



TOWN OF BRUNSWICK  
STAFF REVIEW COMMITTEE

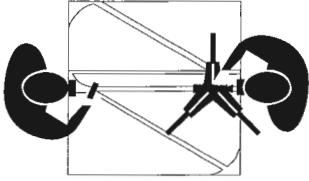
STAFF REVIEW COMMITTEE  
- AGENDA -  
BRUNSWICK TOWN HALL  
85 UNION STREET  
ROOM 206

WEDNESDAY, SEPTEMBER 30, 2015, 10:00 A.M.

1. **Case # 15-047, Meadow Rose Farm Subdivision:** The Committee will review and provide a recommendation to the Planning Board regarding an **Amendment to the Approved Final Plan**, submitted by Two Clarks, LLC, for the creation of an additional one lot and revision to the conditions of approval. The subdivision is accessed from Church Road, located on a 71.4 acre lot in the **Rural Brunswick Smart Growth Overlay District, within the Coastal Protection 2 (CP2) Zoning District. Assessor's Map 17, Lot 126.**
2. **Case # 15-027, Spruce Meadow Subdivision:** The Committee will review and provide a recommendation to the Planning Board regarding a **Final Plan Major Development Review** Subdivision Application submitted by William Moore, for a proposed 33-lot open space residential subdivision. (**Original Assessor's Map 13, Lot 34, 66-78**) in the **Mixed Use 5 (MU5) Zoning District and the Telecommunications Zone 2 Overlay (Lot 5).**
3. **Other Business**
4. **Adjourn**

This agenda is mailed to owners of property within 200 feet of proposed development sites. In cases where Committee action is pending this agenda serves as notice of same. In cases where the Committee's role is to advise the Planning Board, this agenda is mailed as a courtesy along with notice of the Planning Board meeting.

The Staff Review Committee meeting is open to the public. All are invited to attend and participate. For further information call Jared Woolston at the Brunswick Department of Planning and Development (725-6660).



September 22, 2015

2215-7

Jared Woolston, Town Planner  
Town of Brunswick  
28 Federal Street  
Brunswick, Maine 04011

**Re: Amendment Application**  
**MEADOW ROSE FARM SUBDIVISION – AMENDMENT 1**  
**CHURCH ROAD, BRUNSWICK, MAINE**  
**Tax Map 17, Lot 126**

Dear Jared,

On behalf of Two Clarks LLC, Sitelines, PA is pleased to submit the enclosed Amended Subdivision Plan, application and supporting materials regarding the development of a residential subdivision and associated private road to be located westerly of Church Road in Brunswick. The Planning Board previously approved the project on September 10, 2015. The goals of this Amendment are:

1. Revise Condition of Approval #8 to read “prior to the issuance of a building permit” versus “prior to the issuance of an entrance permit”;
2. Further divide the first two lots along Rugosa Way into three lots, increasing the total number of lots to thirteen (13), which is still less than the allowed density of seventeen (17); and
3. Revise the method of sewage disposal for the first five lots along Rugosa Way to be public sewer.

This letter is intended to summarize the project in order to facilitate the review process.

**PROPERTY**

Two Clarks, LLC owns the parcel of land located off Church Road. The parcel contains 71.41 acres and has frontage on Church Road. The site is undeveloped and was previously used for agriculture and timber harvesting. The property is located in the Coastal Protection (CP2) Zoning District and the Rural Brunswick Smart Growth Overlay District, in which residential dwellings are a Permitted Use. A significant portion (61.80 acres) of the site is within the Wildlife Habitat Block.

## **SITELINES, PA**

ENGINEERS ■ PLANNERS ■ SURVEYORS ■ LANDSCAPE ARCHITECTS  
8 Cumberland Street ■ Brunswick, ME 04011 ■ TEL 207-725-1200 ■ FAX 207-725-1114 ■ [www.sitelinespa.com](http://www.sitelinespa.com)

### **SITE DESIGN**

The proposed subdivision consists of thirteen (13) residential lots and an approximately 2,200-foot long private drive that terminates in a hammerhead turnaround. The proposed lots will all have access from the private drive. A new 8-inch water main and underground communication and electric service will be extended within the private drive from Church Road. The roadway is proposed to be constructed in excess of the minimum standards for a minor private road and will not be offered for acceptance by the Town.

The proposed subdivision is anticipated to be constructed in two phases. Phase 1 is anticipated to be constructed from 2015-2020 and Phase 2 is anticipated to be constructed from 2020-2025. Those dates are subject to change dependent on the real estate market and regional demand.

The proposed roadway will create approximately 36,339 sq. ft. (0.83 acres) of impervious area. The design will result in approximately 8,781 sq. ft. of wetland impact. These impacts will require a Tier I Natural Resources of Protection Act (NRPA) permit from the Maine Department of Environmental Protection (MDEP). An application has been submitted to the MDEP and a copy was sent to the Town for reference.

The project is located within the "Unnamed tributary to Androscoggin" watershed, which has been identified as an Urban Impaired Stream Watershed by the MDEP. Since the developer's actions result in greater than 20,000 s.f. of new impervious area, they are required to meet the Basic and General Standards of Chapter 500. For the purposes of MDEP permitting, only the lots developed by the property owner are subject to the permitting standards. As the owner is proposing to sell all lots undeveloped, only the roadway impacts are subject to the permitting thresholds.

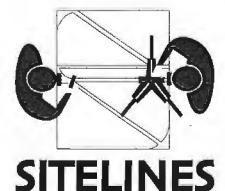
The Applicant does not request any additional waivers, other than those already approved. served by municipal water and extensive test pits for subsurface disposal systems have been conducted, a soils survey is not necessary.

### **Review Standards**

To facilitate your review of our proposal, the following issues are summarized in accordance with *CHAPTER 5: DEVELOPMENT REVIEW PLAN STANDARDS* of the Ordinance.

#### *501 PRESERVATION OF NATURAL FEATURES AND NET SITE AREA:*

Over 37 acres will be preserved as Conservation Area or Open Space. The density of the proposed subdivision is less than the maximum lot density of one unit per 3.5 acres of Net Site Area, which is computed by the subtraction of undevelopable areas (i.e. wetlands, slopes greater than 25%, road and right of ways) from the total area. Wetlands will be preserved to the greatest extent possible by carefully routing the proposed roadway and any subsequent driveways, as well



as the exclusion of wetland areas from building envelopes on individual lots. A Tier 1 NRPA permit application has been submitted to the MDEP for the proposed wetland impacts.

*502 FLOOD HAZARD AREA:*

The site is located within Zone C, designated as “areas of minimal flooding” on the Flood Insurance Rate Map (FIRM) for the Town of Brunswick. An excerpt of the applicable FIRM was previously submitted.

*503 STEEP SLOPES AND EMBANKMENTS.*

There are no steep slopes or embankments on this site.

*504 STORM WATER MANAGEMENT:*

As the project results in greater than 20,000 s.f. of new impervious area, it is required to meet the Basic and General Standards of Chapter 500 from the MDEP. In order to comply with the General Standards, the project is required to treat the impervious area from the proposed roadway. To accomplish this, the stormwater runoff from the proposed roadway will be directed to either meadow buffers adjacent to the downhill side of a road or meadow ditch turn out buffers. Runoff from these buffers will be directed to proposed culverts underneath the proposed roadway and discharge to established drainage ways. For further information, refer to the enclosed Stormwater Management Report. A Stormwater Management Law permit application has been submitted to the MDEP and a copy was forwarded to the Town for reference.

*505 GROUNDWATER:*

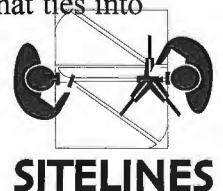
The project will be serviced by public water and a combination of public sewer and private subsurface wastewater disposal systems. There are no adverse impacts to groundwater anticipated from this development. Providing that roadway stormwater management ditches and buffers, as well as septic systems are installed and maintained as designed, no adverse impact to groundwater is anticipated from this project.

*506 EROSION AND SEDIMENTATION:*

The disturbed areas of the site will be isolated through the use of silt sock and other measures to minimize the transport of sediment from the site. The project has been designed to incorporate Best Management Practices as outlined in the Maine Erosion and Sediment Control BMPs as published by the Maine Department of Environmental Control, current edition. Specific provisions for permanent and temporary erosion control features have been provided in the construction drawings. The contractor will be bound to meet the performance standards of the BMPs including erosion control, stabilization, maintenance, and inspection requirements.

*507 SEWAGE DISPOSAL:*

The first five lots along Rugosa Way will be serviced by the public sewer system. This will be accomplished via individual residential pump stations on each lot and a force main that ties into



the existing public sewer main in Church Road. The alignment and profile of these the sewer lines and the connection are being reviewed by the Brunswick Sewer District concurrently with this application.

The remaining eight lots will be serviced by individual subsurface wastewater disposal systems. A minimum of two passing test pits were observed on each lot to be served by private septic systems. Test pits were completed by Mark Cenci, Licensed Site Evaluator and Certified Geologist (Test Pit Logs and Report attached).

*508 WATER SYSTEM:*

A new 8-inch water main will be extended with the road and provide service to the new lots. In conjunction with the construction of the road, 1-inch water service stubs will be extended to the individual lots to serve the homes. Three fire hydrants are proposed along the roadway. A letter has been sent to the Brunswick and Topsham Water District, requesting their ability to serve the proposed development. Upon receipt of a response letter, a copy will be forwarded to the Town.

*509 COMMUNITY FACILITIES IMPACT ANALYSIS:*

The anticipated impacts on public services such as police, fire and public works would be what are regularly associated with a residential development. The project will be served by public water and sewer and letters of ability to serve have been requested from the districts.

Solid waste from the subdivision will be collected by the Town's curbside collection service at the intersection of the private road and Church Road. Neighborhood delivery and collection mailboxes will be located at the entrance to the development off Church Road, with final locations coordinated with the local Post Master.

The anticipated demographic for the future homeowners is families of average size. Per the census for Cumberland County, the average household size is 2.33. For the twelve (13)-lot subdivision, an anticipated three (4) children will be added to the school system. No adverse impact to the school system is anticipated from the proposed subdivision.

Based on the Institute of Traffic Engineers (ITE) Manual, "Trip Generation, 7<sup>th</sup> Edition" data for Land Use Code 210, Single-Family Detached Housing, the proposed subdivision will result in an increase in peak-hour vehicle trip ends as follows:

Time Period	Avg. Rate	Trip-Ends
Weekday, A.M. Peak	0.77	10.01
Weekday, P.M. Peak	1.02	13.26
Saturday, Peak Hour	0.94	12.22



The anticipated increase in trip-ends does not trigger traffic permitting from the Maine Department of Transportation (MDOT), and will not have an adverse impact to the function of the surrounding roadways or intersections.

***510 DEVELOPMENT IMPACT FEES:***

The Solid Waste Impact Fee is calculated at a rate of \$258.56 (based on 1 ton/year/unit) for each of the new housing units, or \$3,361.28, which we request be paid separately for each lot, prior to the issuance of building permits.

Recreation Impact fees are addressed in Section 519.

***511 DEVELOPMENT OF NEW STREETS:***

The proposed private road planned will be a 16-foot wide gravel roadway with 2-foot gravel shoulders. The proposed water main will be placed within the traveled way and the underground electrical and communications conduits will be installed along the edge of the right-of-way. The road is not intended that the road will be offered for public acceptance.

The proposed street design provides interconnectedness with the adjacent undeveloped property to the south of the project via a 50-foot right-of-way intended for future emergency vehicle access only. The proposed Open Space/Conservation Area is adjacent to conservation and open space on adjacent areas and provides an undisturbed block of the Wildlife Habitat Block. Providing this undisturbed block precludes the extension of the roadway design towards Hillside Road, which also supports the need for a dead-end street.

***512 OFF STREET PARKING:***

Based on the depths of the lot, and size of the anticipated buildings, off street parking would exceed four (4) spaces per lot.

***513 CURB CUTS:***

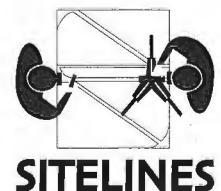
There is one new curb cut proposed for the subdivision off from Church Road. A paved apron will be installed for the first twenty (20) feet of the roadway to protect the edge of the existing Church Road Pavement,

***514 OFF STREET LOADING:***

There are no requirements for off street loading associated with this project.

***515 APPEARANCE ASSESSMENT:***

The plan reflects the project's integration with the site and the surrounding area. The anticipated houses will be similar in appearance and spacing to those in existing neighborhoods in the vicinity. The Home Owners Association will control the design review criteria for the homes.



*516 BUILDING CONFIGURATION:*

All of the lots will access off the proposed private road. Due to orientation of the private road, the front doors will most likely face towards the private road. This is subject to the design of the homeowner, and alternate orientations could be considered.

*517 PRESERVATION OF HISTORIC RESOURCES:*

There are no historic resources associated with this project.

*518 ACCESS FOR PERSONS WITH DISABILITIES:*

Not applicable for private residences.

*519 RECREATIONAL REQUIREMENTS FOR RESIDENTIAL DEVELOPMENTS:*

With regard to recreation and open space, the applicant proposed to dedicate 37.03 acres to Conservation and Open Space: 33.10 acres will be offered to the Brunswick Topsham Land Trust or the Brunswick Conservation Commission; 3.92 acres will be dedicated as Open Space to be maintained by the Home Owners Association. There is significant opportunity for trails and passive recreation within the Conservation Area and the opportunity for a common recreational field for the residents within the Open Space. The conservation space is proposed to be conveyed to the Brunswick and Topsham Land Trust. The Conservation Commission and the Recreation Commission have both approved the Open Space as meeting the requirements of this section.

*520 FISCAL CAPACITY:*

The applicant has successfully completed numerous residential development in the Midcoast area. Please see the attached letter from Bath Savings Institution indicate the Financial Capacity of Two Clarks, LLC. A copy of the Certificate of Good Standing from the Secretary of State has been enclosed with this letter.

The Applicant will pay for the development of the road and associated utilities and the individual lot owners will be responsible for the development of the individual lots.

*521 PERFORMANCE GUARANTEE:*

A performance guarantee for the utility improvements within the public right-of-way will be prepared for approval by the director of public works.

*522 HOME OWNERS/PROPERTY OWNERS ASSOCIATION:*

A Draft copy of the Home Owners Association documents are attached.

*523 PROTECTED CONSERVATION LAND:*

The applicant proposes to preserve 33.10 acres of Conservation land, which is also located within the Wildlife Habitat Block. The total area of the Wildlife Habitat Block, including 2.93 acres of



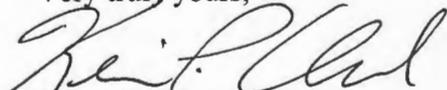
the Open Space, which will be preserved is 36.03 acres. In accordance with Section 217.4, the 1:1 mitigation ratio has been achieved. Also see Sec. 519 above.

*524 NOISE AND DUST:*

Best Management Practices as outlined in the Maine Erosion and Sediment Control BMP's as published by the Maine Department of Environmental Control, will be utilized to control noise and dust during construction. Noise will be limited through the compliance of the site contractor with the standard hours of construction per Section 524.1. Upon construction completion, there are no anticipated impacts with regard to noise or dust. The proposed use will occur almost exclusively within the building.

We look forward to meeting with you and the Planning Board at their October 13, 2015 meeting to review the project and gain their approval. We appreciate your assistance with this project. Should you have any questions, please call or contact me via [kclark@sitelinespa.com](mailto:kclark@sitelinespa.com).

Very truly yours,

  
Kevin P. Clark, PLS  
President

Enclosures

cc: Paul Clark



**MAJOR DEVELOPMENT REVIEW  
FINAL PLAN APPLICATION**

1. Project Name: Meadow Rose Farms Subdivision - Amendment 1
  
2. Project Applicant  
Name: Two Clarks, LLC c/o Paul Clark  
Address: 240 Main Street  
Brunswick, ME 04011  
Phone Number: \_\_\_\_\_
  
3. Authorized Representative  
Name: Sitelines, PA. Attn: Kevin Clark, PLS  
Address: 8 Cumberland Street  
Brunswick, ME 04011  
Phone Number: 207-725-1200 xt. 18
  
4. List of Design Consultants. Indicate the registration number, address and phone number  
Of any engineer, surveyor, architect, landscape architect or planner used:
  1. Surveyor: Kevin P. Clark, PLS #2245, Sitelines, P.A., 207-725-1200 xt. 14
  2. Engineer: Curtis Y. Neufeld, P.E. #9779, Sitelines, P.A., 207-725-1200 xt. 18
  3. Wetlands: Tim Forrester, Biologist & Wetland Scientist, Eco-Analysts, Inc., 207-882-1115
  4. Soils: Marc Cenci, Certified Geologis & Licensed Site Evaluator 207-657-2822
  
5. Physical location of property being affected: Church Road
  
6. Lot Size: 71.41 Acres
  
7. Zoning District: CP2
  
8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application? Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
9. Assessor's Tax Map 17 Lot Number 126 of subject property.
  
10. Brief Description of proposed: Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_
  
11. Describe Specific Physical Improvements to be Done: Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_

Owner Signature: \_\_\_\_\_

Applicant Signature (if different): Kevin Clark (AGENT)

**Required Attachments (by Applicant):**

- Final Plan Check List
- Final Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)
- Required Copies of Final Plan

**Required Attachment (by Planning and Development Department):**

- Listing of all owners of property within 200-foot radius of property under review.

## FINAL PLAN REQUIREMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	Comments
Name of Development		X				
Scale, date, north point, area, number of lots (if subdivision)		X				
Boundaries of all lots and tracts with accurate distances and bearings, locations of all permanent monuments property identified as existing or proposed.		X				
Certification by a professional land surveyor that the land has been surveyed and the boundaries established in accordance with the State of Maine Board of Licensure for Professional Surveyors standards for Category 1 (Standard Boundary Survey), conditions 1, 2, or 3.		X				
Existing zoning district and overlay designation.		X				
Names of engineer and surveyor; and professional registration numbers of those who prepared the plan.		X				
Names of current owner(s) of subject parcel and abutting parcels.		X				
Name, location, width of paving and rights-of-way, profile, cross-section dimensions, curve radii of existing and proposed streets; profiles of center-lines of proposed streets, at a horizontal scale of 1" equals 50' and vertical scale of 1 inch equals 5 feet, with all elevations referred to in U.S.G.S. datum.		X				Waiver Requested (see narrative)
A general road plan noting circulation, direction, traffic control devices, street lighting and type of lighting proposed.		X				No lighting is proposed
Existing and proposed easements associated with the development.		X				
Kind, location, profile and cross-section of all proposed drainage facilities, both within the development and outside of it, and a storm-water management plan which includes the submission requirements listed in the storm-water management checklist available in the Planning Department.		X				
Location of features, natural and artificial, such as water bodies, wetlands, streams, vegetation, railroads, ditches and buildings.		X				

Location of existing and proposed utilities; water, sewer, electrical lines, and profiles of underground facilities. Tentative locations of any private wells.		X				
Existing and proposed location, size, profile and cross section of sanitary sewers; description, plan and location of other means of sewage disposal with evidence of soil suitability.		X				
Topography with counter intervals of not more than 2 feet.		X				
A Class A (high intensity) Soil Survey prepared in accordance with the standards of the Maine Association of Professional Soil Scientists.				X		Waiver Requested (see narrative)
Location of all existing trees over 10 inches in diameter, locations of tree stands, and a plan showing all trees to be removed as a result of the development proposal.				X		Waiver Requested (see narrative)
Lighting plan showing details of all proposed lighting and the location of that lighting in relation to the site.			X			No lighting proposed
Existing locations and proposed locations, widths and profiles of sidewalks.		X				Waiver requested for profiles
Location map.		X				
Approximate locations and dimensions of proposed parking areas.			X			No public parking proposed
Proposed ownership and approximate location and dimensions of open spaces for conservation and recreation.		X				
Grading, erosion control, and landscaping plan; proposed finished grades, slopes, swells, and ground cover or other means of stabilization.		X				
Reference to special conditions stipulated by the Planning Board, with conditions either set forth in full or on the plan or identified as specific documents filed with the Board.			X			No special conditions known
A wetlands map drawn by a specialist delineating wetland boundaries in accordance with the methods prescribed by the US Army Corps of Engineers.		X				
Dedicated public open spaces, areas protected by conservation easements, and existing and proposed open spaces or recreation areas.		X				

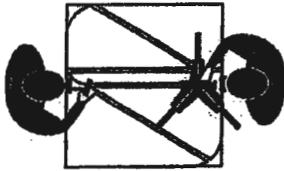
For Open Space Development, a note indicating the total permitted lot count of the entire land tract based upon the destiny standards in this Ordinance, the number of lots created by the Plan, and the numebr of lots permitted to be subdivided in the future, as well as a table showing setback requirements and impervious surface coverage limits for each lot.		X				
Building envelops showing acceptable locations for principal and accessory structures.		X				

**FINAL PLAN/SUPPORTING DOCCUMENTS**

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	Comments
Documentation of Ownership or contract.		X				
Drafts of legal documents appropriate to the application, including: deeds, easements, conservation easements, deed restrictions or covenants, home/property owners association declarations and by-laws, and such other agreements or documents as are necessary to show the manner in which conservation land will be owned, maintained, and protected.		X				
Draft performance guarantee or conditional agreement.			X			None Anticipated
Disclosure of any required permits from the Department of Environmental Protection, Marine Resources, US Army Corps of Engineers, Department of Inland Fisheries and Wildlife, or other agencies, as applicable; or, if a permit has already been granted, a copy of that permit.		X				None Required
Any additional studies required by the Planning Baord, which are deemed necessary in accordance with this Ordiancne.			X			None Anticipated
Storm water management program for the propsed project prepared by a professional engineer.		X				
A storm water management checklist prepared by the Cumebrland County Soil and Water Conservation District made availabel at the Brunswick Department of Planning and Development.	X					

An erosion and sedimentation control checklist prepared by the Cumberland County Soil and Water Conservation District.	X					
A statement from the Brunswick-Topsham Water District of conditions under which water will be provided.				X		
A statement from the Brunswick-Topsham Water District of its review and comments on the proposed use if the project involves development within the Aquifer Protection Zone.			X			
A Statement from the Fire Chief recommending the number, size, and location of hydrants, available pressure levels, road layout and street and project name, and any other fire protection measures to be taken.				X		
A statement from the Superintendent of the Brunswick Sewer District of the conditions under which the Sewer District will provide sewerage disposal service and approval of the sanitary sewers proposed within the development.				X		
Where a septic system is to be used, evidence of soil suitability.		X				
All applicable materials necessary for the reviewing entity to review the proposal in accordance with the Criteria of Section 411.		X				
A plan of all buildings with new construction or expansion of an existing facility, including type, size, and footprint, floor layout, setback, elevation of first floor slab, storage, and loading areas.		X				
An elevation view of all sides of each building proposed indicating height, color, bulk, surface treatment, and signage.			X			No Buildings Proposed
A circulation plan describing all pedestrian and vehicle traffic flow on surrounding road systems.		X				
The size and proposed location of water supply and sewage disposal systems.		X				Public Water, Private Septic
A site landscaping plan indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening, the size, location and purpose and type of vegetation.			X			Landscaping to be by homeowners



March 19, 2015

2215

Mr. Paul H. Clark, III  
Two Clarks, LLC  
240 Main Street  
Brunswick, ME 04011

**Re: Designation of Agent Authorization  
Residential Subdivision  
Church Road, Brunswick**

Dear Paul,

As required by various approval agencies, please indicate by signing below that Sitelines, PA is authorized to act as agent for Two Clarks, LLC, for the specific purpose of preparation and submission of local and state permitting applications on your behalf for the proposed residential subdivision to be located off Church Road in Brunswick, Maine.

Sincerely,

Kevin P. Clark, PLS  
President

The undersigned hereby gives Sitelines, PA the authority to act as agent for Two Clarks, LLC, for the specific purpose of preparation and submission of local and state permitting applications for the project specifically identified above.

  
Paul H. Clark, III *Two Clarks LLC*

3/25/15  
Date

2215/9  




STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

August 18, 2015

Kevin P. Clark, PLS  
Sitelines, PA  
8 Cumberland St  
Brunswick, ME 04011

RE: DEP APPLICATION #L-26727-TB-B-N/L-26727-NI-A-N, BRUNSWICK

Dear Mr. Clark:

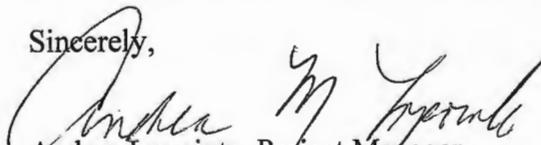
Your client's application for a Natural Resources Protection Act permit was received by the Department of Environmental Protection and found to be acceptable for processing on August 18, 2015. Acceptance of the application does not preclude the Department from requesting additional information during processing. Your client's application has been given the above reference number.

The project will now be examined to determine whether a license can be issued. The statutory deadline for the Department to reach a final decision on your application is October 2, 2015; however, we will do our best to process the application and issue a decision as soon as possible. No construction activities at this project site may be started prior to receiving a final decision from the Department.

I hope to visit the site on August 24, 2015.

Please feel free to contact me at (207) 446-6117 or via email at [andrea.lapointe@maine.gov](mailto:andrea.lapointe@maine.gov) if you have any questions regarding this project.

Sincerely,

  
Andrea Lapointe, Project Manager  
Bureau of Land Resources

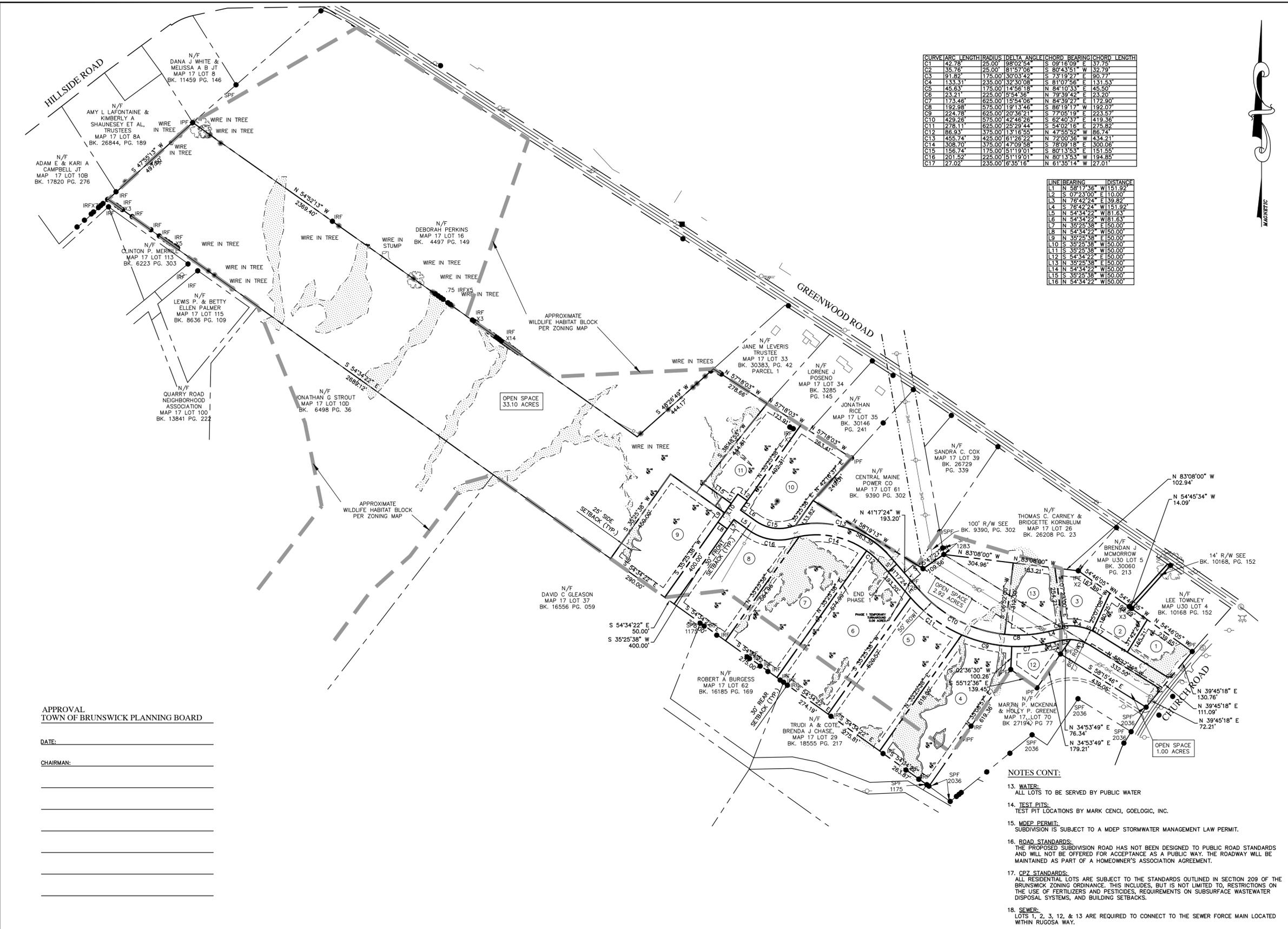
cc: Two Clarks, LLC, 240 Main St, Brunswick, ME 04011  
File

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

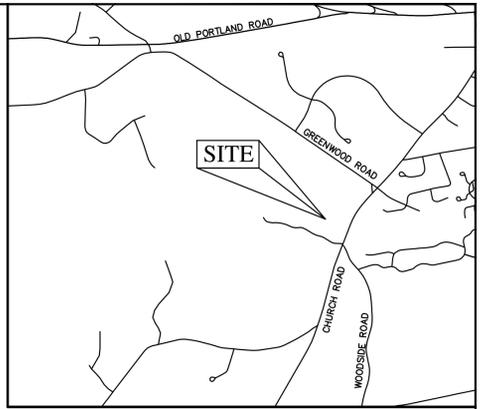
PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	42.78	25.00	98.0254	S 09°18'09" E	37.75
C2	33.76	25.00	81.9706	S 80°35'11" W	32.79
C3	91.82	175.00	30.0342	S 73°19'27" E	90.77
C4	133.31	235.00	32.3008	S 81°07'56" E	131.53
C5	45.63	175.00	14.5813	N 84°10'33" E	45.50
C6	23.21	125.00	8.5436	N 79°39'42" E	23.20
C7	173.46	625.00	15.5406	N 84°39'27" E	172.90
C8	192.98	575.00	19.1346	S 86°19'17" W	192.07
C9	224.78	625.00	20.3921	S 77°03'19" E	223.57
C10	429.26	575.00	42.4828	S 62°40'37" E	419.36
C11	278.11	625.00	25.2944	S 54°02'16" E	275.82
C12	86.93	375.00	13.1655	N 27°53'52" W	86.74
C13	453.74	425.00	61.2822	N 72°00'36" W	434.21
C14	308.70	375.00	47.0958	S 78°09'18" E	300.06
C15	156.74	175.00	51.1901	S 80°13'53" E	151.55
C16	201.52	225.00	51.1901	N 80°13'53" W	194.85
C17	27.02	235.00	6.3516	N 61°35'14" W	27.01

LINE	BEARING	DISTANCE
L1	N 58°17'36" W	151.92
L2	S 07°23'00" E	10.00
L3	N 76°42'24" E	39.82
L4	S 76°42'24" W	151.82
L5	N 54°34'22" W	81.63
L6	N 54°34'22" W	81.63
L7	S 35°25'38" E	50.00
L8	N 54°34'22" W	50.00
L9	N 35°25'38" E	50.00
L10	S 35°25'38" E	50.00
L11	S 35°25'38" E	50.00
L12	S 54°34'22" E	50.00
L13	N 35°25'38" E	50.00
L14	N 54°34'22" W	50.00
L15	S 35°25'38" E	50.00
L16	N 54°34'22" W	50.00



LOCATION MAP NOT TO SCALE

- NOTES:**
- TITLE REFERENCE FOR SURVEYED PARCEL:**  
BK 8719, PG 218
  - PLAN REFERENCE(S):**  
A) "SOLAR RIDGE SUBDIVISION BY BARRY W. SMITH" DATED NOV. 8, 1982, BY LARRY SLAUGHTER, LS 1133, RECORDED IN PB 136, PG 28.  
B) "SURVEY FOR BARRY W. SMITH, SITUATE OFF QUARRY ROAD" DATED JUNE 9, 1984, BY LARRY SLAUGHTER, LS 1133, RECORDED IN PB 143, PG 25.  
C) "STANDARD BOUNDARY SURVEY OF DAVID C. GLEASON LOT, CHURCH ROAD, BRUNSWICK, MAINE" DATED MARCH 24, 1986, BY BRIAN SMITH SURVEYING, INC., RECORDED IN PB 156, PG 88.  
D) "STANDARD BOUNDARY SURVEY OF LAND TO BE CONVEYED BY LYNDON E. & RUTH A. HARMON TO CENTRAL MAINE POWER COMPANY, GREENWOOD ROAD, BRUNSWICK, MAINE" DATED AUG. 4, 1990, BY MAINLAND SERVICES, INC., UNRECORDED.  
E) "STANDARD BOUNDARY SURVEY OF BETTINA O SMITH, GREENWOOD ROAD & HILLSIDE ROAD, BRUNSWICK, MAINE" DATED MAY 5, 1994, BY BRIAN SMITH SURVEYING, INC., UNRECORDED.  
F) "BOUNDARY SURVEY OF SHALUNESEY PROPERTY, CHURCH ROAD, BRUNSWICK, MAINE" DATED JAN. 12, 2005, BY ASSOCIATED DESIGN PARTNERS INC., RECORDED IN PB 206, PG 50.  
G) "CENTRAL MAINE POWER COMPANY PLAN OF SECTION 31" DATED NOV. 1953, PLAN # 577-54, UNRECORDED.
  - AREA INFORMATION:**  
3,110,489 S.F. OR 71.41 ACRES
  - TAX MAP REFERENCE:**  
TAX MAP 17, LOT 126
  - BASIS OF BEARINGS:**  
BEARINGS ARE MAGNETIC (2014) AND ARE BASED ON HAND COMPASS BEARINGS ALONG RANDOM TRAVERSE LINES.
  - ROAD INFORMATION:**  
CHURCH ROAD WIDTH IS 66' (4 RODS) AND GREENWOOD ROAD 49.5' (3 RODS) PER PLANS REFERENCED ABOVE. LOCATIONS ARE BASED ON EVIDENCE FOUND.
  - ZONING:**  
COASTAL PROTECTION (CP2):  
MIN. LOT SIZE - 20,000 S.F. FOR RESIDENTIAL USES  
MAX. DENSITY - 3.5 ACRES/UNIT  
MIN. LOT WIDTH - 125 FEET  
MIN. FRONT YARD - 30 FEET  
MIN. REAR YARD - 30 FEET  
MIN. SIDE YARD - 25 FEET  
MAX. IMP. SURFACE - 21,780 S.F. OR 40%, WHICHEVER IS LESS  
MAX. NEW LAWN FOR WOODED SITES - 20,000 S.F.  
MAX. BUILDING HEIGHT - 40 FEET  
MAX. BUILDING FOOTPRINT - 10,000 S.F.
  - NET SITE AREA:**  
71.33 ACRES - PROPERTY AREA  
-2.73 ACRES - PRIVATE ROAD  
-0.63 ACRES - PRIVATE R/W  
-2.85 ACRES - WETLANDS  
60.12 ACRES - NET SITE AREA  
17 - MAXIMUM LOTS\*
  - \*NO BONUS DENSITY IS REQUESTED AT THIS TIME.
  - RURAL BRUNSWICK SMART GROWTH OVERLAY DISTRICT:**  
61.80 ACRES - EXISTING WILDLIFE HABITAT BLOCK  
25.79 ACRES - WILDLIFE HABITAT BLOCK TO BE DEVELOPED  
2.92 ACRES - WILDLIFE HABITAT BLOCK TO BE OPEN SPACE  
33.10 ACRES - REMAINING WILDLIFE HABITAT BLOCK TO BE PRESERVED\*
  - \*PER SEC. 217.4, A 1:1 MITIGATION RATIO HAS BEEN ACHIEVED.
  - OPEN SPACE:**  
37.03 ACRES OF OPEN SPACE, OF WHICH 33.10 ACRES TO BE PRESERVED BY CONSERVATION EASEMENT.
  - WETLANDS:**  
WETLAND DISTURBANCE IS LIMITED TO THAT SHOWN ON THE ENCLOSED PLANS. ADDITIONAL WETLAND IMPACTS MAY BE SUBJECT TO ADDITIONAL PERMITTING AND FEES.
  - FLOOD ZONE:**  
THE PROPERTY IS NOT LOCATED IN A FLOOD ZONE PER FEMA MAP 2300420015 B DATE JAN 3RD 1986.  
5. 09-22-15 REVISED LOT LAYOUT, ADDED SEWER FORCE MAIN JJM  
4. 08-24-15 REVISED PER STAFF REVIEW COMMENTS JJM  
3. 07-14-15 SUBMITTED FOR FINAL SUBDIVISION REVIEW JJM  
2. 05-16-15 REVISED ROAD LAYOUT, ADDED LOT 12 KPC  
1. 04-07-15 SUBMITTED FOR STAFF REVIEW KPC

- NOTES CONT:**
- WATER:**  
ALL LOTS TO BE SERVED BY PUBLIC WATER
  - TEST PITS:**  
TEST PIT LOCATIONS BY MARK CENCI, GEOLOGIC, INC.
  - MDEP PERMIT:**  
SUBDIVISION IS SUBJECT TO A MDEP STORMWATER MANAGEMENT LAW PERMIT.
  - ROAD STANDARDS:**  
THE PROPOSED SUBDIVISION ROAD HAS NOT BEEN DESIGNED TO PUBLIC ROAD STANDARDS AND WILL NOT BE OFFERED FOR ACCEPTANCE AS A PUBLIC WAY. THE ROADWAY WILL BE MAINTAINED AS PART OF A HOMEOWNER'S ASSOCIATION AGREEMENT.
  - CEZ STANDARDS:**  
ALL RESIDENTIAL LOTS ARE SUBJECT TO THE STANDARDS OUTLINED IN SECTION 209 OF THE BRUNSWICK ZONING ORDINANCE. THIS INCLUDES, BUT IS NOT LIMITED TO, RESTRICTIONS ON THE USE OF FERTILIZERS AND PESTICIDES, REQUIREMENTS ON SUBSURFACE WASTEWATER DISPOSAL SYSTEMS, AND BUILDING SETBACKS.
  - SEWER:**  
LOTS 1, 2, 3, 12, & 13 ARE REQUIRED TO CONNECT TO THE SEWER FORCE MAIN LOCATED WITHIN RUGOSA WAY.

APPROVAL  
TOWN OF BRUNSWICK PLANNING BOARD

DATE: \_\_\_\_\_

CHAIRMAN: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CUMBERLAND COUNTY REGISTRY OF DEEDS:

RECEIVED \_\_\_\_\_

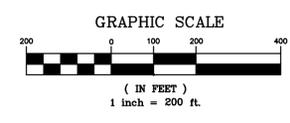
AT \_\_\_\_\_ HRS \_\_\_\_\_ MIN \_\_\_\_\_ M, AND

FILED IN PLAN BOOK \_\_\_\_\_ PAGE \_\_\_\_\_

ATTESTED: \_\_\_\_\_, REGISTER

PROGRESS PRINT  
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

CALL DIG SAFE UTILITY LOCATION  
**1-888-344-7233**  
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES



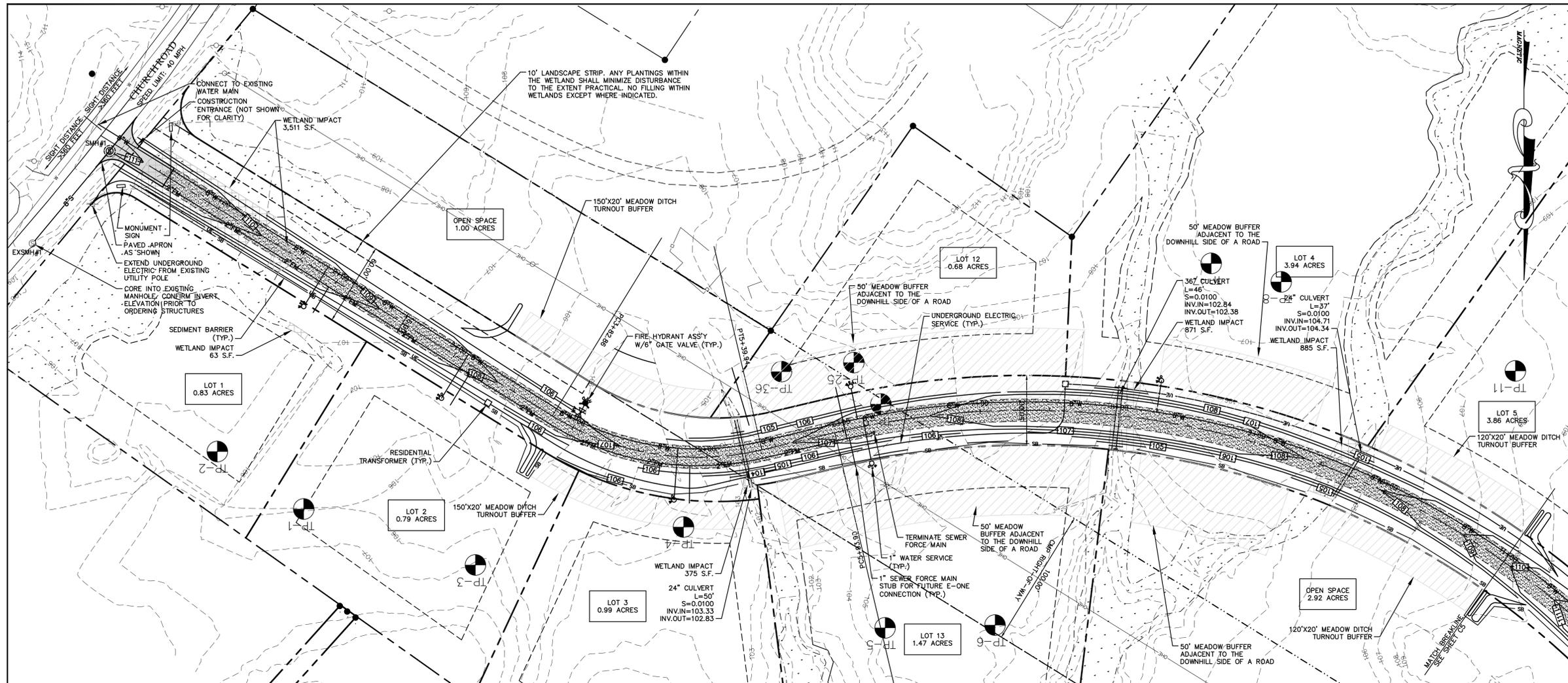
**TITLE:** OVERALL SUBDIVISION PLAN AMENDMENT 1

**PROJECT:** MEADOW ROSE FARM SUBDIVISION CHURCH ROAD, BRUNSWICK, MAINE

**PREPARED FOR:** TWO CLARKS, LLC 240 MAINE STREET, BRUNSWICK, MAINE

**SITELINES, PA**  
ENGINEERS • PLANNERS • SURVEYORS  
LANDSCAPE ARCHITECTS  
8 CUMBERLAND STREET, BRUNSWICK, ME 04011  
207.725.1200 www.sitelinespa.com

FIELD WK: KPC	SCALE: 1"=200'	SHEET:
DRN BY: JJM	JOB #: 2215	<b>C2</b>
CHD BY: CYN	MAP/LOT: 17/126	
DATE: 07/2015	FILE: 2215-SITE-SUB-CARLSON	



- NOTES:**
1. THE CONTRACTOR SHALL CONTACT DIGSAFE (888-344-7233) PRIOR TO COMMENCING EXCAVATION.
  2. THE CONTRACTOR SHALL CONFIRM HORIZONTAL AND VERTICAL CONTROL BEFORE BEGINNING WORK.
  3. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  4. RESIDENTIAL LOTS ARE PERMITTED ONE 15-FOOT WIDE CROSSING THROUGH THE PROPOSED MEADOW BUFFERS FOR DRIVEWAY ACCESS.

**STRUCTURE DATA:**

EXSMH#1  
RIM: 110.21  
INV.: 101.7±

SMH#1  
RIM: 111.3±  
INV.IN:105.84 (2" FROM FORCE MAIN)  
INV.OUT:102.52 (8" TO EXSMH#1)

**PROGRESS PRINT**  
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

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**1-888-344-7233**  
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

**GRAPHIC SCALE**  
1 inch = 40 ft.

STATE OF MAINE  
JOSEPH J. MARDEN  
12828  
PROFESSIONAL ENGINEER

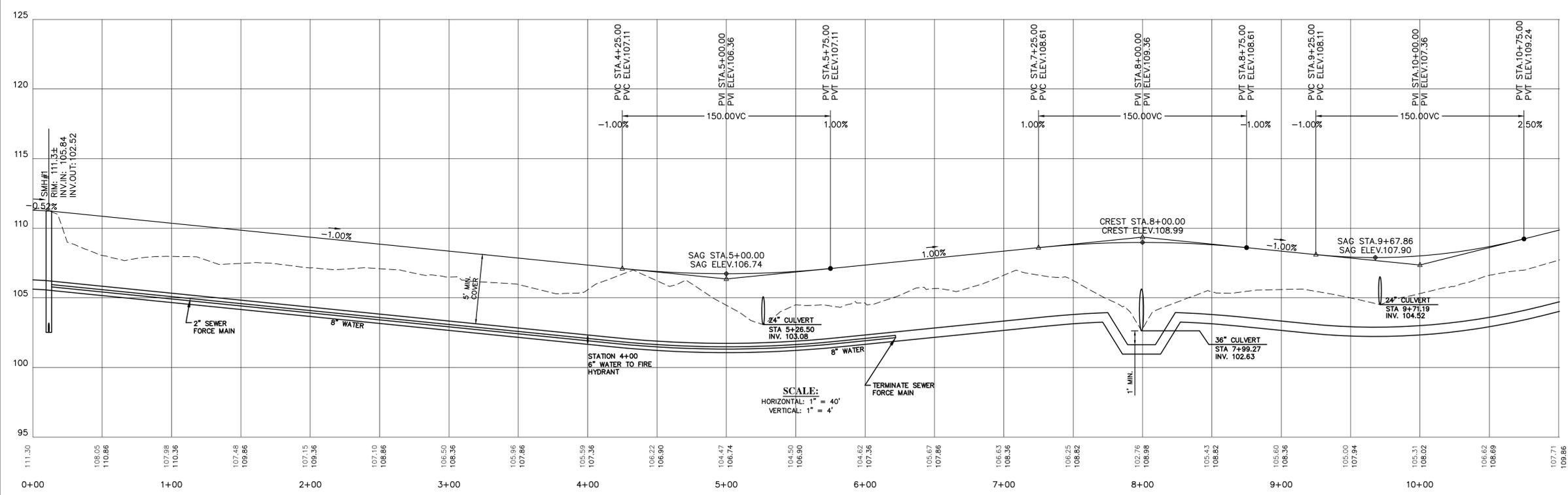
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2. 05-16-15 REVISED ROAD LAYOUT, ADDED LOT 12 KPC
1. 04-07-15 SUBMITTED FOR STAFF REVIEW KPC

**TITLE:** PLAN AND PROFILE  
STATION 0+00 TO 11+00

**PROJECT:** MEADOW ROSE FARM SUBDIVISION  
CHURCH ROAD, BRUNSWICK, MAINE

**PREPARED FOR:** TWO CLARKS, LLC  
240 MAINE STREET, BRUNSWICK, MAINE

**SITELINES, PA**  
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207.725.1200 www.sitelinespa.com



FIELD WK: KPC	SCALE: 1"=40'	SHEET:
DRN BY: JJM	JOB #: 2215	<b>C4</b>
CHD BY: CYN	MAP/LOT: 17/126	
DATE: 07/2015	FILE: 2215-SITE-SUB-CARLSON	



**FINAL SUBDIVISION APPLICATION  
SPRUCE MEADOWS  
TAX MAP 13, LOTS 34, 66-78  
OLD PORTLAND ROAD  
BRUNSWICK, MAINE**

Prepared For

**MOORE PROPERTIES, INC.**  
Mr. William (Bill) Moore  
228 Old Portland Road  
Brunswick, Maine 04011

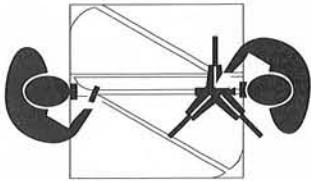
Prepared By

**SITELINES P.A.**  
8 Cumberland Street  
Brunswick, Maine 04011

September 15, 2015

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Attachment A	Application Form & Checklists
Attachment B	Right, Title, and Interest
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Attachment F	Supporting Graphics
Attachment G	Soils Data
Attachment H	Stormwater Management Plan
Attachment I	Subdivision Plans



September 15, 2015

731.03-7

Mr. Jared Woolston  
Town Planner  
Town of Brunswick  
85 Union Street  
Brunswick, Maine 04011

**Re: Major Development Review Final Plan Application  
Spruce Meadows Subdivision  
Old Portland Road, U.S. Route 1  
Tax Map 13, Lots 34, 66-78**

Dear Jared;

On behalf of Moore Properties, Inc., Sitelines, PA is pleased to submit the enclosed Major Development Review Final Application and supporting materials for the development of a residential subdivision and associated road to be located along Old Portland Road. The project was presented to the Planning Board as a Sketch Plan on July 14, 2015 and to the Recreation Commission on July 15, 2015. The comments received from those meetings have been incorporated into these plans.

**PROPERTY**

Moore Properties, Inc owns the parcels of land located along Old Portland Road identified as Tax Map 13, Lots 34, 66-78 on the Town of Brunswick Tax Assessors Map. The property received a Major Subdivision permit from the Town of Brunswick in June of 2009 for a subdivision consisting of four (4) residential lots and fourteen (14) commercial/industrial lots. The subdivision road has been roughed-in and a portion of the road has been paved. The four (4) residential lots have been sold and one (1) of the commercial lots has been sold. The remainders of the lots have been maintained in their undeveloped state. The 76.1 acre property is located in the Portland Road Area (MU5) Zoning district, in which residential use is a permitted use.

**SITE DESIGN**

The proposed subdivision consists of 32 residential lots, one of which will be used for recreational purposes, and an approximately 2,230 foot long loop access road that has been partially constructed. The proposed lots will all have access from the loop access road. The individual lots will be served by private well and septic systems. As was previously approved, the loop access road will result in approximately 72,144 s.f. (1.65 acres) of new impervious area.

To allow for the number of lots proposed, the Applicant is seeking approval as an Open Space Development (OSD) per Section 308. In support of the OSD subdivision, a large part of the parcel previously retained by the Applicant will be dedicated as open space. A trail system is proposed to be established in the large lot adjacent to the highway corridor. The open space standards were addressed as part of the Sketch Plan application that was previously submitted to the Town.

**SITELINES, PA**

ENGINEERS ■ PLANNERS ■ SURVEYORS ■ LANDSCAPE ARCHITECTS  
8 Cumberland Street ■ Brunswick, ME 04011 ■ TEL 207-725-1200 ■ FAX 207-725-1114 ■ [www.sitelinespa.com](http://www.sitelinespa.com)

The Applicant proposes to construct the project in three (3) phases as shown on the attached plan. The first phase will utilize the existing roadway constructed in 2009. Future phases will proceed with construction based on market forces. Each phase has been designed with a turn-around location as necessary.

The Applicant will coordinate with the Maine Department of Transportation (MaineDOT) for amending the permits previously approved for the road as necessary. The Applicant has had correspondence with MaineDOT about the previously issued entrance permit that indicates the proposed use would be less intensive and could be constructed without improvements to Route 1.

The change to the subdivision plans will be submitted for review by the Maine Department of Environmental Protection (MDEP) to amend the previously issued Site Location of Development Act (SLODA) permit.

### **REVIEW STANDARDS**

To facilitate your review of our proposal, the following issues are summarized in accordance with *CHAPTER 5: DEVELOPMENT REVIEW PLAN STANDARDS* of the Ordinance.

#### ***501 PRESERVATION OF NATURAL FEATURES AND NET SITE AREA:***

Primarily for stormwater treatment, forested buffers will be maintained around the perimeter of the subdivision. The forested buffers are "no-cut" buffers that will be deed restricted upon the sale of each lot. Meadow buffers are proposed along the frontage of the majority of the subdivision road for stormwater treatment. The meadow buffers are to be maintained as tall meadow grass that will be mowed a maximum of 1-2 times per year. In addition, as part of the subdivision, 36.18 acres will be conserved and used for recreational trails and open space.

#### ***502 FLOOD HAZARD AREA:***

Based on the Flood Insurance Rate Map, community panel number 230042 0010 B, Revised January 3, 1986, the project site including the unnamed stream are located within Zone C, described as areas of minimal flooding and outside the 100-year flood zone. An excerpt of the Flood Map has been enclosed with this submission.

#### ***503 STEEP SLOPES AND EMBANKMENTS:***

There are no steep (greater than 20%) slopes within the areas to be developed. Building envelopes have been configured to precluded construction in the vicinity of any steep slopes.

#### ***504 STORM WATER MANAGEMENT:***

The impervious area from the access road and the future development of the residential lots will be directed to a combination of treatment systems. As designed as part of the previous permitting, the road will be directed to infiltration trenches and basins, an underdrained grass filter, and ditch turnout buffers. As part of the proposed subdivision, a portion of the roadway and a majority of the residential lots will be directed to buffers adjacent to a road or buffers downgradient of a single-family residential lot. For additional information on stormwater management, refer to the enclosed Stormwater Management Plan. The supporting data for the stormwater management plan will be submitted under separate cover with the copy of the Site Location Permit Amendment application.



**505 GROUNDWATER:**

The project will be serviced by private wells and septic systems. Through infiltration of the stormwater, the natural groundwater recharge cycle will be preserved. There are no adverse impacts to groundwater anticipated from this development. No activities are proposed or anticipated that will extract groundwater for commercial purposes.

**506 EROSION AND SEDIMENTATION:**

The project has been designed to incorporate Best Management Practices as outlined in the Maine Erosion and Sediment Control BMPs as published by the Maine Department of Environmental Protection, current edition. The potential for sediment transport from the project area will be mitigated through the use of permanent and temporary erosion control measures. Disturbed areas will be isolated through the use of sediment barrier and other measures to minimize the transport of sediment from the site. Specific provisions for permanent and temporary erosion control features have been provided in the construction drawings. The contractor will be bound to meet the performance standards of the BMPs including erosion control, stabilization, maintenance, and inspection requirements.

**507 SEWAGE DISPOSAL:**

The project will be served by private septic systems. Test pits have been located throughout the development, providing for at least two (2) test pits per lot. Test pit data has been developed by Albert Frick Associates, Inc. and test pit logs and reports have been enclosed with this submission. Detailed septic systems will be designed as individual lots are developed.

**508 WATER SYSTEM:**

All lots for this project will be served by private wells. The project parcel is located over an aquifer and therefore an abundant supply of fresh water is anticipated. Residential lots having a 4-bedroom home have a typical usage of 360 GPD.

The Maine Geological Survey maps for the project area show wells close to the project and along the aquifer line to yield 25 to 50 GPM with well depths of 250 to 400 feet. Based on the documented flows and the development's proximity to a large aquifer it is anticipated there is an adequate supply of water for the development.

**509 COMMUNITY FACILITIES IMPACT ANALYSIS:** The anticipated impacts on public services such as police, fire and public works would be what are regularly associated with a residential development.

Solid waste from individual units will be collected by the Town's curbside collection service. The locations of mailboxes will be coordinated with the local Post Master.

The anticipated demographic for the future homeowners is families of average size. Per the census for Cumberland County, the average household size is 2.33. For the 32 residential lots, an anticipated eleven (11) children will be added to the school system. No adverse impact to the school system is anticipated from the proposed subdivision.

**510 DEVELOPMENT IMPACT FEES:**

Impact Fees have been previously calculated at the following rates: The Solid Waste Impact Fee is calculated at a rate of \$258.56 per ton for each of the new housing units. For the 32 proposed housing



units, the Recreational Impact Fee is calculated at \$8,273.92. It is requested the impact fee be prorated by phase as follows:

<b>Phase</b>	<b>New Units</b>	<b>Solid Waste Impact Fee \$258.56 per Unit</b>
<b>1</b>	12	\$3,102.72
<b>2</b>	13	\$3,361.28
<b>3</b>	7	\$1,809.92
<b>Total</b>	32	\$8,273.92

No sewer impact fees are applicable to this project.

**511 DEVELOPMENT OF NEW STREETS:**

An approximately 2,230 linear foot loop road is proposed for this project. This road will be built to the same design standards as Industrial Park Road and will be proposed to the Town of Brunswick for acceptance upon completion. The Public Works Director has indicated his willingness to accept responsibility for the completed road should the Town Council accept it.

**512 OFF STREET PARKING:**

Based on the depths of the lot, and size of the anticipated buildings, off street parking averages four (4) spaces per lot with garages and driveways considered.

**513 CURB CUTS:**

A Maine Department of Transportation (MDOT) Entrance permit was issued for the two curb cuts onto Old Portland Road. As part of the permit, there were requirements to widen Old Portland Road and add turn lanes for the proposed development due to the anticipated number of trips to be generated. As the project is being converted from a commercial to a residential subdivision, which generates much fewer trips, it is anticipated that no road widening or turn lanes will be required. Upon confirmation from the MDOT, a letter will be sent to the Town for reference.

**514 OFF STREET LOADING:**

No off street loading is proposed for this project.

**515 APPEARANCE ASSESSMENT:**

The plan reflects the project's integration with the site and the surrounding area. The anticipated houses will be similar in appearance and spacing to those in existing neighborhoods in the vicinity. Although it is subject to the individual lot owners, it is anticipated that the houses will have clapboard siding and asphalt shingle roofs.

**516 BUILDING CONFIGURATION:**

All but one of the lots will access off the proposed private road. Due to orientation of the private road, the front doors will most likely face towards the private road. This is subject to the design of the homeowner, and alternate orientations could be considered. All facades will be consistent with the MU5 zoning requirements.



**517 PRESERVATION OF HISTORIC RESOURCES:**

In a letter from the Maine Historic Preservation Commission dated January 15, 2009, it was recognized that the subject parcel possibly contains one or more prehistoric archeological sites. A Phase I archeological survey was completed by Dr. Leslie Shaw, a professor in the Department of Sociology and Anthropology at Bowdoin College, who is a MDEP approved archaeologist. This survey indicated that no further investigation was warranted.

**518 ACCESS FOR PERSONS WITH DISABILITIES:**

Units can be modified for accessibility, if required. All grades and slopes will be accessible to those with disabilities.

**519 RECREATIONAL REQUIREMENTS FOR RESIDENTIAL DEVELOPMENTS:**

A letter has been sent to the Brunswick Parks and Recreational Department requesting that, with the inclusion of the amenities within the common open areas, no additional open space or fees are necessary for the project.

**520 FISCAL CAPACITY:**

The estimated site costs were approximately \$795,000 to develop the infrastructure for construction of the entire subdivision roadway, utilities, and stormwater management. To date approximately one third of the road and all of the stormwater features have been completed. The remaining work will be financed through the sale of lots.

Costs for the development of the individual lots will be borne by future owner/developer and supported by sale of the lots. The Applicant will self-finance the project infrastructure construction. Although the Applicant can fully fund the entire estimated construction cost, the project is proposed to be constructed in phases. Construction of subsequent phases will be financed from capital raised from sales of lots in the initial/previous phase. Infrastructure for Phase I was completed and the roadway paved. The remaining roadway for future phases has been rough graded.

**521 PERFORMANCE GUARANTEE:**

A performance guarantee will be posted for each phase of the road. The amount of the guarantee will be 110% of the estimated construction costs for the proposed phase.

**522 HOME OWNERS/PROPERTY OWNERS ASSOCIATION:**

A home owners/property owners association is proposed for the subdivision. A copy of the Declaration of Restrictive Covenants and Easements has been enclosed with this submission.

**523 PROTECTED CONSERVATION LAND:**

The applicant proposed to preserve approximately 36.18 acres to be conservation area. Within this conservation area, the applicant proposed to establish walking trails. There are several unimproved trails resulting from logging operations that will serve as the basis of the trail system. The conservation area is bordered by privately held land and the interstate corridor making connectivity to a larger trail system impractical. Although the trails will be available to the general public, no parking areas or signage is proposed.

The terrain has minimal change in elevation and, with modest improvement, will be accessible to just about anyone. It is not intended or proposed to construct the trail surface to ADA guidelines however.



The Home Owners Association (HOA) will be responsible for maintaining the trails once it is established. Until that milestone is reached, the developer will be responsible for maintenance. Maintenance activities will include removal of vegetation, grading of the trail surface, removal of any trees that fall and block the trail and refreshing the paint markings along the alignment.

**524 NOISE AND DUST:**

Best Management Practices as outlined in the Maine Erosion and Sediment Control BMP's as published by the Maine Department of Environmental Control, will be utilized to control noise and dust during construction. Noise will be limited through the compliance of the site contractor with the standard hours of construction per Section 524.1. Upon construction completion, there are no anticipated impacts with regard to noise or dust.

**Waivers**

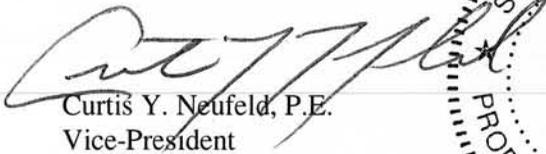
The following waivers are requested:

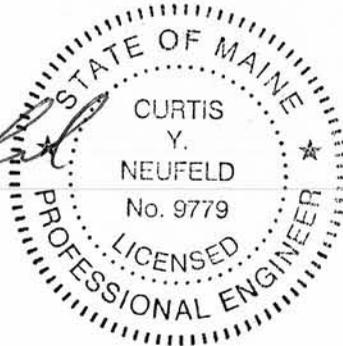
- Profile of Existing Roads – Existing roads are shown on the plans. No changes are proposed to existing roads; therefore providing profile data would add undue cost and hardship for the applicant, without benefit to the project.
- Location of all trees over 10 inches diameter – The trees necessary for construction of the road have already been removed. Those trees to be removed for the future homes will be determined by the lot owners.
- Stormwater Management Plan Request that detailed review of stormwater management plan and computations be conducted by MDEP as part of the Site Location of Development Permit.

**SUMMARY**

We trust that this information satisfactorily addresses the requirements for Subdivision Review and we look forward to your comments. We look forward to meeting with the Planning Board on October 6, 2015 to discuss and approve the project. If you have any questions or require additional information, please do not hesitate to call. Thank you for your assistance with this project.

Very Truly Yours,

  
Curtis Y. Neufeld, P.E.  
Vice-President



Enclosures

cc: Bill Moore, Moore Properties, Inc.



Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment A**  
**Application Form & Checklists**

A completed copy of the Major Development Review Final Application Form and Site Plan Checklist is enclosed.

**MAJOR DEVELOPMENT REVIEW  
FINAL PLAN APPLICATION**

1. Project Name: Spruce Meadows Subdivision
  
2. Project Applicant  
Name: Moore Properties, Inc.  
Address: 228 Old Portland Road  
Brunswick, ME 04011  
Phone Number: 207-725-1388
  
3. Authorized Representative  
Name: Sitelines, PA. Attn: Curtis Y. Neufeld, P.E.  
Address: 8 Cumberland Street  
Brunswick, ME 04011  
Phone Number: 207-725-1200 xt. 18
  
4. List of Design Consultants. Indicate the registration number, address and phone number Of any engineer, surveyor, architect, landscape architect or planner used:
  1. Engineer: Curtis Y. Neufeld, P.E. #9779, Sitelines, P.A., 207-725-1200 xt. 18
  2. Surveyor: Kevin P. Clark, PLS #2245, Sitelines, P.A., 207-725-1200 xt. 14
  3. \_\_\_\_\_
  
5. Physical location of property being affected: Old Portland Road
  
6. Lot Size: 76.1 acres
  
7. Zoning District: MU5 Portland Road
  
8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application? Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
9. Assessor's Tax Map 13 Lot Number 34, 66-78 of subject property.
  
10. Brief Description of proposed: Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_
  
11. Describe Specific Physical Improvements to be Done: Refer to Cover Letter  
\_\_\_\_\_  
\_\_\_\_\_

Owner Signature: \_\_\_\_\_

Applicant Signature (if different):  (AGENT)

**Required Attachments (by Applicant):**

- Final Plan Check List
- Final Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)
- Required Copies of Final Plan

**Required Attachment (by Planning and Development Department):**

- Listing of all owners of property within 200-foot radius of property under review.

## FINAL PLAN REQUIREMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	Comments
Name of Development						
Scale, date, north point, area, number of lots (if subdivision)						
Boundaries of all lots and tracts with accurate distances and bearings, locations of all permanent monuments property identified as existing or proposed.						
Certification by a professional land surveyor that the land has been surveyed and the boundaries established in accordance with the State of Maine Board of Licensure for Professional Surveyors standards for Category 1 (Standard Boundary Survey), conditions 1, 2, or 3.						
Existing zoning district and overlay designation.						
Names of engineer and surveyor; and professional registration numbers of those who prepared the plan.						
Names of current owner(s) of subject parcel and abutting parcels.						
Name, location, width of paving and rights-of-way, profile, cross-section dimensions, curve radii of existing and proposed streets; profiles of center-lines of proposed streets, at a horizontal scale of 1" equals 50' and vertical scale of 1 inch equals 5 feet, with all elevations referred to in U.S.G.S. datum.						
A general road plan noting circulation, direction, traffic control devices, street lighting and type of lighting proposed.						
Existing and proposed easements associated with the development.						
Kind, location, profile and cross-section of all proposed drainage facilities, both within the development and outside of it, and a storm-water management plan which includes the submission requirements listed in the storm-water management checklist available in the Planning Department.						
Location of features, natural and artificial, such as water bodies, wetlands, streams, vegetation, railroads, ditches and buildings.						

Location of existing and proposed utilities; water, sewer, electrical lines, and profiles of underground facilities. Tentative locations of any private wells.					
Existing and proposed location, size, profile and cross section of sanitary sewers; description, plan and location of other means of sewage disposal with evidence of soil suitability.					
Topography with counter intervals of not more than 2 feet.					
A Class A (high intensity) Soil Survey prepared in accordance with the standards of the Maine Association of Professional Soil Scientists.		X			
Location of all existing trees over 10 inches in diameter, locations of tree stands, and a plan showing all trees to be removed as a result of the development proposal.					
Lighting plan showing details of all proposed lighting and the location of that lighting in relation to the site.					
Existing locations and proposed locations, widths and profiles of sidewalks.					
Location map.					
Approximate locations and dimensions of proposed parking areas.					
Proposed ownership and approximate location and dimensions of open spaces for conservation and recreation.					
Grading, erosion control, and landscaping plan; proposed finished grades, slopes, swells, and ground cover or other means of stabilization.					
Reference to special conditions stipulated by the Planning Board, with conditions either set forth in full or on the plan or identified as specific documents filed with the Board.					
A wetlands map drawn by a specialist delineating wetland boundaries in accordance with the methods prescribed by the US Army Corps of Engineers.					
Dedicated public open spaces, areas protected by conservation easements, and existing and proposed open spaces or recreation areas.					

For Open Space Development, a note indicating the total permitted lot count of the entire land tract based upon the destiny standards in this Ordinance, the number of lots created by the Plan, and the number of lots permitted to be subdivided in the future, as well as a table showing setback requirements and impervious surface coverage limits for each lot.						
Building envelopes showing acceptable locations for principal and accessory structures.						

**FINAL PLAN/SUPPORTING DOCUMENTS**

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	Comments
Documentation of Ownership or contract.						
Drafts of legal documents appropriate to the application, including: deeds, easements, conservation easements, deed restrictions or covenants, home/property owners association declarations and by-laws, and such other agreements or documents as are necessary to show the manner in which conservation land will be owned, maintained, and protected.						
Draft performance guarantee or conditional agreement.						
Disclosure of any required permits from the Department of Environmental Protection, Marine Resources, US Army Corps of Engineers, Department of Inland Fisheries and Wildlife, or other agencies, as applicable; or, if a permit has already been granted, a copy of that permit.						
Any additional studies required by the Planning Board, which are deemed necessary in accordance with this Ordinance.						
Storm water management program for the proposed project prepared by a professional engineer.						
A storm water management checklist prepared by the Cumberland County Soil and Water Conservation District made available at the Brunswick Department of Planning and Development.						

An erosion and sedimentation control checklist prepared by the Cumberland County Soil and Water Conservation District.						
A statement from the Brunswick-Topsham Water District of conditions under which water will be provided.						
A statement from the Brunswick-Topsham Water District of its review and comments on the proposed use if the project involves development within the Aquifer Protection Zone.						All lots to use private wells.
A Statement from the Fire Chief recommending the number, size, and location of hydrants, available pressure levels, road layout and street and project name, and any other fire protection measures to be taken.						Pending Staff Review Committee
A statement from the Superintendent of the Brunswick Sewer District of the conditions under which the Sewer District will provide sewerage disposal service and approval of the sanitary sewers proposed within the development.						All lots to use private systems.
Where a septic system is to be used, evidence of soil suitability.		X				
All applicable materials necessary for the reviewing entity to review the proposal in accordance with the Criteria of Section 411.						
A plan of all buildings with new construction or expansion of an existing facility, including type, size, and footprint, floor layout, setback, elevation of first floor slab, storage, and loading areas.						New homes to be located by future lot owners.
An elevation view of all sides of each building proposed indicating height, color, bulk, surface treatment, and signage.						
A circulation plan describing all pedestrian and vehicle traffic flow on surrounding road systems.						
The size and proposed location of water supply and sewage disposal systems.						
A site landscaping plan indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening, the size, location and purpose and type of vegetation.						

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment B**  
**Right, Title, and Interest**

A copy of the current deed is included with this attachment. Also included is a copy of Moore Properties, LLC Certificate of Good Standing.

**WARRANTY DEED**

{Statutory Long Form}

*KNOW ALL MEN BY THESE PRESENTS*, that RUSSELL S. DOUGLAS and JANET R. DOUGLAS, TRUSTEES OF THE RUSSELL S. DOUGLAS AND JANET R. DOUGAL REVOCABLE TRUST DATED APRIL 25, 1991, with an address in Green Valley, Arizona, in consideration of One Dollar (\$1.00) and other good and valuable consideration paid by MOORE PROPERTIES, INC., a Maine corporation with offices in Brunswick, County of Cumberland and State of Maine, the receipt whereof is hereby acknowledged, do hereby GIVE, GRANT, BARGAIN, SELL AND CONVEY unto the said MOORE PROPERTIES, INC., its successors and assigns forever, as follows:

MAINE REAL ESTATE TAX PAID

*A certain lot or parcel of land in Brunswick, County of Cumberland and State of Maine, together with all improvements and buildings thereon, which is more particularly described as being approximately 120 acres between I-95, the Durham Road and Route 1 (Tax Map 13, Lots 13, 32-C, 21, 34, 33, and 32-B) and being all that property conveyed to the Grantors herein by deeds of Russell S. Douglas dated May 15, 1991 and July 30, 1999, recorded in the Cumberland County Registry of Deeds at Book 9559, Page 71 and Book 14965 Page 145, with the exception of prior out conveyances, to which deeds reference may be had for a more particular description.*

Meaning and intending to convey and hereby conveying all that property owned by said Trust bounded between Route 1, the Durham Road and Interstate 95 in Brunswick, Maine.

*TO HAVE AND TO HOLD* the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to the said Moore properties, Inc., its successors and assigns, to their own use and behoof forever.

*AND WE DO COVENANT* with the said Grantee, its successors and assigns, that the Trust is lawfully seized in fee of the premises, that it is free of all encumbrances; that we have good right to sell and convey the same, in our said capacities, to the Grantee to hold as aforesaid; and that we and our successors shall and will **WARRANT AND DEFEND** the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, Russell S. Douglas and Janet R. Douglas, Trustees of the Russell S. Douglas and Janet R. Douglas Revocable Trust dated April 25, 1991 have hereunto set their hands and seals this 20<sup>th</sup> day of April, A.D., 2000.

SIGNED, SEALED AND DELIVERED in the presence of

THE RUSSELL S. DOUGLAS AND JANET R. DOUGLAS REVOCABLE TRUST.

Marianne  
Witness

By: Russell S. Douglas, Trustee  
Russell S. Douglas, Trustee

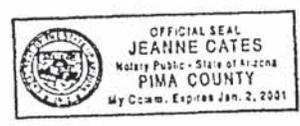
Janet R. Douglas  
B MALINICH

By: Janet R. Douglas, Trustee  
Janet R. Douglas, Trustee

STATE OF ARIZONA  
COUNTY OF Pima

April 20, 2000

Then personally appeared the above named Russell S. Douglas and Janet R. Douglas, Trustees of The Russell S. Douglas and Janet R. Douglas Revocable Trust dated April 25, 1991 and acknowledged the foregoing instrument to be their free act and deed in said capacity and the free act and deed of said Trust.



Before me,

Jeanne Cates  
Notary Public/Attorney at Law

RECEIVED  
RECORDED REGISTRY OF DEEDS  
2000 APR 27 PH 1:50  
CUMBERLAND COUNTY  
John B. Bruin

# State of Maine



## Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

*In testimony whereof*, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this fourteenth day of September 2015.



A handwritten signature in black ink, appearing to read 'Matthew Dunlap', written over a horizontal line.

Matthew Dunlap  
Secretary of State

### Additional Addresses

Legal Name	Title	Name	Charter #	Status
MOORE PROPERTIES, INC.	Clerk		19941678 D	GOOD STANDING
Home Office Address (of foreign entity )	Other Mailing Address	Address in Maine		

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment C**  
**Abutting Property Owners**

A list of abutting property owners is included in this attachment for reference.

Spruce Meadows Subdivision  
Old Portland Road, Brunswick, Maine  
Abutters List

MAP 13 LOT 10  
GEORGE R BERNIER, II  
16 HILLCREST DR  
BRUNSWICK, ME 04011  
BK 25626 PG 209

MAP 13 LOT 12  
PHILP DWINAL  
P.O. BOX 221  
FREEPORT, MAINE 04032  
BK 6745 PG 259

MAP 13 LOT 49  
LANA R FRENCH  
26 HILLCREST DR  
BRUNSWICK, ME 04011  
BK 31499 PG 196

MAP 13 LOT 18  
SUSAN E. BAILEY  
220 N CASWELL AVE  
SOUTHPORT, NC 28461  
BK 17493 PG 52

MAP 13 LOT 45  
DARRIN M POPOVICH &  
SHANNON I SAWYER JT  
30 HILLCREST DR  
BRUNSWICK, ME 04011  
BK 29380 PG 122

MAP 13 LOT 50  
SHARON G KALVODA  
725 BERRYESSA ST  
LIVERMORE, CA 94551-8890

MAP 13 LOT 3  
TRUSTEE OF THE DORINA C MORIN  
REVOCABLE TRUST  
190 HILLSIDE RD  
BRUNSWICK, ME 04011  
BK 12318 PG 321

MAP 13 LOT 11  
ORRIN AND WILLIAM PHIPPS  
298 MAINE ST, SUITE 3  
YARMOUTH, ME 04096  
BK 8691 PG 160

MAP 13 LOT 65  
FIRST WAVE MEDIA INC.  
PO BOX 1058  
AUGUSTA, ME 04332  
BK 15438 PG 140

MAP 13 LOT 32  
BARTLETT J FLANAGAN  
300A OLD PORTLAND RD  
BRUNSWICK, ME 04011  
BK 30933 PG 230

MAP 13 LOT 64  
LISA A & MICHAEL J ST CYR SR JT  
109 DURHAM RD  
BRUNSWICK, ME 04011  
BK 31237 PG 243

MAP 13 LOT 33  
SHARON G KALVODA  
725 BERRYESSA ST  
LIVERMORE, CA 94551-8890

MAP 13 LOT 17  
MAINE CENTRAL RAIL ROAD  
C/O GUILFORD TRANSPORTATION  
INDUSTRIES  
IRON HORSE PARK  
BILLERICA, MA 01862

MAP 13 LOT 16  
DURHAM MONTHLY MEETING OF FRIENDS  
532 QUAKER MEETINGHOUSE ROAD  
DURHAM, MAINE 04222  
BK 13504 PG 3

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment D**  
**Photographs**

Photographs of the existing conditions of the project site are enclosed.

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 1: Overall Parcel**



**Photograph 2: Looking into site from the southerly entrance (Phase 1)**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 3: Looking north from southerly entrance.**



**Photograph 4: Looking south from southerly entrance.**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 5: Looking into site from northerly entrance (Phase 3)**



**Photograph 6: Looking north from northerly entrance.**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 7: Looking south from southerly entrance.**



**Photograph 8: Existing stormwater basin from Old Portland Road.**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 9: Existing Stormwater Basin**



**Photograph 10: Looking into site from Phase 3**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 11: Looking west along existing trail, Loop A**



**Photograph 12: Looking west along existing trail, Loop A**

Spruce Meadows Subdivision  
Existing Conditions



**Photograph 13: Looking east along existing trail where Loop A and B merge**



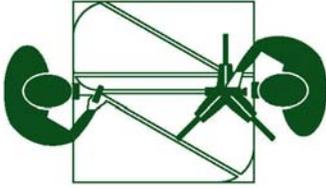
**Photograph 14: Looking along existing trail**

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment E**  
**Supporting Documents**

Copies of relevant correspondence and documents pertaining to the project are enclosed.





September 10, 2015

731.03-7

Mr. Thomas Farrell, Director  
Brunswick Parks & Recreation Department  
220 Neptune Drive  
Brunswick, Maine 04011

**Re: Spruce Meadows Subdivision  
Recreation Requirements**

Dear Tom:

Submitted for review and consideration by you and the Recreation Commission are our application, Master Plan and supporting information for the proposed Spruce Meadows residential condominium project. The developer proposes to develop 33 new residential lots on a 76-acre property located on Old Portland Road (U.S. Route 1). The vision for the Spruce Meadows Master Plan is a residential environment designed for those looking for a neighborhood setting in a relatively rural environment.

The 76.1-acre site is sandwiched between Old Portland Road (U.S. Route 1) and Durham Road in the MU5 zone. Spruce Meadows will provide an opportunity for diverse housing types within the context of the neighborhood with a variety of lot sizes. The development is consistent with the Town of Brunswick's comprehensive plan and current zoning as to where housing shall be built within the community.

Spruce Meadows is in good proximity to schools, the college, churches and medical buildings for service and employment, and downtown to enjoy the Maine Street businesses. The pedestrian provision in Spruce Meadows includes the potential for public trails to be established in the 36+ acre open space area

We have completed the application and enclosed our proposed the proposed Subdivision Plan for your review, and we appreciate the opportunity to meet with the Commission at the September meeting.

With regard to demographics, we expect the area to be desirable to middle income families and retirees, with home values ranging from \$200,000 to \$250,000. The developer intends to sell the lots as undeveloped land for \$40,000 to \$50,000. The development is anticipated to attract new families and "empty nesters" wishing to reside in a neighborhood setting with many possibilities for outdoor living activities.

**SITELINES P.A. ENGINEERS - PLANNERS - SURVEYORS**  
8 CUMBERLAND STREET, BRUNSWICK, MAINE 04011  
PHONE: 207-725-1200 FAX: 207-725-1114

The proposed project will provide a density of less than 5 units per acre, which is consistent with surrounding neighborhoods. Full build out of the project is anticipated within 10 to 15 years.

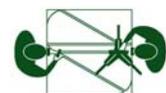
The applicant proposes to establish walking trails in the open space parcel. There are several unimproved trails resulting from logging operations that will serve as the basis of the trail system. The trails will consist of two loops as shown on the attachments. Loop A is approximately 0.75 miles and follows a previously cleared route of logging activity. The trail is currently cleared of trees and woody vegetation, but has been revegetated with goldenrod, blackberry bushes and similar vegetation. To formalize the trail for use by the future land owners, the native plants will be removed and the underlying ground graded to provide a stable walking path. Staff from Sitelines PA walked the route shown in dark blue in August 2015 and found it to be readily identifiable and passable. The route will be blazed with painted rectangles at eye height to guide users.

The alignment of Loop B will require clearing of the existing trees as well as understory vegetation. Loop B is approximately 0.50 miles on its own, and will establish a 1.25 mile trail with Loop A. It is proposed to defer the construction of Loop B until construction of Phase 2 of the subdivision.

The conservation area is bordered by privately held land and the interstate corridor making connectivity to a larger trail system impractical. Although the trails will be available to the general public, no parking areas or signage is proposed.

As discussed at the June meeting of the Recreation Commission, the recreational trails will provide an amenity available to residents of Spruce Meadows of all ages. The terrain has minimal change in elevation and, with modest improvement, will be accessible to just about anyone. It is not intended or proposed to construct the trail surface to ADA guidelines, however. The Home Owners Association (HOA) will be responsible for maintaining the trails once it is established. Until that milestone is reached, the developer will be responsible for maintenance. Maintenance activities will include removal of vegetation, grading of the trail surface, removal of any trees that fall and block the trail and refreshing the paint markings along the alignment.

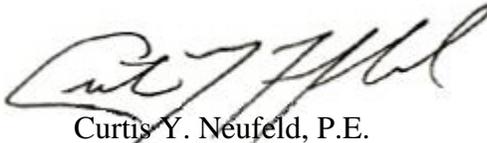
With the inclusion of the amenities within the common open areas, the developer has adequately provided for the recreational requirements of the residents of the project. Therefore, the developer offers that no additional open space or fees are necessary for the project.



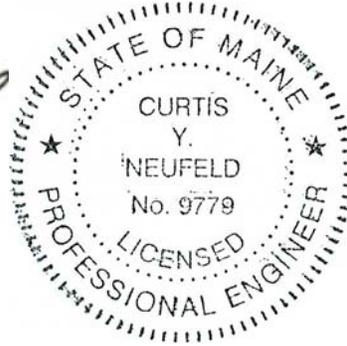
Spruce Meadows Subdivision  
Recreation Commission  
September 10, 2015  
Page 3 of 3

We look forward to meeting with the Commission to discuss our proposal or to modify it as may be mutually agreeable. If you have any questions or require additional information, please do not hesitate to call.

Very truly yours,

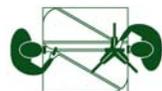


Curtis Y. Neufeld, P.E.  
Vice President



Enclosures

cc: Bill Moore, Moore Properties, Inc.  
Anna Breinich, Town of Brunswick



**Declaration of Restrictive Covenants and Easements  
Spruce Meadows, Brunswick**

WITNESS THIS DECLARATION OF PROTECTIVE COVENANTS AND EASEMENTS made this \_\_\_\_ day of August, 2015, by Moore Properties, Inc. of 228 Old Portland Road, Brunswick, County of Cumberland, State of Maine, hereinafter referred to as the “Declarant”; and

WHEREAS, Declarant owns property (hereinafter referred to as “The Property”) in Brunswick, Maine, by virtue of a deed dated April 20, 2000 and recorded at Book 15428, Page 140 in the Cumberland County Registry of Deeds, which property is portrayed on a Subdivision Plan by Sitelines P.A., entitled “\_\_\_\_\_ Old Portland Road, Brunswick, Maine”, dated \_\_\_\_\_ and recorded in the Cumberland County Registry of Deeds at Plan Book \_\_\_\_\_, Page \_\_\_\_\_ (hereinafter referred to as “The Plan”); and

WHEREAS, Declarant is the subdivider of the Property, which Subdivision is known as "Spruce Meadows", consisting of house lots and Common Areas and is more particularly described on the Plan; and

WHEREAS, Declarant desires to provide for the improvement of the Subdivision in accordance with a harmonious plan for the design and relative location of residential structures, garages, rights-of-way, easements, roads, common areas, and general land use, all to assure the purchasers of lots in the Subdivision, their heirs and assigns, owning such lots, that the use, benefit and enjoyment of the individual lots, common amenities, facilities, easements and roads will not conflict with the harmonious plan; and

WHEREAS, the Declarant desires to create a residential area of the Subdivision providing for the greatest possible degree of health, safety, environmental beauty, and amenity for the property owners and inhabitants thereof, and to effectuate the foregoing purposes, desires to subject the property to protective covenants and common easements and to the provisions for a homeowners' association for the administration and enforcement of same, the maintenance and improvement of certain common facilities, and the establishment, collection and disbursement of assessments, all as set forth hereinafter, each and all of which are for the benefit of the property and of each lot subject to the protective covenants and easements hereinafter set forth, maintaining and improving certain rights of way and other common facilities, and otherwise carrying out the functions of the Association as defined hereinafter, the provisions and objectives

of this Declaration, and the requirements and conditions of the Approval.

NOW, THEREFORE, Declarant hereby declares that all of the Lots and all of the common area shown on the Plan shall be held, occupied, improved, transferred, sold, leased and conveyed subject to the protective covenants and restrictions, the reservations and exceptions, the common rights and easements, and the provisions of a homeowners association herein as set forth, all of which are declared to be in furtherance of a uniform scheme for the development of the property and that said protective covenants, reservations, common easements, and provisions for a homeowners association are intended to enhance and protect the value and desirability of the property as a whole, to mutually benefit each of the parcels located thereon, to create mutual equitable servitudes upon each of the parcels in favor of each and all other parcels therein and to create reciprocal rights and those in privity of contract or estate between all persons acquiring or owning any interest in any portion of the property, including Declarant, and Declarant's grantees, successors, administrators, and assigns, and shall be deemed to run with the land and be a burden and benefit to and enforceable by all such persons, including Declarant and Declarant's grantees, successors, administrators, and assigns, and the homeowners association.

## ARTICLE 1

### Definitions

The following words, shall, as used herein, have the following meanings, unless the context plainly requires otherwise:

1.1 *Approval.* The Final Approval of the Subdivision Plan by the Brunswick Planning Board.

1.2 *Association.* The Spruce Meadows (Brunswick) Homeowners Association which Declarant has organized as a nonprofit corporation for the purpose of administering and enforcing the protective covenants and easements hereinafter set forth, maintaining and improving rights of way and other common facilities, including the Common area and otherwise carrying out the functions of a homeowners association and the provisions and objectives of this Declaration. Each owner of a Lot shall be a member of the Association, each Lot shall have one undivided vote, and each shall be liable for Assessments by the Association for the purposes set forth herein.

1.3 *Common Area.* Area which is the maintenance responsibility of the Declarant or the Association under the Approval (regardless of the status of title thereto), being the area shown on the Plan as "Common Area" and " \_\_\_\_\_ " (Street Name).

1.4 *Declarant.* Moore Properties, Inc., as aforesaid, and his successors to all of Declarant's rights, title and interest in and to the Property.

1.5. *Lot.* Any one of the numbered lots as shown upon the Plan, which may be conveyed by Declarant.

1.6. *Owner.* The record owners, whether one or more persons or entities, of the fee simple title to any Lot, but not including Declarant.

1.7. *Plan or The Plan.* The Plan entitled ““\_\_\_\_\_ Old Portland Road, Brunswick, Maine”, dated \_\_\_\_\_ and recorded in the Cumberland County Registry of Deeds at Plan Book \_\_\_\_\_, Page \_\_\_\_\_ (hereinafter referred to as “The Plan”); prepared for Moore Properties, Inc. by Sitelines P.A., and approved by the Town of Brunswick Planning Board.

1.8. *Road(s).* All roads shown on the Plan.

1.9. *Turnover.* The date upon which the Declarant conveys all of the lots and has substantially completed all road, drainage, and landscaping improvements.

## ARTICLE II Supplemental Declarations

This Declaration may be amended from time to time by Supplemental Declarations duly executed by Declarant, or by the Homeowners Association, pursuant to a 85% vote of the owners in accordance with the Bylaws, if any, of the Association; provided however, in no event shall any provision of this Declaration vesting rights in the Town of Brunswick be amended without the prior approval of the Planning Board of the Town of Brunswick. No such amendment shall render invalid any use of subdivision land within the property existing in accordance with this Declaration at the time of recording such Supplemental Declaration, and any such amendment shall be reasonably consistent with the uniform scheme of development established by this Declaration.

## ARTICLE III Reservations and Easements

3.1 There is hereby excepted and reserved to the Declarant for so long as Declarant owns any of the Lots and thereafter to each of the lot owners and to the Association the following:

3.1.1 *Roads.* A right of way for all purposes over, across and through the roads, together with the right to install, maintain utility poles and lines and water and sewer lines adjacent to, within or under the traveled portion of said roads; except there shall be no parking on the roads.

3.1.2 *Underground Facilities.* Declarant reserves the right to grant easements for utility purposes to enter onto any lot within fifteen (15) feet of the roads for the purpose of constructing, reconstructing, installing, replacing, and maintaining an underground or an aboveground utility therein and to extend, connect to, and use in common any previously installed utility by the lot owner providing that promptly after such entry, the surface of the ground shall be restored to substantially the same condition as it was in prior to such entry.

3.1.3 *Common Area.* The right of access to the Common Area shown on the Plan. All costs associated with said maintenance or repair of said Common Area, emergency or otherwise, shall be borne by the Association.

3.1.4 *Other.* The right to exercise any rights or powers conferred upon the Association, including those granted by any amended Declaration.

3.2 There is hereby excepted and reserved to the Declarant, the following rights which will not be transferred to the Association:

3.2.1 *Road.* Until such time as the roadways on the plan become public ways, the Declarant solely retains the right to grant use of the right of way to others, for any purpose (including the right to create and locate utilities in it), including the right to grant the use of the roadways to owners of land not included in the Subdivision.

#### ARTICLE IV Common Rights and Easements

4.1 Each conveyance of a parcel shall be deemed to include as appurtenant to said parcel, subject to such reasonable regulations as may be established from time to time by the Association, the following.

4.1.1 *Access.* A right of way to Old Portland Road for all purposes over and along the roadways in the subdivision shown on the Plan of the Subdivision, in common with Declarant, in common with the owners of the other parcels and others to whom Declarant grants use of the roadways.

4.1.2 *Open Space Area.* A right of reasonable use of the Common Area for purposes of passive and active recreation in accordance with Article V hereof, provided that no improvements shall be made except as authorized by the Planning Board.

4.2 The Association shall have the power and duty to set reasonable rules and regulations concerning the use of the Common Area or the Roads, consistent with this Declaration and the Approval. Such rules shall be adopted by majority vote.

## ARTICLE V

### Common Area/Open Space

5.1 The conveyance of each lot shall be deemed to create enforceable rights with respect to the real estate designated on the Plan as the "Common Area."

5.1.1 *Purpose.* The establishment of the "Common Area" is to ensure that such area will be retained forever in its natural undeveloped condition and to protect and conserve the natural values and scenic condition of such area and the proper drainage of stormwater from the subdivision.

5.1.2 *Restrictive Use.* The Common Area (shown on the Plan) shall remain in its natural, undeveloped condition and shall be subject to the use limitations hereinafter stated. Such portion of the Common Area shall be used for walking, snowshoeing, hiking, skating and cross-country skiing only. No commercial, industrial, quarrying or mining activity shall be permitted in the Common Area. There may be walking paths designated in keeping with the natural scenic quality of the Common Area. No motor vehicles of any kind, including recreational vehicles, dirt bikes and snowmobiles shall be permitted in the Common Area (except on the roads), except in an emergency or for maintenance activities. No filling, paving, dumping, excavations or other alterations shall be made to the surface of the Common Area (other than the roads) other than that caused by the forces of nature. Any activity on or use of the Common Area inconsistent with the uses designated herein is prohibited.

5.1.3 *Timber and Vegetation.* Other than as necessary to create trails, any destruction or removal of standing trees, plants, shrubs or other vegetation shall not be permitted, except however the following:

5.1.3.1 The right to clear and restore forest cover and other vegetation that is damaged or destroyed by the forces of nature, such as fire or disease and when necessary, to prevent the spread of disease.

5.1.3.2 The right to clear and restore forest cover and other vegetation in the event of any emergency, when necessary, to prevent the spread of fire.

5.1.3.3 The right to gather, use or remove dead wood.

5.2 The Declarant and any lot owners shall have the right, individually or through the Association, to enforce the above covenants against any other lot owner or the owner of the

Common Area.

## ARTICLE VI

### Protective Covenants and Restrictions

6.1 *Residential Use.* No lot shall be improved or used except for single family residential purposes. Notwithstanding the foregoing, a home based business, office or daycare is acceptable as an ancillary use as long as all equipment or other personal property used in connection with the business, office or daycare is screened from view from the road. Additional requirements are set forth in Articles VII and VIII below.

6.2 *Limitation on Structures.* No structure shall be erected on or moved to any Lot except one detached, single family residential dwelling hereinafter referred to as a dwelling, of not more than two stories in height and such other buildings necessary and subsidiary to the same such as a garage, solarium or storage building. Each dwelling, prior to occupancy, shall have a running water system and a sewage disposal system both of which shall conform to the State of Maine Plumbing Code.

6.3 *Compliance with Ordinance.* All construction activities, including the siting of buildings, shall be in accordance with all local and state laws, codes, ordinances and regulations, and with the requirements of Articles VII and VIII below.

6.4 *Compliance with Design and Construction Standards.* All buildings and improvements shall be constructed in accordance with the Design Review and Construction Standards of Articles VII and VIII below, which shall be amended only by the Declarant until Turnover or by a 85% vote of the members of the Association after Turnover. The Lot owner shall obtain the written approval of the design, including all exterior elements of any structure, or modification of or addition to any structure from the Declarant until Turnover, and thereafter from the Association. Such approval shall not be unreasonably withheld or delayed. Declarant shall respond to Lot owners requests for review and approval within 10 days of actual receipt of design plans. The Design Review and Construction Standards shall be administered by the Association in accordance with its Bylaws. The Design Review and Construction Standards may be enforced by either the Declarant or the Association.

## ARTICLE VII

### Design Review

7.1 Prior to the commencement of excavation, clearing, construction, reconstruction, renovation or remodeling of any improvements on any Lot, the Lot Owner shall submit to the Declarant the following documents:

7.1.1 A site plan showing the location on the Lot of the dwelling, the garage, the driveway, any walkways, all patios and decks, all landscaping, and any proposed tree cutting;

7.1.2 Floor plans for the dwelling; and

7.1.3 Elevation plans for the dwelling showing all facades of the dwelling.

7.2 The foregoing plans shall provide sufficient information and detail to allow the Declarant to determine that the improvements shall be in accordance with the Construction Standards set forth in Article VIII below.

7.3 If in Declarant's sole discretion, Declarant determines that the plans submitted to Declarant conform to the requirements of the Construction Standards set forth in Article VIII below, and construction of a dwelling in accordance therewith shall not be detrimental to the Property as a whole, then Declarant shall approve such plans (the "Approved Plans") by written approval delivered to the Lot Owner submitting such plans. If the plans are disapproved, the Declarant shall specify why they are unacceptable. All improvements to a Lot shall be constructed in accordance with the Approved Plans for that Lot. All modifications to or variances from the Approved Plans during construction must be approved in writing by the Declarant in advance. Declarant shall not be liable in damages to any persons submitting any plans for approval, or to any owner by reason of any action, failure to act, approval, disapproval, or failure to approve or disapprove, with regard to such plans. Any owner or any person submitting plans to Declarant for approval, by so doing, shall be deemed to have agreed and covenanted that he will not bring any action or suit to recover damages against Declarant, or its advisors, employees, or agents.

7.4 In the event of any inconsistency herein, references to the Declarant shall be deemed to be to the Association with respect to duties after Turnover.

## ARTICLE VIII Construction Standards

8.1 It is the intention of the Declarant that the following standards and requirements for construction of dwellings on the Property shall insure that all such dwellings will be of design, quality, workmanship and materials which are compatible and harmonious with the natural setting of the area and the other dwelling on the Property. All construction of any

improvements upon any Lot shall be completed in accordance with the following standards and requirements.

8.2 Once construction of a residential structure has begun work thereon must be prosecuted diligently and must be completed within one year, except that such period may be extended by reason of natural disaster or other matters beyond the Lot Owner's control.

8.3 Houses and other dwelling structures may not be temporarily or permanently occupied until the structure is substantially complete.

8.4 All construction activities, including the siting of building, shall be in accordance with all applicable local and state laws, codes, ordinances and regulations. In addition, work hours for construction are limited to 7:00 AM to 6:00 PM.

8.5 No structure shall be erected on any lot except one detached single family, residential dwelling, hereinafter referred to as the dwelling, of not more than two and one half stories in height and containing not less than fifteen hundred (1500) square feet of heated living space, exclusive of basements, open or screened-in porches, garages and attics. All garages shall be a maximum of a two-car garage.

8.6 All dwellings or other buildings shall be covered with natural wood shingles, wood siding or vinyl siding. Alternatives maybe allowed only upon approval by the Declarant in its sole discretion. All exterior portions of chimneys and fireplaces shall also be encased in natural wood, stone or brick. Unfaced concrete block or metal chimneys are not allowed on the exterior of the dwellings. The use of aluminum siding and stucco is prohibited. Log homes are not permitted.

8.7 Fuel tanks for heating purposes only shall be located only in the basement of the building in compliance with all laws and regulations. Fuel tanks containing fuel such as propane used for cooking or hot water heating shall be buried below the ground or shall be screened from view from the road by fencing, trees or vegetation.

8.8 No owner of a lot, his agents or employees shall alter the natural course of surface water on any lot in a way which would materially alter the natural flow of such water across any other lot unless such alteration is approved by the owners of all lots affected, by the Declarant (or the Association after Turnover).

8.9 No other buildings or structures of any nature or description shall be erected or maintained on said a Lot, provided however, that nothing in this paragraph shall be construed to prevent the construction of a garage, storage shed, cabana, pergola, fence or in ground swimming pools. Any accessory building built hereunder shall be constructed of material similar to the principal dwelling and shall be of the same color as the principal dwelling. Building shape, roof lines, window treatment and site orientation of any accessory building shall be harmonious with

the natural beauty of the immediate natural surroundings and the principal dwellings.

8.10 All outside lighting shall be installed in such a way as to minimize the impact of adjacent Lots.

8.11 No Lot Owner shall mark the boundaries of his or her Lot with surveying tape. Wooded stakes, ropes, rocks, stacked cut wood or flags. Such boundary lines may only be marked with professionally-installed fencing, or by shrubs, pine trees, hedges or natural growth.

8.12 The installation of any fencing must be approved in advance by the Declarant. Split rail, picket, brick, stone fencing shall generally be allowed. Chain link fencing and stockade fencing shall not be allowed on the front and side yards of a Lot, and will be allowed on the back yard only with the approval of the Declarant prior to Turnover, or the Association thereafter.

8.13 Each dwelling shall be marked with a dwelling identification numbers located by or on the front door or at or near the driveway entrance or main entrance walkway.

8.14 Dwelling identification numbers are required on all mailboxes. Declarant reserves the right to approve the design and construction of all mailboxes.

## ARTICLE IX

### Use Restrictions

9.1 The following restrictions and covenants shall apply to all Lots:

9.1.1 Each lot shall be used for single family residential dwelling purposes only. Notwithstanding the foregoing, a home based business, office or daycare is acceptable as an ancillary use as long as all equipment or other personal property used in connection with the business, office or daycare is screened from view from the roadways and from other Lots and provided that such use does increase in the flow of traffic on \_\_\_\_\_ (street name) by more than one car per hour. No signs may be posted in connection with any home based business use. No lot shall be further subdivided in any way. No temporary structure or tent shall be used as a residence at any time.

9.1.2 Except as permitted in Section 9.1.1, no portion of the Lot shall be used for any commercial activity. The rental of a lot for single family residential purposes shall be deemed not to be violative of this covenant.

9.1.3 All use of any Lot shall be in accordance with all applicable land use and zoning ordinances and regulations and the Approval.

9.1.4 All Lot Owners shall ensure at all times that no unreasonably loud or offensive sound shall be emitted from the Lot owned by such Lot Owner, including, without limitation, barking dogs, loudspeakers, horns, whistles, bells or other sound devices, except security and fire alarm devices used exclusively to protect any of the properties or buildings.

9.1.5 No livestock, animals or poultry of any kind, other than household pets, shall be kept, maintained or allowed on any of the Lots. No boarding or breeding kennels may be kept or maintained on any of the lots. All pets shall be restrained so as not to become a nuisance or offensive to the occupants of the Property.

9.1.6 Trash, garbage and other waste shall be kept in sanitary containers. Such containers shall not be visible from the street or from any other lot, except for limited periods coincident with trash collection.

9.1.7 Radio towers are not allowed on any lot. Satellite dishes not larger than 24" in diameter only shall be allowed if entirely screened from view from other roadways and other Lots.

9.1.8 Firewood shall be stacked neatly, and at locations only behind or on the side of the residence. Except during construction, all building materials or other personal property must either be stored in a structure or screened from view from the roadways.

9.1.9 No owner of a lot shall do or permit to be done, any act upon the lot which may be, is, or may become a nuisance as defined by state or local law, ordinance or regulation.

9.1.10 All dwellings, improvements and landscaping on the Lots shall be kept and maintained by the respective Lot Owner, in clean, safe, attractive and slightly condition and in good repair.

9.1.11 No Lot Owner shall store any business-related equipment or materials (staging, lobster traps, construction or property maintenance equipment and the like) on any Lot unless such equipment or materials are appropriately screened from sight from all roadways and from other Lots.

9.1.12 No unregistered vehicles maybe kept upon any lot unless such vehicle is stored in a garage or other enclosed structure. No house trailer, business or commercial vehicle or vehicles of similar nature shall be brought upon, or be permitted to remain on any lot, except a business vehicle normally used by a lot owner in his or her occupation, provided said vehicle is parked in an enclosed garage. No tractor trailers, boats, motor homes, house trailers, recreational vehicles, camping trailers, or similar vehicles shall be permitted or maintained on any lot, unless the same are stored completely within a garage or screened from view. However, visitors are allowed to park motor homes, boats, camping trailers, or recreational vehicles on a Lot temporarily (defined as a period of time of less than three weeks) while visiting a Lot Owner. All such vehicles must

be parked in a neat manner.

9.1.13 No recreational vehicles, snowmobiles, all terrain vehicles (ATV's) and the like shall not be used on any Lot or Common Area. They may be stored on a lot only if well screened from view from the road and abutters.

9.1.14 Other than within the front setback, Lot Owners may not cut trees or vegetation within building setbacks as established by the Town of Brunswick Zoning code (as it may be amended). The restriction shall not prohibit the cutting of trees or other vegetation that is damaged or destroyed by the forces of nature, such as fire or disease, if a tree threatens to damage a structure on the Lot or when necessary, to prevent the spread of disease.

## ARTICLE X Homeowners Association

10.1 Prior to the date of this Declaration and the recording thereof, the Spruce Meadows (Brunswick) Homeowners Association, a nonprofit corporation (the "Association"), shall be duly organized under the laws of the State of Maine. Each Lot Owner shall by virtue of, and during, such ownership, be a member of the Association. The Association shall be the governing body for all the Lot Owners with respect to the administration, maintenance, repair, and replacement of improvements to the Common Areas and the Lots as provided by this Declaration. Association membership shall be appurtenant to each Lot and may not be separated from lot ownership.

10.2 Each Lot Owner shall be entitled to one vote for each lot owned. A simple majority of the members of the Association shall constitute a quorum for any meeting of the Association, and a simple majority of the members present at a meeting may take any action; provided, however, that 85% of all members of the Association shall be required to amend this Declaration, adopt reasonable rules and regulations or waive any covenant. Only Lot Owners, not their mortgagees need to approve any amendment. Any amendment shall not become effective until the recording of such amendment in the Cumberland County Registry of Deeds. Other provisions for the operations of the Association shall be set forth in the By-Laws to be adopted by the Association.

10.3 The Association shall accept the Declarant's rights upon Turnover. After the assignment of the Declarant's rights to the Association, the Association shall operate, maintain, repair, and replace the same in accordance with the Declaration and all applicable laws, codes, and regulation.

10.4 The Association shall elect officers and a board of directors who shall be

responsible for the performance of the duties of the Association.

10.5 The Declarant, and the Association thereafter, shall make appropriate arrangements for the timely management, operation, maintenance and eventual replacement of all Common Area, roads and improvements thereon.

10.6 The Association shall pay in a timely fashion all expenses necessary or incidental to the performance of its functions and responsibilities.

10.7 The Declarant, and the Association thereafter, will preserve and maintain for the common benefit of the Lot Owners all of the Common Area and roads, pay taxes thereon, keep the same in good and sightly appearance and comply with and enforce the provisions of this Declaration and the Approval.

## ARTICLE XI Rights and Duties of the Declarant

11.1 For so long as Declarant owns one or more Lots, Declarant reserves, for himself, his successors and assigns, the following rights, hereinafter referred to as the "Declarant's Rights":

11.1.1 Declarant may locate on the premises, even though not depicted on the Plan, and grant and reserve, easements and rights of way for the installation, maintenance, repair, replacement and inspection of utility lines, wires, pipes, conduits and facilities, including, but not limited to water, electric, telephone, cable television, fuel oil, natural gas, and sewer.

11.1.2 The Declarant or its agents may connect with and make use of utility lines, wires, pipes and conduits provided that the Declarant shall be responsible for the cost of services used.

11.1.3 Declarant may place "For Sale" signs or other signs to aid in the marketing of the lots and dwellings thereon.

11.1.4 Declarant may exercise all rights with respect to design review provided to Declarant in Article VII above.

11.1.5 Declarant shall appoint and remove the officers of the Association

and members of the executive board and veto any action of the Association.

11.1.6 Declarant shall exercise all other rights, duties and responsibilities of the Association, including the assessment and collection of charges.

11.1.7 At Turnover the Declarant shall assign to the Association all of the Declarant's remaining rights, other than those specifically reserved herein.

11.1.8 Declarant, his successors, and assigns, may assign any or all of the rights, privileges, easements, powers, and duties herein retained or reserved by the Declarant, and all rights, title and interest in and to the Common Area and roads, to any lender, successor corporation, or other entity, by written instrument or instruments in the nature of an assignment which shall be effective when recorded in the Registry of Deeds of Cumberland County, Maine; provided it such assignment does not violate the Approval.

## ARTICLE XII

### Assessments

12.1 Declarant for each lot owned within the Subdivision, and each Owner of a Lot by acceptance of a deed thereto, whether or not it shall be so expressed in such deed, shall pay to the Association:

12.1.1 *Annual assessments or charges.* An annual budget shall be prepared by the Board of Directors and ratified by the lot owners in accordance with the By-Laws of the Association. The proportionate share of expenses in the budget shall be evenly prorated for each Lot so that each lot owner (other than the Declarant) shall pay annually to the Association, or its authorized representative, the proportionate share of the expenses required by the Approval., and for the maintenance, repair, and replacement (including a sinking fund for replacement of improvements for all infrastructure for access and service to the Lots based upon an amortization schedule.) The Board of Directors shall fix the amount of the annual assessment against each lot at least thirty (30) days in advance of each annual assessment period. Written notice shall be sent to every Owner subject thereto.

12.1.2 *Special assessments for capital improvements or replacement of landscaping.* The

Association may levy, in any assessment years, a special assessment applicable to that year only for the purpose of defraying, in whole or part, the cost of any construction, reconstruction, repair, or major replacement of the improvements or landscaping as required by the Approval, provided that any such assessment shall have the assent of two-thirds of the votes of members who are voting in person or by proxy at a meeting duly called for this purpose.

12.2 The due dates of all assessments shall be established by the Board of Directors. Assessments and other proper charges authorized and billed by the Association shall be a charge on the Lot and shall be continuing lien upon the Lot upon which such assessment is made. If the assessment to a Lot Owner shall not be paid within thirty (30) days after the date when due, then said assessment shall be delinquent and shall, together with interest at the rate of one percent (1%) per month, or any portion thereof, costs of collection and reasonable attorneys' fees, become a continuing lien on the Lot owned by the delinquent Lot Owner which lien shall bind the Lot, with the buildings and improvements thereon as well as the delinquent Lot Owner, heirs, devisees, successors, personal representatives and assigns.

12.3 Assessment liens may be enforced in the same manner as assessments against condominium units provided in the Maine statutes, as the same may be amended. Said lien or unpaid assessments or similar shall be prior to all of the liens for real estate taxes and other governmental/municipal assessments or similar charges against the Lot to the extent permitted by law. All such charges, in addition to being a lien, shall also constitute the personal liability of the owner of the Lot so assessed at the time of the assessment. Liens which the Association determines to be collection shall be assessed against all Lots in the next annual assessment thereafter.

## ARTICLE XIII

### Enforcement

13.1 The provisions herein set forth shall run with the land and bind Declarant, its successors, grantees and assigns and all parties claiming by, through, or under them. Declarant, its successor or assign, the Association, and each Lot Owner shall have the right, but not the obligation, jointly and separately to sue for and obtain a prohibitive or mandatory injunction to prevent the breach or, or to enforce the observance of, the provisions above set forth, or any of them, in addition to the right to bring an ordinary legal action for damages.

13.2 Whenever there shall have been built on any Lot any structure which is and remains in violation of the provisions above set forth herein for a period of thirty (30) days after receipt of written notice of such violation from Declarant, or the Association, the Declarant, or the Association shall have, in addition to any other rights, the right to enter upon the Lot where such violation exists and summarily abate, remove, or correct the same at the expense of the Lot Owner and such entry and abatement or removal shall not be deemed a trespass.

13.3 The failure of the Declarant or the Association to enforce any of the provisions herein set forth as to a particular violation shall not be deemed to be a waiver of the right to do so as to any subsequent violation.

13.4 The Declarant, Association, and all Lot Owners acknowledge that all use of the Common Areas, and each Lot must be utilized and maintained as provided in the Plan and Approval, and that failure to comply with the Plan, the Approval, or any condition thereof may result in an enforcement action by the Town. The Declarant, Association, and each Lot Owner shall indemnify and hold each other harmless for any violations caused by the Declarant, the Association, or any Lot Owner(s), and shall promptly reimburse any non-causing party which is required to respond to any enforcement or other civil action arising therefrom for the relative cost of defense of such enforcement action or any claim therein.

#### ARTICLE XIV

#### GENERAL PROVISIONS

14.1 If a court of competent jurisdiction shall hold invalid or unenforceable any part of any provision contained in this Declaration, such holding shall not impair, invalidate or otherwise affect the remainder of this Declaration which shall remain in full force and effect.

14.2 Each Lot Owner shall at all times keep Declarant and the Association advised as to his/her mailing address and telephone number, and shall promptly advise in writing of any change or address. A written or printed notice, deposited in the United States Post Office, postage prepaid, and addressed to any owner at the last address provided by such Lot Owner in writing shall be sufficient and proper notice to such owner wherever notices are required in this Declaration.

14.3 This Declaration shall be construed, interpreted and enforced in accordance with the laws of the State of Maine, and any and all litigation arising out of or to enforce this Declaration shall be in the federal or state courts located in Portland, Maine.

IN WITNESS WHEREOF, Declarant, Moore Properties, Inc. has caused this Declaration to be executed this \_\_\_\_ day of August 2015.

**Moore Properties, Inc.**, Declarant

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By: William Moore  
Its: President

STATE OF MAINE

Cumberland, ss.

August \_\_\_\_\_ 2015

Personally appeared William Moore, in his said capacity as President of Moore Properties, Inc. acknowledged the foregoing instrument to be his free act and deed in his said capacity.

\_\_\_\_\_  
Notary Public/Attorney at Law

Printed Name:

My Commission Expires:



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION  
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

MOORE PROPERTIES, INC. ) SITE LOCATION OF DEVELOPMENT ACT  
Brunswick, Cumberland County )  
BRUNSWICK COMMERCE CENTER )  
L-24560-MX-A-N (approval) ) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 481 *et seq.*, the Department of Environmental Protection has considered the application of MOORE PROPERTIES, INC. with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant proposes to develop a 92.53-acre parcel of land into 18 lots, the majority of which will be developed with commercial uses. Four of the lots (Lots 1 through 4) have frontage on Durham Road and will be sold as single-family residential lots and Lots 5 through 18 will be sold as commercial lots. The applicant intends to retain a 30.79-acre parcel as Lot 19. The commercial lots will range in size from approximately two to 12.47 acres and the residential lots will range in size from two to 2.65 acres. The project includes the construction of approximately 2,230 feet of roadway and associated utilities. The proposed project is shown on a set of plans, the first of which is entitled "Cover Sheet - Brunswick Commerce Center," prepared by Sitelines, P.A., and dated January 13, 2009, with a last revision date of June 7, 2009. The project site is located between Interstate 295, Durham Road, and Old Route 1 in the Town of Brunswick.

The proposed project will result in approximately 2,970 square feet of freshwater wetland fill. This amount of wetland alteration does not require a permit under the Natural Resources Protection Act.

B. Current Use of Site: The site of the proposed project is currently undeveloped fields and woodland. There is an existing structure on the parcel that will be removed prior to the sale of the lot.

2. FINANCIAL CAPACITY:

The total cost of the project is estimated to be \$795,000. The applicant submitted a letter from Norway Savings Bank, dated February 5, 2009 indicating that the applicant has sufficient available funds to complete the project.

The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards.

3. TECHNICAL ABILITY:

The applicant has developed and managed a number of residential and commercial properties in the Brunswick area. The applicant also retained the services of Sitelines, P.A., a professional engineering firm, to assist in the design and engineering of the project.

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

4. NOISE:

Construction activity is expected to occur from 7:00 a.m. to 7:00 p.m. or during daylight hours, whichever is longer, and is therefore exempt from regulation under 38 M.R.S.A 484(3).

The project site is located within the town's Commercial Portland Road Area Zone with the exception of the four residential lots that have frontage on Durham Road. There are no known protected locations near the project site, and structures on individual lots are limited to 10,000 square feet of floor area. Vegetated buffers will be preserved along the parcel's westerly, northerly, and easterly boundaries. Additionally, Route 1 and I-295 are on the site boundaries, both of which generate significant background traffic noise.

The Department finds that the applicant has made adequate provision for the control of excessive environmental noise from the proposed project.

5. SCENIC CHARACTER:

The project site is located between I-295, Old Route 1, and Durham Road. Durham Road is currently developed with single-family residences, so the four residential lots with frontage on Durham Road will be consistent with the neighborhood character. The proposed commercial lots will be separated from Route 1 by both a vegetated buffer and elevation changes, so that the lot development is anticipated to be partially screened from view.

Based on the project's location and design, the Department finds that the proposed project will not have an unreasonable adverse effect on the scenic character of the surrounding area.

6. WILDLIFE AND FISHERIES:

The Maine Department of Inland Fisheries & Wildlife (MDIFW) database was reviewed to determine if there were records of any Essential or Significant Wildlife Habitats, or other wildlife habitats of special concern associated with this site. No special habitats were identified.

A stream flows along the western boundary of the project site. Development windows on Lots 11, 12, and 13 have been configured to provide a 100-foot wide undisturbed wooded buffer adjacent to this stream.

The Department finds that the applicant has made adequate provision for the protection of wildlife and fisheries.

7. HISTORIC SITES:

The Maine Historic Preservation Commission reviewed the proposed project and stated that, based on a predictive model, the project site could potentially contain one or more prehistoric archaeological sites and requested that the applicant perform a Phase I archaeological survey of the site. The applicant submitted a report of the survey, prepared by Leslie C. Shaw, Ph.D., and dated July 1, 2009.

MHPC reviewed the results of the survey and stated, in a letter dated July 10, 2009, that the proposed project will have no effect upon any structure or site of historic, architectural, or archaeological significance as defined by the National Historic Preservation Act of 1966.

The Department finds that the proposed development will not have an adverse effect on the preservation of any historic sites or unusual natural areas either on or near the development site.

8. UNUSUAL NATURAL AREAS:

The Maine Natural Areas Program database does not contain any records documenting the existence of rare or unique botanical features on the project site and, as discussed in Finding 6, MDIFW did not identify any unusual wildlife habitats located on the project site.

The Department finds that the proposed development will not have an adverse effect on the preservation of any historic sites or unusual natural areas either on or near the development site.

9. BUFFER STRIPS:

The proposed project includes a 100-foot wide undisturbed buffer between lot development on Lots 11, 12, and 13 and wetlands associated with a stream that flows behind the lots as described in Finding 6. The applicant also proposes to establish forested buffers on the residential lots (Lots 1 – 4), and a roadside meadow buffer and two forested buffers with ditch turnout for the access road, to meet stormwater quality standards as discussed in Finding 10. The applicant submitted draft deed restrictions for these buffers that uses language from Chapter 500, Appendix D for the stormwater buffers.

Prior to the start of construction, the location of the stormwater buffers for the access road must be permanently marked on the ground. Prior to the start of development on Lots 1 – 4 and Lots 11, 12, and 13, the location of the stream buffer on those lots must be permanently marked on the ground. The deed for each lot that contains any portion of the designated stream or stormwater buffer must contain deed restrictions relative to the buffer and have attached to it a plot plan for the lot, drawn to scale, that specifies the location of the buffer on the lot. Prior to the start of construction on Lots 1 – 4 and Lot 11, 12, or 13, or any other affected lots, the applicant must submit a copy of the recorded deed restriction, including the plot plan, to the Bureau of Land and Water Quality (BLWQ).

The Department finds that the applicant has made adequate provision for buffer strips.

10. SOILS:

The applicant submitted a Class B high intensity soil survey map and report prepared by Albert Frick Associates and results of a subsurface soil infiltration investigation prepared by Summit Engineering based on the soils found at the project site. These reports were reviewed by staff from the Division of Environmental Assessment (DEA) of the BLWQ.

The Department finds that, based on these reports and DEA's review, the soils on the project site present no limitations to the proposed project that cannot be overcome through standard engineering practices.

11. STORMWATER MANAGEMENT:

Based on a 25% maximum impervious coverage for each commercial lot, the proposed project includes approximately 12.35 acres of impervious area and 12.88 acres of developed area. It lies within the watersheds of Bunganuc Brook and Mill Stream. The applicant submitted a stormwater management plan based on the basic, general, and flooding standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of vegetated buffers (limited disturbance forested buffers and meadow buffers) and infiltration basins.

Local ordinance limits onsite development of the 14 commercial lots to 25 percent of each lot's area, and the buildings are restricted to a 10,000-square foot footprint. Based on these parameters, the applicant submitted a stormwater management plan that includes specific designs for the impervious areas associated with the roadway, and less specific, conceptual designs for individual lot development. The conceptual designs are intended to demonstrate that the basic, general, and flooding standards can be met on each commercial lot based on the local development limitations.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan (Section 14 of the application) that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of the Division of Watershed Management (DWM) of the BLWQ.

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements. This plan was reviewed by, and revised in response to the comments of DWM. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system until the portions of the system that are located within the road right-of-way are conveyed to the town. The applicant submitted a letter from the Town, dated July 23, 2009, indicating the Town's agreement to maintain the portions of the system within the road right-of-way in accordance with the maintenance plan.

Portions of the common stormwater system will be located on three of the subdivision lots, Lots 6, 15, and 16. The applicant submitted draft deed covenants for these three lots that outline the future lot owners' responsibilities for maintenance of the components of the system that are located on respective lots. These lots must be conveyed with the submitted deed covenants.

All of the 14 commercial lots will have individual stormwater management systems to serve each lot. Specific designs for each of the systems must be submitted to the BLWQ for review and approval as described below. Each of the commercial lots must be conveyed with a deed covenant that requires the lot owner to perform maintenance on the individual stormwater system.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on DWM's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4)(A).

B. General Standards: The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using Best Management Practices (BMP) that will control runoff from no less than 95% of the impervious area and no less than 80% of the developed area. The proposed access road meets the definition of "a linear portion of a project" in Chapter 500 and the applicant is proposing to control runoff volume from no less than 75% of the impervious area and no less than 50% of the developed area.

The stream buffers and wooded and non-wooded stormwater buffers will be protected from alteration through the execution of a deed restriction as outlined in Finding 9.

The proposed infiltration system was reviewed by staff from DEA. The applicant must insure that the discharge of soluble pollutants to the infiltration area is minimized and that the infiltration area is maintained to assure that its capacity is unimpaired. Based on DEA's review, the Department does not anticipate that the infiltration area will adversely impact groundwater quality.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to, comments from DWM. After a final review, DWM commented that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards. DWM stated that, for the 14 commercial lots, the applicant has demonstrated that, for the maximum allowed buildout of each lot prescribed by town ordinance, there is adequate area on each lot to install stormwater treatment measures that would address Chapter 500 quality and quantity standards. Prior to the start of construction on each of the 14 commercial lots, the applicant must submit a stormwater peak flow/flooding analysis addressing flows at both the individual lot boundary and at the development boundary. The stormwater analysis should use for reference the stormwater model submitted in the application. The analysis must include, at a minimum, details related to the control of stormwater runoff from each lot, treatment controls showing that at least 95 % of the lot's impervious area and 80 % of the lot's developed area will be treated, applicable soil borings or test pits, provisions for inspections of the stormwater management system by a professional engineer and follow-up certification of system installation to the BLWQ, and a maintenance plan and provisions for the stormwater system.

Based on the stormwater system's design and DWM's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500, General Standards. DWM recommended that the applicant be required to retain its design engineer or other qualified professional to inspect the construction and

stabilization of the proposed stormwater management system to be built on the site. Inspections must be sufficient to confirm proper installation of all components of the system from initial ground disturbance to final stabilization. Within 30 days of completion of the system, the applicant must submit its engineer's written certification to the BLWQ that it was installed in accordance with the approved design.

#### C. Flooding Standard:

The applicant is proposing to utilize a stormwater management system based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20, U.S.D.A., Soil Conservation Service, and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency. The post-development peak flow from the site will not exceed the pre-development peak flow from the site, with the exception of two analysis points which are below 5% or less than 0.5 cubic feet per second.

DWM commented that the proposed system is designed in accordance with the Chapter 500 Flooding Standard, and concurred that the two post-development increases are either statistically negligible or insignificant.

Based on the system's design and DWM's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500, Flooding Standard for peak flow from the project site, and channel limits and runoff areas.

The Department further finds that the proposed project will meet the Chapter 500 standards for easements and covenants and discharge to freshwater or coastal wetlands.

#### 12. GROUNDWATER:

A majority of the project site is located over a significant sand and gravel aquifer, as confirmed by a DEA geologist. The proposed project includes individual water supply wells as discussed in Finding 13 and onsite wastewater disposal systems as discussed in Finding 14.

DEA stated that the soil data generally indicates that deeper soils suitable for stormwater infiltration are present along the eastern and western sides of the project site, and infiltration systems may be used as an acceptable measure for stormwater treatment on those lots where suitable soils occur. The development of any given lot or lots may include restrictions on the location of water supply, wastewater, and/or stormwater utilities on adjacent lots or elsewhere within the development. Prior to construction on any commercial lot that proposes to utilize infiltration for stormwater treatment, a plan including details and specifications for the system must be submitted to the BLWQ for review and approval.

If any lot occupant will use, handle, or store petroleum products, pesticides, herbicides, fertilizers, road salt, solvents, or other materials with potential to impact groundwater, then a spill control, containment, and countermeasures plan (SPCC plan) must be submitted to the BLWQ for review and approval prior to occupancy of that lot

The Department finds that the proposed project will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur provided

13. WATER SUPPLY:

Water for the development will be supplied by individual wells. The applicant submitted an assessment of groundwater supplies that are available on the project site from the Maine Geological Survey (MGS), which was reviewed by, and revised in response to, comments from the BLWQ's Division of Environmental Assessment (DEA). The application stated that the MGS well data indicates that, based on the documented flows and the proposed project's proximity to a large aquifer, it is anticipated that there is an adequate supply of water for the development.

The Department finds that the applicant has made adequate provision for securing and maintaining a sufficient and healthful water supply.

14. WASTEWATER DISPOSAL:

Wastewater will be disposed of by individual subsurface wastewater disposal systems on each lot within the development. The applicant submitted the soil survey map and report discussed in Finding 9. Each individual system must be designed to meet the requirements of the Maine State Plumbing Code. This information was reviewed by, and revised in response to comments from DEA, who commented that the specific wastewater disposal system design and water supply system for each commercial lot should be submitted to the BLWQ for review and approval prior to construction on the lot.

Based on DEA's comments, the Department finds that the proposed wastewater disposal systems will be built on suitable soil types, and that Maine's Drinking Water Standard for nitrates will be met at the project's property lines, provided specific wastewater disposal system and water supply designs are submitted as described above.

15. SOLID WASTE:

When completed, the proposed project is anticipated to generate 55 tons of household and general solid waste per year. All general solid wastes from the proposed project will be disposed of at the West Bath Transfer Facility and ultimately the Bath Landfill, or the town of Brunswick's Graham Road Landfill, both of which are currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine.

The proposed project will generate approximately 9,530 cubic yards of stumps and grubbings. All stumps and grubbings generated will be disposed of on site, either chipped or burned, with the remainder to be worked into the soil, in compliance with Solid Waste Management Regulations of the State of Maine.

All construction and demolition debris generated will be disposed of at the town of Brunswick's Graham Road Landfill or the West Bath processing facility, both of which are currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine.

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal.

16. FLOODING:

The proposed project is not located within the 100-year floodway of any river or stream.

The Department finds that the proposed project is unlikely to cause or increase flooding or cause an unreasonable flood hazard to any structure.

17. AIR QUALITY:

No significant source of air emissions has been identified. Future development on individual lots may require air emissions licenses based on the type of use. If a facility that requires an air emission license is to be built on a lot, a copy of the air emission license must be submitted to the BLWQ for review prior to occupancy of that facility.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 481 et seq.:

- A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards.
- B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities provided air emission licenses, if required, are submitted as described in Finding 17.
- C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil.
- D. The proposed development meets the standards for storm water management in Section 420-D and the standard for erosion and sedimentation control in Section 420-C provided

buffers are marked and maintained, and restrictions are submitted, as described in Finding 9, and provided additional plans and details are submitted for individual lots and the stormwater system is inspected and certified as described in Finding 11B.

- E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur provided SPCC plans and plans for infiltration of stormwater are submitted as described in Finding 12, and provided specific wastewater and water supply system designs for each commercial lot are submitted as discussed in Finding 14.
- F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.
- G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the application of MOORE PROPERTIES, INC. to develop an 18-lot subdivision in Brunswick as described in Finding 1, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

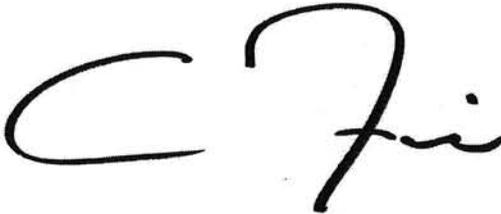
1. The Standard Conditions of Approval, a copy attached.
2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.
3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.
4. The applicant or other responsible party shall, within three months of the expiration of each five-year interval from the date of this Order, submit a report certifying that the items listed in Department Rules, Chapter 500, Appendix B(4) have been completed in accordance with the approved plans.
5. The applicant shall include in all conveyances of subdivision lots deed restrictions making the conveyance subject to all terms and conditions of this Department permit and any applicable municipal approval. These terms and conditions may be incorporated by specific and prominent reference to the permit in the deed. All conveyances required by this approval to contain restrictions shall include in the restrictions the requirement that any subsequent conveyance shall specifically include the same restrictions.

6. The applicant shall give a copy of this permit, including the standard conditions, and a copy of the approved subdivision plan to each lot buyer at least 14 days prior to the date of closing on the sale or lease of the lot. The applicant also shall maintain a file containing signed and dated statements by lot buyers or lessees acknowledging that they have received and read their copy of this permit and the subdivision plan prior to the closing on their lot. The file shall also contain a copy of the signed and dated deed or lease containing the restrictive covenants required under this approval. The applicant shall make this file available for inspection upon request by the Department.
7. The applicant shall execute and record all required deed restrictions, including the appropriate buffer deed restrictions, within 60 days of the date of this Order unless the deed restriction is to be placed on a subdivision lot. In that situation, the applicant shall execute and record the required deed restriction prior to the start of construction on the lot. The applicant shall submit a copy of the recorded deed restriction, including the plot plan, to the BLWQ within 60 days of its recording.
8. Prior to the start of construction, the location of forested and meadow buffers on individual lots shall be permanently marked on the ground.
9. Prior to the start of construction on each of the 14 commercial lots, the applicant shall submit a stormwater peak flow/flooding analysis addressing flows at both the individual lot boundary and at the development boundary. The stormwater analysis shall use for reference the stormwater model submitted in the application. The analysis shall include, at a minimum, details related to the control of stormwater runoff from each lot, treatment controls showing that at least 95 % of the lot's impervious area and 80 % of the lot's developed area will be treated, applicable soil borings or test pits, provisions for inspections of the stormwater management system by a professional engineer and follow-up certification of system installation to the BLWQ, and a maintenance plan and provisions for the stormwater system.
10. The applicant shall retain its design engineer or other qualified professional to inspect the construction and stabilization of the proposed stormwater management system to be built on the site. Inspections shall be sufficient to confirm proper installation of all components of the system from initial ground disturbance to final stabilization. Within 30 days of completion of the system, the applicant shall submit its engineer's written certification to the BLWQ that it was installed in accordance with the approved design.
11. If any lot occupant will use, handle, or store petroleum products, pesticides, herbicides, fertilizers, road salt, solvents, or other materials with potential to impact groundwater, then a spill control, containment, and countermeasures plan (SPCC plan) shall be submitted to the BLWQ for review and approval prior to occupancy of that lot.
12. The specific wastewater disposal system design and water supply system for each commercial lot shall be submitted to the BLWQ for review and approval prior to construction on the lot.

13. If a facility that requires an air emission license is to be built on a lot, a copy of the air emission license shall be submitted to the BLWQ for review prior to occupancy of that facility.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

A handwritten signature in black ink, appearing to read 'C Fisk', is positioned to the left of the digital signature text.

This permit has been digitally signed by Andrew C. Fisk on behalf of Commissioner David P. Littell. It is digitally signed pursuant to authority under 10 M. R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date 2009.07.29 09:26:44 -04'00'

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

mr/124560an/ats#69736

**Department of Environmental Protection**  
**SITE LOCATION OF DEVELOPMENT (SITE)**  
**STANDARD CONDITIONS**

**STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL  
IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL.**

1. This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited, without prior approval by the Board of Environmental Protection, and the applicant shall include deed restrictions to this effect.
2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.
3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted **WITH CONDITIONS**, and indicates where copies of those conditions may be obtained.
5. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.
6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.
7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.
8. A copy of this approval must be included in or attached to all contract bid specifications for the development.
9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

(2/81)/Revised November 1, 1979

## STORMWATER MANAGEMENT LAW STANDARD CONDITIONS

### STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

**Standard conditions of approval.** Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

- (1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S.A. § 420-D(8) and is subject to penalties under 38 M.R.S.A. § 349.
- (2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
- (3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
- (4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.
- (5) Initiation of project within two years. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference.
- (6) Reexamination after five years. If the project is not completed within five years from the date of the granting of approval, the department may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances or requirements which may have occurred during the five-year period.

- (7) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.
- (8) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department.
- (9) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.
  - (a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
  - (b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.
  - (c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

November 16, 2005

**Approved Findings of Fact  
Major Subdivision Final Plan Review  
Planning Board Approval: June 9, 2009**

**Project Name:** Brunswick Commerce Center (*Originally submitted for Sketch Plan review entitled as Subdivision for Moore Properties, Inc.*)

**Case Number:** 08-059

**Tax Map:** Map 13, Lot 34

**Applicant:** William Moore, President  
Moore Properties, Inc.  
228 Old Portland Road  
Brunswick, Maine 04011  
(207) 725-1388

**Authorized Representative:** Curtis Y. Neufeld, PE  
Sitelines, PA  
8 Cumberland Street  
Brunswick, ME 04011  
(207) 725-1200 x 18

**PROJECT SUMMARY**

The applicant, Moore Properties, Inc., is requesting final plan approval for a major subdivision to create 19 lots; 4 designated for residential use, 14 for commercial/industrial use, and Lot 19 to be retained in its natural state by the owner. The proposed subdivision is located between Durham Road and Old Portland Road [**Assessor's Map 13, Lot 34**] with frontage along both roads. Access for the residential lots will be provided directly from Durham Road. The non-residential lots will be primarily accessed by either Old Portland Road or from a new 2,230 ft. loop road. Lot #10 may also have secondary access provided from Durham Road. This site, totaling 94.4 acres, is located in the **Portland Road Area Mixed Use MU5 Zoning District**.

As this subdivision site is located outside the Town's designated growth area, the lots will be served by private on-site water and subsurface wastewater disposal systems. The new loop road and water quality treatment areas will be constructed with each phase. The detention basin will be designed for full-build-out and constructed during the first phase of development.

The project meets zoning ordinance use, space and bulk standards.

The Sketch Plan was approved by the Brunswick Planning Board on November 25, 2008.

The following waiver has been requested by the applicant:

1. Submission of profiles for existing and proposed sidewalks (Section 412.2.B.19).  
*Staff notes: As this is located outside the designated growth area, no sidewalks exist or are anticipated at this time.*

Staff recommends approval of the requested waiver.

## **Review Standards from Section 411 of the Town of Brunswick Zoning Ordinance**

### **411.1 Ordinance Provisions**

The property is located in the Old Portland Road Area Mixed Use 5 (MU5) Zoning District. The proposed subdivision meets dimensional, density and lot configuration requirements. The proposed development complies with all applicable standards for the MU5 zoning district. *The Board finds that the provisions of Section 411.1 are satisfied.*

### **411.2 Preservation of Natural Features**

The proposed 4 residential lots fronting Durham Road are fully forested and utilize forested buffers for water quality treatment. The forested buffers, located on side lot lines, are intended to be “no-cut” buffers and will be deed-restricted upon the sale of each lot. Staff requests that the restriction be noted on the subdivision plan as well.

The wetland and vernal pool findings have been determined to be complete by the Town’s Natural Resource Planner. A copy of the detailed wetland and vernal study is attached and made a part of these findings of fact.

For the most part, the proposed development avoids the wetlands and vernal pools (all of which are not significant). Added documentation indicates a determination by MeDEP stating vernal pools on the property are not significant, 8/14/08 letter attached to these findings. DEP-defined streams are identified, and the stream on the eastern boundary is shown with a 75' setback (when Lot 1 is proposed for development, exact setbacks will need to be verified).

The proposed building and parking lot areas will comply with the minimum side, front and rear property line setbacks and the 75-foot stream setback/buffer for the Natural Resource Protection Zone (NRPZ). The proposed 100 foot setback to the adjacent stream is shown on the plan. *The Board finds that the provisions of Section 411.2 are satisfied, provided that a note is placed on the plan requiring the “no-cut” forested buffer for Lots 1-4 (Note: removed as a condition of approval as the plan shown by the applicant during Planning Board review included note.).*

### **411.3 Surface Waters, Wetlands and Marine Resources**

The wetland and vernal pool findings have been determined to be complete by the Town’s Natural Resource Planner. A copy of the detailed wetland and vernal study is attached and made a part of these findings of fact. For the most part, the proposed development avoids the wetlands and vernal pools (all of which are not significant). DEP-defined streams are identified, and the stream on the eastern boundary is shown with a 75' setback (when Lot 1 is proposed for development, exact setbacks will need to

be verified). The development will not adversely affect the water quality of Casco Bay or its estuaries. *The Board finds that the provisions of Section 411.3 are satisfied.*

#### **411.4 Flood Hazard Areas**

Based on the Flood Insurance Rate Map, community panel # 230042 0010 B, rev. 1/3/86, the project site, including the unnamed stream, is located within Zone C, described as areas of minimal flooding and outside the regulatory 100-year flood zone. The development activity does not occur within a FEMA flood hazard area and therefore minimizes any risk of flooding. *The Board finds that the provisions of Section 411.4 are satisfied.*

#### **411.5 Stormwater Management**

The proposed project involves the construction of more than 1-acre of new impervious area and meets the definition of a subdivision per Maine DEP and therefore will require a Site Location of Development Act permit. A stormwater management plan has been prepared to provide for peak flow control (flooding standard) and water quality treatment of runoff from the project area. Stormwater flooding control will be provided through the use of a detention basin and the four separate infiltration trenches. Stormwater quality will be achieved through the use of roadside meadow buffers, ditch turnouts to stone bermed level spreaders into forested buffers and several infiltration trenches/basins. A complete stormwater management plan with narrative and calculations is under review by the DEP. Final stormwater calculations will be submitted as lots are developed. *The Board finds that the provisions of Section 411.5 are satisfied conditioned upon approval by Maine DEP.*

#### **411.6 Groundwater**

The project will be served by on-site private wells and septic systems. Through infiltration of the stormwater, the natural groundwater recharge cycle will be preserved. There are no adverse impacts to groundwater anticipated from this development. No activities are proposed or anticipated that will extract groundwater for commercial purposes. The Board finds that the development will not, alone or in conjunction with existing activities adversely affect the quality or quantity of groundwater. *The Board finds that the provisions of Section 411.6 are satisfied.*

#### **411.7 Erosion and Sedimentation Control**

The project has been designed to incorporate Best Management Practices as outlined in the Maine Erosion and Sediment Control BMPs as published by the Maine DEP, current edition. The potential for sediment transport from the project area will be mitigated through the use of permanent and temporary erosion control measures. Disturbed areas will be isolated through the use of sediment barrier and other measures to minimize the transport of sediment from the site. Specific provisions for permanent and temporary erosion control features have been provided in the construction drawings. As lots are developed, the contractor will be bound to meet the performance standards of the BMPs including erosion control, stabilization, maintenance, and inspection requirements. The proposed development will not cause unreasonable soil erosion or reduction in the lands'

capacity to hold water so that a dangerous or unhealthy situation results. *The Board finds that the provisions of Section 411.7 are satisfied.*

#### **411.8 Sewage Disposal**

The project will be served by private on-site septic systems. It is anticipated that each will result in 350 GPD or less, which can be served by modest subsurface detention systems. Test pits have been located throughout the development, providing for 2 test pits per developed lot. Test pit data has been developed by both Albert Frick Associates, Inc. and George Patton, site evaluator, at different times throughout the years as the client has investigated development of the property. Recently Albert Frick Associates, Inc. has augmented the original investigations to ensure 2 test pits per lot as shown on design plans. This design has been preliminarily reviewed by the Codes staff and has been found to be acceptable for the project. As is standard practice, the septic system design will be approved as part of the building permit application process. *The Board finds that the provisions of Section 411.8 are satisfied.*

#### **411.9 Water Supply**

All lots for this project will be served by private wells. The project parcel is located over an aquifer and therefore we anticipate a bountiful supply of fresh water. Residential lots having a 4-bedroom home have a typical usage of 360 GPD.

The Maine State Sewer Regulations project design flows for employees at a place of employment (without showers) at 15 gpd per employee. A typical 10,000 sf business is expected to employ fewer than 20 full-time employees for a commercial/light manufacturing facility. Therefore, based on a maximum footprint of 10,000 sf for each structure on the commercial lots, it is anticipated that the future commercial uses will generate no more than 300 GPD. The subsurface detention systems for any anticipated use will be comparable to a typical residential system.

The Maine Geological Survey maps for the project area show wells close to the project and along the aquifer line to be yielding 25 to 50 GPM with well depths of 250 to 400 feet. Based on the documented flows and the development's proximity to a large aquifer it is anticipated there is an adequate supply of water for the development. *The Board finds that the provisions of Section 411.9 are satisfied.*

#### **411.10 Aesthetic, Cultural and Natural Values**

In a letter from the Maine Historic Preservation Commission dated January 15, 2009, it was recognized that the subject parcel possibly contains one or more prehistoric archeological sites. Therefore, a Phase I archeological survey is necessary for Lots 11, 12 and 13 prior to any ground disturbance. The Applicant has contacted Dr. Leslie Shaw, a professor in the Department of Sociology and Anthropology at Bowdoin College, who is a DEP approved archaeologist, to complete the required survey. Based on the results of the survey, future development will then be located so as to have no undue adverse impact on the resource.

As provided in supplemental data submitted as part of this application, a letter from the Maine Department of Conservation dated December 23, 2008, notes that no rare

botanical features are documented within the specified project area. In addition, per Maine Department of Inland Fisheries and Wildlife letter dated January 9, 2009, no known threatened or endangered fish species or habitat are documented in the vicinity of the specified project area.

It is noted that the proposed development is within an area identified in the 2008 Comprehensive Plan as one that should remain an “attractive gateway to Brunswick from the south.” The vision for this area is further stated as follows: “The limited development that does occur maintains the “rural character” of the corridor and protects the area’s natural resources and scenic values including unfragmented wildlife habitats.”

Presently, a forested buffer exists along the entire length of the Route One Corridor. In accordance with Sections 501 and 515 of the Brunswick Zoning Ordinance, it is recommended that a minimum forested buffer of 50 feet be maintained, with minimal interruption for road and/or driveway cuts to be further determined as part of Site Plan development.

The proposed project will not have any undue adverse effect on the scenic or natural beauty of the area, historic sites, or significant wildlife habitat identified by the Maine Department of Environmental Protection or by the Town of Brunswick, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline. *The Board finds that the provisions of Section 411.10 are satisfied, conditioned upon the protection of any archeological or historic resources found as part of the Phase I Survey. Furthermore, no less than 50 feet of the existing vegetated area along the length of Route One shall remain as is with any removal of vegetation on individual lots approved by the Planning Board at the time of site plan reviews.*

#### **411.11 Community Impact**

The proposed project will be located on Route One and Durham Road in the MU5 (Old Portland Road) zoning district, which is described as a mixed use rural district. Only the four proposed residential lots will have single family residences constructed; therefore the project is anticipated to have a minimal impact on community facilities such as schools.

Due to the project being located outside of a hydrant district and having a lengthy response time from the downtown fire station, the Fire Department staff suggests the installation of residential sprinkler systems in the four residential occupancies to provide an improved level of safety. *The Board finds that the provisions of Section 411.11 are satisfied, conditioned upon residential lot owners being notified of said suggestion by the applicant, developer or agent thereof, as part of lot/title transfer.*

#### **411.12 Traffic**

The proposed subdivision has been reviewed by the Town Engineer with the following issues needing to be further addressed:

- a. The cost estimate for the new loop road appears reasonable and does have estimates per phase.

- b. The Town is looking to understand how MaineDOT is handling this subdivision but as of now we do not have anything in writing from MaineDOT. What needs to be said is the subdivision as submitted would require a Traffic Movement Permit (TMP) from MaineDOT per letter contained in the application from the developer's engineer, Tom Errico, Wilbur Smith Associates, to Glen Willette, MDOT dated May 8, 2009. It should also be noted the TMP will require traffic to be considered for all of Mr. Moore's development since he first purchased this entire parcel in 2002. That is, it will have to include traffic from his current painting business building and the other two adjacent lots that are currently undeveloped. However, the applicant is seeking to defer applying for the TMP by limiting the amount of development that will occur and the Town is awaiting a written opinion from MDOT. The town will also need to develop language that will condition the subdivision development to a certain level of development before a traffic impact study must be done. There is concern that a High Crash Location is present adjacent to the site at Durham Road and Old Portland Road. The state has identified that location for safety improvements but their plan to address the safety has been negated in part by the development now taking place near the intersection (Midcoast Baptist Church project). MaineDOT has indicated a willingness to abandon the project so the Town is not comfortable allowing this subdivision to proceed without this issue being properly addressed. It is requested that the project traffic engineer needs to evaluate the HCL issues and determine if any mitigation steps by the subdivision applicant are warranted.
- c. It is questionable whether or not a street light on Old Portland Road might be needed for safety for traffic entering and exiting the site from Route 1. MaineDOT usually requires a street light under a TMP but it appears the project may not need a TMP at this point in time. Given that, it is recommended that a street light be provided; normally the town handles that under the CMP street light rental program. A street light impact fee is assessed for the developer. Our street lighting impact fee, which has not been updated, is \$296.03/street light. Therefore, it is recommended that street lights are appropriate for each of the access connections to Route 1 for the total impact fee is  $\$296.03 \times 2 = \$592.06$ .
- d. A performance security in an acceptable form is required for this project for the roadway infrastructure. It is further recommended that the security cover the full roadway when the developer begins construction of the first phase.
- e. The phasing plan was not properly identified needs further clarification for final review. Once the development sequence is clear we may have comments on appropriateness of infrastructure.
- f. Prior to the start of construction, the street developer shall deposit in a Town-held escrow account an amount equal to 2% of the street construction value. These funds are to be used to fund an engineering consultant to be hired by the Town Engineer to inspect project construction and report all findings, tests and recommendations to the Town Engineer. Any of the escrowed funds not used for construction administration will be returned to the developer.
- g. A guard rail is called for at the road edge of the most easterly entrance. Since this pertains in part to the existing guard rail on Route 1, further review will be

- required by the Town Engineer with regard to guard rail design and placement with MaineDOT staff before Town approval is provided.
- h. The four residential lots on Durham Road will require Entrance Permit applications submitted to Public Works for driveways when they are developed. As agreed at the staff review committee meeting, the driveways are to be located in the locations shown on the plan where adequate sight distance was determined. A driveway can only be relocated to a different point on the lot if adequate sight distance is available for the revised location.
  - i. Permanent survey monumentation (4 inch by 4 inch by 4 foot granite monument or approved equal) is to be provided and set by a State of Maine Professional Land Surveyor along the road at all changes in direction (including Point of Curvature & Point of Tangency for curves) on both sides of the road parcel. Monument location and type at all other points is to conform to standard State of Maine survey practices.
  - j. A digital and referenced version of the final subdivision is required to be submitted to the Town Public Works Department after approval in accordance with the Zoning Ordinance, Section 407.9 - Submission of digital data.

*The Board finds that the provisions of Section 411.12 are satisfied, conditioned upon requested modifications by the Town Engineer/Staff are satisfied.*

#### **411.13 Pedestrian and Bicycle Access and Safety**

The Board finds that the development will accommodate bicyclists and addresses pedestrian access, safety and circulation within the site. *The Board finds that the provisions of Section 411.13 are satisfied.*

#### **411.14 Development Patterns**

The proposed subdivision is both residential and small-scale commercial/industrial in nature, with residential lots fronting a residential area along Durham Road. As such, a 50-foot buffer is provided between residential and non-residential lots of the proposed subdivision. Off-street parking, loading and unloading areas will be determined during the site plan review process.

As proposed, the development is respectful of Brunswick's historic development pattern and will have no adverse impact on adjacent residential areas. *The Board finds that the provisions of Section 411.14 are satisfied, conditioned upon adequate buffering being determined as part of the site plan review process.*

#### **411.15 Architectural Compatibility**

It is anticipated that all four residential lots will have single family residences similar to and consistent with the existing homes in the area. The structures on the proposed non-residential lots will be separated from Route 1 and Durham Road both by a difference in elevation and existing wooded buffers. All buildings will be constructed and configured within the building envelopes shown on the Subdivision Plan. With the exception of Lot 5, all commercial buildings will be orientated to face the proposed loop road and all facades will be consistent with the MU5 zoning requirements. It is further recommended that signs along Route One be limited to no more than two directory listing-type signs,

consistent with Town zoning requirements, potentially located at each loop road entrance, in keeping with the rural character of the corridor. The Board finds the development to be compatible with its surroundings in terms of size, scale and mass. *The Board finds that the provisions of Section 411.15 are satisfied, conditioned upon limiting signs along Route One to no more than two directory-type signs, consistent with Town zoning requirements.*

#### **411.16 Municipal Solid Waste Disposal**

It is estimated that each new non-residential building will house 20 or fewer employees and per Table 3 of the Basic Data for Solid Waste Amounts, Composition and Management Systems, each employee is anticipated to generate approximately 1 pound of waste per day. Therefore, each building will generate approximately 3.65 tons of solid waste per year, more or less. Based on a rate of \$258.56 per ton, the estimated solid waste fee for a 10,000 sf building is \$943.74. Solid waste will typically be collected in an enclosed dumpster area, including fencing and landscape planting to screen the dumpster from the abutters. Since the actual number of employees and specific uses are not available, it is requested the impact fee for non-residential uses be deferred until individual lots are developed. *The Board finds that the provisions of Section 411.16 are satisfied, with the condition that solid waste impact fees are paid prior to obtaining building permits.*

#### **411.17 Recreation Needs**

At their May 20, 2009 meeting, the Brunswick Recreation Commission voted to recommend acceptance of a fee in lieu of land in fulfillment of the recreation/open space requirement as set forth in the Town's Zoning Ordinance. The fee required is \$951.75 per dwelling, to be paid to the Town prior to obtaining building permits. Therefore the proposed residential portion of this development will not cause an unreasonable burden on the municipality's ability to provide recreational services. *The Board finds that the provisions of Section 411.17 are satisfied, with the condition that the recreation fees are paid prior to obtaining building permits.*

#### **411.18 Access for Persons with Disabilities**

The development shall comply with the Americans with Disabilities Act, which will be reviewed as part of the building permit application. *The Board finds that the provisions of Section 411.18 are satisfied.*

#### **411.19 Financial Capacity and Maintenance**

The estimated site costs are approximately \$795,000 to construct the entire subdivision roadway, utilities, and stormwater management.

Costs for the development of the individual lots will be borne by future owner/developer and supported by sale of the lots. The Applicant will self-finance the project infrastructure construction. Although the Applicant can fully fund the entire estimated construction cost, the project is proposed to be constructed in phases. Construction of subsequent phases will be financed from capital raised from sales of lots in the initial/previous phase. A letter from Norway Savings Bank attesting to the financial

strength of the Applicant has been provided as part of the application submittal. *The Board finds that the provisions of Section 411.19 are satisfied.*

**411.20 Noise and Dust**

Best Management Practices as outlined in the Maine Erosion and Sediment Control BMP's as published by the Maine Department of Environmental Control, will be utilized to control noise and dust during construction. Noise will be limited through the compliance of the site contractor with the standard hours of construction per Section 524.1. Upon construction completion, there are no anticipated impacts with regard to noise or dust. *The Board finds that the provisions of Section 411.20 are satisfied.*

**411.21 Right, Title and Interest**

Moore Properties, Inc. has sufficient right, title and interest in the subject property. *The Board finds that the provisions of Section 411.21 are satisfied.*

**411.22 Payment of Application Fees**

The applicant has paid all applicable development review and application fees. *The Board finds that the provisions of Section 411.22 are satisfied.*

**APPROVED MOTIONS  
BRUNSWICK COMMERCE CENTER  
CASE NUMBER  
08-059**

**Motion 1:** That the Board waives the following submission requirement:

Section 412.2.B.19: Submission of profiles for existing and proposed sidewalks.

**Motion 2:** That the Final Plan is deemed complete.

**Motion 3:** That the Final Plan is approved with the following conditions:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification shall require a review and approval in accordance with the Brunswick Zoning Ordinance.
2. That prior to issuance of a building permit for the project, the Site Location of Development Permit is issued by DEP.
3. That any on-site resources found as part of the Phase I Archeological Survey for Lots 11, 12 and 13 be offered protective easements as part of the future site plan design and review process.
4. That a note is placed on the plan and included in the deeds for residential lots as notification to future owners that the lots are located outside a fire hydrant district, with the potential for a lengthy response time by the Fire Department in the event of an emergency.
5. That comments/requirements of the Town Engineer, noted as part of these findings, relative to traffic and other issues be satisfied. This includes payment of street lighting impact fees and performance security for the construction of the new loop road.
6. That the following items be addressed during site plan development:
  - a. Adequate buffering between residential and non-residential uses;
  - b. Driveway locations for individual lots; and
  - c. Signage for individual lots/structures.

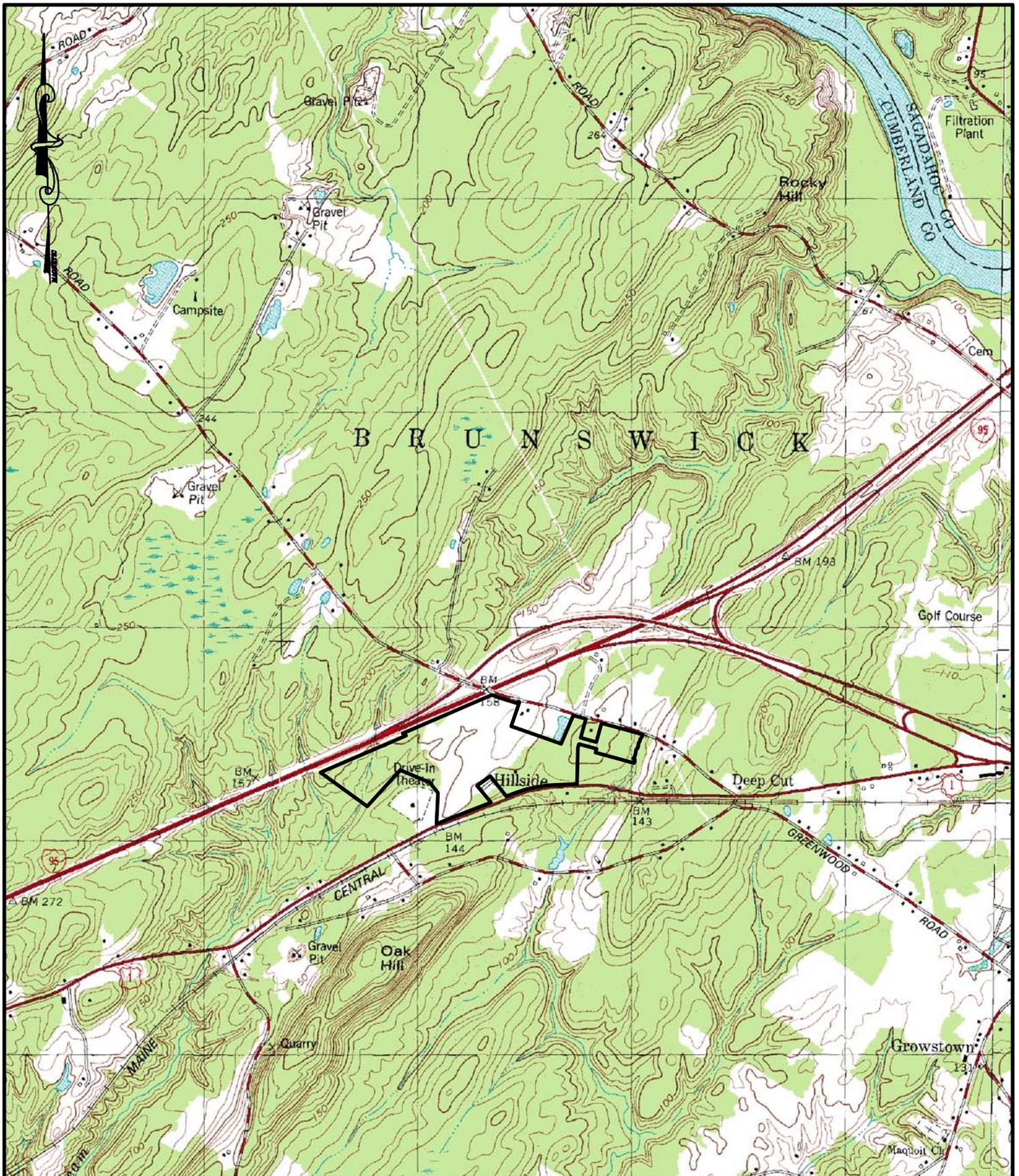
7. That prior to issuance of building permits for each building, the applicant shall pay applicable solid waste impact fees to be determined as part of the site plan review process.
8. That prior to issuance of building permits for the residential uses, the applicant shall pay to the Town a recreation fee in the amount of \$951.75 per dwelling unit.
9. That no less than 50 feet of the existing vegetated area along the length of Route One Corridor shall remain as is with any removal of vegetation on individual lots approved by the Planning Board at the time of site plan reviews.
10. That no more than two business directory-type signs for the development are located along the Route One Corridor property line.
11. That a note be placed on the plan restricting Lots 1-4 for residential uses.
12. That site development plans for those lots abutting the Route One Corridor shall be reviewed and acted on the Planning Board.

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

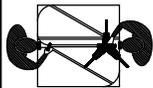
## **Attachment F**

### **Supporting Graphics**

This attachment includes supporting materials and graphics for the application. This includes an excerpt of the FEMA flood rate insurance map (FIRM) and reduced size copies of the zoning map and tax maps. An excerpt of the applicable USGS 7.5 minute quadrangle map is provided for reference.



SHEET: 1 OF 1



**SITELINES**  
ENGINEERS PLANNERS

8 CUMBERLAND ST. BRUNSWICK, ME 04011  
(207) 725-1200 FAX 725-1114

**USGS MAP**

RESIDENTIAL SUBDIVISION  
MOORE PROPERTIES, INC.  
OLD ROUTE 1, BRUNSWICK, MAINE

DATE: 06-02-15

SCALE: 1" = 2000'

JOB: 731.03

FILE: 731.03\_MAPS

# Brunswick

# Maine

### Legend

-  Selected Parcels
-  Parcels
-  Town Boundary
-  Town Center 1 / Main Street
-  BNAS Conservation District
-  Town Center 2 / Fort Andross
-  Town Center 3 / Lower Park Row
-  Town Residential 1 / Inner Pleasant St
-  Town Residential 2 / Federal St
-  Town Residential 3 / Water St
-  Town Residential 4 / Jordan Acres
-  Town Residential 5 / Columbia Ave - Spring St
-  Residential 1 / Longfellow St
-  Residential 2 / Misadombook - Parkview
-  Residential 3 / Maygood Rd
-  Residential 4 / Meredith Dr - West McKelven St
-  Residential 5 / River Rd
-  Residential 6 / Cook's Corner
-  Residential 7 / McLellan-Garrison St
-  Residential 8 / College Park
-  College Use / Town Conservation District
-  College Use 1 / Campus Center
-  College Use 2 / Pickard Field
-  College Use 3 / College St
-  College Use 4 / Bowdoin Pines
-  College Use 5 / Brunswick Apartments
-  College Use 6 / Cleveland St - Bath Rd
-  College Use 7 / Longfellow Ave - South St
-  Commercial / Cook's Corner
-  Highway Commercial 1 / Outer Pleasant
-  Highway Commercial 2 / Inner Bath Rd
-  Mixed Use 2 / In-town Railroad Corridor
-  Mixed Use 3 / Upper Hepsawell Rd
-  Mixed Use 4 / Fox Run
-  Mixed Use 6 / Lower Hepsawell Rd
-  BNAS Reuse District
-  Business and Industry 1 / Industry Rd
-  Business and Industry 2 / Church Rd
-  Business and Industry 3 / Bath Rd
-  Business and Industry 4 / Exit 22
-  Farm Forest 1 / Durham-Hacker Road Area
-  Farm Forest 2 / New Meadows River Area
-  County Residential 1 / Northwest Brunswick
-  Rural Mixed Use 1 / Lower Old Bath Rd
-  Rural Mixed Use 5 / Portland Road Area
-  Coastal Protection 1
-  Coastal Protection 2

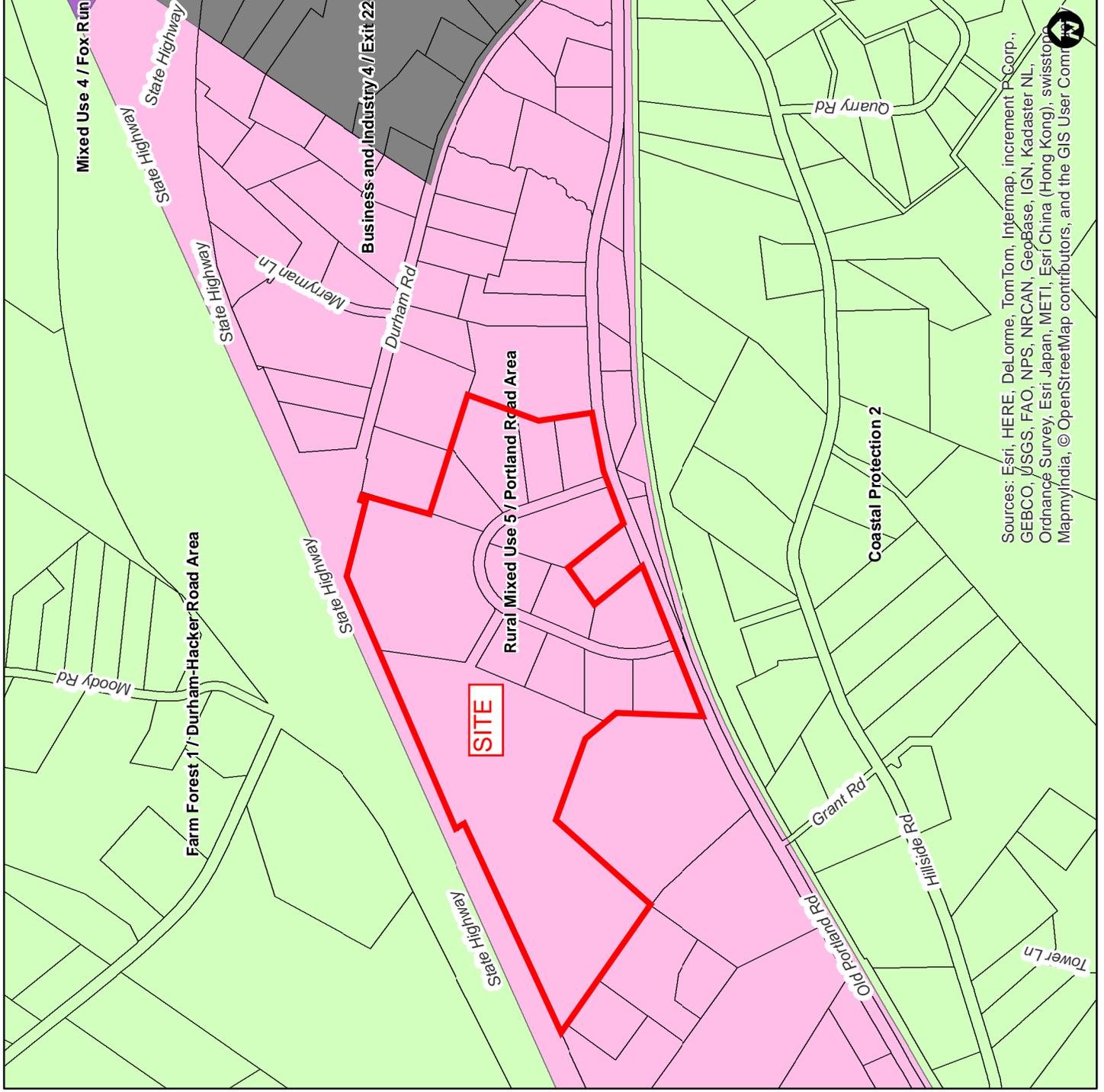
0 395 790 1,580

Feet

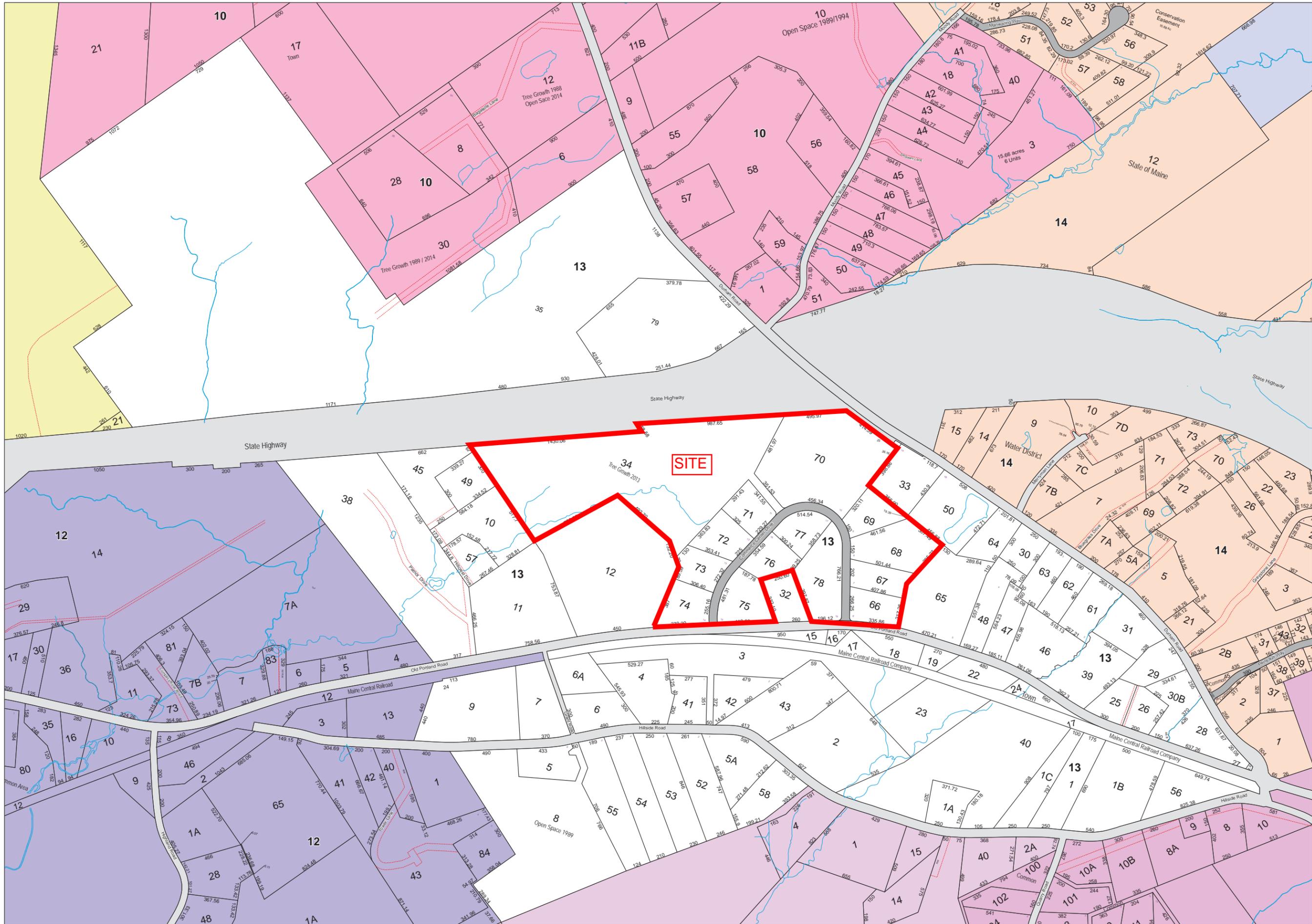
This map was generated by the Town of Brunswick's online GIS. This information has been compiled from various public and private sources. While every attempt has been made to provide accurate information, neither the municipality nor the service host guarantee the accuracy of information provided herein.

Map generated on: 9/14/2015

## Zoning Map



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeopBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



**Legend**

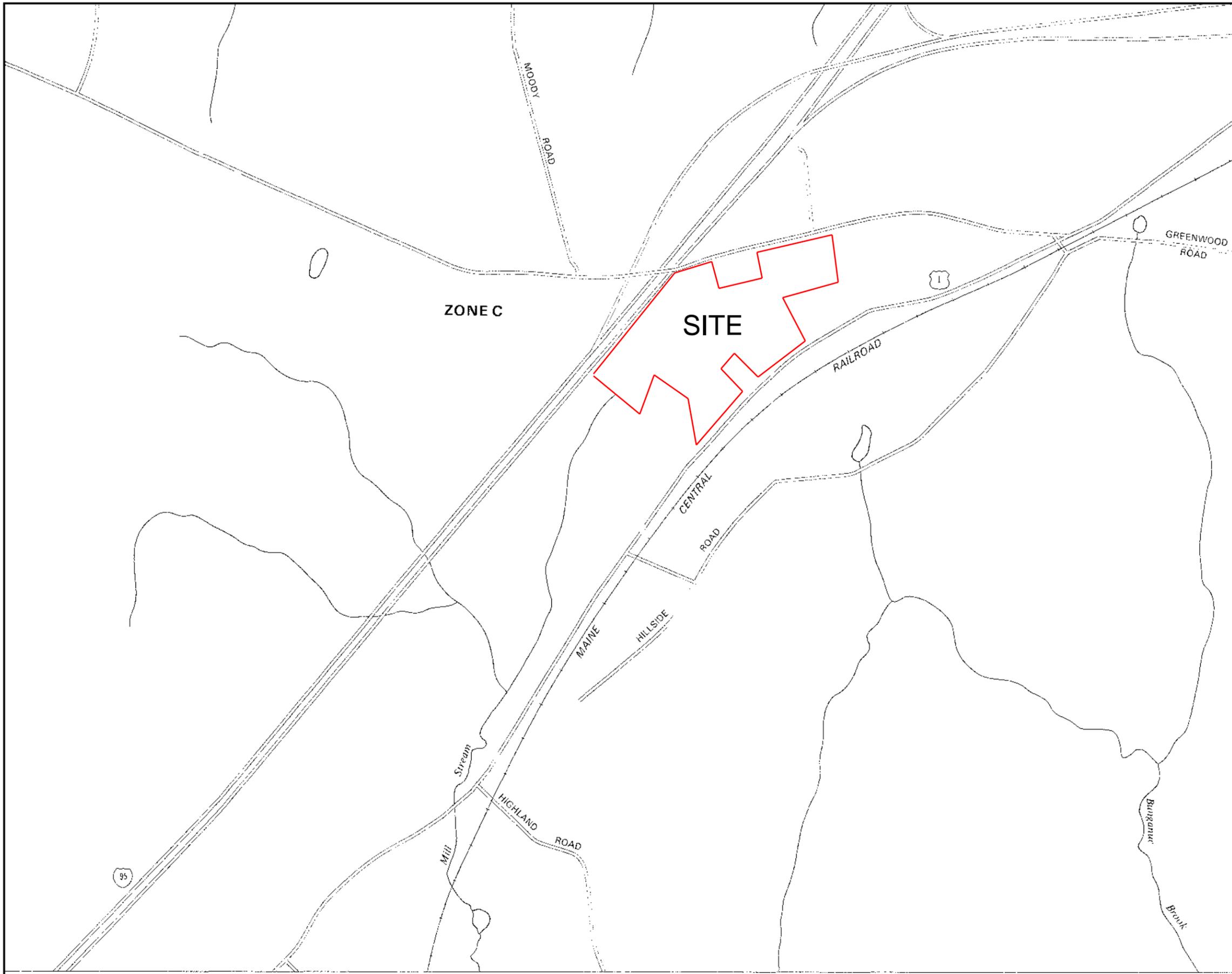
- Public Road
- Private Road
- ROW
- Water
- Hydrography Line
- ROW Property Access
- Other Road
- Town Boundary
- Other Lot Boundary
- Parcels Lines

Disclaimer:  
The information is provided as a reasonably accurate point of reference, but is not guaranteed and is not to be used for conveyances.  
The Town of Brunswick shall not be held responsible for the accuracy or misuse of this data.  
Copyright Town of Brunswick.



1 inch = 300 feet

Revised To: April 1, 2014  
Maps Prepared by:  
Town of Brunswick



APPROXIMATE SCALE  
 1000 0 1000 F

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
 FLOOD INSURANCE RATE MAP

TOWN OF  
**BRUNSWICK, MAINE**  
 CUMBERLAND COUNTY

PANEL 10 OF 35  
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER  
 230042 0010 B

EFFECTIVE DATE:  
 JANUARY 3, 1986



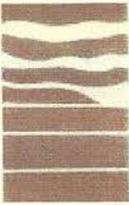
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment G**  
**Soils Data**

A copy of the Soil Narrative Report, along with the soil profiles, and a High-Intensity Soils Map & Subsurface Wastewater Disposal Plan from Albert Frick Associates, Inc. are enclosed for reference.



**Albert Frick Associates, Inc**

**Environmental Consultants**

95A County Road Gorham, Maine 04038  
(207) 839-5563 FAX (207) 839-5564  
[www.albertfrick.com](http://www.albertfrick.com) [info@albertfrick.com](mailto:info@albertfrick.com)

Albert Frick, SS, SE  
James Logan, SS, SE  
Matthew Logan, SE  
Brady Frick, SE  
Bryan Jordan, SE  
William O'Connor, SE  
Noel Dunn, Office Manager

MOORE PROPERTIES  
U.S. Route 1 (Old Portland Road)  
Brunswick

SOIL NARRATIVE REPORT

September 2015

DATE: Soil profiles observed on October 13 & 14, 1999, December 17 & 22, 2008, January 6 and February 5, 2009, and July 31, 2015, and August 27, 2015.

BASE MAP: Contour map -foot intervals, scaled 1"='', provided by .

GROUND CONTROL: Test pits located by .

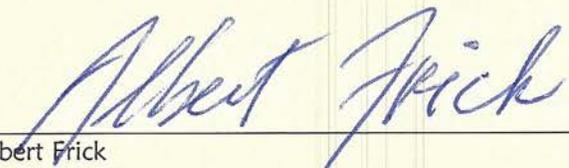
THE SOIL MAPPING CONFORMS WITH A HIGH-INTENSITY CLASS A SURVEY.

Class A - Soil Survey

1. Mapping units of 1/8 acre or greater.
2. Scale of 1" = 100' or larger.
3. Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
4. Ground control - base line and test pits located by land surveyor.
5. Base map with 2' contour lines.

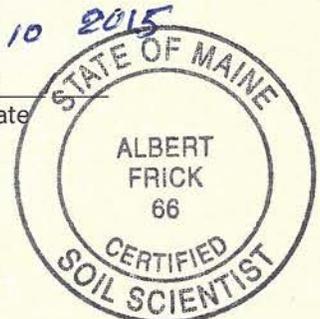
This was prepared for a commercial subdivision of land utilizing public sewer and water.

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

  
Albert Frick

C.S.S. #66, S.E. #163

9 10 2015 /  
Date



# ADAMS (Typic Haplorthods)

## SETTING

Parent Material:	Derived from outwash, stratified drift material.
Landform:	Occupy outwash terraces and sand plains, deltas, lake plains, moraines, terraces and eskers.
Position in Landscape:	Usually occupies the upper positions of landform.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8% (C) 8-20% (D) 20%+

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat excessively to excessively well drained, with no evidence of high groundwater table within 3.5 feet of the soil surface.	
Typical Profile Description:	Surface layer:	Pinkish gray sand, 0-4"
	Subsurface layer:	Dark brown loamy sand, 4-10"
	Subsoil layer:	Brown & yellowish brown sand, 10-26"
	Substratum:	Grayish brown sand, 26-70"
Hydrologic Group:	Group A	
Surface Run Off:	Very slow to medium	
Permeability:	Rapid or very rapid	
Depth to Bedrock:	Very deep, greater than sixty inches	
Hazard to Flooding:	None	

## INCLUSIONS (Within Mapping Unit)

Similar:	Soils that are fine sandy loam to very fine sandy loam to a depth of 20 inches, Colton.
Dissimilar:	Croghan, Eldridge, Nicholville

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** Adams soil is suitable for subsurface wastewater disposal in accordance with State of Maine Rules for Subsurface Wastewater Disposal. This soil requires a 24-inch separation distance from the bottom of the disposal area and the seasonal high groundwater table. This soil requires a minimum hydraulic loading rate of 2.6 square feet/gpd for disposal system design. Adams soil is suited for building site development.

# CROGHAN

(Aquic Haplorthods)

## SETTING

Parent Material:	Derived from outwash or deltaic sand.
Landform:	Occupy outwash terraces and sand plains.
Position in Landscape:	Usually are found in intermediate or upper positions in the landscape.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20%

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well-drained, with an apparent water table 1.5 to 2.0 feet below the soil surface from November through May. The water table fluctuates from approximately 1.5 feet during prolonged wet periods to depths greater than 4 feet in dry seasons.
Typical Profile Description:	Surface layer: Dark brown sand, 0-7" Subsurface layer: Strong brown/yellowish brown, brown & pale brown sand with mottles below 13", 7-52" Substratum: Grayish brown loose sand, 52-60"
Hydrologic Group:	Group B
Surface Run Off:	Slow to medium
Permeability:	Rapid to very rapid in the lower horizons.
Depth to Bedrock:	Deep, greater than 40".
Hazard to Flooding:	None

## INCLUSIONS

(Within Mapping Unit)

Similar:	Adams, Duane
Dissimilar:	Eldridge, Nicholville, Naumburg

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to the presence of a groundwater table. Proper foundation drainage or site modification is recommended. Croghan soils are suitable for subsurface wastewater disposal in accordance with State of Maine Rules for Subsurface Wastewater Disposal. This soil requires a 24-inch separation distance from the bottom of the disposal area and the seasonal high groundwater table. This soil requires a minimum hydraulic loading rate of 2.6 and 1.3 sq.ft/gpd for disposal beds and chamber area, respectively.

# ELDRIDGE (Elmwood) (Mesic Aquic Udorthents)

## SETTING

Parent Material:	Sandy glaciofluvial deposits underlain by loamy or clayey marine or lacustrine sediments.
Landform:	Glacial lake plains, terraces, and glacial outwash areas.
Position in Landscape:	Intermediate to upper positions in landform.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8% (C) 8-20%

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well drained with an apparent water table 1.5 to 4.0 feet beneath the soil surface from November through May, or during periods of heavy precipitation.
Typical Profile Description:	Surface layer: Dark brown sandy loam or loamy sand, 0-9" Subsurface layer: Yellowish brown loamy sand, 9-17" Subsoil layer: Light brown loamy sand, 17-27" Substratum: Olive very fine sand, silt, or silty clay, 27-65"
Hydrologic Group:	Group C
Surface Run Off:	Moderately rapid to rapid
Permeability:	Rapid in the solum and moderately slow or slow in substratum.
Depth to Bedrock:	Deep, greater than 40".
Hazard to Flooding:	None

## INCLUSIONS (Within Mapping Unit)

Similar:	Adams
Dissimilar:	Naumburg (P.D.), Lamoine, Nicholville (SWP)

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to the presence of a water table within 1.5 feet of the soil surface. Proper foundation drainage or other site modification is recommended for houses with foundations. This map unit is unsuitable for subsurface wastewater disposal in accordance with the State of Maine Subsurface Wastewater Disposal Rules.

# ENOSBURG (Swanton) (Mesic Aeric Haplaquepts)

## SETTING

Parent Material:	Formed from a thin mantle of sandy outwash materials over clayey marine or lacustrine sediments.
Landform:	Nearly level or gently sloping areas on marine or lake plains, outwash plains or deltas.
Position in Landscape:	Lower to intermediate positions in landform.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat poorly to poorly drained, with an apparent table 0.5 to 1.5 feet beneath the soil surface.
Typical Profile	Surface layer: Very dark gray sandy loam or loamy sand, 0-7"
Description:	Subsurface layer: Grayish brown sandy loam, loamy sand, or sand, 7-22"
	Subsoil layer: Olive silty clay loam, 22-30"
	Substratum: Olive silty clay, 30-60"
Hydrologic Group:	Group C/D
Surface Run Off:	Slow or medium
Permeability:	Moderately rapid to rapid in the sandy mantle, slow or very slow in the clayey sediments.
Depth to Bedrock:	Deep, greater than 40".
Hazard to Flooding:	May be ponded periodically during spring and periods of excessive rainfall.

## INCLUSIONS (Within Mapping Unit)

Similar:	Scantic, Naumburg
Dissimilar:	Whately, Searsport

## USE AND MANAGEMENT

Development with subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of a shallow groundwater table. Proper foundation drainage or building site modification is recommended. This soil is not suitable for subsurface wastewater disposal, in accordance with the State of Maine Subsurface Wastewater Disposal Rules. Enosburg (poorly drained) may be classified as wetlands, based on the combined consideration of hydric conditions, hydrology, and vegetation.

## FILLED LAND

### SETTING

Parent Material: Variable  
Landform: N/A  
Position in Landscape: N/A  
Slope Gradient Ranges: (A) 0-3% (B) 3-8%

### COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: N/A  
Typical Profile Description: Surface layer: )  
Subsurface layer: ) Typically loamy sand  
Subsoil layer: ) and gravelly sand fill  
Substratum: )  
Hydrologic Group: Not assigned a hydrologic group due to variability.  
Surface Run Off: Variable  
Permeability: Variable  
Depth to Bedrock: N/A  
Hazard to Flooding: None

### INCLUSIONS (Within Mapping Unit)

Similar: Made Land  
Dissimilar: None

# LAMOINE (Aeric Haplaquepts)

## SETTING

Parent Material:	Lacustrine or marine sediments.
Landform:	Lake or marine, coastal plains or terraces.
Position in Landscape:	Intermediate positions in landform.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20% (D) 20%+

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat poorly drained, with a perched water table 1.0 to 1.5 feet below the soil surface from November through May, and during periods of excessive precipitation.
Typical Profile Description:	Surface layer: Dark brown silt loam, 0-7" Subsurface layer: Light olive brown or yellowish brown silt loam, 7-12" Subsoil layer: Light olive brown and olive silty clay loam, 12-21" Substratum: Olive silty clay, 21-65"
Hydrologic Group:	Group D
Surface Run Off:	Medium
Permeability:	Moderate or moderately slow in surface layer, moderately slow or slow in subsoil, and slow or very slow in the dense substratum.
Depth to Bedrock:	Deep, greater than 40".
Hazard to Flooding:	None

## INCLUSIONS (Within Mapping Unit)

Similar:	Buxton, Elmwood (S.W.P.)
Dissimilar:	Scantic, Swanton

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to the presence of a water table within 1.5 feet of the soil surface for a significant portion of the year. Proper foundation drainage or other site modification is recommended for construction. Lamoine soil (with groundwater table 12"-15" below mineral soil surface, outside Shoreland Zoned areas), may meet the minimum requirements for subsurface wastewater disposal as defined by the State of Maine Rules for Subsurface Wastewater Disposal. The required separation distance between the bottom of proposed disposal systems and the seasonal high groundwater table is 18".

# NICHOLVILLE (Aquic Haplorthods)

## SETTING

Parent Material:	Lacustrine material having a high content of silt and fine sand.
Landform:	Commonly found on lake plains and upland till plains that have a mantle of water-deposited silt or very fine sand.
Position in Landscape:	Intermediate and upper portions of landscape feature.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20% (D) 20+%

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well drained, with a perched water table 1.5 to 2.0 feet below the soil surface from November through May.								
Typical Profile Description:	<table><tr><td>Surface layer:</td><td>Very dark grayish brown silt loam, 0-10"</td></tr><tr><td>Subsurface layer:</td><td>Dark yellowish brown silt loam, 10-13"</td></tr><tr><td>Subsoil layer:</td><td>Yellowish brown and grayish brown very fine sandy loam, 13-18"</td></tr><tr><td>Substratum:</td><td>Grayish brown loamy very fine sand, 18-70"</td></tr></table>	Surface layer:	Very dark grayish brown silt loam, 0-10"	Subsurface layer:	Dark yellowish brown silt loam, 10-13"	Subsoil layer:	Yellowish brown and grayish brown very fine sandy loam, 13-18"	Substratum:	Grayish brown loamy very fine sand, 18-70"
Surface layer:	Very dark grayish brown silt loam, 0-10"								
Subsurface layer:	Dark yellowish brown silt loam, 10-13"								
Subsoil layer:	Yellowish brown and grayish brown very fine sandy loam, 13-18"								
Substratum:	Grayish brown loamy very fine sand, 18-70"								
Hydrologic Group:	Group C								
Surface Run Off:	Medium								
Permeability:	Moderate throughout the profile.								
Depth to Bedrock:	Very deep, greater than 60".								
Hazard to Flooding:	None								

## INCLUSIONS (Within Mapping Unit)

Similar:	Croghan, Elmwood
Dissimilar:	Buxton, Roundabout

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to the presence of a water table. Proper foundation drainage or site modification is recommended for construction. Nicholville soil meets the minimum criteria for subsurface wastewater disposal in accordance with State of Maine Rules for Subsurface Wastewater Disposal. This soil requires a 12-inch separation from the bottom of the disposal area and the seasonal high groundwater table. This soil requires 4.0 and 2.0 sq.ft/gpd for disposal beds and chambers, respectively.

# NICHOLVILLE (S.W.P.)

## SETTING

Parent Material:	Lacustrine material having a high content of silt and fine sand.
Landform:	Commonly found on lake plains and upland till plains that have a mantle of water-deposited silt or very fine sand.
Position in Landscape:	Intermediate portion of landscape feature.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20% (D) 20%+

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Nicholville (S.W.P.) is somewhat poorly drained, with a perched water table 0.5 to 1.5 feet below the soil surface from November through May and during periods of heavy precipitation.	
Typical Profile Description:	Surface layer:	Very dark grayish brown silt loam, 0-10"
	Subsurface layer:	Dark yellowish brown silt loam, 10-13"
	Subsoil layer:	Yellowish brown and grayish brown very fine sandy loam, 13-18"
	Substratum:	Grayish brown loamy very fine sand, 18-70"
Hydrologic Group:	Group C	
Surface Run Off:	Medium	
Permeability:	Moderate throughout profiles.	
Depth to Bedrock:	Very deep, greater than 60".	
Hazard to Flooding:	None	

## INCLUSIONS (Within Mapping Unit)

Similar:	Nicholville, Naumburg (S.W.P.), Lamoine
Dissimilar:	Roundabout, Scantic

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to the presence of a high groundwater table. Proper foundation drainage or site modification is recommended. Nicholville (S.W.P.) may be suitable for subsurface wastewater disposal when the seasonal groundwater table is 12" or greater below the existing soil surface, outside shoreland zone areas.

# ROUNABOUT (Aeric Haplaquepts)

## SETTING

Parent Material:	Derived from lacustrine and marine sediments.
Landform:	Low-lying lake or marine plains.
Position in Landscape:	Nearly level areas in lower portions of landscape.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%

## COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Roundabout soils are somewhat poorly to poorly drained, and exhibit a perched water table 0.5 to 1.5 feet below the soil surface from November through May and during periods of excessive wetness.
Typical Profile Description:	Surface layer: Dark brown silt loam, few mottles, 0-7" Subsurface layer: Olive brown and grayish brown silt loam, many mottles, 7-26" Subsoil layer: Olive gray very fine sandy loam, many mottles, 26-30" Substratum: Olive silt loam, common mottles, 30-65"
Hydrologic Group:	Group C
Surface Run Off:	Slow to medium
Permeability:	Moderate to moderately slow in upper horizons, moderately slow to slow in the medium textured substratum, and moderately rapid to rapid in the coarser textured substratum.
Depth to Bedrock:	Deep, greater than 40".
Hazard to Flooding:	None

## INCLUSIONS (Within Mapping Unit)

Similar:	Nicholville (SWP), Naumburg
Dissimilar:	Whately

## USE AND MANAGEMENT

**Development with subsurface wastewater disposal:** The limiting factor for building site development is wetness due to a high water table for some portion of the year. Proper foundation drainage or site modification is recommended for construction. Roundabout soil is unsuitable for subsurface wastewater disposal in accordance with State of Maine Rules for Subsurface Wastewater Disposal. Roundabout soil may be classified as wetlands based upon the combined consideration of hydric conditions, hydrology, and vegetation.



# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services  
Division of Health Engineering

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1 (OLD PORTLAND ROAD)**

Owner's Name  
**WILLIAM MOORE**

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

Observation Hole TP 5  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
20	FINE SAND TO LOAMY SAND	FIRM	OLIVE	COMMON, DISTINCT
30				
40				
50				

Soil Classification: Profile B Condition C Slope \_\_\_\_\_% Limiting Factor 17"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**NICHOLVILLE**

Observation Hole TP 6  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK	
			BROWN	
10	SILTY LOAM	FRIABLE	LIGHT YELLOW BROWN	
20	SILTS TO VERY FINE SAND	FIRM	LIGHT OLIVE OLIVE BROWN	FEW, FAINT COMMON, DISTINCT
30				
40				
50				

Soil Classification: Profile B Condition D Slope \_\_\_\_\_% Limiting Factor 11"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**NICHOLVILLE SWP**

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

Observation Hole TP 7  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY SAND	FRIABLE	DARK YELLOW BROWN	
20	SAND		LIGHT BROWN	
30				FEW, FAINT
40	SILTY CLAY	FIRM	OLIVE	
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope \_\_\_\_\_% Limiting Factor 30"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**ELDRIDGE**

*Albert Frick*  
Site Evaluator Signature

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SE/CSS\*

10/13/99  
Date

Observation Hole TP 8  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY SAND	FRIABLE	DARK YELLOW BROWN	
20	SAND		PALE BROWN	
30				
40				
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition B Slope \_\_\_\_\_% Limiting Factor \_\_\_\_\_"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**ADAMS**

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services  
Division of Health Engineering

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1 (OLD PORTLAND ROAD)**

Owner's Name  
**WILLIAM MOORE**

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

Observation Hole TP 9  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY		DARK	
LOAM		BROWN	
LOAMY SAND	FRIABLE	DARK YELLOW BROWN	
SAND		PALE BROWN	
SAND			FEW, FAINT
LIMIT OF EXCAVATION			

Soil Classification Profile <b>S</b>	Slope <b>C/B</b> Condition	Limiting Factor <b>42</b> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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ADAMS

Observation Hole TP 10  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILTY		DARK BROWN	
LOAM	FRIABLE	BROWN	
SILTS	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification Profile <b>B</b>	Slope <b>D</b> Condition	Limiting Factor <b>7</b> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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NICHOLVILLE SWP

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

Observation Hole TP 11  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY		DARK BROWN	
LOAM			
LOAMY SAND	FRIABLE	DARK YELLOW BROWN	
SAND		LIGHT OLIVE BROWN	
SAND			FEW, FAINT
LIMIT OF EXCAVATION			

Soil Classification Profile <b>S</b>	Slope <b>C/B</b> Condition	Limiting Factor <b>42</b> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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ADAMS

*Albert Frick*  
Site Evaluator Signature

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SE/CSS\*

Observation Hole TP 12  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILTY CLAY		OLIVE	
SANDY LOAM	FRIABLE		COMMON, DISTINCT
	FIRM		
LIMIT OF EXCAVATION			

Soil Classification Profile <b>FILL OVER</b>	Slope _____ Condition	Limiting Factor <b>15</b> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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NICHOLVILLE SWP

10/13/99  
Date

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services  
Division of Health Engineering

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1 (OLD PORTLAND ROAD)**

Owner's Name  
**WILLIAM MOORE**

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

Observation Hole **TP 13**  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY			
LOAM			
	FRIABLE		COMMON, DISTINCT
SANDS			
			△△△ FREE WATER

Soil Classification: **NAUMBURG**  
Slope: \_\_\_\_\_%  
Limiting Factor: **8"**  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**SWP**

Observation Hole **TP 14**  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILTY		OLIVE	COMMON, DISTINCT
LOAM	FRIABLE	GRAY	
VERY FINE SANDY LOAM	FIRM		△△△ FREE WATER

Soil Classification: **B D**  
Slope: \_\_\_\_\_%  
Limiting Factor: **4"**  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**ROUNABOUT**

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

Observation Hole **TP 15**  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
		DARK BROWN	
FINE SANDY LOAM	FRIABLE	LIGHT OLIVE BROWN	FEW, FAINT
			COMMON, DISTINCT
	FIRM	OLIVE	
LIMIT OF EXCAVATION			

Soil Classification: **B D**  
Slope: \_\_\_\_\_%  
Limiting Factor: **10"**  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**NICHOLVILLE SWP**

*Albert Frick*  
Site Evaluator Signature

Observation Hole **TP 16**  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
		DARK BROWN	
SANDY LOAM	FRIABLE	YELLOW BROWN	
		OLIVE BROWN	FEW, FAINT
	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: **B C**  
Slope: \_\_\_\_\_%  
Limiting Factor: **15"**  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

**NICHOLVILLE**

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# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services  
Division of Health Engineering

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1 (OLD PORTLAND ROAD)**

Owner's Name  
**WILLIAM MOORE**

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

Observation Hole TB 17  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY		DARK	
	SAND		YELLOW	
		FRIABLE	BROWN	
20				
	SANDS			
30				
40				
	LIMIT OF EXCAVATION			
50				

Soil Classification <b>S</b> Profile <b>B</b> Condition	Slope ____%	Limiting Factor " "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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**ADAMS**

Observation Hole TB 18  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY		DARK	
	SAND TO SAND	FRIABLE	YELLOW	
			BROWN	
20				
30				
40				
50				

Soil Classification <b>S</b> Profile <b>B</b> Condition	Slope ____%	Limiting Factor " "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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**ADAMS**

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

Observation Hole TP 19  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY			
	LOAM			
10	LOAMY			
	SAND			
		FRIABLE		
20				
	SAND			
30				
				FEW, FAINT
40				
50				

Soil Classification <b>S</b> Profile <b>C</b> Condition	Slope ____%	Limiting Factor " <b>28</b> "	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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**CROGHAN**

Observation Hole TP 20  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY		DARK	
	LOAM		BROWN	
10	LOAMY		DARK	
	SAND	FRIABLE	YELLOW	
			BROWN	
20			PALE	
	FINE SAND		BROWN	
30				
				FEW, FAINT
40				
50				

Soil Classification <b>S</b> Profile <b>C</b> Condition	Slope ____%	Limiting Factor " <b>40</b> "	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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**CROGHAN/ADAMS**

*Albert Frick*  
Site Evaluator Signature

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**10/13/99**  
Date

Town, City, Plantation  
BRUNSWICK

Street, Road Subdivision  
US ROUTE 1 & DURHAM ROAD

Owner's Name  
MOORE PROPERTIES

TEST PITS EXCAVATED BY BACKHOE

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

Observation Hole TP 21  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND		STRONG BROWN	
COARSE SAND	FRIABLE		
MEDIUM SAND		YELLOWISH BROWN	
SILTY CLAY	FIRM	OLIVE	FEW FAINT
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 30"

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

Observation Hole TP 22  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FROZEN		
FINE SAND	FRIABLE	YELLOWISH BROWN	
MEDIUM SAND		LIGHT YELLOWISH BROWN	
LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition B Slope     % Limiting Factor     "

Soil Series Name: ADAMS Drainage Class: SOMEWHAT EXCESSIVELY Hydrologic Group: A

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

Observation Hole TP 23  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND			
FINE SAND	FRIABLE	YELLOWISH BROWN	
MEDIUM COARSE SAND		LIGHT YELLOWISH BROWN	
(LIMIT OF EXCAVATION @ 72")			

Soil Classification: Profile 5 Condition B Slope     % Limiting Factor     "

Soil Series Name: ADAMS Drainage Class: SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 24  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	STRONG BROWN	
MEDIUM SAND		YELLOWISH BROWN	
		LIGHT OLIVE BROWN	(FEW FAINT @ 56")
(LIMIT OF EXCAVATION @ 72")			

Soil Classification: Profile 5 Condition B Slope     % Limiting Factor     "

Soil Series Name: ADAMS Drainage Class: SOMEWHAT EXCESSIVELY Hydrologic Group: A

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

163/66  
SE/CSS #

12/17/08  
Date

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**US ROUTE 1 & DURHAM ROAD**

Owner's Name  
**MOORE PROPERTIES**

**TEST PITS EXCAVATED BY BACKHOE**

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

Observation Hole TP 25  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
MEDIUM SAND		LIGHT YELLOWISH BROWN	
		PALE OLIVE	
LIMIT OF EXCAVATION			

Soil Classification: S B  
 Profile Condition %  
 Limiting Factor "  Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 26  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOWISH BROWN	
COARSE SAND			FEW FAINT COMMON DISTINCT
SILTS	FIRM		△△△ FREE WATER
LIMIT OF EXCAVATION			

Soil Classification: 7 C  
 Profile Condition %  
 Limiting Factor 15 "  Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

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

Observation Hole TP 27  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
		GRAY	
		STRONG BROWN	
LOAMY SAND	FRIABLE	OLIVE BROWN	FEW FAINT
		OLIVE	△△△ FREE WATER
SILTS	FIRM		
LIMIT OF EXCAVATION			

Soil Classification: 7 D  
 Profile Condition %  
 Limiting Factor 10 "  Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ENOSBURG Drainage Class: POORLY Hydrologic Group: C

Observation Hole TP 28  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
COARSE SAND (FILL)			
SANDY LOAM TO SILT	FRIABLE		
			FEW FAINT COMMON DISTINCT
	FIRM		△△△ FREE WATER
LIMIT OF EXCAVATION			

Soil Classification: 12 C  
 Profile Condition %  
 Limiting Factor 18 "  Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: FILLED LAND Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

OVER ROUNDABOUT

FOR WASTEWATER DISPOSAL  
 FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
 FOR SOILS MAPPING

*Albert Frick*  
 Site Evaluator / Soil Scientist Signature

163/66  
 SE/CSS

12/17/08  
 Date

Town, City, Plantation  
BRUNSWICK

Street, Road Subdivision  
US ROUTE 1 & DURHAM ROAD

Owner's Name  
MOORE PROPERTIES

TEST PITS EXCAVATED BY BACKHOE

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

Observation Hole TP 29  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOWISH BROWN	
MEDIUM SAND		LIGHT YELLOWISH BROWN	
SILTS			FEW FAINT
SILTY CLAY	FIRM	OLIVE	COMMON DISTINCT

Soil Classification: Profile 7 Condition C Limiting Factor 22"  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

Observation Hole TP 30  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
FINE SANDY LOAM		DARK BROWN	
SILTS	FRIABLE	OLIVE BROWN	FEW FAINT COMMON DISTINCT
SILTY CLAY	VERY FIRM	OLIVE GRAY	FREE WATER

Soil Classification: Profile 7 Condition C Limiting Factor 10"  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: LAMOINE/NICHOLVILLE Drainage Class: SWP Hydrologic Group: D

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

Observation Hole TP 31  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
MEDIUM SAND		LIGHT YELLOWISH BROWN	
		PALE OLIVE	

Soil Classification: Profile 5 Condition B Limiting Factor "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: ADAMS Drainage Class: SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 32  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	STRONG BROWN	
SAND		YELLOWISH BROWN	
		LIGHT OLIVE BROWN	FEW FAINT
		OLIVE	COMMON DISTINCT
SILTS			FREE WATER

Soil Classification: Profile 7 Condition C Limiting Factor 22"  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

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**BRUNSWICK**

Street, Road Subdivision  
**US ROUTE 1 & DURHAM ROAD**

Owner's Name  
**MOORE PROPERTIES**

**TEST PITS EXCAVATED BY BACKHOE**

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

Observation Hole TP 37  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10				
20	LOAMY SAND	FRIABLE	YELLOWISH BROWN	
30	FINE SAND		LIGHT BROWN	FEW FAINT
40				COMMON DISTINCT
45	LIMIT OF EXCAVATION			
50				

Soil Classification <b>S</b> <b>C</b>	Slope %	Limiting Factor <b>26"</b>	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Profile Condition			
Soil Series Name: <b>CROGHAN</b>	Drainage Class: <b>MODERATELY WELL DRAINED</b>	Hydrologic Group: <b>B</b>	

Observation Hole TP 38  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10				
20	LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
30	MEDIUM SAND		LIGHT BROWN	
40				
45	LIMIT OF EXCAVATION			
50				

Soil Classification <b>S</b> <b>B</b>	Slope %	Limiting Factor "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Profile Condition			
Soil Series Name: <b>ADAMS</b>	Drainage Class: <b>SOMEWHAT EXCESSIVELY</b>	Hydrologic Group: <b>A</b>	

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

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

Observation Hole TP 39  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10				
20	LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
30			LIGHT YELLOWISH BROWN	
40	FINE & MEDIUM SAND		LIGHT OLIVE BROWN OLIVE	FEW FAINT COMMON DISTINCT & ΔΔΔ
50				

Soil Classification <b>S</b> <b>C</b>	Slope %	Limiting Factor <b>36"</b>	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Profile Condition			
Soil Series Name: <b>CROGHAN</b>	Drainage Class: <b>MODERATELY WELL DRAINED</b>	Hydrologic Group: <b>B</b>	

Observation Hole TP 40  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	STUMPS AND WOODY DEBRIS		VARIABLE DARK BROWN	
20	SANDY LOAM	FRIABLE	DARK BROWN	
30	LOAMY SAND		DARK YELLOWISH BROWN	
40			LIGHT YELLOWISH BROWN	(FREE WATER @ 52")
50	FINE & MEDIUM SAND		LIGHT OLIVE BROWN	FEW FAINT

Soil Classification <b>S</b> <b>C</b> FILL OVER	Slope %	Limiting Factor <b>26"</b>	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Profile Condition			
Soil Series Name: <b>CROGHAN</b>	Drainage Class: <b>MODERATELY WELL DRAINED</b>	Hydrologic Group: <b>B</b>	

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

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Owner's Name  
MOORE PROPERTIES

TEST PITS 41 & 42 EXCAVATED BY BACKHOE

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

Observation Hole TP 41  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
LOAMY SAND		DARK BROWN	
FINE & MEDIUM SAND	FRIABLE	DARK YELLOWISH BROWN	
		LIGHT YELLOWISH BROWN	
		LIGHT OLIVE BROWN	FEW FAINT
		OLIVE	COMMON DISTINCT ΔΔΔ FREE WATER

Soil Classification: Profile S Condition C Slope     % Limiting Factor 28"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: CROGHAN Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: B

Observation Hole TP 42  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
FINE SAND	FRIABLE	DARK YELLOWISH BROWN	
MEDIUM SAND		LIGHT YELLOWISH BROWN	FEW FAINT
SILTS	FIRM	OLIVE	ΔΔΔ FREE WATER

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 24"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

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

Observation Hole TP 43  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
		LIGHT YELLOWISH BROWN	FEW FAINT
LOAMY FINE SAND & SILT	FIRM	LIGHT OLIVE BROWN	COMMON DISTINCT

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 24"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

Observation Hole TB 44  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	DARK YELLOWISH BROWN	
SAND		LIGHT BROWN	
SILTS TO FINE SAND	FIRM	LIGHT OLIVE BROWN	FEW FAINT

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 24"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

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

Observation Hole TP 45  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FROZEN	DARK BROWN	
LOAMY SAND		DARK YELLOWISH BROWN	
FINE AND MEDIUM SANDS	FRIABLE	YELLOWISH BROWN	

Soil Classification: 5 Profile, B Condition  
 Slope: \_\_\_\_\_ %  
 Limiting Factor: 24"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS  
 Drainage Class: SOMEWHAT EXCESSIVELY  
 Hydrologic Group: A

Observation Hole TP 46  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FROZEN	DARK BROWN	
LOAMY SAND		DARK YELLOWISH BROWN	
FINE SAND	FRIABLE	LIGHT YELLOWISH BROWN	

Soil Classification: 5 Profile, B Condition  
 Slope: \_\_\_\_\_ %  
 Limiting Factor: 20"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS  
 Drainage Class: SOMEWHAT EXCESSIVELY  
 Hydrologic Group: A

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

Observation Hole TP 47  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FROZEN	DARK BROWN	
LOAMY SAND		DARK YELLOW BROWN	
FINE SAND	FRIABLE	LIGHT YELLOWISH BROWN	
LOAMY FINE SAND	SOEMWHAT FIRM TO FIRM	OLIVE BROWN	FEW, FAINT

Soil Classification: 7 Profile, C Condition  
 Slope: \_\_\_\_\_ %  
 Limiting Factor: 24"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE  
 Drainage Class: MODERATELY WELL  
 Hydrologic Group: C

Observation Hole TP 48  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FROZEN	DARK BROWN	
LOAMY SAND		DARK YELLOWISH BROWN	
FINE SAND	FRIABLE	LIGHT YELLOWISH BROWN	
LOAMY FINE SAND WITH FINE SAND	SOEMWHAT FIRM TO FIRM	LIGHT YELLOWISH BROWN	FEW, FAINT

Soil Classification: 7 Profile, C Condition  
 Slope: \_\_\_\_\_ %  
 Limiting Factor: 20"  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE  
 Drainage Class: MODERATELY WELL  
 Hydrologic Group: C

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FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING →

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING →

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

Observation Hole TP 49  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FROZEN	DARK BROWN	
10	LOAMY SAND		DARK YELLOWISH BROWN	
20		FRIABLE		
30	FINE SAND		YELLOWISH BROWN	
40	FINE SAND WITH LOAMY FINE SAND LENSES	FIRM	LIGHT OLIVE BROWN	FEW, FAINT

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 30"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL Hydrologic Group: C

Observation Hole \_\_\_\_\_  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile \_\_\_\_\_ Condition \_\_\_\_\_ Slope \_\_\_\_\_% Limiting Factor \_\_\_\_\_"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: \_\_\_\_\_ Drainage Class: \_\_\_\_\_ Hydrologic Group: \_\_\_\_\_

FOR WASTEWATER DISPOSAL →  
 FOR SOILS MAPPING →

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

Observation Hole \_\_\_\_\_  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile \_\_\_\_\_ Condition \_\_\_\_\_ Slope \_\_\_\_\_% Limiting Factor \_\_\_\_\_"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: \_\_\_\_\_ Drainage Class: \_\_\_\_\_ Hydrologic Group: \_\_\_\_\_

Observation Hole \_\_\_\_\_  Test Pit  Boring  
 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile \_\_\_\_\_ Condition \_\_\_\_\_ Slope \_\_\_\_\_% Limiting Factor \_\_\_\_\_"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: \_\_\_\_\_ Drainage Class: \_\_\_\_\_ Hydrologic Group: \_\_\_\_\_

FOR WASTEWATER DISPOSAL →  
 FOR SOILS MAPPING →

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**U.S. ROUTE 1**

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**MOORE PROPERTIES, INC.**

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

Observation Hole TP 50  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK BROWN	
		LIGHT YELLOW BROWN	FEW, FAINT
SILTY CLAY	FIRM	OLIVE BROWN	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification 9 D  
Profile Condition

Slope \_\_\_\_\_ %

Limiting Factor 10 "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

Observation Hole TP 51  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
FINE SAND		LIGHT BROWN	NONE EVIDENT
LIMIT OF EXCAVATION			

Soil Classification 5 B  
Profile Condition

Slope \_\_\_\_\_ %

Limiting Factor \_\_\_\_\_ "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL/  
SOMEWHAT EXCESSIVELY Hydrologic Group: A

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

Observation Hole TP 52  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	
FINE TO MEDIUM SANDS		LIGHT BROWN	NONE EVIDENT
LIMIT OF EXCAVATION			

Soil Classification 5 B  
Profile Condition

Slope \_\_\_\_\_ %

Limiting Factor \_\_\_\_\_ "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL/  
SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 53  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
FINE SAND		LIGHT OLIVE BROWN	NONE EVIDENT
LIMIT OF EXCAVATION			

Soil Classification 5 B  
Profile Condition

Slope \_\_\_\_\_ %

Limiting Factor \_\_\_\_\_ "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL/  
SOMEWHAT EXCESSIVELY Hydrologic Group: A

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

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

Observation Hole TP 54  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	
FINE SAND		LIGHT OLIVE BROWN	
			FEW, FAINT
LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING →

Soil Classification Profile <u>S</u> Condition <u>C</u>	Slope %	Limiting Factor <u>44"</u>	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Soil Series Name: <b>ADAMS</b>	Drainage Class: <u>WELL</u> SOMEWHAT EXCESSIVELY	Hydrologic Group: <u>A</u>	

Observation Hole TP 55  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	
FINE SAND		LIGHT OLIVE BROWN	NONE EVIDENT
LIMIT OF EXCAVATION			

Soil Classification Profile <u>S</u> Condition <u>B</u>	Slope %	Limiting Factor "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Soil Series Name: <b>ADAMS</b>	Drainage Class: <u>WELL</u> SOMEWHAT EXCESSIVELY	Hydrologic Group: <u>A</u>	

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

Observation Hole TP 56  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	NONE EVIDENT
FINE SAND		LIGHT YELLOW BROWN	
		LIGHT OLIVE BROWN	
LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING →

Soil Classification Profile <u>S</u> Condition <u>B</u>	Slope %	Limiting Factor "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Soil Series Name: <b>ADAMS</b>	Drainage Class: <u>WELL</u> SOMEWHAT EXCESSIVELY	Hydrologic Group: <u>A</u>	

Observation Hole TP 57  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	
		LIGHT YELLOW BROWN	FEW, FAINT
			COMMON, DISTINCT
SILTY CLAY	FIRM	OLIVE	
LIMIT OF EXCAVATION			

Soil Classification Profile <u>7</u> Condition <u>C</u>	Slope %	Limiting Factor <u>20"</u>	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Soil Series Name: <b>(VARIANT) ELDRIDGE</b>	Drainage Class: <u>MODERATELY WELL</u>	Hydrologic Group: <u>C</u>	

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

Observation Hole TP 58  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
		DARK BROWN	
SANDY LOAM	FRIABLE	LIGHT BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
	FIRM	OLIVE BROWN	COMMON, DISTINCT
SILT LOAM	LIMIT OF EXCAVATION		

Soil Classification: Profile B Condition D Slope     % Limiting Factor 12"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE (SWP) Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

Observation Hole TP 59  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
	FRIABLE	LIGHT YELLOW BROWN	FEW, FAINT
FINE SANDY LOAM		OLIVE	COMMON, DISTINCT
SILTS AND VERY FINE SAND	FIRM		
	LIMIT OF EXCAVATION		

Soil Classification: Profile B Condition D Slope     % Limiting Factor 13"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE (SWP) Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

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

Observation Hole TP 60  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
LOAMY FINE SAND			FEW, FAINT
SILTS	FIRM		COMMON, DISTINCT
	LIMIT OF EXCAVATION		

Soil Classification: Profile B Condition D Slope     % Limiting Factor 10"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE (SWP) Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

Observation Hole TP 61  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
FINE SANDY LOAM		DARK BROWN	
LOAMY FINE SAND	FRIABLE	LIGHT BROWN	
			COMMON, DISTINCT
SANDY LOAM	FIRM	LIGHT OLIVE BROWN	
	LIMIT OF EXCAVATION		

Soil Classification: Profile B Condition C Slope     % Limiting Factor 16"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE Drainage Class: MODERATELY WELL Hydrologic Group: C

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

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

Observation Hole TP 62  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	YELLOW BROWN	
20				
30	FINE SAND		LIGHT OLIVE BROWN	
40				FEW, FAINT
50	LIMIT OF EXCAVATION			

Soil Classification: Profile S Condition C Slope     % Limiting Factor 38"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: CROGHAN Drainage Class: MODERATELY WELL DRAINATED Hydrologic Group: B

Observation Hole TP 63  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	STRONG BROWN	
20				
30	MEDIUM SAND		YELLOW BROWN	NONE EVIDENT
40			LIGHT OLIVE BROWN	
50	LIMIT OF EXCAVATION			

Soil Classification: Profile S Condition B Slope     % Limiting Factor     "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL SOMEWHAT EXCESSIVELY Hydrologic Group: A

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

Observation Hole TP 64  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	GRAVELLY LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	FEW, FAINT
20	SILTS	FIRM	OLIVE BROWN	COMMON, DISTINCT
30	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 16"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL Hydrologic Group: C

Observation Hole TP 65  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	YELLOW BROWN	
20				
30	MEDIUM SAND		LIGHT BROWN	NONE EVIDENT
40				
50	LIMIT OF EXCAVATION			

Soil Classification: Profile S Condition B Slope     % Limiting Factor     "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL SOMEWHAT EXCESSIVELY Hydrologic Group: A

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

Site Evaluator / Soil Scientist Signature

*Albert Frick*

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SE/CSS \*

8/27/15  
Date

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**MOORE PROPERTIES, INC.**

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

Observation Hole TP 66  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
30	MEDIUM SAND		LIGHT BROWN	
40				FEW, FAINT
50	LIMIT OF EXCAVATION @52"			

Soil Classification: Profile 5 Condition C Slope     % Limiting Factor 44"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **ADAMS** Drainage Class: WELL/SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 67  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	STRONG BROWN	
20	MEDIUM SAND		LIGHT YELLOW BROWN	
40			LIGHT OLIVE BROWN	FEW, FAINT
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition C Slope     % Limiting Factor 35"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **CROGHAN** Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: B

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

Observation Hole TP 68  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY FINE SAND	FRIABLE	LIGHT YELLOW BROWN	
20	SAND		PALE BROWN	FEW, FAINT
30	SANDY LOAM	FIRM	OLIVE BROWN	
40	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 18"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **ELDRIDGE (VARIANT)** Drainage Class: MODERATELY WELL Hydrologic Group: C

Observation Hole TP 69  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
20	MEDIUM SAND		LIGHT BROWN	NONE EVIDENT
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition B Slope     % Limiting Factor     "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **ADAMS** Drainage Class: WELL/SOMEWHAT EXCESSIVELY Hydrologic Group: A

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

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FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

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

Observation Hole TP 70  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
	FRIABLE		
LOAMY SAND		YELLOW BROWN	
			COMMON, DISTINCT
SILTS	FIRM	LIGHT OLIVE	
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 16"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL Hydrologic Group: C

Observation Hole TP 71  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM			
	FRIABLE		
FINE SANDY LOAM	FIRM		FEW, FAINT
TO SILTS			COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 8 Condition D Slope     % Limiting Factor 12"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE (SWP) Drainage Class: MODERATELY WELL Hydrologic Group: C

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

Observation Hole TP 72  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
		YELLOW BROWN	
COARSE SAND	FRIABLE		FEW, FAINT
		OLIVE	
			COMMON, DISTINCT
SILTS	FIRM	OLIVE GRAY	
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 11"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL Hydrologic Group: C

Observation Hole TP 73  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	
			NONE EVIDENT
MEDIUM SAND			
		LIGHT YELLOW BROWN	
LIMIT OF EXCAVATION @52"			

Soil Classification: Profile 5 Condition B Slope     % Limiting Factor     "

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL / SOMEWHAT EXCESSIVELY Hydrologic Group: A

FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

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

Observation Hole TP 74  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
	FRIABLE		
LOAMY COARSE SAND		YELLOW BROWN	
SILTS	FIRM	OLIVE GRAY	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 20"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **ELDRIDGE** Drainage Class: **MODERATELY WELL** Hydrologic Group: **C**

Observation Hole TP 75  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
		STRONG BROWN	
LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
MEDIUM SAND		OLIVE BROWN	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition C Slope     % Limiting Factor 24"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **CROGHAN** Drainage Class: **MODERATELY WELL DRAINED** Hydrologic Group: **B**

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

Observation Hole TP 76  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND		DARK YELLOW BROWN	
	FRIABLE		
COARSE SAND		LIGHT YELLOW BROWN	
			FEW, FAINT
	FIRM	LIGHT OLIVE BROWN	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 28"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **(VARIANT) CROGHAN** Drainage Class: **MODERATELY WELL DRAINED** Hydrologic Group: **B**

Observation Hole TP 77  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
		YELLOW BROWN	
LOAMY SAND	FRIABLE		
MEDIUM SAND		LIGHT YELLOW BROWN	FEW, FAINT
			COMMON, DISTINCT
FINE SAND		OLIVE	
LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition C Slope     % Limiting Factor 30"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **CROGHAN** Drainage Class: **MODERATELY WELL DRAINED** Hydrologic Group: **B**

FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL

FOR SOILS MAPPING

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

Observation Hole TP 78  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10				
15	LOAMY SAND	FRIABLE	YELLOW BROWN	
20				
30	MEDIUM SAND		LIGHT OLIVE BROWN	COMMON, DISTINCT
50	LIMIT OF EXCAVATION			

Soil Classification: Profile S Condition C Slope     % Limiting Factor 30"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: CROGHAN Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: B

Observation Hole TP 79  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		BLACK	
5			DARK BROWN	
10	LOAMY SAND	FRIABLE	DARK YELLOW BROWN	FEW, FAINT
20				
25	FINE SANDY LOAM	FIRM	OLIVE GRAY	COMMON, DISTINCT
30				
30	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope     % Limiting Factor 15"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: ELDRIDGE (VARIANT) Drainage Class: MODERATELY WELL Hydrologic Group: C

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

Observation Hole       Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile      Condition      Slope     % Limiting Factor     "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name:      Drainage Class:      Hydrologic Group:     

Observation Hole       Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile      Condition      Slope     % Limiting Factor     "

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name:      Drainage Class:      Hydrologic Group:     

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

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

Observation Hole TP 101  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	SILT LOAM	FRIABLE	LIGHT BROWN	
10-20	SILTS	FIRM	LIGHT OLIVE BROWN	FEW, FAINT COMMON, DISTINCT
20-25	LIMIT OF EXCAVATION			
30-50				

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

Soil Classification: Profile B Condition D Slope      % Limiting Factor 10 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth  
Soil Series Name: (SWP) NICHOLVILLE Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

Observation Hole TP 102  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	SILT LOAM	FRIABLE	LIGHT BROWN	
10-20	SILTS	FIRM	LIGHT OLIVE BROWN OLIVE	FEW, FAINT COMMON, DISTINCT
20-25	LIMIT OF EXCAVATION			
30-50				

Soil Classification: Profile B Condition D Slope      % Limiting Factor 12 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth  
Soil Series Name: (SWP) NICHOLVILLE Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

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

Observation Hole TP 103  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	LOAM	FRIABLE	LIGHT BROWN	
10-20	SILT LOAM	FIRM	LIGHT OLIVE BROWN OLIVE	FEW, FAINT COMMON, DISTINCT
20-25	LIMIT OF EXCAVATION			
30-50				

FOR WASTEWATER DISPOSAL  
FOR SOILS MAPPING

Soil Classification: Profile 9 Condition D Slope      % Limiting Factor 10 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth  
Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

Observation Hole TP 104  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	SILT LOAM	FRIABLE	LIGHT BROWN	
10-20	SILTY CLAY	FIRM	LIGHT OLIVE BROWN OLIVE	FEW, FAINT COMMON, DISTINCT
20-25	LIMIT OF EXCAVATION			
30-50				

Soil Classification: Profile 9 Condition D Slope      % Limiting Factor 12 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth  
Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

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

Observation Hole TP 105  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	SILT LOAM	FRIABLE		
10-20			STRONG BROWN	
20-25			LIGHT BROWN	FEW, FAINT
25-30			LIGHT OLIVE BROWN	COMMON, DISTINCT
30-35	SILTS	FIRM		
35-50	LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D Slope     % Limiting Factor 14"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: (SWP) NICHOLVILLE Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

Observation Hole TP 106  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	FINE SANDY LOAM	FRIABLE		
10-20			GRAY (ALBIC)	
20-25	SILT LOAM		LIGHT BROWN	FEW, FAINT
25-30			OLIVE	COMMON, DISTINCT
30-35	SILTS	FIRM		
35-50	LIMIT OF EXCAVATION			

Soil Classification: Profile 8 Condition C Slope     % Limiting Factor 15"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: NICHOLVILLE Drainage Class: MODERATELY WELL Hydrologic Group: C

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

Observation Hole TP 107  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	SILT LOAM	FRIABLE		
10-20			LIGHT YELLOW BROWN	FEW, FAINT
20-25	SILTY CLAY	FIRM	OLIVE BROWN	COMMON, DISTINCT
25-30				
30-35	LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition C Slope     % Limiting Factor 12"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

Observation Hole TP 108  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
0-10	LOAM	FRIABLE		
10-20			LIGHT BROWN	
20-25	SILT LOAM		LIGHT OLIVE BROWN	FEW, FAINT
25-30				
30-35	SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
35-50	LIMIT OF EXCAVATION			

Soil Classification: Profile 8 Condition C Slope     % Limiting Factor 14"

- Ground Water
- Restrictive Layer
- Bedrock
- Pit Depth

Soil Series Name: (SWP) NICHOLVILLE Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

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

Observation Hole TP 109  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
LOAM	FRIABLE		
SILT LOAM			FEW, FAINT
SILTY CLAY	FIRM		COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D Slope     % Limiting Factor 12"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

Observation Hole TP 110  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D/E Slope     % Limiting Factor 8"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

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

Observation Hole TP 111  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
LOAM		DARK BROWN	
	FRIABLE		
SILT LOAM		YELLOW BROWN	
		LIGHT YELLOW BROWN	FEW, FAINT
SILTY CLAY LOAM	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D Slope     % Limiting Factor 12"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

Observation Hole TP 112  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE		
			FEW, FAINT
SILTY CLAY	FIRM		COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D Slope     % Limiting Factor 8"

Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: LAMOINE Drainage Class: SOMEWHAT POORLY Hydrologic Group: D

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

Observation Hole TP 113  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile B Condition D Slope      % Limiting Factor 8 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: (VARIANT) ROUNDABOUT Drainage Class: POORLY/SOMEWHAT POORLY Hydrologic Group: C

Observation Hole TP 114  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	DARK BROWN	
		LIGHT YELLOW BROWN	FEW, FAINT
SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 9 Condition D Slope      % Limiting Factor 8 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: (SWP) NICHOLVILLE Drainage Class: SOMEWHAT POORLY Hydrologic Group: C

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

Observation Hole TP 115  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK BROWN	
LOAMY SAND	FRIABLE	YELLOW BROWN	NONE EVIDENT
MEDIUM TO COARSE SAND		LIGHT OLIVE BROWN	
LIMIT OF EXCAVATION @62"			

Soil Classification: Profile 5 Condition B Slope      % Limiting Factor      "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: ADAMS Drainage Class: WELL/SOMEWHAT EXCESSIVELY Hydrologic Group: A

Observation Hole TP 116  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
SANDY LOAM			
LOAMY SAND	FRIABLE		FEW, FAINT
SILTY CLAY	FIRM		COMMON, DISTINCT
LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition C Slope      % Limiting Factor 18 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: ELDRIDGE Drainage Class: MODERATELY WELL DRAINED Hydrologic Group: C

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

163/66  
SE/CSS \*

7/31/5  
Date

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1**

Owner's Name  
**MOORE PROPERTIES, INC.**

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

Observation Hole TP 117  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE		
10				FEW, FAINT
20	SILTY CLAY	FIRM		COMMON, DISTINCT
30	LIMIT OF EXCAVATION			
40				
50				

Soil Classification: Profile B Condition C  
Slope:      %  
Limiting Factor: 15 "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **NICHOLVILLE** Drainage Class: **MODERATELY WELL** Hydrologic Group: **C**

Observation Hole TP 118  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		BLACK	
10				COMMON, DISTINCT
20	LOAMY SAND	FRIABLE	OLIVE GRAY	△△△ FREE WATER
30				
40	SILTS	FIRM		
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition E  
Slope:      %  
Limiting Factor: 6 "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **ENOSBURG** Drainage Class:      Hydrologic Group:     

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

Observation Hole TP 119  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	GRAY (ALBIC) LIGHT YELLOW BROWN	
20	MEDIUM SANDS		LIGHT BROWN	FEW, FAINT
30			OLIVE BROWN	COMMON, DISTINCT
40				△△△ FREE WATER
50	LIMIT OF EXCAVATION			

Soil Classification: Profile 5 Condition C  
Slope:      %  
Limiting Factor: 20 "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **CROGHAN** Drainage Class: **MODERATELY WELL DRAINED** Hydrologic Group: **B**

Observation Hole TP 120  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SAND (FILL)		LIGHT YELLOW BROWN	
10	ORGANIC	FRIABLE	BLACK	
20	LOAMY SAND		GRAY (ALBIC)	FEW, FAINT
30	SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
40	LIMIT OF EXCAVATION			
50				

Soil Classification: Profile 7 Condition D  
Slope:      %  
Limiting Factor: 8 "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Soil Series Name: **FILL OVER** Drainage Class:      Hydrologic Group:     

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

163/ 66  
SE/CSS \*

7/31/5  
Date

Town, City, Plantation  
**BRUNSWICK**

Street, Road Subdivision  
**U.S. ROUTE 1**

Owner's Name  
**MOORE PROPERTIES, INC.**

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

Observation Hole TP 121  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		BLACK	
10	LOAMY SAND	FRIABLE	OLIVE GRAY (ALBIC)	FEW, FAINT
20			OLIVE BROWN	
30	SILTY CLAY	FIRM	OLIVE	COMMON, DISTINCT
40	LIMIT OF EXCAVATION			

Soil Classification: Profile 7 Condition D Slope      % Limiting Factor 8 "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: **ENOSBURG** Drainage Class: **POORLY DRAINED** Hydrologic Group: **C**

Observation Hole TP 122  Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE		
20	ORGANIC		BLACK	
30	LOAMY SAND		GRAY (ALBIC)	FEW, FAINT
40	FINE SANDY LOAM	FIRM	YELLOW BROWN	COMMON, DISTINCT
45			OLIVE	
50	LIMIT OF EXCAVATION			

Soil Classification: Profile      Condition      Slope      % Limiting Factor      "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name: **FILL OVER ELDRIDGE** Drainage Class: **MODERATELY WELL DRAINED** Hydrologic Group: **D**

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

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

Observation Hole       Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile      Condition      Slope      % Limiting Factor      "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name:      Drainage Class:      Hydrologic Group:     

Observation Hole       Test Pit  Boring  
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: Profile      Condition      Slope      % Limiting Factor      "  Ground Water  Restrictive Layer  Bedrock  Pit Depth

Soil Series Name:      Drainage Class:      Hydrologic Group:     

FOR WASTEWATER DISPOSAL →  
FOR SOILS MAPPING →

*Albert Frick*  
Site Evaluator / Soil Scientist Signature

163/66  
SE/CSS #

7/31/15  
Date



**SOILS MAP LEGEND:**

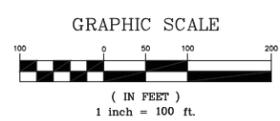
- SOIL TEST PIT (LOCATED BY SUBMETER GPS)
- POTENTIAL SUBSURFACE WASTEWATER DISPOSAL AREA
- SOIL BOUNDARY LINE
- LIMITS OF INVESTIGATION
- WETLAND AREA BY OTHER; WOODLOT ALTERNATIVES (STANTEC)

**SLOPE DESIGNATION**

- A 0 - 3%
- B 3 - 8%
- C 8 - 20%
- D 20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED SEPTEMBER, 2015

THE ACCOMPANYING SOILS SURVEY WAS DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED.



		DATE:	REVISIONS:	<b>HIGH INTENSITY SOILS MAP &amp; SUBSURFACE WASTEWATER DISPOSAL PLAN</b> PREPARED FOR <b>WILLIAM MOORE</b> <b>OLD PORTLAND ROAD</b> <b>BRUNSWICK, MAINE</b>	<b>Albert Frick Associates, Inc.</b> Environmental Consultants Gorham, Maine
		9/11/15	ADDITIONAL TEST PITS & SEPTIC LOCATIONS		

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment H**  
**Stormwater Management Plan**

A copy of the Stormwater Management Plan an associated attachments have been enclosed for reference.

**Spruce Meadows Subdivision  
Brunswick, Maine**

**STORMWATER MANAGEMENT PLAN**

**Introduction**

Moore Properties, Inc. proposes to develop the Spruce Meadows residential subdivision on 76.1± acres located between Old Portland Road (Route 1), Durham Road, and Interstate 295 in Brunswick. At this time, the applicant is proposing to develop a subdivision creating 32 residential lots and one lot for open space.

The property received a Site Location of Development Act (SLODA) permit from the Department in July 2009 (#L-24560-MX-A-N) for a subdivision consisting of four (4) residential lots and fourteen (14) commercial lots. The proposed subdivision road has been roughed-in and a portion of the road has been paved. The four (4) residential lots have been sold and one (1) of the commercial lots has been sold. The remainders of the lots have been maintained in their undeveloped state. The development was to receive stormwater treatment from a combination of vegetated buffers and infiltration buffers.

It is the intent of the project to create the proposed residential lots around the perimeter of the previously constructed access road.

**Study Methodology**

In this study, the National Resources Conservation Service Urban Hydrology for Small Watersheds, Technical Release 55 (SCS-TR55) was utilized to model the surface water drainage patterns for existing and proposed drainage conditions. The HydroCAD Stormwater Modeling System software (Version 7.10) was used for SCS-TR55 calculations. The results of the HydroCAD were used to size the infiltrations basins. The HydroCAD output presents the curve number and time-of-concentration computations for each subcatchment. Modeling was conducted using 24-hour rainfall amounts for the 2, 10, and 25-year storm events (3.0, 4.7 and 5.5 inches, respectively for Cumberland County).

The following assumptions were applied to the analysis; existing land cover was typically assumed to be Forest: Light undergrowth or Woodland for time-of-concentration calculations in wooded areas, and Woods/Grass in most areas not under a tree canopy, based on the significant amount of woody vegetation; existing and proposed shoulder area where assumed to be brush; grass cover was used where aerial photographs and site reconnaissance indicated the terrain was mowed regularly; grass cover was assumed in proposed open areas to be lawns; the curve number for the proposed residential lots were assumed as 12% impervious cover, 20% grass cover, and the remainder as wooded; and the minimum time of concentration used for runoff calculations is five (5) minutes.

Topographical data was obtained from aerial mapping techniques and supplemented with on-the-ground survey. Hydrologic boundaries were generated using the topographic mapping and the drainage patterns were verified by a site reconnaissance visit.

Surficial soils located in the vicinity of the site were obtained from a Class B high intensity soil survey completed by Albert Frick Associates and included under Section 11. The Applicant's parcel includes an array of soil classifications as listed below. Soils units found in the development area are primarily Adams and Croghan.

### SOILS TYPES IN LOCAL STUDY AREA

Soils Series	Symbol(s)	Hydrologic Group (HSG) **
Adams	Ad	A
Croghan	Cr	B
Eldridge	El	C
Enosburg	En	C
Nicholville	Ni	C/D
Roundabout	Ro	C
Filled Land		B

\*\*Hydrologic Soils Group taken from SCS TR-55 Manual

### **Flooding**

The project area is located in Zone C (Areas of Minimal Flooding) of the Flood Insurance Rate Maps (FIRMs) for the Town of Brunswick. The project area is located on Community Panel 230042 0010 B, Revised January 3, 1986. An excerpt of the applicable FIRM is included in Section 19. The peak rate of runoff from the project area will be controlled to ensure the proposed construction does not create or exacerbate any flooding conditions downstream of the drainage area.

### **Off-Site Watersheds**

The site is bordered to the north by the interstate and Durham Road, both of which establish a hydrologic boundary. There are no upgradient or off-site areas which drain through or otherwise impact the study area.

### **On-Site Subcatchments**

#### **Pre-Development Conditions**

The site generally drains to the south, with defined natural drainageways in the west and east part of the parcel. The site is largely wooded; however, a significant area has been previously harvested for trees. Runoff in the central part of the study area is intercepted by Route 1, where roadside swales convey it to culverts. There are no man-made or natural lakes on-site; however an existing pond is located on an adjacent parcel fronting to Durham Road. There are no known areas that are prone to flooding on or adjacent to the site. The project location is not in the watershed most at risk from development or a sensitive or threatened region. No alterations to natural drainage ways will result from the project.

The site was divided into five (5) subcatchments that are shown on Drawing D1. For the most part, these existing subcatchments have not been revised from the previous permit. Subcatchment 4 was revised to reflect a more accurate land cover including additional

woodland and development of single-family lots since the initial application.

- Subcatchment 1 is approximately 60.8 acres located southeast of Interstate 295 and south of the Durham Road. The subcatchment cover is roughly half wooded and half open range and drains to the southwest via natural drainageways into an existing stream ending at Analysis Point 1.
- Subcatchment 2 is approximately 16.9 acres located north of Old Route 1. The subcatchment cover is predominantly open range and includes an abutter's lot with commercial business. The subcatchment drains to the southeast, collects in the roadside ditch along Route 1 and discharges via a culvert ending at Analysis Point 2.
- Subcatchment 3 is approximately 13.5 acres located north of Old Route 1 in the central part of the site. The subcatchment cover is predominantly wooded and drains via land in to a natural wetland drainage way and ultimately to an existing culvert under Old Route 1 ending at Analysis Point 3.
- Subcatchment 4 is approximately 14.6 acres located south of Durham Road and includes an existing residential lot and pond. The subcatchment cover is roughly half wooded and half open range and drains overland to the existing pond which discharges to a culvert under Durham Road ending at Analysis Point 4.
- Subcatchment 5 is approximately 17.5 acres located at the east end of the site, south of Durham Road and north of Old Route 1. The subcatchment is mostly wooded and drains to an existing stream on the easterly boundary and ultimately to a culvert under Old Route 1 ending at Analysis Point 5.

### **Post-Development Conditions**

Under post-development conditions there will be approximately 72,144 s.f. (1.65 acres) of new impervious area created due to the construction of the approximately 2,230 linear foot roadway. Runoff from the impervious and developed areas associated with the access road will be treated utilizing ditch turnouts to forested buffers, roadside meadow buffers, infiltration trenches and an under-drained grassed filter. Runoff from the proposed residential lots will be treated via forested buffers downgradient of the single-family residential lots.

- Subcatchment 10 is approximately 44.6 acres and includes approximately 13,932 s.f. of new roadway and shoulder. This area of new roadway will be treated in a roadside meadow buffer and drains to the northwest via natural drainageways into an existing stream ending at Analysis Point 1.
- Subcatchment 10A is approximately 14.27 acres and includes the proposed residential lots. The lots will be directed to forested buffers downgradient of a single family residential lot and drain to the northwest via natural drainageways into an existing stream ending at Analysis Point 1.
- Subcatchment 11 is approximately 2.1 acres and includes approximately 11,094 s.f. of new roadway and shoulder and a portion of the proposed residential lots. The roadway and shoulder and proposed residential lots will be directed to a meadow buffer adjacent to the downhill side of a road and will infiltrate into the existing soils.

- Subcatchment 19 is approximately 0.2 acres and represents approximately 3,809 s.f. of new roadway and shoulder. This area of new roadway will be conveyed to the underdrained vegetated soil filter basin and discharged through an underdrain towards the roadside ditch along Route 1 and ultimately to the culvert across Route 1 (Analysis Point 2).
- Subcatchment 20 is approximately 12.7 acres and includes approximately 16,047 s.f. of new roadway and shoulder. The new roadway at the eastern entrance will be treated by two ditch turnouts going to forested buffers and the new roadway at the western entrance will be treated by an underdrained grassed filter. The Subcatchment also consists of a portion of the proposed residential lots which will be treated by forested buffers downgradient of a single family residential lot. This subcatchment drains to the southeast, collects in the roadside ditch along Route 1 and discharges via a culvert into the proposed detention pond, which discharges via a culvert across Route 1 ending at Analysis Point 2.
- Subcatchment 21 is approximately 0.67 acres and includes approximately 4,166 s.f. of new roadway and shoulder and a portion of the proposed residential lots. This area of new roadway will be collected in a roadside ditch and treated in an infiltration trench, therefore not contributing to an Analysis Point. The proposed residential lots will be directed to forested buffers downgradient of a single family residential lot and to the infiltration trench.
- Subcatchment 22 is approximately 1.8 acres and includes approximately 3,315 s.f. of new roadway and shoulder and a portion of the proposed residential lots. This area of new roadway will be collected in a roadside ditch and treated in an infiltration trench, therefore not contributing to an Analysis Point. The proposed residential lots will be directed to forested buffers downgradient of a single family residential lot and to the infiltration trench.
- Subcatchment 23 is approximately 0.37 acres and includes approximately 6,518 s.f. of new roadway and shoulder. This area of new roadway will be collected in a roadside ditch and treated in an infiltration trench, therefore not contributing to an Analysis Point.
- Subcatchment 24 is approximately 1.2 acres and includes approximately 7,900 s.f. of new roadway and shoulder and a portion of the proposed residential lots, which will be conveyed to a detention basin at the culvert under Route 1 (Analysis Point 2). The proposed residential lots will be directed to forested buffers downgradient of a single family residential lot.
- Subcatchment 30 represents 13.4 acres and includes approximately 5,686 s.f. of new roadway and shoulder and a portion of the proposed residential lots. The new roadway will be directed a meadow buffer adjacent to the downhill side of a road and the residential lots will be directed to forested buffers downgradient of a single family residential lot. The stormwater runoff will eventually be conveyed to an existing culvert at

Route 1 (Analysis Point 3).  
 Subcatchment 40 represents about 14.6 acres and includes a portion of the proposed residential lots, which will be directed to forested buffers downgradient of single family residential lots. Runoff will drain to an existing pond and ultimately under Durham Road (Analysis Point 4).  
 Subcatchment 50 represents 17.5 acres at the east end of the study area that drains to an existing drainageway on the easterly boundary (Analysis Point 5).

Runoff collected at the primary culvert crossing under Route 1 (Analysis Point 2) will be controlled at an outlet control structure to be connected to the existing culvert. A detention basin has been constructed, enlarging the depression adjacent to the roadway. Details of the detention basin are provided on the drawings.

As part of the prior SLODA approval, the entirety of the access road was roughed in and a portion was paved. The detention pond was constructed and a portion of the infiltration basins/trenches were installed.

**Flooding Standard (Water Quantity)**

A comparison of pre- and post-development peak stormwater runoff rates at the Analysis Points are presented in the following tables. Peak runoff rates were estimated for the 2, 10, and 25-year, 24-hour storm events.

Analysis Point 1

Design Storm	Pre	Post	Change (cfs/%)
2-Year	23.2	22.5	-0.7 / -3%
10-Year	65.8	65.3	-0.5 / -1%
25-Year	88.7	89.6	0.9 / 1%

For Analysis Point 1, the peak runoff rate is decreased in the 2- and 10-year storm events and increased slightly in the 25-year storm event. The decrease shown in the 2- and 10-year storm events is most likely due to the assumptions and slight inconsistencies inherent to the HydroCAD software, and for the intent of this report, it can be assumed that the proposed development does not have any adverse impact to the existing watershed.

Analysis Point 2

Design Storm	Pre	Post	Change (cfs/%)
2-Year	1.8	2.8	+1.0 / 56%
10-Year	9.7	6.3	-3.4 / -35%
25-Year	14.8	12.1	-2.7 / -18%

For Analysis Point 2, due to the detention pond, the peak runoff rate is decreased for the 10- and 25-year storm events. The increase in the 2-year event is due to the 2.5-inch orifice located within the outlet control structure of the detention pond. In order to meet pre-development peak runoff rates, the diameter of the orifice would have to

be decreased in size. Decreasing the diameter of this orifice would greatly increase the likelihood of plugging in the future and the small increase should not have a noticeable impact at the analysis point.

#### Analysis Point 3

Design Storm	Pre	Post	Change (cfs/%)
2-Year	2.0	2.5	0.5 / 25%
10-Year	8.4	9.4	1.0 / 12%
25-Year	12.3	13.4	1.1 / 9%

For Analysis Point 3, the peak runoff rate is increased for all storm events. This is the result of the change in land cover from woods to brush and residential lots. The change in land cover from woods to brush was due to the development of the commercial lot adjacent to the project site and was approved under a Condition Compliance permit (#L-24560-MX-B-C) approved by the Department in March of 2012. As part of that approval, the change in land cover, and associated increase in peak runoff rate, was considered an insignificant increase. As such, we would request that the Department consider the increase in peak runoff rate associated with Analysis Point 3 an insignificant increase. The culvert under the roadway is a 24" reinforced concrete pipe (RCP), which passes the peak rate of flow without surcharging or attenuation.

#### Analysis Point 4

Design Storm	Pre	Post	Change (cfs/%)
2-Year	4.0	4.4	0.4 / 10%
10-Year	12.9	13.6	0.7 / 5%
25-Year	17.8	18.6	0.8 / 4%

For Analysis Point 4, the peak runoff rate is increased for all storm events. This is the result of a change in land cover from wooded to residential lots. As with Analysis Point 3, the anticipated increase can be considered an insignificant increase and will not result in any adverse impact to the watershed.

#### Analysis Point 5

Design Storm	Pre	Post	Change (cfs/%)
2-Year	3.6	4.1	0.5 / 10%
10-Year	13.6	14.5	0.9 / 7%
25-Year	19.4	20.4	1.0 / 5%

Analysis Point 5 was not revised as part of the proposed changes from a commercial subdivision to a residential subdivision.

### Water Quality

A water quality plan for collecting and providing treatment of runoff from the impervious area in accordance with Chapter 500 is presented below. Several treatment options were

evaluated and selected for the site conditions (See Sheet D4). Where possible, the use of buffers for treatment was selected. A combination of a buffer adjacent to a road, buffer downgradient of a single-family residential lot, and the use of ditch turn-outs to a wooded buffer were incorporated into the design. Where the cut required for the roadway precluded a buffer or ditch turnout, infiltration or soil filtration basins have been used. An 18" layer of soil media will be incorporated into the infiltration basins as well as the filter basins at the suggestion of the Department's geologist. (See Sheets 7 & 8 for grading details and Sheet 10 for stormwater details)

The water quality features and tributary areas specific to the road construction are presented on Sheet D4. Details of the water quality treatment plan are described below.

As previously noted, the construction of the road will create approximately 72,144 s.f. (1.65 acres) of impervious area. Runoff from approximately 30,487 s.f. (0.70 acres), or 42.3%, of the impervious area will be conveyed via surface flow to vegetated buffers immediately adjacent to the road where it will infiltrate or filter through vegetation. The deep, well-drained sands will absorb the runoff from the design storm events. The westerly entrance will drain to an underdrained vegetated filter basin to be constructed near the Route 1 ROW. A portion of the easterly entrance will be conveyed via roadside ditches to a turnout and level spreader, where runoff will be distributed to wooded buffers. Approximately 10,463 s.f., or 15% of roadway impervious area will not be captured; however, this is less than 25% of the linear portion of the project, meeting the criteria.

Approximately 1,481,536 s.f. (34.01 acres) of land will be converted to residential lots. As mentioned previously, as part of the analysis, it was assumed that 12% of the lot would be converted to impervious cover, 20% of the lot would be converted to grass cover, and the remainder would remain as wooded. Runoff from 1,432,202 s.f. (32.88 acres), or 96.7%, of the proposed residential lots will be directed to a buffer downgradient of a single family residential lot, an infiltration trench/basin, or an underdrained grass filter.

### **Calculations**

Stormwater calculations for stormwater volumes and basin sizing are enclosed for the following structural features. Criteria used for the calculations are:

The water volume calculations for the filter beds are based upon treating the following:

- 95% of impervious area
- 80% of other developed area

The linear portion rule was applied to the entrance roadway as follows:

- 75% of impervious area in linear portion
- 50% of other developed area in linear portion

Rainfall amount for water quality treatment:

- 1" of runoff/s.f. of impervious area
- 0.4" of runoff/s.f. of developed area

The minimum filter bed sizing was confirmed to be greater than:

- 5% of tributary impervious area, plus

- 2% of tributary developed area

**Details, Designs, and Specifications**

Details, designs, and specifications for the stormwater features are provided on the permitting drawings.

Test pits were performed within the limits of the proposed infiltration / filter field. These tests showed uniform, clean sand and no groundwater table to a depth of greater than eight (8) feet. Based on field results, the proposed infiltration / filter field location is anticipated to meet Stormwater BMP requirements for separation to groundwater.

The impervious and developed areas tributary to the filtration basins and the required volume and filter area required is summarized in the table below.

**Impervious Area and Pond Volume Requirements**

	(a)	(b)	(c)	(d)	(e)	(f)
Station Range of Treated Area	Impervious area (sq. ft.)	Required Storage (cu. ft.)	Landscaped Area (sq. ft.)	Required Storage (cu. ft.)	Total Storage required (cu. ft.)	Filter Area Required / Provided (sq. ft.)
	(from plan)	(a)x0.083'	(from plan)	(c)x0.033'	(b)+(d)	(a)x0.05+ (c)x0.02
15+45 - 19+50	6,518	543	9,455	315	858	515 / 730
17+10 - 19+50	4,166	347	3,686	123	470	282 / 336
19+50 - 21+00 19+50 - 20+75	3,809	317	5,967	199	516	310 / 350
19+75 - 22+40	10,629	886	16,531	551	1,437	862 / 870

**CONCLUSION**

Runoff from 85% of the proposed road will be conveyed to vegetated buffers, infiltration basins, or an underdrained soil filter basin to be captured and /or treated. Runoff from larger rain events will be routed to the existing storm drain system where it will be conveyed to a detention basin to be constructed adjacent to Route 1 to limit peak rates of runoff. Runoff from 97% of the proposed residential lots will be directed to forested or meadow buffers downgradient of a single family residential lot or infiltration trenches.

The proposed project has been conceived with erosion and sedimentation controls during and after construction, including housekeeping, inspection and maintenance of stormwater facilities to comply with the Basic Standard (see Section 14). By capturing and treating runoff, the project likewise meets the applicable portions of the General Standard. A detention basin constructed upgradient of the existing culvert at Route 1 (Analysis Point 2) will limit the peak rate of runoff to less than pre-development condition in compliance with the flooding standard.

By implementing the proposed design standards, the project will not have an adverse impact on the abutting parcels or downstream drainageways.

Spruce Meadows Subdivision  
Major Development Review Application  
September 15, 2015

**Attachment I**  
**Subdivision Plans**

The project subdivision plans are included in reduced format for review, and full size copies have been provided as a separate plan sets, as required.



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
REGION 1  
P.O. BOX 358  
SCARBOROUGH, MAINE 04070-0358

Paul R. LePage  
GOVERNOR

David Bernhardt  
COMMISSIONER

September 18, 2015

William Moore  
Moore Properties, Inc.  
227 Old Portland Road  
Brunswick, ME 04011

Re: Entrance Permit Revisions  
Permits #9168, #9438  
Old Portland Rd / US Route 1  
Brunswick, ME

Dear Mr. Moore:

The Maine Department of Transportation has completed its review of a request by Sitelines PA to update the conditions of the above referenced Entrance Permits. Attached are the revised Permits with conditions reflecting the proposed change in use from industrial to residential subdivision. Specifically, the previously required Route 1 modifications have been eliminated.

Please note that the new conditions require that MaineDOT be contacted before any modifications are made to the existing guardrail at the Permit #9438 location.

Sincerely,

A handwritten signature in cursive script that reads 'Anthony Fontaine'.

Anthony Fontaine  
MaineDOT Permit Field Specialist

Attachments

cc: Sitelines PA



PRINTED ON RECYCLED PAPER



# Maine Department of Transportation

**Paul R. LePage**  
Governor

## Driveway/Entrance Permit

**David Bernhardt, P.E.**  
Commissioner

Permit Number: 9168 - Entrance ID: 1

**OWNER**

Name: **Moore Properties, Inc.**  
 Address: **227 Old Portland Rd**  
**Brunswick, ME 04011**  
 Telephone: **(207)725-1388**

Date Printed: **September 17, 2015**

### LOCATION

Route: **0001X, Old Portland Rd.**  
 Municipality: **Brunswick**  
 County: **Cumberland**  
 Tax Map: **13 Lot Number: 34**  
 Culvert Size: **15 inches**  
 Culvert Type: **metal/plastic**  
 Culvert Length: **95 feet**  
 Date of Permit: **September 03, 2009**  
 Approved Entrance Width: **24 feet**

In accordance with rules promulgated under 23 M.R.S.A., Chapter 13, Subchapter I, Section 704, the Maine Department of Transportation (MaineDOT) approves a permit and grants permission to perform the necessary grading to construct, in accordance with sketch or attached plan, **an Entrance to Subdivision/Development** at a point **1260 feet East** from **Grant Road**, subject to the Chapter 299 Highway Driveway and Entrance Rules, standard conditions and special conditions (if any) listed below.

### Conditions of Approval:

This Permittee acknowledges and agrees to comply with the Standard Conditions and Approval attached hereto and to any Specific Conditions of Approval shown here.

(W = Waiver; S = Special Condition)

S - In the town of Brunswick on the northerly side of Route 1 / Old Portland Road, approximately 1260 feet easterly of Grant Road and approximately 59 feet easterly of utility pole 18. (N43.90954, W-70.03038)

Approved by: Anthony Fontana Date: 9-18-2015

## STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.
2. At no time cause the highway to be closed to traffic
3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.
4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.
5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.
6. Comply with all applicable federal, state and municipal regulations and ordinances.
7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.
8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.
9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.
10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.
11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.
12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accommodate vehicles using the premises.

## FURTHER CONDITION OF THE PERMIT

The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.



# Maine Department of Transportation

Paul R. LePage  
Governor

## Driveway/Entrance Permit

David Bernhardt, P.E.  
Commissioner

Permit Number: 9438 - Entrance ID: 1

**OWNER**  
Name: Moore Properties, Inc.  
Address: 228 Old Portland Rd.  
Brunswick, ME 04011  
Telephone: (207)725-1388

Date Printed: September 18, 2015

### LOCATION

Route: 0001X, Old Portland Rd.  
Municipality: Brunswick  
County: Cumberland  
Tax Map: 13 Lot Number: 34  
Culvert Size: inches  
Culvert Type: N/R  
Culvert Length: feet  
Date of Permit: September 03, 2009  
Approved Entrance Width: 24 feet

In accordance with rules promulgated under 23 M.R.S.A., Chapter 13, Subchapter I, Section 704, the Maine Department of Transportation (MaineDOT) approves a permit and grants permission to perform the necessary grading to construct, in accordance with sketch or attached plan, **an Entrance to Subdivision/Development** at a point **2231 feet East** from **Grant Road**, subject to the Chapter 299 Highway Driveway and Entrance Rules, standard conditions and special conditions (if any) listed below.

### Conditions of Approval:

This Permittee acknowledges and agrees to comply with the Standard Conditions and Approval attached hereto and to any Specific Conditions of Approval shown here.

(W = Waiver; S = Special Condition)

S - In the town of Brunswick on the northerly side of Route 1 / Old Portland Road, approximately 2231 feet easterly of Grant Road and approximately 41 feet northerly of utility pole 3/162. (N43.91052, W-70.02698)

S - The existing guardrail shall be modified in a manner that is in compliance with MaineDOT Standard Detail 606. An opening shall be created that contains at least two radiused beams on each side of the entrance, each with applicable terminal end. The Property Owner must contact MaineDOT at (207)725-2395 prior to guardrail modifications to arrange for an inspection.

Approved by: Anthony Fontaine Date: 9-18-2015

## STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.
2. At no time cause the highway to be closed to traffic
3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.
4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.
5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.
6. Comply with all applicable federal, state and municipal regulations and ordinances.
7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.
8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.
9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.
10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.
11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.
12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accommodate vehicles using the premises.

## FURTHER CONDITION OF THE PERMIT

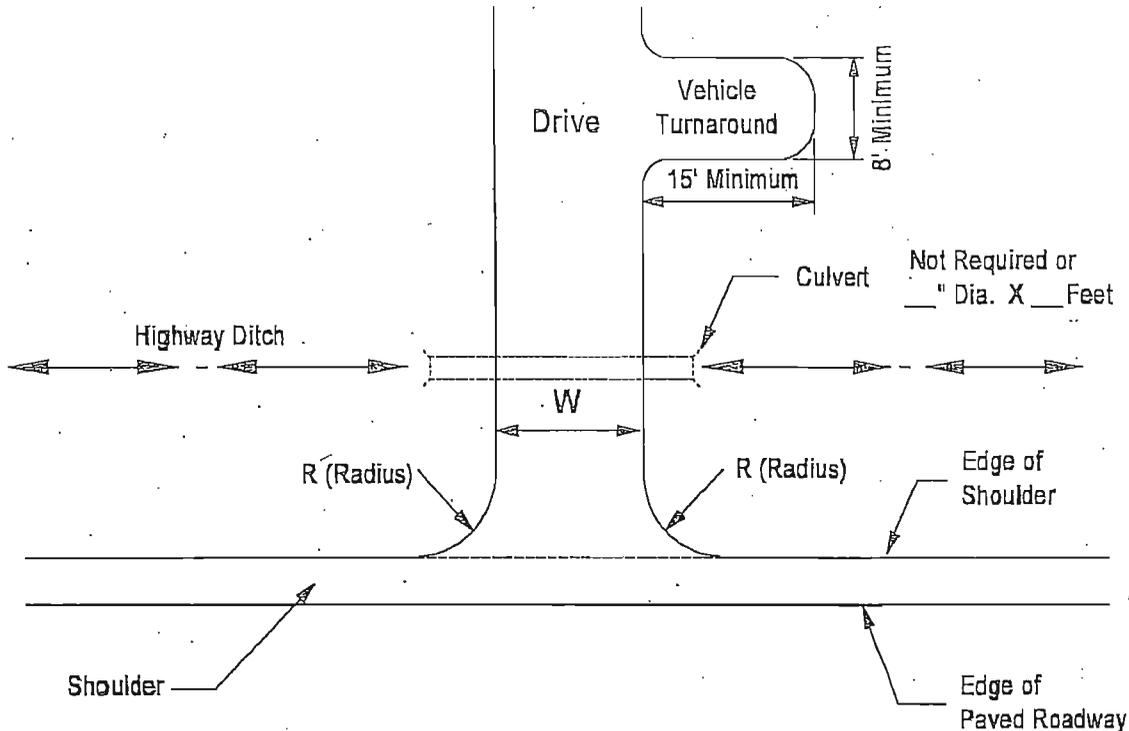
The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.



State of Maine  
 Department of Transportation  
Entrance / Driveway Details

PLAN

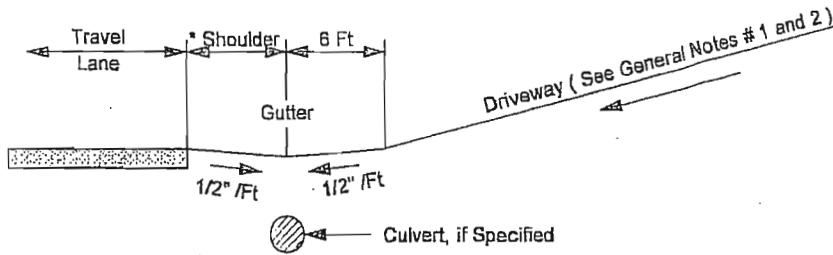


**GENERAL NOTES -**

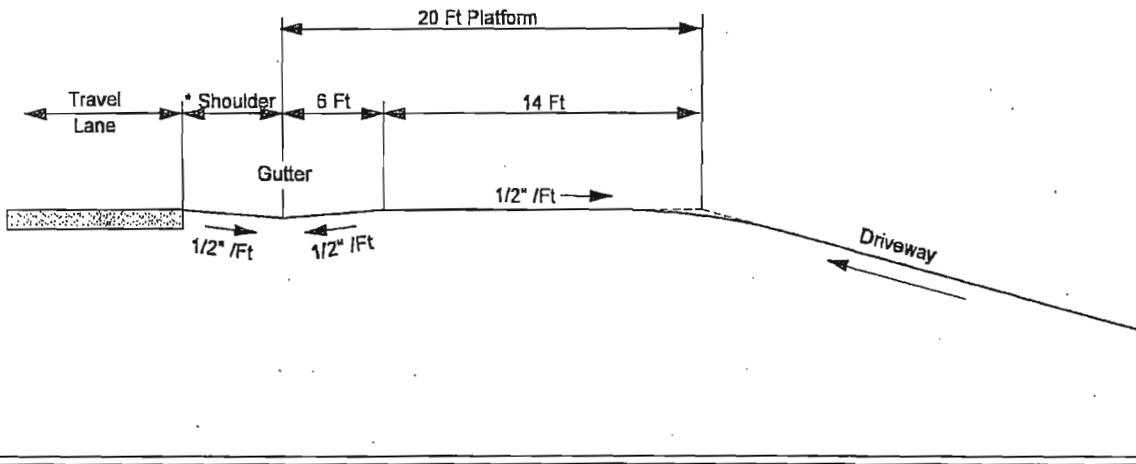
1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCLUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (.1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUEVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

# MDOT Entrance / Driveway Details, Continued

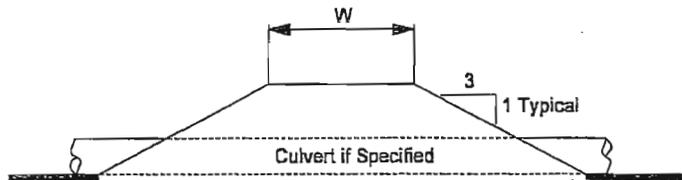
## PROFILE Details



NOTE:  
 Grade of Existing Shoulder Should Be Maintained To Create A Gutter  
 With a Minimum Of Three Inches Below The Edge Of Traveled Way.  
 \* Distance Of The Gutter From The Edge Of Traveled Way Should Be  
 The Same As Existing Shoulder Or A Minimum Of 4 Feet.



## Driveway Cross Section



# SPRUCE MEADOWS SUBDIVISION

## OLD PORTLAND ROAD - BRUNSWICK, MAINE

TAX MAP 13. LOTS 34, 66-78

PREPARED FOR:

### MOORE PROPERTIES, INC

#### LEGEND

EXISTING		PROPOSED
● OR ■	IRON PIPE OR MONUMENT	○ OR □
▲	BENCH MARK (SEE NOTES)	
△	TRAVERSE STATION	
■	CATCH BASIN	
⊙	SEWER MANHOLE	
⊕	FIRE HYDRANT	
⊗	WATER GATE VALVE	
⊘	WATER SHUT-OFF	
⊖	BLOW-OFF/CLEAN-OUT	
⊙	WATER/MONITORING WELL	
○	UTILITY POLE	
⊙	GUY WIRE	
⊙	POLE W/SINGLE LIGHT	
⊙	POLE W/DOUBLE LIGHT	
⊙	WALL MOUNT LIGHT	
⊙	SIGN W/DELINEATION NUMBER	
⊙	HANDICAP SYMBOL	
▨	PAVEMENT PAINT MARKINGS	
▨	PARKING SPACE COUNT	
---	PROPERTY LINE	
---	EASEMENTS	
---	SETBACK/BUFFER	
---	SOILS BOUNDARY	
---	WETLAND BOUNDARY	
---	STREAM	
---	CULVERT	
---	CURB	
---	EDGE OF PAVEMENT	
---	ROAD CENTERLINE	
---	BUILDING	
---	STORM DRAIN(SEE PLAN FOR SIZE)	
---	UTILITIES LINE(SEE PLAN FOR SIZE)	
---	SPOT ELEVATION	
---	SPOT: CURB TOP & BOTTOM	
---	SLOPE ARROW	
---	CONTOURS	
---	CLEARING LIMIT	
---	TREE LINE	
---	STONE WALL	
---	SILT FENCE	
---	CHAIN LINK FENCE	
---	WOOD GUARD RAIL	
---	RIPRAP	
---	CONSTRUCTION ENTRANCE	
---	PROPOSED PAVEMENT	

#### PROJECT CONTACTS:

**BRUNSWICK PLANNING & DEVELOPMENT PUBLIC WORKS DEPARTMENT:**  
85 UNION STREET  
BRUNSWICK, MAINE 04011  
PHONE: 207-725-6660

**BRUNSWICK CODE ENFORCEMENT**  
85 UNION STREET  
BRUNSWICK, MAINE 04011  
PHONE: 207-725-6651

**ELECTRIC SERVICE:**  
CENTRAL MAINE POWER  
280 BATH ROAD  
BRUNSWICK, MAINE 04011  
PHONE: 207-721-8081

**TELEPHONE SERVICE:**  
FAIRPOINT COMMUNICATIONS  
360 BATH ROAD (P.O. BOX 360)  
BRUNSWICK, MAINE 04011  
PHONE: 207-442-8018

#### DESIGN TEAM:

**ENGINEERING, PLANNING, SURVEYING & LANDSCAPE ARCHITECTS:**  
SITELINES, P.A.  
CURTIS NEUFELD, P.E.  
8 CUMBERLAND STREET  
BRUNSWICK, MAINE 04011  
PHONE: 207-725-1200

**SEPTIC DESIGN:**  
ALBERT FRICK ASSOCIATES, INC.  
ATTN: ALBERT FRICK  
95A COUNTY ROAD  
GORHAM, MAINE 04038  
207-839-5563

**WETLANDS:**  
ECO-ANALYSTS, INC.  
ATTN: TIM FORRESTER  
P.O. BOX 224  
BATH, ME 04530  
207-882-1115

**GEOTECHNICAL:**  
SUMMIT GEOENGINEERING SERVICES  
ATTN: BILL PETERLEIN, P.E.  
640 MAIN STREET  
LEWISTON, ME 04240

#### SHEET INDEX

NO.	SHEET TITLE	SCALE
1	COVER SHEET	N/A
2	SUBDIVISION MASTER PLAN	1:150
3	LOT LAYOUT AND DEVELOPMENT PLAN	1:100
4	PLAN & PROFILE STA 0+00 TO 11+00 GRADING, DRAINAGE & EC PLAN	1:50
5	PLAN & PROFILE STA 11+00 TO 22+50 GRADING, DRAINAGE & EC PLAN	1:50
6	EROSION CONTROL NOTES AND DETAILS	NTS
7	CONSTRUCTION DETAILS	NTS
8	STORMWATER DETAILS	NTS

#### GENERAL NOTES:

- DRAWINGS ARE BASED ON BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION FROM MULTIPLE SOURCES BY SITELINES PA.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, CABLE AND FIRE ALARM). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER AND ARCHITECT.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATIONS, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONSTRUCTION MANAGER REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS AND GRADES BEFORE WORK BEGINS. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH ALL UTILITY LINE CROSSINGS WITH TEST PITS PRIOR TO BEGINNING WORK. CONFLICTS SHALL BE REPORTED IN WRITING TO CONSTRUCTION MANAGER FOR RESOLUTION OF THE CONFLICT.
- ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 4 INCHES OF LOAM AND SEED.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SHALL BE RESPONSIBLE FOR PAYING ANY FEES FOR ANY POLE RELOCATION AND FOR THE ALTERATION OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES. (NOT ANTICIPATED)
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.
- ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED LICENSED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PREPARE AN AS-BUILT PLAN SURVEY SHOWING LOCATIONS OF ALL SURFACE FEATURES AND SUBSURFACE UTILITY SYSTEMS INCLUDING THE LOCATION TYPE, SIZE AND INVERTS.
- THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. ALL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- ALL MATERIALS AND CONSTRUCTION METHODS USED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL LOCAL MUNICIPAL STANDARDS AND MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- THE CONTRACTOR IS REQUIRED TO CONTROL DUST DURING CONSTRUCTION. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH WATER AS NEEDED TO CONTROL DUST EMISSIONS. COVER EXPOSED SOIL AREAS AS QUICKLY AS PRACTICAL TO PREVENT WINDS FROM GENERATING DUST.
- ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. SEE SPECIFICATIONS FOR GEOTECHNICAL INFORMATION.

#### PERMITTING REQUIREMENTS:

AGENCY:	PERMIT:	STATUS:
TOWN OF BRUNSWICK	MAJOR DEVELOPMENT REVIEW	PENDING
	BUILDING	(BY CONTRACTOR)
MDEP	AMENDMENT TO SITE LAW	TO BE SUBMITTED

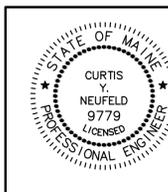
2.	09-15-15	SUBMITTED FOR FINAL REVIEW	JJM
1.	06-02-15	SUBMITTED TO TOWN OF BRUNSWICK	RPL

PROGRESS PRINT  
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

### COVER SHEET

PROJECT: **SPRUCE MEADOWS SUBDIVISION**  
**OLD PORTLAND ROAD, BRUNSWICK, MAINE**

PREPARED FOR: **MOORE PROPERTIES, INC.**  
**228 OLD PORTLAND ROAD, BRUNSWICK, MAINE**



SITELINES, PA		SHEET: 1
ENGINEERS • PLANNERS • SURVEYORS LANDSCAPE ARCHITECTS 8 CUMBERLAND STREET, BRUNSWICK, ME 04011 207.725.1200 www.sitelinespa.com		
FIELD WK: N/A	SCALE: NTS	1
DRN BY: JJM	JOB #: 731.03	
CHD BY: CYN	MAP/LOT: 13 / 34.66-78	
DATE: 9-15-15	FILE: 731.03-COVER	

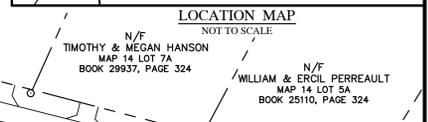
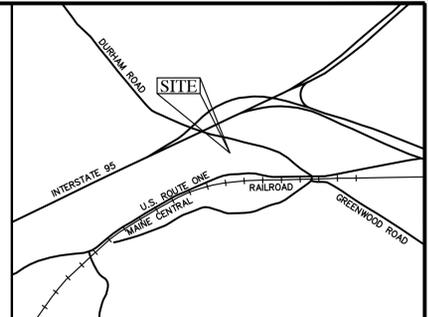
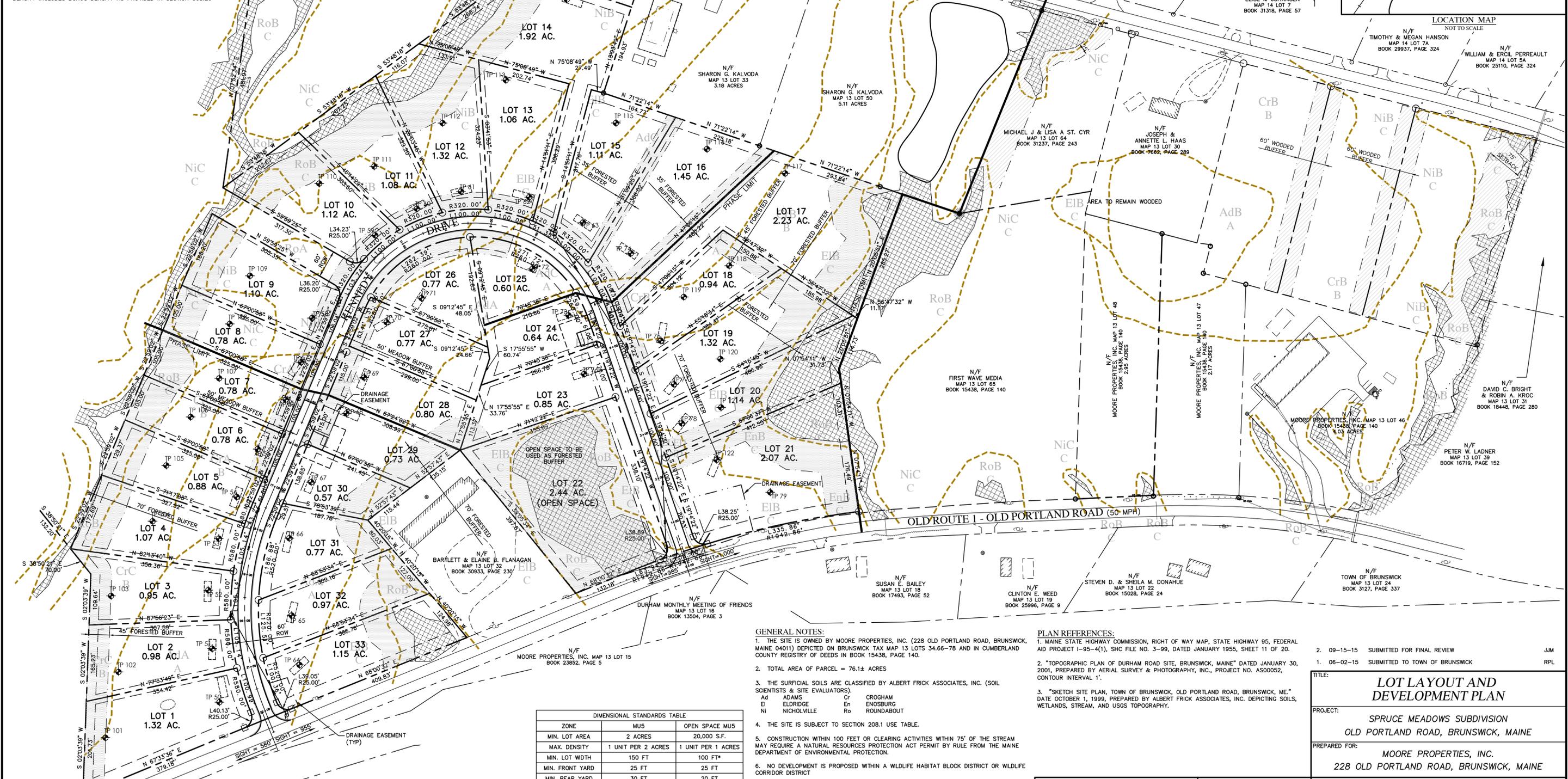


CALL DIG SAFE UTILITY LOCATION  
**1-888-344-7233**  
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES



RESIDENTIAL DENSITY CALCULATION				
ID	CALCULATION	AREA (S.F.)	AREA (ACRES)	
A	OVERALL AREA	PLAN	3,315,712	76.1
B	DEVELOPED AREA	A-H	1,613,427	37.0
C	WETLANDS	PLAN	138,855	3.2
D	PROPOSED ROW	PLAN	131,591	3.0
E	NET SITE AREA	B-(C+D)	1,342,981	30.8
F	ALLOWABLE DENSITY	E/43560X1.15	35.5 UNITS	
G	REQ. OPEN SPACE	A*0.50	1,657,856	38.1
H	OPEN SPACE PROVIDED	PLAN	1,702,284	39.1

\*DENSITY INCLUDES BONUS DENSITY AS PROVIDED IN SECTION 308.20



**GENERAL NOTES:**

- THE SITE IS OWNED BY MOORE PROPERTIES, INC. (228 OLD PORTLAND ROAD, BRUNSWICK, MAINE 04011) DEPICTED ON BRUNSWICK TAX MAP 13 LOTS 34,66-78 AND IN CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 15438, PAGE 140.
- TOTAL AREA OF PARCEL = 76.1± ACRES
- THE SURFICIAL SOILS ARE CLASSIFIED BY ALBERT FRICK ASSOCIATES, INC. (SOIL SCIENTISTS & SITE EVALUATORS).  
Ad ADAMS Cr CROGHAM  
Ei ELDRIDGE En ENOSBURG  
Ni NICHOLVILLE Ro ROUNDABOUT
- THE SITE IS SUBJECT TO SECTION 208.1 USE TABLE.
- CONSTRUCTION WITHIN 100 FEET OR CLEARING ACTIVITIES WITHIN 75' OF THE STREAM MAY REQUIRE A NATURAL RESOURCES PROTECTION ACT PERMIT BY RULE FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- NO DEVELOPMENT IS PROPOSED WITHIN A WILDLIFE HABITAT BLOCK DISTRICT OR WILDLIFE CORRIDOR DISTRICT

**PHASING PLAN:**

PHASE	LOTS	TIME PERIOD
PHASE 1	LOTS 1-7,29-33 (12 TOTAL)	2015-2020
PHASE 2	LOTS 8-16,25-28 (13 TOTAL)	2020-2025
PHASE 3	LOTS 17-21,23-24 (8 TOTAL)	2025-2030

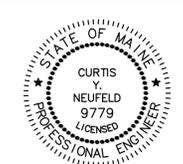
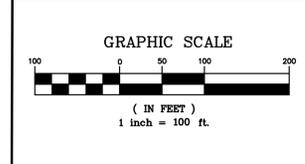
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**PLAN REFERENCES:**

- MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY MAP, STATE HIGHWAY 95, FEDERAL AID PROJECT 1-95-4(1), SHC FILE NO. 3-99, DATED JANUARY 1955, SHEET 11 OF 20.
- "TOPOGRAPHIC PLAN OF DURHAM ROAD SITE, BRUNSWICK, MAINE" DATED JANUARY 30, 2001, PREPARED BY AERIAL SURVEY & PHOTOGRAPHY, INC., PROJECT NO. AS00052, CONTOUR INTERVAL 1'.
- "SKETCH SITE PLAN, TOWN OF BRUNSWICK, OLD PORTLAND ROAD, BRUNSWICK, ME," DATE OCTOBER 1, 1999, PREPARED BY ALBERT FRICK ASSOCIATES, INC. DEPICTING SOILS, WETLANDS, STREAM, AND USGS TOPOGRAPHY.

DIMENSIONAL STANDARDS TABLE		
ZONE	MUS	OPEN SPACE MUS
MIN. LOT AREA	2 ACRES	20,000 S.F.
MAX. DENSITY	1 UNIT PER 2 ACRES	1 UNIT PER 1 ACRES
MIN. LOT WIDTH	150 FT	100 FT*
MIN. FRONT YARD	25 FT	25 FT
MIN. REAR YARD	30 FT	20 FT
MIN. SIDE YARD	30 FT	10 FT
MAX. IMPERVIOUS SURFACE	25%	25%
MAX. HEIGHT	40 FT	40 FT
MAX. BUILDING FOOTPRINT PER STRUCTURE	10,000 S.F.	10,000 S.F.
MIN. PROTECT CONSERVATION LAND	N/A	50%

\*FRONTAGE ON SECONDARY ROAD



TITLE: **LOT LAYOUT AND DEVELOPMENT PLAN**

PROJECT: **SPRUCE MEADOWS SUBDIVISION  
OLD PORTLAND ROAD, BRUNSWICK, MAINE**

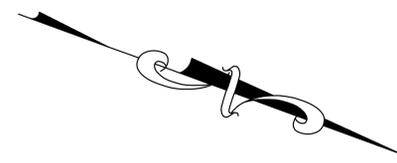
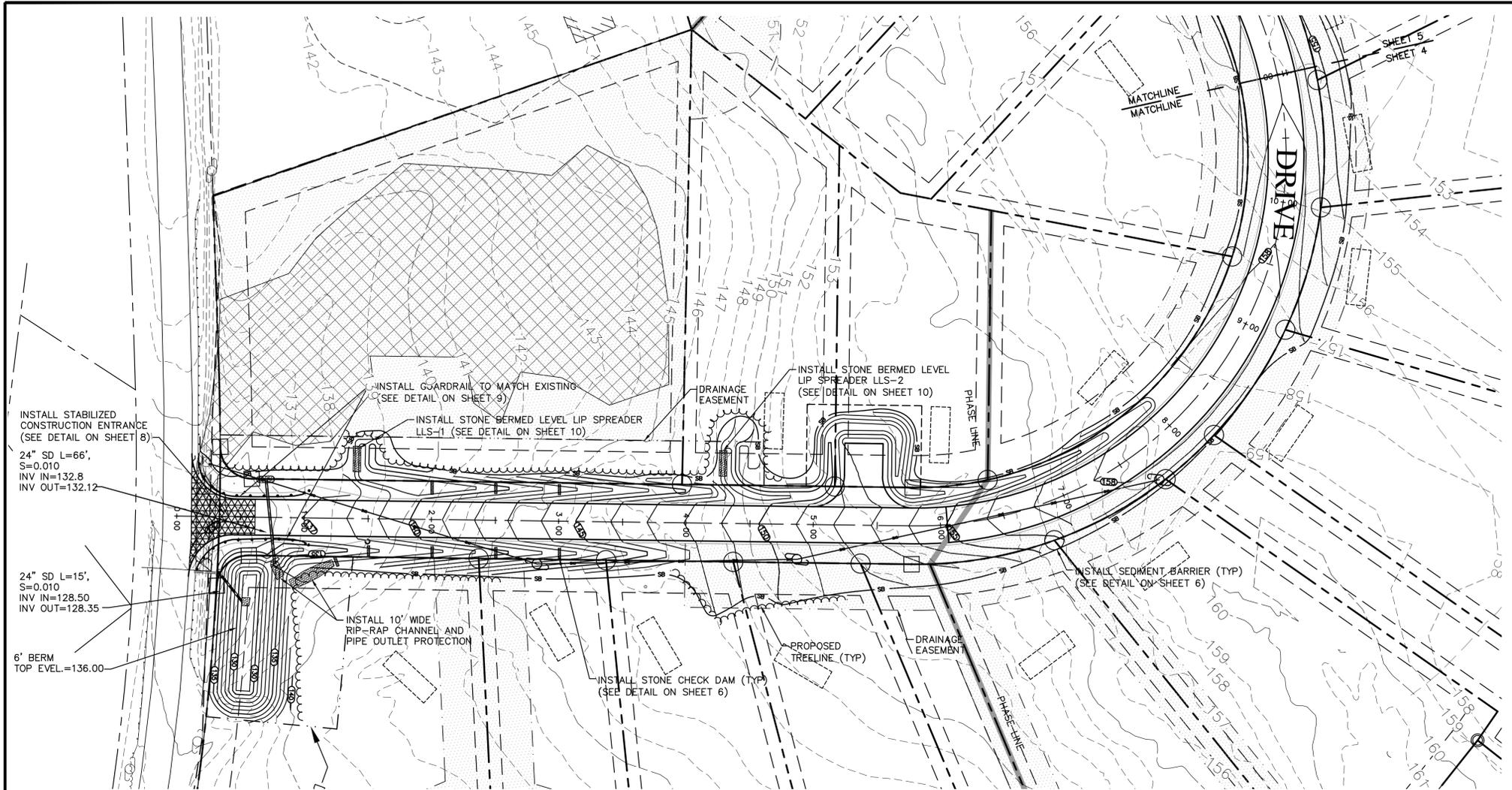
PREPARED FOR: **MOORE PROPERTIES, INC.  
228 OLD PORTLAND ROAD, BRUNSWICK, MAINE**

DATE: 06-02-15

FIELD WK: BWM  
DRN BY: RPL  
CHD BY: CYN

SCALE: 1"=100'  
JOB #: 731.03  
MAP/LOT: 13/34,66-78  
FILE: 731.03-CONCEPT

SHEET: **3**



INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL ON SHEET 8)  
 24" SD L=66',  
 S=0.010  
 INV IN=132.8  
 INV OUT=132.12

24" SD L=15',  
 S=0.010  
 INV IN=128.50  
 INV OUT=128.35

6' BERM  
 TOP EVEL.=136.00

INSTALL GUARDRAIL TO MATCH EXISTING (SEE DETAIL ON SHEET 9)

INSTALL STONE BERMED LEVEL LIP SPREADER LLS-1 (SEE DETAIL ON SHEET 10)

DRAINAGE EASEMENT

INSTALL STONE BERMED LEVEL LIP SPREADER LLS-2 (SEE DETAIL ON SHEET 10)

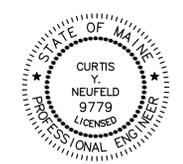
INSTALL 10" WIDE RIP-RAP CHANNEL AND PIPE OUTLET PROTECTION

INSTALL STONE CHECK DAM (TYP) (SEE DETAIL ON SHEET 6)

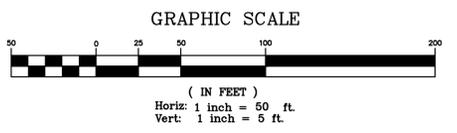
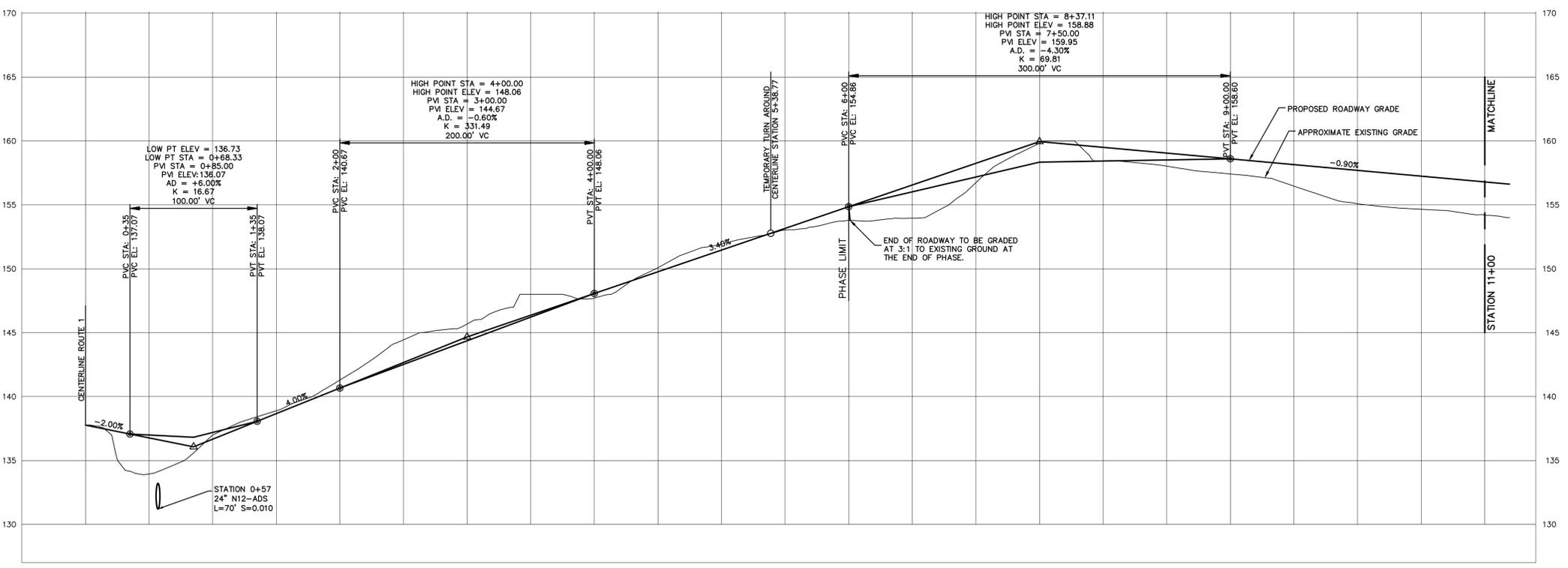
PROPOSED TREE LINE (TYP)

DRAINAGE EASEMENT

INSTALL SEDIMENT BARRIER (TYP) (SEE DETAIL ON SHEET 6)



PROGRESS PRINT  
 THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.



- 2. 09-15-15 SUBMITTED FOR FINAL REVIEW JJM
- 1. 06-02-15 SUBMITTED TO TOWN OF BRUNSWICK RPL

TITLE: **PLAN & PROFILE STA 0+00 TO 11+00 GRADING, DRAINAGE & EC PLAN**

PROJECT: **SPRUCE MEADOWS SUBDIVISION  
 OLD PORTLAND ROAD, BRUNSWICK, MAINE**

PREPARED FOR: **MOORE PROPERTIES, INC.  
 228 OLD PORTLAND ROAD, BRUNSWICK, MAINE**



FIELD WK: BWM	SCALE: AS SHOWN	SHEET:
DRN BY: JJM	JOB #: 731.03	<b>4</b>
CHD BY: CYN	MAP/PLOT: 13/34, 66-78	
DATE: 09-15-15	FILE: 731.03-SITE	



**GENERAL NOTES:**

1. TOPOGRAPHIC DATA IS BASED ON AERIAL DATA FROM BRADSTREET ASSOCIATES AND ON THE GROUND SURVEY PERFORMED BY ROB SPIVEY ASSOCIATES.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (TELEPHONE AND ELECTRIC).
4. ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 4 INCHES OF LOAM AND SEED.
5. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS.
6. ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. ALL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
8. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REGULATIONS.
9. THE CONTRACTOR IS REQUIRED TO CONTROL DUST DURING CONSTRUCTION. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH WATER AS NEEDED TO CONTROL DUST EMISSIONS. COVER EXPOSED SOIL AREAS AS QUICKLY AS PRACTICAL TO PREVENT WINDS FROM GENERATING DUST.

**GRADING AND DRAINAGE NOTES:**

1. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603. PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:  
POLYVINYL CHLORIDE PIPE (PVC)  
SMOOTH BORE POLYETHYLENE PIPE - HDPE N-12 ADS OR SDR 35
2. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION TO BE DESIGNATED BY OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFF SITE.
3. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE Dewatering AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR Dewatering.

**EROSION AND SEDIMENTATION NOTES:**

1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE CUMBERLAND COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.
2. GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:  
EROSION/SEDIMENTATION CONTROL DEVICES:  
THE FOLLOWING EROSION/SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS. IN ADDITION TO THE MEASURES BELOW THE CONTRACTOR SHALL BE FAMILIAR WITH AND FOLLOW THE REQUIREMENTS OF APPENDICES A, B & C OF CHAPTER 500 OF THE MDEP RULES.

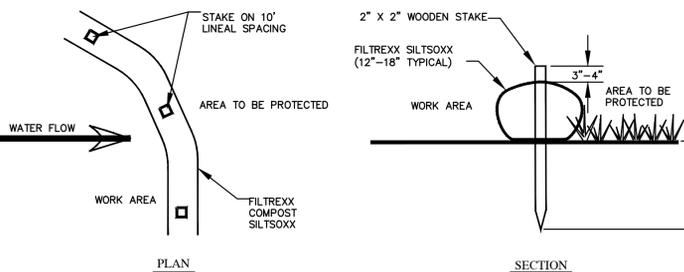
1. SEDIMENT BARRIER: SILT SOXX OR APPROVED EQUAL WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SEDIMENT BARRIER WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SEDIMENT BARRIER AND TO PROVIDE ADDITIONAL TREATMENT.
2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.
3. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.
4. STRAW AND HAY MULCH: USED TO COVER DENuded AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY.
5. IN LIEU OF MULCH, USE EROSION CONTROL BLANKET (EQUAL TO NORTH AMERICAN GREEN SC150) TO STABILIZE AREAS OF CONCENTRATED FLOW AND DRAINAGE WAYS.

**TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:**

1. THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:  
1. SEDIMENT BARRIER ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SEDIMENT BARRIER WILL REMAIN IN PLACE UNTIL THE SITE IS PERMANENTLY STABILIZED.
2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SEDIMENT BARRIER.
3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:  
A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.  
B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.  
C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.  
D. SURROUND STOCKPILE SOIL WITH SEDIMENT BARRIER AT BASE OF PILE.
4. ALL DENuded AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE ROADWAY AREA SHALL RECEIVE MULCH WITHIN 7 DAYS IF NOT BEING ACTIVELY WORKED OR WITHIN 7 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.
5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENuded AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING.
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

**PERMANENT EROSION CONTROL MEASURES:**

1. THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:  
1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY AND SUPPLEMENTED AS NEEDED.



**FILTREXX SILTISOXX DETAIL**  
NOT TO SCALE

- NOTES:**
1. ALL MATERIALS TO MEET FILTREXX SPECIFICATIONS
  2. SILTISOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
  3. SILTISOXX DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
  4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

**CONSTRUCTION PHASE:**

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

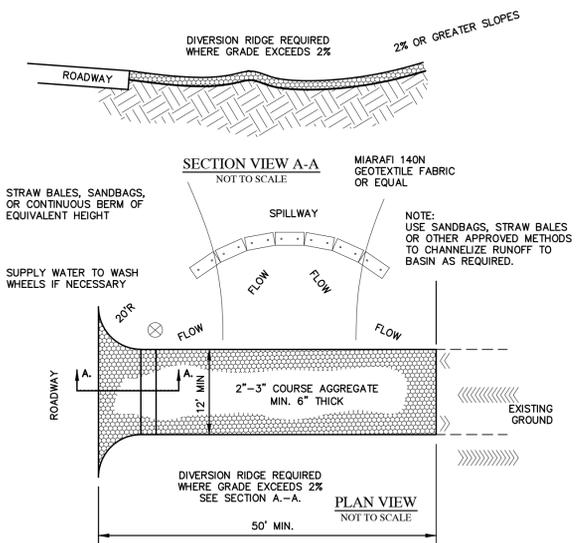
1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 7 DAYS, SEE ITEM NO. 4.
2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SEDIMENT BARRIER AND/OR HAY BALES WILL BE INSTALLED AT THE TOP OF THE SLOPE. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THAN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SEDIMENT BARRIER BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:  
A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).  
B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.  
C. INSTALL SEDIMENT BARRIER AROUND STOCKPILE AT BASE OF PILE. STOCKPILES TO HAVE SEDIMENT BARRIER INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.
4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE EITHER:  
A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR  
B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.
5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH RIPRAP, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)
6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

**POST-CONSTRUCTION REVEGETATION:**

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

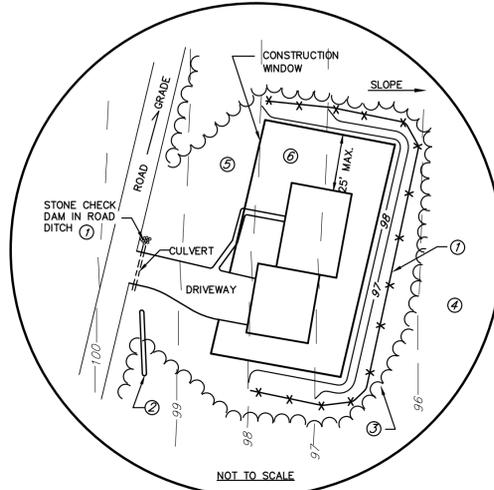
1. A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.
2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:  
LAWNS SHALL BE: ALLEN, STERLING & LATHROP 'TUFTTURF', 70% DIAMOND TALL FESCUE, 20% PLEASURE OLUS PERENNIAL RYEGRASS, 10% BARON KENTUCKY BLUEGRASS. SEEDING RATE SHALL BE 7-LBS./1,000 SQ. FT.  
SWALES SHALL BE: WILDFLOWER MEADOW (SEED) FESTUCA OVINA SHEEP FESCUE; SOW AT A RATE OF 12 OZ. PER 1,000 SQ.FT. TRIFOLIUM REPENS WHITE CLOVER; SOW AT A RATE OF 1/2 OZ. PER 1,000 SQ.FT. (FLOWERS) ACHILLEA MILLEFOLIUM YARROW, AQUILEGIA CANADENSIS COLUMBINE, ASCLEPIAS TUBEROSE BUTTERFLY MILKWEED, ASTER NOVAE-ANGLIAE NEW-ENGLAND ASTER, CHRYSANTHEMUM AUSTRIACUM AUSTRIAN FALSE ASTER, CHRYSANTHEMUM LEUCANTHEMUM OXEYE DAISY, DIGITALIS PURPUREA FOXGLOVE, ECHINACEA PURPUREA PURPLE CONEFLOWER, LUPINUS PERENNIS LUPINE, MONARDA FISTULOSA BERGAMOT, PAPAVER ORIENTALE ORIENTAL POPY, RUDBECKIA HIRTA BLACK-EYED SUSAN, SALVIA OFFICINALIS SAGE; SOW AT A RATE OF 1/3 OZ. EACH PER 1,000 SQ.FT. OR 4 OZ. PER 1,000 SQ.FT. IN COMBINATION.  
3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, JUTE NET OVER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.  
A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE)  
I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.  
II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.  
III. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.  
B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.  
4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.  
A. ONLY UNFROZEN LOAM SHALL BE USED.  
B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.  
C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.  
D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.  
E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.  
F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.  
5. THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. PERMANENT STABILIZATION IS DEFINED AS FOLLOWS:  
(A) SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.  
(B) SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.  
(C) PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.  
(D) RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.  
(E) PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.  
(F) DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION, WITH A WELL-GRADED RIPRAP LINING, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL BANKS, OR DOWN-CUTTING OF THE CHANNEL.

RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER/THIRD PARTY INSPECTOR THAT THE EXISTING CATCH IS INADEQUATE.



- NOTE:**
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR, AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS.
  3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR BASIN.

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**INSTALLATION:**

1. INSTALL SEDIMENT BARRIERS ON YOUR SITE BEFORE DISTURBING SOILS. SEE THE "SEDIMENT BARRIERS" MEASURE FOR DETAILS ON INSTALLATION AND MAINTENANCE.
2. CONSTRUCT A DIVERSION DITCH TO KEEP UPSLOPE RUNOFF OUT OF WORK AREA.
3. MARK CLEARING LIMITS ON THE SITE TO KEEP EQUIPMENT OUT OF AREAS WITH STEEP SLOPES, CHANNELIZED FLOW, OR ADJACENT SURFACE WATERS AND WETLANDS.
4. PRESERVE BUFFERS BETWEEN THE WORK AREA AND ANY DOWNSTREAM SURFACE WATERS AND WETLANDS. SEE THE "BUFFERS" MEASURE FOR BUFFER PRESERVATION.
5. USE TEMPORARY MULCH AND RYE-SEED TO PROTECT DISTURBED SOILS OUTSIDE THE ACTIVE CONSTRUCTION AREA. SEE THE "MULCHING" MEASURE AND "VEGETATION" MEASURE FOR DETAILS AND SPECIFICATIONS FOR THESE CONTROLS.
6. PERMANENTLY SEED AREAS NOT TO BE PAVED WITHIN SEVEN DAYS OF COMPLETING FINAL GRADING. SEE "VEGETATION" MEASURE FOR INFORMATION ON PROPER SEEDING.

**MAINTENANCE:**

EVERY MONTH THE FIRST YEAR AFTER CONSTRUCTION AND YEARLY THEREAFTER, INSPECT FOR AREAS SHOWING EROSION OR POOR VEGETATION GROWTH. FIX THESE PROBLEMS AS SOON AS POSSIBLE. EACH SPRING REMOVE ANY ACCUMULATION OF DEBRIS OR WINTER SAND THAT WOULD IMPEDE RUNOFF FROM ENTERING A BUFFER OR DITCH.

**HOUSE SITE - BEST MANAGEMENT PRACTICES**

NOT TO SCALE

**MONITORING SCHEDULE:**

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

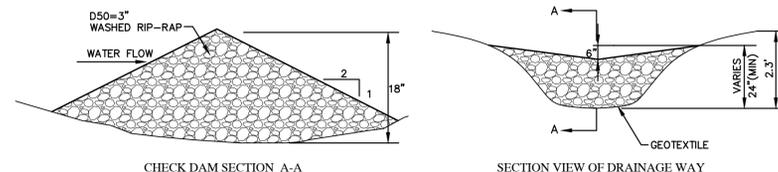
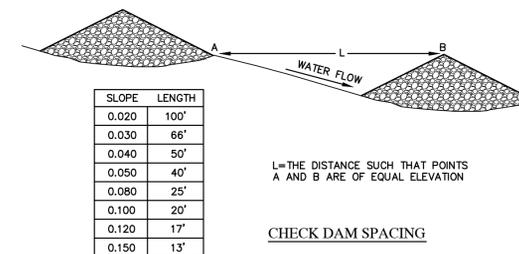
1. HAY BALE BARRIERS, SEDIMENT BARRIER, AND/OR STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SEDIMENT BARRIER BEHIND THE HAY BALES.
2. VISUALLY INSPECT INLET PROTECTION AT CATCH BASINS ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL. REMOVE SEDIMENT AS REQUIRED.
3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDING WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEED AS NEEDED. EXPOSED AREAS WILL BE RESEED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

**EROSION CONTROL DURING WINTER CONSTRUCTION:**

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 SQ. FT. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT. EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SEDIMENT BARRIER OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.
7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS. SLOPES GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCelsior OR CURLEX.
8. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.
9. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

**SITE INSPECTION AND MAINTENANCE:**

1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE WHEN THE PROJECT IS PERMANENTLY STABILIZED. NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER.
3. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER.



**STONE CHECK DAM IN DRAINAGE-WAY**  
NOT TO SCALE

2. 09-15-15 SUBMITTED FOR FINAL REVIEW JJM
1. 06-02-15 SUBMITTED TO TOWN OF BRUNSWICK RPL

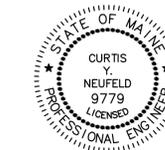
**TITLE: EROSION CONTROL NOTES AND DETAILS**

**PROJECT: SPRUCE MEADOWS SUBDIVISION  
OLD PORTLAND ROAD, BRUNSWICK, MAINE**

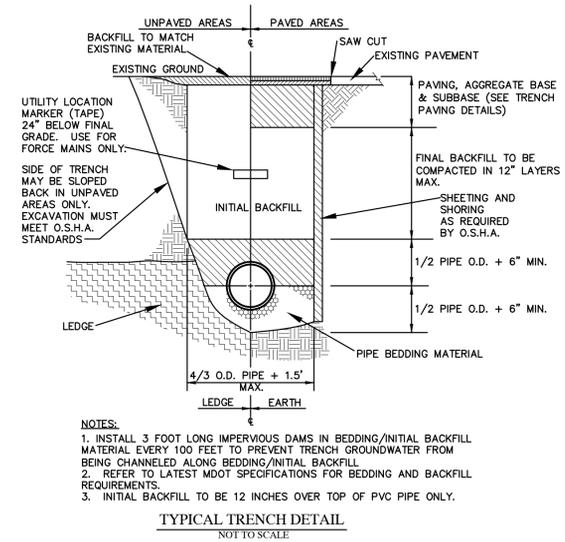
**PREPARED FOR: MOORE PROPERTIES, INC.  
228 OLD PORTLAND ROAD, BRUNSWICK, MAINE**

**SITELINES, PA**  
ENGINEERS • PLANNERS • SURVEYORS  
LANDSCAPE ARCHITECTS  
8 CUMBERLAND STREET, BRUNSWICK, ME 04011  
207.725.1200 www.sitelinespa.com

FIELD WK: NA	SCALE: AS SHOWN	SHEET: 6
DRN BY: JJM	JOB #: 731.03	
CHD BY: CYN	MAP/PLOT: 13/34.66-78	
DATE: 3-16-09	FILE: 731.03-COVER	

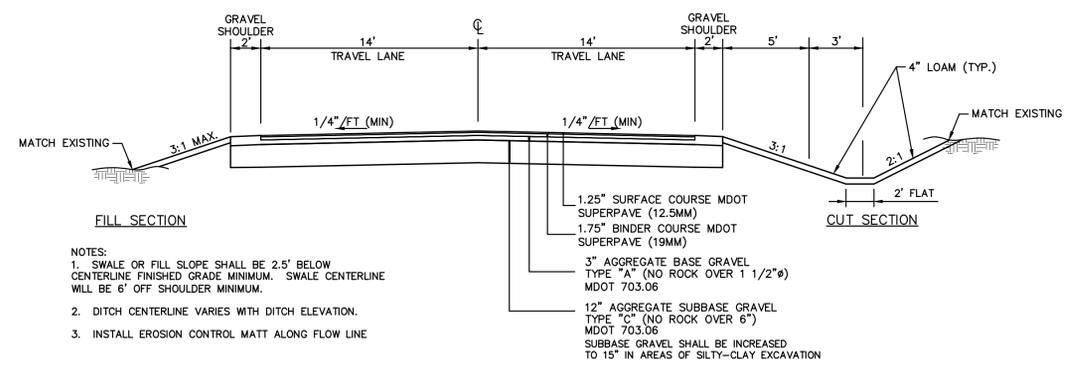


X:\LAND PROJECTS\13 MOORE BCC RESIDENTIAL BRUNSWICK\DWG\731 COVER.DWG, CONSTRUCTION DETAILS, 5/29/2015 4:00:26 PM, CURT



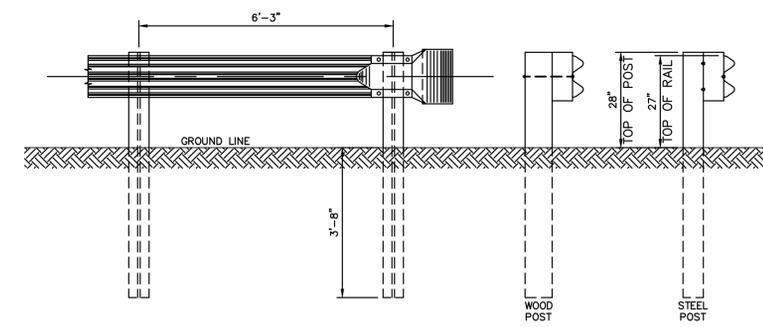
- NOTES:**
1. INSTALL 3 FOOT LONG IMPERVIOUS DAMS IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100 FEET TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNLED ALONG BEDDING/INITIAL BACKFILL
  2. REFER TO LATEST MDOT SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
  3. INITIAL BACKFILL TO BE 12 INCHES OVER TOP OF PVC PIPE ONLY.

**TYPICAL TRENCH DETAIL**  
NOT TO SCALE



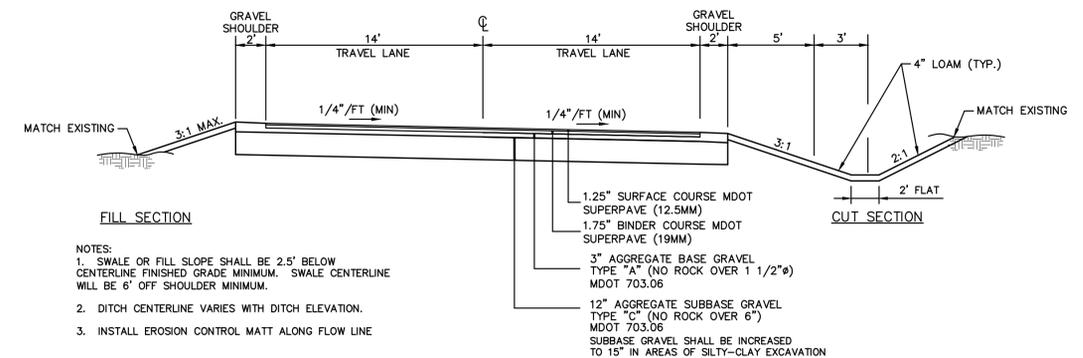
- NOTES:**
1. SWALE OR FILL SLOPE SHALL BE 2.5' BELOW CENTERLINE FINISHED GRADE MINIMUM. SWALE CENTERLINE WILL BE 6' OFF SHOULDER MINIMUM.
  2. DITCH CENTERLINE VARIES WITH DITCH ELEVATION.
  3. INSTALL EROSION CONTROL MATT ALONG FLOW LINE

**TYPICAL ROADWAY CROSS SECTION**  
NOT TO SCALE



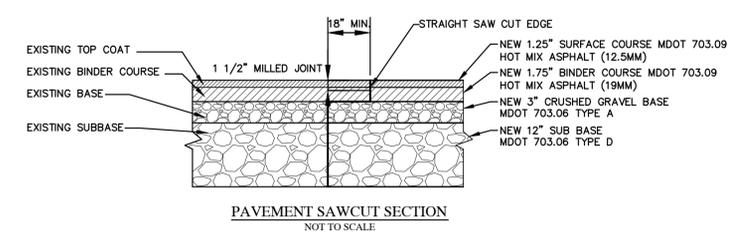
- NOTES:**
- 1.) WOOD POSTS FOR GUARD RAIL SHALL BE 6"x8" WITH 6"x6" OFFSET BLOCKS.
  - 2.) STEEL POSTS AND OFFSET BRACKETS FOR GUARD RAIL SHALL BE W6x8.5 OR W6x9.

**TYPICAL GUARD RAIL DETAIL**  
NOT TO SCALE



- NOTES:**
1. SWALE OR FILL SLOPE SHALL BE 2.5' BELOW CENTERLINE FINISHED GRADE MINIMUM. SWALE CENTERLINE WILL BE 6' OFF SHOULDER MINIMUM.
  2. DITCH CENTERLINE VARIES WITH DITCH ELEVATION.
  3. INSTALL EROSION CONTROL MATT ALONG FLOW LINE

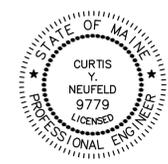
**SUPER-ELEVATED ROADWAY CROSS SECTION**  
NOT TO SCALE

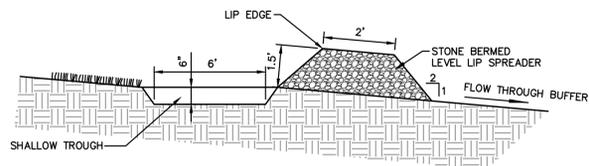


**PAVEMENT SAWCUT SECTION**  
NOT TO SCALE

2. 09-15-15 SUBMITTED FOR FINAL REVIEW JMM
1. 06-02-15 SUBMITTED TO TOWN OF BRUNSWICK RPL

<b>TITLE:</b> CONSTRUCTION DETAILS		
<b>PROJECT:</b> SPRUCE MEADOWS SUBDIVISION OLD PORTLAND ROAD, BRUNSWICK, MAINE		
<b>PREPARED FOR:</b> MOORE PROPERTIES, INC. 228 OLD PORTLAND ROAD, BRUNSWICK, MAINE		
<b>SITELINES, PA</b> ENGINEERS • PLANNERS • SURVEYORS LANDSCAPE ARCHITECTS 8 CUMBERLAND STREET, BRUNSWICK, ME 04011 207.725.1200 www.sitelinespa.com		
<b>FIELD WK:</b>	<b>SCALE:</b> AS SHOWN	<b>SHEET:</b>
<b>DRN BY:</b> DAM	<b>JOB #:</b> 731.03	<b>7</b>
<b>CHD BY:</b> CYN	<b>MAP/PLOT:</b>	
<b>DATE:</b> 3-16-09	<b>FILE:</b> 731.03-COVER	

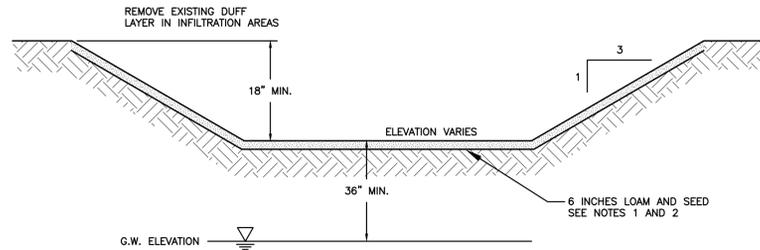




BERM STONE SIZE	
SEIVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
12 IN	100
6 IN	84 - 100
3 IN	69 - 83
1 IN	42 - 55
NO. 4	8 - 12

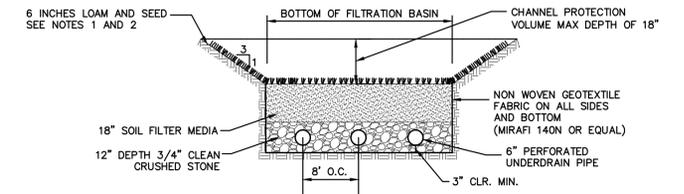
LEVEL LIP SPREADER SCHEDULE		
L.D.	LIP ELEV.	REQUIRED LENGTH
LLS-1	139.5	20 L.F.
LLS-2	149.5	20 L.F.

STONE BERMED - LEVEL LIP SPREADER  
NOT TO SCALE



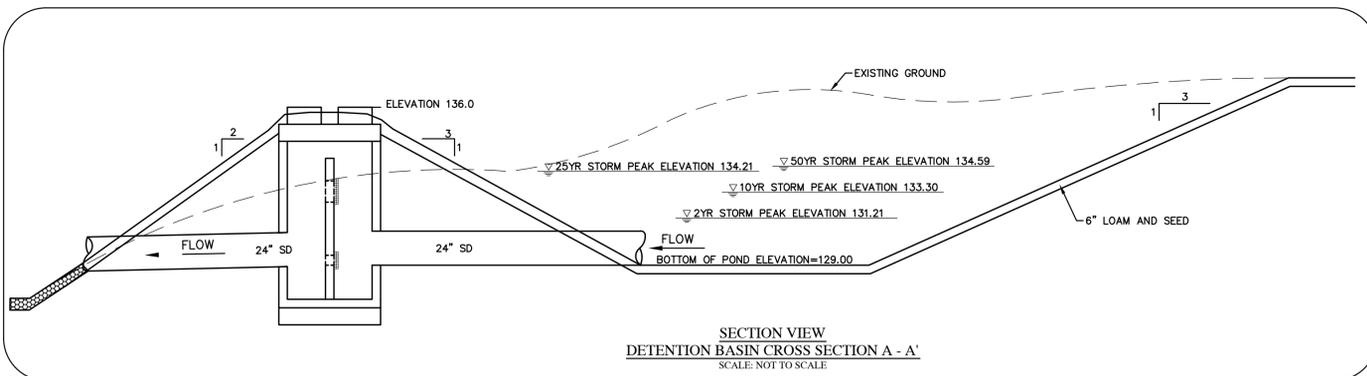
- NOTES:**
- SEED MIX SHALL BE A PREMIUM WATERWAY MIX: 35% CREEPING RED FESCUE, 20% RED TOP GRASS, 20% PERENNIAL RYE GRASS, 20% ANNUAL RYE GRASS, 5% ALSIKE CLOVER. SEEDING RATE SHALL BE 5-LBS./1,000 SQ. FT.
  - TILL FIRST THREE INCHES OF LOAM INTO NATIVE SOIL.
  - MINIMIZE USE OF HEAVY EQUIPMENT IN INFILTRATION AREAS
  - WHERE INFILTRATION AREA WILL BE CONSTRUCTED IN DISTURBED AREAS, USE ON SITE SOIL TO BACK FILL TO FINAL GRADE WITHOUT COMPACTION.
  - PROTECT INFILTRATION AREAS FROM SEDIMENT DEPOSITION DURING CONSTRUCTION AND WORK IN ADJACENT AREAS.
  - REMOVE ANY SEDIMENT FROM INFILTRATION AREAS PRIOR TO FINAL GRADING AND SEEDING.

INFILTRATION BASIN  
NOT TO SCALE

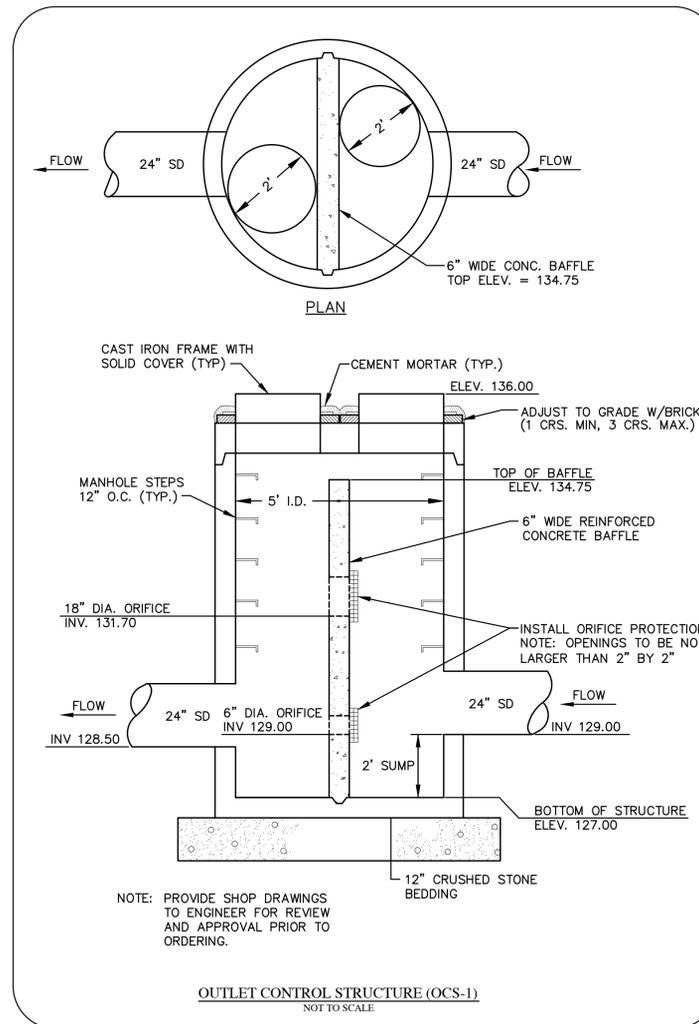


- NOTE:**
- SEED MIX SHALL BE A PREMIUM WATERWAY MIX: 35% CREEPING RED FESCUE, 20% RED TOP GRASS, 20% PERENNIAL RYE GRASS, 20% ANNUAL RYE GRASS, 5% ALSIKE CLOVER. SEEDING RATE SHALL BE 5-LBS./1,000 SQ. FT.
  - TILL FIRST THREE INCHES OF LOAM INTO NATIVE SOIL.
  - SOIL FILTER: GRAVELLY COARSE SAND MIXED WITH 20-30% BY VOLUME OF WOOD FIBER MULCH. IF SUPERHUMUS IS USED THEN THE RATIO NEEDS TO BE EQUIVALENT TO 2 PARTS-ONE PART BY VOLUME. THE COMBINED MIXTURE MUST HAVE NO MORE THAN 10% FINES PASSING THE #200 SIEVE.
  - THE FILTER MEDIA SHALL BE INSTALLED ONLY AFTER ITS ASSOCIATED DRAINAGE AREA HAS BEEN FULLY STABILIZED.
  - INSTALL SEDIMENT BARRIERS BETWEEN WATER QUALITY FEATURE AREAS AND UNSTABILIZED AREAS. SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL ITS ASSOCIATED DRAINAGE AREA HAS BEEN FULLY STABILIZED.

VEGETATED UNDERDRAIN GRASS FILTER DETAIL  
NOT TO SCALE



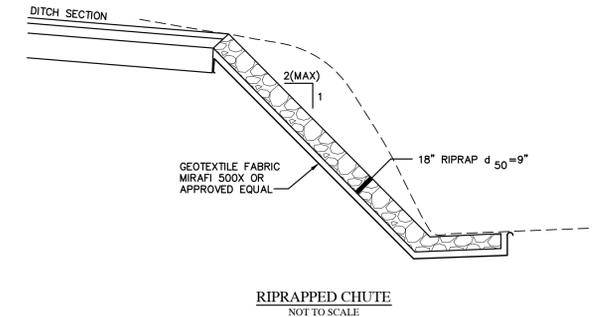
SECTION VIEW  
DETENTION BASIN CROSS SECTION A - A'  
SCALE: NOT TO SCALE  
ALREADY CONSTRUCTED  
INCLUDED FOR REFERENCE ONLY



- NOTE:** PROVIDE SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING.

OUTLET CONTROL STRUCTURE (OCS-1)  
NOT TO SCALE

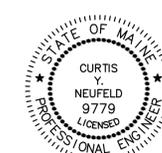
ALREADY CONSTRUCTED  
INCLUDED FOR REFERENCE ONLY



RIPRAPPED CHUTE  
NOT TO SCALE

2. 09-15-15 SUBMITTED FOR FINAL REVIEW JMM  
1. 06-02-15 SUBMITTED TO TOWN OF BRUNSWICK RPL

**PROGRESS PRINT**  
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.



**TITLE:** STORMWATER DETAILS

**PROJECT:** SPRUCE MEADOWS SUBDIVISION  
OLD PORTLAND ROAD, BRUNSWICK, MAINE

**PREPARED FOR:** MOORE PROPERTIES, INC.  
228 OLD PORTLAND ROAD, BRUNSWICK, MAINE

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