462	
	signature:	S	11		Lic	JZ I/ IO .#:		FULLERTO	N =
	name printed/typed:	Gary M. Fu	llerton			462	1	NO. 462	1.3
	name printed/typed:	\sim	. /	1	_		<u> </u>	Man ~	
S.E.		11-	. R 1	/	Da	ate: 0/21/18	11	SRIFT	S IN
	signature:	S	11		1.5	9/21/18	3	11101L SCIEN	1. THINK
		Gary M. Fu	llerton		LIC	355		MANNIN	mu
	name printed/typed:					JJJ	affix professional seal		

Sebago Technics, Inc.

Proie	ect Name:		Applicant Name:	etailed Description of Oubs		onditions at Project Site	Project Location (mu	inicipality):	
	120 LAND OF N	NOD ROAD		GRONDIN CORPOR	ATION			WINDHAM	
I	Exploration Symbol:	SOIL DESCRIPTION AN TP-46	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-47	Test Pit	Boring
	2 Texture	Depth of Organic Horizon Above Consistency	ve Mineral Soil Color	Mottling	0	Texture	2 Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1					1				J
3	FINE	FRIABLE	2.5Y 5/4		3	SANDY		10YR 4/4	
4	SANDY LOAM		LIGHT		4	LOAM		DARK YELLOWISH	
6			BROWN		° (s)			BROWN	
60 7 8	ļ				- rue				
	SILT	FIRM	2.5Y 6/3	COMMON,			FRIABLE		
10	LOAM		LIGHT YELLOWISH	MEDIUM, DISTINCT	10 12				
14			BROWN	21011101		LOAMY		10YR 4/6	
16					7/OS	SAND		DARK YELLOWISH	
20					7 19			BROWN	
-	FINE SANDY		2.5Y 5/4 LIGHT		22 PA	GRAVELLY		2.5Y 5/6	
	LOAM		OLIVE		IIW /	COARSE		LIGHT	
28 30			BROWN		TON	SAND		OLIVE BROWN	
30	SILTY		2.5Y 5/2		BEI			Diterin	
+	CLAY LOAM		GRAYISH BROWN		114				
1			Dite		DE				
40					40				
50					50				COMMON
60					60				MEDIUM, DISTINCT
			CAVATION = 50"		-			AVATION = 55"	
	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope %	Limiting factor	 ground war restrictive lay
				bedrock			0-3	42"	bedrock
5.S.	Soil Series / phase name:	SWANTON	SWPD	<u>B/D</u>	C.S.S.	Soil Series / phase name	e: ADAMS	SWED	_ <u>A</u>
ie.	Soil Classification:	8	Drainage Class	Hydrologic Group		Soil Classification:	6	Drainage Class C	Hydrologic Gro
IE.	Con Classification.	Profile	Drainage Class	Design Class	L.S.E.	Con Classification.	Profile	Drainage Class	Design Class
Т	Funlandian Cumhali	SOIL DESCRIPTION AN		Boring		Funlanation Sumbalı	SOIL DESCRIPTION AN		Boring
ŀ	Exploration Symbol:	TP-48	Test Pit	Boring		Exploration Symbol:	TP-49 2." Depth of Organic Horizon Above	Test Pit	Boring
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
	FINE		2.5Y 4/3						
3	SANDY		OLIVE		3	FINE		2.5Y 4/2	
4	LOAM		BROWN		4	SANDY LOAM		DARK GRAYISH	
6				COMMON,	(s) - 6	LUAN		BROWN	COMMON
7	SILT	FRIABLE	2.5Y 6/3	MEDIUM, DISTINCT	/lnche		FRIABLE		MEDIUM, DISTINCT
9	LOAM			Diotino	<u> </u>				Diotilie
10 14			LIGHT		9				
14			YELLOWISH						
15			YELLOWISH BROWN 2.5Y 6/2						
16			YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH		SURFACE				
16 18			YELLOWISH BROWN 2.5Y 6/2		SOIL SURFACE				
16 18 20	MEDIUM		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY 2.5Y 5/6		SURFACE	FINE		7.5YR 4/6	
16 18	MEDIUM SAND		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY		IERAL SOIL SURFACE	FINE SAND		7.5YR 4/6 STRONG BROWN	
16 18 20 28			YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY 2.5Y 5/6 LIGHT		W MINERAL SOIL SURFACE			STRONG BROWN	
16 18 20	SAND		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY 2.5Y 5/6 LIGHT OLIVE BROWN		OW MINERAL SOIL SURFACE			STRONG BROWN 5YR 5/6	
16 18 20 28			YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH QRAY 2.5Y 5/6 LIGHT 0LIVE BROWN 2.5Y 6/2 LIGHT		BELOW MINERAL SOIL SURFACE 0 8 8 9 9 1 1 1 0 6 8 1 0 1 1 0 6 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 0 0			STRONG BROWN	
16 18 20 28	SAND FINE		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH		OW MINERAL SOIL SURFACE			STRONG BROWN 5YR 5/6 YELLOWISH	
16 18 20 28	SAND FINE		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH QRAY 2.5Y 5/6 LIGHT 0LIVE BROWN 2.5Y 6/2 LIGHT		PTH BELOW MINERAL SOIL SURFACE % <			STRONG BROWN 5YR 5/6 YELLOWISH	
16 18 20 28 30 40	SAND FINE		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH		DEPTH BELOW MINERAL SOIL SURFACE			STRONG BROWN 5YR 5/6 YELLOWISH	
16 18 20 28 30 40 40	SAND FINE		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH		DEPTH BELOW MINERAL SOIL SURFACE			STRONG BROWN 5YR 5/6 YELLOWISH	
16 18 20 28 30 40	SAND FINE		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH C.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY		DEPTH BELOW MINERAL SOIL SURFACE			STRONG BROWN 5YR 5/6 YELLOWISH RED	
18 18 20 28 30 40 60	SAND FINE SAND hydric	LIMIT OF EX Slope %	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH	ground water	DEPTH BELOW MINERAL SOIL SURFACE	SAND	LIMIT OF EXC	STRONG BROWN 5YR 5/6 YELLOWISH	ground wa
16 18 20 28 30 40 40	SAND FINE SAND		YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CLIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48"	restrictive layer	DEPTH BELOW MINERAL SOIL SURFACE 8 8 8 12 12 0	SAND		STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50"	 restrictive lay
16 18 20 28 30 40 40 60	SAND FINE SAND hydric	Slope %	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor	restrictive layer	□ ■ DEPTH BELOW MINERAL SOIL SURFACE	SAND	Slope % 3-8	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor	
16 18 20 28 30 40 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" CAVATION = 48" Limiting factor PD Drainage Class	 restrictive layer bedrock 	DEPTH BELOW MINERAL SOIL SURFACE	SAND hydric non-hydric Soil Series / phase name	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor PD_ Drainage Class	 restrictive lay bedrock
16 18 20 28 30 40 60 60	SAND FINE SAND hydric non-hydric	Slope % 3-8 : NAUMBURG 7	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	□ ■ DEPTH BELOW MINERAL SOIL SURFACE	SAND hydric non-hydric	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 	restrictive lay bedrock A/D Hydrologic Gro
16 18 20 28 30 40 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALIGHT BROWNISH UIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" CAVATION = 48" Limiting factor 4" PD Drainage Class	restrictive layer bedrock B/D	Bit DEPTH BELOW MINERAL SOIL SURFACE Image: Solid Stress of the stres of the stress of the stress of the stress of the str	SAND hydric non-hydric Soil Series / phase name	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60	SAND FINE SAND hydric non-hydric Soil Series / phase name:	Slope % 3-8 : NAUMBURG 7	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	Bit DEPTH BELOW MINERAL SOIL SURFACE Image: Solid Stress of the stres of the stress of the stress of the stress of the str	SAND hydric non-hydric Soil Series / phase name	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60	SAND FINE SAND hydric non-hydric Soil Series / phase name:	Slope % 3-8 : NAUMBURG 7	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	Bit DEPTH BELOW MINERAL SOIL SURFACE Image: Solid Stress of the stres of the stress of the stress of the stress of the str	SAND hydric non-hydric Soil Series / phase name	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name:	Slope % 3-8_ : NAUMBURG 7_ Profile	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	Bit DEPTH BELOW MINERAL SOIL SURFACE Image: Solid Stress of the stres of the stress of the stress of the stress of the str	SAND hydric non-hydric Soil Series / phase name	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 60 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 3-8_ : NAUMBURG 7_ Profile	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 19 18 18 11 16 16 19 18 18 18 16 16 16 19 18 18 18 18 16	SAND hydric non-hydric Soil Series / phase name Soil Classification:	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60 60 8.S.	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 3-8_ : NAUMBURG 7_ Profile	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 19 18 18 11 16 16 19 18 18 18 16 16 16 19 18 18 18 18 16	SAND hydric non-hydric Soil Series / phase nam Soil Classification:	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60 00 00 00 00 00 00 00 00 0	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 3-8_ : NAUMBURG 7_ Profile	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor 4" Drainage Class E_	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 15 15 15 15	sand	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 30 40 50 60 8.S.	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification: Soil Classification: Soil Classification:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALLENT OLIVE BROWN 2.5Y 6/2 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor Drainage Class	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 15 15 15 15	SAND	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 20 30 40 50 60 50 60 50 60 50 5.5.	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification:	Slope % 3-8_ : NAUMBURG 7_ Profile	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALLENT OLIVE BROWN 2.5Y 6/2 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT BROWNISH GRAY CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor Drainage Class	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE 15 15 15 15	sand	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 28 30 40 50 60 8.S. 1 50 60 50 60 50 50 60 50 50 50 50 50 50 50 50 50 5	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification: Soil Classification: Soil Classification: Soil Classification:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALLENT OLIVE BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT UIGHT BROWNISH GRAY CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor Drainage Class	restrictive layer bedrock B/D Hydrologic Group	100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	SAND	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class
16 18 20 30 40 60 60 E.) (50 60 60 60 60 60 60 60 60 60 60 60 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification: Soil Classification: Soil Classification: Soil Classification:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALLENT OLIVE BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT UIGHT BROWNISH GRAY CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor Drainage Class	restrictive layer bedrock B/D Hydrologic Group	100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	SAND hydric non-hydric Soil Series / phase name Soil Classification: Soil Classification: 4te: 9/21/18 :#: 462	Slope % 	STRONG BROWN 5YR 5/6 YELLOWISH RED AVATION = 50" Limiting factor 4" PD Drainage Class E Drainage Class	restrictive lay bedrock AD Hydrologic Grc Design Clas
16 18 20 30 40 60 60 E.) (50 60 60 60 60 60 60 60 60 60 60 60 60 60	SAND FINE SAND hydric non-hydric Soil Series / phase name: Soil Classification: Soil Classification: Soil Classification: Soil Classification:	Slope % 	YELLOWISH BROWN 2.5Y 6/2 LIGHT BROWNISH CALLENT OLIVE BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 6/2 LIGHT UIGHT BROWNISH GRAY CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor CAVATION = 48" Limiting factor Drainage Class	restrictive layer bedrock B/D Hydrologic Group	DEPTH BELOW MINERAL SOIL SURFACE	SAND	Slope % 	STRONG BROWN SYR 5/6 YELLOWISH RED AVATION = 50" Limiting factor Drainage Class Drainage Class Drainage Class	restrictive lay bedrock AD Hydrologic Gro Design Class

Detailed Description of Subsurface Conditions at Project Sites							
Project Name:	Applicant Name:	Project Location (municipality):					
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM					

	120 EAND OF N			GRONDIN CORFOR				WINDIAW	
		SOIL DESCRIPTION AND		Boring		European Company	SOIL DESCRIPTION AN		Boring
	Exploration Symbol:		Test Pit	Doning		Exploration Symbol:	Depth of Organic Horizon Above	Test Pit	Doning
0	Texture	_" Depth of Organic Horizon Above Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
1					1				
2	FINE SANDY	FRIABLE	10YR 4/4 DARK					2.5Y 4/4 OLIVE	
4	LOAM		YELLOWISH		4			BROWN	
5			BROWN		5				
es)			2.5Y 5/3	COMMON,	(sec)				
(Inches)			LIGHT	MEDIUM,	(Inches)	SANDY	FRIABLE		
9 10			OLIVE BROWN	DISTINCT	Э Ш	LOAM			
10 12			BROWN		SURFACE				
14 14					14 14			2.5Y 5/6	
16 10S					7/OS			LIGHT	
S 74			5Y 6/3		RAL S			BROWN	
24 NEV			PALE OLIVE						
MIN.					IW				
- OW	FINE	CEMENTED	2.5Y 5/6		MOTJAH HLADM				COMMON,
BEL	SAND		LIGHT OLIVE		30 32	FINE			MEDIUM, DISTINCT
TH			BROWN		HL	SAND			
DEF 8					DEF			5Y 5/4 OLIVE	
40			5Y 5/4		40			OLIVE	
			OLIVE						
50					50				
60	-				60				
	hydric	LIMIT OF EXC Slope %	Limiting factor	 ground water 		hydric	LIMIT OF EXC Slope %	AVATION = 55" Limiting factor	 ground water
	non-hydric	3-8	5"	 restrictive layer 	•	non-hydric	0-3	24"	 restrictive layer
1	Soil Series / phase name:		 PD	bedrock A/D		Soil Series / phase name:		MWD	bedrock A
C.S.S.	Soli Selles / phase hame.	NAONIBORG	Drainage Class	Hydrologic Group	C.S.S.	Soli Series / priase riarrie.	CROGHAN	Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5	E		L.S.E.	Soil Classification:	5	C	
		Profile SOIL DESCRIPTION AND	Drainage Class	Design Class			Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
	Exploration Symbol:	TP-52	Test Pit	Boring		Exploration Symbol:	TP-53	Test Pit	Boring
		_ Depth of Organic Horizon Above	_				Depth of Organic Horizon Above	_	
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
1	SILT		2.5Y 4/1		1	SANDY LOAM	FRIABLE	2.5Y 5/4	
3	LOAM		DARK		3	SANDTLOAM	FRIADLE	LIGHT	
4			GRAY		4			OLIVE	
(⁵					- 6			BROWN	
(Inches)					(Inches)				
					(luc				
4CE		FRIABLE		COMMON,	SURFACE				
12 15				MEDIUM,					
7 S 7				DISTINCT	0 14 15				
10S	LOAMY		5Y 5/2		10S				
20 20	SAND		OLIVE GRAY		MINERAL SOIL	FINE SANDY	FIRM	2.5Y 6/4 LIGHT	
HININ 12			ORAT		NEF	LOAM		YELLOWISH	
w m			2.5Y 5/4		W _ 26			BROWN	
			LIGHT OLIVE			SILTY		5Y 4/2	FEW,
>TH BELO			BROWN		1 BE	CLAY		OLIVE	FINE,
	SILT LOAM		5Y 4/2		DEPTH BELO	LOAM		GRAY	FAINT
DE 38					DF				
40	SILTY	FIRM			40				
50	CLAY				50				
_	LOAM				60			<u>_</u>	
60		LIMIT OF EXC	AVATION = 48"	1	60		LIMIT OF EXC	AVATION = 38"	
•	hydric	Slope %	Limiting factor	 ground water rostrictive lover 	•	hydric	Slope %	Limiting factor	 ground water rostrictive lover
	non-hydric	0-3		 restrictive layer bedrock 	•	non-hydric	0-3	15"	 restrictive layer bedrock
c.s.s.	Soil Series / phase name:	SWANTON	PD	B/D	C.S.S.	Soil Series / phase name:	MELROSE	WD	
			Drainage Class	Hydrologic Group	\square			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	8 Profile	E Drainage Class	Design Class	L.S.E.	Soil Classification:	8 Profile	C Drainage Class	Design Class
					<u> </u>				
								UNITE OF A	1111.
								ATEOFM	AIN 111
Profe	essional Endorsement	ts (as applicable)						STATE OF M	
			/	1				GARY	NE
c.s.s.			1 11	/	Da	ate:		M.	1 =
	signature:	Chy	12 5			9/21/18	=	FULLERTO	
					Li	c.#:	3 1	NO. 462	1 2
	name printed/typed:	Gary M. Fu	lierton	-		462	三★	110.402	/*=
		$\langle \rangle$	n 1.	2	D.	ate:		GARY M. FULLERTC NO. 462	×
L.S.E.		A have	15 1			9/21/18	14	South States	NI CAN
	signature:	00			1.5	5/21/10 c.#:	1	L SCIEN	III
		Gany M E.	llorton		LI			HIIIIIIII	llur.
	name printed/typed:	Gary M. Fu	nerton			355	affix professional seal		

	ect Name: 120 LAND OF N	IOD ROAD	Applicant Name:	GRONDIN CORPOR			Project Location (m	unicipality): WINDHAM	
	1	SOIL DESCRIPTION AN		_			SOIL DESCRIPTION A		_
	Exploration Symbol:	B-54	Test Pit	Boring		Exploration Symbol:	B-55	Test Pit	Boring
0		Depth of Organic Horizon Abov	Color	Mottling	0	Texture	Depth of Organic Horizon Abov Consistency	Color	Mottling
2		FRIABLE	2.5Y 3/1	COMMON,	2	SILT	FRIABLE	5Y 3/1	COMMON,
3	SANDY		VERY DARK	MEDIUM, DISTINCT	3	LOAM		VERY DARK	MEDIUM, DISTINCT
5			GRAY	Distinct	5			GRAY	Distinct
	7				(seu				
(Inches)	3				(Inches)				
9 10	3				SURFACE				
	2	FIRM	5Y 4/1	MANY,					
S 7/0	3		DARK GRAY	COARSE,	7				
OS 18 7	FINE		5Y 5/3	PROMINENT	OS 7	LOAMY		5Y 5/1	MANY,
IER/	SAND		OLIVE		ZHI 26	FINE SAND		GRAY	COARSE, PROMINENT
VIW /					BELOW MINERAL				
MO7.	5				M07.	SILTY CLAY	FIRM		
H BEI			5Y 5/6		H BE	LOAM			
EPT			OLIVE		DEPTH				
J 40				+	40				+
50					50				
60			CAVATION = 42"		60			CAVATION = 36"	
•	hydric	Slope %	Limiting factor	 ground water 	•	hydric	Slope %	Limiting factor	 ground water
•	non-hydric	0-3		 restrictive layer bedrock 	•	non-hydric	0-3		 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	NAUMBURG	PD	<u> </u>	C.S.S.	Soil Series / phase name	SWANTON	PD_	<u>B/D</u>
L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:	8	Drainage Class	Hydrologic Group
/		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class	/		Profile SOIL DESCRIPTION A	Drainage Class	Design Class
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:		Test Pit	Boring
		Depth of Organic Horizon Abov					_ Depth of Organic Horizon Abov		
0	Texture	Consistency	Color	Mottling	1	Texture	Consistency	Color	Mottling
2	2				2				
4	4				4				
(s) -6	5				(s) 6				
(Inches)	7		/		(Inches)			/	
	3				n) =				
	2				SURFACE				
۱ <u>4</u>	4				IN 14				
16 18	3								
ERAL					ERAL				
		/					/		
BELOW MIN					M				
BEL(BEL(
DEPTH					DEPTH BELOW MIN				
DE					DE				
40		/			40		/		
50	/			<u> </u>	50	/			
60			<u> </u>	<u> </u>	60		<u> </u>		<u> </u>
×	hydric	LIMIT OF EX Slope %	CAVATION = X" Limiting factor	ground water	x	hydric	LIMIT OF EX Slope %	CAVATION = X" Limiting factor	ground water
0	non-hydric	Slope 78	Limiting factor	restrictive layer	0	non-hydric	Slope 78	Limiting factor	 restrictive layer
c.s.s.	Soil Series / phase name:			bedrock	c.s.s.	Soil Series / phase name			bedrock
C.S.S.	/		During of the second	Hydrologic Group	0.5.5.			Drainage Class	Hydrologic Group
⊢×́	/		Drainage Class	Hydrologic Group	- X				
LSÆ.	Soil Classification:	Profile			LSÆ.	Soil Classification:	Profile	Drainage Class	Design Class
LSÆ.	Soil Classification:	Profile	Drainage Class	Design Class	LSE.	Soil Classification:	Profile	Drainage Class	Design Class
LS/E.	Soil Classification:	Profile			LSE.	Soil Classification:			10.
	, 				LSE.	Soil Classification:			10.
	Soil Classification:				LSE.	Soil Classification:			10.
	essional Endorsemen					ate:			10.
Profe	essional Endorsemen					ate: 9/21/18			10.
Profe	essional Endorsement	is (as applicable)	Drainage Class			ate: 9/21/18 c.#:			10.
Profe	essional Endorsement		Drainage Class			ate: 9/21/18			10.
Profe C.S.S.	essional Endorsement signature: name printed/typed:	is (as applicable)	Drainage Class			ate: 9/21/18 :.#: 462 ate:			10.
Profe	essional Endorsement signature: name printed/typed:	is (as applicable)	Drainage Class			ate: 9/21/18 :#: 462			10.
Profe C.S.S.	essional Endorsement signature: name printed/typed:	is (as applicable)	Drainage Class			ate: 9/21/18 :.#: 462 ate:		GARY	10.

Detailed Description of Subsurface Conditions at Project Sites								
Project Name:	Applicant Name:	Project Location (municipality):						
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM						

		SOIL DESCRIPTION ANI	D CLASSIFICATION				SOIL DESCRIPTION AN	ID CLASSIFICATION	
	Exploration Symbol:		Test Pit	Boring		Exploration Symbol:		Test Pit	Boring
		Depth of Organic Horizon Above					Depth of Organic Horizon Above		
0	Texture	Consistency	Color	Mottling	1		Consistency	Color	Mottling
2	SILT LOAM	FRIABLE	5Y 4/2 OLIVE GRAY		- 2		FRIABLE	10YR 3/4 DARK YELLOWISH	
4					4	4		BROWN	
s)					(s)	6			
(Inches) « [_] 。					(Inches)	8			
						9			
SURFACE					SURFACE				
			5Y 5/2 OLIVE GRAY	COMMON, MEDIUM,	0 14 16			10YR 5/6 YELLOWISH BROWN	
0 S				DISTINCT	10S	в		576.514	0011101
20 20	SILTY CLAY	FIRM	5Y 5/3		BELOW MINERAL	FINE SANDY		5Y 5/4 OLIVE	COMMON, MEDIUM,
WINE	LOAM		OLIVE		MINE				DISTINCT
- MO					MO				
BEL(D			
нтч:					HTT	SILT LOAM	FIRM	5Y 5/2 OLIVE GRAY	
DEP					DEPT			OLIVE OIGHT	
40					40				
50					50	SILTY CLAY		5Y 4/2	
60					60			OLIVE GRAY	
0	hydric	LIMIT OF EXC Slope %	Limiting factor	 ground water 	0	hydric	LIMIT OF EXC Slope %	AVATION = 90" Limiting factor	 ground water
•	non-hydric	3-8		 restrictive layer bedrock 	•	non-hydric	3-8	16"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	LAMOINE	SWPD	C/D	C.S.S.	Soil Series / phase name:	NICHOLVILLE	MWD	<u> </u>
	Soil Classification:	9	Drainage Class	Hydrologic Group		Soil Classification:	8	Drainage Class C	Hydrologic Group
L.S.E.		Profile	Drainage Class	Design Class	L.S.E.	Con Classification.	Profile	Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION ANI TP-58	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-59	Test Pit	Boring
		Depth of Organic Horizon Above	_			0-1	Depth of Organic Horizon Above	—	
1	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 4/4			SANDY LOAM	FRIABLE	10YR 4/4	
3			DARK YELLOWISH BROWN			4		DARK YELLOWISH BROWN	
6						6			
(Inches) «					(Inches)	7			
						8			
SURFACE			2.5Y 5/6 LIGHT OLIVE		SURFACE			10YR 4/6 DARK YELLOWISH	
			BROWN		SUF	4		BROWN	
16 10S						6			
20 20									
DW MINERAL SOIL	MEDIUM SAND					MEDIUM SAND	LOOSE	2.5Y 5/6	
26 W MC	COARSE		2.5Y 5/4		V MC	WEDIOW SAND	LOUSE	LIGHT OLIVE	
DEPTH BELO	SAND	LOOSE	LT. OLIVE BROWN			D		BROWN	
HT a	COARSE LOAMY SAND	FRIABLE	2.5Y 5/3 LIGHT OLIVE	COMMON, MEDIUM,	DEPTH BEL				
DE	SAND		BROWN	DISTINCT	DE				
40					40				
50					50	COARSE SAND	FRIABLE	2.5Y 5/3	COMMON, MEDIUM,
60					60			LT. OLIVE BROWN	DISTINCT
0	hydric	LIMIT OF EXC Slope %	CAVATION = 50" Limiting factor	 ground water 		hydric	LIMIT OF EXC Slope %	AVATION = 60" Limiting factor	 ground water
•	non-hydric	3-8		 restrictive layer bedrock 	•	non-hydric	0-3	44"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	CROGHAN	MWD	A	C.S.S.	Soil Series / phase name:	ADAMS	SWED	A
	Soil Classification:	5	Drainage Class	Hydrologic Group		Soil Classification:	5	Drainage Class	Hydrologic Group
L.S.E.	Son Classification.	Profile	Drainage Class	Design Class	L.S.E.	Son classification.	Profile	Drainage Class	Design Class
									<i>u.</i>
								TE OF M	
Profe	essional Endorsement	s (as applicable)					JII C	GARY M. FULLERTO NO. 462	N *
THORE			Λ		_			GARY	NE
C.S.S.		1)-	A J	/	D	ate: 12/11/18	i i i	M.	
	signature:	Con S	11			IZ/II/IO ic.#:		FULLERTO	NIE
	name printed/typed:	Gary M. Fu	llerton			462	ĒT	NO. 462	LE
	name printed/typed:		/)	_		<u></u>	No.	/* <u>\$</u>
L.S.E.		d la -	A J	/	D	ate: 12/11/18	14	SRITFIE	S M
	signature:	Congo and the second se	/1			ic.#:	1	UNUL SCIEN	inn.
		Gary M. Fu	llerton			355		MIIIIIIIIIII	lu.
	name printed/typed:					300	affix professional seal		

Sebago Technics, Inc.

16236

Prode Name: Applicant Name: Prode Location (number) Prode Location (number) Sol. DESCRIPTION AND CASER/CATON Sol. DESCRIPTION AND CASER/CATON Sol. DESCRIPTION AND CASER/CATON Sol. DESCRIPTION AND CASER/CATON Temperature Image: Application finder Temperature Sol. DESCRIPTION AND CASER/CATON Sol. DESCRIPTION AND CASER/CATON Temperature	Organization Application Application Project Location (musculapping) 10 10 00 1					ailed Description of Subs						
Sol: Sector TUN NUMENON Colspan="2">Colspan="2" Testine Colspan="2">Colspan="2" Testine Colspan="2" Colspan="2" Testine Field & State Testine Colspan="2" Testine Field & State	Source: Severe in the s											
Experime Synos The PLOB The PLOB Decay Image: Solar Construction Consistency Consistency <t< td=""><td>Edecoms Synetic T.P.49 To ref I Burry Image: Consistency Conserver, Conserver, Consistency Consistency Conserver, Consistenc</td><td>120 L</td><td>AND OF NO</td><td>DROAD</td><td><u> </u></td><td>GRONDIN CORPOR</td><td>ATION</td><td></td><td></td><td>WINDHAM</td><td></td></t<>	Edecoms Synetic T.P.49 To ref I Burry Image: Consistency Conserver, Conserver, Consistency Consistency Conserver, Consistenc	120 L	AND OF NO	DROAD	<u> </u>	GRONDIN CORPOR	ATION			WINDHAM		
Image: Construction of the construle of the construction of the construction of the	Image: Consistency Doing Monitor SANOY LOAR DARY VELOWER Object SANOY LOAR PRABLE BROWN SANOY LOAR DARY VELOWER SANOY LOAR SANOY LOAR PRABLE BROWN SANOY LOAR DARY VELOWER SANOY LOAR SANOY LOAR DANONE DARY VELOWER				_	Dering					Desing	
Tatum Consistency Color Meeting SANDY LOAM DARY VELOWISH 05557/20 DARY SAND DARY SAND	Finance Considering Color Mediting SAMPY LOAN DARY VELOWISH OSSERVED DORY SAME DORY SAME - - - - DORY SAME DORY SAME - - - - DORY SAME DORY SAME - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	Exploration S	-		-	Boring				—	Bonng	
Image: state in the second s	Image: state of the s	o Text				Mottling	(Mottling	
DARK VELLOWISH BROWN DESERVED BROWN Image: Construction of the second second process of the second process of the second second process of the second process of the second second process of the second process of the second second proces of the second process of the second second process	Image: state of the s				10VR 4/4	NONE				10VP 3/3		
Image: Same Private	Image: constraint of the second sec	3	LUAN		DARK YELLOWISH			3		DARK BROWN		
Image: state in the s	Image: Constraints Image:	4			BROWN		4	4				
Image: state in the s	LOANY SAND Impact of the construction of the constred of the construction of the construction of the const	6					(s)	SANDY LOAM				
Image: state in the s	LOANY SAND Impact of the construction of the constred of the construction of the construction of the const	7					iche	7				
Image: Private biology Pri	Image: PRIABLE DMR SLOWNERS Image: DRIABLE DRIABLE Image: DRIABLE DRIABLE DRIABLE Image: DRIABLE Tree Image: DRIABLE Image: DRIABLE							9				
Image: State of the s	Image: Second State Data Market Lowinsh MECIUM SAND 25 Y 54 MECIUM SAND 25 Y 54 State 880 Wh State 90 State State COARSE SAND 25 Y 52 Sold State J Pase rate: COARSE SAND COARSE SAND 25 Y 52 Medic Sold State J Pase rate: COARSE SAND Sold State J Pase rate: COARSE SAND 50 Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold Coastification 25 Y 52 Common to set the lower se		SAND									
Image: State of the s	Image: Second State Data Market Lowinsh MECIUM SAND 25 Y 54 MECIUM SAND 25 Y 54 State 880 Wh State 90 State State COARSE SAND 25 Y 52 Sold State J Pase rate: COARSE SAND COARSE SAND 25 Y 52 Medic Sold State J Pase rate: COARSE SAND Sold State J Pase rate: COARSE SAND 50 Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold State J Pase rate: Constitution Sold Coastification 25 Y 52 Common to set the lower se	14		FRIABLE				4	FRIABLE			
MEDIUM SAND 2.5Y 56 BROWN BROWN BROWN BROWN COARSE SAND 2.5Y 56 COARSE SAND 2.5Y 57 COARSE SAND 0.1VE COARSE SAND 2.5Y 57 Projeic 3.00 Statisticitor 5.00 Statisticitor	Image: Display in the stand of the standard	16 18			++			3				
MEDUM SAND 2.57 56 2.97 56 Image: Section of the	MEDUM SAND 2.57 S4 BROWN BROWN COARSE SAND 2.57 S2 COARSE SAND 2.57 S3 Method Symbol COARSE SAND COARSE SAND COARSE SAND COARSE SAND COARSE SAND Stop Coarse Coarse PRES COARD AND AND AND AND AND AND AND AND AND AN	20					ZAL S					
BROWN BROWN BROWN BROWN BROWN BROWN COMMON.	BROWN BROWN BROWN BROWN COMMON.	MEDIUN	SAND		2.5Y 5/4		<u> </u>					
Image: Construction Constr	Image: Construction Server in the server in th							MEDIUM SAND				
Coase sand Status Metoluk	COARSE SAND 2.57 S2 COARSE SAND 2.57 S4 MEDIUM				BROWN		107:	0				
CARSE SAND 2.5 Y 52 MANY	COARSE SAND 22 Y 52 AMAY Image: Coarse Sand GRAYISH BROWN Image: Coarse Sand OLVE COARSE Image: Coarse Sand Image: Coarse Sand OLVE COARSE PROMINENT Image: Coarse Sand Job Sond Sand Calors Image: Coarse Sand OLVE COARSE Image: Coarse Sand Job Sond Sand Calors Image: Coarse Sand Calors Image: Coarse Sand Sand Calors Image: C						H BE	COARSE SAND		2.57.5/4		
CARSE SAND C	COARSE SAND 22 Y 52 AMAY Image: Coarse Sand GRAYISH BROWN Image: Coarse Sand OLVE COARSE Image: Coarse Sand Image: Coarse Sand OLVE COARSE PROMINENT Image: Coarse Sand Job Sond Sand Calors Image: Coarse Sand OLVE COARSE Image: Coarse Sand Job Sond Sand Calors Image: Coarse Sand Calors Image: Coarse Sand Sand Calors Image: C	40					EPT					
Image: Second	Image: Solution of the		SAND		2.5Y 5/2		<u></u>			5Y 5/3	ΜΔΝΥ	
Image: constraint of Excavation - 54* Image: constraint of Excavation - 55*	Image: state in the s						40				COARSE,	
LIMIT OF EXCAVATION = 54" LIMIT of EXCAVATION = 64" bridde 3.8 2.561 a ground water a transition on hydric 3.8 30" Linking factor ground water a transition on hydric 3.8 30" Linking factor ground water a transition on hydric 3.8 30" Linking factor ground water a transition on hydric 3.8 30" Linking factor ground water a transition on hydric 1.8 Solid Classification 1.8 Solid Classification 1.8 Solid Cl	LIMIT OF EXCAVATION 54" Uniting factor ground water hydric 3.8	50			┼─────┤		50				PROMINENT	
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Siltry CLAY Firm Sydic COMMON, a hydric Slope % Limiting factor e ground water b hydric O-3 8" ground water bedrock e bedrock 0-3 -5" ground water 1.5.5 Soil Series / phase name: NAUMBURG SWPD AD Drainage Class Hydrologic Group s.e. Soil Classification: -5 E -	Soli Series / phase name: NAUMBURG SWPD AD Soli Classification: 5 E E E Soli Classification: 5 E E E Soli Classification: 5 E Drainage Class Design Class	40			OLIVE		, D					
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Proje	ect Name: 120 LAND OF N		Applicant Name:	GRONDIN CORPOR			Project Location (mi	unicipality): WINDHAM	
	120 LAND OF N			GRONDIN CORPOR			SOIL DESCRIPTION AN		
	Exploration Symbol:	SOIL DESCRIPTION AN TP-64	Test Pit	Boring		Exploration Symbol:	TP-65	Test Pit	Boring
	0-1	_ Depth of Organic Horizon Abov	e Mineral Soil			0-1	_ Depth of Organic Horizon Above	Mineral Soil	
	Texture	Consistency	Color	Mottling	1	Texture	Consistency	Color	Mottling
_	SANDY LOAM	FRIABLE	10YR 4/4 DARK YELLOWISH	NONE OBSERVED	2	SANDY LOAM	FRIABLE	10YR 4/3 BROWN	
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MINERAL			2.5Y 5/6 LIGHT OLIVE		AINE		/	BROWN	
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0	hydric	Slope %	CAVATION = 60" Limiting factor	ground water	٥	hydric	Slope %	Limiting factor	ground water
•	non-hydric	0-3	36"	 restrictive layer bedrock 	•	non-hydric	0-3	>55"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	ELMWOOD	MWD	<u> </u>	C.S.S.	Soil Series / phase name:	ADAMS	SWED	<u> </u>
	Soil Classification:	7	Drainage Class	Hydrologic Group		Soil Classification:	6	Drainage Class B	Hydrologic Group
L.S.E.	Con Classification.	Profile	Drainage Class	Design Class	LSÆ.	con olassinoatori.	Profile	Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AN TP-66	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-67	Test Pit	Boring
	0-1	_ Depth of Organic Horizon Abov				0-1	Depth of Organic Horizon Above		
	Texture	Consistency	Color	Mottling	1	Texture	Consistency	Color	Mottling
	SANDY LOAM	FRIABLE	10YR 4/4 DARK YELLOWISH	NÓNE OBSERVED	2	SANDY LOAM	FRIABLE	10YR 4/4 DARK YELLOWISH	
4	4		BROWN	OBGERVED	4			BROWN	
<u> </u>	5				(a) 6	5			/
(Inches)	7		/	1	(Inches)			/	
	9		101/2 415		ACE (I			10/15 4/2	
SURFACE	2		10YR 4/6 DARK YELLOWISH		10 12	LOAMY SAND		10YR 4/6 DARK YELLOWISH	
	2		BROWN		DS 14			BROWN	
	3				7/OS	5			
ERAL	SILTY CLAY	FIRM	2.5Y 5/4		IERAL				
2	LOAM	/	LIGHT OLIVE BROWN		<		/		
≊ ≊ IW MOT∃B		VERY FIRM	5Y 5/2		BELOW MI				
BEL	SILTICEAT	VERTPIRM	OLIVE GRAY						
рертн I					рертн	FINE SAND		2.5Y 5/4 LIGHT OLIVE	
10		/			10			BROWN	
40	/				50		/		
50					-	COARSE SAND		5Y 5/2 OLIVE GRAY	COMMON, MEDIUM,
60			CAVATION = 50"	1	60		LEDO	E @ 90"	DISTINCT
0	hydric	Slope %	Limiting factor	 ground water 	٥	hydric	Slope %	Limiting factor	ground water
•	non-hydric			 restrictive layer bedrock 	•	non-hydric	0-3		 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	ELMWOOD	 Drainage Class	<u>B/D</u>	C.S.S.	Soil Series / phase name:	ADAMS	SWED	A
LS≠	Soil Classification:	8	C	Hydrologic Group	L.ŞÆ.	Soil Classification:	5	Drainage Class B	Hydrologic Group
/		Profile	Drainage Class	Design Class	$\sqrt{-1}$		Profile	Drainage Class	Design Class
									1111.
								ATEOFM	NIA. 111
Prof	essional Endorsemen	ts (as applicable)						STATE OF M	
C.S.S		\bigcirc)	D	ate:		GARY	1 1
c.s.s		of have	. K. L			12/11/18	E	M.	
1						c.#:	=	FULLERTO	NIE
	signature:	$\sim o$			L				
	name printed/typed:	Gary M. Fu	llerton		Li	462	三*	NO. 462	+
	name printed/typed:	Gary M. Fu	illerton)		462	*	NO. 462	*
L.S.E	name printed/typed:	Gary M. Fu	illerton			462		NO. 462	*
L.S.E	name printed/typed:	Gary M. Fu	Illerton		D	462		NO. 462	
L.S.E	name printed/typed:	Gary M. Fu	R		D	462 ate: 12/11/18	affix professional seal	GARY M. FULLERTO NO. 462	

Sebago Technics, Inc.

Proje	ect Name:		Applicant Name:	etailed Description of Subs	urface C	onditions at Project Sites	Project Location (municipality):			
	120 LAND OF	NOD ROAD		GRONDIN CORPOR	ATION			WINDHAM		
	Exploration Symbol:	SOIL DESCRIPTION AN TP-68	D CLASSIFICATION Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AI	Test Pit	Boring /	
	0-	1 Depth of Organic Horizon Above	e Mineral Soil			0-1	_ Depth of Organic Horizon Abov	e Mineral Soil		
1	Texture	Consistency	Color	Mottling	_	o Texture	Consistency	Color	Mottling	
3	SANDY LOAM	FRIABLE	2.5Y 5/6 LIGHT OLIVE	NÓNE OBSERVED		2 SANDY LOAM 3	FRIABLE	10YR 4/4 DARK YELLOWISH		
4			BROWN		-	4		BROWN		
es)					es)	6				
(Inches,	8				(Inch	8				
P I I					ACE	9 0				
SURFACE					SURF - -	2				
S 7/OS			-/		TIOS					
S 762			/		5 7 ²			2.5Y 5/6		
MINERAL		/			I		/	LIGHT OLIVE BROWN		
W MO7	8				M MO					
BELC	FINE SAND		2.5Y 6/4		BELO	0				
1 HT			LIGHT YELLOWISH		I HT	FINE SAND		2.5Y 5/3	COMMON,	
DEI			BROWN		DEI			LIGHT OLIVE BROWN	MEDIUM, DISTINCT	
40		<u> </u>			5					
50	/				-	SILTY CLAY LOAM	FIRM	5Y 4/2 OLIVE GRAY		
60			CAVATION = 52"		6			CAVATION = 60"		
0	hydric	Slope %	Limiting factor	 ground water 		hydric	Slope %	Limiting factor	 ground water restrictive layer 	
•	non hydric		_>52"	 restrictive layer bedrock 	•	non-hydric	0-3		bedrock	
C.S.S.	Sofl Series / phase name	e: ADAMS	<u>SWED</u> Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	ELMWOOD	 Drainage Class	B/D Hydrologic Group	
L.9.E.	Soil Classification:	5	В		L.S∕€.	Soil Classification:	7	<u> </u>		
		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class	/	/	Profile SOIL DESCRIPTION AI	Drainage Class	Design Class	
	Exploration Symbol:	TP-70 1.* Depth of Organic Horizon Above	Test Pit	Boring		Exploration Symbol:	TP-71	Test Pit	Boring	
0	Texture	Consistency	Color	Mottling	_	• Texture	Consistency	Color	Mottling	
2	SANDY LOAM	FRIABLE	10YR 4/6			2 SANDY LOAM	FRIABLE	10YR 4/4	NONE	
- 3	8		DARK YELLOWISH BROWN		-	3		DARK YELLOWISH BROWN	OBSERVED	
6						5				
(Inches)			/	1	iches	7				
	0				(j) (j)	9				
SURFACE					RFAC	2				
	5	-			L SUR	6				
16 18 20 7/OS 7k	LOAMY SAND		2.5Y 5/6 LIGHT OLIVE		1 1 2 11 SOIL			10YR 4/6 DARK YELLOWISH		
d2		/	BROWN		2 E K	1		BROWN		
					NIW /	FINE SAND		2.5Y 5/4		
N073	FINE SAND		2.5Y 5/3	COMMON,	M073	0		LIGHT OLIVE BROWN		
DEPTH BELOW MINE			LIGHT OLIVE BROWN	MEDIUM, DISTINCT	PTH BEL					
DEP					DEP	8				
40					4	MEDIUM SAND		2.5Y 5/3		
50	/	/			5	10		LIGHT OLIVE BROWN		
60					6	0	<u> </u>			
	hydric	LIMIT OF EXC Slope %	Limiting factor	 ground water 		hydric	LIMIT OF EXC Slope %	CAVATION = 54" Limiting factor	ground water	
•	non-hydric			 restrictive layer bedrock 	•	non-hydric	3-8	>54"	 restrictive layer bedrock 	
C.S.S.	Soll Series / phase name	CROGHAN	MWD	A	C.S.S.	Soil Series / phase name:	ADAMS	SWED	A	
L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:	5	Drainage Class B	Hydrologic Group	
	,	Profile	Drainage Class	Design Class			Profile	Drainage Class	Design Class	
									111.	
								ATEOMA	NUL.	
Profe	essional Endorseme	nts (as applicable)		A				GARY	*	
C.S.S		()	1 /1		D	Date:		M		
	signature:	Chy	12		,	12/11/18		FULLERTON	1 =	
		Gary M. Fu	llerton	~	Ľ	ic.#: 462	1. E	FULLERTON NO. 462	1.3	
	name printed/typed:		. /	2		TUL	Ex.	la a	/*.	
L.S.E		the-	R 1	/	D	Date: 12/11/18	11.	SRITFIEL	5	
	signature:	08	/1		L	IZ/II/IO ic.#:		L SCIEN	THH.	
	name printed/typed:	Gary M. Fu	llerton			355	affix professional seal	GARY M. FULLERTON NO. 462	-	

Sebago Technics, Inc.

			DIL PROFILE/CLAS			N		1(
ect Name: 120 LAND OF NO	DD ROAD	Applicant Name:	GRONDIN CORPOR			Project Location (m	unicipality): WINDHAM	
s	SOIL DESCRIPTION AN	D CLASSIFICATION		П		SOIL DESCRIPTION A	ND CLASSIFICATION	
Exploration Symbol:	TP-72	Test Pit	Boring		Exploration Symbol:	TP-73	Test Pit	Boring
	Depth of Organic Horizon Abov		Mottling			_ Depth of Organic Horizon Abov		Mottling
Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
		10YR 3/3 DARK			8			
		BROWN		_	LOAMY SAND		2.5Y 5/6	
				s)	WITH		LIGHT OLIVE	
GRAVELLY SAND	FRIABLE			(Inches	STONES		BROWN	
		40)/0 5/0		1) <u>-</u>		FRIABLE		
		10YR 5/6		SURFACE	2			
		YELLOWISH BROWN	NONE OBSERVED					
		Bitotin	OBOLITED					
					LOAMY FINE		2.5Y 5/3	
				BELOW MINERAL	SAND		LIGHT OLIVE	
				N M			BROWN	
			-) 9ELC				
COARSE	LOOSE	2.5Y 5/4		<i>PTH</i> I	8			
SAND		LIGHT OLIVE BROWN		DEF	SILTY	FIRM	5Y 5/2	
					CLAY		GRAYISH BROWN	
GRAVELLY COARSE		10YR 5/4		65	LOAMY FINE SAND		2.5Y 5/3	FINE, FEW, FAI
SAND		YELLOWISH BROWN			WITH SILT LOAM VARVES	FRIABLE	LIGHT OLIVE BROWN	IN VARVES
		CAVATION = 11'					CAVATION = 11'	
hydric non-hydric	Slope % 0-3	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope % 0-3	Limiting factor 48"	 ground wate restrictive laye
Cail Caries / abase serves	ADAMS		bedrock		Coil Corios / shase serve		SWED	bedrock
Soil Series / phase name:	ADAMS	Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	ADAWIS	Drainage Class	A Hydrologic Grou
Soil Classification:	6	B	<u> </u>	L.S.E.	Soil Classification:	5	B	
s	Profile SOIL DESCRIPTION AN	Drainage Class	Design Class	∃ ∟′		Profile SOIL DESCRIPTION A	Drainage Class ND CLASSIFICATION	Design Class
Exploration Symbol:	TP-74	Test Pit	Boring		Exploration Symbol:	TP-75	Test Pit	Boring
Texture	Depth of Organic Horizon Abov Consistency	ve Mineral Soil Color	Mottling		Texture	_ Depth of Organic Horizon Abov Consistency	ve Mineral Soil Color	Mottling
Texture	consistency		motting			Consistency		motting
		10YR 4/4			SANDY LOAM		10YR 4/4	
SANDY		DARK YELLOWISH					DARK YELLOWISH	
LOAM	FRIABLE	BROWN		() ()	8		BROWN	
				(Inches,		FRIABLE		
				SURFACE	2			
					1		2.5Y 5/6	
FINE SAND		2.5Y 5/6					LIGHT OLIVE BROWN	
OAND		LIGHT OLIVE					BROTH	
		BROWN		- MM				
				BELC				
				THE				
		2.5Y 5/3	COMMON,	DEPTH	FINE SAND		2.5Y 5/3	COMMON, MEDIUM,
			MEDIUM,	40			LIGHT OLIVE	DISTINCT
5		LIGHT OLIVE BROWN	DISTINCT	50			BROWN	
				60				
		CAVATION = 60"					CAVATION = 48"	
hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope %	Limiting factor	 ground wate restrictive laye
			bedrock		-	3-8	32"	bedrock
Soil Series / phase name:	CROGHAN	 Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:	CROGHAN	 Drainage Class	A Hydrologic Grou
Soil Classification:	5	C		L.S.E.	Soil Classification:	5	C	
1	Profile	Drainage Class	Design Class		·	Profile	Drainage Class	Design Class
								111.
							TATE OF MA	10.111.
essional Endorsements	(as applicable)						O	Nº II
	\frown	a)	1	Г	ate:		GARY M. FULLERTON NO. 462	
5.	them-	. / !	/		1/25/19	<u> </u>	М.	1 =
signature:	S			i	c.#:		FULLERTO	N E
	Gary M. Fu	Illerton			462	E'I	NO. 462	1.5
name printed/typed:			Λ			1×1		/* <u>=</u>
		1 1	/_	D	ate:		ERTIFIE	K
signature:	S	12			1/25/19	11	OIL SCIENT	Sullin
	0	II a mt		Li	c.#:		Hummill	lln.
name printed/typed:	Gary M. Fu	illerton			355	affix professional seal		

355

affix professional seal

name printed/typed: Gary M. Fullerton Sebago Technics, Inc.

Detailed Description of Subsurface Conditions at Project Site

	ect Name:		Applicant Name:		171011		Project Location (mu		
	120 LAND OF N			GRONDIN CORPOR	ATION			WINDHAM	
		SOIL DESCRIPTION AN	-				SOIL DESCRIPTION AN		Deriter
	Exploration Symbol:	Depth of Organic Horizon Abov	Test Pit	Boring		Exploration Symbol:	TP-77	Test Pit	Boring
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
- 1					_	SANDY		10YR 4/4	
3						LOAM			
4	SANDY		10YR 4/4		-			DARK YELLOWISH BROWN	
(set	LOAM		DARK YELLOWISH		(se				
nche			BROWN		(Inches)				
CE (FRIABLE				FINE	FRIABLE	10YR 5/6	
RFACE		TRIABLE			SURFACE	SAND	TRIABLE		
14 16					= - 7 S N			YELLOWISH BROWN	
OS 18					= SOI				
JPA -20	LOAMY FINE		2.5Y 5/6 LIGHT OLIVE		RAL				
			BROWN		INE				
N	MEDIUM		2.5Y 5/4		BELOW MINERAL ∞ ∞ ∞				
BELC	SAND		LIGHT OLIVE] [∞]	MEDIUM		2.5Y 5/4	COMMON,
-			BROWN		THE	SAND			MEDIUM,
DEPTH %					DEPTH			LIGHT OLIVE BROWN	DISTINCT
40	COARSE				4			BROWN	
50	SAND			COMMON,	5				
				MEDIUM,					
60			CAVATION = 48"	DISTINCT	6			AVATION = 48"	
•	hydric	Slope %	Limiting factor	 ground water 	•	hydric	Slope %	Limiting factor	 ground water
•	non-hydric	0-3	40"	 restrictive layer bedrock 	•	non-hydric	0-3		 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	ADAMS	SWED	A	C.S.S.	Soil Series / phase name	CROGHAN	MWD	A
L.S.E.	Soil Classification:	5	Drainage Class C	Hydrologic Group	L.S.E.	Soil Classification:	5	Drainage Class C	Hydrologic Group
L.S.E.		Profile	Drainage Class	Design Class	L.S.E.	Con Classification.	Profile	Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AN	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN	Test Pit	Boring
		_ Depth of Organic Horizon Abov					Depth of Organic Horizon Above	_	
0	Texture	Consistency	Color	Mottling	_	Texture	Consistency	Color	Mottling
2									
3									
5									
				/					
6 7			/		les)			/	
(Inches)					(Inches)				
					4 <i>CE (Inches)</i> ≞				
					JRFACE (Inches) = = = = = = = = = = = = =				/
SURFACE					SURFACE				
SOIL SURFACE 8 9 1 1 0 6 8 9 1 1 0 6					SOIL SURFACE				
SOIL SURFACE 8 9 1 1 0 6 8 9 1 1 0 6					SOIL SURFACE				
NERAL SOIL SURFACE					NERAL SOIL SURFACE				
NERAL SOIL SURFACE					NERAL SOIL SURFACE				
BELOW MINERAL SOIL SURFACE					NERAL SOIL SURFACE				
BELOW MINERAL SOIL SURFACE					NERAL SOIL SURFACE				
NERAL SOIL SURFACE					SOIL SURFACE				
BELOW MINERAL SOIL SURFACE					NERAL SOIL SURFACE				
BELOW MINERAL SOIL SURFACE					NERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL SURFACE [8] [8] [1] [2] [DEPTH BELOW MINERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL SURFACE [8] [8] [6] [DEPTH BELOW MINERAL SOIL SURFACE				
DEPTH BELOW MINERAL SOIL SURFACE [8] [8] [1] [2] [Slope %	Limiting factor	ground water restrictive layer	DEPTH BELOW MINERAL SOIL SURFACE	hydrc	Slope %	Limiting factor	ground water grostrictive layer
DEPTH BELOW MINERAL SOIL SURFACE. 8 8 1 8 6	hydric non hydric		Limiting factor		□ [©] [©] [©] [©] [©] [−]	hydric		Limiting factor	
DEPTH BELOW MINERAL SOIL SURFACE. 8 8 1 8 6	hydric	Slope %		restrictive layer bedrock	□ [©] [©] [©] [©] [©] [−]	hydric			restrictive layer bedrock
DEPTH BELOW MINERAL SOIL SURFACE. 8 8 1 1 8 1 1 8 1	hydric non hydric		Drainage Class	restrictive layer bedrock Hydrologic Group	a DEPTH BELOW MINERAL SOIL SURFACE	hydric		Drainage Class	restrictive layer bedrock Hydrologic Group
2 DEPTH BELOW MINERAL SOIL SURFACE. 8 8 8 10 11 10 11 10 11 10 11 10 11 11 11 10 11 <	hydric non hydric Sorl Series / phase name:	Slope %		restrictive layer bedrock	0 0	hydric non hydric Soff Series / phase name			restrictive layer bedrock
2 DEPTH BELOW MINERAL SOIL SURFACE. 8 8 8 10 11 10 11 10 11 10 11 10 11 11 11 10 11 <	hydric non hydric Sorl Series / phase name:		Drainage Class	restrictive layer bedrock Hydrologic Group	0 0	hydric non hydric Soff Series / phase name	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
2 DEPTH BELOW MINERAL SOIL SURFACE. 8 8 8 10 11 10 11 10 11 10 11 10 11 11 11 10 11 <	hydric non hydric Sorl Series / phase name:		Drainage Class	restrictive layer bedrock Hydrologic Group	0 0	hydric non hydric Soff Series / phase name	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
The second sec	hydric non hydric Sorl Series / phase name:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group	0 0	hydric non hydric Soff Series / phase name	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
PTDELH BETOM WINE WAT SOIT SIN LICE OF THE STORE AND SOLUTION AND SOLUTIAN AND SOLU	hydrc non hydric Soil Classification:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group		hydric nonhydric Soil Series / phase name Soil Classification:	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
The second sec	hydrc non hydric Soil Classification:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group		hydric non hydric Soil Classification:	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
PTDELH BETOM WINE WAT SOIT SIN LICE OF THE STORE AND SOLUTION AND SOLUTIAN AND SOLU	hydrc non hydric Soil Classification:	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group		hydrc nonhydric Soil Series / phase name Soil Classification:	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
PTDELH BETOM WINE WAT SOIT SIN LICE OF THE STORE AND SOLUTION AND SOLUTIAN AND SOLU	hydrc nonfrydric Soff Series / phase name: Soff Classification:	Profile	Drainage Class Drainage Class	restrictive layer bedrock Hydrologic Group		hydric non/hydric Soil Classification: Soil Classification: ate: 1/25/19 c.#:	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
PTDELH BETOM WINE WAT SOIT SIN LICE OF THE STORE AND SOLUTION AND SOLUTIAN AND SOLU	hydrc non hydric Soil Classification:	Profile	Drainage Class Drainage Class	restrictive layer bedrock Hydrologic Group		hydric nonrydric Soll Series / phase name Soll Classification: ate: 1/25/19 c.#: 462	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
PTDELH BETOM WINE WAT SOIT SIN LICE OF THE STORE AND SOLUTION AND SOLUTIAN AND SOLU	hydric non hydric soil Classification: signature: name printed/typed:	Profile	Drainage Class Drainage Class	restrictive layer bedrock Hydrologic Group		hydric nonyhydric y Soll Series / phase name y Soll Classification: ate: 1/25/19 c.#: 462 ate:	Profile	Drainage Class	a restrictive layer bedrock Hydrologic Group Design Class
DEPLTH BEFORM WINE WAT SOIL SING YOU STREAM	hydric non hydric soil Classification: signature: name printed/typed:	Profile	Drainage Class Drainage Class	restrictive layer bedrock Hydrologic Group		hydric nonrydric Soll Series / phase name Soll Classification: ate: 1/25/19 c.#: 462	Profile	Drainage Class	restrictive layer bedrock Hydrologic Group Design Class

Detailed Description of Subsurface Conditions at Project Sites							
Project Name:	Applicant Name:	Project Location (municipality):					
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM					

	SOIL DESCRIPTION AND CLASSIFICATION				SOIL DESCRIPTION AND CLASSIFICATION				
	Exploration Symbol:	TP-78	Test Pit	Boring		Exploration Symbol:	TP-79	Test Pit	Boring
0	0-1	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling	c	Texture	Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling
1			10YR 3/3		1			10YR 4/3	
3	FINE		DARK		3			BROWN	
5	SANDY LOAM	FRIABLE	BROWN		6	SANDY LOAM	FRIABLE	BROWN	
(Inches)					(sey	5 •			
					(Inches)				
FACE					SURFACE				
12 14			2.5Y 5/3						
16 17			LIGHT OLIVE		3 7/OS			10YR 4/6 DARK YELLOWISH	
RAL S			BROWN		S 7R			BROWN	
NER	LOAMY VERY FINE SAND			COMMON, MEDIUM,	BELOW MINERAL			2.5Y 4/4	COMMON,
ow m 				DISTINCT	MM	MEDIUM SAND		OLIVE	MEDIUM, DISTINCT
BELO 8					073			BROWN	
TH E					TH E				
42 42					<i>DEPTH</i>				
	SILTY CLAY LOAM	FIRM	5Y 4/3 OLIVE		40				
50			OLIVE		50				
60				+	60				
x	hydric	LIMIT OF EXC Slope %	AVATION = 56" Limiting factor	 ground water 	×	hydric	LIMIT OF EXC Slope %	AVATION = 52" Limiting factor	 ground water
•	non-hydric	3-8	17"	restrictive layer	•	non-hydric	3-8	17"	 restrictive layer
c.s.s.	Soil Series / phase name:	ELMWOOD	MWD	bedrock B/D	C.S.S.	Soil Series / phase name:	CROGHAN	MWD	bedrock A
{	0.11.01		Drainage Class	Hydrologic Group				Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	Profile	 Drainage Class	Design Class	L.S.E.	Soil Classification:	5_ Profile	C Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AND TP-80	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-81	Test Pit	Boring
		" Depth of Organic Horizon Above		L Bonng			Depth of Organic Horizon Above		
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
1			10YR 3/3		2	2			
3			DARK		- 3	SANDY		10YR 3/4	
5	SANDY LOAM		BROWN		5	LOAM		DARK YELLOWISH	
(Inches) « [⊥] ₀					(Inches)	·	FRIABLE	BROWN	NONE
e (ho		FRIABLE			E (Inc	5 9			OBSERVED
10 10					SURFACE			10YR 4/6 DARK	
					SUR 14			YELLOWISH	
7/OS	LOAMY SAND		10YR 5/6 YELLOWISH		7/OS			BROWN	
RAL 20			BROWN 2.5Y 5/4		20 TVA				
	MEDIUM SAND		LIGHT OLIVE BROWN		MINERAL	MEDIUM SAND		2.5Y 6/4 LIGHT	
24 W M O					V MO	SAND		YELLOWISH	
	FINE SAND		2.5Y 5/3	COMMON, MEDIUM,				BROWN	
DEPTH BEI			LIGHT OLIVE BROWN	DISTINCT	DEPTH BE				
			BROWN						
40					40				
50				MANY, COARSE,	50				
60				PROMINENT	60				
X	hydric	Slope %	AVATION = 54" Limiting factor	 ground water 	٥	hydric	Slope %	AVATION = 24" Limiting factor	ground water
•	non-hydric	0-3	24"	 restrictive layer bedrock 	•	non-hydric	0-3	>24"	 restrictive layer bedrock
C.S.S.	Soil Series / phase name:	CROGHAN	MWD	<u> </u>	C.S.S.	Soil Series / phase name:	ADAMS	SWED	A
L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group
L.O.L.		Profile	Drainage Class	Design Class	E.0.E.		Profile	Drainage Class	Design Class
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								ATE OF MA	1111
Profe	ssional Endorsement	s (as applicable)						ALTERNATION OF THE PARTY OF THE	
		\bigcirc)	Di	ate:		GARY	NĒ
C.S.S.	signature:	they	K. 2			1/31/19	<u> </u>	M.	1 E
		0			Li	c.#:	31	FULLERTON	
	name printed/typed:	Gary M. Fu	llerton			462	≣*!	NO. 462	/ * E
L.S.E.			1 1	1	D	ate:		GARY M. FULLERTON NO. 462	
L.J.E.	signature:	Chr	KJ			1/31/19	141	SO	SUI
		- 0			Li	c.#:		IL SCIEN	IIII.
	name printed/typed: Gary M. Fullerton				355	affix professional seal		-	

Sebago Technics, Inc.

Projec	Project Name: Ar		De Applicant Name:	etailed Description of Subsu	psurface Conditions at Project Sites Project Location (municipality):				
	120 LAND OF NOD ROAD			GRONDIN CORPOR					
-	Exploration Symbol:	SOIL DESCRIPTION AND TP-82	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-83	Test Pit	Boring
	0-1	Depth of Organic Horizon Above	Mineral Soil	Mattling		0-1	_ Depth of Organic Horizon Above	Mineral Soil	Mattling
0	Texture	Consistency	Color	Mottling	_		Consistency	Color	Mottling
2	SANDY LOAM		10YR 4/3 BROWN			3		10YR 3/3 DARK BROWN	
4						5			
(Inches)					(Inches)	6 SANDY LOAM			
E (ho		FRIABLE				8			
SURFACE					SURFACE	2			
	FINE		10YR 5/6			6	FRIABLE	10YR 4/6 DARK YELLOWISH	
18 OS 7	SAND		YELLOWISH BROWN		1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	8		BROWN	
DEPTH BELOW MINERAL SOIL			2.5Y 5/6		MINERAL	2			
IW M 29			LIGHT OLIVE		IM MI	MEDIUM SAND		2.5Y 5/6 LIGHT OLIVE	
8ELO			BROWN	COMMON,	BELOW	0		BROWN	COMMON,
PTH				MEDIUM, DISTINCT	DEPTH	COARSE SAND		2.5Y 5/4 LT. OLIVE BROWN	MEDIUM, DISTINCT
DE					DE				DioTitio
54					4	-			
						0			
60			AVATION = 30"		- 6			AVATION = 31"	
•	hydric non-hydric	Slope % 0-3	Limiting factor 29"	 ground water restrictive layer 	•	hydric non-hydric	Slope % 3-8	Limiting factor 30"	 ground water restrictive layer
c.s.s.	Soil Series / phase name		MWD	bedrock A	C.S.S.	Soil Series / phase name:		MWD	bedrock A
	Soil Classification:	5	Drainage Class C	Hydrologic Group	L.S.E.	Soil Classification:	5	Drainage Class C	Hydrologic Group
L.S.E.		Profile SOIL DESCRIPTION AND	Drainage Class	Design Class	L.S.E.		Profile SOIL DESCRIPTION AN	Drainage Class	Design Class
E	Exploration Symbol:	TP-84	Test Pit	Boring		Exploration Symbol:	·	Test Pit	Boring
0	0-1 Texture	_* Depth of Organic Horizon Above Consistency	Mineral Soil Color	Mottling		• Texture	_" Depth of Organic Horizon Above Consistency	Mineral Soil	Mottling
1					1 -	1			
3			10YR 3/6 DARK			3			
5	LOAMY		YELLOWISH		_	5			/
SURFACE (Inches)	SAND	FRIABLE	БКОТИК		(Inches)	7		/	
n) =C						9			
12 12					SURFACE	2			
16			10YR 5/6 YELLOWISH	NONE OBSERVED	1				
0S 782			BROWN		1º ² SAL SO				
			2.5Y 5/6 LIGHT				/		
W 26 M 27		CEMENTED	OLIVE BROWN		M MC				
					DEPTH BELOW MINE	0			
HT HT H					ЕРТН				
IG 38 40					D A	0			
50					-		ľ		
60					-				
	hydric	LIMIT OF EXC Slope %	AVATION = 24" Limiting factor	ground water		hydpic	Slope %	Limiting factor	ground water
•	non-hydric		18"	 restrictive layer bedrock 		non-hydric			 restrictive layer bedrock
c.s.s.	Soil Series / phase name	ADAMS	SWED	A	C.S.S.	Soil Series / phase name:			
L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:		Drainage Class	Hydrologic Group
		Profile	Drainage Class	Design Class	\vee	1	Profile	Drainage Class	Design Class
								NULLE OF AN	11.
								ATE OF MA	NULL
Profes	ssional Endorsemen	ts (as applicable)		0				GARY	
C.S.S.		d han -	R J	/	D	ate: 1/31/19		M.	ΝĒ
$\left \right $	signature:	S			L	ic.#:		FULLERTON NO. 462	() 三
r	name printed/typed:	Gary M. Fu	llerton	-		462	affix professional seal	NO. 462	*
L.S.E.			1 1	7	D	late:		A GEDMENED.	
	signature:	Chy	14			1/31/19	111	SOIL SOLENT	SIII
$ \top$		Gany M. E.				ic.#: 255		1111111111	In
r	name printed/typed:	Gary M. Fu	nerton			355	affix professional seal		

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Project Name:		De Applicant Name:	tailed Description of Subs	urface Co	onditions at Project Sites	Project Location (municipality):			
	120 LAND OF NOD ROAD			GRONDIN CORPOR	ATION		WINDHAM		
	Exploration Symbol:	SOIL DESCRIPTION AN TP-85	D CLASSIFICATION Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-86	Test Pit	Boring
	1-2	Depth of Organic Horizon Abov	e Mineral Soil			1-2	Depth of Organic Horizon Abov	Mineral Soil	
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 3/3 DARK BROWN		2	SANDY LOAM	FRIABLE	10YR 3/3 DARK BROWN	
4					4				
ves)					(Inches)				
(Inches)									
MINERAL SOIL SURFACE					SURFACE				
	LOAMY SAND		10YR 4/6 DARK YELLOWISH			LOAMY SAND		10YR 4/6 DARK YELLOWISH	
10 18 10 18 20			BROWN		OS 18			BROWN	
NERAI 74			10YR 5/6 YELLOWISH BROWN		MINERAL ¹⁰ ¹⁰ ¹⁰				
	MEDIUM SAND		2.5Y 5/4	COMMON,		GRAVELLY SAND		2.5Y 5/4	
PTH BELOW	MEDIOW SAND		LIGHT OLIVE BROWN	MEDIUM, DISTINCT	BELOW	GRAVELLT SAND		LIGHT OLIVE BROWN	
HT H			BROWN	DISTINCT	3 HIC				
DEF					DEF	FINE SAND		2.5Y 6/3 LIGHT YELLOWISH	COMMON, MEDIUM,
40					40			BROWN	DISTINCT
50					50				
60		LIMIT OF EXC	CAVATION = 48"		60		LIMIT OF EXC	AVATION = 45"	
•	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer 	•	hydric non-hydric	Slope % 3-8		 ground water restrictive layer
	Soil Series / phase name:		24	bedrock A	c.s.s.	Soil Series / phase name:		 	bedrock
C.S.S.		5	Drainage Class	Hydrologic Group				Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	Profile	Drainage Class	Design Class	L.S.E.	Soil Classification:	Profile	Drainage Class	Design Class
	Exploration Symbol:	SOIL DESCRIPTION AN TP-87	Test Pit	Boring		Exploration Symbol:	SOIL DESCRIPTION AN TP-88	Test Pit	Boring
	1-2 Texture	Depth of Organic Horizon Above Consistency	e Mineral Soil Color	Mottling		1-2 Texture	Depth of Organic Horizon Above	Mineral Soil	Mottling
1	SANDY LOAM	FRIABLE	10YR 3/3	Motting	1	SANDY LOAM	FRIABLE	10YR 3/3	Motting
3	SANDTECAM	FRIABLE	DARK BROWN		3	SANDTEOAM	FRIADLE	DARK BROWN	
5					5				
(Inches)					(Inches)				
24L SOIL SURFACE					SURFACE				
14 14 7S 710	LOAMY SAND		10YR 4/6 DARK YELLOWISH			LOAMY SAND		10YR 4/6 DARK YELLOWISH	
OS 74			BROWN		16 16 7017 SOIL			BROWN	
	GRAVELLY SAND		10YR 5/6		Ē	FINE SAND		2.5Y 6/4	
DEPTH BELOW MINE			YELLOWISH BROWN		NIW MIN			LIGHT YELLOWISH BROWN	
30 32 BETC					BELOW				
НТЧ	FINE SAND		2.5Y 6/4	COMMON,	DEPTH				
JO 40			LIGHT YELLOWISH BROWN	MEDIUM, DISTINCT	DF				
50					42				COMMON,
					60				MEDIUM, DISTINCT
60	hydric	LIMIT OF EXC Slope %	CAVATION = 48" Limiting factor	 ground water 	- 60	hydric	LIMIT OF EXC Slope %	AVATION = 48" Limiting factor	 ground water
•	nydric non-hydric	3-8	Limiting factor	ground water restrictive layer bedrock	•	nydric non-hydric	0-3_		ground water restrictive layer bedrock
C.S.S.	Soil Series / phase name:	CROGHAN	MWD	A	C.S.S.	Soil Series / phase name:	ADAMS	SWED	A
L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group	L.S.E.	Soil Classification:	5	Drainage Class	Hydrologic Group
/		Profile	Drainage Class	Design Class	/		Profile	Drainage Class	Design Class
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								KATE UNA	NULL
Profe	ssional Endorsemen	ts (as applicable)	1)				ATE OF MA	In II
C.S.S.		£).	. 1 I		Da	ate: 2/1/19		M.	
	signature:	Cor	/1		Lic	2/ 1/ 19		FULLERTON	
	name printed/typed:	Gary M. Fu	llerton		_ [462	affix professional seal	NO. 462	
L.S.E.			1 N		Da	ate:		Querte D.	
L.3.E.	signature:	Chy	K			2/1/19	14	Soli	SILIN
					Lic	#: ЭЕЕ	- 11	IIII SCIEN	IIII
	name printed/typed:	Gary M. Fu	nerton			355	affix professional seal		

SOIL PROFILE/CLASSIFICATION INFORMATION Detailed Description of Subsurface Conditions at Project Sites

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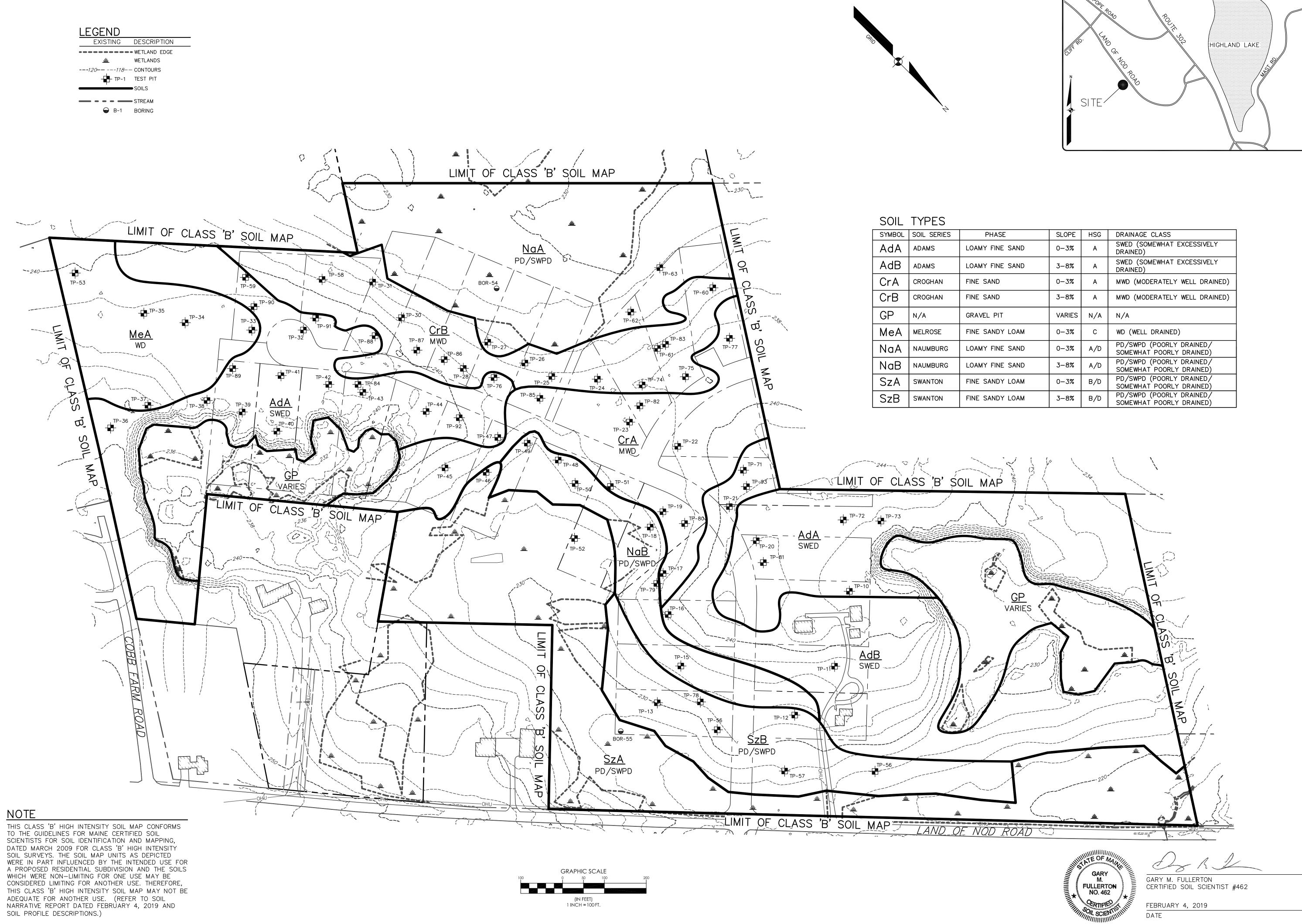
	ect Name:		Applicant Name:				Project Location (mu		
	120 LAND OF N	IOD ROAD		GRONDIN CORPORA	TION			WINDHAM	
		SOIL DESCRIPTION AN	ID CLASSIFICATION		1		SOIL DESCRIPTION AN	D CLASSIFICATION	
	Exploration Symbol:	TP-89		Boring		Exploration Symbol:	TP-90		Boring
		Depth of Organic Horizon Abov					_ Depth of Organic Horizon Above	—	
	• Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
	1				1				
-	2 SANDY LOAM	FRIABLE	10YR 3/3	NONE	2	SANDY LOAM	FRIABLE	10YR 3/3	NONE
-	3		DARK BROWN	OBSERVED	3			DARK BROWN	OBSERVED
-	5				5				
(s)	6				(s) 6				
(Inches)	7				(Inches)	LOAMY SAND		10YR 4/6	
	9				<u> </u>	LOANT SAND		DARK YELLOWISH	
SURFACE	0		10YR 4/6		SOIL SURFACE			BROWN	
L RF	2		DARK YELLOWISH		12				
			BROWN		7S 7				
z oll					10 18				
RAL S	0					COARSE SAND		10YR 5/6	
22 -	LOAMY SAND				2			YELLOWISH BROWN	
NIN					MINERAL				
M-					<u>8</u>				
BELOW	0				DEPTH BELOW				
1 Bf					1 BF				
tLd.	MEDIUM SAND		2.5Y 6/4 LIGHT YELLOWISH		tLd.				
DE -			BROWN		DE				
4	0				40				
4	5				_				
5	GRAVELLY SAND				50				
6					60				
			CAVATION = 50"					CAVATION = 48"	
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
•	non-hydric	0-3	_>50"	 restrictive layer bedrock 	•	non-hydric	0-3	>48"	 restrictive layer bedrock
	Soil Series / phase name:	ADAMS	SWED	A	C.S.S.	Soil Series / phase name	ADAMS	SWED	A
C.S.S.			Drainage Class	Hydrologic Group	C.S.S.			Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5	B		L.S.E.	Soil Classification:	5	В	
		Profile	Drainage Class	Design Class			Profile	Drainage Class	Design Class
		SOIL DESCRIPTION AN		Dering			SOIL DESCRIPTION AN		Desina
	Exploration Symbol:	TP-91	Test Pit	Boring		Exploration Symbol:	TP-92	Test Pit	Boring
		_ Depth of Organic Horizon Abov		Mattling			_ Depth of Organic Horizon Above		M = 4412 == ==
-	• Texture	Consistency	Color	Mottling	- 0	Texture	Consistency	Color	Mottling
-	2 SANDY LOAM	FRIABLE	10YR 3/3	NONE	2	SANDY LOAM	FRIABLE	10YR 3/3	NONE
1 -	3		DARK BROWN	OBSERVED	3			DARK BROWN	OBSERVED
-	4				4				
	6								
(Inches)	7				s —				
(luc					7 40				
	B GRAVELLY LOAMY		10YR 4/6		(Inche	LOAMY SAND		10YR 4/6	
	9 SAND		DARK YELLOWISH		CE (Inches)			DARK YELLOWISH	
	9 SAND				RFACE (Inche				
	9 SAND 0 2		DARK YELLOWISH		SURFACE (Inche			DARK YELLOWISH	
SURFACE	9 SAND 0 2 4 6		DARK YELLOWISH BROWN		DIL SURFACE (Inche 1			DARK YELLOWISH	
SOIL SURFACE	9 SAND 9 2 2 4 6 6 9 9		DARK YELLOWISH BROWN 2.5Y 5/6		SOIL SURFACE			DARK YELLOWISH	
RAL SOIL SURFACE	9 SAND 9 2 2 4 6 6 9 9		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE		SOIL SURFACE			DARK YELLOWISH BROWN	
RAL SOIL SURFACE	9 SAND 9 2 2 4 6 6 9 9		DARK YELLOWISH BROWN 2.5Y 5/6		SOIL SURFACE			DARK YELLOWISH	
INERAL SOIL SURFACE	9 SAND 9 2 2 4 6 6 9 9		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6	
INERAL SOIL SURFACE	SAND 0 2 4 6 0 0 0 0 0 0		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
INERAL SOIL SURFACE	SAND 0 2 4 6 0 0 0 0 0 0		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
INERAL SOIL SURFACE	SAND 2 4 6 8 9		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
PTH BELOW MINERAL SOIL SURFACE	SAND SAND SAND SAND SAND SAND SAND SAND		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
INERAL SOIL SURFACE	SAND SAND SAND SAND SAND SAND SAND SAND		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE		SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
PTH BELOW MINERAL SOIL SURFACE	SAND SAND SAND SAND SAND SAND SAND SAND		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
PTH BELOW MINERAL SOIL SURFACE	9 SAND 0		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
DEPTH BELOW MINERAL SOIL SURFACE	s SAND s SAND c Sand d Sand		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE	
DEPTH BELOW MINERAL SOIL SURFACE	s SAND s SAND c Sand d Sand		DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN		INERAL SOIL SURFACE			DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN	
DEPTH BELOW MINERAL SOIL SURFACE	s SAND s SAND c Sand d Sand	LIMIT OF EXC	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE	p ground water	INERAL SOIL SURFACE		LIMIT OF EXC	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48"	□ ground water
DEPTH BELOW MINERAL SOIL SURFACE	SAND 0 2 4 6 8 0 9 9 9 9 9 9 9 9 9 9 9 9 10	Slope %	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor	restrictive layer	DEPTH BELOW MINERAL SOIL SURFACE [8] [8] [4] [4] [4] [4] [6] [COARSE SAND	Slope %	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 3000000000000000000000000000000000000	restrictive layer
DEPTH BELOW MINERAL SOIL SURFACE o	SAND 0 2 4 6 8 0 9 9 9 9 9 9 9 9 9 9 1	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50"	 restrictive layer bedrock 	DEPTH BELOW MINERAL SOIL SURFACE s	COARSE SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor 	 restrictive layer bedrock
DEPTH BELOW MINERAL SOIL SURFACE o	s SAND c z d <td>Slope % </td> <td>DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED</td> <td>restrictive layer bedrock A</td> <td>DEPTH BELOW MINERAL SOIL SURFACE s </td> <td>COARSE SAND</td> <td>Slope % </td> <td>DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" </td> <td>restrictive layer bedrock A</td>	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED	restrictive layer bedrock A	DEPTH BELOW MINERAL SOIL SURFACE s	COARSE SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" 	restrictive layer bedrock A
DEPTH BELOW MINERAL SOIL SURFACE 9 0	s SAND a z 4 a b c	Slope % ADAMS	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor 	 restrictive layer bedrock 	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % ADAMS	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor A8" SWED_ Drainage Class	 restrictive layer bedrock
DEPTH BELOW MINERAL SOIL SURFACE	SAND 0 2 4 6 8 0 9 9 9 9 9 9 9 9 9 9 1	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED	restrictive layer bedrock A		COARSE SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" 	restrictive layer bedrock A
0 DEPTH BELOW MINERAL SOIL SURFACE 9 0 <	s SAND a z 4 a b c	Slope % ADAMS 5	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN LIGHT OLIVE BROWN AVATION = 48" Limiting factor A8" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group
DEPTH BELOW MINERAL SOIL SURFACE 9 0	s SAND a z 4 a b c	Slope % ADAMS 5	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" 	restrictive layer bedrock A Hydrologic Group Design Class
DEPTH BELOW MINERAL SOIL SURFACE 9 0	s SAND a z 4 a b c	Slope % ADAMS 5	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
DEPTH BELOW MINERAL SOIL SURFACE 9 0 10 0 10 0	s SAND s Soil Classification:	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
DEPTH BELOW MINERAL SOIL SURFACE 9 0 10 0 10 0	s SAND a z 4 a b c	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	Simple DEPTH BELOW MINERAL SOIL SURFACE 18 18 14 16 1 16	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	s SAND a z a b c	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	DEPTH BELOW MINERAL SOIL SUPFACE S	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
DEPTH BELOW MINERAL SOIL SURFACE S: S:	SAND	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group	DEPTH BELOW MINERAL SOIL SUPFACE S	COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	s SAND a z a b c	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor _>50" 	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	SAND	Slope % ADAMS Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
Prof Prof	SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
		Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 0-3 ADAMS 6 Profile	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class
DEPTH BELOW MINERAL SOIL SUBJECT	SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN 2.5Y 5/4 LIGHT OLIVE BROWN CAVATION = 50" Limiting factor >50" SWED Drainage Class B Drainage Class	restrictive layer bedrock A Hydrologic Group		COARSE SAND	Slope % 	DARK YELLOWISH BROWN 2.5Y 5/6 LIGHT OLIVE BROWN BROWN CAVATION = 48" Limiting factor >48" SwgeD Drainage Class 	restrictive layer bedrock A Hydrologic Group Design Class

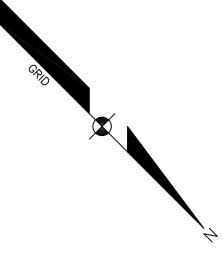
Detailed Description of Subsurface Conditions at Project Sites							
Project Name:	Applicant Name:	Project Location (municipality):					
120 LAND OF NOD ROAD	GRONDIN CORPORATION	WINDHAM					

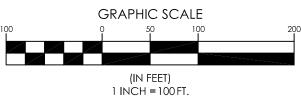
	SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: TP-93 Test Pit Boring				SOIL DESCRIPTION AND CLASSIFICATION				
	Exploration Symbol: 0-1	* Depth of Organic Horizon Above	-	Boring		Exploration Symbol:	Depth of Organic Horizon Above	Test Pit Mineral Soil	Boring
1	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2	SANDY LOAM	FRIABLE	10YR 3/4 DARK YELLOWISH	NONE OBSERVED					
4			BROWN		4				
es)					es)				/
(Inches)					(Inches			/	
FACE					SURFACE				
12 14					SURF				
16 18	LOAMY SAND		10YR 4/6 DARK YELLOWISH						
20 22			BROWN		22 ERAL			/	
MINE	FINE SAND		2.5Y 5/4		MINERAL		/-		
BELOW			LIGHT OLIVE BROWN		BELOW				
TH BE					TH BE				
DEP					DEPTH				
40					40		/		
50					50	- /			
60			CAVATION = 24"		60				
•	hydric	Slope %	Limiting factor	ground water	0	hydric non-hydric	Slope %	Limiting factor	 ground water restrictive layer
Ľ,	non-hydric	<u>3-8</u>	_>24"	restrictive layer bedrock					 restrictive layer bedrock
C.S.S.	Soil Series / phase name		<u>SWED</u> Drainage Class	A Hydrologic Group	C.S.S.	Soil Series / phase name:		Drainage Class	Hydrologic Group
L.S.E.	Soil Classification:	5_ Profile	C Drainage Class	Design Class	L.S.E.	Soil Classification:	Profile	Drainage Class	Design Class
	Evoloration Symbols	SOIL DESCRIPTION AN	D CLASSIFICATION Test Pit	Boring		Exploration Symbols	SOIL DESCRIPTION AN	D CLASSIFICATION Test Pit	Boring
	Exploration Symbol:	Depth of Organic Horizon Above	_			Exploration Symbol:	Depth of Organic Horizon Above		
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2									
4									
es)				/	es)				
(Inches,					(Inches)				
FACE					SURFACE				
12 14 14					IN SURF				
TIOS									
LaL RAL								/	
MINE					MINERAL				
M07.					MOT.				
DEPTH BE					DEPTH BE				
DEP1					DEPT				
40	,				40		/		
50					50	- /			
60					60				
•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer bedrock		hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer bedrock
C.S.S.	Soil Series / phase name	:	Drainage Class	Hydrologic Group	C.S.S.	Soil Series / phase name:		Drainage Class	Hydrologic Group
L.Ş.E.	Soil Classification:	Profile	Drainage Class	Design Class	LSÆ.	Soil Classification:	Profile	Drainage Class	Design Class
<u> </u>		Profile	Drainage Class	Design Class	<u>v 1</u>				
								TEOFM	1111
Profe	ssional Endorsemen	te (as applicable)					JIII C	ATE OF MA	NELLE
	SSIGNAL ENGORSEMEN		^		_	ato:		GARY	
C.S.S.	signature:	d have	R. 1		D	ate: 2/1/19		М.	
	signature:	~ 8			Li	c.#:		FULLERTON	1] =
	name printed/typed:	Gary M. Fu	Ilerton	1		462	*	NU, 462	
L.S.E.	signature:	to	R J			2/1/19		SOIL SCIENT	SIMME
	name printed/typed:	Gary M. Fu	llerton			355	affix professional seal	MANANNI	<i>\v</i> .
	besignature: signature: rame printed/typed: Bignature: signature: signature: signature: mame printed/typed: Bary M. Fullerton mame printed/typed: Bary M. Fullerton Bate: 2/1/19 Lic.#: 2/1/19 Lic.#: Sebago Technics, Inc.								

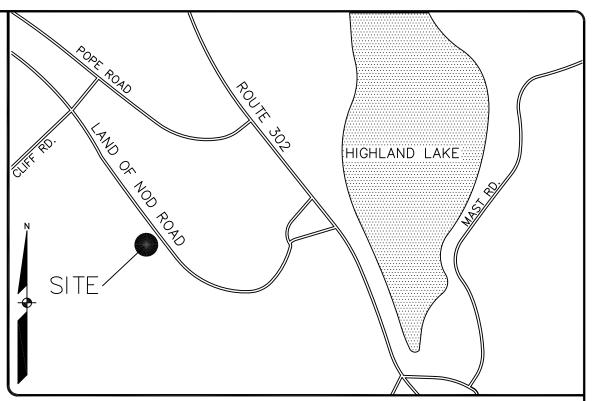
APPENDIX E

CLASS 'B' HIGH INTENSITY SOIL MAP

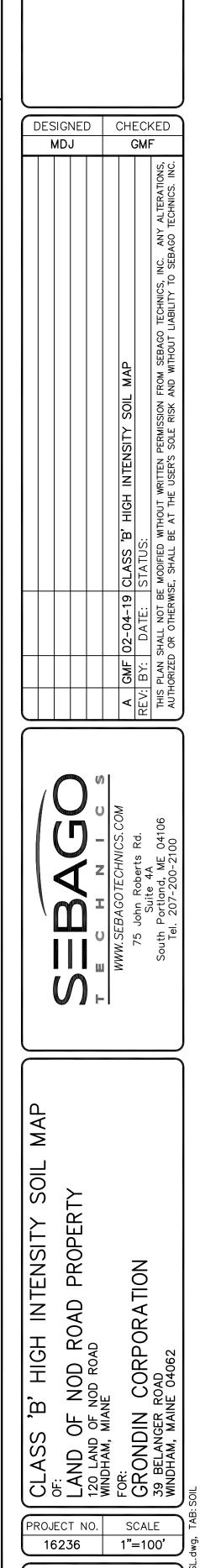








SE	SLOPE	HSG	DRAINAGE CLASS
E SAND	0-3%	А	SWED (SOMEWHAT EXCESSIVELY DRAINED)
E SAND	3–8%	А	SWED (SOMEWHAT EXCESSIVELY DRAINED)
	0-3%	А	MWD (MODERATELY WELL DRAINED)
	3–8%	А	MWD (MODERATELY WELL DRAINED)
Т	VARIES	N/A	N/A
Y LOAM	0-3%	С	WD (WELL DRAINED)
E SAND	0-3%	A/D	PD/SWPD (POORLY DRAINED/ SOMEWHAT POORLY DRAINED)
E SAND	3-8%	A/D	PD/SWPD (POORLY DRAINED/ SOMEWHAT POORLY DRAINED)
Y LOAM	0-3%	B/D	PD/SWPD (POORLY DRAINED/ SOMEWHAT POORLY DRAINED)
Y LOAM	3–8%	B/D	PD/SWPD (POORLY DRAINED/ SOMEWHAT POORLY DRAINED)



SHEET 2 OF15