Maine Department of Transportation
Highway Program

GEOTECHNICAL SERIES 100 REPORT

Route 11
Wallagrass, Maine

Prepared by:
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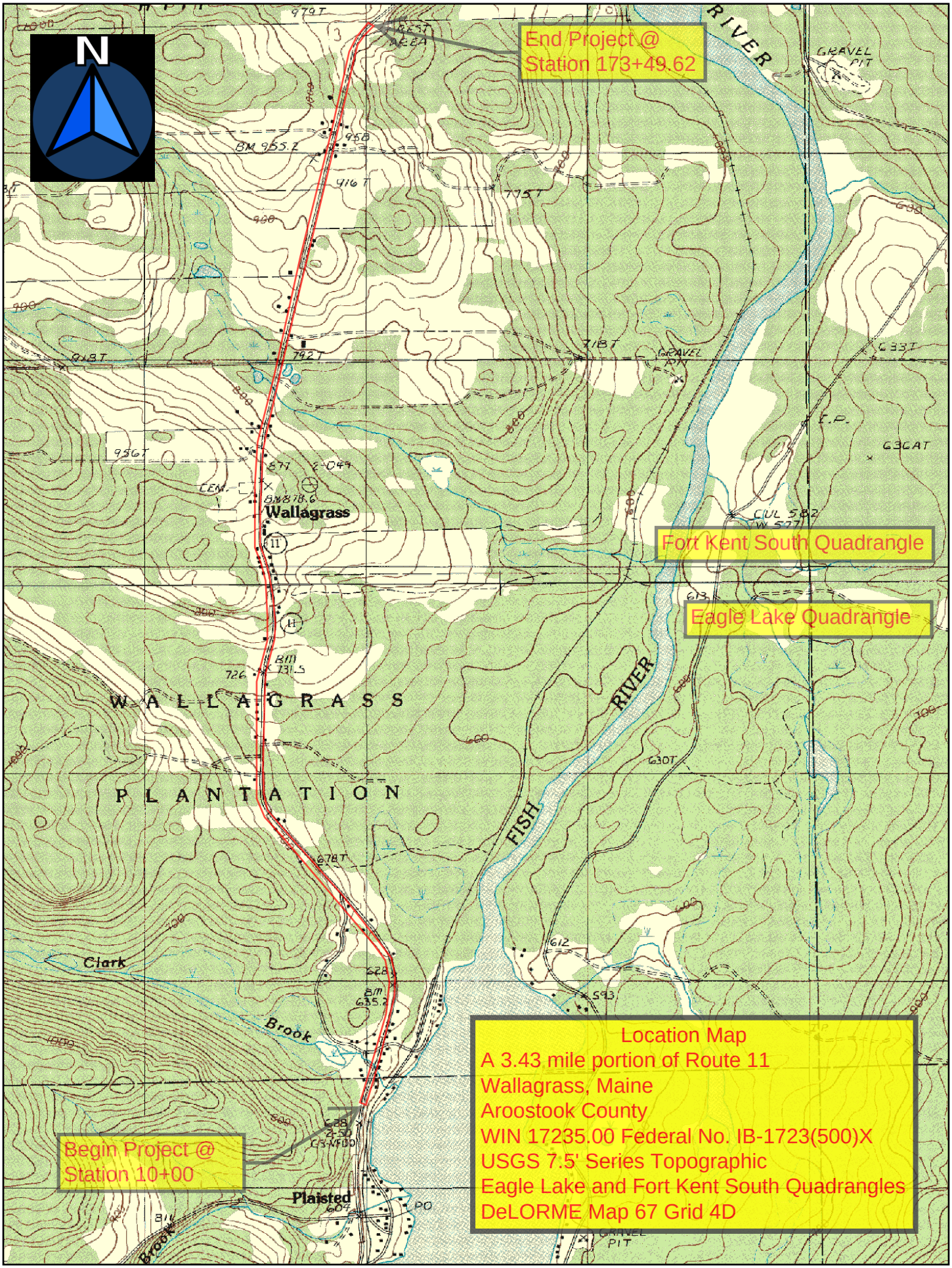
Aroostook County

WIN 17235.00
Fed Project #: IB-1723(500)X
March 11, 2013

Soils Report No. 2013-110
TEDOCS#



Map Scale 1:24000

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Highway Program

Brad Foley, Program Manager

Memorandum

DATE: March 11, 2013

TO: Jon Bither **DEPT:** Region 5

FROM: Scott A. Hayden **DEPT:** Highway Program

SUBJECT: Final Soils Report # 2013-110 – Wallagrass, Route 11, WIN 17235.00

Project Information

A subsurface investigation has been completed for the reconstruction of a 3.43 mile portion of Route 11 in the town of Wallagrass. The project begins 0.05 miles south of the Eagle Lake / Wallagrass town line and extends north 3.43 miles. The purpose of the subsurface investigation was to obtain subsurface soil, bedrock, and ground water information along the proposed project site for design and construction purposes. The investigation included the use of a drill rig, falling weight deflectometer (FWD) and ground penetrating radar (GPR).

Pavement Design

Full depth reconstruction is proposed throughout the project. The proposed typical roadway design template consists of two 11-foot wide travel lanes with 3-foot wide paved shoulders. The proposed pavement design consists of 5-inches of hot mix asphalt and 25-inches of dense graded crushed aggregate.

FWD Testing Results

Deflection Data

FWD deflection data for the pavement layer are relatively high (> 15 Mils, 1st sensor) and erratic throughout the project site indicating poor pavement conditions.

FWD deflections in the lower layers generally mirror the pavement deflections. Lower layer deflections are very high between stations 125+00 and 130+00. These deflections are likely due to wet organic silts and sands. See Organic Soils section in this report.

The FWD deflection plots have been included at the back of this report.

FWD Analysis

FWD data was collected every 250 feet in the north bound lane. The data was collected at an approximate offset of 9'. The analysis was conducted using the following variables:

Design Life: 20	Future 18-kip ESALs (Design Life): 2,547,700
Initial Serviceability: 4.5	Terminal Serviceability: 2.5
Reliability Level: 90%	Overall Standard Deviation: .45

Pavement thickness used for the DARWin analysis was taken from ground penetrating radar estimates. Gravel thicknesses used were taken from power auger borings. A summary of the FWD analysis is shown in Table 1 below.

Table 1: Summary of FWD Analysis

Design Variables	% Failing	Range	Average	75 Percentile
Existing SN fails to exceed Future SN	61%			
Pavement Modulus (psi)		27,428 – 104,446	50,462	40,590
Subgrade Resilient Modulus (psi)		1,488 - 15,223	4,492	2,950

Existing Structural Number

The existing structural number fails to meet the future traffic structural number for 61% of this project.

Subgrade Resilient Modulus (M_r)

Subgrade resilient modulus (M_r) varied between 1,488psi and 15,223 psi with an average value of 4,492psi. The 75th percentile is 2,950 psi.

Low subgrade resilient modulus values (<3000 psi) were encountered at 28% of the FWD test locations. It is anticipated that these low values are due to moist to wet subgrade conditions and/or the presence of wet organic silts/sands. Depending on subgrade conditions at the time of construction, these areas could become problematic once the existing pavement surface is removed. Additional base material may be necessary to support traffic during construction. Areas containing low subgrade resilient modulus values are listed in Table 2 below.

Table 2: Low Subgrade Resilient Modulus Areas

Station	Anticipated Subgrade Soil Condition
14+00 – 16+00	Moist Silty Sand
19+00 – 23+00	Moist Silty Sand
29+00 – 31+00	Damp Silty Sand
34+00 – 38+00	Damp Silty Sand
41+00 – 44+00	Moist Sandy Silt
59+00 – 61+00	Moist Sandy Silt
119+00 – 122+00	Wet Silty Sand
124+00 – 132+00	Wet Organic Silts/Sands
147+00 – 149+00	Moist Sandy Silt / Silty Sand
152+00 – 154+00	Moist Silty Sand / Sandy Silt
167+00 – 169+00	Moist Silty Sand / Sandy Silt
172+00 – 174+00	Moist Silty Sand / Sandy Silt

Existing HMA Thickness

Existing pavement thickness estimates are provided based on pavement coring, power auger borings and ground penetrating radar data.

Power Auger Borings – Thirty-five power auger borings were conducted through the existing pavement. Pavement thickness was measured along the side wall at each of the boring locations. See attached boring logs.

Pavement Coring Data – Fifteen pavement cores were obtained using a hand held, gas powered, coring machine utilizing a 2" thin wall core bit. Pavement cores were drilled at stations 30+00, 70+00, 109+20 (Relocation Area), 138+00 and 169+30. Pavement cores were transported to the Bangor Lab for photographing and storage. Photographs of the cores are included at the back of this report.

GPR Data – GPR data was collected in the left and right wheel path of both lanes. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Pavement core thicknesses were used to ground truth the GPR data. GPR pavement thickness averages have been provided utilizing a 100' interval. These estimates are reported at the back of this report. The data is divided into three sections: 1.) Station 10+00 to 101+06, 2.) Relocation and 3.) Station 118+10 to 173+50. A description of these GPR data reporting sections is provided below:

> Section 1: Station 10+00 to 101+06 – GPR data in this section consists of an average calculated from data collected in the left and right wheel path of both lanes between stations 10+00 and 101+06.
>
> Section 2: Relocation Area - GPR data in this section consists of an average calculated from data collected in the left and right wheel path of the existing travel lanes within the relocation area (approximately 101+00 – 118+00). This section lacks stationing and is reported in feet (0' - 1691') because the new alignment no longer follows the existing roadway.
>
> Section 3: Station 118+10 to 173+50 - GPR data in this section consists of an average calculated from data collected in the left and right wheel path of both lanes between stations 118+10 and 173+50.

A summary/comparison of the existing pavement thickness derived from pavement cores verses the GPR pavement thickness estimate is shown in Table 3 below:

Table 3: Pavement Thickness Summary

	Southbound	Northbound
Pavement Core Data		
Range of Thickness	2.0" – 9.5"	2.0" – 8.0"
Average Thickness	5.6"	5.6"
Ground Penetrating Radar Data		
Range of Thickness	4.3" – 10.2"	
Average Thickness	7.4"	

Geology

The topography along the project site consists of undulating terrain supported by relatively shallow bedrock overlain by relatively thin surficial glacial till deposits. Till soils are deposited directly by and underneath a glacier without subsequent reworking of meltwater. Thus these soils are dominantly unsorted and unstratified consisting of a heterogeneous mixture of silt, sand, and cobbles ranging widely in size and shape. The Natural Resources Conservation Service maps these till soils as Howland, Monarda, Plaisted, Stetson and Thorndike soils. The Surficial Geologic Map of Maine (1985) delineates these project soils as “thin drift”. The use of the term thin drift generally refers to an area of thin (< 3 m thick) surficial deposits (till) with multiple areas of outcropping bedrock.

Subsurface Explorations

Subsurface explorations were conducted by Maine DOT using a CME 45C truck mounted drill rig and Maine Test Borings using a tire mounted CME 45C drill rig. Bore hole logging was performed by Maine DOT. The purpose of the subsurface explorations was to obtain subsurface soil, bedrock, and ground water information along the proposed centerline cut and embankment areas for design and construction purposes.

Power Auger Probes and Rod Sounding

A total of 421 power augers probes and 47 rod soundings were conducted along the project site. Power auger probes were conducted using 5” solid stem augers. Round soundings were conducted by hand using 5/8” diameter rods and a 35# hammer. These probes and soundings were utilized to determine the depth to bedrock in suspected shallow bedrock areas. See attached power auger probe and rod sounding summary sheets for station location and refusal depths.

Power Auger Borings

A total of 49 power augers borings were conducted along the project (See Boring Logs). Power auger borings were conducted using 5” solid stem augers. The boring locations, depth, sampling, and in-situ testing were determined by Maine DOT geotechnical personnel based on FWD deflection results, on-site observations in addition to using the FHWA Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications (FHWA ED-88-053) as a guide. Soils were described and sampled from auger flights and from a split-spoon sampler. In-situ tests were performed using the Standard Penetration Test (SPT) Method. A 1-3/8” (ID) split-spoon sampler was used. The spoon was driven with a 140-lb hammer using a 30 inch drop. Blow counts were recorded per 6 inch driving interval. The N-value (uncorrected) was estimated from the recorded blow counts.

Soil Sampling – Laboratory Testing

A total of 48 soil samples were collected from the power auger borings and tested at the Maine DOT Materials and Testing laboratory, located in Bangor Maine. Grain size and water content testing was conducted on each sample. Loss of ignition testing was conducted on seven samples. Atterberg limits were conducted on one sample. Based upon laboratory test results, soil samples were classified according to the Unified Classification System, AASHTO Soil Classification and Maine DOT Frost Susceptibility Rating. Testing results are summarized on the attached Laboratory Testing Summary Sheet.

Subsurface Evaluation

Existing Roadway Base

Existing Base Material Type: gravelly silty SAND
AASHTO Classification: A-1-b, A-2-4
Percent Passing #200 Sieve: 21% - 34%
Range of Base Material Thickness: 17" – 30+"
Quality of Drainage (AASHTO): poor to very poor
Permeability: 0.1' – 0.8' per day

The existing base generally consists of damp to moist gravelly silty SAND similar to samples 214-S3, 103-S4, 224-S6 and 223-S13. Overall, the existing base thickness and quality is inadequate throughout the project site.

Subgrade Soils

Based on power auger boring data subgrade soils are anticipated to consist primarily of moist to wet silty SANDS/sandy SILTS (till). The till soils are primarily classified (AASHTO) as A-4 soils. Representative samples of this material include samples 101-S1, 216-S6, 218-S8 and 224-S16. These subgrade soils are quite silty with as much as 57% passing the # 200 sieve. These soils are moderate to highly frost susceptible.

These till soils can perform adequately as a subgrade soil if they are properly compacted and drained. However, these soils will swell and lose much of their stability if they are not properly compacted and drained. Wet subgrade soil conditions were encountered in the vicinity of stations 75+00, 120+00 – 130+00.

Low subgrade resilient modulus values (M_r) were encountered in multiple areas along the project site. These areas have been identified in Table 2 within the FWD Testing Result section of this report. These low values may indicate the presence of moist to wet subgrade soil conditions. Depending on subgrade conditions at the time of construction, the existing roadway structure may have difficulty supporting vehicle traffic once the existing pavement is removed. It is important that these areas be well drained prior to removing the existing pavement.

A summary of the anticipated subgrade soils is provided in Table 4 below. This summary is based on limited subsurface exploration data. Actual field conditions may vary.

Table 4: Anticipated Subgrade Soils

Station	Soil Description	AASHTO (Unified)	Sample Reference	% Passing #200
10+00 – 40+00	Gravelly silty SAND	A-2-4, A-4 (SM)	101-S1, 212-S1	28 - 41
40+00 – 80+00	Sandy SILT	A-4 (SM, ML)	216-S6, 218-S8	50 - 57
80+00 – 122+50	Silty SANDS	A-2-4, A-4 (SM)	220-S11, 224-S16	29 - 44
122+50 – 132+00	Silty SAND/Sandy SILTS with organics	A-4 (CL-ML, SM)	302-2D, 201-2D	53 (32% Ign Loss)
132+00 – 173+00	Silty SANDS	A-2-4 (SM)	220-S11	29

Organic Soils

Organic soils were encountered between stations 122+55 and 131+50. The topography is low lying and wet between these stations. Drainage is provided through Carter brook which passes beneath the roadway at station 124+25. A new 12-foot wide box culvert is proposed to provide this passage. Excavation to a depth of 10-feet below the existing top of pavement will be required for the placement of this box culvert. (See attached memo from Kitty Breskin for specific recommendations related to the placement of this box culvert).

It has been reported that the roadway in this low lying area has been "built-up" in the past utilizing a corduroy log/brush type fill structure. Power auger borings encountered wet organic silts and organic sands but could not verify the presence of a corduroy layer. The organic silts and organic sands were encountered at a minimum depth of 2.5' below the top of existing pavement and a maximum depth of 7.2'. The thickness and organic content of these organic silt/sand layers varied from 0.3' – 2.9' and 14% - 32% loss of ignition respectively with water contents as high as 144%. The specific location, depth, thickness, water content and ignition loss of these organic silts/sands are listed in Table 5 below.

Due to the placement of the proposed box culvert, presence of organic silts/sands, possible presence of corduroy log structure, and overall poor past pavement performance in this area, it has been recommended that the roadway be undercut throughout this area to remove any organic silts/sands and any other organic material encountered during construction. The anticipated undercut depths are provided in Table 5.

Table 5: Anticipated Organic Soils

	LEFT						RIGHT					
Station	**Depth of Organics (ft)**	**Thick-ness (ft)**	**Bottom of Undercut (ft)**	**Sample No.**	**Ign. Loss %**	**H20 %**	**Depth of Organics (ft)**	**Thick-ness (ft)**	**Bottom of Undercut (ft)**	**Sample No.**	**Ign. Loss %**	**H20 %**
122+00	No Organics						No Organics					
122+55	3.2-3.6	0.4	3.6				4.0-5.2	1.2	5.2			
123+00	4.0-4.3	0.3	4.3				5.5-7.0	1.5	7.0			
124+00	5.1-6.7	1.6	6.7				5.2-7.2	2.0	7.2	226-S18	16	
125+00	5.0-5.5	0.5	5.5	210-1D	14	14	6.3-7.2	0.9	7.2	226-S18	16	81
126+00	5.0-6.1	1.1	6.1									
127+00	4.0-5.1	1.1	5.1	208-1D	22	13	3.1-3.6	0.5	3.6			
128+00	4.1-6.3	2.2	6.3				3.2-3.7	0.5	3.7	230-1D		
129+00	2.9-3.3	0.4	3.3	203-1D	25	70	2.5-3.8	1.3	3.8	203-1D	25	70
130+00	4.0-6.9	2.9	6.9	201-2D	32	144	3.2-5.2	2.0	5.2	205-1D	22	32
131+00	5.0-7.0	2.0	7.0	201-2D	32	144	3.9-5.3	1.4	5.3			
132+00	No Organics						No Organics					

Frost Susceptible Soils/Frost Penetration

The sandy SILT/silty SAND till soils are anticipated to be moderately to highly frost susceptible. Frost ratings can be found on the Laboratory Testing Summary Sheet. Frost action in soils requires the presence of frost susceptible soils, ground temperatures below 32° F, and water. Proper drainage of the pavement structure and the lowering or draw down of the ground table through ditching and/or under drain is critical in minimizing the damaging effects of frost action throughout this project.

The Maine Design Freezing Index for this project is approximately 2600. Frost penetration depth beneath a snow free pavement is anticipated to be between 50" (silt or clay) and 122" (sand or

gravel) based on the 1955 Army Corps of Engineers, “Prediction of Freezing Temperature Penetration in New England”.

Drainage

Surficial and subsurface drainage is marginal throughout the project site. Proposed ditching and under drain placement should provide adequate drainage.

Culverts at Station 68+75 and Station 124+40 will be replaced with much larger structures. At Station 68+75 the existing 36-inch corrugated metal pipe will be replaced by a 10-foot wide by 5-foot high concrete box culvert. At Station 124+27, existing 36-inch (Station 124+15) and 48-inch (124+27) pipes will be replaced by a single 12-foot wide by 5-foot high concrete box culvert. Please refer to the attached memo from Kitty Breskin for specific design and construction recommendations related to the placement of these drainage structures.

Shallow Bedrock

Bedrock is anticipated to be relatively shallow (< 15’) throughout the project area. The bedrock lithology consists of pelite which is basically a slightly metamorphosed siltstone. The bedrock is mapped (Bedrock Geologic Map of Maine, Maine Geological Survey, 1985) as an interbedded pelite and limestone belonging to the Seboomook formation. Field measurements indicate that the bedrock strike is northeast, with an estimated dip of 70 – 90+ degrees.

Subsurface explorations indicate that the upper surface of this bedrock is commonly weathered. It may be possible to remove this weathered surface with an excavator. The competency of the bedrock in this region can differ greatly vertically and horizontally, due to variations in hardness, friability, weathering, and bedrock dip and strike. These variations may be gradual or sudden and can occur in isolated areas or expand for considerable distances. These variations could affect how the bedrock is excavated and the ability of the rock face to stand at a ¼:1 slope. Because of this it was recommended that the resident and contractor closely examine the condition of the bedrock face as it becomes exposed during the construction. If the exposed rock face is not firm or competent, the rock face should be constructed at a 2:1 back slope. Loose bedrock fragments or glacial debris on the surface and near the new exposure should be removed during construction.

It is anticipated that blasting will be required for the majority of excavation below the limits of the weathered surface. Depending on the strike and dip, degree of weathering and fracturing, area of surface exposure and flexibility in the direction of excavation, limited bedrock removal may be possible by ripping and/or the use of an excavator.

Ledge lines have been drawn on the cross sections for estimation purposes. This information is based on estimates determined from limited boring, probe and sounding information. The actual elevation of the bedrock surface and the competency of the bedrock could vary considerably.

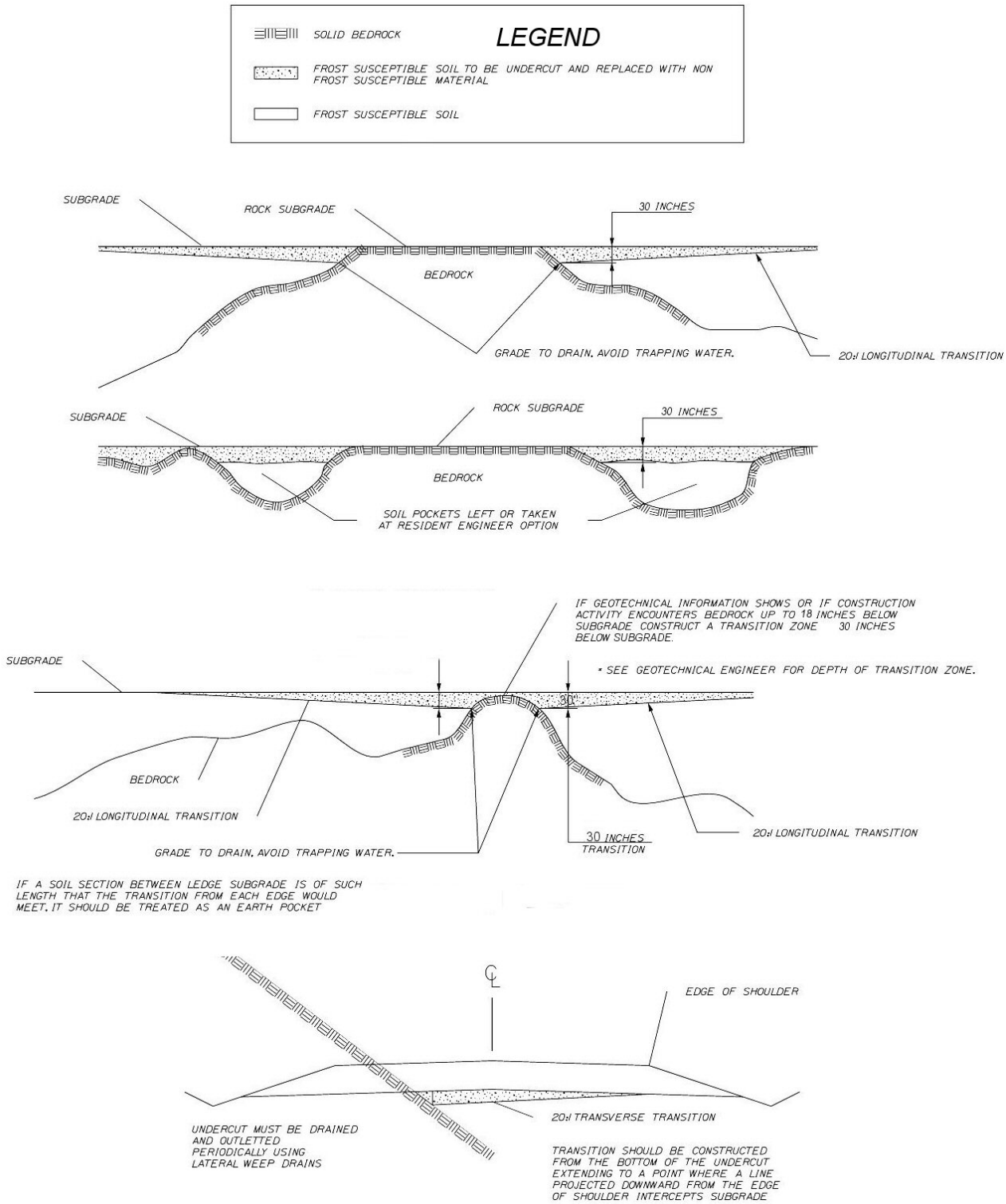
Based on these ledge lines rock excavation is anticipated in the vicinity of the following stations:

10+00, 17+00 – 22+00, 25+00 - 27+00, 48+00 – 49+00, 71+00, 73+00, 83+00 – 98+00, 103+00 – 117+00, 136+00 – 147+00, 161+00 – 174+00.

Differential Frost Heaving / Bedrock Transition Zones

Differential frost heaves are likely to form along soil/bedrock contacts where the bedrock is near or at subgrade. To aid in the prevention of differential heaving, 20:1 transition should be constructed as illustrated in Figure 1 below:

Figure 1: Typical section detailing the transition and undercutting of frost susceptible soils over ledge



Based on anticipated centerline bedrock elevations (see attached plan and profile), soil/bedrock transition zones are anticipated in the following areas listed below. Actual transition areas and the limits of any undercut of frost susceptible soils over ledge can only be determined in the field based on actual field conditions encountered.

18+10 – 20+75	82+25 – 84+07	84+38 – 89+50	92+62 – 93+90	93+75 – 95+13
96+00 – 96+82	96+70 – 98+13	105+12 – 106+12	107+25 – 107+70	108+50 – 109+25
110+15 – 112+00	112+25 – 116+50	134+50 – 136+00	137+80 – 138+75	143+53 – 144+45
144+80 – 146+75	160+75 – 163+25	164+55 – 165+35	165+46 – 166+84	167+17 – 168+50
170+35 – 172+60				

Recommendations

1. Low subgrade resilient modulus values were encountered throughout the project site. Refer to Table 2 in the FWD Test Result section of this report for a complete listing of these areas. Depending on subgrade conditions at the time of construction these areas may have difficulties supporting traffic once the existing pavement surface is removed. Additional base material may be necessary to support traffic during construction. It is recommended that these areas be well drained prior to removing the existing pavement surface.

2. It is recommended that the organic silts/sands between stations 122+55 and 131+50 be removed full width within a 1:1 slope drawn from the outside edge of the shoulder extending downward to the bottom of the organic silt/sand layer. The anticipated location, depth and thickness of theses organic silts/sands is listed in Table 5 located within the organic soils section of this report.

3. To aid in the prevention of differential heaving the undercutting of frost susceptible soils with a 20:1 longitudinal transition is recommended along soil/bedrock contacts within the frost zone. The undercut should be replaced with non-frost susceptible soils. A typical section detailing the transition and undercutting of frost susceptible soils over ledge is shown in Figure 1 on the previous page. A listing of potential transition zone areas, based upon the proposed centerline bedrock elevations, is provided within the Differential Frost Heaving / Bedrock Transition Zones section of this report.

4. It is recommended that the resident engineer and contractor closely examine the competency of the bedrock face as it becomes exposed during the construction of back slopes. If the exposed rock face is not firm or competent the rock face should be constructed at a 2:1 back slope.

5. It is recommended that loose bedrock fragments and/or overburden, on or near the surface of the new bedrock back slope exposures, be removed during construction.

6. Culverts at Station 68+75 and Station 124+40 will be replaced with concrete box culverts. Maine DOT senior geotechnical engineer, Kitty Breskin, P.E., has provided engineering calculations and recommendations for these structures in a 2/25/13 memo to Scott Hayden, C.G.. This memo has been included as part of this report and directly follows this recommendation page.

MaineDOT

Highway Program

Brad Foley, Program Manager
Scott Bickford & Heath Cowan, Assistant Program Managers
Phone: 624-3480 Fax: 624-3481

Memorandum

STATE OF MAINE
Kalia Breskin
8581
LICENSED
PROFESSIONAL ENGINEER

To: Scott Hayden, C.G.
From: Kitty Breskin, P.E.
Date: February 25, 2013
Subject: Wallagrass, PIN 17235.00

Culverts at Station 68+75 and Station 124+40 of this project will be replaced with much larger structures. An existing 36-inch corrugated metal pipe at Station 68+75 will be replaced by a 10-ft wide x 5-ft high concrete box culvert. At Station 124+27, existing 36-inch and 48-inch pipes at Stations 124+15 and 124+27 will be replaced by a single 12-foot wide x 5-foot high concrete box culvert. Both culverts will be four sided and will be embedded into the streambed to create a natural bottom.

Subsurface Investigation

The subsurface investigation for these structures included explorations at Station 68+75 and a boring at Station 124+28, on October 16, 2012, and additional borings on January 30, 2013. Other explorations for this project add information in the area of these culverts. Boring logs and lab testing results are in the Appendices to this report.

Subgrade Conditions

Native soils at and near Station 68+75 include wet, medium dense gravelly sand with some silt. Wet soils are indicated starting 6-feet below the existing roadway. Shallow bedrock was encountered at a depth of 8.2 feet in HB-WALL-301 at Station 68+75, 12-feet Right, and at a depth of 9.5-feet at in HB-WALL-401 at Station 68+77, 14-feet, Right . Many probes in the area also show a fairly consistent bedrock surface approximately 8-feet below the roadway. A5-foot bedrock core was taken in HB-WALL-401 using an NG-2 core barrel. Bedrock in this core was a dark grey to black foliate Slate, forming steeply dipping, approximately 50-degree, parallel segments ½" to 1" thick. Rock quality was very poor, with RQD or 0%. A photograph of the rock core taken in HB-WALL-401 is attached to this memo.

Native soils at and near Station 124+40 include a layer described as peat, silty peat, organic silt, and sand with little organics, wood and trace gravel. Samples from borings near the culvert were tested for ignition loss and water content. These tests indicated organic content of 15.7% and water content of 81.2% at Station 124+00 and organic content of 5.5% and water content of 27.8% at Station 124+28. Other samples in this area had ignition loss as high as 32% with water content of 143.9%. The top of this stratum is between 5-feet and 6-feet below the existing roadway surface, and the thickness varies from 0.5-feet to 2.5-feet. Wet soils were indicated starting 6-feet below the existing roadway. Soils below this stratum are described as Till comprised of silt with some sand and little gravel.

Design Recommendations

Station 68+75

Bedrock can be expected at or near the elevation of the culvert invert at Station 68+75. Boring HB-WALL-301 at Station 68+75, 12-feet right encountered weathered rock at a depth of 8.2 feet below the existing roadway. Bedrock excavation will be required for construction of a 4-sided box culvert at this location.

Station 124+40

The vertical alignment in the area surrounding the structure at Station 124+40 will be raised nearly 5-feet. Organic soils in this area should be removed to prevent unacceptable settlements of the roadway surrounding the new structure.

The extent of these organic soils is discussed in the soils report. The layer thickness varies, extending for a thickness greater than two-feet in some borings. If these soils are left in place, total settlement will depend on the layer thickness and the height of the fill to be placed, however primary settlements in a two foot thick layer of peat and organic silt can be expected to be on the order of 4-inches or more, with a comparable extent of secondary settlement continuing for many years.

The organic soil stratum is above the culvert invert, so minimal added settlement is anticipated at the location of the box culvert at Station 124+40. This would lead to an unacceptable elevation difference at the box culvert.

Values for use in design of the culverts

The following values should be used for supplier designed box culverts:

Factored Bearing Resistance		
Station 68+75	Service Limit State	16 ksf
Station 124+28	Strength Limit State	3.1 ksf
Active earth pressure	K_a	
Station 68+75	0.28	
Station 124+28	0.33	

Attachments:

Rock Core Photographs
MathCad worksheets

The Wallagrass rock core is at the bottom of the photograph. This segment is representative of the entire core.
Dark grey to black foliate Slate forming steeply dipping, approximately 50 degree, parallel segments 1/2" to 1" thick.
RQD = 0%

Headwall Active Earth Pressures:

Effective active earth pressure coefficient:

Rankine Theory - Active Earth Pressure from MaineDOT Bridge Design Guide Section 3.6.5.2, pg 3-7

$\beta := 0 \cdot deg$ slope angle of backfill soils from horizontal

Station 68+75 Borings HB-WALL-401 and HB-WALL-301

$\phi_a := 34 \cdot deg$ assumed effective friction angle for medium dense silty SAND, some to trace gravel

$$K_a := \tan\left(45 \cdot deg - \frac{\phi_a}{2}\right)^2 \qquad K_a = 0.28$$

Station 124+28 Borings HB-WALL-302 and HB-WALL-402

$\phi_a := 34 \cdot deg$ assumed effective friction angle for stiff SILT, some sand, little gravel

$$K_a := \tan\left(45 \cdot deg - \frac{\phi_a}{2}\right)^2 \qquad K_a = 0.28$$

Service Limit State Bearing Resistance - Native Granular Soils:

Nominal and factored Bearing Resistance

Presumptive Bearing Resistance for Service Limit State ONLY

Reference: AASHTO LRFD Bridge Design Specifications 5th Edition
Table C10.6.2.6.1-1 Presumptive Bearing Resistances for Spread Footings at the Service Limit State Modified after US Department of Navy (1982)

STATION 68+75

Type of Bearing Material: Weathered Rock, RQD = 0

Bearing Resistance: Ordinary Range (ksf) 16-24

Recommended Value of Use: 16 ksf

STATION 124+50

Type of Bearing Material: SILT, some sand, little gravel (Till)

Consistency In Place: Very Stiff - N_{60}=19

Bearing Resistance: Ordinary Range (ksf) 2 - 6 stiff, and 4 - 8, very stiff

Recommended Value of Use: 6 ksf

Note: This bearing resistance is settlement limited (1 inch) and applies only a the service limit state.

Characteristics of Native Soils at foundation level

STATION 68+75

Brown, wet, loose gravelly SAND, some silt (fill)

$wc := 0.104$ water content, lab result

$e := 0.7$ estimated void ratio

$\gamma_w := 62.4pcf$ unit weight of water

$sp := 2.7$ estimated specific gravity

saturation $sat := \frac{(wc \cdot sp)}{e}$ $sat = 0.4011$

total unit weight

$$\gamma_t := \frac{(sp + sat \cdot e) \cdot \gamma_w}{(1 + e)} \qquad \gamma_t = 109.4 \cdot pcf$$

saturated unit weight

$$\gamma_{sat} := \frac{(sp + e) \cdot \gamma_w}{(1 + e)} \qquad \gamma_{sat} = 125 \cdot pcf$$

STATION 124+28

Grey, wet, very stiff SILT, some sand, little gravel

$wc := 0.118$ water content, lab result

$e := 0.95$ estimated void ratio

$\gamma_w := 62.4pcf$ unit weight of water

$sp := 2.65$ estimated specific gravity

saturation $sat := \frac{(wc \cdot sp)}{e}$ $sat = 0.3292$

total unit weight

$$\gamma_t := \frac{(sp + sat \cdot e) \cdot \gamma_w}{(1 + e)} \qquad \gamma_t = 94.8 \cdot pcf$$

saturated unit weight

$$\gamma_{sat} := \frac{(sp + e) \cdot \gamma_w}{(1 + e)} \qquad \gamma_{sat} = 115 \cdot pcf$$

Strength Limit State Bearing Resistance

Nominal and factored Bearing Resistance for box culvert and wingwall base slab

Station 124+28 Assumptions

1. Box culvert will be embedded 2.0 feet below streambed

$D_f := 2.ft$

2. Assumed parameters based on granular fill

Moist unit weight	$\gamma_m := 94.8pcf$
Saturated unit weight	$\gamma_s := 115pcf$
Angle of internal friction	$\phi_b := 20deg$
Undrained shear strength	$c := 800 \cdot psf$
Depth to groundwater	$D_w := 0ft$

3. L > B, so use Terzaghi strip foundation equations

Terzaghi shape factors	$B := 12ft$
	$s_c := 1.0$
	$s_\gamma := 1.0$
Meyerhof bearing capacity factors	$N_c := 14.83$
	$N_q := 6.4$
	$N_\gamma := 2.9$

Effective stress at footing level

$$q_{eff} := D_w \cdot \gamma_m + (D_f - D_w) \cdot (\gamma_s - \gamma_w)$$

$$q_{eff} = 105 \cdot psf$$

Nominal Bearing Resistance

$$q_{nom} := c \cdot N_c \cdot s_c + q_{eff} \cdot N_q + 0.5 \cdot (\gamma_s - \gamma_w) \cdot B \cdot N_\gamma \cdot s_\gamma$$

$$q_{nom} = 13.453 \cdot ksf$$

Resistance Factor from LRFD Table 10.5.5.2.2-1, pg 10-32 $\Phi_b := 0.45$

$q_{factored} := q_{nom} \cdot \Phi_b$ $q_{factored} = 6.054 \cdot ksf$

For this project, the Strength limit state controls at Station 124+28.
Factored Bearing Resistance of 6.0 ksf should be used.

The Service limit state shall control for the foundation at Station 68+75.
Factored Bearing Resistance of 16 ksf shall be used.

STATE OF MAINE

FILE: RTE 11

INTERDEPARTMENTAL MEMORANDUM

Date of Request: 11/28/2012 Return: 12/10/12

Latest Date Needed By 12/21/2012

To: **Mike Morgan** Dept.: MDOT, Bureau of Planning

From: **Carl Dodge Jr.** Dept.: MDOT, Highway Program

Subject: **Request for Traffic Information** Project Manager: **Jon Bither**

TOWN(S): Wallagrass P.I.N. **17235.00** Consultant Proj

COUNTY: Aroostook ROUTE: 11

LOCATION/ DESCRIPTION: Beginning 0.5 miles south of the Eagle Lake/Wallagrass town line and extending northerly 3.43 miles.

	Roadway Changes or Relocation (Attach Sketch)	Turning Movement needed (Provide Locations under Comments)	Other Please Describe Under Comments
Please Check Box if Applicable:			

Prep By: dw3

Description of Sections	Sec. 1 Eagle Lake SR 11 @ Wallagrass PLT T/L	Sec. 1 Eagle Lake SR 11 @ Wallagrass PLT T/L	Sec. 3	Sec. 4	Sec. 5
1 Latest AADT (Year)	1800 (2012)	1800 (2012)			
2 Current **2013** AADT	1800	1800			
3 Future **2025** AADT	2020				
4 Future **2033** AADT		2160			
5 DHV - % of AADT	9%	9%	%	%	%
6 Design Hourly Volume	182	194			
7 % Heavy Trucks (AADT)	14%	14%	%	%	%
8 % Heavy Trucks (DHV)	14%	14%	%	%	%
9 Direct.Dist. (DHV)	58%	58%	%	%	%
10 18-KIP Equivalent P 2.0	278	297			
11 18-KIP Equivalent P 2.5	265	283			
	2013 to 2025	**2013 to 2033**			

Notes or Remarks: 18-Kip ESALS is based on 12 & 20 year life

PLEASE PROVIDE: (1) PIN NUMBER, (2) THE CURRENT & FUTURE YEARS FOR WHICH YOU WANT AADT CALCULATED, AND SEND TO MIKE MORGAN. (A LOCATION MAP IS NO LONGER NEEDED.)

TRAFFIC REQUESTS WILL BE FILLED ON A FIRST COME / SERVE BASIS. PLEASE SEND WHEN PROJECT KICKS OFF!!!

Need Only Data Items Numbered **All**

Comments: Reconstruction

Falling Weight Deflectometer (FWD)
Summary Sheet

Project #: 17235.00
Town(s): Wallagrass (3 Sections)
Route(s): #11
Date Tested: 10/12/2011
Requested By: S Hayden
Direction of Testing: South to North

Of FWD tests: 66 # Of Power Augers/Spoons - 7
Design Life: 20 Future 18-kip ESALs (Design Life): 2,547,700
Initial Serviceability: 4.5 Terminal Serviceability: 2.5
Reliability Level: 90% Overall Standard Deviation: .45

Locations

Station (Feet)	Description

Comments:

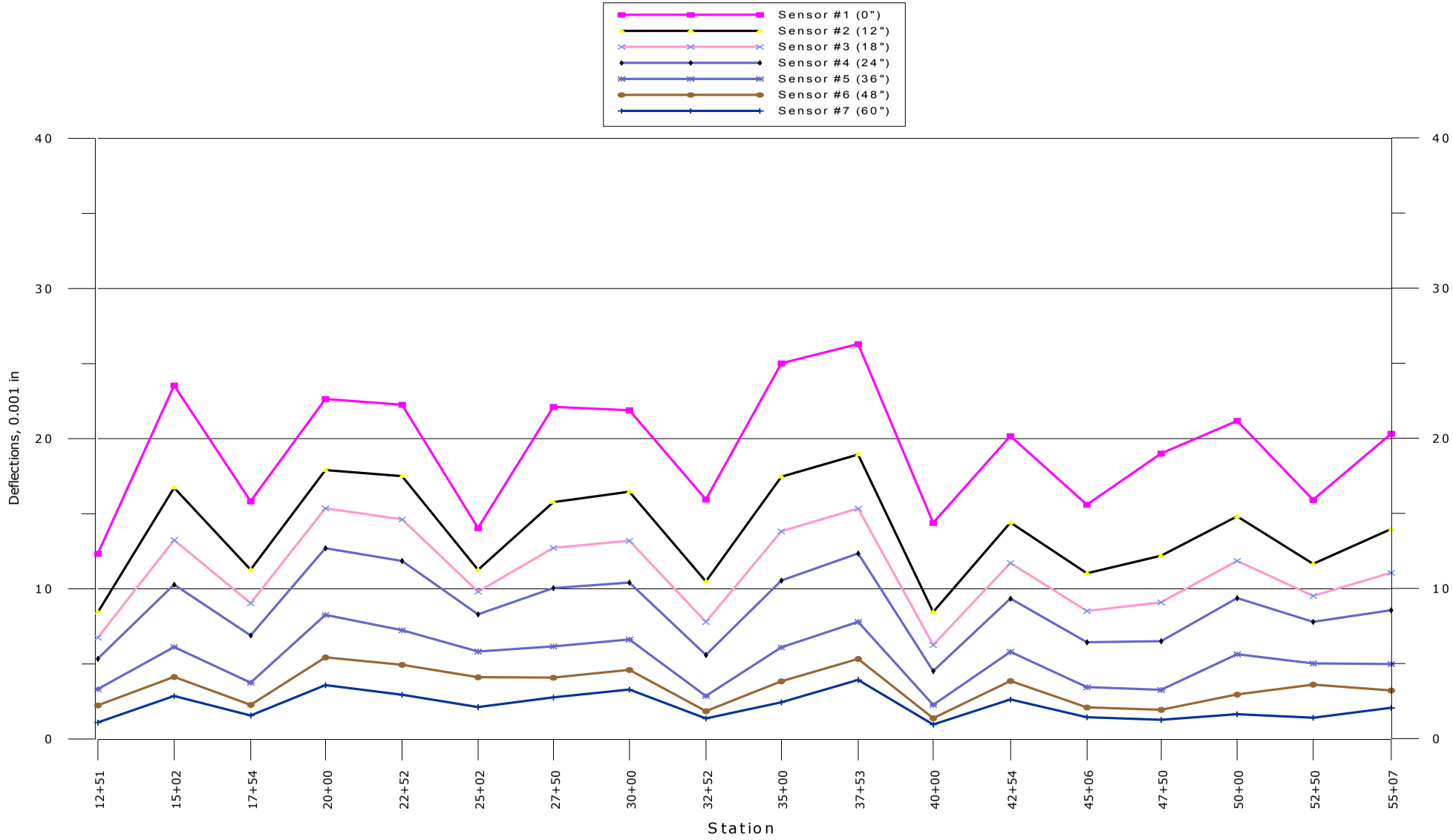
***Section 2 (Relocation) is currently proposed to be discontinued and relocated. FWD testing in this section was completed on the existing roadway to provide design information in the event the Project Plans are altered.**

Except for actual Geotechnical boring locations, pavement depths used for DARWin analysis were taken from Ground Penetrating Radar Summary sheets.

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

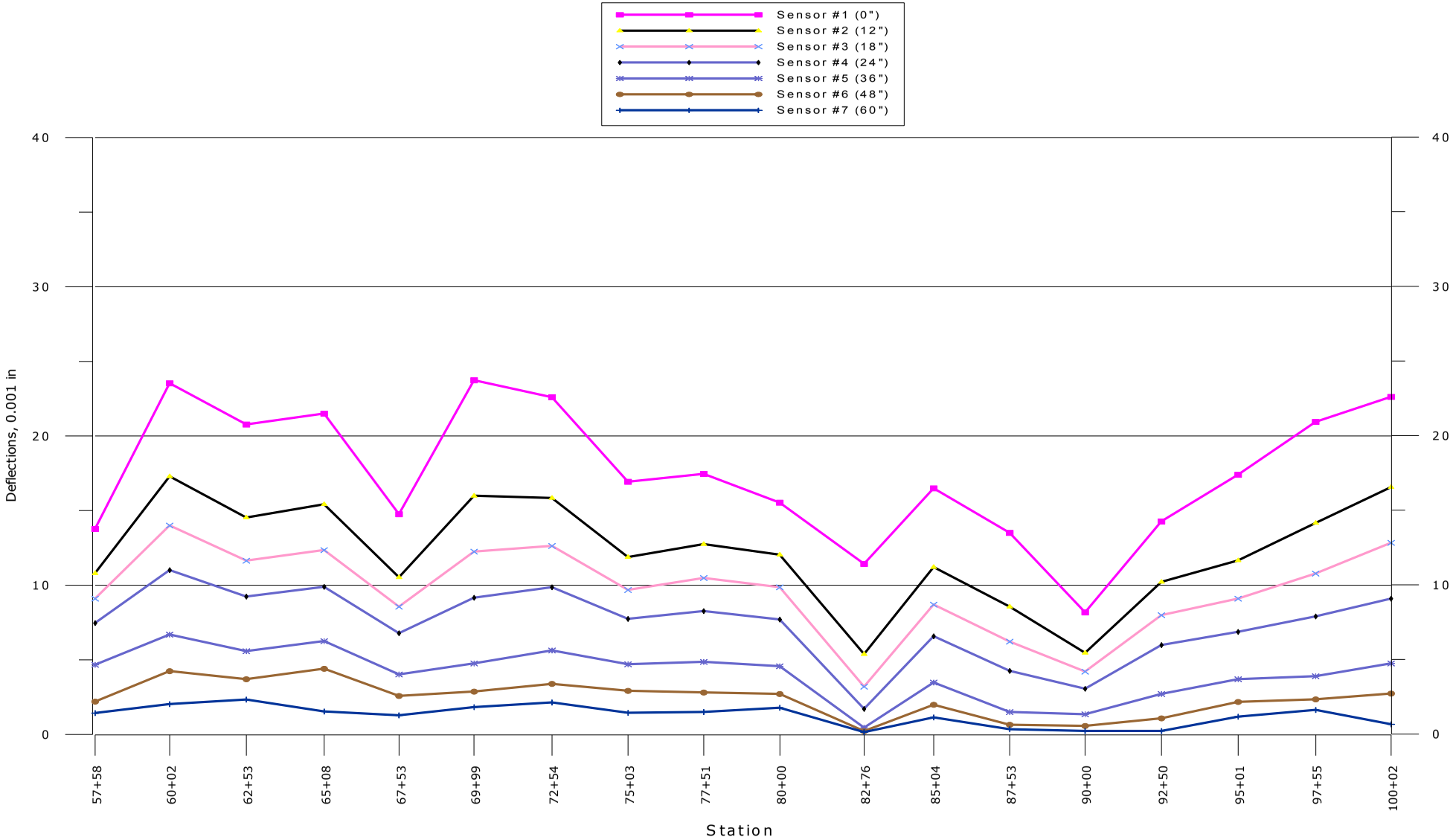
FWD DEFLECTION DATA

WIN/Town:	017235.00 - Eagle Lake,Wallagrass			Reported By:	COLSON, STEPHEN W		
Route:	11	PMS Route Code		Tested:	10/12/2011	Reported:	1/23/2013
Comments:	Section #1 - Station 10+00 to 101+22						



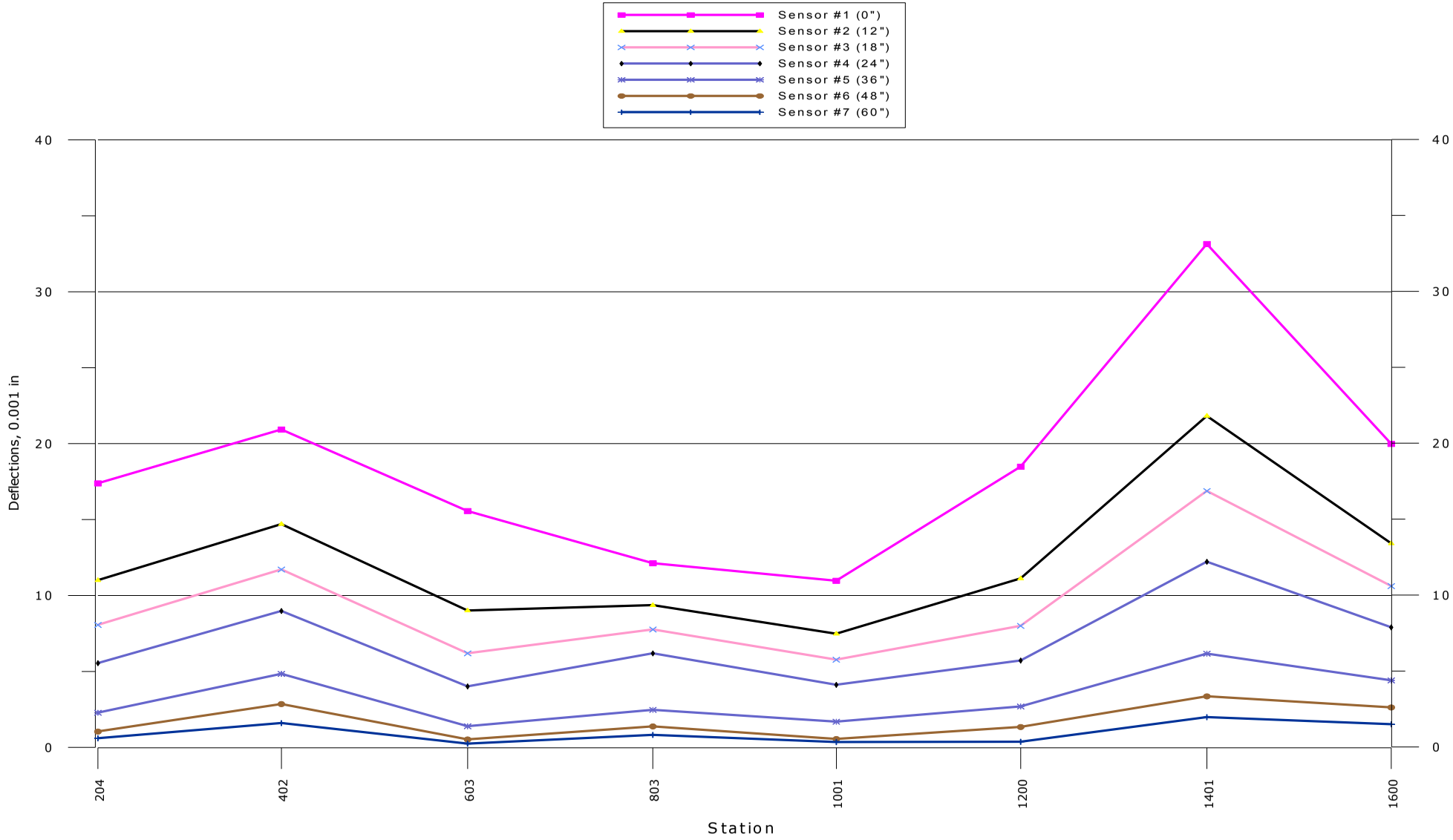
FWD DEFLECTION DATA

WIN/Town:	017235.00 - Eagle Lake,Wallagrass			Reported By:	COLSON, STEPHEN W		
Route:	11	PMS Route Code		Tested:	10/12/2011	Reported:	1/23/2013
Comments:	Section #1 - Station 10+00 to 101+22						



FWD DEFLECTION DATA

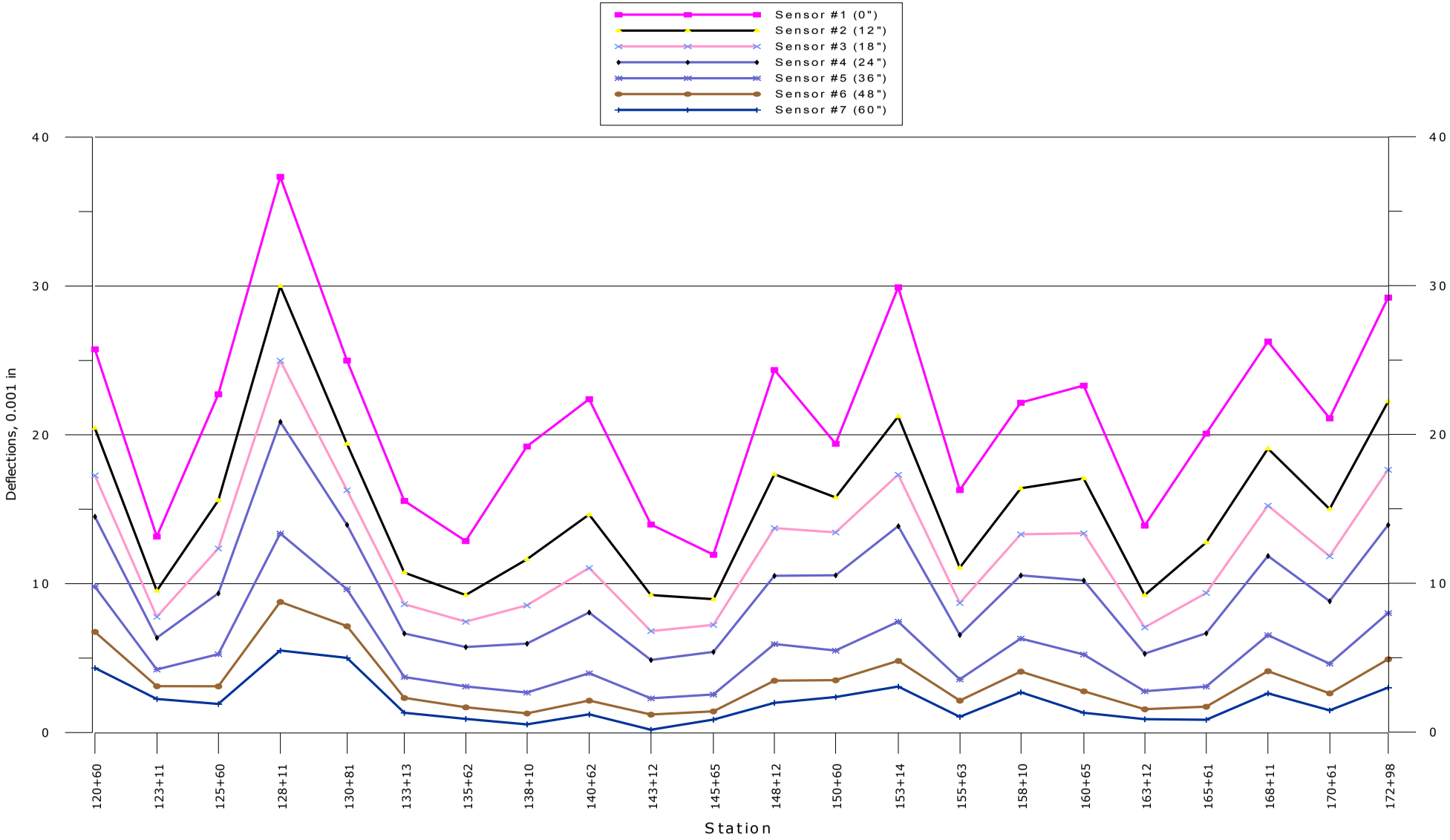
WIN/Town:	017235.00 - Eagle Lake,Wallagrass			Reported By:	COLSON, STEPHEN W		
Route:	11	PMS Route Code		Tested:	10/12/2011	Reported:	1/23/2013
Comments:	Section #2 (Relocation Area) This Section is reported in feet (0' - 1691') because the new allignment is off the existing roadway in this area.						



Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

FWD DEFLECTION DATA

WIN/Town:	017235.00 - Eagle Lake,Wallagrass			Reported By:	COLSON, STEPHEN W		
Route:	11	PMS Route Code		Tested:	10/12/2011	Reported:	1/23/2013
Comments:	Section #3 - Station 118+10 to 173+50						



17235.00 Wallagrass (Section #1)
Route #11

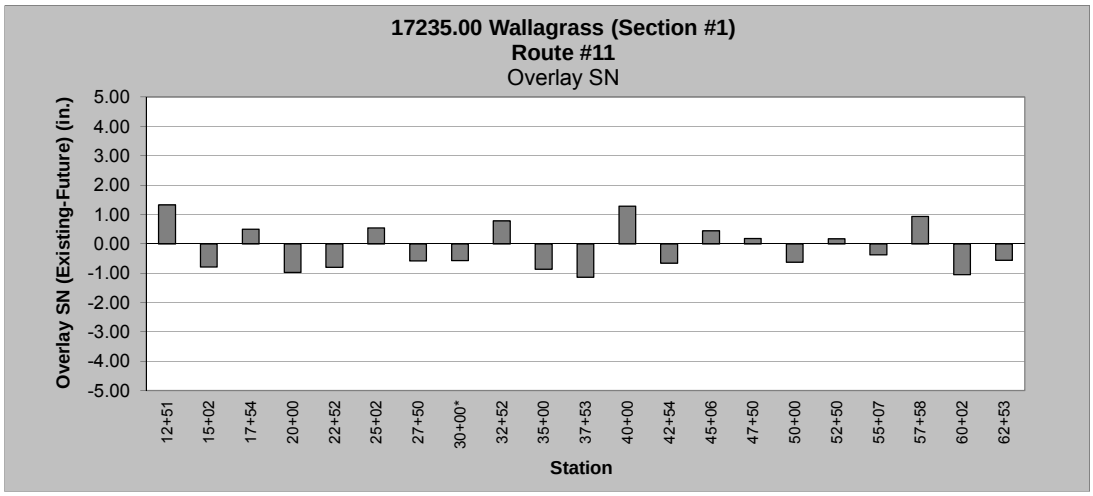
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
12+51	5.57	4.24	1.33	-	70,311	5,832	5.9	30.0
15+02	4.56	5.35	**-0.79**	**1.80**	38,413	2,844	4.3	30.0
17+54	5.07	4.57	0.50	-	53,040	4,647	4.9	30.0
20+00	4.66	5.63	**-0.97**	**2.20**	41,222	2,405	5.0	30.0
22+52	4.67	5.47	**-0.80**	**1.82**	41,398	2,643	5.3	30.0
25+02	5.71	5.17	0.54	-	75,502	3,175	5.7	30.0
27+50	4.58	5.16	**-0.58**	**1.32**	39,051	3,199	4.5	30.0
30+00*	4.78	5.35	**-0.57**	**1.30**	44,311	2,837	5.0	30.0
32+52	4.96	4.18	0.78	-	49,591	6,085	5.1	30.0
35+00	4.48	5.35	**-0.87**	**1.98**	36,603	2,853	4.6	30.0
37+53	4.47	5.61	**-1.14**	**2.59**	36,419	2,447	5.0	30.0
40+00	5.14	3.86	1.28	-	55,321	7,664	5.1	30.0
42+54	4.60	5.26	**-0.66**	**1.50**	44,673	2,999	6.3	28.8
45+06	4.89	4.45	0.44	-	53,611	5,048	5.1	28.8
47+50	4.55	4.37	0.18	-	43,201	5,332	4.6	28.8
50+00	4.59	5.22	**-0.63**	**1.43**	44,338	3,083	4.3	28.8
52+50	5.13	4.96	0.17	-	62,013	3,611	6.2	28.8
55+07	4.64	5.02	**-0.38**	**0.86**	46,030	3,488	6.6	28.8
57+58	5.15	4.22	0.93	-	62,815	5,921	6.8	28.8
60+02	4.45	5.50	**-1.05**	**2.39**	40,457	2,600	6.7	28.8
62+53	4.64	5.20	**-0.56**	**1.27**	45,802	3,120	7.5	28.8

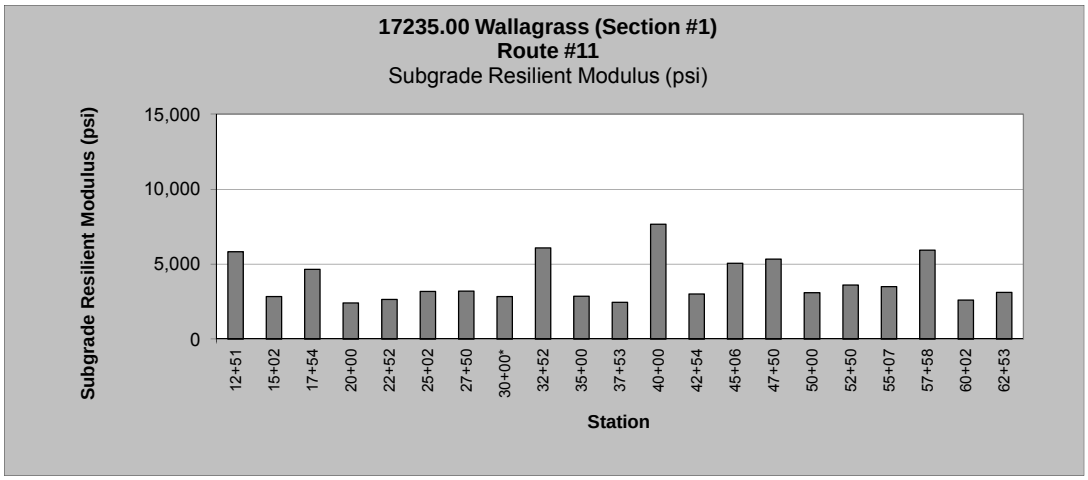
* Boring Location

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Except for actual boring locations (*), pavement depths were taken from Ground Penetrating Radar Summary Sheet.





17235.00 Wallagrass (Section #1)
Route #11

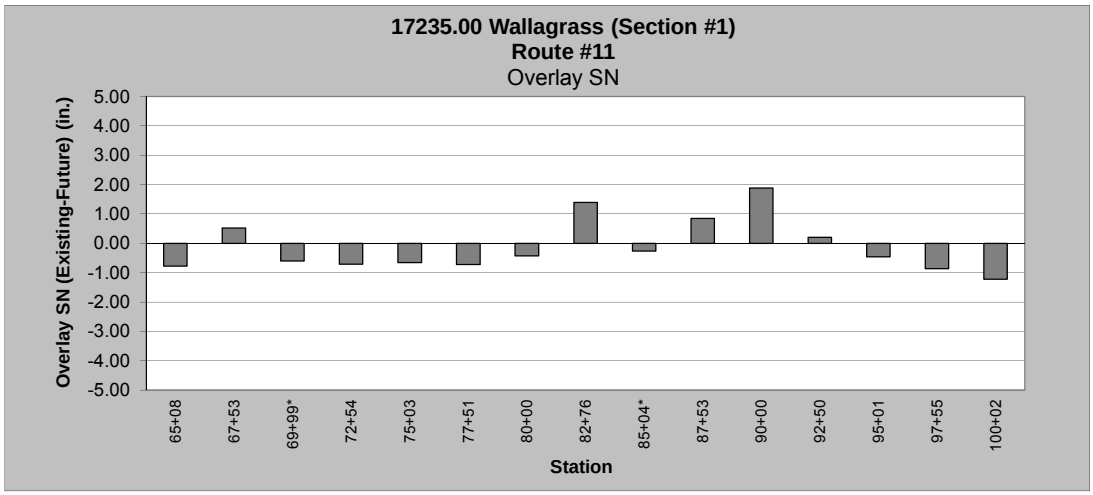
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
65+08	4.61	5.39	**-0.78**	**1.77**	44,929	2,784	6.1	28.8
67+53	5.20	4.68	0.52	-	64,657	4,330	7.8	28.8
69+99*	4.34	4.94	**-0.60**	**1.36**	37,442	3,656	7.5	28.8
72+54	4.50	5.21	**-0.71**	**1.61**	41,994	3,093	7.1	28.8
75+03	4.26	4.92	**-0.66**	**1.50**	61,454	3,700	7.4	24.0
77+51	4.26	4.98	**-0.72**	**1.64**	61,307	3,579	7.5	24.0
80+00	4.45	4.88	**-0.43**	**0.98**	69,971	3,802	7.4	24.0
82+76	4.41	3.02	1.39	-	68,070	15,223	7.1	24.0
85+04*	4.19	4.46	**-0.27**	**0.61**	58,505	5,000	6.3	24.0
87+53	4.18	3.33	0.85	-	57,821	11,644	6.2	24.0
90+00	5.09	3.21	1.88	-	104,446	12,907	5.9	24.0
92+50	4.30	4.10	0.20	-	63,100	6,428	5.5	24.0
95+01	4.09	4.55	**-0.46**	**1.05**	54,261	4,711	6.3	24.0
97+55	3.77	4.64	**-0.87**	**1.98**	42,689	4,458	5.2	24.0
100+02	3.71	4.94	**-1.23**	**2.80**	40,523	3,657	5.9	24.0

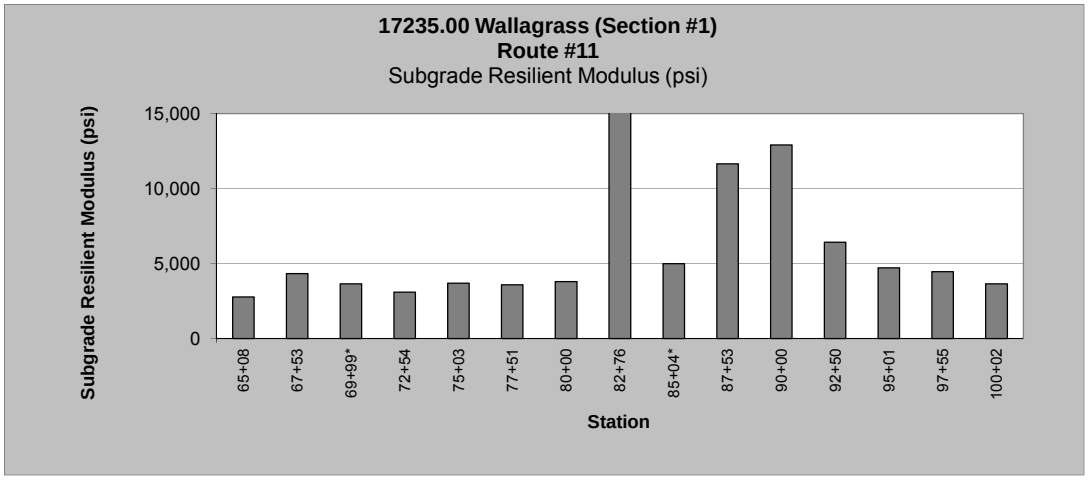
* Boring Location

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Except for actual boring locations (*), pavement depths were taken from Ground Penetrating Radar Summary Sheet.





17235.00 Wallagrass (Section #2 - Relocation)
Route #11

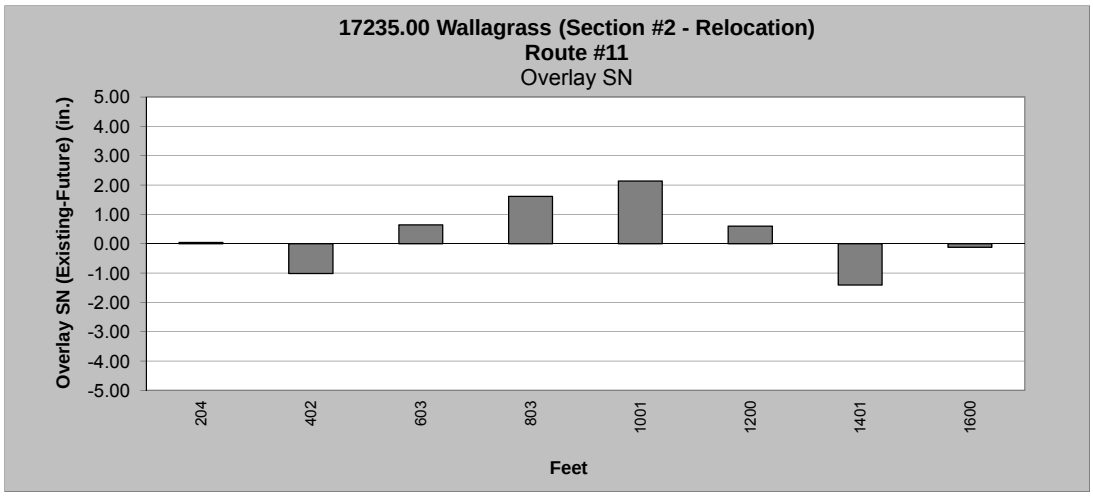
Feet	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
204	3.91	3.87	0.04	-	47,448	7,644	7.9	24.0
402	3.95	4.97	**-1.02**	**2.32**	48,806	3,595	8.6	24.0
603	3.89	3.25	0.64	-	46,796	12,488	8.0	24.0
803	5.58	3.97	1.61	-	70,586	7,050	8.1	30.0
1001	5.62	3.48	2.14	-	72,004	10,286	8.5	30.0
1200	4.69	4.09	0.60		41,923	6,467	8.4	30.0
1401	3.96	5.37	**-1.41**	**3.20**	25,173	2,818	8.7	30.0
1600	4.71	4.83	**-0.12**	**0.27**	42,570	3,940	8.2	30.0

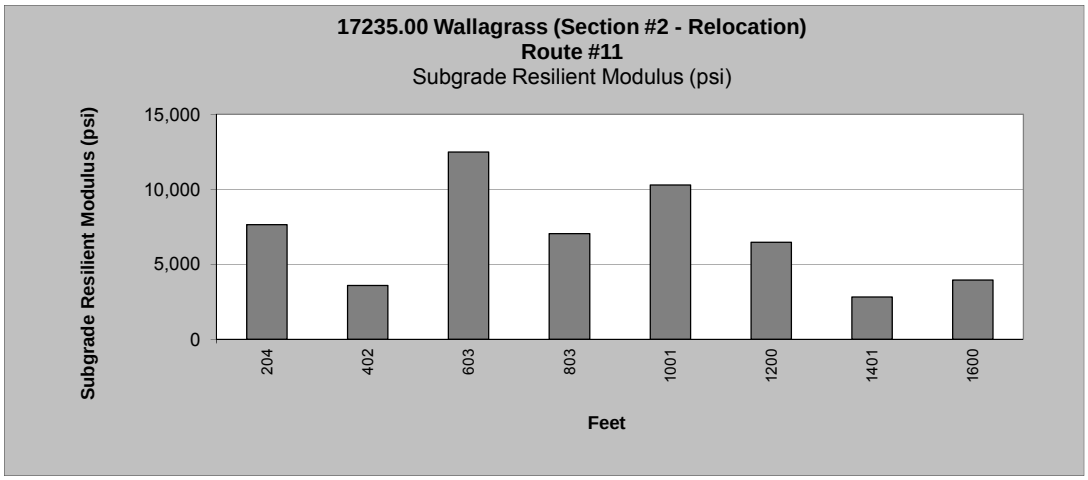
* Boring Location

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Except for actual boring locations (*), pavement depths were taken from Ground Penetrating Radar Summary Sheet.





17235.00 Wallagrass (Section #3)
Route #11

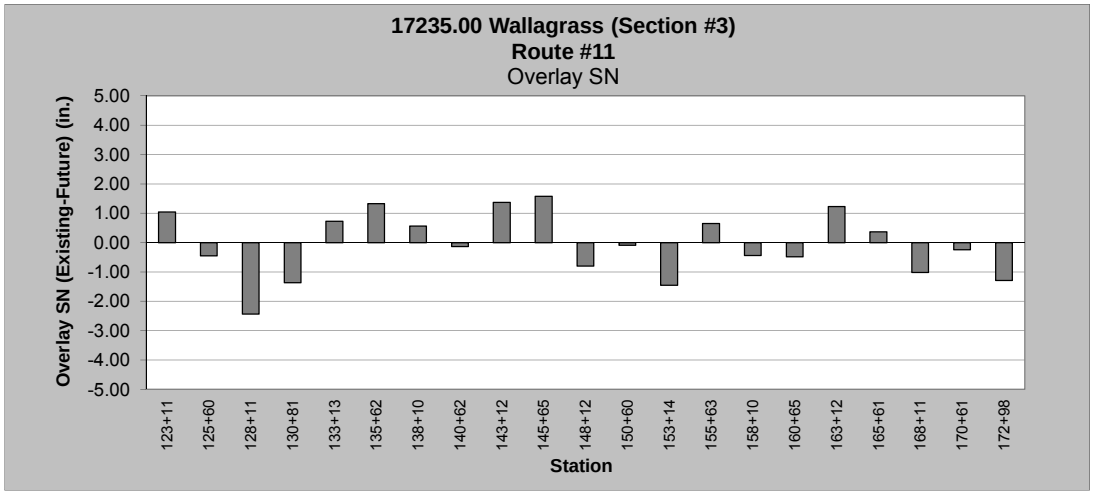
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
120+60	4.63	6.02	**-1.39**	**3.16**	40,377	1,930	8.4	30.0
123+11	5.77	4.73	1.04	-	77,963	4,200	9.3	30.0
125+60	4.65	5.10	**-0.45**	**1.02**	40,786	3,307	8.3	30.0
128+11	4.07	6.51	**-2.44**	**5.55**	27,428	1,488	8.3	30.0
130+81	4.75	6.12	**-1.37**	**3.11**	43,588	1,827	9.1	30.0
133+13	5.28	4.56	0.72	-	59,944	4,681	7.5	30.0
135+62	5.61	4.29	1.32	-	71,739	5,628	8.2	30.0
138+10	4.65	4.09	0.56	-	40,991	6,508	6.5	30.0
140+62	4.53	4.67	**-0.14**	**0.32**	37,690	4,372	7.3	30.0
143+12	5.24	3.87	1.37	-	58,357	7,600	7.6	30.0
145+65	5.60	4.02	1.58	-	71,204	6,822	7.5	30.0
148+12	4.50	5.30	**-0.80**	**1.82**	37,045	2,932	8.4	30.0
150+60	4.83	4.92	**-0.09**	**0.20**	45,731	3,718	8.7	30.0
153+14	4.23	5.68	**-1.45**	**3.30**	30,871	2,337	7.7	30.0
155+63	5.15	4.50	0.65	-	55,596	4,881	6.9	30.0
158+10	4.72	5.16	**-0.44**	**1.00**	42,669	3,186	6.0	30.0
160+65	4.61	5.10	**-0.49**	**1.11**	39,717	3,322	6.5	30.0
163+12	5.37	4.14	1.23	-	62,821	6,275	6.4	30.0
165+61	4.65	4.28	0.37	-	40,815	5,654	6.7	30.0
168+11	4.44	5.46	**-1.02**	**2.32**	35,469	2,658	5.9	30.0
170+61	4.66	4.90	**-0.24**	**0.55**	40,999	3,766	6.3	30.0
172+98	4.18	5.47	**-1.29**	**2.93**	29,683	2,652	6.7	30.0

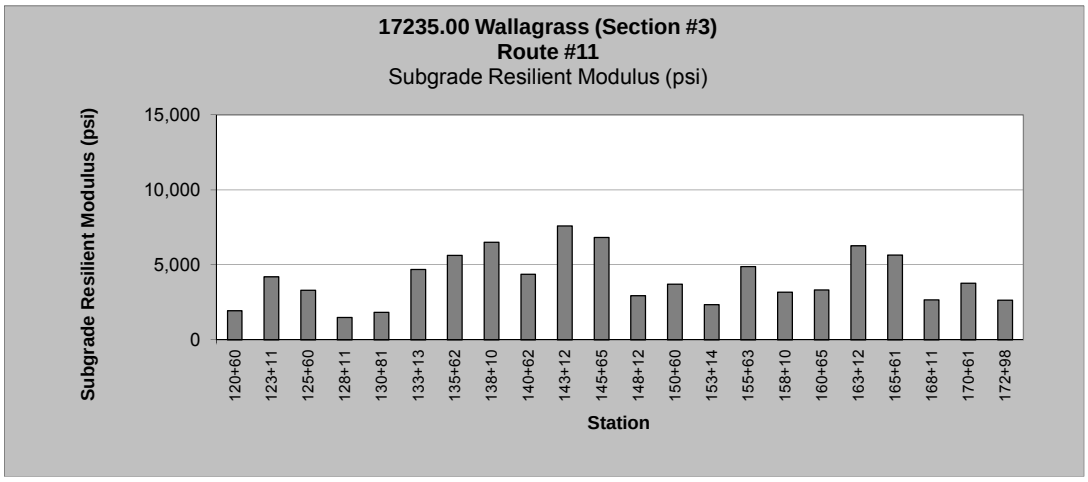
* Boring Location

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Except for actual boring locations (*), pavement depths were taken from Ground Penetrating Radar Summary Sheet.





Performance Data Summary

A Performance Data Summary (PDS) is included on the next pages. The purpose of the (PDS) is to identify potential performance differences by station based upon 4 minimal performance criteria (asphalt thickness, base thickness, subgrade resilient modulus, and existing/future structural number comparison. The PDS is color coded and should be printed in color to fully utilize the information

If an area fails to meet 2 or more of the minimal performance criteria the area will be shaded in the deficiency (DEF) column located next to the Station column. Existing performance expectations for areas with two or more deficiencies are lower and the risk of failure is potentially higher.

Based upon the Performance Data Summary (PDS) sheet, 26% of the project fails to meet 2 or more of the four minimum performance data criteria. See attached Performance Data Summary.

Performance Data Summary

Wallagrass
Route 11
17235.00

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
12+51	0										
15+02	2						4.5 SP - 30.0+	GSiSa A-4 212-S1	41 III Moist	GSiSa A-4 S1	41 III Moist
17+54	0							Bedrock Refusals – See Power Auger Probes			
20+00	2					4.5 SP - 30.0+		SiGSa A-1-b 213-S2	24 II Dry	SiGSa/Rock A-1-b S2	24 II Ref 3.5'
22+52	2							Bedrock Refusals – See Power Auger Probes			
25+02	0										
27+50	1										
30+00	2						5.0 SP - 30.0+	GSiSa A-2-4 101-S1	30 II Damp	GSiSa A-2-4 101-S1	30 II Damp
32+52	0							Bedrock Refusals – See Power Auger Probes			
35+00	2						5.0 SP - 30.0+	GSiSa A-2-4 214-S3	28 II Damp	GSiSa A-2-4 214-S3	28 II Damp
37+53	2										
40+00	0										
42+54	2					5.0 SP - 22.6		GSiSa A-2-4 216-S5	27 II Damp	SaSi A-4 216-S6	50 III Moist
45+06	0										
47+50	0										
50+00	2							Bedrock Refusals – See Power Auger Probes			
52+50	1						4.5 SP - 12.0	GSiSa A-2-4 216-S5	27 II Damp	SaSi A-4 216-S6	50 III Moist
55+07	2										
57+58	1										
58+00	2							Bedrock Refusals – See Power Auger Probes			

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of "treated base"

Performance Data Summary

Wallagrass
Route 11
17235.00

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
60+02	2	Pavement Thickness (4 inches)	Base Thickness (18 inches)	Subgrade Modulus (3000 psi)	Structural Number	4.5 SP - 19.4	GSiSa A-2-4 218-S7	31 II Damp	SaSi A-4 218-S8	57 IV Moist
62+53	1									
65+08	2									
67+53	0									
69+99	1					7.5 SP - 21.2	GSiSa A-2-4 S2	34 II Damp	GSaSi A-4 S3	53 IV Moist
72+54	1									
75+03	1					2.0 SP 2.0 UP 24.8	GSiSa A-2-4 219-S9	26 II Damp	GSaSi A-4 219-S10	52 IV Wet 2.4’
77+51	1									
80+00	1									
82+76	0						Bedrock Refusals – See Power Auger Probes			
85+04	2					6.5 SP - 17.5	GSiSa A-2-4 S4	35 II Dry	Bedrock Ref 2.0’	
87+53	0									
90+00	0					5.5 SP - 19.7	GSiSa A-2-4 219-S9	26 II Damp	GSiSa A-2-4 220-S11	29 II Dry
92+50	0						Bedrock Refusals – See Power Auger Probes			
95+01	2					2.0 SP - 32.7	GSiSa A-2-4 219-S9	26 II Damp	Bedrock Ref 2.9’	
97+55	2						Bedrock Refusals – See Power Auger Probes			
	1									
100+02	1									

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of “treated base”

Performance Data Summary

Wallagrass
Route 11
17235.00

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
102+00								Relocation Area 102+00 – 119+00			
119+00											
120+60	1					5.0 SP - 24.0		GSiSa A-1-b 224-S15	21 II Damp	SiSa A-4 224-S16	44 III Wet 2.0’
123+11	0									Sandy Silts and Silty Sands with Organics Ignition Loss 15% - 32% See Organic Soils in Soils Report	
125+60	1						5.0 SP - 30.0+	GSiSa A-2-4 227-S6	26 II Damp		
128+11	1										
130+81	1						5.0 SP - 30.0+	GSiSa A-2-4 227-S6	26 II Damp		
132+00	1										
133+13	0										
135+62	0							Bedrock Refusals – See Power Auger Probes			
138+10	0										
140+62	1										
143+12	0										
145+65	0						5.0 SP - 30.0+	GSiSa A-2-4 231-S21	29 II Damp	Bedrock Ref 3.5’	
148+12	1							Bedrock Refusals – See Power Auger Probes			
150+60	1										
153+14	1										
155+63	0										

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of “treated base”

Performance Data Summary

Wallagrass
Route 11
17235.00

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
158+10	1										
160+65	1							Bedrock Refusals – See Power Auger Probes			
163+12	0										
165+61	0										
168+11	1										
170+61	1						7.0 SP - 30.0+	GSiSa A-2-4 223-S13	28 II Moist	GSiSa A-2-4 220-S11	29 II Rock 4.7’
172+98	1							Bedrock Refusals – See Power Auger Probes			
		Pavement Thickness (4 inches)	Base Thickness (18 inches)	Subgrade Modulus (3000 psi)	Structural Number						

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of “treated base”

State of Maine - Department of Transportation

Pavement Core Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Pavement Depth (Inches)	Unbound Pavement	PC-Number	Saved Core	Comments / Date 11/2/2011
Section I						
000						
30+00	3.0 Rt.	5.0		1	yes	
30+00	3.0 Lt.	5.0		2	yes	
30+00	9.0 Lt.	5.0		3	yes	
6000						
70+00	3.0 Rt.	8.0		4	yes	
70+00	3.0 Lt.	7.0		5	yes	
70+00	9.0 Lt.	9.5		6	yes	
Relocation Area						
680						
109+20	3.0 Rt.	8.0		7	yes	
109+20	3.0 Lt.	8.0		8	yes	
109+20	9.0 Lt.	7.5		9	yes	
Section II						
2000						
138+00	3.0 Rt.	7.0		10	yes	
138+00	3.0 Lt.	5.0		11	yes	
138+00	9.0 Lt.	6.0		12	yes	
5110						
169+30	3.0 Rt.	7.0		13	yes	
169+30	3.0 Lt.	7.0		14	yes	
169+30	9.0 Lt.	7.5		15	yes	
No PC numbers on bag core samples, taw labled them.						

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Thickness

017235.00 - Eagle Lake,Wallagrass

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected in the left and right wheel path of both lanes. Data was collected at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thickness from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments
Section #1 - Station 10+00 to 101+06

Project Manager	Reported By	Test Date	Reported Date
BITHER, JON	**COLSON, STEPHEN W**	**10/12/2011**	**1/22/2013**

Lane Tested	Analysis Distance, ft.	Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
MAINLINE	**100**	**6.1**	**4.3**	**8.2**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.
10+00	11+00	5.3	11+00	12+00	6.0	12+00	13+00	5.9	13+00	14+00	5.1
14+00	15+00	4.9	15+00	16+00	4.3	16+00	17+00	4.5	17+00	18+00	4.9
18+00	19+00	5.1	19+00	20+00	5.0	20+00	21+00	5.1	21+00	22+00	5.4
22+00	23+00	5.3	23+00	24+00	5.4	24+00	25+00	6.0	25+00	26+00	5.8
26+00	27+00	5.5	27+00	28+00	4.5	28+00	29+00	4.8	29+00	30+00	5.0
30+00	31+00	4.9	31+00	32+00	5.1	32+00	33+00	5.1	33+00	34+00	5.0
34+00	35+00	4.7	35+00	36+00	4.6	36+00	37+00	5.0	37+00	38+00	5.0
38+00	39+00	4.8	39+00	40+00	5.1	40+00	41+00	5.7	41+00	42+00	6.6
42+00	43+00	6.3	43+00	44+00	5.9	44+00	45+00	5.6	45+00	46+00	5.1
46+00	47+00	4.8	47+00	48+00	4.6	48+00	49+00	5.1	49+00	50+00	4.3
50+00	51+00	5.1	51+00	52+00	5.7	52+00	53+00	6.2	53+00	54+00	5.7
54+00	55+00	6.0	55+00	56+00	6.6	56+00	57+00	6.4	57+00	58+00	6.8
58+00	59+00	6.7	59+00	60+00	6.9	60+00	61+00	6.7	61+00	62+00	7.2

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.
62+00	63+00	7.5	63+00	64+00	7.2	64+00	65+00	6.4	65+00	66+00	6.1
66+00	67+00	6.8	67+00	68+00	7.8	68+00	69+00	7.4	69+00	70+00	7.6
70+00	71+00	7.6	71+00	72+00	7.3	72+00	73+00	7.1	73+00	74+00	7.9
74+00	75+00	7.6	75+00	76+00	7.4	76+00	77+00	8.2	77+00	78+00	7.5
78+00	79+00	7.8	79+00	80+00	7.4	80+00	81+00	8.2	81+00	82+00	8.0
82+00	83+00	7.1	83+00	84+00	7.0	84+00	85+00	6.7	85+00	86+00	6.3
86+00	87+00	6.8	87+00	88+00	6.2	88+00	89+00	7.3	89+00	90+00	6.7
90+00	91+00	5.9	91+00	92+00	5.8	92+00	93+00	5.5	93+00	94+00	6.1
94+00	95+00	6.5	95+00	96+00	6.3	96+00	97+00	5.9	97+00	98+00	5.3
98+00	99+00	5.4	99+00	100+00	5.9	100+00	101+00	6.5	101+00	101+06	7.2

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

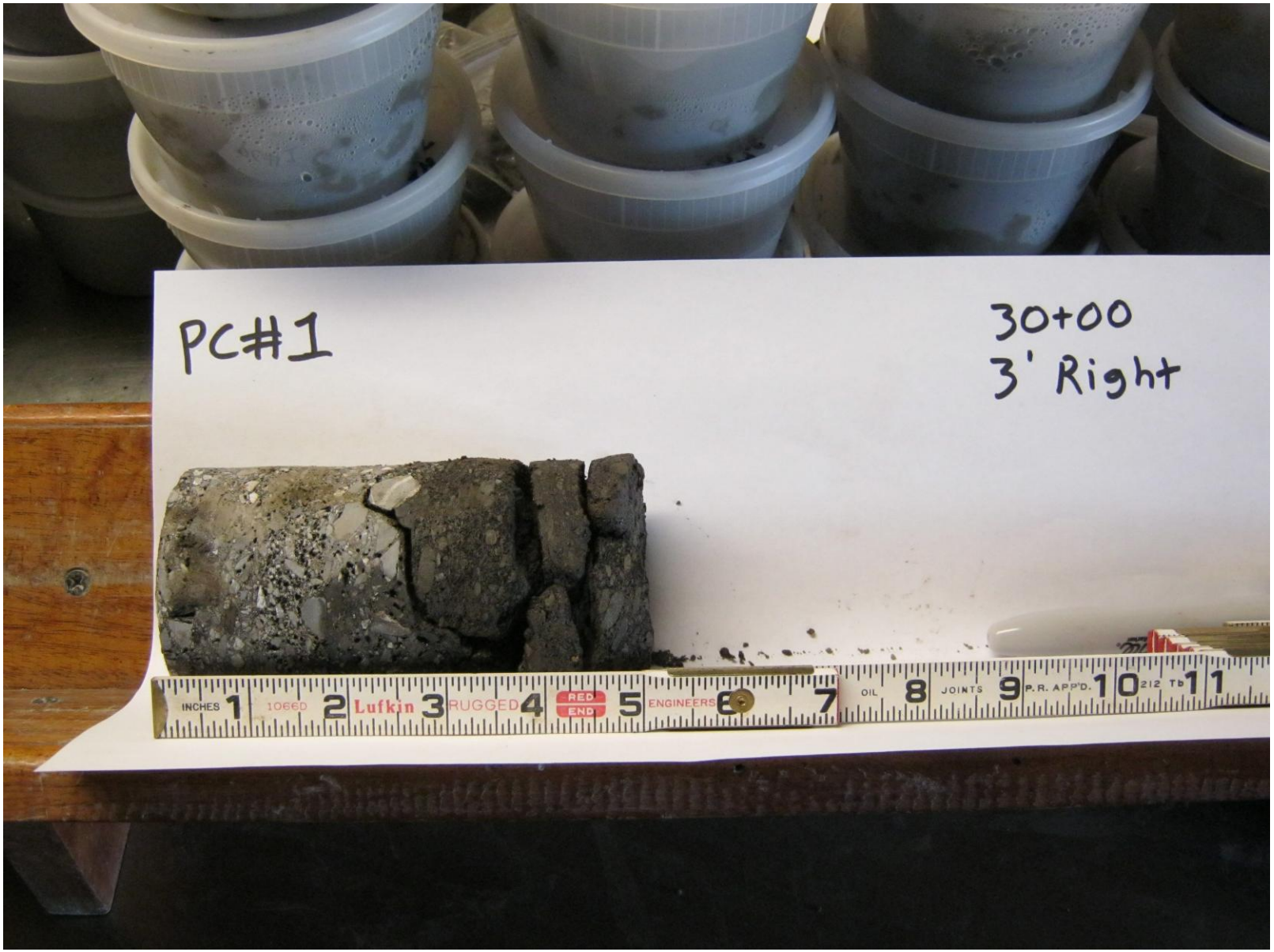
017235.00 - Eagle Lake,Wallagrass

Station	Left Offset, ft					CL	Right Offset, ft					Comments
				9	3		3	9				
30+00				5	5		5	7.25				
70+00				9.5	7		8	7.5				

Highlighted areas indicate pavement cores were taken at this location.

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Pavement Cores
017235.00 - Eagle Lake,Wallagrass



Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Thickness

017235.00 - Eagle Lake,Wallagrass

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected in the left and right wheel path of both lanes. Data was collected at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thickness from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments
Section #2 (Relocation Area) This Section is reported in feet (0' - 1691') because the new allignment is off the existing roadway in this area.

Project Manager	Reported By	Test Date	Reported Date
BITHER, JON	**COLSON, STEPHEN W**	**10/12/2011**	**1/22/2013**

Lane Tested	Analysis Distance, ft.	Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
MAINLINE	**100**	**8.4**	**7.8**	**9.5**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Limits, feet		Average Depth, in.	Limits, feet		Average Depth, in.	Limits, feet		Average Depth, in.	Limits, feet		Average Depth, in.
0	100	8.5	100	200	8.0	200	300	7.9	300	400	8.6
400	500	8.8	500	600	7.8	600	700	8.0	700	800	8.1
800	900	8.5	900	1000	8.8	1000	1100	8.5	1100	1200	8.4
1200	1300	8.4	1300	1400	8.7	1400	1500	8.9	1500	1600	8.2
1600	1691	9.5									

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

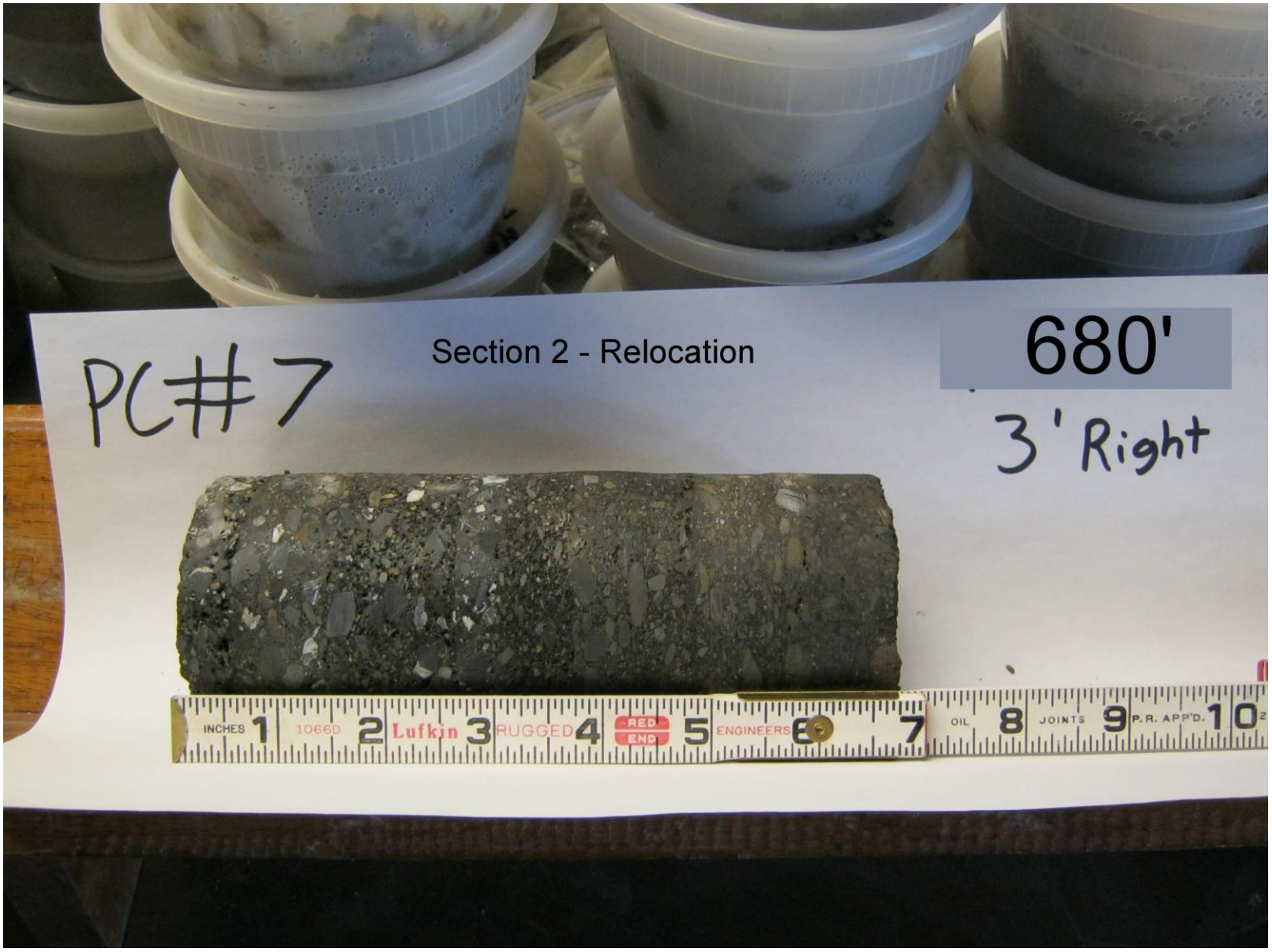
017235.00 - Eagle Lake,Wallagrass

Feet	Left Offset, ft					CL	Right Offset, ft					Comments
				9	3		3	9				
680				7.5	8		8	10				

Highlighted areas indicate pavement cores were taken at this location.

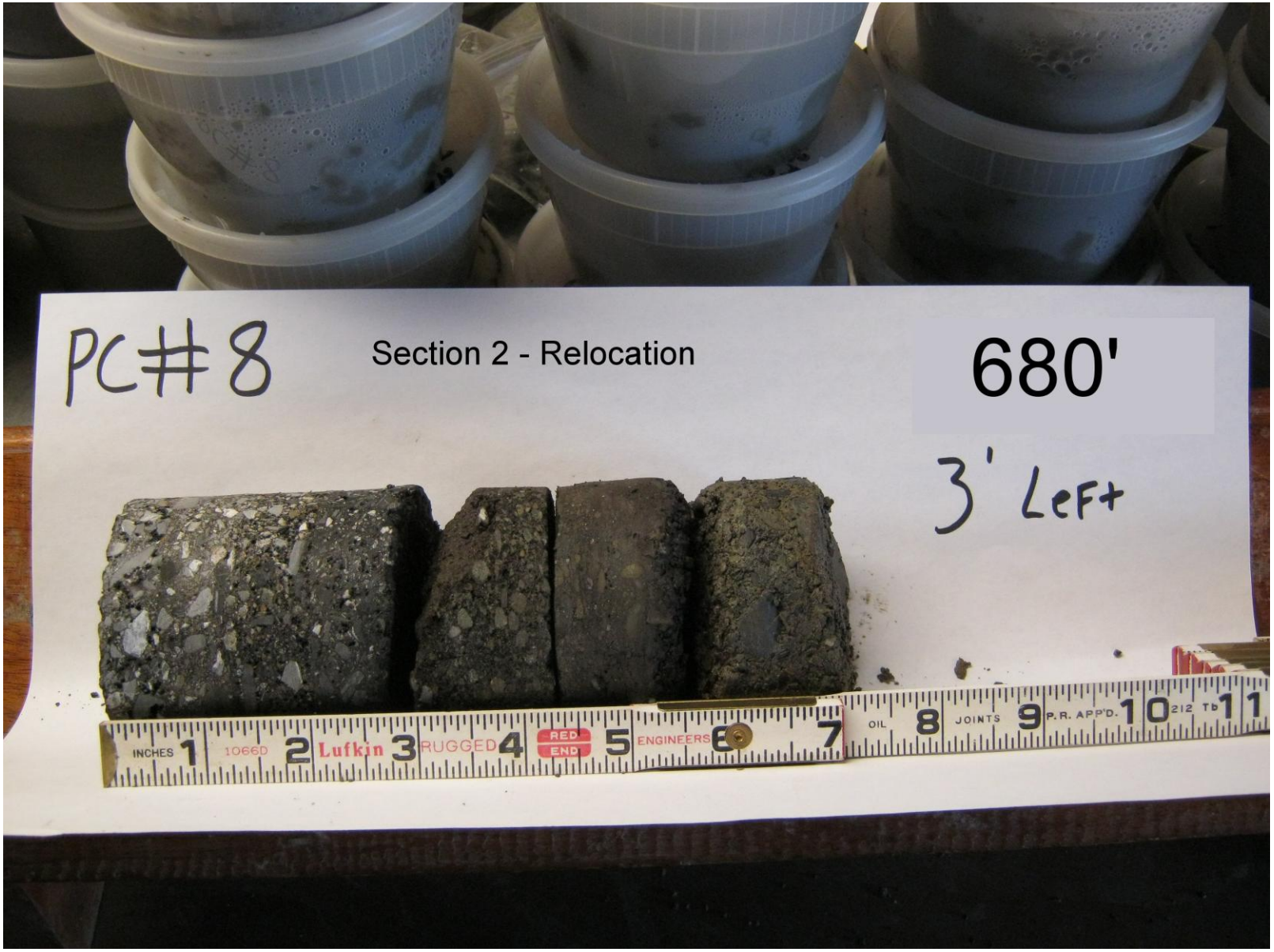
Pavement Cores

017235.00 - Eagle Lake,Wallagrass



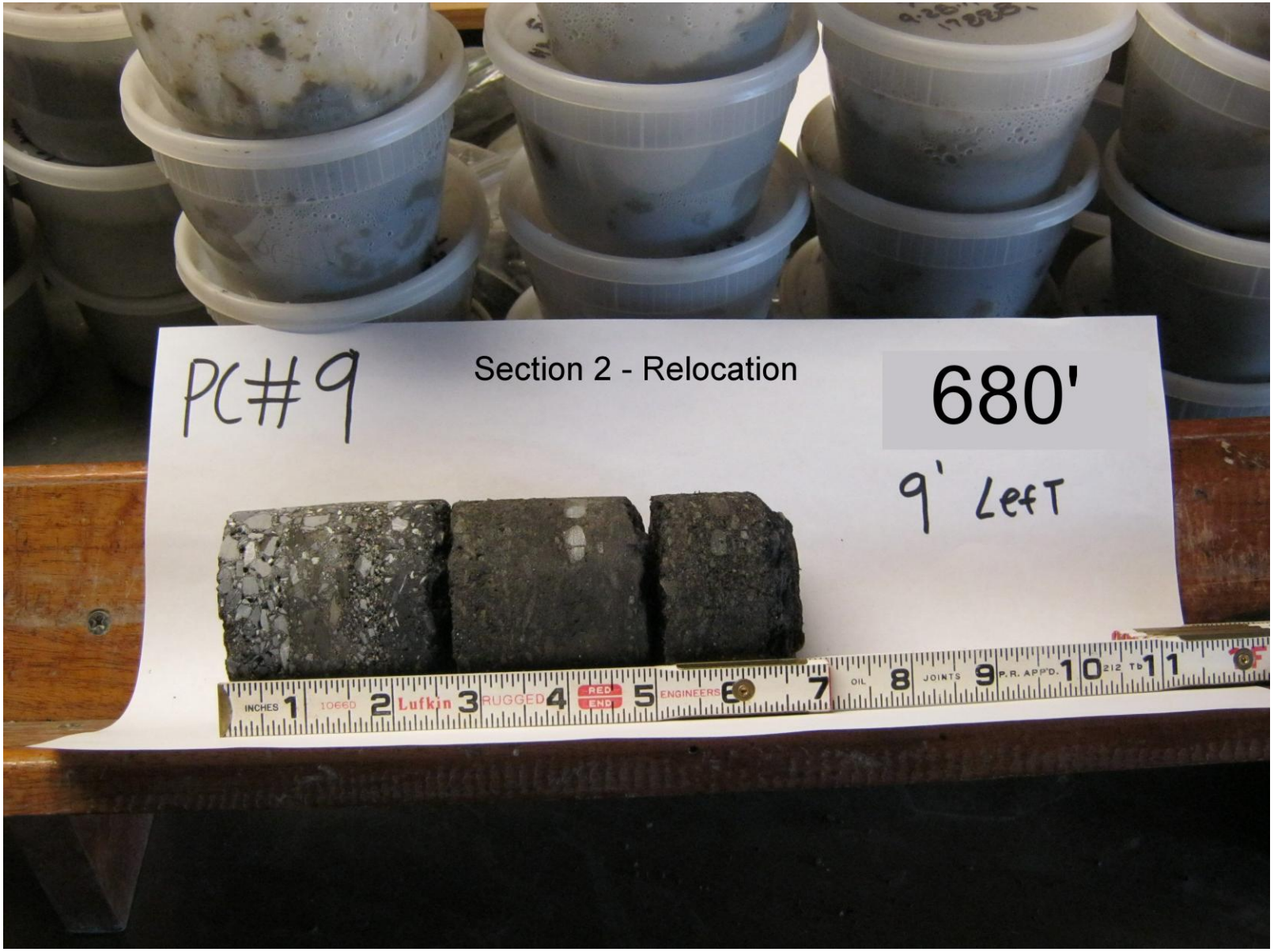
Pavement Cores

017235.00 - Eagle Lake,Wallagrass



Pavement Cores

017235.00 - Eagle Lake,Wallagrass



Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Thickness

017235.00 - Eagle Lake,Wallagrass

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected in the left and right wheel path of both lanes. Data was collected at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thickness from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments
Section #3 - Station 118+10 to 173+50

Project Manager	Reported By	Test Date	Reported Date
BITHER, JON	**COLSON, STEPHEN W**	**10/12/2011**	**1/22/2013**

Lane Tested	Analysis Distance, ft.	Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
MAINLINE	**100**	**7.7**	**5.9**	**10.2**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.
118+10	119+10	8.5	119+10	120+10	8.6	120+10	121+10	8.0	121+10	122+10	8.9
122+10	123+10	10.2	123+10	124+10	9.7	124+10	125+10	8.6	125+10	126+10	7.6
126+10	127+10	7.8	127+10	128+10	7.8	128+10	129+10	8.6	129+10	130+10	8.9
130+10	131+10	9.4	131+10	132+10	9.5	132+10	133+10	7.9	133+10	134+10	7.5
134+10	135+10	8.0	135+10	136+10	8.5	136+10	137+10	7.4	137+10	138+10	6.3
138+10	139+10	7.3	139+10	140+10	7.8	140+10	141+10	7.1	141+10	142+10	7.3
142+10	143+10	7.5	143+10	144+10	8.0	144+10	145+10	7.6	145+10	146+10	7.7
146+10	147+10	8.5	147+10	148+10	8.2	148+10	149+10	7.9	149+10	150+10	8.0
150+10	151+10	9.0	151+10	152+10	9.1	152+10	153+10	9.0	153+10	154+10	8.1
154+10	155+10	7.6	155+10	156+10	7.3	156+10	157+10	7.0	157+10	158+10	7.1
158+10	159+10	6.1	159+10	160+10	7.1	160+10	161+10	6.6	161+10	162+10	6.3
162+10	163+10	6.3	163+10	164+10	6.8	164+10	165+10	6.4	165+10	166+10	6.5
166+10	167+10	6.6	167+10	168+10	5.9	168+10	169+10	6.6	169+10	170+10	7.0

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.	Station Limits, feet		Average Depth, in.
170+10	171+10	6.4	171+10	172+10	6.8	172+10	173+10	6.6	173+10	173+50	6.3

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

017235.00 - Eagle Lake,Wallagrass

Station	Left Offset, ft					CL	Right Offset, ft					Comments
				9	3		3	9				
138+00				6	5		7	7				
169+30				7.5	7		7	10				

Highlighted areas indicate pavement cores were taken at this location.

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

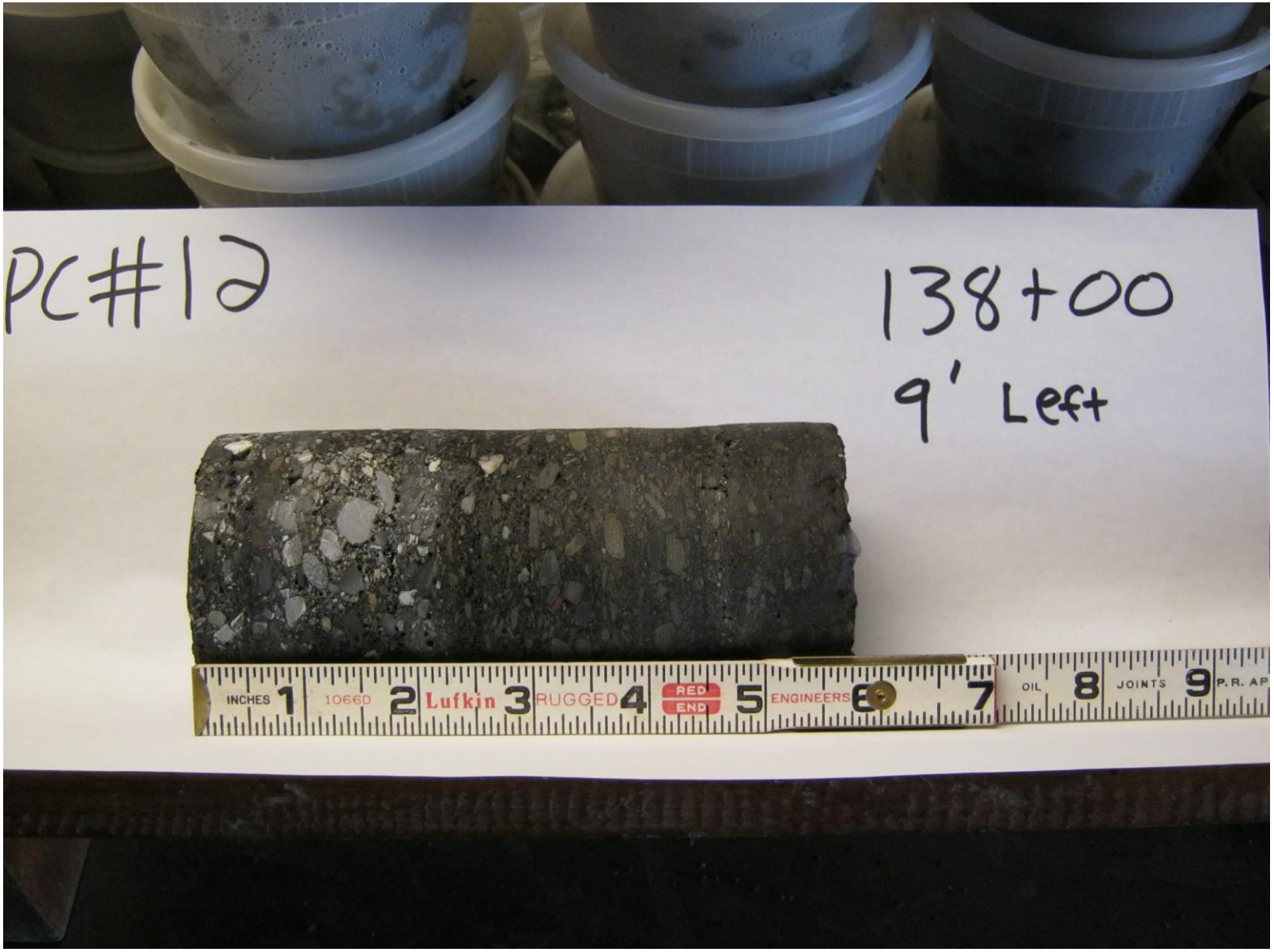
Pavement Cores
017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass



Pavement Cores

017235.00 - Eagle Lake,Wallagrass

Pavement Cores
017235.00 - Eagle Lake,Wallagrass

Pavement Cores

017235.00 - Eagle Lake,Wallagrass

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
10+00	15.0 Lt.		5.5			
10+00	15.0 Rt.	4.5	5.6			
11+00	15.0 Lt.			8.0		
11+00	14.0 Rt.			9.0		
12+10	15.0 Lt.			8.0		
12+10	12.0 Rt.			8.0		
13+00	15.0 Lt.			8.0		
13+00	12.0 Rt.			8.0		
14+00	15.0 Lt.			8.0		
14+25	12.0 Rt.			8.0		
14+75	12.0 Rt.			8.0		
16+00	15.0 Rt.			8.0		
16+10	15.0 Lt.		6.1			
68+70	13.0 Lt.	11.2	11.8			changed from 16+70, 13.0 Lt.
17+00	15.0 Lt.		4.3			
17+00	15.0 Rt.	2.2	3.0			
17+50	70.0 Lt.		1.6			
17+50	50.0 Lt.		1.1			
17+50	15.0 Lt.		7.4			
17+50	16.0 Rt.			8.0		
18+00	70.0 Lt.		2.3			
18+00	52.0 Lt.		1.7			
18+00	30.0 Lt.		1.4			
18+00	15.0 Lt.		4.9			
18+00	10.0 Rt.			8.0		
18+50	70.0 Lt.		2.2			
18+50	51.5 Lt.		1.5			
18+50	30.0 Lt.					Ledge Outcrop
18+50	17.0 Lt.		1.8			
18+50	15.0 Rt.		7.7			
18+95	51.0 Lt.		3.2			
19+00	70.0 Lt.		6.9			
19+00	35.0 Lt.					Ledge Outcrop
19+00	17.0 Lt.		1.1			
19+00	15.0 Rt.		3.2			
19+50	45.0 Lt.		6.4			
19+50	20.0 Lt.	1.0	1.9			
20+00	41.0 Lt.		5.4			
20+00	20.0 Lt.		2.0			
22+00	20.0 Lt.		1.9			
22+50	20.0 Lt.		1.0			
27+00	18.0 Lt.	2.2	2.4			
27+50	20.0 Lt.		6.7			
32+00	33.0 Rt.			10.0		9.0-9.4 ft Cobble
32+50	25.0 Lt.			8.0		
32+50	36.0 Rt.		4.7			
32+50	11.0 Lt.			8.0		
33+00	42.0 Rt.		4.6			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
33+00	11.0 Lt.			8.0		
33+00	13.0 Rt.			10.0		
33+50	25.0 Lt.			8.0		
33+50	35.0 Rt.			10.0		
33+50	11.0 Lt.			8.0		
33+50	13.0 Rt.			8.0		
34+00	25.0 Lt.			9.0		
34+00	11.0 Lt.			8.0		
34+00	13.0 Rt.			8.0		
35+00	25.0 Lt.			6.0		
35+00	11.0 Lt.			6.0		
35+50	25.0 Lt.			6.0		
35+50	20.0 Rt.		5.5			
35+50	10.0 Lt.		8.5			
35+50	10.0 Rt.			6.0		
38+40	11.0 Lt.	4.2	5.5			
38+50	25.0 Lt.			10.0		
38+50	12.0 Rt.			10.0		
38+95	19.0 Rt.			10.0		
38+95	12.0 Rt.			10.0		
39+00	13.0 Lt.			10.0		
39+50	40.0 Lt.			9.5		
39+50	25.0 Lt.			9.5		
39+50	25.0 Rt.					Under Wires
39+50	40.0 Rt.			10.5		
39+50	12.0 Lt.			10.0		layer of cobbles 2.0-3.0 ft
39+50	11.5 Rt.			10.0		
40+00	40.0 Lt.			9.0		
40+00	25.0 Lt.			9.0	3.0	
40+00	25.0 Rt.			10.5		
40+00	40.0 Rt.			10.5		
40+00	10.0 Lt.			10.0		
40+50	40.0 Lt.			9.5		
40+50	25.0 Lt.			9.0		
40+50	11.0 Rt.			8.0		
40+60	8.5 Lt.			8.0		
41+00	23.0 Lt.			9.0		
41+00	11.0 Lt.			8.0		
41+00	11.0 Rt.			8.0		
44+50	20.0 Lt.	7.2	7.7			
49+00	20.0 Lt.		2.3			
49+50	20.0 Lt.	1.5	1.9			
49+50	12.0 Lt.	4.2	5.1			
49+50	12.0 Rt.	4.3	7.5			
50+00	20.0 Lt.	3.4	4.6			
51+00	25.0 Lt.	5.5	7.6			
52+00	25.0 Lt.	5.0	6.0			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
53+00	40.0 Lt.	5.5	7.7			
53+00	19.0 Lt.	5.0	7.6			
58+00	30.0 Lt.	3.5	5.5			
59+00	23.0 Lt.			8.0		
61+00	15.0 Lt.			8.0		
61+50	15.0 Lt.			8.0		
61+50	15.0 Rt.			8.0		
61+95	15.0 Rt.			8.0		
62+15	15.0 Lt.			8.0		
62+50	15.0 Lt.			8.0		
63+00	15.0 Lt.			8.0		
63+00	15.0 Rt.			8.0		
63+50	15.0 Lt.			8.0		
70+50	15.0 Lt.			8.0		
71+00	15.0 Lt.			8.0		
71+00	15.0 Rt.			8.0		
71+50	15.0 Lt.			8.0		
72+00	15.0 Lt.			8.0		
72+00	15.0 Rt.			8.0		
72+50	12.0 Lt.			8.0		
73+00	14.0 Lt.			8.0		
73+00	15.0 Rt.			8.0		
73+50	15.0 Lt.			8.0		
74+00	15.0 Lt.			8.0		
74+00	15.0 Rt.			8.0		
82+00	14.0 Rt.	4.5	5.5			
82+10	10.0 Lt.		2.4			
82+50	20.0 Lt.	1.4	3.2			
83+00	20.0 Lt.	1.4	2.7			
83+00	10.0 Lt.		4.1			
83+00	12.0 Rt.	3.5	4.3			
85+50	12.0 Lt.		1.6			
85+50	12.0 Rt.		3.5			
91+00	41.0 Lt.	1.3	2.0			
91+00	31.0 Lt.	1.4	3.1			
91+00	10.0 Lt.	1.2	1.6			
91+00	25.0 Rt.		3.2			
91+50	40.0 Lt.	1.6	2.0			
91+50	26.0 Lt.	1.4	1.7			
91+50	10.0 Lt.		1.8			
91+50	13.0 Rt.		3.0			
92+00	40.0 Lt.	0.8	1.1			
92+00	26.0 Lt.	1.5	2.0			
92+00	10.0 Lt.		1.8			
92+00	13.0 Rt.	3.0	3.3			
92+50	40.0 Lt.	2.3	3.4			
92+50	29.0 Lt.	1.8	2.5			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
92+50	10.0 Lt.	1.5	1.9			
92+50	14.0 Rt.		3.1			
93+00	30.0 Lt.	1.3	2.7			
93+00	10.0 Lt.	1.4	2.0			
93+00	13.5 Rt.	2.2	2.8			
93+45	32.0 Lt.	2.8	4.4			
93+50	10.0 Lt.	3.2	4.5			
93+50	12.5 Rt.	6.9	7.5			
94+00	24.0 Lt.	4.4	6.3			
94+00	10.0 Lt.	2.4	4.0			
94+00	12.5 Rt.		4.2			
94+50	50.0 Lt.	2.3	3.6			
94+50	35.0 Lt.	2.6	5.1			
94+50	10.0 Lt.	3.2	4.5			
94+50	20.0 Rt.		2.0			
95+00	31.0 Lt.	2.5	3.9			
95+00	21.0 Lt.	2.6	5.3			
95+00	7.0 Lt.	2.6	4.7			
95+50	12.0 Lt.					ledge outcrop
95+50	7.0 Lt.	1.8	2.3			
95+50	20.0 Rt.	3.5	4.9			
96+00	6.0 Lt.	2.0	2.2			
96+00	15.0 Rt.	4.4	5.6			
96+50	13.0 Lt.	3.0	4.2			
96+50	10.0 Rt.	7.5	8.0			
97+00	15.0 Lt.	1.9	2.5			
97+00	10.0 Rt.	7.7	8.5			
97+50	16.0 Lt.		2.5			
97+50	10.0 Rt.	3.7	4.2			
98+00	10.0 Rt.	7.5	8.0			
103+00	15.0 Lt.	3.8	4.2			
103+50	15.0 Lt.	2.1	2.5			
104+00	17.0 Lt.	1.9	3.3			
104+50	19.0 Lt.	4.9	7.1			
106+00	10.0 Rt.			8.0		
106+00	25.0 Lt.	2.0	2.2			
106+00	10.0 Lt.		4.4			
106+05	25.0 Rt.			8.0		
106+50	10.0 Rt.	2.4	4.7			
106+50	25.0 Rt.	6.8	7.4			
106+50	27.0 Lt.	1.9	2.5			
106+50	12.0 Lt.		3.5			
106+95	45.0 Lt.	3.6	4.2			
107+00	10.0 Lt.	7.3	8.5			
107+00	10.0 Rt.		7.5			
107+00	25.0 Rt.			10.0		
107+00	35.0 Lt.	3.2	3.7			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
107+50	10.0 Lt.	9.0	10.4			
107+50	10.0 Rt.			10.0		1A auger sample 9.5-10.0 ft.
107+50	25.0 Rt.			10.0		
108+00	34.5 Lt.	3.9	4.5			
108+00	10.0 Lt.	4.3	5.4			
108+00	10.0 Rt.	4.0	4.6			
108+00	25.0 Rt.	4.1	5.3			
108+50	37.5 Lt.	2.3	3.9			
108+50	10.0 Lt.	9.9	10.2			
108+50	10.0 Rt.	5.2	6.4			
108+50	25.0 Rt.	4.2	5.3			
109+00	40.0 Lt.		6.1			
109+00	25.0 Lt.	10.0	11.5			
109+00	10.0 Lt.	2.7	4.1			
109+00	4.0 Rt.	4.8	5.9			
109+00	30.0 Rt.	2.7	4.3			
109+50	40.0 Lt.	3.8	4.4			
110+00	24.0 Lt.	2.1	3.4			
110+50	20.0 Lt.	6.2	7.2			
110+50	38.0 Lt.		6.1			
111+00	20.0 Lt.	2.8	4.1			
111+00	10.0 Lt.	3.8	4.9			
111+00	10.0 Rt.			5.0		
111+00	25.0 Rt.			5.0		
111+50	25.0 Lt.	3.4	4.0			
112+00	25.0 Lt.		5.1			
131+00	14.5 Lt.			15.0		Firm at 11.8 ft
132+00	14.5 Lt.			10.0		No Peat
136+00	41.0 Lt.	1.2	2.6			
136+00	13.0 Lt.	3.2	3.6			
136+00	10.0 Rt.	1.6	2.7			
136+00	41.0 Rt.	2.5	3.1			
136+50	43.0 Lt.	1.6	3.7			
136+50	11.0 Lt.	3.2	4.2			
136+50	10.0 Rt.	2.1	2.8			
136+50	41.0 Rt.	2.0	2.7			
137+00	11.0 Lt.	1.7	2.4			
137+00	10.0 Rt.	2.2	3.4			
137+00	39.0 Rt.	1.2	2.3			
137+50	11.0 Lt.	2.8	3.2			
137+50	10.0 Rt.	3.1	3.4			
137+50	40.0 Rt.	1.5	2.3			
138+00	11.0 Lt.	3.2	4.0			
138+00	10.0 Rt.	5.3	6.4			
138+00	25.0 Rt.	1.5	2.6			
138+50	12.0 Lt.	5.5	6.2			
138+50	10.0 Rt.	5.0	6.1			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
138+50	25.0 Rt.	1.1	2.8			
141+50	40.0 Lt.	2.0	2.6			
142+00	37.0 Lt.	2.3	4.4			
144+05	37.0 Lt.	1.9	2.6			
144+50	31.0 Lt.	2.1	3.4			
145+00	13.0 Lt.	4.7	5.2			
145+00	12.0 Rt.	1.6	2.4			
145+50	12.0 Rt.	2.0	2.6			
146+00	12.5 Lt.	7.0	7.5			
146+00	12.0 Rt.	1.8	2.5			
146+50	12.0 Lt.			8.0		
146+50	12.0 Rt.			8.0		
147+00	12.5 Lt.			8.0		
147+00	12.0 Rt.			8.0		
147+00	42.0 Rt.	2.4	3.7			
147+50	13.0 Lt.			5.0		
147+50	12.0 Rt.			5.0		
147+50	41.0 Rt.	2.2	3.6			
148+00	13.0 Lt.			5.0		
148+00	12.0 Rt.			5.0		
148+00	44.0 Rt.	3.1	6.7			
153+00	12.0 Rt.			6.0		
154+00	12.0 Lt.			6.0		
154+00	12.0 Rt.			6.0		
160+00	11.0 Lt.			8.0		
160+00	13.0 Rt.			8.0		
160+50	12.0 Rt.			8.0		
160+60	12.0 Lt.	3.0	3.7			
161+00	11.0 Lt.	6.4	6.9			
161+00	13.0 Rt.			8.0		
161+50	27.0 Lt.	2.4	4.3			
161+50	12.0 Lt.	3.4	4.8			
161+50	12.0 Rt.		3.8			
162+00	11.5 Lt.	2.8	3.8			
162+00	11.0 Rt.		3.8			
162+50	12.0 Lt.	3.0	4.3			
162+50	12.0 Rt.	4.3	5.5			
163+00	12.0 Lt.	4.5	5.5			
163+00	11.0 Rt.	5.0	5.9			
163+50	12.0 Lt.	4.5	5.5			
163+50	11.0 Rt.	5.8	6.2			
164+00	12.5 Lt.		4.2			
164+00	11.0 Rt.	3.8	4.1			
164+50	24.0 Lt.	0.9	1.5			
164+50	13.0 Lt.	3.6	4.2			
164+50	11.5 Rt.	6.0	6.6			
165+00	13.0 Lt.	3.8	4.3			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 7/23-27/2012
165+00	11.5 Rt.	7.5	8.0			
165+50	12.5 Lt.	4.5	5.1			
165+50	11.0 Rt.	4.2	4.5			
166+00	35.0 Lt.	2.4	4.8			
166+00	13.0 Lt.	5.0	5.9			
166+00	11.0 Rt.	4.7	5.7			
166+50	40.0 Lt.	2.2	4.9			
166+50	13.0 Lt.	4.8	5.7			
166+50	10.0 Rt.	4.2	6.7			
167+00	39.0 Lt.	3.8	7.2			
167+00	14.0 Lt.	5.7	6.5			
167+00	10.0 Rt.	4.3	5.3			
167+50	36.0 Lt.	6.1	7.8			
167+50	13.0 Lt.	6.5	7.5			
167+50	11.0 Rt.	5.5	7.4			
168+00	36.0 Lt.	2.2	3.6			
168+00	11.5 Lt.	2.1	2.5			
168+00	13.0 Rt.	6.2	8.0			
168+50	40.0 Lt.	1.3	1.8			
168+50	13.0 Lt.	2.0	2.5			
169+00	40.0 Lt.	2.3	3.7			
169+00	11.0 Lt.	2.0	2.5			
169+00	11.5 Rt.	2.5	3.7			
169+50	40.0 Lt.	0.5	1.2			
169+50	12.5 Lt.	2.6	3.6			
169+50	12.0 Rt.	4.6	5.5			
170+00	35.0 Lt.	1.1	1.7			
170+00	11.5 Lt.	2.6	3.1			
170+20	12.5 Rt.	1.6	2.1			
170+45	11.5 Lt.	4.0	4.8			
170+55	28.0 Lt.	2.4	4.6			
170+60	13.0 Rt.	3.7	4.2			
172+65	11.5 Lt.	5.2	5.9			
172+65	12.0 Rt.			6.0		
173+00	11.0 Lt.	3.2	4.1			
173+00	13.0 Rt.			6.0		
173+50	10.5 Lt.	4.0	5.6			
173+50	11.0 Rt.		5.5			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 2/6,11/2013
21+00	13.0 Lt.		1.7			
21+00	14.0 Rt.			7.0		
21+50	12.0 Lt.			7.0		
21+50	14.0 Rt.			7.0		
22+00	11.5 Lt.		1.3			
22+00	13.0 Rt.			7.0		
22+50	11.5 Lt.		4.4			
22+50	14.0 Rt.			7.0		
23+00	12.0 Lt.			7.0		
23+00	13.0 Rt.			7.0		
24+00	13.5 Lt.			7.0		
24+00	13.0 Rt.			7.0		
25+00	12.0 Lt.		2.0			
25+00	12.5 Rt.			7.0		
26+00	11.5 Lt.			6.5		
26+00	14.5 Rt.		2.4			
26+50	11.5 Rt.			6.5		
27+00	12.0 Rt.			6.5		
27+50	13.0 Rt.			6.5		
38+00	11.5 Lt.		3.9			
38+00	12.0 Rt.			7.0		
44+50	11.5 Rt.			7.0		
45+00	12.0 Lt.			6.5		
45+00	12.0 Rt.			7.0		
45+50	12.0 Lt.			6.5		
45+50	12.0 Rt.			7.0		
46+00	14.0 Lt.			6.5		
46+00	12.0 Rt.			7.0		
46+50	13.0 Lt.		3.2			
46+50	12.0 Rt.			7.0		
47+00	12.0 Lt.		3.5			
47+00	12.0 Rt.		6.1			
47+50	12.5 Lt.		4.1			
47+50	12.0 Rt.			6.5		
48+00	12.5 Lt.		4.8			
48+00	11.5 Rt.			6.5		
48+50	13.0 Lt.		3.1			
48+50	12.0 Rt.			6.5		
50+00	12.0 Rt.			6.5		
51+00	11.5 Rt.			6.5		
52+00	12.0 Rt.			6.5		
53+00	12.0 Rt.		6.4			
58+00	12.0 Rt.			6.5		
59+00	12.0 Rt.		5.5			
83+50	11.5 Lt.		3.5			
83+50	12.0 Rt.		4.1			

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 2/6,11/2013
84+00	11.0 Lt.		6.0			
84+00	12.5 Rt.		4.8			
85+00	9.5 Lt.		2.5			
85+00	13.0 Rt.		3.6			
86+00	9.5 Lt.		1.4			
86+00	12.0 Rt.		4.2			
87+00	10.5 Lt.		2.0			
87+00	12.0 Rt.		2.5			
88+00	10.0 Lt.		1.5			
88+00	12.0 Rt.		3.3			
89+00	10.5 Lt.		4.0			
89+00	13.0 Rt.		3.8			
90+00	6.0 Lt.		1.5			
90+00	13.0 Rt.		4.4			
98+00	12.0 Lt.			6.5		
103+00	12.0 Rt.		5.8			
104+00	10.0 Rt.		4.5			
105+00	CL			7.0		
113+00	CL		3.2			
114+00	CL		2.2			
116+00	18.0 Lt.		6.8			
116+00	6.0 Rt.		3.3			
117+00	17.0 Lt.			6.5		
117+00	7.0 Rt.			6.5		
118+00	12.5 Lt.			6.5		
118+00	11.0 Rt.		3.8			
133+00	13.5 Lt.			6.5		
133+00	13.0 Rt.		6.1			
134+00	11.5 Lt.		6.2			
134+00	11.5 Rt.		5.8			
135+00	12.0 Lt.		5.9			
135+00	11.5 Rt.		2.6			
139+00	11.5 Lt.			6.5		
139+00	12.0 Rt.		4.0			
143+00	13.0 Lt.			6.5		
143+00	12.0 Rt.		3.5			
144+00	13.0 Lt.			6.5		
144+00	12.5 Rt.		3.0			
144+50	12.0 Rt.		1.6			
171+00	12.0 Lt.		2.6			
171+00	12.5 Rt.			7.0		
171+50	12.0 Lt.		2.5			
171+50	12.0 Rt.		4.1			
172+00	12.0 Lt.		2.7			
172+00	11.5 Rt.		5.5			
172+50	12.0 Rt.			6.5		
173+00	12.0 Rt.			6.5		
174+00	14.0 Lt.		1.7			
174+00	13.0 Rt.			6.0		

MaineDOT Drill Crew
Logged By: B. Wilder
Drill Rig: CME 45C

5" Solid Stem Auger

State of Maine - Department of Transportation

Rod Sounding Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Boring	Station (Feet)	Offset (Feet)	Refusal (Feet)	No Refusal (Feet)	Water (X) = Yes	Comments 7/23-26/12, 8/6/12
	17+50	30.0 Lt.	0.2			
	22+00	40.0 Lt.	1.1			
	22+50	40.0 Lt.	1.7			
	27+00	40.0 Lt.	3.0			
	27+50	40.0 Lt.		8.0		
	44+50	35.0 Lt.	7.5			
	48+00	50.0 Lt.	0.8			
	48+00	30.0 Lt.	1.4			
	49+00	40.0 Lt.	2.7			
	49+50	40.0 Lt.	1.1			
	50+00	40.0 Lt.	2.7			
	79+00	30.0 Rt.		8.0		
	82+50	40.0 Lt.	3.2			
	85+50	40.0 Lt.	1.5			
	86+00	50.0 Lt.	1.0			
	86+00	30.0 Lt.	1.8			
	95+50	40.0 Lt.	1.2			
	95+50	25.0 Lt.	0.8			
	96+00	40.0 Lt.	1.0			
	96+00	25.0 Lt.	2.3			
	109+50	25.0 Lt.	2.0			
	109+50	17.0 Lt.	3.6			
	109+58	33.0 Rt.	2.9			
	110+00	10.0 Lt.	2.1			
	110+00	10.0 Rt.	2.9			
	110+00	19.0 Rt.	2.1			
	110+50	37.0 Rt.	7.3			
	145+00	30.0 Rt.	0.6			
	145+00	50.0 Rt.	2.0			
	145+50	30.0 Rt.	0.4			
	145+50	50.0 Rt.	2.8			
	145+50	70.0 Rt.	1.9			
	146+00	40.0 Rt.	2.7			
	146+00	70.0 Rt.	1.1			
	146+50	40.0 Rt.	2.2			
	169+00	25.0 Rt.	4.1			
	169+50	25.0 Rt.	3.0			
	170+00	25.0 Rt.	2.4			
	170+50	25.0 Rt.	2.5			
	172+50	30.0 Lt.	2.1			
	173+00	30.0 Lt.	1.9			
	173+50	30.0 Lt.	1.2			
	174+00	30.0 Lt.	0.2			Weathered Rock

State of Maine - Department of Transportation

Laboratory Testing Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Boring & Sample Identification Number	Station (Feet)	Offset (Feet)	Depth (Feet)	Reference Number	G.S.D.C. Sheet	W.C.	% Passing 200 Sieve	Classification		
								Unified	AASHTO	Frost
HB-WALL-101, S1	30+00	9.0 Rt.	0.42-5.0	261980	1	6.3	30.4	SM	A-2-4	II
HB-WALL-102, S2	70+00	9.0 Rt.	0.63-2.4	261981	1	8.9	33.9	SM	A-2-4	II
HB-WALL-102, S3	70+00	9.0 Rt.	2.4-5.0	261982	1	10.0	52.7	ML	A-4	IV
HB-WALL-103, S4	85+00	9.0 Rt.	0.54-2.0	261983	1	5.9	34.8	SM	A-2-4	II
HB-WALL-105, S5	115+00	CL	0.58-5.0	261984	1	7.4	30.1	SM	A-2-4	II
HB-WALL-106, S6	130+00	9.0 Rt.	0.58-5.0	261985	1	6.7	39.8	SM	A-4	III
HB-WALL-201, 1D	131+00	14.0 Lt.	2.0-4.0	267765	2	8.3	20.3	SM	A-1-b	II
HB-WALL-201, 2D	131+00	14.0 Lt.	5.0-7.0	267766	2	144.1	17.1	SM	A-1-b	II
HB-WALL-201, 3D	131+00	14.0 Lt.	7.0-9.0	267767	2	12.0	48.8	SM	A-4	III
HB-WALL-201, 4D	131+00	14.0 Lt.	9.0-11.0	267768	2	11.4	51.0	ML	A-4	IV
HB-WALL-201, 5D	131+00	14.0 Lt.	11.5-13.0	267769	2	12.4	24.3	SM	A-1-b	II
HB-WALL-203, 1D	129+00	12.5 Lt.	3.0-5.0	267770	3	69.6	36.4	SM	A-4	III
HB-WALL-203, 2D	129+00	12.5 Lt.	5.0-7.0	267771	3	11.5	47.7	SM	A-4	III
HB-WALL-205, S1	130+00	11.0 Rt.	0.0-3.2	267772	3	11.1	38.9	SM	A-4	III
HB-WALL-205, 1D	130+00	11.0 Rt.	4.0-6.0	267773	3	32.2	21.4	SM	A-1-b	II
HB-WALL-205, 2D	130+00	11.0 Rt.	6.0-8.0	267774	3	9.3	39.1	SM	A-4	III
HB-WALL-205, 3D	130+00	11.0 Rt.	8.0-10.0	267775	3	14.3	27.8	SM	A-2-4	II
HB-WALL-208, 1D	127+00	12.5 Lt.	4.0-6.0	267726	4	13.0	36.4	SM	A-4	III
HB-WALL-208, 2D	127+00	12.5 Lt.	6.0-8.0	267727	4	6.3	24.8	SM	A-1-b	II
HB-WALL-210, 1D	125+00	10.0 Lt.	5.0-7.0	267728	4	14.0	15.4	SM	A-1-b	II
HB-WALL-210, 2D	125+00	10.0 Lt.	7.0-9.0	267729	4	8.2	78.2	ML	A-4	IV
HB-WALL-212, S1	15+00	15.0 Lt.	0.5-8.0	267730	4	13.2	41.0	SM	A-4	III
HB-WALL-213, S2	20+00	9.0 Rt.	0.38-3.5	267731	4	3.5	24.4	SM	A-1-b	II
HB-WALL-214, S3	35+00	10.0 Rt.	0.42-6.0	267732	5	6.2	28.1	SM	A-2-4	II
HB-WALL-215, S4	40+00	12.0 Rt.	0.3-10.0	267733	5	6.3	26.3	SM	A-2-4	II
HB-WALL-216, S5	42+50	9.0 Lt.	0.42-2.3	267734	5	5.5	27.3	SM	A-2-4	II
HB-WALL-216, S6	42+50	9.0 Lt.	2.3-6.0	267735	5	11.3	49.8	SM	A-4	III
HB-WALL-218, S7	60+00	10.0 Rt.	0.38-2.0	267736	5	5.8	30.8	SM	A-2-4	II
HB-WALL-218, S8	60+00	10.0 Rt.	2.0-8.0	267737	5	11.3	56.5	ML	A-4	IV
HB-WALL-219, S9	75+00	10.0 Rt.	0.33-2.4	267738	6	6.5	26.2	SM	A-2-4	II
HB-WALL-219, S10	75+00	10.0 Rt.	2.4-8.0	267739	6	11.7	51.7	ML	A-4	IV
HB-WALL-220, S11	91+00	13.0 Rt.	2.1-5.2	267740	6	6.6	29.3	SM	A-2-4	II
HB-WALL-222, S12	98+00	15.0 Lt.	0.0-5.2	267741	6	8.1	25.0	SM	A-1-b	II
HB-WALL-223, S13	168+50	10.0 Rt.	0.0-0.8	267742	6	6.8	27.5	SM	A-2-4	II
HB-WALL-224, S15	120+00	11.0 Lt.	0.0-2.0	267743	7	7.3	21.3	SM	A-1-b	II
HB-WALL-224, S16	120+00	11.0 Lt.	2.0-9.5	267744	7	13.0	44.2	SM	A-4	III
HB-WALL-225, S17	120+00	15.0 Rt.	1.6-5.2	267745	7	27.2	33.8	SM	A-2-4	II
HB-WALL-226, S18	124+00	10.0 Rt.	5.2-7.2	267746	7	80.4	32.8	SM	A-2-4	II
HB-WALL-226, S19	124+00	10.0 Rt.	7.2-9.5	267747	7	13.9	54.8	ML	A-4	IV
HB-WALL-227, S20	125+00	12.0 Rt.	0.0-6.3	267748	8	4.3	26.1	SM	A-2-4	II
HB-WALL-228, 1D	126+00	10.0 Rt.	5.0-7.0	267749	8	13.2	49.7	SM	A-4	III

Classification of these soil samples is in accordance with AASHTO Classification System M-145-40. This classification is followed by the "Frost Susceptibility Rating" from zero (non-frost susceptible) to Class IV (highly frost susceptible). The "Frost Susceptibility Rating" is based upon the MDOT and Corps of Engineers Classification Systems.

GSDC = Grain Size Distribution Curve as determined by AASHTO T 88-93 (1996) and/or ASTM D 422-63 (Reapproved 1998)

WC = water content as determined by AASHTO T 265-93 and/or ASTM D 2216-98

LL = Liquid limit as determined by AASHTO T 89-96 and/or ASTM D 4318-98

PI = Plasticity Index as determined by AASHTO 90-96 and/or ASTM D4318-98

State of Maine - Department of Transportation

Laboratory Testing Summary Sheet

Town(s): Wallagrass Work Number: 17235.00

Boring & Sample Identification Number	Station (Feet)	Offset (Feet)	Depth (Feet)	Reference Number	G.S.D.C. Sheet	W.C.	% Passing 200 Sieve		Classification Unified	Classification AASHTO	Classification Frost
HB-WALL-230, 2D	128+00	11.0 Rt.	5.0-7.0	267750	8	11.1	49.5		SM	A-4	III
HB-WALL-231, S21	145+50	12.0 Lt.	0.5-3.5	267776	8	5.5	29.3		SM	A-2-4	II
HB-WALL-301, 1D	68+75	12.0 Rt.	4.5-6.0	267071	9	4.5	12.3		SM	A-1-b	II
HB-WALL-301, 1DA	68+75	12.0 Rt.	6.0-6.5	267067	9	10.4	23.0		SM	A-1-b	II
HB-WALL-302, 1D	124+28	12.0 Rt.	5.0-6.0	267068	9	5.4	10.7		SW-SM	A-1-a	0
HB-WALL-302, 1DA	124+28	12.0 Rt.	6.0-7.0	267069	9	27.8	36.3		SM	A-4	IV
HB-WALL-302, 2D	124+28	12.0 Rt.	10.0-12.0	267070	9	11.8	57.3		CL-ML	A-4	IV
							Loss on Ignition (T 267)				
							Loss %			H2O %	
HB-WALL-201, 2D	131+00	14.0 Lt.	5.0-7.0	267766	2	144.1	32.0			143.9	
HB-WALL-203, 1D	129+00	12.5 Lt.	3.0-5.0	267770	3	69.6	24.5			69.8	
HB-WALL-205, 1D	130+00	11.0 Rt.	4.0-6.0	267773	3	32.2	22.1			32.3	
HB-WALL-208, 1D	127+00	12.5 Lt.	4.0-6.0	267726	4	13.0	21.5			13.2	
HB-WALL-210, 1D	125+00	10.0 Lt.	5.0-7.0	267728	4	14.0	13.5			14.1	
HB-WALL-226, S18	124+00	10.0 Rt.	5.2-7.2	267746	7	80.4	15.7			81.2	
HB-WALL-302, 1DA	124+28	12.0 Rt.	6.0-7.0	267069	9	27.8	5.5			27.8	
							L.L.	P.I.			
HB-WALL-302, 2D	124+28	12.0 Rt.	10.0-12.0	267070	9	11.8	20	5	CL-ML	A-4	IV

Borings are not in Station order, but Boring numerical order.

Classification of these soil samples is in accordance with AASHTO Classification System M-145-40. This classification is followed by the "Frost Susceptibility Rating" from zero (non-frost susceptible) to Class IV (highly frost susceptible). The "Frost Susceptibility Rating" is based upon the MDOT and Corps of Engineers Classification Systems.

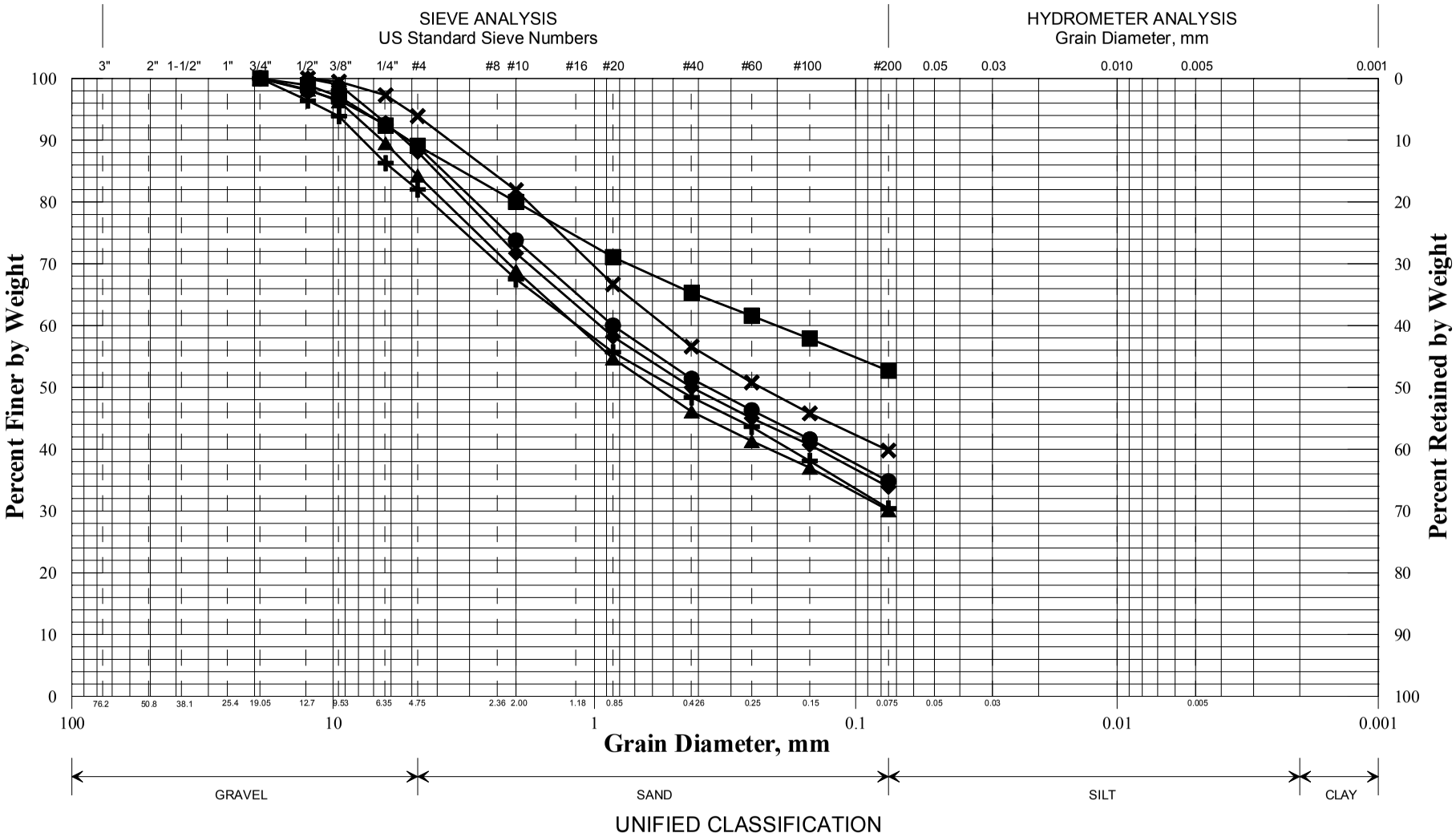
GSDC = Grain Size Distribution Curve as determined by AASHTO T 88-93 (1996) and/or ASTM D 422-63 (Reapproved 1998)

WC = water content as determined by AASHTO T 265-93 and/or ASTM D 2216-98

LL = Liquid limit as determined by AASHTO T 89-96 and/or ASTM D 4318-98

PI = Plasticity Index as determined by AASHTO 90-96 and/or ASTM D4318-98

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-101/S1	30+00	9.0 RT	0.42-5.0	SAND, some silt, little gravel.	6.3			
◆	HB-WALL-102/S2	70+00	9.0 RT	0.63-2.4	SAND, some silt, little gravel.	8.9			
■	HB-WALL-102/S3	70+00	9.0 RT	2.4-5.0	Sandy SILT, little gravel.	10.0			
●	HB-WALL-103/S4	85+00	9.0 RT	0.54-2.0	SAND, some silt, little gravel.	5.9			
▲	HB-WALL-105/S5	115+00	CL	0.58-5.0	SAND, some silt, little gravel.	7.4			
✕	HB-WALL-106/S6	130+00	9.0 RT	0.58-5.0	Silty SAND, little gravel.	6.7			

WIN
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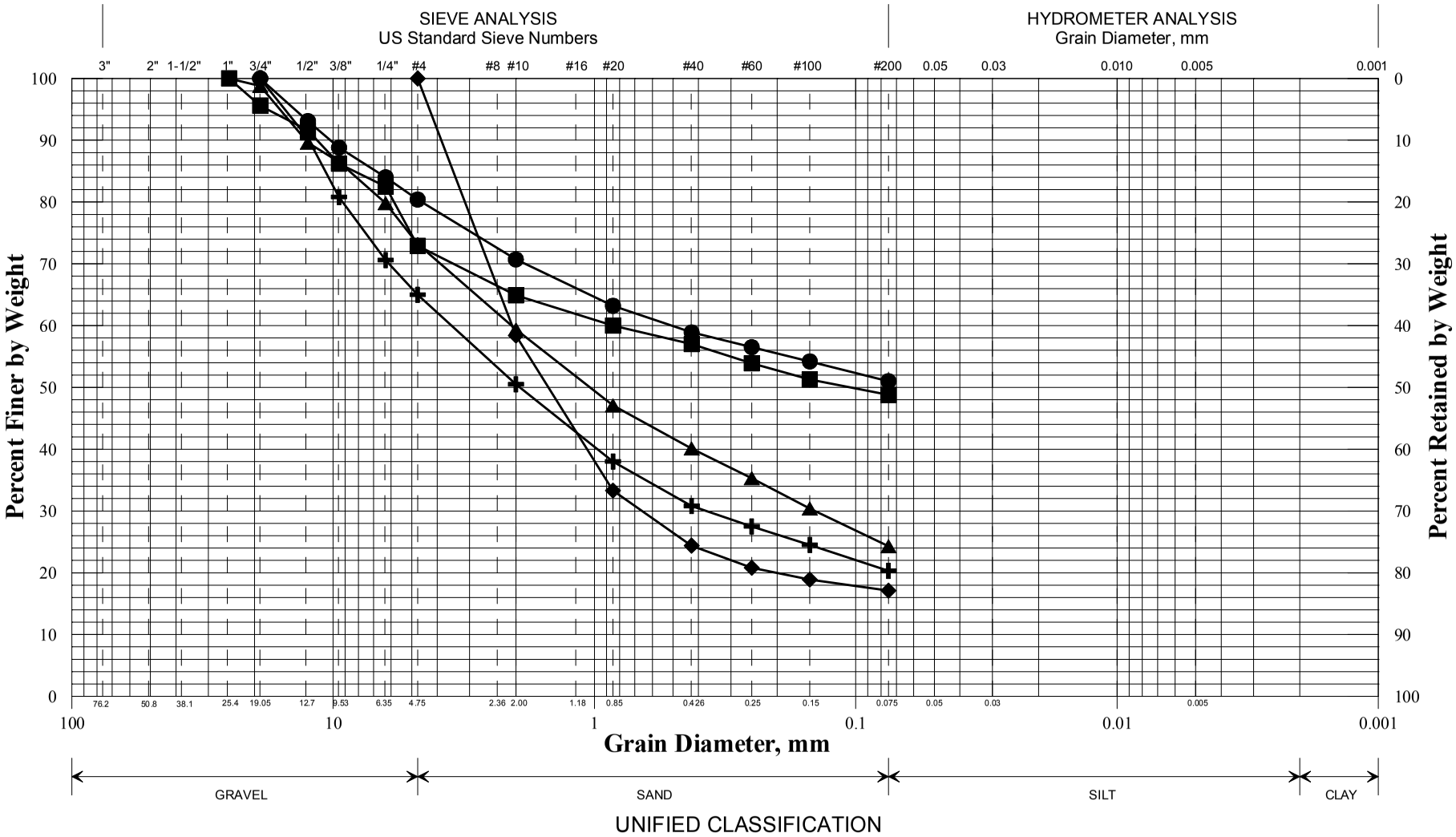
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-201 1D	131+00	14.0 LT	2.0-4.0	SAND, some gravel, little silt.	8.3			
◆	HB-WALL-201 2D	131+00	14.0 LT	5.0-7.0	SAND, little silt.	144.1			
■	HB-WALL-201 3D	131+00	14.0 LT	7.0-9.0	SILT, some gravel, some sand.	12.0			
●	HB-WALL-201 4D	131+00	14.0 LT	9.0-11.0	SILT, some sand, little gravel.	11.4			
▲	HB-WALL-201 5D	131+00	14.0 LT	11.5-13.0	SAND, some gravel, some silt.	12.4			
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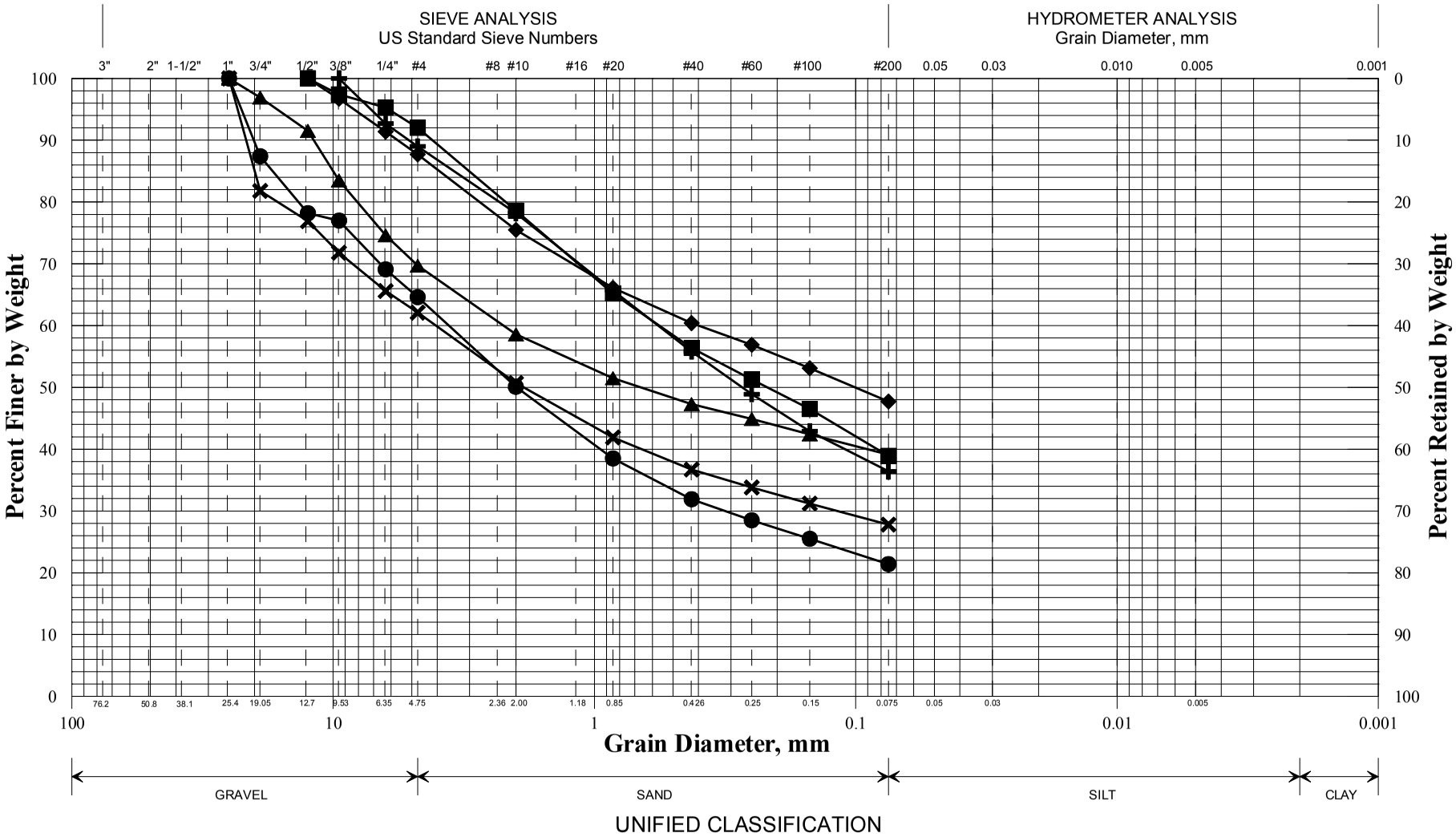

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-203 1D	129+00	12.5 LT	3.0-5.0	Silty SAND, little gravel.	69.6			
◆	HB-WALL-203 2D	129+00	12.5 LT	5.0-7.0	Sandy SILT, little gravel.	11.5			
■	HB-WALL-205 S1	130+00	11.0 RT	0.0-3.2	Silty SAND, trace gravel.	11.1			
●	HB-WALL-205 1D	130+00	11.0 RT	4.0-6.0	SAND, some gravel, some silt.	32.2			
▲	HB-WALL-205 2D	130+00	11.0 RT	6.0-8.0	SILT, some gravel, some sand.	9.3			
✕	HB-WALL-205 3D	130+00	11.0 RT	8.0-10.0	GRAVEL, some sand, some silt.	14.3			

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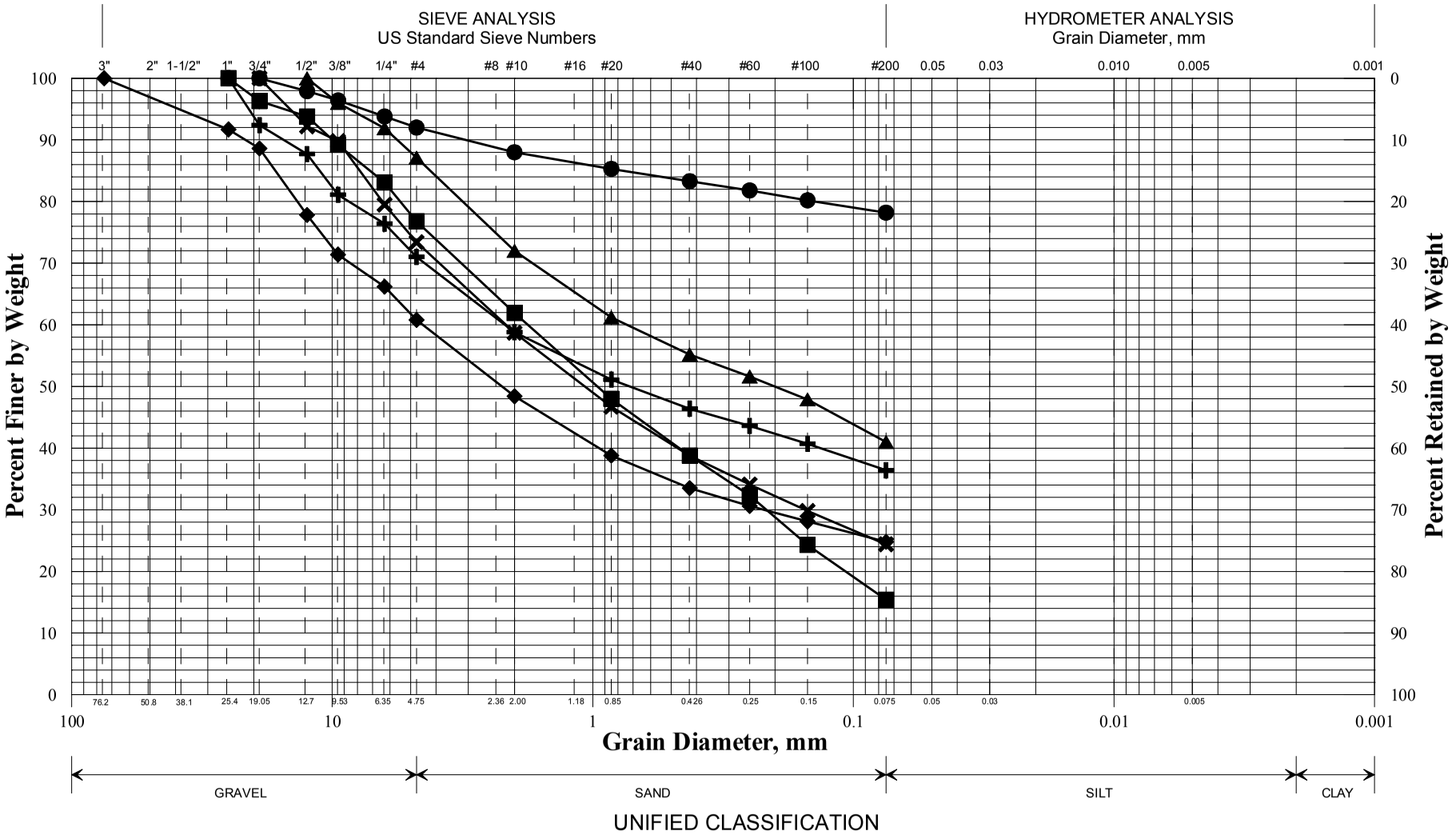

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-208 1D	127+00	12.5 LT	4.0-6.0	SILT, some sand, some gravel.	13.0			
◆	HB-WALL-208 2D	127+00	12.5 LT	6.0-8.0	Sandy GRAVEL, some silt.	6.3			
■	HB-WALL-210 1D	125+00	10.0 LT	5.0-7.0	SAND, some gravel, little silt.	14.0			
●	HB-WALL-210 2D	125+00	10.0 LT	7.0-9.0	SILT, little sand, trace gravel.	8.2			
▲	HB-WALL-212 S1	15+00	15.0 LT	0.5-8.0	Silty SAND, little gravel.	13.2			
✕	HB-WALL-213 S2	20+00	9.0 RT	0.38-3.5	SAND, some gravel, some silt.	3.5			

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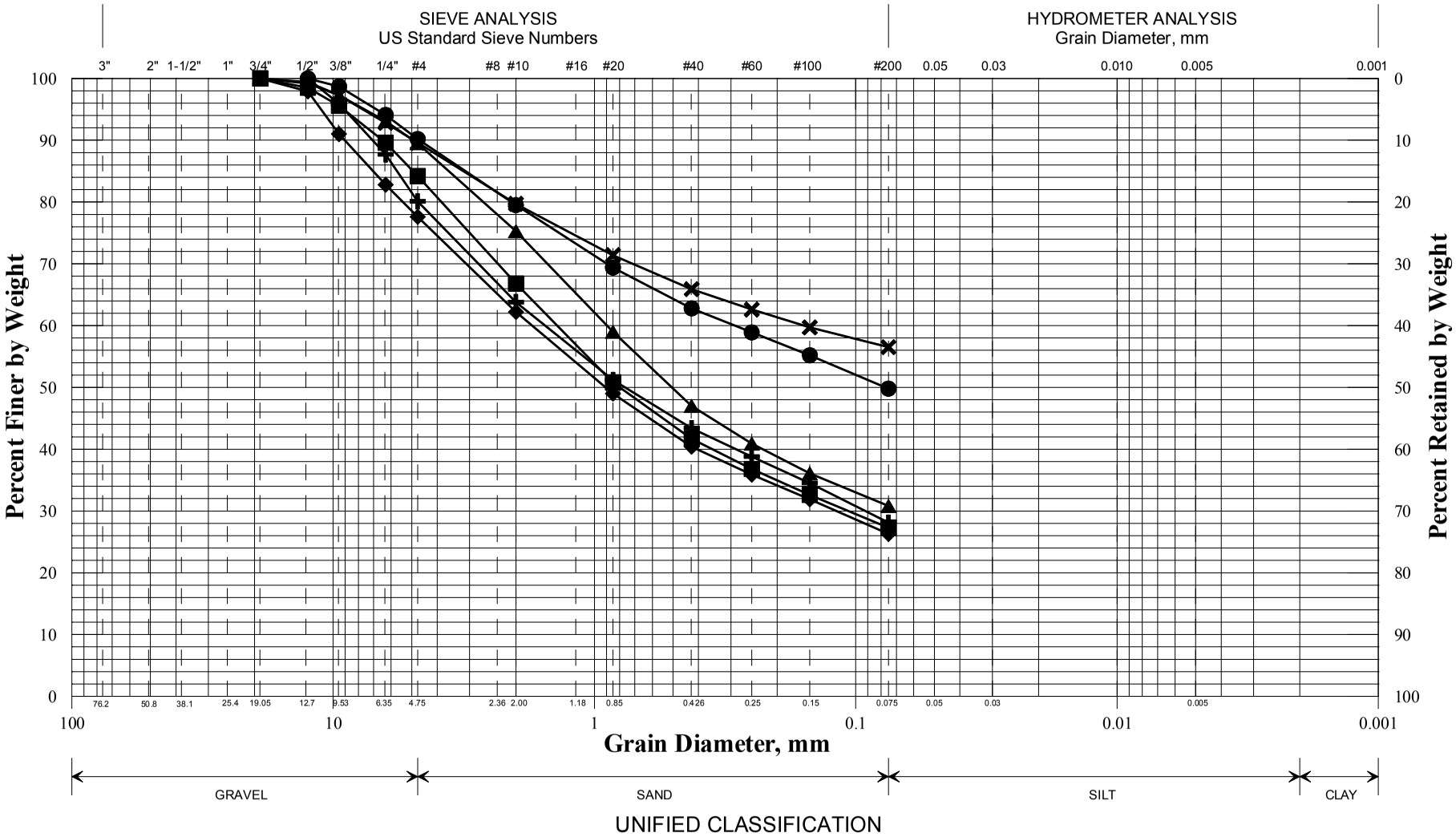

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-214 S3	35+00	10.0 RT	0.42-6.0	SAND, some silt, little gravel.	6.2			
◆	HB-WALL-215 S4	40+00	12.0 RT	0.3-10.0	SAND, some silt, some gravel.	6.3			
■	HB-WALL-216 S5	42+50	9.0 LT	0.42-2.3	SAND, some silt, little gravel.	5.5			
●	HB-WALL-216 S6	42+50	9.0 LT	2.3-6.0	Sandy SILT, trace gravel.	11.3			
▲	HB-WALL-218 S7	60+00	10.0 RT	0.38-2.0	Silty SAND, trace gravel.	5.8			
✕	HB-WALL-218 S8	60+00	10.0 RT	2.0-8.0	SILT, some sand, trace gravel.	11.3			

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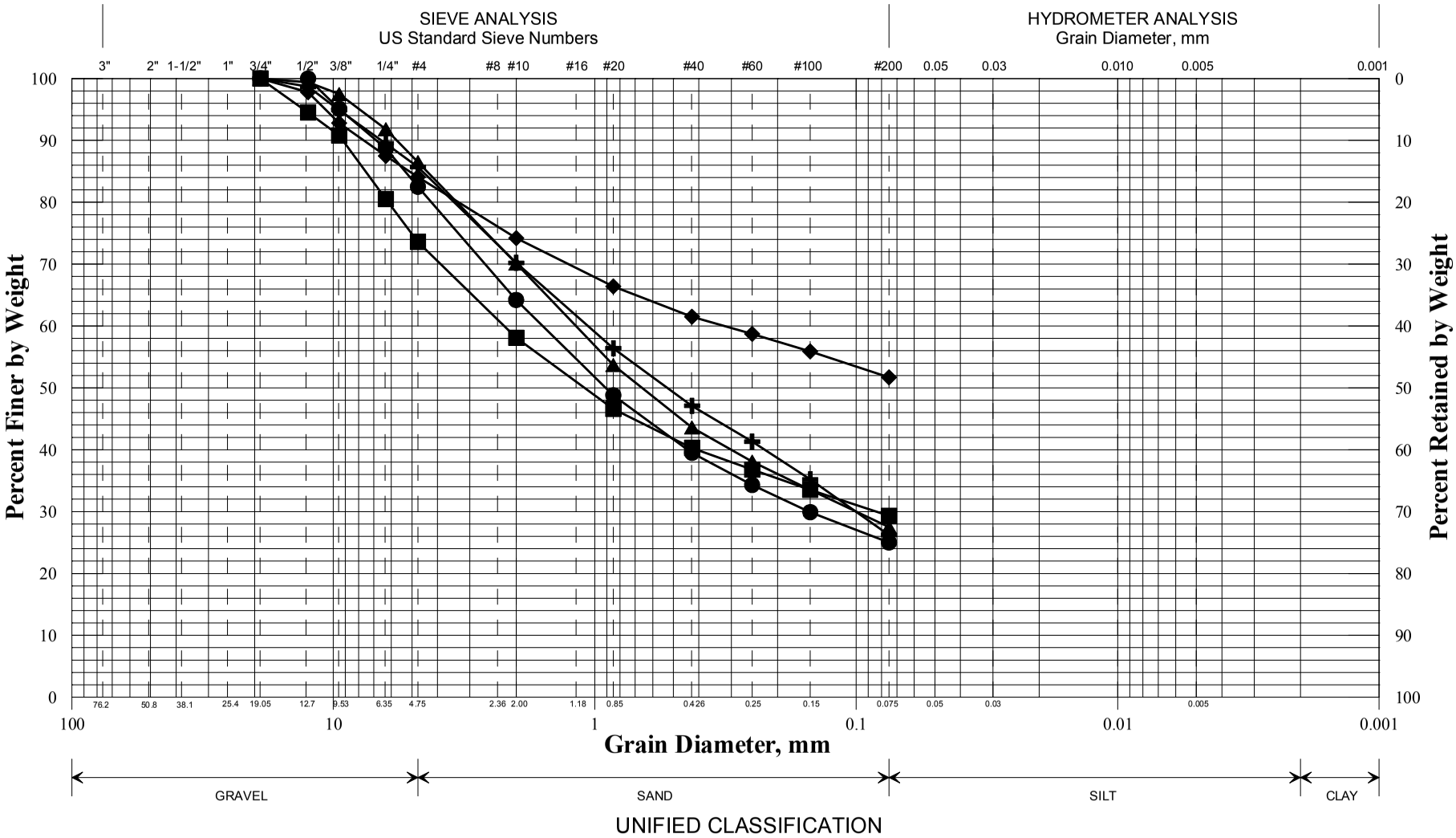

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-219 S9	75+00	10.0 RT	0.33-2.4	SAND, some silt, little gravel.	6.5			
◆	HB-WALL-219 S10	75+00	10.0 RT	2.4-8.0	SILT, some sand, little gravel.	11.7			
■	HB-WALL-220 S11	91+00	13.0 RT	2.1-5.2	SAND, some silt, some gravel.	6.6			
●	HB-WALL-222 S12	98+00	15.0 LT	0.0-5.2	SAND, some silt, little gravel.	8.1			
▲	HB-WALL-223 S13	168+50	10.0 RT	0.0-0.8	SAND, some silt, little gravel.	6.8			
✕									

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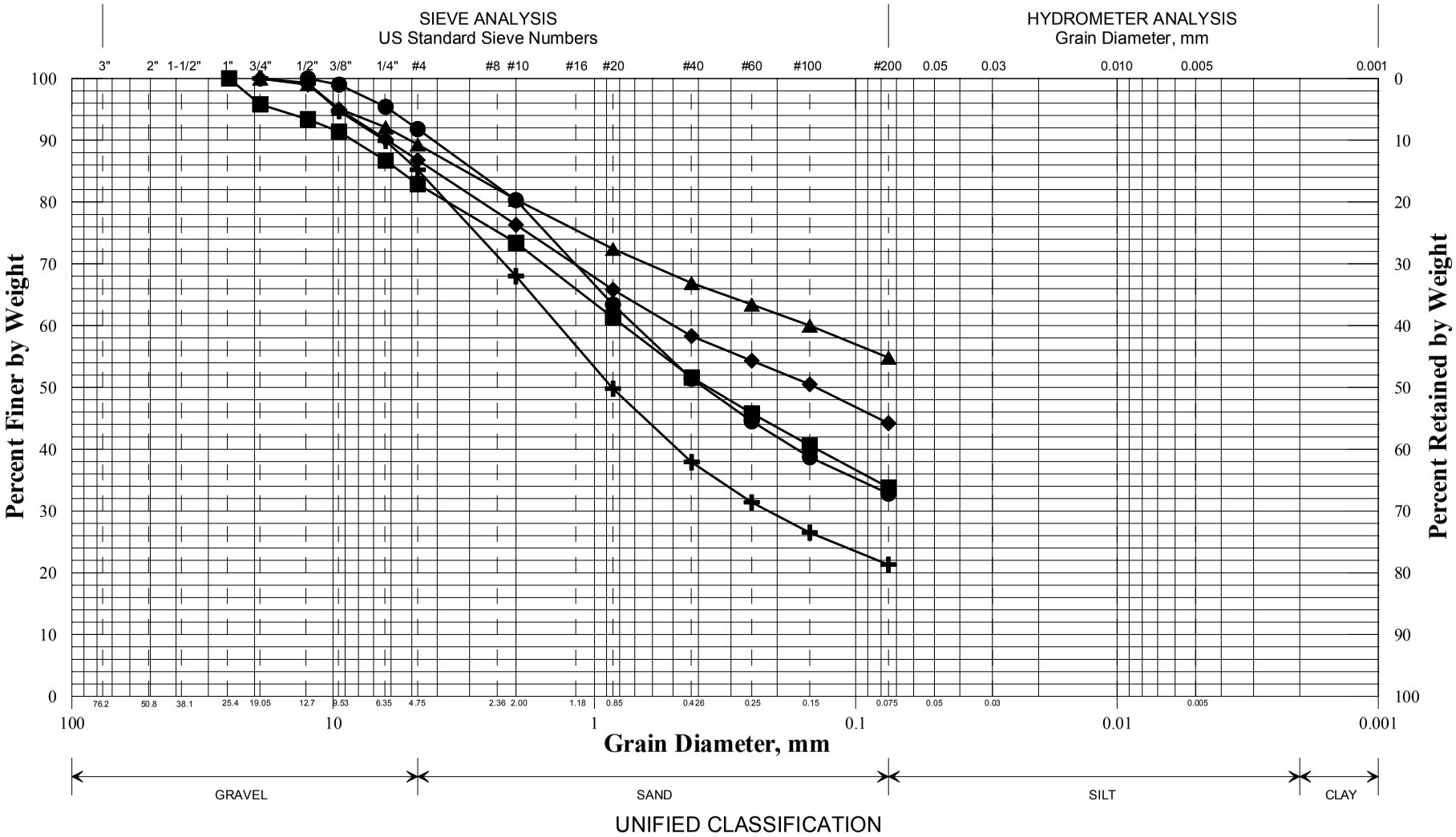
State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-224 S15	120+00	11.0 LT	0.0-2.0	SAND, some silt, little gravel.	7.3			
◆	HB-WALL-224 S16	120+00	11.0 LT	2.0-9.5	Sandy SILT, little gravel.	13.0			
■	HB-WALL-225 S17	120+00	15.0 RT	1.6-5.2	SAND, some silt, little gravel.	27.2			
●	HB-WALL-226 S18	124+00	10.0 RT	5.2-7.2	SAND, some silt, trace gravel.	80.4			
▲	HB-WALL-226 S19	124+00	10.0 RT	7.2-9.5	SILT, some sand, little gravel.	13.9			
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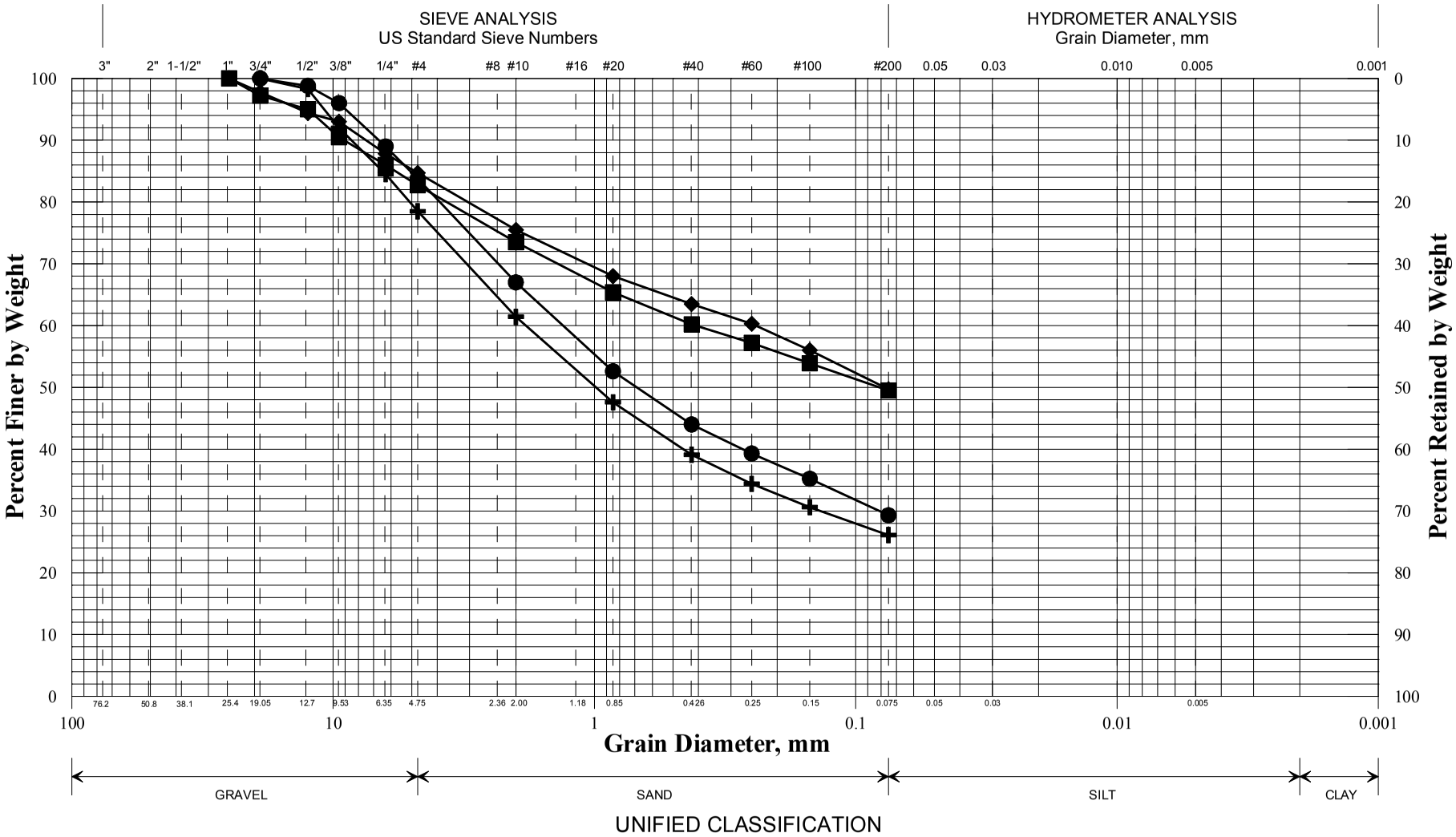

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-227 S20	125+00	12.0 RT	0.0-6.3	SAND, some silt, some gravel.	4.3			
◆	HB-WALL-228 1D	126+00	10.0 RT	5.0-7.0	Sandy SILT, little gravel.	13.2			
■	HB-WALL-230 2D	128+00	11.0 RT	5.0-7.0	SILT, some sand, little gravel.	11.1			
●	HB-WALL-231 S21	145+50	12.0 LT	0.5-3.5	SAND, some silt, little gravel.	5.5			
▲									
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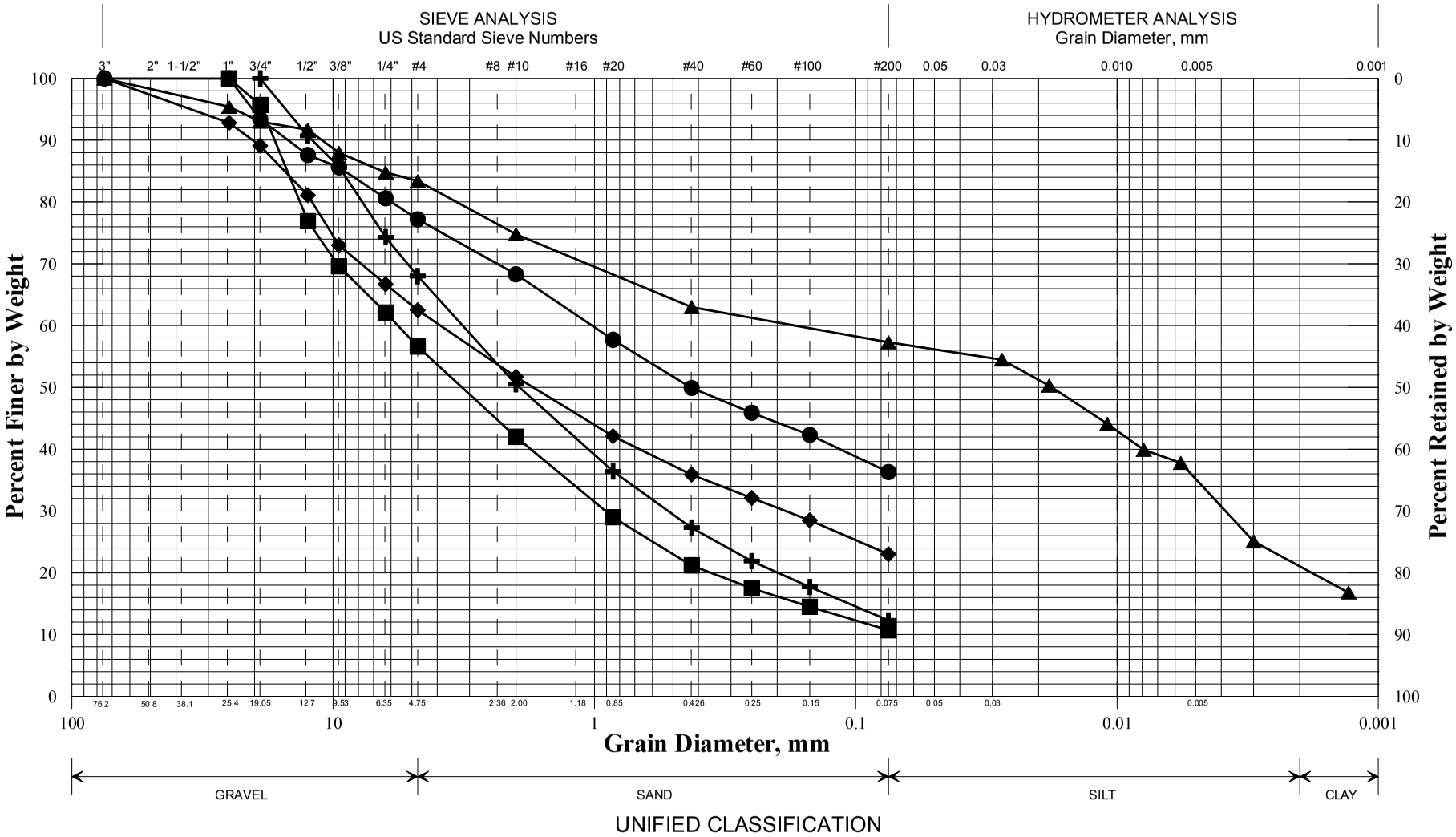
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-WALL-301 1D	68+75	12.0 RT	4.5-6.0	SAND, some gravel, little silt.	4.5			
◆	HB-WALL-301 1D/A	68+75	12.0 RT	6.0-6.5	Gravelly SAND, some silt.	10.4			
■	HB-WALL-302 1D	124+28	12.0 RT	5.0-6.0	Gravelly SAND, little silt.	5.4			
●	HB-WALL-302 1D/A	124+28	12.0 RT	6.0-7.0	Silty SAND, some gravel.	27.8			
▲	HB-WALL-302 2D	124+28	12.0 RT	10.0-12.0	SILT, some sand, some clay, little gravel.	11.8	20	15	5
✕									

WIN
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Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-101
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	30+00, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S1		0.42 - 5.00			SSA	-0.42		5" PAVEMENT.	
									0.42 Brown, damp, fine to coarse SAND, little gravel.	G#261980 A-2-4, SM WC=6.3%
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-102
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	70+00, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S2		0.63 - 2.40			SSA	-0.63		7½" PAVEMENT.	
									0.63 Brown, damp, fine to coarse SAND, little gravel, little silt.	G#261981 A-2-4, SM WC=8.9%
	S3		2.40 - 5.00				-2.40		2.40 Brown, moist, silty, fine to coarse SAND, little gravel.	G#261982 A-4, ML WC=10.0%
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-102

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-103
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	85+00, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S4		0.54 - 2.00			SSA	-0.54		6½" PAVEMENT. 0.54	
									Brown, dry, fine to coarse SAND, some gravel, little silt.	G#261983 A-2-4, SM WC=5.9%
							-2.00		2.00	
									Bottom of Exploration at 2.00 feet below ground surface. REFUSAL	
5										
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-104
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	109+20, 9.0 ft Rt. (Relocation Area)	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.58		7" PAVEMENT.	
									0.58 Brown, damp, fine to coarse SAND, little gravel, little silt. ≅S2	
							-2.00		2.00 Brown, dry, fine to coarse SAND, some gravel, little silt. ≅S4	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-104

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-105
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	115+00, CL (Relocation Area)	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S5		0.58 - 5.00			SSA	-0.58		7" PAVEMENT.	
									0.58	
									Brown, damp, fine to coarse SAND, little gravel, little silt.	G#261984 A-2-4, SM WC=7.4%
									Cobble from 3.5-3.8 ft bgs.	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-106
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	130+00, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S6		0.58 - 5.00			SSA	-0.58		7" PAVEMENT. 0.58	
									Brown, damp, fine to coarse SAND, little gravel, little silt.	G#261985 A-4, SM WC=6.7&
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-106

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: A 3.43 mile portion of Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-107
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	11/2/11-11/2/11	**Drilling Method:**	Solid Stem	**Core Barrel:**	N/A
Boring Location:	169+30, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.58		7" PAVEMENT. 0.58	
									Brown, damp, fine to coarse SAND, little gravel, little silt. ≅S6	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-201
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	131+00, 14.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	5.5 ft bgs.
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			
	1D	24/18	2.00 - 4.00	6/13/35/26	48	0			Brown, moist, very dense, fine to coarse SAND, some gravel, some silt, occasional cobbles.	G#267765 A-1-b, SM WC=8.3%
									Layer of Cobbles from 4.0-5.0 ft bgs.	
5	2D	24/22	5.00 - 7.00	1/1/2/2	3	0		-5.00	Dark brown, wet, PEAT. (5.00)	G#267766 A-1-b, SM WC=144.1%
	3D	24/18	7.00 - 9.00	2/3/3/5	6	0		-7.00	Grey, wet, loose, silty, fine to coarse SAND, little gravel. (7.00)	G#267767 A-4, SM WC=12.0%
	4D	24/16	9.00 - 11.00	2/6/4/7	10	0			Similar to above.	G#267768 A-4, ML WC=11.4%
10	5D	24/17	11.00 - 13.00	5/8/9/11	17	0		-11.50	(11.50)	G#267769 A-1-b, SM WC=12.4%
								-12.00	Grey, wet, medium dense, silty, fine to coarse SAND, little gravel, (Till). (12.00)	
									Weathered ROCK in spoon at 12.0 ft bgs.	
15								-14.90	(14.90) **Bottom of Exploration at 14.90 feet below ground surface.** REFUSAL	
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-202
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	130+00, 13.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.17		2" PAVEMENT. 0.17	
										Brown, damp, fine to coarse SAND, some gravel, little silt.	
								-4.00		4.00	
5										PEAT, similar to HB-WALL-201.	
								-6.90		6.90	
										Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
10											
								-12.00		12.00	
										Bottom of Exploration at 12.00 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-202

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-203
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	129+00, 12.5 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.25	3" PAVEMENT. 0.25	
									Brown, damp, fine to coarse SAND, some gravel, little silt.	
								-2.90	2.90	
	1D	24/12	3.00 - 5.00	1/2/2/6	4	0		-3.30	Dark brown, moist, soft, PEAT. 3.30	G#267770 A-4, SM WC=69.6%
5	2D	24/18	5.00 - 7.00	5/5/5/8	10	0			Grey, wet, loose, silty, fine to coarse SAND, little gravel, (Till).	G#267771 A-4, SM WC=11.5%
	3D	24/17	7.00 - 9.00	2/5/8/10	13	0			Similar to above, except medium dense.	
								-8.50	8.50	
								-9.00	Weathered ROCK. 9.00	
10									**Bottom of Exploration at 9.00 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-204
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	129+00, 11.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			Brown, damp, gravelly, fine to coarse SAND, little silt, occasional cobbles.	
								-2.50		2.50 PEAT, similar to HB-WALL-203.	
								-3.80		3.80 Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
5											
								-9.00		9.00 Weathered ROCK on auger.	
10								-10.00		10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-204

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-205
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	130+00, 11.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S1		0.00 - 3.20				SSA		Brown, damp, fine to coarse SAND, some gravel, little silt.	G#267772 A-4, SM WC=11.1%
								-3.20	3.20	
	1D	24/15	4.00 - 6.00	1/1/3/3	4	0			Dark brown, wet, soft, PEAT.	G#267773 A-1-b, SM WC=32.2%
5								-5.20	5.20	
	2D	24/16	6.00 - 8.00	1/3/7/8	10	0			Grey, wet, loose, silty, fine to coarse SAND, little gravel, (Till).	G#267774 A-4, SM WC=9.3%
	3D	24/17	8.00 - 10.00	5/11/7/9	18	0			Similar to above, except medium dense.	G#267775 A-2-4, SM WC=14.3%
10								-10.00	10.00	
15									**Bottom of Exploration at 10.00 feet below ground surface.** Weathered ROCK in tip of spoon. NO REFUSAL	
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-205

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-206
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	131+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			Brown, damp, fine to coarse SAND, some gravel.	
								-3.90		3.90 PEAT.	
5								-5.30		5.30 Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
10								-10.00		10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-207
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	128+00, 11.5 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			Brown, damp, fine to coarse SAND, some gravel, little silt.	
								-4.10		4.10 PEAT.	
5											
								-6.30		6.30 Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
								-8.00		8.00 **Bottom of Exploration at 8.00 feet below ground surface.** NO REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-207

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-208
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	127+00, 12.5 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
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MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA		Brown, damp, fine to coarse SAND, some gravel, little silt.	
	1D	24/17	4.00 - 6.00	1/7/13/15	20	0		-4.00	4.00 Dark brown, wet, PEAT.	G#267726 A-4, SM WC=13.0%
5								-5.10	5.10 Grey, wet, medium dense, silty, fine to coarse SAND, some gravel with rock fragments, (Till).	
	2D	24/14	6.00 - 8.00	5/10/14/14	24	0		-8.00	8.00	G#267727 A-1-b, SM WC=6.3%
10									**Bottom of Exploration at 8.00 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-209
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	126+00, 11.5 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.25		3" PAVEMENT. 0.25	
										Brown, damp, fine to coarse SAND, some gravel, little silt, occasional cobbles.	
5								-5.00		5.00 PEAT.	
								-6.10		6.10 Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
10								-10.00		10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-210
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	125+00, 10.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
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U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA		Brown, damp, fine to coarse SAND, some gravel, little silt.	
5	1D	24/16	5.00 - 7.00	2/3/4/6	7	0		-5.00	5.00	G#267728 A-1-b, SM WC=14.0%
								-5.50	PEAT. 5.50	
	2D	24/15	7.00 - 9.00	6/11/9/9	20	0			Grey, wet, medium dense, fine to coarse SAND, some gravel, (Till).	G#267729 A-4, ML WC=8.2%
								-9.00	9.00	
10									**Bottom of Exploration at 9.00 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-211
WIN: 17235.00

Driller:	Maine Test Boring	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Rich/Fred	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	Mobile B-53 Track	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/25/12-7/25/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	124+00, 10.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.33		4" PAVEMENT. 0.33	
										Brown, damp, fine to coarse SAND, some gravel, little silt.	
5								-5.10		5.10 Brown, wet, organic SILT.	
								-6.70		6.70 Grey, wet, fine to coarse SAND, some gravel, some silt, (Till).	
10								-10.00		10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-211

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-212
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/30/12-7/30/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	15+00, 15.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S1		0.50 - 8.00				SSA	-0.50		Brown, damp, fine to coarse SAND, some silt, little gravel. (0.50)	
										Brown, moist, fine to coarse SAND, some gravel, some silt, (Till).	G#267730 A-4, SM WC=13.2%
5											
								-8.00		(8.00) **Bottom of Exploration at 8.00 feet below ground surface.** NO REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-212

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-213
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/30/12-7/30/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	20+00, 9.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S2		0.38 - 3.50				SSA	-0.38		4½" PAVEMENT. 0.38	
										Brown, dry, fine to coarse SAND, some gravel, some silt, (Till).	G#267731 A-1-b, SM WC=3.5%
								-3.50		3.50	
										Bottom of Exploration at 3.50 feet below ground surface. REFUSAL	
5											
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-213

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-214
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/30/12-7/30/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	35+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S3		0.42 - 6.00				SSA	-0.42		5" PAVEMENT. 0.42	
										Brown, damp, fine to coarse SAND, some gravel, some silt, (Till).	G#267732 A-2-4, SM WC=6.2%
5								-6.00		6.00	
										Bottom of Exploration at 6.00 feet below ground surface. NO REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-214

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-215
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/31/12-7/31/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	40+00, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S4		0.30 - 10.00				SSA	-0.30		Wintersand. 0.30	G#267733 A-2-4, SM WC=6.3%
										Brown, damp, fine to coarse SAND, some gravel, some silt, (Till).	
5											
10								-10.00		10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-215

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-216
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/31/12-7/31/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	42+50, 9.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S5		0.42 - 2.30				SSA	-0.42	5" PAVEMENT. 0.42	
									Brown, damp, fine to coarse SAND, some silt, little gravel.	G#267734 A-2-4, SM WC=5.5%
	S6		2.30 - 6.00					-2.30	2.30	
									Brown, moist, silty, fine to coarse SAND, some gravel, (Till).	G#267735 A-4, SM WC=11.3%
5								-6.00	6.00	
									Bottom of Exploration at 6.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-216

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-217
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/31/12-7/31/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	51+00, 11.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			Brown, damp, fine to coarse SAND, some silt, little gravel. ≅S5	
								-1.00		1.00	
										Brown, moist, silty, fine to coarse SAND, some gravel. ≅S6	
5											
								-8.00		8.00	
										Bottom of Exploration at 8.00 feet below ground surface. NO REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-217

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-218
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/31/12-7/31/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	60+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S7		0.38 - 2.00				SSA	-0.38		4½" PAVEMENT. 0.38	
										Brown, damp, fine to coarse SAND, some silt, little gravel, occasional cobbles.	G#267736 A-2-4, SM WC=5.8%
	S8		2.00 - 8.00					-2.00		2.00 Brown, moist, silty, fine to coarse SAND, some gravel, (Till).	G#267737 A-4, ML WC=11.3%
5											
								-8.00		8.00 **Bottom of Exploration at 8.00 feet below ground surface.** NO REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-218

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-219
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	7/31/12-7/31/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	75+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S9		0.33 - 2.40				SSA	-0.17	2" PAVEMENT. (0.17)	
								-0.33	Unbound PAVEMENT. (0.33)	G#267738 A-2-4, SM WC=6.5%
									Olive brown, damp, fine to coarse SAND some gravel, little silt. (2.40)	
	S10		2.40 - 8.00					-2.40	Olive, wet, fine to medium Sandy-SILT, little gravel, (Till).	G#267739 A-4, ML WC=11.7%
5										
								-8.00	(8.00)	
									Bottom of Exploration at 8.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-220
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/1/12-8/1/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	91+00, 13.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.46		5½" PAVEMENT.	
										0.46 Olive brown, damp, fine to coarse SAND some gravel, little silt. ≅S9	
	S11		2.10 - 5.20					-2.10		2.10 Brown, dry, gravelly, fine to coarse SAND, some silt.	G#267740 A-2-4, SM WC=6.6%
5								-5.20		5.20 **Bottom of Exploration at 5.20 feet below ground surface.** REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-220

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-221
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/1/12-8/1/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	95+00, 20.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.17		2" PAVEMENT. 0.17	
										Olive brown, damp, fine to coarse SAND some gravel, little silt. ≅S9	
								-2.90		2.90	
										Bottom of Exploration at 2.90 feet below ground surface. REFUSAL	
5											
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-221

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-222
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/1/12-8/1/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	98+00, 15.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

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V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S12		0.00 - 5.20				SSA			Brown, damp, silty, fine to coarse SAND, some gravel.	G#267741 A-1-b, SM WC=8.1%
5								-5.20		5.20 **Bottom of Exploration at 5.20 feet below ground surface.** REFUSAL	
10											
15											
20											
25											

Remarks:

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Boring No.: HB-WALL-222

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-223
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/3/12-8/3/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	168+50, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

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MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S13		0.00 - 0.80				SSA	-0.80		Brown, moist, fine to coarse SAND, some silt, little gravel. 0.80	G#267742 A-2-4, SM WC=6.8%
										Brown, dry, gravelly, fine to coarse SAND, some silt. ≅S11	
5								-4.70		4.70 Weathered ROCK, grey, shale chips on auger.	
								-6.30		6.30 **Bottom of Exploration at 6.30 feet below ground surface.** REFUSAL	
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-223

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-224
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	120+00, 11.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

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V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S15		0.00 - 2.00				SSA		Brown, damp, gravelly, fine to coarse SAND, some silt, occasional cobbles.	G#267743 A-1-b, SM WC=7.3%
								-2.00	2.00	
	S16		2.00 - 9.50						Brown, wet, silty, fine to coarse SAND, little gravel, (Till).	G#267744 A-4, SM WC=13.0%
5										
								-9.50	9.50	
10									**Bottom of Exploration at 9.50 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-224

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-225
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	120+00, 15.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
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V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA		Brown, damp, gravelly, fine to coarse SAND, some silt, occasional cobbles. ≅S15	
	S17		1.60 - 5.20					-1.60	1.60	
									Grey-brown, wet, silty, fine to coarse SAND, some organics.	G#267745 A-2-4, SM WC=27.2%
5								-5.20	5.20	
									Brown, wet, silty, fine to coarse SAND, little gravel, (Till). ≅S16	
								-9.50	9.50	
10									**Bottom of Exploration at 9.50 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-225

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-226
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	124+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.42	5" PAVEMENT. (0.42)	
									Brown, moist, fine to coarse SAND, some silt, some gravel, occasional cobbles.	
5	S18		5.20 - 7.20					-5.20	Silty, PEAT. (5.20)	G#267746 A-2-4, SM WC=80.4%
	S19		7.20 - 9.50					-7.20	Grey, wet, silty, fine to coarse SAND, little gravel, (Till). (7.20)	G#267747 A-4, ML WC=13.9%
								-9.50	**Bottom of Exploration at 9.50 feet below ground surface.** NO REFUSAL (9.50)	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: HB-WALL-226

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-227
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	125+00, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
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V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S20		0.00 - 6.30				SSA		Brown, damp, silty, fine to coarse SAND, some gravel, some silt.	G#267748 A-2-4, SM WC=4.3%
								-6.30	6.30 Silty, PEAT. ≅S18	
								-7.20	7.20 Grey, wet, silty, fine to coarse SAND, little gravel, (Till). ≅S19	
								-9.00	9.00 **Bottom of Exploration at 9.00 feet below ground surface.** NO REFUSAL	
5										
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-227

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-228
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	126+00, 10.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	4.5 ft bgs.
Hammer Efficiency Factor:	0.84	**Hammer Type:**	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

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MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
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N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	-0.20	2.4" PAVEMENT. 0.20	
									Brown, damp, gravelly, fine to coarse SAND, some silt.	
								-2.60	2.60	
5	1D	24/18	5.00 - 7.00	3/5/10/17	15	21			Grey, wet, medium dense, silty, fine to coarse SAND, some gravel, (Till).	G#267749 A-4, SM WC=13.2%
	2D	24/17	7.00 - 9.00	5/7/12/14	19	27			Similar to above.	
								-9.00	9.00	
10									**Bottom of Exploration at 9.00 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

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Boring No.: HB-WALL-228

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-229
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	127+00, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

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MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			Brown, moist, gravelly, fine to coarse SAND, some silt.	
								-3.10		3.10	
								-3.60		PEAT. 3.60	
										Grey, wet, silty, fine to coarse SAND, some gravel, (Till).	
5											
								-9.50		9.50	
10										**Bottom of Exploration at 9.50 feet below ground surface.** NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-229

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-230
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	128+00, 11.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	5.0 ft bgs.
Hammer Efficiency Factor:	0.84	**Hammer Type:**	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA		Brown, damp, gravelly, fine to coarse SAND, some silt.	
	1D	24/16	3.00 - 5.00	1/2/3/9	5	7		-3.20		
								-3.70	PEAT.	
5	2D	24/18	5.00 - 7.00	3/4/4/5	8	11			Grey, wet, loose, silty, fine to medium SAND, little gravel, (Till).	G#267750 A-4, SM WC=11.1%
	3D	24/12	7.00 - 9.00	5/21/20/20	41	57		-7.50	Weathered ROCK in spoon.	
								-9.00	**Bottom of Exploration at 9.00 feet below ground surface.**	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-231
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/7/12-8/7/12	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	145+50, 12.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed
Hammer Efficiency Factor:		**Hammer Type:**	Automatic ☐ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S21		0.50 - 3.50				SSA	-0.50		Wintersand.	
										0.50 Brown, dry, gravelly, fine to coarse SAND, some silt.	G#267776 A-2-4, SM WC=5.5%
								-3.50		3.50 Weathered ROCK.	
								-4.50		4.50 **Bottom of Exploration at 4.50 feet below ground surface.** REFUSAL	
5											
10											
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-231

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-301
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	10/16/12; 10:00-11:00	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	68+75, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	6.8 ft bgs.
Hammer Efficiency Factor:	0.756	**Hammer Type:**	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA				
	1D/A	24/15	4.50 - 6.50	4/4/6/18	10	13				1D (4.5-6.0 ft) Brown, damp, gravelly, fine to coarse SAND, little silt, (Fill).	G#267071 A-1-b, SM WC=4.5%
5								-6.00		6.00	
										1D/A (6.0-6.5 ft) Brown, wet, loose, silty, fine to coarse SAND, some gravel, (Till).	G#267067 A-1-b, SM WC=10.4%
								-8.20		8.20	
								-8.50		Weathered ROCK. 8.50	
10										**Bottom of Exploration at 8.50 feet below ground surface.** REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-301

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-302
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles/Daggett	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	10/16/12; 11:00-12:00	**Drilling Method:**	Soild Stem Auger	**Core Barrel:**	N/A
Boring Location:	124+28, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	8.0 ft bgs.
Hammer Efficiency Factor:	0.756	**Hammer Type:**	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			
5	1D/A	24/18	5.00 - 7.00	10/13/4/8	17	21		-6.00	1D (5.0-6.0 ft) Brown, damp, gravelly, fine to coarse SAND, some silt, (Fill). 6.00	G#267068 A-1-a, SW-SM WC=5.4%
								-8.50	1D/A (6.0-7.0 ft) Olive, wet, medium dense, silty, fine to medium SAND little organics, wood, trace gravel. 8.50	G#267069 A-4, SM WC=27.8%
10	2D	24/20	10.00 - 12.00	4/6/9/11	15	19		-15.00	Grey, wet, medium dense, SILT, some fine to medium sand, trace gravel, (Till). 15.00	G#267070 A-4, CL-ML WC=11.8% LL=20 PL=15 PI=5
15									**Bottom of Exploration at 15.00 feet below ground surface.** NO REFUSAL	
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-401
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Solid Stem
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	Standard Split Spoon
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	1/30/2013; 12:00-15:00	**Drilling Method:**	Cased Wash Boring	**Core Barrel:**	NQ-2"
Boring Location:	68+77, 14.0 ft Rt.	**Casing ID/OD:**	HW & NW	**Water Level*:**	7.0 ft bgs.
Hammer Efficiency Factor:	0.756	**Hammer Type:**	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA			
	1D	24/14	3.00 - 5.00	4/9/14/13	23	29			Brown, wet, medium dense, fine to coarse SAND, some gravel, little silt, (Fill).	
5								-5.00	5.00	
	2D/A	24/15	6.00 - 8.00	11/5/10/13	15	19	15	-6.00	Olive-brown, moist, medium dense, silty, fine to coarse SAND, trace gravel. 6.00	
							103	-7.10	2D (6.0-7.1 ft) Dark brown, moist, silty, fine SAND, some organics, trace wood. 7.10	
							100		2D/A (7.1-8.0 ft) Grey, wet, dense, silty, fine to coarse SAND, some gravel, (Till). Bent BW Casing, changed to HW at 8.0 ft bgs.	
10	3D R1	6/6 48/48	9.00 - 9.50 9.50 - 13.50	50 RQD = 0%	---		a66 NQ-2	-9.50	a66 blows for 0.5 ft. Similar to above. 9.50	
								-13.50	Top of Bedrock at Elev. ???? R1:Bedrock: Grey, moderately hard, SHALE. R1:Core Times (min:sec) 9.5-10.5 ft (7:45) 10.5-11.5 ft (5:00) 11.5-12.5 ft (5:20) 12.25-13.5 ft (4:30) 100% REcovery Ran out of water and time. 13.50	
15										
20										
25										

Bottom of Exploration at 13.50 feet below ground surface.

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-401

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-402
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	123+00, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, damp, gravelly, fine to coarse SAND, some silt.	
5							-5.50		5.50	
							-5.80		WOOD. 5.80	
							-7.00		PEAT. 7.00	
									Grey, wet, silty, fine to coarse SAND, little gravel, (Till).	
							-9.50		9.50	
10									**Bottom of Exploration at 9.50 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-402

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-403
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	122+55, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, moist, fine to coarse SAND, some gravel, some silt.	
							-4.00		4.00 Brown-grey, organic SILT.	
5							-5.20		5.20 Grey, wet, silty, fine to medium SAND, trace gravel.	
							-6.50		6.50 **Bottom of Exploration at 6.50 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-404
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	122+00, 12.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, moist, gravelly, fine to coarse SAND, some silt.	
							-4.00		4.00 Grey, moist, silty, fine SAND, no organics.	
5							-5.50		5.50 **Bottom of Exploration at 5.50 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-404

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-405
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	123+00, 12.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, gravelly, fine to coarse SAND, some silt.	
							-4.00		4.00	
							-4.30		ORGANIC layer. 4.30	
5							-5.50		Grey, wet, silty, fine to medium SAND, (Till). 5.50	
									Bottom of Exploration at 5.50 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-406
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	122+50, 13.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, moist, gravelly, fine to coarse SAND, some silt.	
							-3.20		3.20	
							-3.60		ORGANIC layer. 3.60	
									Grey, wet, silty, fine to medium SAND, (Till).	
5							-5.50		5.50	
									Bottom of Exploration at 5.50 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-407
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	122+00, 13.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			No organics	
5							-5.50		5.50 **Bottom of Exploration at 5.50 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-407

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-408
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	132+00, 13.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, moist, gravelly, fine to coarse SAND, some silt.	
							-3.50		3.50 Grey, moist, silty, fine to coarse SAND, (Till). No organics.	
5							-7.00		7.00 **Bottom of Exploration at 7.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-WALL-408

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 11
Location: Wallagrass, Maine

Boring No.: HB-WALL-409
WIN: 17235.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Enos/Giles	**Datum:**	NAVD88	**Sampler:**	N/A
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	140#/30"
Date Start/Finish:	2/6/2013-2/6/2013	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	132+00, 13.0 ft Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
R = Rock Core Sample
V = Insitu Vane Shear Test
SSA = Solid Stem Auger

Definitions:
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WOH = weight of 140lb. hammer
WOR = weight of rods WOC = weight of casing

Definitions:
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, moist, gravelly, fine to coarse SAND, some silt.	
							-4.00		4.00 Grey, moist, silty, fine to medium SAND, (Till). No organics.	
5							-6.50		6.50 **Bottom of Exploration at 6.50 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261980	**HB-WALL-101/S1**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **30+00** Offset, ft: **9.0** **RT** Dbfg, ft: **0.42-5.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**96.4**
⅜ in. [9.5 mm]	**93.9**
¼ in. [6.3 mm]	**86.3**
No. 4 [4.75 mm]	**82.0**
No. 10 [2.00 mm]	**67.5**
No. 20 [0.850 mm]	**55.7**
No. 40 [0.425 mm]	**48.4**
No. 60 [0.250 mm]	**43.6**
No. 100 [0.150 mm]	**38.1**
No. 200 [0.075 mm]	**30.4**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/22/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261981	**HB-WALL-102/S2**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **70+00** Offset, ft: **9.0** **RT** Dbfg, ft: **0.63-2.4**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.0**
¼ in. [6.3 mm]	**92.8**
No. 4 [4.75 mm]	**88.1**
No. 10 [2.00 mm]	**71.7**
No. 20 [0.850 mm]	**58.2**
No. 40 [0.425 mm]	**50.0**
No. 60 [0.250 mm]	**45.0**
No. 100 [0.150 mm]	**40.7**
No. 200 [0.075 mm]	**33.9**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

8.9

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **1/4/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261982	**HB-WALL-102/S3**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **70+00** Offset, ft: **9.0** **RT** Dbfg, ft: **2.4-5.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**98.9**
⅜ in. [9.5 mm]	**97.1**
¼ in. [6.3 mm]	**92.4**
No. 4 [4.75 mm]	**89.1**
No. 10 [2.00 mm]	**80.0**
No. 20 [0.850 mm]	**71.1**
No. 40 [0.425 mm]	**65.3**
No. 60 [0.250 mm]	**61.6**
No. 100 [0.150 mm]	**57.9**
No. 200 [0.075 mm]	**52.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

10.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/22/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261983	**HB-WALL-103/S4**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **85+00** Offset, ft: **9.0** **RT** Dbfg, ft: **0.54-2.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**98.1**
⅜ in. [9.5 mm]	**96.5**
¼ in. [6.3 mm]	**92.5**
No. 4 [4.75 mm]	**89.0**
No. 10 [2.00 mm]	**73.8**
No. 20 [0.850 mm]	**60.0**
No. 40 [0.425 mm]	**51.4**
No. 60 [0.250 mm]	**46.3**
No. 100 [0.150 mm]	**41.6**
No. 200 [0.075 mm]	**34.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.9

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/22/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261984	**HB-WALL-105/S5**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **115+00** Offset, ft: **CL** Dbfg, ft: **0.58-5.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**98.2**
⅜ in. [9.5 mm]	**96.3**
¼ in. [6.3 mm]	**89.5**
No. 4 [4.75 mm]	**84.3**
No. 10 [2.00 mm]	**68.9**
No. 20 [0.850 mm]	**54.7**
No. 40 [0.425 mm]	**46.1**
No. 60 [0.250 mm]	**41.3**
No. 100 [0.150 mm]	**37.0**
No. 200 [0.075 mm]	**30.1**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

7.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/29/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
261985	**HB-WALL-106/S6**	**GEOTECHNICAL (DISTURBED)**	**11/2/2011**	**12/12/2011**

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **130+00** Offset, ft: **9.0** **RT** Dbfg, ft: **0.58-5.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.5**
¼ in. [6.3 mm]	**97.3**
No. 4 [4.75 mm]	**93.9**
No. 10 [2.00 mm]	**81.9**
No. 20 [0.850 mm]	**66.7**
No. 40 [0.425 mm]	**56.6**
No. 60 [0.250 mm]	**50.8**
No. 100 [0.150 mm]	**45.8**
No. 200 [0.075 mm]	**39.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.7

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/22/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267765	HB-WALL-201 1D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **131+00** Offset, ft: **14.0 LT** Dbfg, ft: **2.0-4.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	90.3
⅜ in. [9.5 mm]	80.8
¼ in. [6.3 mm]	70.6
No. 4 [4.75 mm]	65.0
No. 10 [2.00 mm]	50.5
No. 20 [0.850 mm]	38.0
No. 40 [0.425 mm]	30.8
No. 60 [0.250 mm]	27.5
No. 100 [0.150 mm]	24.5
No. 200 [0.075 mm]	20.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

8.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267766	HB-WALL-201 2D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **131+00** Offset, ft: **14.0 LT** Dbfg, ft: **5.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	
No. 4 [4.75 mm]	**100.0**
No. 10 [2.00 mm]	**58.4**
No. 20 [0.850 mm]	**33.3**
No. 40 [0.425 mm]	**24.4**
No. 60 [0.250 mm]	**20.8**
No. 100 [0.150 mm]	**18.9**
No. 200 [0.075 mm]	**17.1**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
32.0	**143.9**

Water Content (T 265), %

144.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267767	HB-WALL-201 3D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **131+00** Offset, ft: **14.0 LT** Dbfg, ft: **7.0-9.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	95.6
½ in. [12.5 mm]	91.6
⅜ in. [9.5 mm]	86.2
¼ in. [6.3 mm]	82.5
No. 4 [4.75 mm]	72.9
No. 10 [2.00 mm]	64.9
No. 20 [0.850 mm]	60.0
No. 40 [0.425 mm]	57.0
No. 60 [0.250 mm]	53.9
No. 100 [0.150 mm]	51.3
No. 200 [0.075 mm]	48.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

12.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267768	HB-WALL-201 4D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **131+00** Offset, ft: **14.0 LT** Dbfg, ft: **9.0-11.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	93.1
⅜ in. [9.5 mm]	88.8
¼ in. [6.3 mm]	84.0
No. 4 [4.75 mm]	80.4
No. 10 [2.00 mm]	70.7
No. 20 [0.850 mm]	63.2
No. 40 [0.425 mm]	58.9
No. 60 [0.250 mm]	56.5
No. 100 [0.150 mm]	54.2
No. 200 [0.075 mm]	51.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267769	HB-WALL-201 5D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **131+00** Offset, ft: **14.0 LT** Dbfg, ft: **11.5-13.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	98.8
½ in. [12.5 mm]	89.6
⅜ in. [9.5 mm]	86.5
¼ in. [6.3 mm]	79.8
No. 4 [4.75 mm]	73.2
No. 10 [2.00 mm]	59.4
No. 20 [0.850 mm]	47.1
No. 40 [0.425 mm]	40.1
No. 60 [0.250 mm]	35.3
No. 100 [0.150 mm]	30.4
No. 200 [0.075 mm]	24.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

12.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267770	**HB-WALL-203 1D**	**GEOTECHNICAL (DISTURBED)**	**8/7/2012**	**10/19/2012**

Sample Type: **GEOTECHNICAL** Location: Station: **129+00** Offset, ft: **12.5 LT** Dbfg, ft: **3.0-5.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**92.7**
No. 4 [4.75 mm]	**89.0**
No. 10 [2.00 mm]	**78.2**
No. 20 [0.850 mm]	**65.7**
No. 40 [0.425 mm]	**55.8**
No. 60 [0.250 mm]	**48.9**
No. 100 [0.150 mm]	**42.9**
No. 200 [0.075 mm]	**36.4**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
24.5	**69.8**

Water Content (T 265), %

69.6

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267771	HB-WALL-203 2D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **129+00** Offset, ft: **12.5 LT** Dbfg, ft: **5.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**96.7**
¼ in. [6.3 mm]	**91.4**
No. 4 [4.75 mm]	**87.7**
No. 10 [2.00 mm]	**75.5**
No. 20 [0.850 mm]	**66.1**
No. 40 [0.425 mm]	**60.4**
No. 60 [0.250 mm]	**56.9**
No. 100 [0.150 mm]	**53.1**
No. 200 [0.075 mm]	**47.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267773	HB-WALL-205 1D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **130+00** Offset, ft: **11.0** **RT** Dbfg, ft: **4.0-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	87.4
½ in. [12.5 mm]	78.2
⅜ in. [9.5 mm]	77.0
¼ in. [6.3 mm]	69.1
No. 4 [4.75 mm]	64.6
No. 10 [2.00 mm]	50.1
No. 20 [0.850 mm]	38.5
No. 40 [0.425 mm]	31.9
No. 60 [0.250 mm]	28.5
No. 100 [0.150 mm]	25.5
No. 200 [0.075 mm]	21.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
22.1	32.3

Water Content (T 265), %

32.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267774	HB-WALL-205 2D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **130+00** Offset, ft: **11.0 RT** Dbfg, ft: **6.0-8.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	96.9
½ in. [12.5 mm]	91.5
⅜ in. [9.5 mm]	83.5
¼ in. [6.3 mm]	74.6
No. 4 [4.75 mm]	69.7
No. 10 [2.00 mm]	58.6
No. 20 [0.850 mm]	51.5
No. 40 [0.425 mm]	47.3
No. 60 [0.250 mm]	44.9
No. 100 [0.150 mm]	42.4
No. 200 [0.075 mm]	39.1

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %: **9.3**

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267775	HB-WALL-205 3D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **130+00** Offset, ft: **11.0** **RT** Dbfg, ft: **8.0-10.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	81.8
½ in. [12.5 mm]	76.9
⅜ in. [9.5 mm]	71.8
¼ in. [6.3 mm]	65.6
No. 4 [4.75 mm]	62.1
No. 10 [2.00 mm]	50.7
No. 20 [0.850 mm]	41.9
No. 40 [0.425 mm]	36.7
No. 60 [0.250 mm]	33.8
No. 100 [0.150 mm]	31.2
No. 200 [0.075 mm]	27.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267772	HB-WALL-205 S1	GEOTECHNICAL (DISTURBED)	7/25/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **130+00** Offset, ft: **11.0** **RT** Dbfg, ft: **0.0-3.2**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**97.4**
¼ in. [6.3 mm]	**95.3**
No. 4 [4.75 mm]	**92.0**
No. 10 [2.00 mm]	**78.6**
No. 20 [0.850 mm]	**65.2**
No. 40 [0.425 mm]	**56.4**
No. 60 [0.250 mm]	**51.3**
No. 100 [0.150 mm]	**46.5**
No. 200 [0.075 mm]	**38.9**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267726	HB-WALL-208 1D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **127+00** Offset, ft: **12.5 LT** Dbfg, ft: **4.0-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	92.4
½ in. [12.5 mm]	87.7
⅜ in. [9.5 mm]	81.1
¼ in. [6.3 mm]	76.4
No. 4 [4.75 mm]	71.0
No. 10 [2.00 mm]	58.8
No. 20 [0.850 mm]	51.1
No. 40 [0.425 mm]	46.4
No. 60 [0.250 mm]	43.6
No. 100 [0.150 mm]	40.7
No. 200 [0.075 mm]	36.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
21.5	13.2

Water Content (T 265), %

13.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267727	HB-WALL-208 2D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **127+00** Offset, ft: **12.5 LT** Dbfg, ft: **6.0-8.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	91.7
¾ in. [19.0 mm]	88.6
½ in. [12.5 mm]	77.8
⅜ in. [9.5 mm]	71.4
¼ in. [6.3 mm]	66.2
No. 4 [4.75 mm]	60.8
No. 10 [2.00 mm]	48.4
No. 20 [0.850 mm]	38.8
No. 40 [0.425 mm]	33.5
No. 60 [0.250 mm]	30.6
No. 100 [0.150 mm]	28.1
No. 200 [0.075 mm]	24.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
6.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267728	HB-WALL-210 1D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **125+00** Offset, ft: **10.0 LT** Dbfg, ft: **5.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	96.3
½ in. [12.5 mm]	93.8
⅜ in. [9.5 mm]	89.2
¼ in. [6.3 mm]	83.1
No. 4 [4.75 mm]	76.8
No. 10 [2.00 mm]	61.9
No. 20 [0.850 mm]	48.0
No. 40 [0.425 mm]	38.8
No. 60 [0.250 mm]	32.3
No. 100 [0.150 mm]	24.3
No. 200 [0.075 mm]	15.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
13.5	14.1

Water Content (T 265), %

14.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/29/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267729	HB-WALL-210 2D	GEOTECHNICAL (DISTURBED)	7/25/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **125+00** Offset, ft: **10.0 LT** Dbfg, ft: **7.0-9.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	97.9
⅜ in. [9.5 mm]	96.4
¼ in. [6.3 mm]	93.8
No. 4 [4.75 mm]	92.0
No. 10 [2.00 mm]	88.0
No. 20 [0.850 mm]	85.3
No. 40 [0.425 mm]	83.3
No. 60 [0.250 mm]	81.8
No. 100 [0.150 mm]	80.2
No. 200 [0.075 mm]	78.2

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

8.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267730	HB-WALL-212 S1	GEOTECHNICAL (DISTURBED)	7/30/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **15+00** Offset, ft: **15.0 LT** Dbfg, ft: **0.5-8.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	100.0
⅜ in. [9.5 mm]	96.0
¼ in. [6.3 mm]	91.9
No. 4 [4.75 mm]	87.1
No. 10 [2.00 mm]	72.0
No. 20 [0.850 mm]	61.2
No. 40 [0.425 mm]	55.2
No. 60 [0.250 mm]	51.6
No. 100 [0.150 mm]	47.9
No. 200 [0.075 mm]	41.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

13.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267731	HB-WALL-213 S2	GEOTECHNICAL (DISTURBED)	7/30/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **20+00** Offset, ft: **9.0** **RT** Dbfg, ft: **0.38-3.5**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	92.2
⅜ in. [9.5 mm]	89.8
¼ in. [6.3 mm]	79.5
No. 4 [4.75 mm]	73.4
No. 10 [2.00 mm]	58.7
No. 20 [0.850 mm]	46.7
No. 40 [0.425 mm]	38.8
No. 60 [0.250 mm]	34.1
No. 100 [0.150 mm]	29.8
No. 200 [0.075 mm]	24.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

3.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267732	HB-WALL-214 S3	GEOTECHNICAL (DISTURBED)	7/30/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **35+00** Offset, ft: **10.0 RT** Dbfg, ft: **0.42-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**95.9**
¼ in. [6.3 mm]	**87.7**
No. 4 [4.75 mm]	**80.1**
No. 10 [2.00 mm]	**63.8**
No. 20 [0.850 mm]	**51.2**
No. 40 [0.425 mm]	**43.4**
No. 60 [0.250 mm]	**38.8**
No. 100 [0.150 mm]	**34.5**
No. 200 [0.075 mm]	**28.1**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267733	**HB-WALL-215 S4**	**GEOTECHNICAL (DISTURBED)**	**7/31/2012**	**10/19/2012**

Sample Type: **GEOTECHNICAL** Location: Station: **40+00** Offset, ft: **12.0 RT** Dbfg, ft: **0.3-10.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**97.9**
⅜ in. [9.5 mm]	**91.0**
¼ in. [6.3 mm]	**82.8**
No. 4 [4.75 mm]	**77.6**
No. 10 [2.00 mm]	**62.2**
No. 20 [0.850 mm]	**49.0**
No. 40 [0.425 mm]	**40.4**
No. 60 [0.250 mm]	**35.9**
No. 100 [0.150 mm]	**31.9**
No. 200 [0.075 mm]	**26.3**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267734	HB-WALL-216 S5	GEOTECHNICAL (DISTURBED)	7/31/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **42+50** Offset, ft: **9.0** **LT** Dbfg, ft: **0.42-2.3**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.5
⅜ in. [9.5 mm]	95.6
¼ in. [6.3 mm]	89.6
No. 4 [4.75 mm]	84.2
No. 10 [2.00 mm]	66.8
No. 20 [0.850 mm]	50.8
No. 40 [0.425 mm]	41.7
No. 60 [0.250 mm]	36.8
No. 100 [0.150 mm]	32.6
No. 200 [0.075 mm]	27.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267735	HB-WALL-216 S6	GEOTECHNICAL (DISTURBED)	7/31/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **42+50** Offset, ft: **9.0** **LT** Dbfg, ft: **2.3-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**98.7**
¼ in. [6.3 mm]	**94.1**
No. 4 [4.75 mm]	**90.2**
No. 10 [2.00 mm]	**79.5**
No. 20 [0.850 mm]	**69.4**
No. 40 [0.425 mm]	**62.8**
No. 60 [0.250 mm]	**58.9**
No. 100 [0.150 mm]	**55.2**
No. 200 [0.075 mm]	**49.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267736	HB-WALL-218 S7	GEOTECHNICAL (DISTURBED)	7/31/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **60+00** Offset, ft: **10.0 RT** Dbfg, ft: **0.38-2.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	99.2
⅜ in. [9.5 mm]	97.3
¼ in. [6.3 mm]	93.1
No. 4 [4.75 mm]	89.5
No. 10 [2.00 mm]	75.3
No. 20 [0.850 mm]	59.0
No. 40 [0.425 mm]	47.0
No. 60 [0.250 mm]	40.9
No. 100 [0.150 mm]	36.1
No. 200 [0.075 mm]	30.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267737	HB-WALL-218 S8	GEOTECHNICAL (DISTURBED)	7/31/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **60+00** Offset, ft: **10.0** **RT** Dbfg, ft: **2.0-8.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**99.4**
⅜ in. [9.5 mm]	**97.3**
¼ in. [6.3 mm]	**92.8**
No. 4 [4.75 mm]	**89.6**
No. 10 [2.00 mm]	**79.7**
No. 20 [0.850 mm]	**71.4**
No. 40 [0.425 mm]	**65.9**
No. 60 [0.250 mm]	**62.6**
No. 100 [0.150 mm]	**59.7**
No. 200 [0.075 mm]	**56.5**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267739	HB-WALL-219 S10	GEOTECHNICAL (DISTURBED)	8/17/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **75+00** Offset, ft: **10.0** **RT** Dbfg, ft: **2.4-8.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**97.8**
⅜ in. [9.5 mm]	**92.8**
¼ in. [6.3 mm]	**87.5**
No. 4 [4.75 mm]	**84.1**
No. 10 [2.00 mm]	**74.2**
No. 20 [0.850 mm]	**66.4**
No. 40 [0.425 mm]	**61.5**
No. 60 [0.250 mm]	**58.7**
No. 100 [0.150 mm]	**55.9**
No. 200 [0.075 mm]	**51.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.7

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267738	HB-WALL-219 S9	GEOTECHNICAL (DISTURBED)	7/31/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **75+00** Offset, ft: **10.0** **RT** Dbfg, ft: **0.33-2.4**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**98.7**
⅜ in. [9.5 mm]	**94.9**
¼ in. [6.3 mm]	**89.5**
No. 4 [4.75 mm]	**85.7**
No. 10 [2.00 mm]	**70.2**
No. 20 [0.850 mm]	**56.4**
No. 40 [0.425 mm]	**47.1**
No. 60 [0.250 mm]	**41.3**
No. 100 [0.150 mm]	**35.2**
No. 200 [0.075 mm]	**26.2**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267740	HB-WALL-220 S11	GEOTECHNICAL (DISTURBED)	8/17/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **91+00** Offset, ft: **13.0 RT** Dbfg, ft: **2.1-5.2**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	94.5
⅜ in. [9.5 mm]	90.8
¼ in. [6.3 mm]	80.5
No. 4 [4.75 mm]	73.6
No. 10 [2.00 mm]	58.1
No. 20 [0.850 mm]	46.6
No. 40 [0.425 mm]	40.3
No. 60 [0.250 mm]	36.8
No. 100 [0.150 mm]	33.5
No. 200 [0.075 mm]	29.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.6

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267741	HB-WALL-222 S12	GEOTECHNICAL (DISTURBED)	8/17/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **98+00** Offset, ft: **15.0 LT** Dbfg, ft: **0.0-5.2**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	100.0
⅜ in. [9.5 mm]	95.1
¼ in. [6.3 mm]	88.7
No. 4 [4.75 mm]	82.5
No. 10 [2.00 mm]	64.2
No. 20 [0.850 mm]	48.8
No. 40 [0.425 mm]	39.5
No. 60 [0.250 mm]	34.3
No. 100 [0.150 mm]	29.9
No. 200 [0.075 mm]	25.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

8.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267742	HB-WALL-223 S13	GEOTECHNICAL (DISTURBED)	8/17/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **168+50** Offset, ft: **10.0** **RT** Dbfg, ft: **0.0-0.8**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**99.4**
⅜ in. [9.5 mm]	**97.5**
¼ in. [6.3 mm]	**91.8**
No. 4 [4.75 mm]	**86.5**
No. 10 [2.00 mm]	**70.1**
No. 20 [0.850 mm]	**53.7**
No. 40 [0.425 mm]	**43.6**
No. 60 [0.250 mm]	**38.1**
No. 100 [0.150 mm]	**33.5**
No. 200 [0.075 mm]	**27.5**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267743	**HB-WALL-224 S15**	**GEOTECHNICAL (DISTURBED)**	**8/17/2012**	**10/19/2012**

Sample Type: **GEOTECHNICAL** Location: Station: **120+00** Offset, ft: **11.0 LT** Dbfg, ft: **0.0-2.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**99.3**
⅜ in. [9.5 mm]	**94.7**
¼ in. [6.3 mm]	**89.9**
No. 4 [4.75 mm]	**85.2**
No. 10 [2.00 mm]	**68.0**
No. 20 [0.850 mm]	**49.8**
No. 40 [0.425 mm]	**37.9**
No. 60 [0.250 mm]	**31.4**
No. 100 [0.150 mm]	**26.5**
No. 200 [0.075 mm]	**21.3**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

7.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267744	HB-WALL-224 S16	GEOTECHNICAL (DISTURBED)	8/17/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **120+00** Offset, ft: **11.0 LT** Dbfg, ft: **2.0-9.5**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	99.0
⅜ in. [9.5 mm]	95.0
¼ in. [6.3 mm]	90.2
No. 4 [4.75 mm]	86.8
No. 10 [2.00 mm]	76.3
No. 20 [0.850 mm]	65.8
No. 40 [0.425 mm]	58.3
No. 60 [0.250 mm]	54.3
No. 100 [0.150 mm]	50.5
No. 200 [0.075 mm]	44.2

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

13.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267745	HB-WALL-225 S17	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **120+00** Offset, ft: **15.0 RT** Dbfg, ft: **1.6-5.2**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	95.8
½ in. [12.5 mm]	93.4
⅜ in. [9.5 mm]	91.4
¼ in. [6.3 mm]	86.7
No. 4 [4.75 mm]	82.9
No. 10 [2.00 mm]	73.4
No. 20 [0.850 mm]	61.3
No. 40 [0.425 mm]	51.6
No. 60 [0.250 mm]	45.8
No. 100 [0.150 mm]	40.6
No. 200 [0.075 mm]	33.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

27.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267746	HB-WALL-226 S18	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **124+00** Offset, ft: **10.0 RT** Dbfg, ft: **5.2-7.2**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	100.0
⅜ in. [9.5 mm]	99.0
¼ in. [6.3 mm]	95.4
No. 4 [4.75 mm]	91.8
No. 10 [2.00 mm]	80.3
No. 20 [0.850 mm]	63.4
No. 40 [0.425 mm]	51.4
No. 60 [0.250 mm]	44.5
No. 100 [0.150 mm]	38.7
No. 200 [0.075 mm]	32.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
15.7	81.2

Water Content (T 265), %

80.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/24/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267747	HB-WALL-226 S19	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **124+00** Offset, ft: **10.0** **RT** Dbfg, ft: **7.2-9.5**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**99.1**
⅜ in. [9.5 mm]	**95.1**
¼ in. [6.3 mm]	**92.1**
No. 4 [4.75 mm]	**89.3**
No. 10 [2.00 mm]	**80.4**
No. 20 [0.850 mm]	**72.4**
No. 40 [0.425 mm]	**66.9**
No. 60 [0.250 mm]	**63.4**
No. 100 [0.150 mm]	**60.0**
No. 200 [0.075 mm]	**54.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

13.9

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267748	HB-WALL-227 S20	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **125+00** Offset, ft: **12.0 RT** Dbfg, ft: **0.0-6.3**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.3
⅜ in. [9.5 mm]	92.0
¼ in. [6.3 mm]	84.5
No. 4 [4.75 mm]	78.5
No. 10 [2.00 mm]	61.4
No. 20 [0.850 mm]	47.6
No. 40 [0.425 mm]	39.1
No. 60 [0.250 mm]	34.4
No. 100 [0.150 mm]	30.6
No. 200 [0.075 mm]	26.1

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %

Plastic Limit (T 90), %

Plasticity Index (T 90), %

Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

4.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267749	HB-WALL-228 1D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **126+00** Offset, ft: **10.0** **RT** Dbfg, ft: **5.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	**100.0**
¾ in. [19.0 mm]	**97.8**
½ in. [12.5 mm]	**94.4**
⅜ in. [9.5 mm]	**93.0**
¼ in. [6.3 mm]	**87.8**
No. 4 [4.75 mm]	**84.7**
No. 10 [2.00 mm]	**75.5**
No. 20 [0.850 mm]	**68.0**
No. 40 [0.425 mm]	**63.5**
No. 60 [0.250 mm]	**60.3**
No. 100 [0.150 mm]	**56.0**
No. 200 [0.075 mm]	**49.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

13.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267750	HB-WALL-230 2D	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **128+00** Offset, ft: **11.0** **RT** Dbfg, ft: **5.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	**100.0**
¾ in. [19.0 mm]	**97.2**
½ in. [12.5 mm]	**95.0**
⅜ in. [9.5 mm]	**90.5**
¼ in. [6.3 mm]	**86.0**
No. 4 [4.75 mm]	**82.7**
No. 10 [2.00 mm]	**73.5**
No. 20 [0.850 mm]	**65.4**
No. 40 [0.425 mm]	**60.2**
No. 60 [0.250 mm]	**57.2**
No. 100 [0.150 mm]	**53.9**
No. 200 [0.075 mm]	**49.5**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/2/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267776	HB-WALL-231 S21	GEOTECHNICAL (DISTURBED)	8/7/2012	10/19/2012

Sample Type: **GEOTECHNICAL** Location: Station: **145+50** Offset, ft: **12.0 LT** Dbfg, ft: **0.5-3.5**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.8
⅜ in. [9.5 mm]	96.0
¼ in. [6.3 mm]	89.0
No. 4 [4.75 mm]	83.8
No. 10 [2.00 mm]	67.0
No. 20 [0.850 mm]	52.6
No. 40 [0.425 mm]	44.0
No. 60 [0.250 mm]	39.3
No. 100 [0.150 mm]	35.2
No. 200 [0.075 mm]	29.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/31/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267071	HB-WALL-301 1D	GEOTECHNICAL (DISTURBED)	10/16/2012	10/30/2012

Sample Type: **GEOTECHNICAL** Location: Station: **68+75** Offset, ft: **12.0 RT** Dbfg, ft: **4.5-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	90.7
⅜ in. [9.5 mm]	85.7
¼ in. [6.3 mm]	74.3
No. 4 [4.75 mm]	68.0
No. 10 [2.00 mm]	50.5
No. 20 [0.850 mm]	36.4
No. 40 [0.425 mm]	27.3
No. 60 [0.250 mm]	21.9
No. 100 [0.150 mm]	17.7
No. 200 [0.075 mm]	12.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %: **4.5**

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267067	HB-WALL-301 1D/A	GEOTECHNICAL (DISTURBED)	10/16/2012	10/30/2012

Sample Type: **GEOTECHNICAL** Location: Station: **68+75** Offset, ft: **12.0 RT** Dbfg, ft: **6.0-6.5**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	92.8
¾ in. [19.0 mm]	89.1
½ in. [12.5 mm]	81.1
⅜ in. [9.5 mm]	73.0
¼ in. [6.3 mm]	66.7
No. 4 [4.75 mm]	62.5
No. 10 [2.00 mm]	51.7
No. 20 [0.850 mm]	42.1
No. 40 [0.425 mm]	35.9
No. 60 [0.250 mm]	32.1
No. 100 [0.150 mm]	28.5
No. 200 [0.075 mm]	23.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
10.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2012**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267068	**HB-WALL-302 1D**	**GEOTECHNICAL (DISTURBED)**	**10/16/2012**	**10/30/2012**

Sample Type: **GEOTECHNICAL** Location: Station: **124+28** Offset, ft: **12.0** **RT** Dbfg, ft: **5.0-6.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	**100.0**
¾ in. [19.0 mm]	**95.7**
½ in. [12.5 mm]	**76.9**
⅜ in. [9.5 mm]	**69.6**
¼ in. [6.3 mm]	**62.1**
No. 4 [4.75 mm]	**56.6**
No. 10 [2.00 mm]	**42.0**
No. 20 [0.850 mm]	**29.0**
No. 40 [0.425 mm]	**21.2**
No. 60 [0.250 mm]	**17.5**
No. 100 [0.150 mm]	**14.5**
No. 200 [0.075 mm]	**10.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267069	HB-WALL-302 1D/A	GEOTECHNICAL (DISTURBED)	10/16/2012	10/30/2012

Sample Type: **GEOTECHNICAL** Location: Station: **124+28** Offset, ft: **12.0 RT** Dbfg, ft: **6.0-7.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	93.4
½ in. [12.5 mm]	87.6
⅜ in. [9.5 mm]	85.6
¼ in. [6.3 mm]	80.6
No. 4 [4.75 mm]	77.2
No. 10 [2.00 mm]	68.3
No. 20 [0.850 mm]	57.7
No. 40 [0.425 mm]	49.9
No. 60 [0.250 mm]	45.9
No. 100 [0.150 mm]	42.3
No. 200 [0.075 mm]	36.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %
5.5	27.8

Water Content (T 265), %
27.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/9/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
267070	**HB-WALL-302 2D**	**GEOTECHNICAL (DISTURBED)**	**10/16/2012**	**10/30/2012**

Sample Type: **GEOTECHNICAL** Location: Station: **124+28** Offset, ft: **12.0 RT** Dbfg, ft: **10.0-12.0**

WIN/Town **017235.00 - EAGLE LAKE,WALLAGRAS** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 88)

Wash Method

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	**100.0**
1 in. [25.0 mm]	**95.4**
¾ in. [19.0 mm]	**93.0**
½ in. [12.5 mm]	**91.7**
⅜ in. [9.5 mm]	**88.0**
¼ in. [6.3 mm]	**84.8**
No. 4 [4.75 mm]	**83.4**
No. 10 [2.00 mm]	**74.8**
No. 20 [0.850 mm]	
No. 40 [0.425 mm]	**63.0**
No. 60 [0.250 mm]	
No. 100 [0.150 mm]	
No. 200 [0.075 mm]	**57.3**
[0.0276 mm]	**54.5**
[0.0182 mm]	**50.3**
[0.0109 mm]	**44.1**
[0.0079 mm]	**39.9**
[0.0057 mm]	**37.8**
[0.0030 mm]	**25.1**
[0.0013 mm]	**16.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
20
Plastic Limit (T 90), %
15
Plasticity Index (T 90), %
5
Specific Gravity, Corrected to 20°C (T 100)
2.75

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
11.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

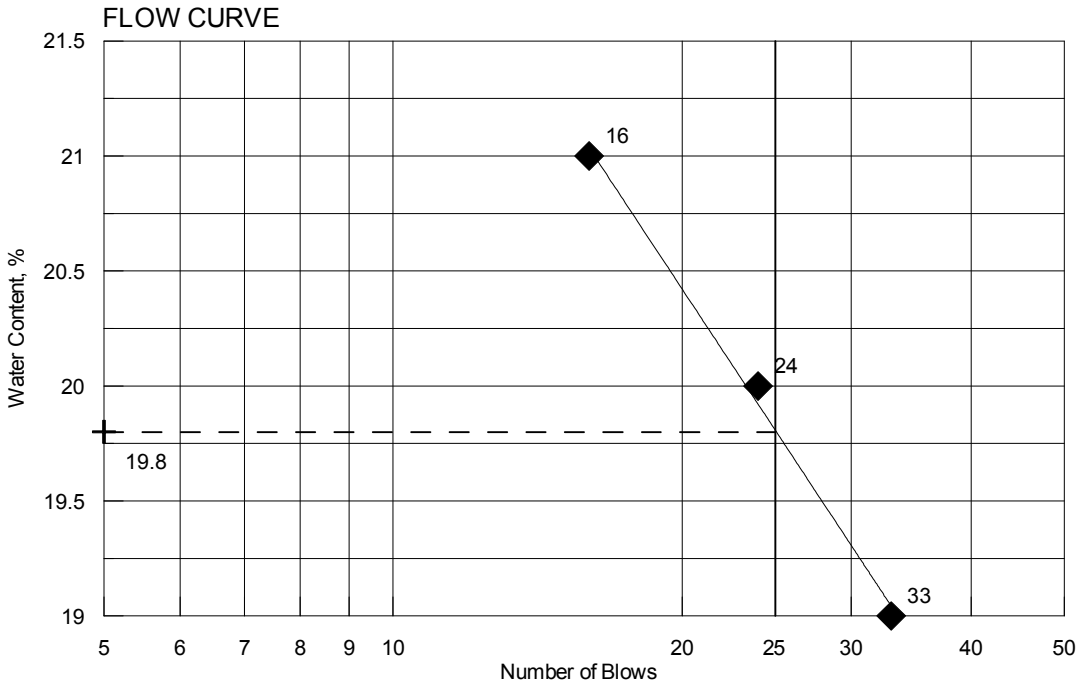
Comments:

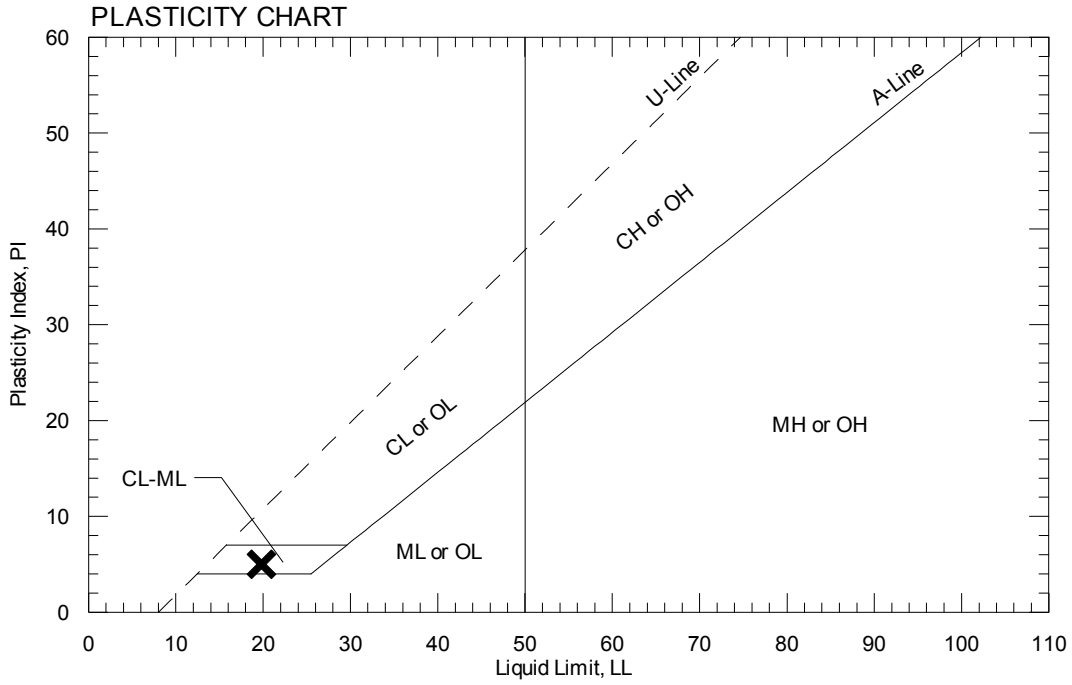
AUTHORIZATION AND DISTRIBUTION

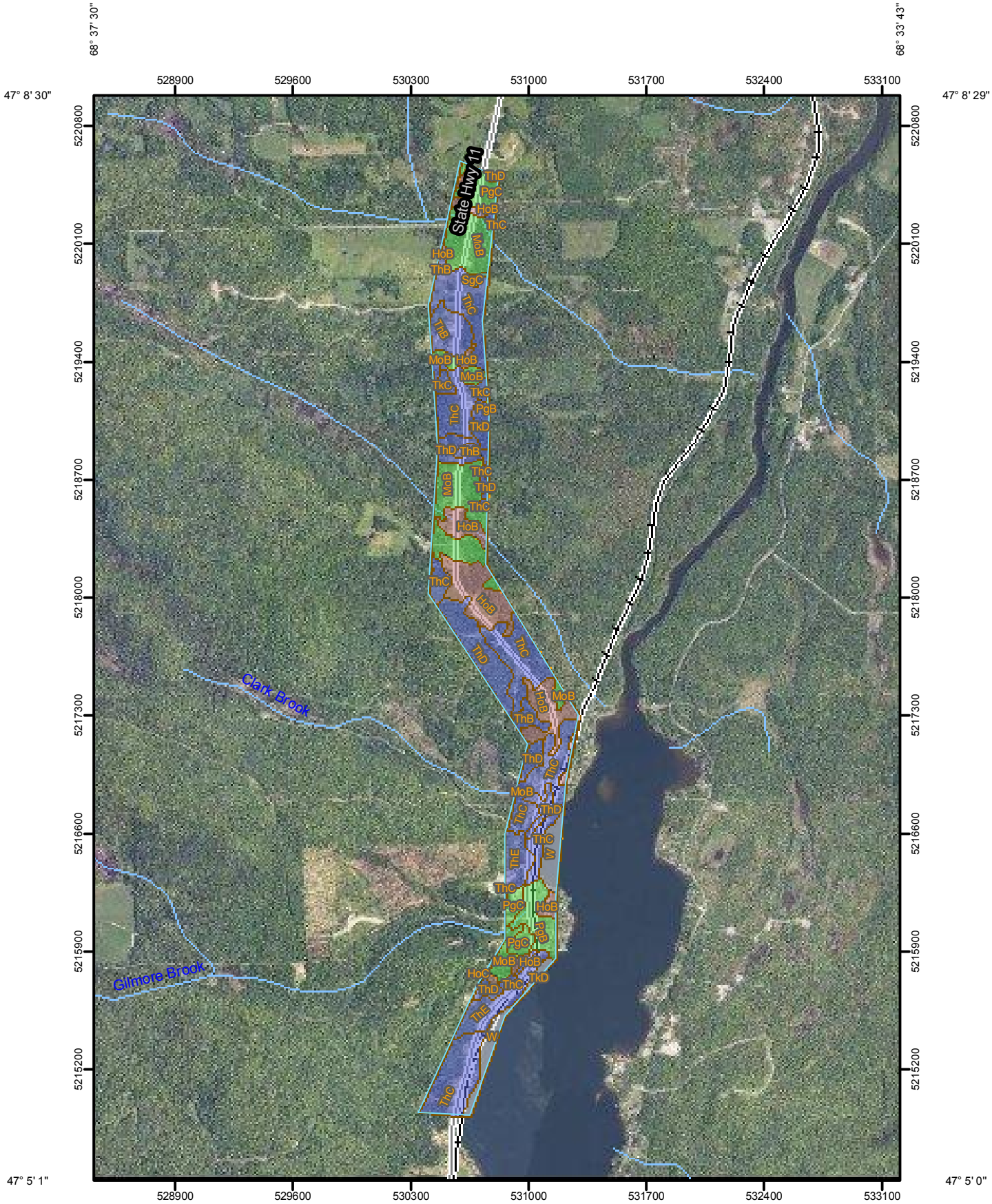
Reported by: **FOGG, BRIAN** Date Reported: **11/9/2012**

Paper Copy: Lab File; Project File; Geotech File

TOWN	Eagle Lake,Wallagrass	Reference No.	267070
WIN	017235.00	Water Content, %	11.8
Sampled	10/16/2012	Liquid Limit @ 25 blows (T 89), %	20
Boring No./Sample No.	HB-WALL-302 2D	Plastic Limit (T 90), %	15
Station	124+28	Plasticity Index (T 90), %	5
Depth	10.0-12.0	Tested By	BBURR







Map Scale: 1:30,700 if printed on A size (8.5" x 11") sheet.

N

Meters
0 250 500 1,000 1,500

Feet
0 1,000 2,000 4,000 6,000

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

coarse-loamy lodgment till

coarse-loamy lodgment till derived from quartzite

loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate

sandy and gravelly glaciofluvial deposits derived from slate

Not rated or not available

Political Features

Cities

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

MAP INFORMATION

Map Scale: 1:30,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aroostook County, Maine, Northeastern Part
Survey Area Data: Version 14, Feb 15, 2012

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Parent Material Name

Parent Material Name— Summary by Map Unit — Aroostook County, Maine, Northeastern Part (ME607)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
HoB	Howland gravelly loam, 2 to 8 percent slopes	coarse-loamy lodgment till	64.3	14.3%
HoC	Howland gravelly loam, 8 to 15 percent slopes	coarse-loamy lodgment till	0.8	0.2%
MoB	Monarda and Burnham silt loams, 2 to 8 percent slopes	coarse-loamy lodgment till derived from quartzite	71.9	16.0%
PgB	Plaisted gravelly loam, 2 to 8 percent slopes	coarse-loamy lodgment till derived from quartzite	16.9	3.7%
PgC	Plaisted gravelly loam, 8 to 15 percent slopes	coarse-loamy lodgment till derived from quartzite	19.0	4.2%
SgC	Stetson gravelly loam, 8 to 15 percent slopes	sandy and gravelly glaciofluvial deposits derived from slate	1.1	0.2%
ThB	Thorndike shaly silt loam, 0 to 8 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	23.7	5.3%
ThC	Thorndike shaly silt loam, 8 to 15 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	138.8	30.8%
ThD	Thorndike shaly silt loam, 15 to 25 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	47.8	10.6%
ThE	Thorndike shaly silt loam, 25 to 45 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	28.6	6.4%
TkC	Thorndike very rocky silt loam, 8 to 15 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	5.1	1.1%
TkD	Thorndike very rocky silt loam, 15 to 25 percent slopes	loamy melt-out till derived from phyllite and/or loamy melt-out till derived from slate	7.9	1.8%
W	Water bodies		24.6	5.5%
Totals for Area of Interest			**450.6**	**100.0%**

Description

Parent material name is a term for the general physical, chemical, and mineralogical composition of the unconsolidated material, mineral or organic, in which the soil forms. Mode of deposition and/or weathering may be implied by the name.

The soil surveyor uses parent material to develop a model used for soil mapping. Soil scientists and specialists in other disciplines use parent material to help interpret soil boundaries and project performance of the material below the soil. Many soil properties relate to parent material. Among these properties are proportions of sand, silt, and clay; chemical content; bulk density; structure; and the kinds and amounts of rock fragments. These properties affect interpretations and may be criteria used to separate soil series. Soil properties and landscape information may imply the kind of parent material.

For each soil in the database, one or more parent materials may be identified. One is marked as the representative or most commonly occurring. The representative parent material name is presented here.

Rating Options

Aggregation Method: Dominant Condition

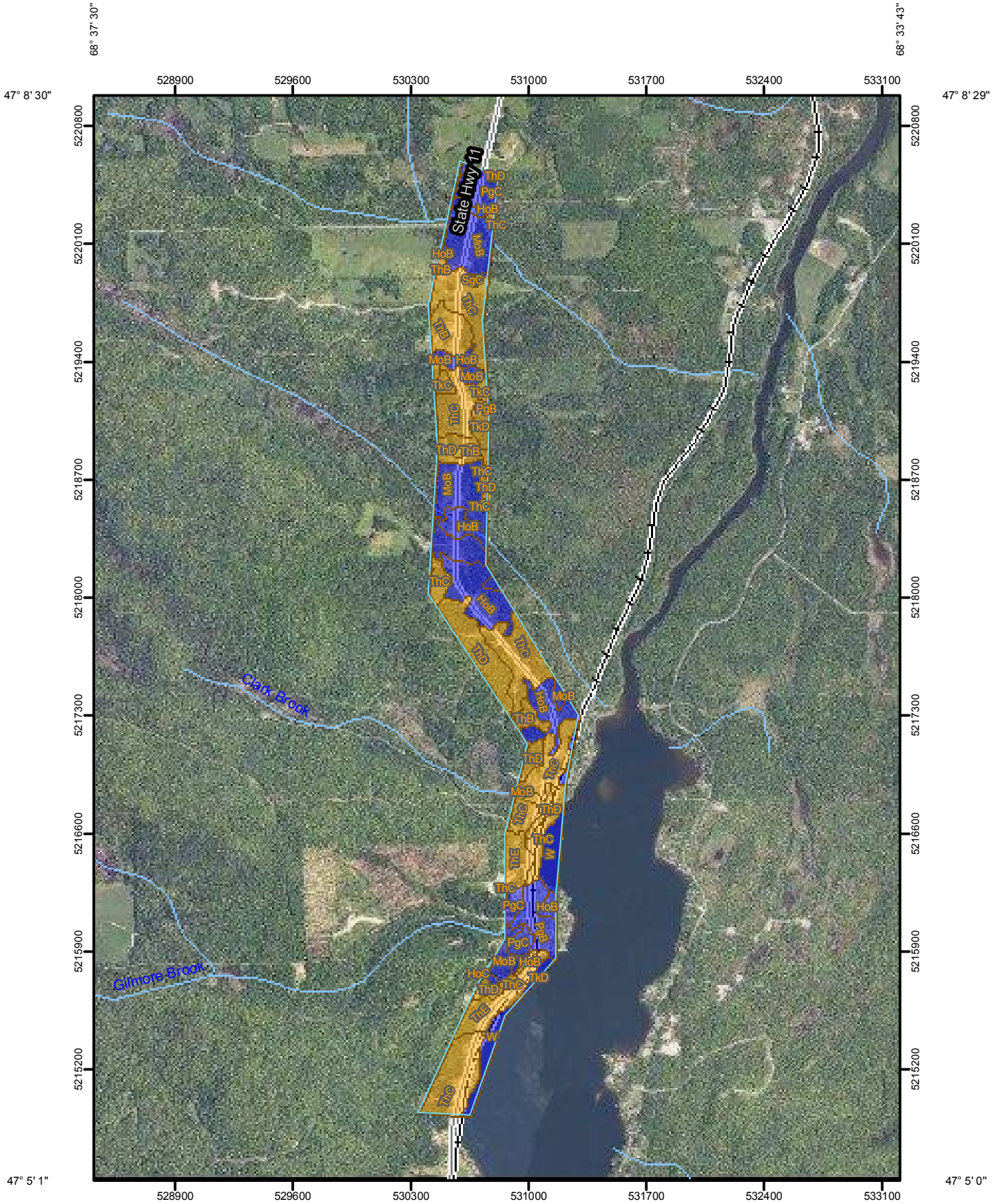
Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

AASHTO Group Classification (Surface)

AASHTO Group Classification (Surface)— Summary by Map Unit — Aroostook County, Maine, Northeastern Part (ME607)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
HoB	Howland gravelly loam, 2 to 8 percent slopes	A-4	64.3	14.3%
HoC	Howland gravelly loam, 8 to 15 percent slopes	A-4	0.8	0.2%
MoB	Monarda and Burnham silt loams, 2 to 8 percent slopes	A-4	71.9	16.0%
PgB	Plaisted gravelly loam, 2 to 8 percent slopes	A-4	16.9	3.7%
PgC	Plaisted gravelly loam, 8 to 15 percent slopes	A-4	19.0	4.2%
SgC	Stetson gravelly loam, 8 to 15 percent slopes	A-2	1.1	0.2%
ThB	Thorndike shaly silt loam, 0 to 8 percent slopes	A-4	23.7	5.3%
ThC	Thorndike shaly silt loam, 8 to 15 percent slopes	A-4	138.8	30.8%
ThD	Thorndike shaly silt loam, 15 to 25 percent slopes	A-4	47.8	10.6%
ThE	Thorndike shaly silt loam, 25 to 45 percent slopes	A-4	28.6	6.4%
TkC	Thorndike very rocky silt loam, 8 to 15 percent slopes		5.1	1.1%
TkD	Thorndike very rocky silt loam, 15 to 25 percent slopes		7.9	1.8%
W	Water bodies		24.6	5.5%
Totals for Area of Interest			**450.6**	**100.0%**

Depth to a Selected Soil Restrictive Layer: Lithic bedrock—Aroostook County, Maine, Northeastern Part
(17235.00 Wallagrass Rte 11)



Map Scale: 1:30,700 if printed on A size (8.5" x 11") sheet.

N

Meters: 0 250 500 1,000 1,500

Feet: 0 1,000 2,000 4,000 6,000

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Political Features

Cities

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

MAP INFORMATION

Map Scale: 1:30,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aroostook County, Maine, Northeastern Part
Survey Area Data: Version 14, Feb 15, 2012

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to a Selected Soil Restrictive Layer: Lithic bedrock

Depth to a Selected Soil Restrictive Layer: Lithic bedrock— Summary by Map Unit — Aroostook County, Maine, Northeastern Part (ME607)				
Map unit symbol	**Map unit name**	**Rating (centimeters)**	**Acres in AOI**	**Percent of AOI**
HoB	Howland gravelly loam, 2 to 8 percent slopes	>200	64.3	14.3%
HoC	Howland gravelly loam, 8 to 15 percent slopes	>200	0.8	0.2%
MoB	Monarda and Burnham silt loams, 2 to 8 percent slopes	>200	71.9	16.0%
PgB	Plaisted gravelly loam, 2 to 8 percent slopes	>200	16.9	3.7%
PgC	Plaisted gravelly loam, 8 to 15 percent slopes	>200	19.0	4.2%
SgC	Stetson gravelly loam, 8 to 15 percent slopes	>200	1.1	0.2%
ThB	Thorndike shaly silt loam, 0 to 8 percent slopes	38	23.7	5.3%
ThC	Thorndike shaly silt loam, 8 to 15 percent slopes	38	138.8	30.8%
ThD	Thorndike shaly silt loam, 15 to 25 percent slopes	38	47.8	10.6%
ThE	Thorndike shaly silt loam, 25 to 45 percent slopes	38	28.6	6.4%
TkC	Thorndike very rocky silt loam, 8 to 15 percent slopes	38	5.1	1.1%
TkD	Thorndike very rocky silt loam, 15 to 25 percent slopes	38	7.9	1.8%
W	Water bodies	>200	24.6	5.5%
Totals for Area of Interest			**450.6**	**100.0%**

Description

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to the user selected type of restrictive layer as described in for each map unit. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Restriction Kind: Lithic bedrock

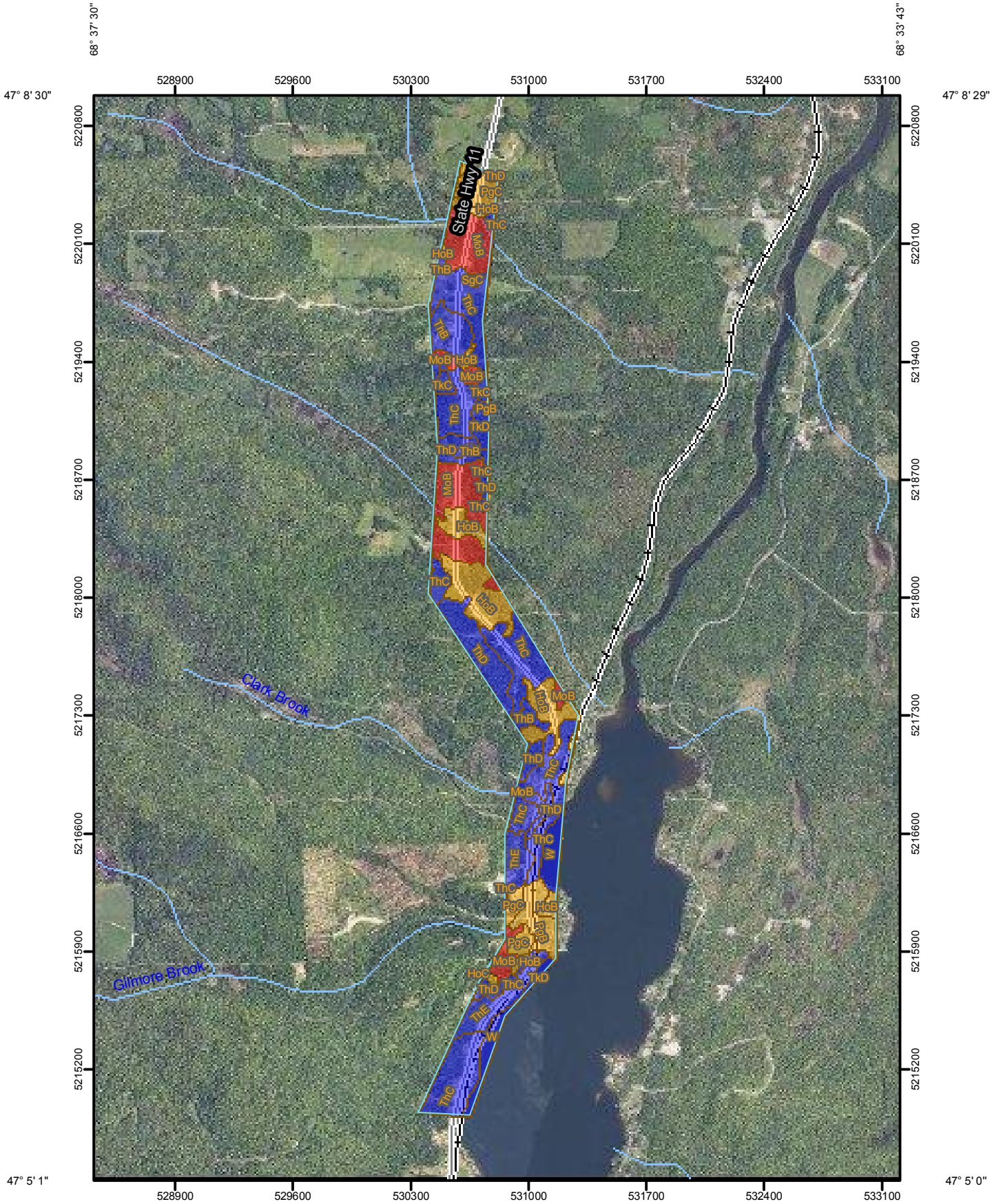
Aggregation Method: Dominant Component

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Depth to Water Table—Aroostook County, Maine, Northeastern Part
(17235.00 Wallagrass Rte 11)



Map Scale: 1:30,700 if printed on A size (8.5" x 11") sheet.

N

Meters
0 250 500 1,000 1,500

Feet
0 1,000 2,000 4,000 6,000

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Political Features

Cities

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

MAP INFORMATION

Map Scale: 1:30,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aroostook County, Maine, Northeastern Part
Survey Area Data: Version 14, Feb 15, 2012

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to Water Table

Depth to Water Table— Summary by Map Unit — Aroostook County, Maine, Northeastern Part (ME607)				
Map unit symbol	**Map unit name**	**Rating (centimeters)**	**Acres in AOI**	**Percent of AOI**
HoB	Howland gravelly loam, 2 to 8 percent slopes	42	64.3	14.3%
HoC	Howland gravelly loam, 8 to 15 percent slopes	42	0.8	0.2%
MoB	Monarda and Burnham silt loams, 2 to 8 percent slopes	5	71.9	16.0%
PgB	Plaisted gravelly loam, 2 to 8 percent slopes	50	16.9	3.7%
PgC	Plaisted gravelly loam, 8 to 15 percent slopes	50	19.0	4.2%
SgC	Stetson gravelly loam, 8 to 15 percent slopes	>200	1.1	0.2%
ThB	Thorndike shaly silt loam, 0 to 8 percent slopes	>200	23.7	5.3%
ThC	Thorndike shaly silt loam, 8 to 15 percent slopes	>200	138.8	30.8%
ThD	Thorndike shaly silt loam, 15 to 25 percent slopes	>200	47.8	10.6%
ThE	Thorndike shaly silt loam, 25 to 45 percent slopes	>200	28.6	6.4%
TkC	Thorndike very rocky silt loam, 8 to 15 percent slopes	>200	5.1	1.1%
TkD	Thorndike very rocky silt loam, 15 to 25 percent slopes	>200	7.9	1.8%
W	Water bodies	>200	24.6	5.5%
Totals for Area of Interest			**450.6**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

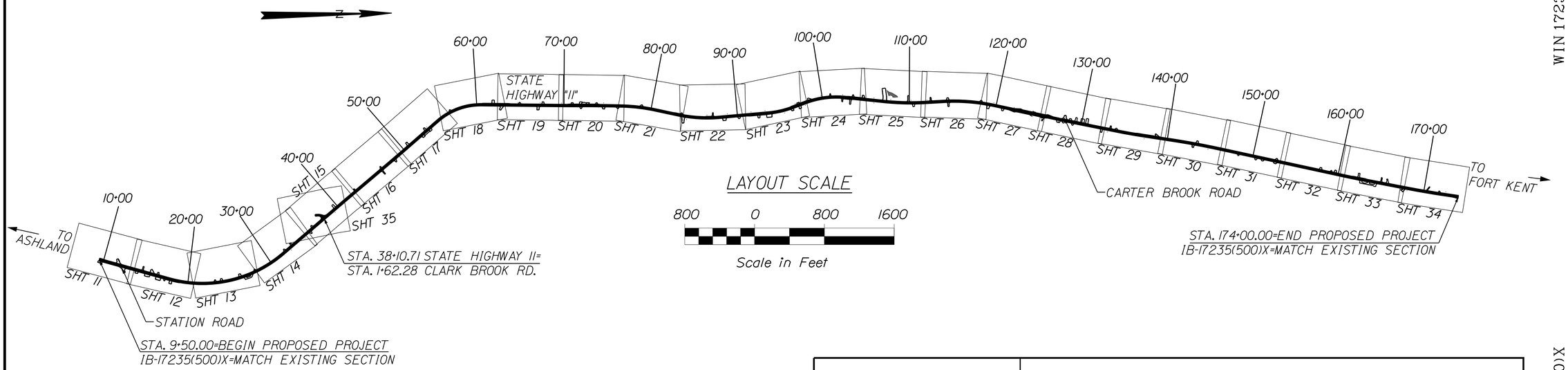
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WALLAGRASS

AROOSTOOK COUNTY
ROUTE 11
IB-1723(500)X
PROJECT LENGTH : 3.11 MILES

INDEX OF SHEETS

Description	Sheet No.
Title Sheet	1
Typical Sections	2-4
Estimated Quantities & Earthworks	5
Drainage Summary	6-7
General Notes	8
Bridge & Culvert Plans	9-10
Plan & Profiles	11-35
Cross - Sections	36-215
Right of Way Map	X



PLAN LEGEND

Town, County, State
Property Lines
R/W Lines-Existing
R/W Lines-Proposed
Culvert-Existing
Culvert Proposed
Curbing — Existing — Proposed
Type 1
Type 3
Type 5
Outline of Bodies of Water
Ledge
Buildings
Trees — Conifer — Deciduous
Tree Line
Clearing Limit Line — CLL
Centerline-Existing
Centerline-Proposed — 10+00
Travelway-Existing
Travelway-Proposed
Railroad
Catch Basins — Existing — Proposed
Manholes — Existing — Proposed
Proposed Underdrain
Proposed Ditch
Existing Ditch
Utility Poles — Existing — Proposed
Fire Hydrants — Existing — Proposed
Existing Water Line — W
Existing San. Sewer
Existing San. Sewer Manhole
Guardrail-Existing
Guardrail-Proposed
Guardrail-Cable, Other

TRAFFIC DATA

Current (2011) AADT	2310
Future (2031) AADT	2770
DHV - % of AADT	10%
Design Hour Volume	277
% Heavy Trucks (AADT)	14%
% Heavy Trucks (DHV)	10%
Directional Distribution (DHV)	52%
18 kip Equivalent P 2.0	366
18 kip Equivalent P 2.5	349
Design Speed (mph)	45
Functional Class:	MAJOR COLLECTOR

PROJECT LOCATION:	BEGINNING 0.05 MILES NORTH OF EAGLE LAKE/WALLAGRASS TOWN LINE AND EXTENDING NORTHERLY 3.116 MILES
PROGRAM AREA:	HIGHWAY PROGRAM
OUTLINE OF WORK:	RECONSTRUCT EXISTING PAVEMENT, ADD PAVED SHOULDERS & REPLACE DRAINAGE

PDR SUBMITTAL 01/18/13

Stantec

WIN 17235.00

PROJ. NO. IB-1723(500)X

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED — DATE
COMMISSIONER:
CHIEF ENGINEER:

PROJECT INFORMATION

PROGRAM	HIGHWAY
PROJECT MANAGER	R. DEMERCHANT
DESIGNER	C. EDWARDS
CONSULTANT	STANTEC
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE
P.E. NUMBER
DATE

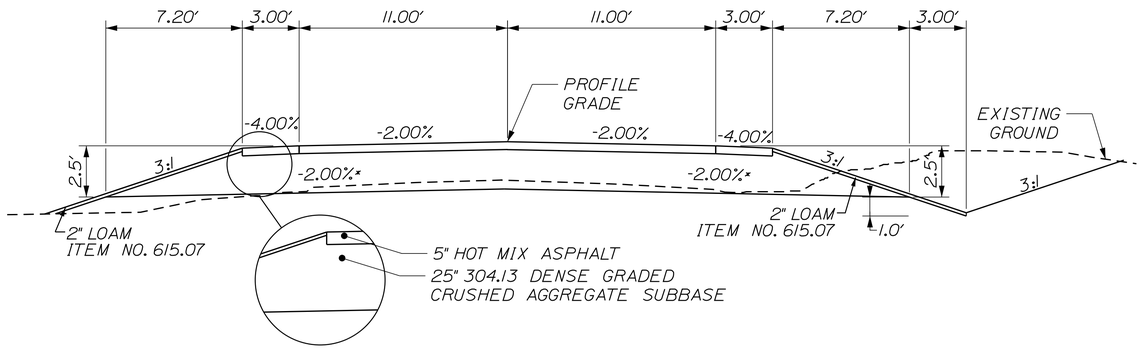
WALLAGRASS
ROUTE 11

TITLE SHEET

SHEET NUMBER
1
OF 216

Filename: ...\00\HIGHWAY\MSTA\001_Title.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

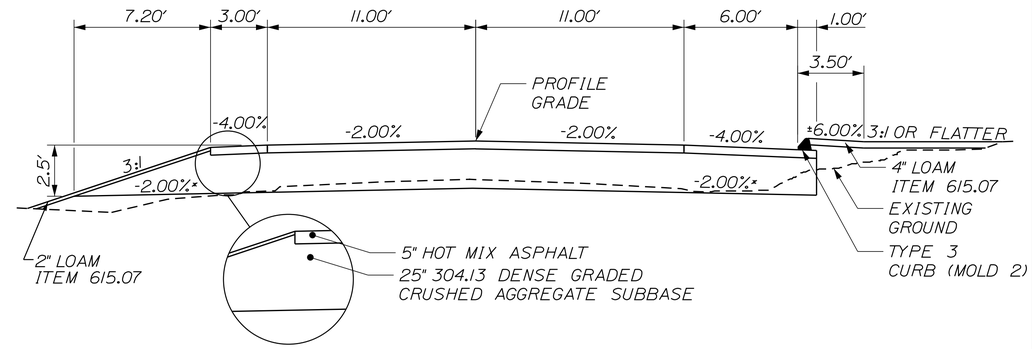
NORMAL



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LEFT SHOULDER 52.9 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	RIGHT SHOULDER 52.9 CY/100 LF STATION TO STATION
9+50 TO 9+92	9+50 TO 9+92	9+50 TO 9+92
32+50 TO 53+50	33+50 TO 53+50	33+50 TO 53+50
63+65 TO 70+50	63+65 TO 70+50	63+65 TO 70+50
74+00 TO 75+50	74+00 TO 75+50	74+00 TO 76+50
89+50 TO 93+00	89+50 TO 92+00	89+50 TO 92+00
104+55 TO 105+50	104+55 TO 105+50	104+55 TO 105+50
121+50 TO 123+00	120+50 TO 123+00	120+50 TO 122+00
126+00 TO 128+40	126+00 TO 128+40	125+30 TO 128+40
130+45 TO 136+50	130+45 TO 136+50	130+45 TO 136+50
138+60 TO 161+68	138+60 TO 161+68	138+60 TO 161+68
163+20 TO 174+00	163+20 TO 174+00	163+20 TO 174+00

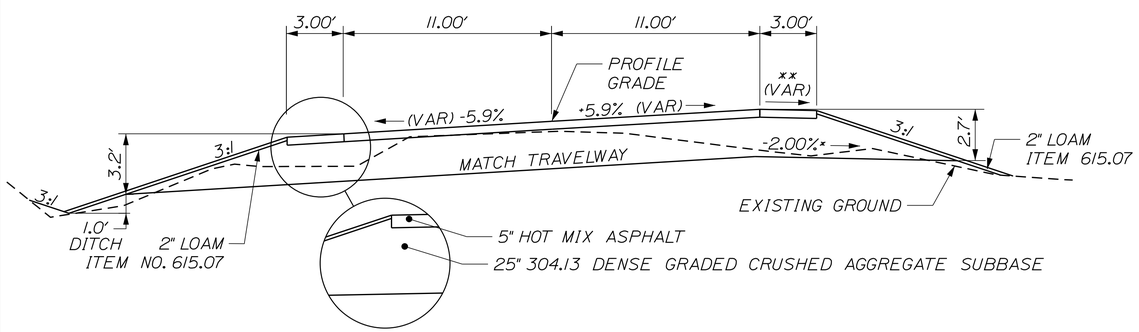
NORMAL LT BOX SECTION RT



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LEFT SHOULDER 52.9 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	RIGHT SHOULDER 52.2 CY/100 LF STATION TO STATION
9+92 TO 16+50	9+92 TO 16+50	9+92 TO 16+50
91+40 TO 93+00	91+40 TO 93+00	91+40 TO 92+00

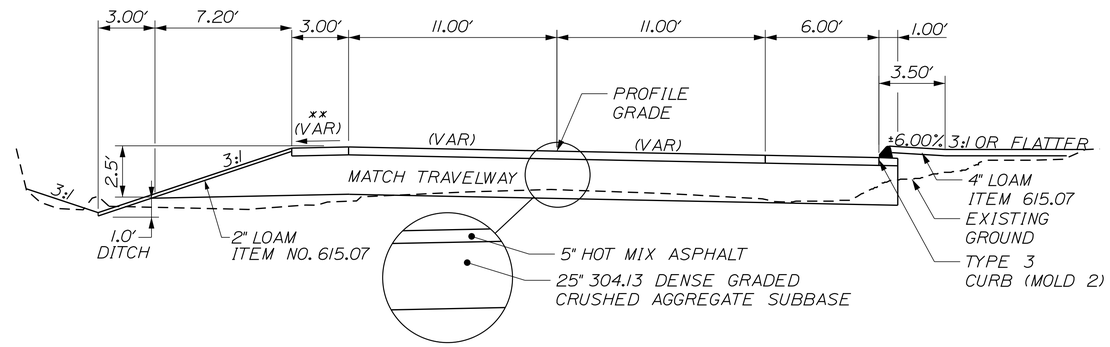
NORMAL (SUPERELEVATED)



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LOW SIDE *** 60.3 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	HIGH SIDE *** 54.8 CY/100 LF STATION TO STATION
19+00 TO 32+50	19+00 TO 31+50	19+00 TO 31+50
53+50 TO 55+50	53+50 TO 55+50	53+50 TO 55+50
55+50 TO 60+00	55+50 TO 60+00	55+50 TO 60+00
77+50 TO 81+00	77+50 TO 81+00	77+50 TO 81+00
87+00 TO 87+50	87+00 TO 87+50	87+00 TO 87+50
94+00 TO 96+00	94+00 TO 96+00	94+00 TO 96+00
98+50 TO 102+00	98+50 TO 102+00	98+50 TO 102+00
107+50 TO 111+50	107+50 TO 111+50	107+50 TO 111+50
114+50 TO 119+50	114+50 TO 119+50	114+50 TO 119+50

NORMAL LT BOX SECTION RT (SUPERELEVATED)



DENSE GRADED CRUSHED AGGREGATE SUBBASE

HIGH SIDE *** 54.8 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	LOW SIDE *** 54.0 CY/100 LF STATION TO STATION
18+50 TO 19+00	18+50 TO 19+00	18+50 TO 19+00
92+00 TO 94+00	92+00 TO 94+00	92+00 TO 94+00

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.

3. CROWNS FOR BOTH NORMAL AND SUPERELEVATED SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.

4. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

** 5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVELWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.

6. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE AND DOES NOT SHOW AREAS IN SUPERELEVATION TRANSITION.

* 7. THE SUBGRADE FROM THE EDGE OF THE TRAVELWAY TO THE SIDE SLOPE SUBGRADE INTERCEPT WILL BE AT -2.0%.

*** 8. THE QUANTITIES FOR BOTH THE HIGH SIDE AND LOW SIDE SHOULDER FOR THIS TYPICAL USING A 3.0' SHOULDER WIDTH IS BASED ON +5.9% AND -5.9% SUPERELEVATION. PROPOSED DITCH OFFSETS ARE BASED ON THESE NUMBERS. DITCH OFFSETS FOR THE OTHER SUPERELEVATIONED AREAS WILL BE THE SAME UNLESS OTHERWISE DIRECTED BY THE RESIDENT.

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	
CHECKED-REVIEWED	GAS	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

TYPICAL SHEET 1

SHEET NUMBER

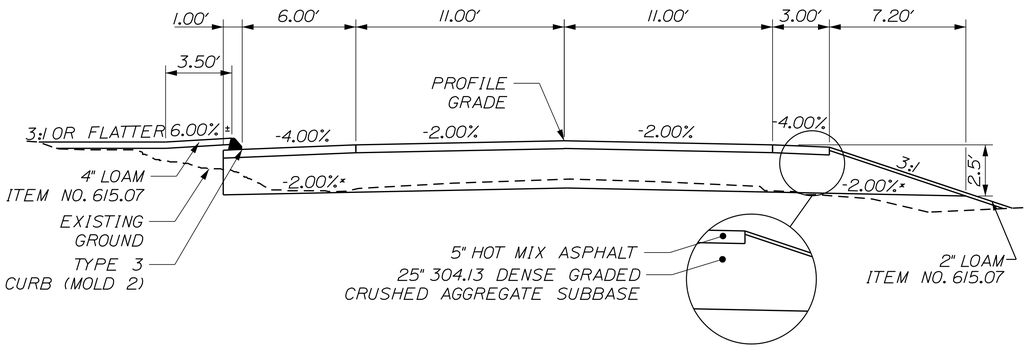
2

OF 216

Filename: ...\HIGHWAY\MSTA\002_Typical.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

NOTES: SEE TYPICAL SHEET 2

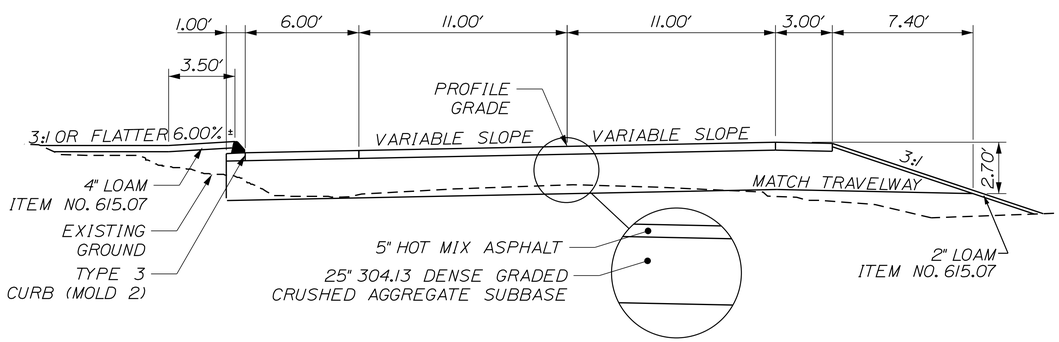
BOX SECTION LT NORMAL RT



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LEFT SHOULDER 52.2 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	RIGHT SHOULDER 52.9 CY/100 LF STATION TO STATION
62+00 TO 63+65	62+00 TO 63+65	61+00 TO 63+65
70+50 TO 74+00	70+50 TO 74+40	70+50 TO 74+40
104+00 TO 104+55	104+00 TO 104+55	103+00 TO 104+55
128+40 TO 130+45	128+40 TO 130+45	128+40 TO 130+45
136+50 TO 138+60	136+50 TO 138+60	136+50 TO 138+60
161+68 TO 163+20	161+68 TO 163+20	161+68 TO 163+20

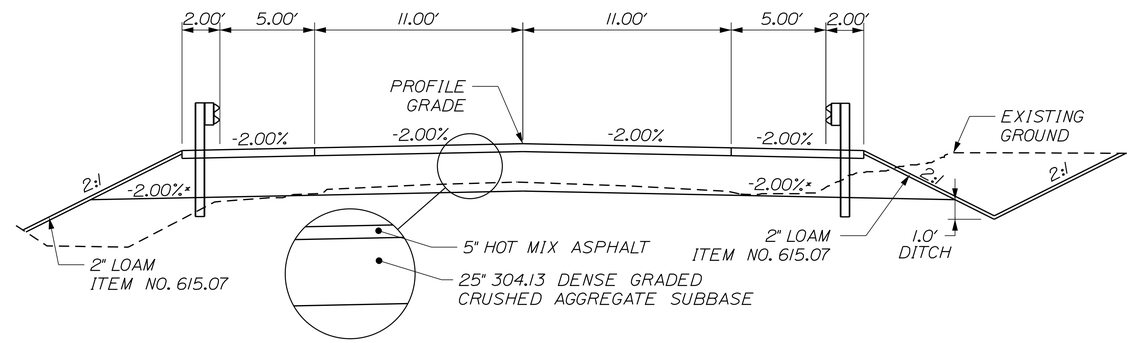
BOX SECTION LT NORMAL RT (SUPERELEVATED)



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LOW SIDE *** 54.0 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	HIGH SIDE *** 54.8 CY/100 LF STATION TO STATION
86+40 TO 87+06	86+40 TO 87+06	86+40 TO 87+06

GUARDRAIL SECTION



DENSE GRADED CRUSHED AGGREGATE SUBBASE

LEFT SHOULDER 74.6 CY/100 LF STATION TO STATION	11FT. TRAVELED LANES 169.6 CY/100 LF STATION TO STATION	RIGHT SHOULDER 74.6 CY/100 LF STATION TO STATION
123+00 TO 126+00	123+00 TO 126+00	122+00 TO 125+30

SUPERELEVATION TABLE

LT. TRAVELWAY	STATION	RT. TRAVELWAY		LT. TRAVELWAY	STATION	RT. TRAVELWAY
-2.00%	9+50	-2.00%		-2.00%	89+50	-2.00%
↓	TO	↓			TO	
-2.00%	16+50	-2.00%		-2.00%	92+00	-2.00%
-2.00%	17+00	-0.33%		-2.00%	92+50	-0.15%
-2.00%	17+50	+1.35%		-2.00%	93+00	+1.70%
-3.03%	18+00	+3.03%		-3.55%	93+50	+3.55%
-4.70%	18+50	+4.70%		-5.40%	94+00	+5.40%
	TO				TO	
-4.70%	31+50	+4.70%		-5.40%	96+00	+5.40%
-3.03%	32+00	+3.03%		-3.24%	96+50	+3.24%
-2.00%	32+50	+1.35%		-1.08%	97+00	+1.08%
-2.00%	33+00	-0.33%		+1.08%	97+50	-1.08%
-2.00%	33+50	-2.00%		+3.24%	98+00	-3.24%
	TO			+5.40%	98+50	-5.40%
-2.00%	53+50	-2.00%			TO	
-0.03%	54+00	-2.00%		+5.40%	102+00	-5.40%
+1.95%	54+50	-2.00%		+3.55%	102+50	-3.55%
+3.93%	55+00	-3.93%		+1.70%	103+00	-2.00
+5.90%	55+50	-5.90%		-0.15%	103+50	-2.00%
	TO			-2.00%	104+00	-2.00%
+5.90%	60+00	-5.90%			TO	
+3.93%	60+50	-3.93%		-2.00%	105+50	-2.00%
+1.95%	61+00	-2.00%		-2.00%	106+00	-0.78%
-0.03%	61+50	-2.00%		-2.00%	106+50	+0.45%
-2.00%	62+00	-2.00%		-2.00%	107+00	+1.68%
	TO			-2.90%	107+50	+2.90%
-2.00%	75+50	-2.00%			TO	
-0.53%	76+00	-2.00%		-2.90%	111+50	+2.90%
+0.95%	76+50	-2.00%		-1.82%	112+00	+1.82%
+2.43%	77+00	-2.43%		-0.73%	112+50	+0.73%
+3.90%	77+50	-3.90%		+0.35%	113+00	-0.35%
	TO			+1.43%	113+50	-1.43%
+3.90%	80+00	-3.90%		+2.52%	114+00	-2.52%
+2.24%	81+50	-2.24%		+3.60%	114+50	-3.60%
+0.58%	82+00	-0.58%			TO	
-1.08%	82+50	+1.08%		+3.60%	119+50	-3.60%
-2.74%	83+00	+2.74%		+2.20%	120+00	-2.20%
-4.40%	83+50	+4.40%		+0.80%	120+50	-2.00%
	TO			-0.60%	121+00	-2.00%
-4.40%	87+50	+4.40%		-2.00%	121+50	-2.00%
-2.80%	88+00	+2.80%			TO	
-2.00%	88+50	+1.20%		-2.00%	174+00	-2.00%
-2.00%	89+00	-0.40%				

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	RAY DEMERCHANT		
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

TYPICAL SHEET 2

SHEET NUMBER

3

OF 216

Filename: ...\HIGHWAY\MSTA\003_Typical.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

ITEM NO. 610.08 PLAIN RIPRAP

STATION	TO STATION	OFFSET
9+65	11+45	LT
12+00	14+50	LT
14+75	15+42	LT
16+02	16+29	LT
16+59	22+98	LT
23+39	23+67	LT
24+08	25+62	LT
25+75	26+42	RT
26+25	27+79	LT
27+60	27+96	RT
28+10	28+99	LT
37+84	38+30	LT
38+67	40+91	RT
39+84	42+50	LT
42+84	46+47	LT
46+75	50+52	LT
50+92	53+19	LT
53+49	56+75	LT
54+00	54+51	RT
57+00	61+68	LT
59+00	59+86	RT
62+15	64+77	LT
62+25	62+59	RT
63+09	63+13	RT
65+07	67+39	LT
66+25	66+75	RT
67+79	68+43	LT
68+88	70+25	LT
69+84	71+80	RT
72+10	74+35	RT
74+75	76+00	RT
88+50	96+30	LT
88+88	90+00	RT
94+00	96+20	RT
97+63	98+50	RT
98+77	102+15	RT
98+75	100+75	LT
104+98	106+75	LT
105+27	110+30	RT
107+50	109+69	LT
110+10	112+32	LT
110+69	111+48	RT
125+77	127+09	RT
126+48	127+49	LT
127+59	127+71	RT
128+01	128+80	RT
129+20	132+32	RT
140+05	142+83	RT
143+23	148+25	RT
143+65	146+00	LT
148+50	150+19	RT
150+59	150+96	RT
150+75	151+49	LT
150+65	151+49	LT
151+49	152+54	LT
151+36	152+40	RT
152+90	156+01	RT
152+94	157+70	LT
158+10	158+98	LT
158+85	159+50	RT
159+28	159+41	LT
159+81	161+50	LT
159+89	162+40	LT
163+25	164+83	LT
165+13	165+50	LT
166+00	170+21	LT
168+00	171+00	RT
170+52	171+62	LT
171+92	173+98	LT

EROSION CONTROL BLANKET

STATION	TO STATION	OFFSET
8+97	9+41	RT
28+97	29+04	RT
28+97	31+97	LT
31+40	33+76	LT
32+25	32+98	LT
33+26	36+00	LT
34+88	35+50	RT
36+51	36+57	RT
36+52	37+57	LT
38+30	39+25	LT
43+15	43+21	RT
43+16	43+21	LT
47+96	48+03	LT
47+97	48+04	RT
50+46	50+53	LT
50+91	50+95	LT
53+13	53+20	LT
53+49	53+52	LT
54+93	55+02	RT
54+98	55+03	LT
58+43	58+58	LT
58+53	58+66	RT
68+49	68+62	RT
68+61	68+76	RT
68+73	68+86	LT
70+19	70+50	LT
74+24	80+70	LT
81+94	82+84	LT
82+01	83+40	LT
83+75	86+45	LT
87+41	88+50	LT
87+42	88+20	RT
96+16	96+34	LT
98+71	98+78	RT
98+93	98+99	LT
101+07	102+90	LT
104+98	105+01	LT
109+67	109+70	LT
110+10	110+16	LT
112+30	112+33	LT
112+62	114+23	LT
114+61	118+03	LT
115+81	118+87	LT
118+41	124+36	LT
119+37	120+62	RT
121+21	123+12	RT
127+44	127+51	LT
127+66	127+72	RT
128+01	128+04	RT
128+75	128+81	RT
129+19	129+23	RT
130+74	133+21	LT
132+17	132+24	RT
132+82	139+82	RT
140+03	140+07	LT
140+03	140+07	RT
142+77	142+84	RT
143+14	143+21	LT
143+23	143+26	RT
143+65	143+68	LT
150+16	150+20	RT
150+58	150+66	RT
150+94	150+97	RT
151+36	151+43	RT
151+46	151+54	LT
151+47	151+53	RT
152+31	152+41	RT
152+45	152+55	LT
152+89	152+93	RT
152+93	152+97	LT
157+64	154+71	LT
158+10	158+14	LT
158+93	158+99	LT
159+28	159+31	LT
159+36	159+42	LT
159+81	159+84	LT
161+44	161+76	LT
164+78	164+84	LT
165+13	165+17	LT
170+19	170+23	LT
170+51	170+58	LT
171+60	171+63	LT
171+92	171+98	LT
172+38	172+43	LT
172+73	172+82	RT

CONSTRUCT THE FOLLOWING DRIVES AND ENTRANCES

STATION	OFFSET	DESCRIPTION	
14+00	RT	PAVED	RESIDENTIAL
14+60	LT	GRAVEL	RESIDENTIAL
15+20	RT	PAVED	RESIDENTIAL
15+70	LT	PAVED	RESIDENTIAL
16+40	LT	GRAVEL	RESIDENTIAL
16+50	RT	PAVED	RESIDENTIAL
17+30	RT	PAVED	RESIDENTIAL
18+00	RT	PAVED	RESIDENTIAL
23+15	LT	GRAVEL	RESIDENTIAL
23+90	LT	GRAVEL	RESIDENTIAL
26+10	LT	GRASS	FIELD ENTRANCE
26+70	RT	PAVED	RESIDENTIAL
27+40	RT	PAVED	RESIDENTIAL
27+95	LT	GRAVEL	FIELD ENTRANCE
32+10	LT	GRASS	FIELD ENTRANCE
33+10	LT	GRASS	FIELD ENTRANCE
35+75	RT	GRAVEL	WOODS ENTRANCE
36+25	LT	GRAVEL	FIELD ENTRANCE
39+45	LT	GRASS	WOODS ENTRANCE
42+70	LT	GRAVEL	WOODS ENTRANCE
46+55	RT	GRASS	FIELD ENTRANCE
46+65	LT	PAVED	RESIDENTIAL
48+45	RT	GRAVEL	FIELD ENTRANCE
50+75	LT	PAVED	RESIDENTIAL
53+30	LT	GRAVEL	RESIDENTIAL
52+70	RT	GRAVEL	RESIDENTIAL
53+85	RT	GRAVEL	RESIDENTIAL
56+90	LT	GRASS	FIELD ENTRANCE
61+90	LT	PAVED	RESIDENTIAL
62+75	RT	GRAVEL	RESIDENTIAL
64+90	LT	GRAVEL	RESIDENTIAL
67+00	RT	PAVED	RESIDENTIAL
67+60	LT	GRAVEL	RESIDENTIAL
70+90	LT	GRAVEL	RESIDENTIAL
71+90	LT	GRAVEL	RESIDENTIAL
72+00	RT	GRAVEL	RESIDENTIAL
72+70	LT	GRAVEL	RESIDENTIAL
73+75	LT	GRASS	LAWN ACCESS
74+50	RT	PAVED	RESIDENTIAL
78+90	LT	GRAVEL	RESIDENTIAL
83+50	LT	GRAVEL	RESIDENTIAL
83+80	RT	PAVED	RESIDENTIAL
87+20	LT	GRAVEL	RESIDENTIAL
88+50	RT	GRAVEL	RESIDENTIAL
90+25	RT	GRAVEL	WOODS ENTRANCE
92+50	RT	PAVED	RESIDENTIAL
93+50	RT	PAVED	RESIDENTIAL
96+30	RT	PAVED	RESIDENTIAL
97+25	RT	PAVED	RESIDENTIAL
97+15	LT	GRAVEL	RESIDENTIAL
98+50	LT	GRAVEL	RESIDENTIAL
100+90	LT	GRAVEL	FIELD ENTRANCE
102+30	RT	GRAVEL	RESIDENTIAL
103+25	RT	GRASS	LAWN ACCESS
103+50	LT	GRAVEL	RESIDENTIAL
104+75	LT	GRAVEL	RESIDENTIAL
107+00	LT	PAVED	CHURCH ENTRANCE
109+90	LT	GRAVEL	RESIDENTIAL
112+50	LT	GRAVEL	RESIDENTIAL
114+40	LT	GRAVEL	RESIDENTIAL
114+50	RT	PAVED	FIELD ENTRANCE
118+20	LT	GRAVEL	RESIDENTIAL
119+15	RT	PAVED	RESIDENTIAL
120+80	RT	PAVED	RESIDENTIAL
125+55	RT	GRAVEL	WOODS ENTRANCE
127+90	RT	GRAVEL	RESIDENTIAL
128+75	LT	PAVED	RESIDENTIAL
129+00	RT	GRAVEL	RESIDENTIAL
130+00	LT	GRAVEL	COMMERCIAL
132+40	RT	GRAVEL	RESIDENTIAL
133+40	LT	GRAVEL	RESIDENTIAL
134+00	LT	GRAVEL	RESIDENTIAL
138+80	LT	GRAVEL	RESIDENTIAL
143+00	RT	GRAVEL	RESIDENTIAL
143+50	LT	GRAVEL	FIELD ENTRANCE
148+30	RT	GRAVEL	RESIDENTIAL
150+40	RT	GRAVEL	RESIDENTIAL
151+15	RT	GRASS	FIELD ENTRANCE
152+75	RT	GRASS	FIELD ENTRANCE
152+75	LT	GRASS	FIELD ENTRANCE
157+90	LT	GRAVEL	RESIDENTIAL
159+15	LT	GRASS	FIELD ENTRANCE
159+60	LT	GRAVEL	RESIDENTIAL
162+40	LT	GRAVEL	RESIDENTIAL
162+70	RT	GRAVEL	RESIDENTIAL
163+60	RT	GRAVEL	RESIDENTIAL
164+40	RT	GRAVEL	RESIDENTIAL
165+00	LT	GRAVEL	RESIDENTIAL
165+70	LT	GRAVEL	RESIDENTIAL
167+65	RT	GRAVEL	RESIDENTIAL
170+23	LT	GRAVEL	RESIDENTIAL
171+80	LT	GRAVEL	RESIDENTIAL

ITEM NO. 201.11 CLEARING

STATION	TO STATION	OFFSET
19+63	- 20+12	RT
17+60	- 22+95	LT
20+24	- 20+46	RT
20+35	- 25+76	RT
23+29	- 23+65	LT
26+75	- 27+81	LT
27+81	- 29+49	RT
28+22	- 29+50	LT
30+16	- 31+60	RT
31+83	- 32+04	LT
34+16	- 35+02	RT
36+69	- 39+04	RT
37+45	- 42+38	LT
39+68	- 41+41	RT
41+84	- 44+18	RT
43+06	- 45+17	LT
47+31	- 48+18	RT
47+55	- 49+35	LT
55+00	- 56+50	RT
56+67	- 60+84	RT
57+01	- 57+65	LT
57+82	- 60+28	LT
63+00	- 65+76	RT
68+41	- 68+61	RT
70+11	- 71+08	RT
72+90	- 73+67	RT
74+85	- 75+03	RT
75+32	- 75+78	RT
76+02	- 76+90	RT
77+44	- 81+56	RT
84+75	- 86+04	LT
87+34	- 90+70	LT
93+73	- 94+35	LT
98+94	- 100+50	RT
102+02	- 103+01	LT
109+77	- 109+96	RT
117+51	- 117+80	RT
121+31	- 127+51	LT
122+91	- 124+16	RT
124+88	- 125+33	RT
131+89	- 132+08	LT
133+53	- 133+69	LT
135+83	- 136+10	RT
139+13	- 141+26	LT
141+89	- 142+32	LT
144+00	- 147+25	RT
144+00	- 145+00	LT
145+75	- 148+49	LT
148+96	- 149+14	LT
168+80	- 169+47	LT
169+50	- 170+18	RT
170+46	- 173+86	RT
172+19	- 173+90	LT

ITEM NO. 201.23 REMOVING SINGLE TREE

STATION	OFFSET	DESCRIPTION
20+79	RT	16" SPRUCE
52+53	LT	18" PINE
73+72	RT	16" BOG
74+78	RT	14" BOG
93+58	LT	18" SPRUCE
109+28	RT	14" OAK TWIN
109+51	LT	12" SPRUCE
118+44	LT	16" SPRUCE
118+44	LT	16" SPRUCE
118+55	LT	22" SPRUCE
118+66	LT	18" SPRUCE
118+75	LT	22" SPRUCE
118+86	LT	32" SPRUCE TWIN
118+97	LT	20" SPRUCE
119+05	LT	14" SPRUCE
119+07	LT	14" SPRUCE
119+16	LT	16" SPRUCE
136+90	LT	20" PINE
169+83	LT	12" MAPLE TWIN

NON PAY BUSH TO BE REMOVED

STATION	OFFSET	DESCRIPTION
94+69	LT	3' DIA LILAC
95+12	LT	3' DIA LILAC
109+08	RT	4' DIA ROSE
109+20	RT	3' DIA
117+84	RT	5' DIA ROSE
134+28	LT	4' DIA SHRUB
156+11	LT	8' DIA ROSE
156+37	LT	6' DIA ROSE
157+29	LT	6' DIA ROSE
158+16	LT	4' DIA ROSE
158+35	LT	6' DIA ROSE
158+55	LT	4' DIA ROSE
163+13	LT	4' DIA ROSE

ITEM NO. 202.0801 REMOVAL OF BUILDING NO 1 LUMP SUM.

STATION	OFFSET
95+00	LT

ITEM NO. 202.0802 REMOVAL OF BUILDING NO 2 LUMP SUM.

STATION	OFFSET
102+00	RT

ITEM NO. 202.0803 REMOVAL OF BUILDING NO 3 LUMP SUM.

STATION	OFFSET
108+72	RT

ITEM NO. 202.0804 REMOVAL OF BUILDING NO 4 LUMP SUM.

STATION	OFFSET
109+48	RT

ITEM NO. 202.0805 REMOVAL OF BUILDING NO 5 LUMP SUM.

STATION	OFFSET
110+09	RT

ITEM NO. 202.0806 REMOVAL OF BUILDING NO 6 LUMP SUM.

STATION	OFFSET
110+34	RT

NON PAY TREES TO BE REMOVED

STATION	OFFSET	DESCRIPTION
29+69	LT	7" CEDAR
30+00	RT	11" POPLAR
46+99	RT	6" APPLE CLUMP
87+06	LT	11" SPRUCE
93+58	LT	93+58
95+49	LT	10" ASH MOUNTAIN
95+50	LT	11" MAPLE
108+91	RT	11" FIR BALSAM
109+13	RT	8" MAPLE CLUMP SUGAR
109+23	RT	4" ASH CLUMP MNT
109+33	LT	8" SPRUCE
109+43	LT	10" SPRUCE
109+48	LT	5" BIRCH
109+51	LT	109+51
109+57	LT	2" MAPLE
109+63	LT	9" SPRUCE
109+70	LT	4" MAPLE CLUMP
109+91	RT	11" SPRUCE
111+87	RT	5" APPLE CLUMP
111+96	RT	5" APPLE CLUMP
118+18	RT	1" MTN ASH
134+59	LT	4" APPLE
151+53	RT	1" SPRUCE
163+38	LT	1" SPRUCE
163+47	LT	1" SPRUCE
163+54	LT	1" SPRUCE
163+79	LT	1" SPRUCE
163+87	LT	1" SPRUCE
164+00	LT	1" SPRUCE
164+15	LT	1" SPRUCE
164+23	LT	1" SPRUCE
164+30	LT	1" SPRUCE
164+39	LT	1" SPRUCE
164+46	LT	1" SPRUCE
164+55	LT	1" SPRUCE
164+63	LT	1" SPRUCE
164+78	LT	1" SPRUCE
169+87	LT	4" MAPLE CLUMP
169+91	LT	3" MAPLE CLUMP
170+92	LT	6" BIRCH TRIPLE

ITEM NO. 201.24 REMOVE STUMP

STATION	OFFSET	DESCRIPTION
20+79	RT	STUMP
52+53	LT	STUMP
52+73	LT	18" STUMP
73+72	RT	STUMP
74+78	RT	STUMP
93+58	LT	STUMP
109+28	RT	STUMP
109+51	LT	STUMP
118+44	LT	STUMP
118+44	LT	STUMP
118+55	LT	STUMP
118+66	LT	STUMP
118+75	LT	STUMP
118+86	LT	STUMP
118+97	LT	STUMP
119+05	LT	STUMP
119+07	LT	STUMP
119+16	LT	STUMP
136+90	LT	STUMP
169+83	LT	STUMP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER RAY DEMERCHANT		
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

TYPICAL SHEET 3

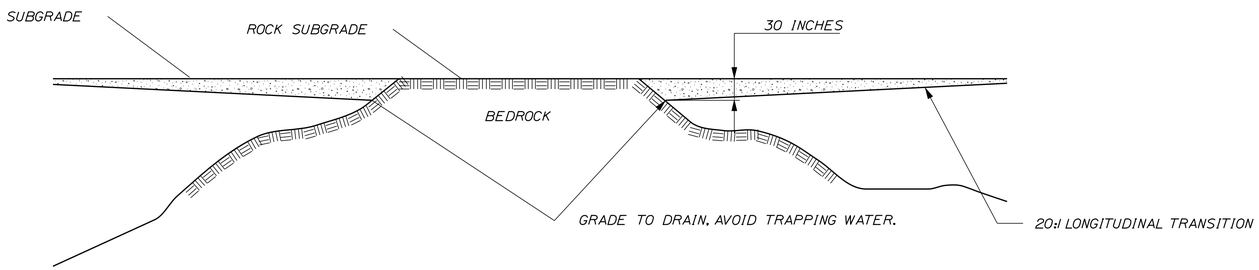
SHEET NUMBER

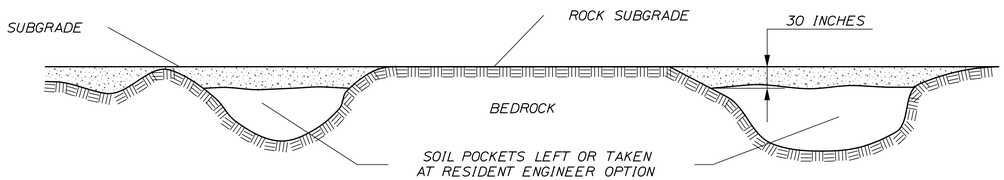
4

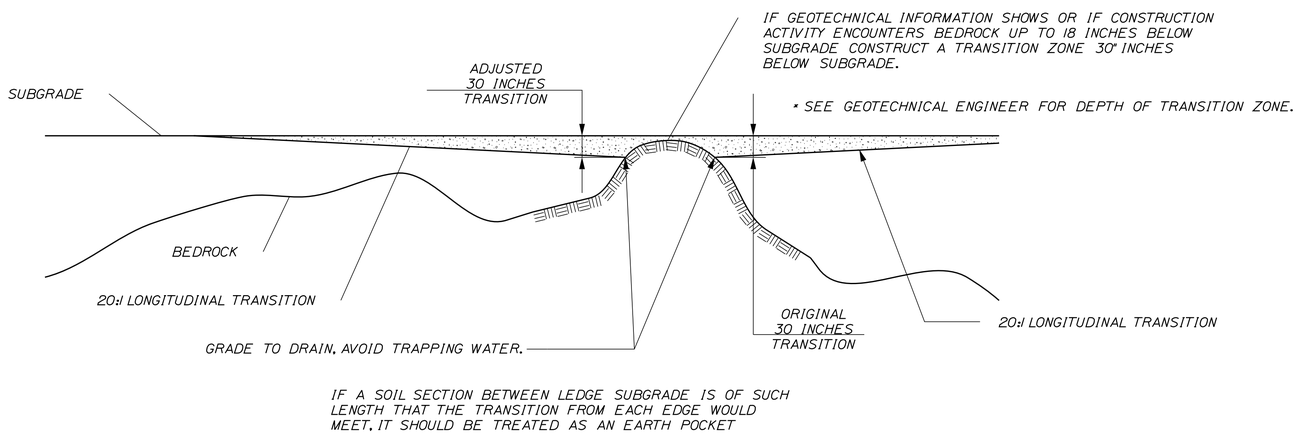
OF 216

Filename: ...\HIGHWAY\MSTA\004_Typical.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

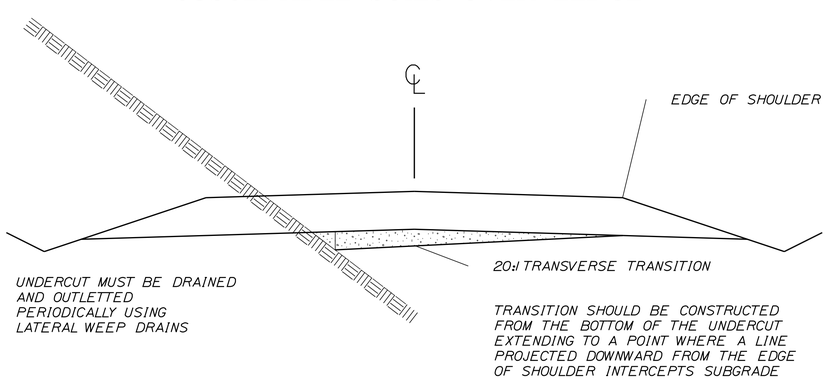
PROFILE OF UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE







TRANSVERSE UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE



NOTES:

1. EXCAVATION OF THE TRANSITION ZONES SHALL BE PAID FOR AS COMMON EXCAVATION. THE CONTRACTOR SHALL REPLACE THE FROST SUSCEPTIBLE SOILS WITH GRAVEL BORROW AND SHALL BE PAID FOR UNDER THE GRAVEL BORROW PAY ITEM.

2. FOR POTENTIAL BEDROCK LOCATIONS, REFER TO THE BORING LOG SHEETS AND CROSS SECTIONS. ACTUAL BEDROCK LOCATIONS WILL VARY.

3. REFER TO MAINEDOT SOILS REPORT NO. 2013-110 FOR ADDITIONAL TRANSITION ZONE DETAILS.

4. APPROXIMATE ANTICIPATED AREAS OF LEDGE TRANSITIONS, BASED ON ANTICIPATED CENTERLINE LEDGE ELEVATION PROFILE, ARE LISTED BELOW:

   18+10 TO 20+75
   82+25 TO 84+88
   84+82 TO 89+50
   92+62 TO 93+90
   93+75 TO 95+13
   96+00 TO 96+82
   96+70 TO 98+13
   105+12 TO 106+12
   107+25 TO 107+70
   108+50 TO 109+25
   110+15 TO 112+00
   112+25 TO 116+50
   134+50 TO 136+00
   137+80 TO 138+75
   143+53 TO 144+45
   144+80 TO 146+75
   160+75 TO 163+25
   164+55 TO 165+35
   165+46 TO 166+84
   167+17 TO 168+50
   170+35 TO 172+60

ADDITIONAL AREAS OF LEDGE MAY BE ENCOUNTERED AND THE NEED FOR UNDERCUT SHOULD BE VERIFIED BY THE RESIDENT

SOLID BEDROCK

FROST SUSCEPTIBLE SOIL TO BE UNDERCUT AND REPLACED WITH NON FROST SUSCEPTIBLE MATERIAL

FROST SUSCEPTIBLE SOIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

PIN

BRIDGE NO.

HISTORICAL PLANS

PROJ. MANAGER RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	CAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS

UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE

SHEET NUMBER

5

OF 216

Filename: ...\MSTA\005_LedgeTypical.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	ROUNDED QUANTITY	UNIT
201.11	CLEARING	3	AC
201.23	REMOVING SINGLE TREE TOP ONLY	20	EA
201.24	REMOVING STUMP	21	EA
202.08	REMOVING BUILDING NO.:	4	LS
202.203	PAVEMENT BUTT JOINTS	750	SY
203.200	COMMON EXCAVATION	90100	CY
203.21	ROCK EXCAVATION	12500	CY
203.230	MUCK EXCAVATION	1500	CY
203.25	GRANULAR BORROW	10550	CY
206.061	STR EARTH BELOW GRADE STR	100	CY
206.07	STR ROCK EXC - DR & MINOR STR	100	CY
304.13	DENSE GRADED CRUSHED AGGREGATE SUBBASE	49000	CY
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	4400	T
403.209	HOT MIX ASPHALT 9.5 MM (INCIDENTALS)	585	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	10250	T
409.15	BITUMINOUS TACK COAT - APPLIED	2650	G
534.71	PRECAST CONCRETE BOX CULVERT	2	LS
603.16	15" CULV PIPE OPTION I	1737	LF
603.17	18" CULV PIPE OPTION I	475	LF
603.179	18" CULV PIPE OPTION III	204	LF
603.190	24" CULV PIPE OPTION I	40	LF
603.199	24" CULV PIPE OPTION III	422	LF
603.209	30" CULV PIPE OPTION III	167	LF
603.219	36" CULV PIPE OPTION III	62	LF
604.072	CATCH BASIN TYPE A1-C	16	EA
605.09	6" UNDERDRAIN TYPE B	2453	LF
605.12	15" UNDERDRAIN TYPE C	1468	LF
606.23	GR TY 3C - SINGLE RAIL	481	LF
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.356	UNDERDRAIN DELINEATOR POST	6	CY
606.754	WIDEN SHOULDER FOR GUARDRAIL 350 FLARED	4	EA
606.79	GUARDRAIL 350 FLARED TERMINAL	4	EA
609.31	CURB TYPE 3	2300	LF
610.08	PLAIN RIPRAP	110	CY
610.18	STONE DITCH PROTECTION	2080	CY
615.0701	LOAM - PLAN QUANTITY	6050	CY
618.1301	SEEDING METHOD NUMBER 1 - PLAN QUANTITY	280	UN
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	270	UN
618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	120	UN
619.120	MULCH - PLAN QUANTITY	670	UN
620.560	DRAINAGE GEOTEXTILE	7200	SY
627.733	4" WHITE OR YELLOW PAINTED PAVE MRK LINE	65800	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	140	SF
627.76	TEMPORARY PVMT. MARK LINE, W OR YELLOW	1	LS
629.05	HAND LABOR, STRAIGHT TIME	120	HR
631.120	ALL-PURPOSE EXC (INC OPERATOR)	120	HR
631.130	BULLDOZER (INCLUDING OPERATOR)	300	HR
631.150	ROLLER EARTH BASE CRS (INC OP)	300	HR
631.172	TRUCK-LARGE (INC OPERATOR)	300	HR
631.18	CHAIN SAW RENTAL(INC OPERATOR)	120	HR
631.2	STUMP CHIPPER (INC OPERATOR)	120	HR
631.21	ROAD BROOM (INC OPER & HAULER)	120	HR
631.22	FRONT END LOADER (INC OPER)	120	HR
639.18	FIELD OFFICE TYPE A	1	EA
652.33	DRUM	240	EA
652.34	CONE	240	EA
652.35	CONSTRUCTION SIGNS	1000	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	4160	HR
652.381	TRAFFIC OFFICER	1040	HR
652.410	PORTABLE CHANGEABLE MESSAGE SIGN	2	EA
656.750	TEMP SOIL EROSION & WATER POLLUTION CTRL	1	LS
659.1	MOBILIZATION	1	LS
660.21	ON-THE-JOB TRAINING (BID)	2000	HR

EARTHWORK SUMMARY

COMMON EXCAVATION				
COMMON EXCAVATION (FROM CROSS SECTIONS)			76,855	
EARTH FROM DRIVES, OLD ROAD, ETC.			0	
GRUBBING IN FILL			1,202	
UNDERCUT			10,514	
MUCK EXCAVATION			1,500	
PAVEMENT SALVAGE IN FILL			0	
TOTAL COMMON EXCAVATION				90,071
			Rounding	29
			Total	90,100
FILL FOR BORROW CALCULATIONS				
COMMON FILL (FROM CROSS SECTIONS)			8,739	
FILL FOR DRIVES			0	
GRUBBING IN FILL			1,202	
UNDERCUT			0	
MUCK EXCAVATION			1,500	
PAVEMENT SALVAGE IN FILL			0	
TOTAL FILL				11,441
ROCK EXCAVATION FOR ESTIMATE				
ROCK EXCAVATION (FROM CROSS SECTIONS)			12,446	
TOTAL ROCK EXCAVATION				12,446
AVAILABLE COMMON EXCAVATION BORROW CALCULATIONS				
(1) TOTAL COMMON EXCAVATION				90,071
DEDUCTIONS:				
GRUBBING IN CUT			0	
GRUBBING IN FILL			1,202	
UNDERCUT			10,514	
MUCK EXCAVATION			1,500	
PAVEMENT SALVAGE (CUT & FILL)			0	
(2) TOTAL DEDUCTIONS				13,216
TOTAL AVAILABLE COMMON EXCAVATION				76,855
TOTAL AVAILABLE STRUCT. EXCAVATIONS (UNDERDRAIN ONLY)				730
TOTAL AVAILABLE NON-ROCK EXCAVATION				77,585
COMPUTATION OF WASTE STORAGE & WAST MATERIAL				
TOTAL AVAIL. WAST STORAGE AREA (FROM CROSS SECTIONS)				8,739
GRUBBING IN CUT			0	
GRUBBING IN FILL			1,202	
UNDERCUT			10,514	
MUCK EXCAVATION			1,500	
TOTAL WASTE MATERIAL TO BE UTILIZED				8,739
TOTAL WASTE MATERIAL TO BE WASTED				0
COMPUTATION FOR COMMON BORROW FOR ESTIMATE				
(3) TOTAL FILL				11,441
TOTAL AVAIL. NON-ROCK EXCAV.	77,585	x 0.85 =	65,947	
TOTAL AVAIL. ROCK EXCAV.	12,446	x 1.33 =	16,553	
TOTAL AVAIL. STR. ROCK EXCAV.	656	x 1.33 =	872	
TOTAL WASTE MATERIAL TO BE UTILIZED	8,739	x 1 =	8,739	
(4) TOTAL AVAILABLE EXCAVATION			=	92,112
EXCESS EXCAVATION = TOTAL AVAILABLE EXCAVATION MINUS TOTAL FILL				80,671

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	PZA	-----
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2	-----	-----
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

ESTIMATED QUANTITIES

SHEET NUMBER

6

OF 216

Filename: ...\HIGHWAY\MSTA\006_Estimate.dgn Division: HIGHWAY Username: parmata Date:3/6/2013

STATION	CULVERT PIPE											CATCH BASIN					PIPE ARCH				MH	UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C					
								SMOOTHLINED		CORRUGATED										GAGE OR WALL THICKNESS		TYPE B	OUTLET	SMOOTHLINED		CORRUGATED		DESCRIPTIONS	
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A1-C	B1-C		E	F	SPAN	RISE	LENGTH			LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
DRIVEWAY CULVERTS																													
STA. 15+43.80 TO 16+02.77, LT.						15"	60'																						
STA. 16+29.00 TO 16+59.00, LT.						15"	30'																						
STA. 22+98.73 TO 23+38.73, LT.						18"	40'																						
STA. 23+67.70 TO 24+07.70, LT.						18"	40'																						
STA. 27+80.00 TO 28+10.00, LT.						15"	30'																						
STA. 31+96.00 TO 32+26.00, LT.						15"	30'																						
STA. 32+97.00 TO 33+27.00, LT.						15"	30'																						
STA. 39+44.50 TO 39+84.50, LT.						15"	40'																						
STA. 50+52.00 TO 50+92.00, LT.						15"	40'																						
STA. 53+19.00 TO 53+49.00, LT.						15"	30'																						
STA. 62+59.00 TO 63+09.00, RT.						18"	50'																						
STA. 64+77.00 TO 65+07.00, LT.						18"	30'																						
STA. 67+40.00 TO 67+80.00, LT.						18"	40'																						
STA. 71+80.00 TO 72+10.00, RT.						15"	30'																						
STA. 74+35.50 TO 74+75.50, RT.						15"	40'																						
STA. 76+00.00 TO 76+35.00, RT.						15"	35'																						
STA. 78+74.00 TO 79+04.00, LT.						15"	30'																						
STA. 82+75.00 TO 83+75.00, LT.						18"	100'																						
STA. 86+25.00 TO 87+42.00, LT.						15"	117'																						
STA. 100+75.00 TO 101+09.00, LT.						18"	34'																						
STA. 109+70.00 TO 110+10.00, LT.						15"	40'																						
STA. 110+30.00 TO 110+70.00, RT.						15"	40'																						
STA. 112+32.75 TO 112+62.75, LT.						15"	30'																						
STA. 114+22.25 TO 114+62.25, LT.						18"	40'																						
STA. 118+02.00 TO 118+42.00, LT.						18"	40'																						
STA. 118+86.00 TO 119+36.00, RT.						15"	50'																						
STA. 120+61.00 TO 121+21.00, RT.						15"	60'																						
STA. 122+59.70 TO 127+09.70, RT.						15"	50'																						
STA. 127+21.00 TO 128+07.00, RT.						15"	68'																						
STA. 128+80.00 TO 129+20.00, RT.						15"	40'																						
STA. 132+23.00 TO 132+83.00, RT.						15"	60'																						
STA. 133+20.70 TO 133+50.70, LT.						15"	30'																						
STA. 133+83.00 TO 134+23.00, LT.						15"	40'																						
STA. 142+83.00 TO 143+23.00, RT.						15"	40'																						
STA. 143+20.00 TO 143+66.00, LT.						15"	46'																						
STA. 150+19.00 TO 150+59.00, RT.						18"	40'																						
STA. 150+96.50 TO 151+36.50, RT.						18"	40'																						
STA. 152+40.00 TO 152+90.00, RT.						24"	50'																						
STA. 152+54.00 TO 152+94.00, LT.						24"	40'																						
STA. 157+70.75 TO 158+10.75, LT.						18"	40'																						
STA. 158+98.50 TO 159+28.50, LT.						15"	30'																						
STA. 159+41.50 TO 159+81.50, LT.						15"	40'																						
STA. 164+84.00 TO 165+14.00, LT.						15"	30'																						
STA. 167+32.00 TO 168+00.00, RT.						15"	68'																						
STA. 170+22.00 TO 170+52.00, LT.						15"	30'																						
STA. 171+62.00 TO 171+92.00, LT.						15"	30'																						
CROSS CULVERTS																													
STA. 13+33.20, 22.00' LT. TO 16.00', RT.								18"	34'	18"	34'																		
STA. 24+85.00, 27.60' LT. TO 39.40', RT.								18"	67'	18"	67'																		RIPRAP INLET AND OUTLET
STA. 29+00.00, 26.75' LT. TO 36.25', RT.								30"	63'	30"	63'																		RIPRAP INLET AND OUTLET
STA. 36+53.50, 26.00' LT. TO 31.00', RT.								24"	57'	24"	57'																		RIPRAP OUTLET
STA. 37+56.00, 30.83' LT. TO 38+31.00, 25.30', LT.								18"	75'	18"	75'																		
STA. 43+18.00, 26.50' LT. TO 28.50', RT.								24"	55'	24"	55'																		RIPRAP INLET AND OUTLET
STA. 48+00.00, 25.30' LT. TO 30.70', RT.								30"	56'	30"	56'																		RIPRAP INLET AND OUTLET
STA. 55+00.00, 25.00' LT. TO 29.00', RT.								24"	54'	24"	54'																		RIPRAP INLET AND OUTLET
STA. 58+55.00, 28.30' LT. TO 33.70', RT.								30"	62'	36"	62'																		RIPRAP INLET AND OUTLET
STA. 68+78.84, 31.71', LT. TO 68+69.23, 39.64' RT.																													10' X 5' PRECAST BOX CULVERT
STA. 94+23.70, 25.00' LT. TO 25.00', RT.								24"	49'	24"	49'																		RIPRAP INLET; CB OUTLET
STA. 94+23.70, 25.00' LT. TO 89.00', RT.								24"	63'	24"	63'																		CB INLET; RIPRAP OUTLET
STA. 98+95.00, 25.50', LT. TO 98+75.00, 43.50' RT.								24"	71'	24"	71'																		RIPRAP INLET AND OUTLET
STA. 124+41.56, 36.50', LT. TO 124+13.36, 38.37' RT.																													12' X 5' PRECAST BOX CULVERT
STA. 140+05.00, 38.00' LT. TO 30.00', RT.								18"	68'	18"	68'																		RIPRAP INLET AND OUTLET
STA. 151+50.00, 23.00' RT. TO 24.00', LT.								30"	47'	30"	47'																		RIPRAP INLET AND OUTLET
STA. 172+40.00, 24.5' LT. TO 172+75.00, 25.5', RT.								24"	62'	24"	62'																		RIPRAP INLET AND OUTLET
CATCH BASINS																													
STA. 9+94.16, 16.00' RT.													1																
STA. 11+50.00, 16.00' RT.													1																
STA. 13+33.20, 16.00' RT.													1																
STA. 13+33.20, 22.30' LT.													1																
STA. 14+18.80, 16.00' RT.													1																
STA. 15+59.00, 16.00' RT.													1																
STA. 16+87.00, 16.00' RT.													1																
STA. 67+50.00, 20.60' RT.													1																
STA. 71+10.00, 16.00' LT.													1																
STA. 73+00.00, 16.00' LT.													1																
STA. 94+23.70, 25.00' RT.													1																

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER	RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA	-----
CHECKED-REVIEWED	GAS	GAE	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

DRAINAGE SUMMARY

SHEET NUMBER

7

OF 216

Filename: ...\MSTA\007_DrainageSummary.dgn Division: HIGHWAY Username: parmata Date:3/6/2013

STATION	CULVERT PIPE											CATCH BASIN					PIPE ARCH				MH	UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C					
								SMOOTHLINED		CORRUGATED										GAGE OR WALL THICKNESS		TYPE B	OUTLET	SMOOTHLINED		CORRUGATED		DESCRIPTIONS	
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A1-C	B1-C		E	F	SPAN	RISE	LENGTH			LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
CATCH BASINS (CONTINUED)																													
STA. 104+00. 16.00' LT.													1																
STA. 128+29.00. 26.00' LT.													1																
STA. 128+81.25. 16.00' LT.													1																
STA. 130+28.50. 16.00' LT.													1																
STA. 162+50.00. 16.00' LT.													1																
STA. 167+30.50. 25.00' RT.													1																
CLOSED DRAINAGE PIPES																													
STA. 9+03.24. 40.23' RT. TO 9+92.66. 16.00' RT.						18"	92'																						CB INLET; RIPRAP OUTLET
STA. 13+33.20. 22.30' LT. TO 13+33.20. 16.00' RT.								18"	34'	18"	34'																		CB INLET AND OUTLET
STA. 66+75.00. 37.33' RT. TO 67+50.00. 20.60' RT.						15"	75'																						RIPRAP INLET; CB OUTLET
STA. 67+50.00. 20.60' RT. TO 68+50.00. 42.13' RT.						15"	101'																						CB INLET; RIPRAP OUTLET
STA. 70+25.00 TO 71+10.00. LT.						15"	84'																						CB INLET; RIPRAP OUTLET
STA. 73+00.00 TO 74+25.00. LT.						15"	124'																						DITCH INLET; CB OUTLET
STA. 102+90.00. 27.00' LT. TO 103+00.00. 16.00' LT.						15"	16'																						UD ELBOW INLET
STA. 105+00. 24.80' LT. TO 104+00.00. 16.00' LT.						15"	95'																						DITCH INLET; CB OUTLET
STA. 127+50.00. 25.30' LT. TO 128+29.00. 26.00' LT.								15"	77'	15"	77'																		CB INLET; RIPRAP OUTLET
STA. 128+29.00. 26.00' LT. TO 128+81.25. 16.00' LT.						15"	53'																						CB INLET AND OUTLET
STA. 130+28.50. 16.00' LT. TO 132+00.00. 27.10' LT.						15"	167'																						DITCH INLET; CB OUTLET
STA. 161+61.50. 16.00' LT. TO 161+50.00. 26.00' LT.						15"	16'																						UD ELBOW INLET
STA. 162+50.00. 66.00' LT. TO 163+25.00. 27.60' LT.						15"	73'																						UD ELBOW INLET
UNDERDRAIN & UNDERDRAIN OUTLETS																													
STA. 9+94.16 TO 11+50.00. RT.																								18"	150'				CB INLET AND OUTLET
STA. 9+65.32 TO 11+83.00. LT.																						221'						ELBOW	DITCH OUTLET
STA. 11+50.00 TO 13+33.20. RT.																								18"	180'				CB INLET AND OUTLET
STA. 11+83.00 TO 13+33.20. LT.																						150'						ELBOW	CB OUTLET
STA. 13+33.20 TO 14+18.80. RT.																								15"	82'				CB INLET AND OUTLET
STA. 13+33.20 TO 14+75.00. LT.																								15"	140'				RIPRAP INLET; CB OUTLET
STA. 14+18.80 TO 15+59.00. RT.																								15"	136'				CB INLET AND OUTLET
STA. 15+59.00 TO 16+87.00. RT.																								15"	124'				CB INLET AND OUTLET
STA. 16+87.00 TO 19+00.00. RT.																						214'							CB OUTLET
STA. 60+75.00 TO 63+89.00. LT.																						320'						ELBOW	DITCH OUTLET
STA. 71+10.00 TO 73+00.00. LT.																								15"	187'				CB INLET AND OUTLET
STA. 72+16.00 TO 73+00.00. LT.																													
STA. 91+00.00 TO 92+64.00. RT.																						176'							DITCH OUTLET
STA. 92+64.00 TO 94+23.80. RT.																						164'							DITCH OUTLET
STA. 96+17.00 TO 98+82.00. LT.																						273'							DITCH OUTLET
STA. 103+00.00 TO 104+00.00. LT.																								15"	97'			ELBOW	CB INLET
STA. 128+81.25 TO 130+28.50. LT.																								15"	147'				CB INLET; CB OUTLET
STA. 135+50.00 TO 139+14.00 LT.																						368'						ELBOW	DITCH OUTLET
STA. 161+61.50 TO 162+50.00 LT.																								15"	88'			ELBOW	CB INLET; ELBOW OUTLET

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	RAY DEMERCHANT		
DESIGN-DETAILED	TPL	PZA	-----
CHECKED-REVIEWED	GAS	GAE	-----
DESIGN2-DETAILED2			-----
DESIGN3-DETAILED3			-----
REVISIONS 1			-----
REVISIONS 2			-----
REVISIONS 3			-----
REVISIONS 4			-----
FIELD CHANGES			-----

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

DRAINAGE SUMMARY

SHEET NUMBER

8

OF 216

Filename: ...\MSTA\008_DrainageSummary2.dgn Division: HIGHWAY Username: parmata Date:3/6/2013

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE AS FOLLOWS: NEED INFORMATION

2. ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED. PAYMENT SHALL BE MADE UNDER ITEM 202.203 PAVEMENT BUTT JOINT.

3. CONSTRUCT BUTT JOINTS AT ALL PAVED DRIVES AND ENTRANCES.

4. GRIND TRANSITION TAPERS AT CATCH BASINS UNDER ITEM 202.203 PAVEMENT BUTT JOINTS, AS DIRECTED BY THE RESIDENT.

5. TRIM ALL TREE BRANCHES TO 20 FEET ABOVE THE PAVEMENT AND 21 FEET FROM CENTERLINE, AS WELL AS ANY BRANCHES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE RENTAL ITEMS. IF A TREE SPECIALIST IS SUBCONTRACTED FOR THIS WORK, PAYMENT WILL BE MADE BY INVOICE PLUS 5%.

6. THE CLEARING AND SELECTIVE CLEARING AND THINNING LINES SHOWN ON THE PLANS ARE FOR ESTIMATING PURPOSES ONLY. THE ACTUAL LINES FOR CLEARING AND THINNING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE RESIDENT.

7. GRUBBING IN FILL AREAS HAS BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT. ESTIMATED GRUBBING DEPTHS ARE ____ INCHES IN FIELD AREAS AND _____ INCHES IN WOODED AREAS.

8. PRIOR TO REMOVING ANY PAVEMENT OR PLACING ANY SHIM PAVEMENT, THE ROADWAY WILL BE INSPECTED FOR POSSIBLE SUBSURFACE BOULDERS, WHICH WILL BE REMOVED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT RENTAL ITEMS. BACKFILL WITH MATERIAL CONSISTENT WITH SURROUNDING MATERIAL UP TO SUBGRADE. PLACE AGGREGATE SUBBASE COURSE GRAVEL FROM SUB-GRADE TO FINISH GRAVEL GRADE AND COMPACT ALL MATERIAL. ANY MATERIAL AND EQUIPMENT USED TO BACKFILL HOLES AFTER REMOVAL OF BOULDERS WILL BE CONSIDERED INCIDENTAL TO THE CONTACT ITEMS.

9. WHERE DEEMED NECESSARY BY THE RESIDENT, UNSUITABLE EXCESS MATERIAL SHALL BE REMOVED FROM THE EDGES OF SHOULDERS AND PLACED IN DESIGNATED AREAS OR DISPOSED OF. PAYMENT WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.

10. ALL INSLOPE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR AS DIRECTED BY THE RESIDENT.

11. WHERE NO DITCHING OR INSLOPE EXCAVATION IS NEEDED, THE GRADING OF EXISTING MATERIAL OR THE ADDITION OF MATERIAL FOR 3 FEET BEYOND SHOULDER BREAK TO MATCH THE EXISTING SLOPE SHALL BE INCIDENTAL TO THE CONTRACT. ANY ADDITIONAL MATERIAL SHALL BE APPROVED BY THE RESIDENT OR SHALL MEET THE SPECIFICATIONS OF ITEM 203.24.

12. THE CONTRACTOR SHALL PLAN AND CONDUCT THEIR WORK ACCORDINGLY SO THAT UPON FINAL COMPLETION OF THE PROJECT THERE IS NO DROP-OFF FROM THE EDGE OF SHOULDER PAVEMENT. ALL REMAINING OR DISTURBED MATERIAL ON SLOPES OR IN DITCHES ON THE PROJECT SHALL BE CAPABLE OF ATTAINING A GROWTH OF GRASS THAT IS ACCEPTABLE ACCORDING TO STANDARD SPECIFICATION 618.10. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

13. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE NON-GUARDRAIL FILL SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.

14. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN WASTE AREAS APPROVED BY THE RESIDENT.

15. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAY BE ALTERED BY THE RESIDENT.

16. IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS, IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW - UNDERWATER BACKFILL AND WILL PAID FOR AS GRANULAR BORROW.

17. GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1' ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW UNDERWATER BACKFILL.

18. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 2" HOT MIX ASPHALT AND 12" AGGREGATE SUBBASE COURSE GRAVEL.

19. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 3" HOT MIX ASPHALT AND 11" AGGREGATE SUBBASE COURSE GRAVEL.

20. UNPAVED ENTRANCES SHALL BE CONSTRUCTED WITH 14" AGGREGATE SUBBASE COURSE GRAVEL OR 11" AGGREGATE SUBBASE COURSE GRAVEL AND 3" UNTREATED AGGREGATE SURFACE COURSE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

21. CRUSHED STONE ENTRANCES SHALL BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE GRAVEL AND 2" CRUSHED STONE SURFACE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

22. GRASSED ENTRANCES SHALL BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE GRAVEL AND 2" LOAM, SEED & MULCH UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

23. A 3' PAVED LIP SHALL BE PLACED AT ALL GRAVEL ENTRANCES UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

24. ALL PAVED WALKS TO BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE-GRAVEL AND 2" HOT MIX ASPHALT UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

25. PLACE 12 INCHES GRAVEL AND 2 INCHES HOT MIX ASPHALT AROUND CATCH BASINS IN GRASSED AREAS (3' OUTSIDE OF FRAME) AND PAINT WITH ACRYLIC LATEX COLOR FINISH - GREEN. PAYMENT SHALL BE UNDER THE APPLICABLE CONTRACT ITEMS.

26. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.

27. WHEN SUPER ELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE SHOULDER PAVEMENT WILL HAVE SAME SLOPE AS TRAVELED WAY.

28. THE FOLLOWING SHALL BE INCIDENTAL TO THE 603 ITEM(S):

ANY CUTTING OF EXISTING CULVERTS AND OR CONNECTORS NECESSARY TO INSTALL NEW CULVERT REPLACEMENTS OR EXTENSIONS

ALL PIPE EXCAVATION INCLUDING ANY CUTTING AND REMOVAL OF PAVEMENT

ALL DITCHING AT PIPE ENDS

FURNISHING, PLACING, GRADING, AND COMPACTING OF ANY NEW GRAVEL AND/OR FILL MATERIAL INCLUDING GRANULAR

BORROW USED UNDER PIPES AND FOR TEMPORARY DETOURS TO MAINTAIN TRAFFIC DURING PIPE INSTALLATION (EXCAVATION IS ALSO INCIDENTAL).

GRANULAR BORROW UNDER THE PIPE SHALL MEET THE REQUIREMENTS FOR UNDERWATER BACKFILL

ALL WORK NECESSARY TO CONNECT TO EXISTING PIPES AND DRAINAGE STRUCTURES

FLOW LINES MAY BE CHANGED BY 1.5 FT

ANY NECESSARY CLEARING OF BRUSH AND NON-PAY TREES AT CULVERT ENDS

29. EXISTING CULVERTS AND CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.

30. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.

31. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

32. THE CULVERT SIZES SHOWN ON THE PLANS AND CROSS SECTIONS ARE FOR SMOOTHLINED PIPES. FOR COMPARABLE CORRUGATED SIZES SEE THE DRAINAGE TABULATION.

33. ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT IN AREAS OF PROPOSED CATCH BASINS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 604.

34. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO ALLOW FOR PROPOSED PIPE CONNECTIONS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 603 OR 605.

35. AS DIRECTED BY THE RESIDENT, ALL EXISTING UNDERDRAIN OUTLETS SHALL BE LOCATED, CLEANED OUT AND DITCHED AS REQUIRED OR REPLACED AS NECESSARY. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.

36. ALL UNDERDRAIN NOT SHOWN ON THE CROSS SECTIONS WILL HAVE A FLOW LINE OF 5.5 FEET BELOW FINISH GRADE DIRECTLY ABOVE THE UNDERDRAIN AND UNDERDRAIN SAND BACKFILL PLACED TO AN ELEVATION EQUAL TO THE BOTTOM OF THE NEW GRAVEL LAYER. ALL UNDERDRAIN SHOWN ON THE CROSS SECTIONS WILL HAVE THE FLOW LINE SCALED FROM THE CROSS SECTIONS. ALL FLOW LINE ELEVATIONS ARE SUBJECT TO APPROVAL BY THE RESIDENT.

37. ALL CONNECTIONS FOR UNDERDRAIN (U.D.) TO ROADWAY CULVERTS WILL BE INCIDENTAL TO U.D. PIPE ITEMS.

38. A 3 FT. X 3 FT. SQUARE RIPRAP PAD SHALL BE CONSTRUCTED AT U.D. OUTLETS.

39. EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL HAVE THE ENDS PLUGGED WITH BRICK AND MORTAR. COST FOR ALL LABOR AND MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.

40. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.

41. HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT TO BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

42. ALL EXISTING GUARDRAIL SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

43. TWO REFLECTORIZED FLEXIBLE G.R. MARKERS (ITEM 606.353) WILL BE INSTALLED AT EACH GUARDRAIL END. A DELINEATOR POST (ITEM 606.356) WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET.

44. A DELINEATOR POST (ITEM 606.356) WILL BE INSTALLED AT THE END OF EACH SECTION OF BITUMINOUS CURB.

45. ALL CATCH BASINS TYPE A PLACED ON CIRCULAR CURB TYPE 1 SHALL HAVE THE CURB INLET CUT THE SAME RADIUS AS ADJACENT CIRCULAR CURB. PAYMENT SHALL BE INCIDENTAL TO ITEM 604

46. BACKING UP BITUMINOUS CURB IS INCIDENTAL TO THE CURB ITEMS. IN AREAS WHERE NEW BITUMINOUS CURB IS DESIGNATED TO REPLACE EXISTING, THE REMOVAL OF THE OLD BITUMINOUS CURB SHALL BE INCIDENTAL TO THE NEW CURB.

47. LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.

48. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL NON-GUARDRAIL SLOPES. SEEDING METHOD NO. 3 SHALL BE UTILIZED ON ALL GUARDRAIL FILL SLOPES. ON LONG NON-GUARDRAIL BACKSLOPES, SEEDING METHOD NO. 3 MAY BE USED INSTEAD OF METHOD NO. 2 IF NOTED OR DIRECTED BY THE RESIDENT.

49. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS AND 2 INCHES IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.

50. WHITE PAVEMENT/CURB MARKING (ITEM 627.65) SHALL BE APPLIED TO BITUMINOUS CURB ENDS AT DRIVEWAY OPENINGS AS DIRECTED BY THE RESIDENT.

51. ANY BASE PAVEMENT NOT SURFACED BEFORE WINTER WILL REQUIRE TEMPORARY PAVEMENT MARKINGS OF PAINT, BOTH YELLOW CENTERLINE AND WHITE EDGE LINES AND WILL BE CONSIDERED PART OF ITEM 627.76

52. EXISTING LIVESTOCK FENCES SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION AS DIRECTED BY THE RESIDENT. MAINTENANCE OF THESE FENCES WILL BE INCIDENTAL TO THE CONTRACT.

53. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK; IT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

54. THE CONTRACTOR IS RESPONSIBLE FOR THE CAREFUL SIDE STAKING OF EXISTING CENTERLINE AS PER STANDARD SPECIFICATION 105.6.2. SIDE STAKES SHALL BE PLACED SAFELY OUTSIDE OF THE CONSTRUCTION LIMITS AND THE EXISTING CENTERLINE GRADES SHALL BE TRANSFERRED TO THESE STAKES. THESE STAKES AND GRADES WILL BE USED TO LAYOUT CENTERLINE AND DETERMINE NEW CONSTRUCTION FINISH GRADES FROM DIFFERENTIAL ELEVATION SHEETS FURNISHED BY MAINEDOT. ALL LAYOUT, STAKES, AND GRADES WILL BE CHECKED AND MUST BE ACCEPTABLE TO THE RESIDENT.

55. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.

56. A COPY OF THE SOILS REPORT FOR THIS PROJECT IS AVAILABLE BY CONTACTING THE PROJECT MANAGER, _____ AT 207-_____. ALL COMPUTATION METHODS AND QUANTITIES USED FOR THE ENGINEER'S ESTIMATE FOR PLAN QUANTITY ITEMS ONLY ARE AVAILABLE BY CONTACTING REGION ___ PROJECT MANAGER_____ AT 207-_____.

57. THE FILL QUANTITY SHOWN ON THE CROSS SECTIONS INCLUDES THE WASTE STORAGE.

58. AREAS REQUIRING FILL ON THE PROJECT WILL COME FROM SUITABLE EXCAVATION FROM EXCAVATION AREAS.

59. ESTIMATED QUANTITIES FOR REQUIRED STRUCTURAL EARTH EXCAVATION, DRAINAGE AND MINOR STRUCTURES ARE INFORMATIONAL ONLY AND REPRESENT THE APPROXIMATE MINIMUM QUANTITY REQUIRED TO INSTALL DRAINAGE STRUCTURES. ADDITIONAL EXCAVATION FOR THE CONTRACTOR'S CONVENIENCE OR TO COMPLY WITH BACKSLOPING REQUIREMENTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE RELATED DRAINAGE ITEMS.

60. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

61. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION CONTROL & SEDIMENT CONTROL, FEBRUARY, 2008.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

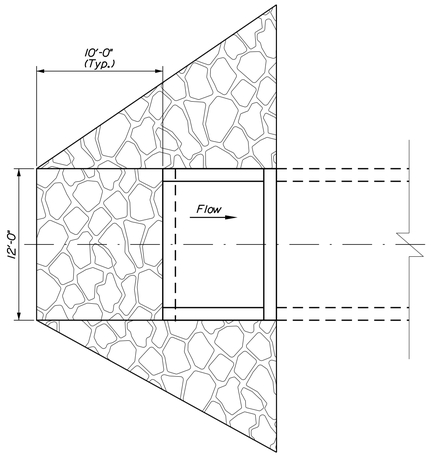
GENERAL NOTES

SHEET NUMBER

9

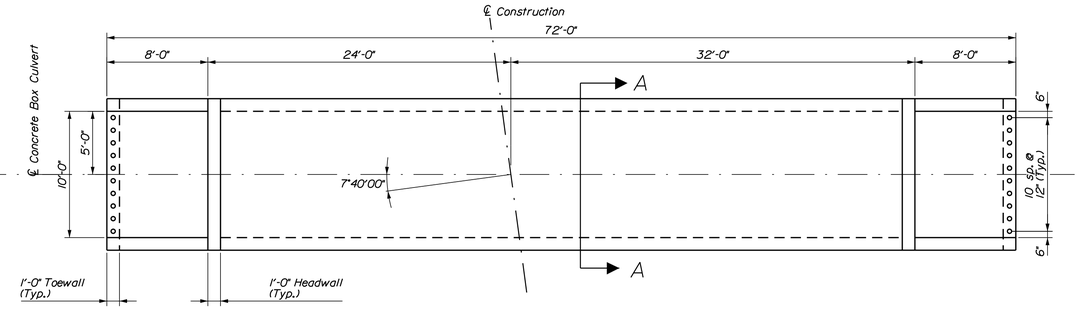
OF 216

Filename: ...\MSTA\009_Notes_General.dgn Division: HIGHWAY Username: parmata Date:3/6/2013



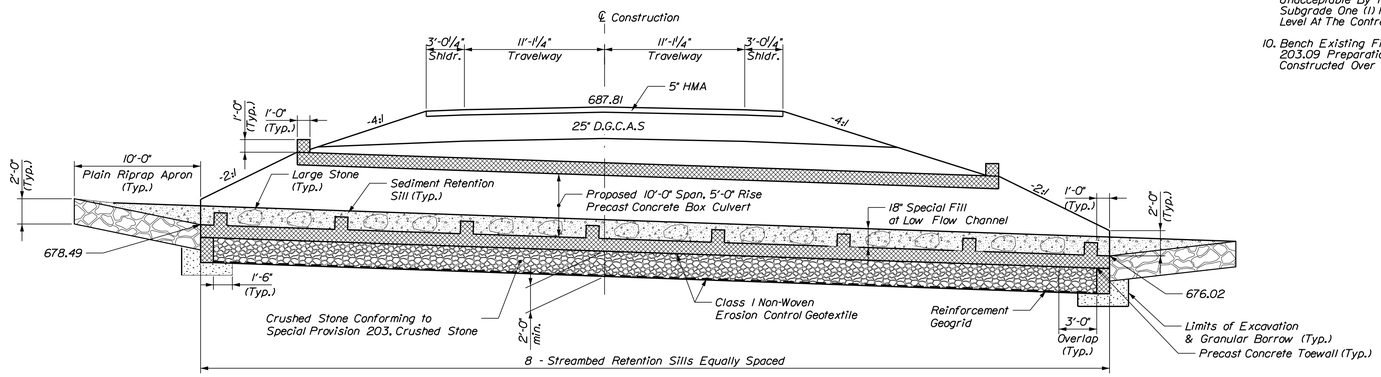
RIPRAP PLAN VIEW

Upstream end shown
Downstream end similar



CONCRETE BOX CULVERT PLAN VIEW

Sta. 68+74.57



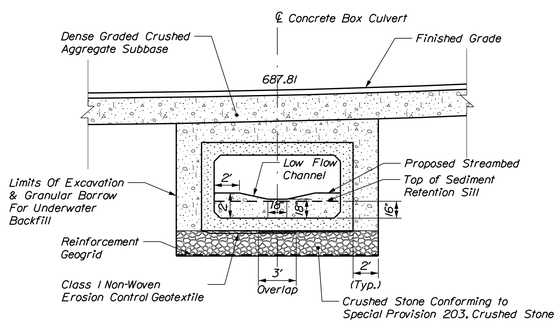
TYPICAL BRIDGE SECTION

Skewed at Sta. 68+74.57

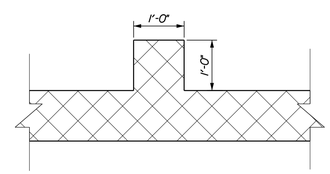
Crushed Stone Bedding And Limits Of Excavation, Granular Borrow To Be Coordinated With Geotechnical Report

PRECAST CONCRETE BOX NOTES

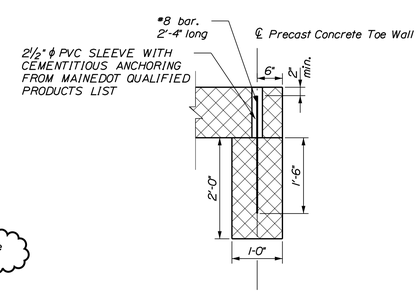
1. The Construction, Handling And Assembly Of The Precast Units Shall Be In Accordance With Special Provisions Section 534, Precast Structural Concrete And With The Manufacturer's Specifications As Applicable.
2. Install Standard Membrane Waterproofing Over The Top And To 12 Inches Down The Exterior Sides Of The Precast Units.
3. If Required Guardrail Treatment Over Buried Structures 606(24) Payment Shall Be Considered Incidental To The Guardrail Pay Items.
4. The Contractor Shall Construct The Culvert In The Dry. Coffer Dams May Be Required To Divert Flow Away From The New Culvert Location During Construction.
5. Crushed Stone Bedding Placed Under The Box Culvert Shall Be Placed In Lifts Between 8 Inches And 12 Inches Thick Loose Measure And Each Lift Shall Be Compacted To Interlock The Particles With Minimum Of 4 Passes With A Vibratory Plate Compactor.
6. All Embankment Material, Except As Otherwise Shown, Shall Be Granular Borrow Meeting The Requirements Of 703.19 Material For Underwater Back Fill With The Additional Requirement The Maximum Particle Size Shall Be Limited To 4 Inches. The Granular Borrow Back Fill Shall Be Compacted In Accordance With The Box Culvert Manufacture's Recommendations But In No Case Less Than 92 Percent Of Maximum Density As Determined By Aashto T180, Method C Or D.
7. Riprap Adjacent To The Box Culvert Shall Be Placed So As Not To Damage The Culvert. Any Damage To The Box Culvert During Construction Shall Be Repaired Or Replaced As Determined By The Resident At The Contractors Expense.
8. The Riprap Slope Protection Shall Be Constructed As Shown On Maine Dot Standard Detail 610(02). The Protective Aggregate Cushion Layer Shall Be 12 Inches. Class I Non Woven Erosion Control Geotextile Shall Be Used Under The Protective Aggregate Cushion Layer.
9. The Box Culvert Subgrade May Consist Of Marine Clay-Silt. The Contractor Shall Not Operate Equipment Over The Excavated Subgrade To Minimize Subgrade Disturbance. If The Subgrade Is Disturbed,Weakened, Softened Or Otherwise Rendered Unacceptable By The Resident. The Contractor Shall Over -Excavate The Disturbed Subgrade One (1) Foot And Replace With Compacted Granular Borrow To The Subgrade Level At The Contractors Experence.
10. Bench Existing Fill Slope Soils In Accordance With Maine Dot Standard Specification 203.09 Preparation Of Embankment Area. Where New Fill Slope Extensions Are Constructed Over Existing Slopes With Grades Greater Than 2:1 (H:V).



TYPICAL SECTION A-A

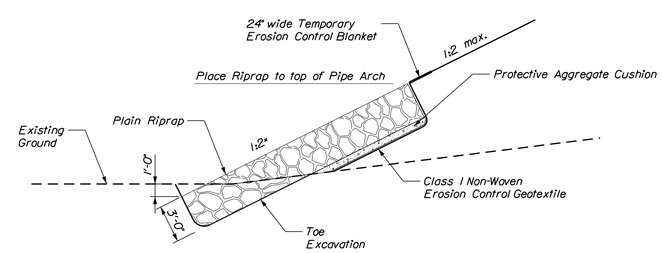


SEDIMENT RETENTION SILL DETAIL



Geotech To Provide Toewall Depth

PRECAST CONCRETE TOEWALL DETAIL



PLAIN RIPRAP SIDE SLOPE DETAIL

*Match ends of Concrete Box Culvert

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER	RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

BOX CULVERT
DETAILS SHEET 1

SHEET NUMBER

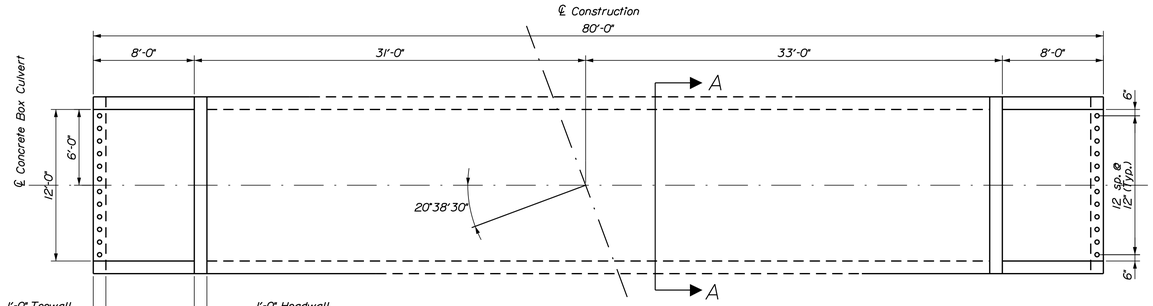
10

OF 216

Filename: ...\MSTA\010_Box Culvert Plan.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

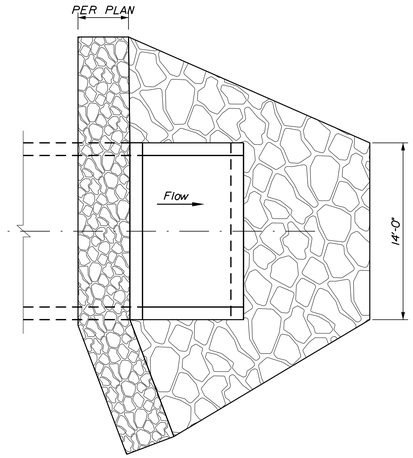
PRECAST CONCRETE BOX NOTES

See Box Culvert Details Sheet 1 For Notes.



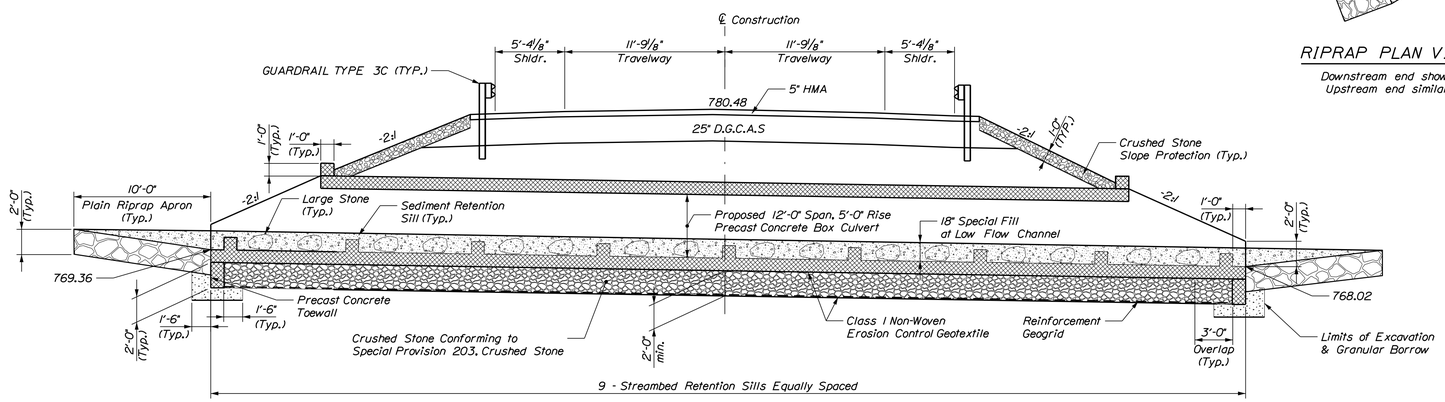
CONCRETE BOX CULVERT PLAN VIEW

Sta. 124+27.81



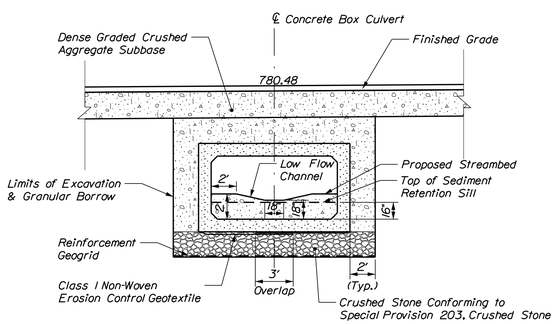
RIPRAP PLAN VIEW

Downstream end shown
Upstream end similar

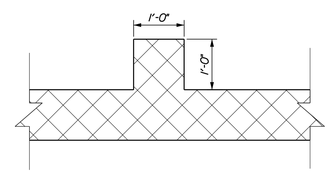


TYPICAL BRIDGE SECTION

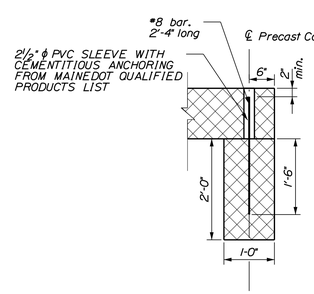
Skewed at Sta. 124+27.81



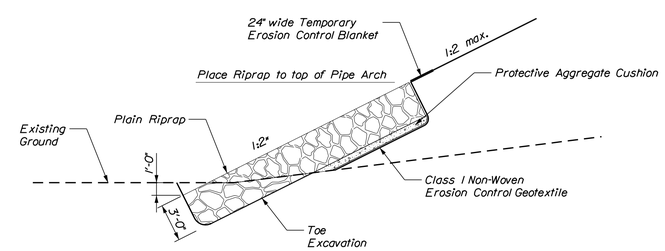
TYPICAL SECTION A-A



SEDIMENT RETENTION SILL DETAIL



PRECAST CONCRETE TOEWALL DETAIL



PLAIN RIPRAP SIDE SLOPE DETAIL

*Match ends of Concrete Box Culvert

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	RAY DEMERCHANT	
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	CAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

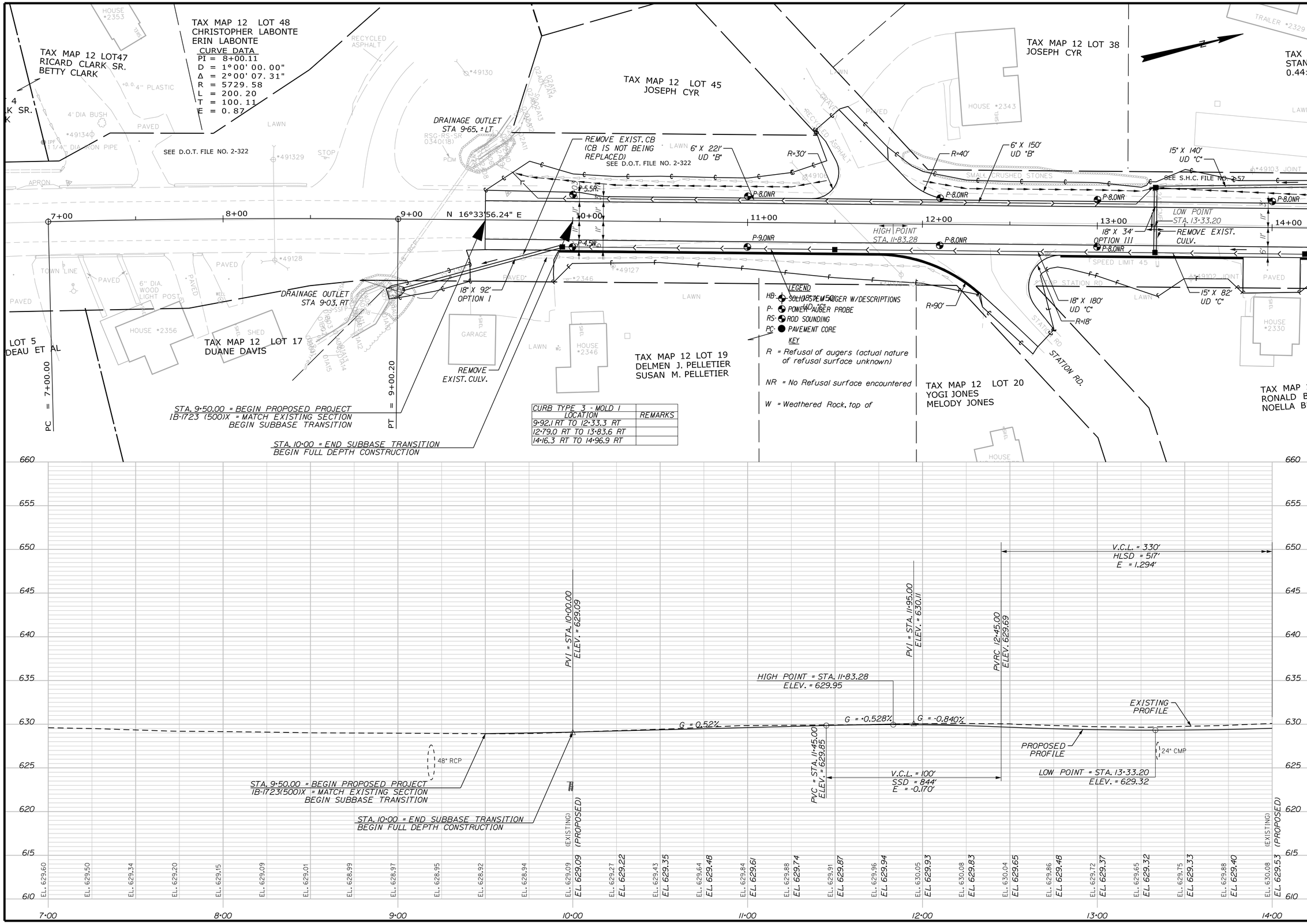
BOX CULVERT
DETAILS SHEET 2

SHEET NUMBER

11

OF 216

Filename: ...\MSTA\011_Bridge Section.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED TPL	PZA	
CHECKED-REVIEWED GAS	GAE	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

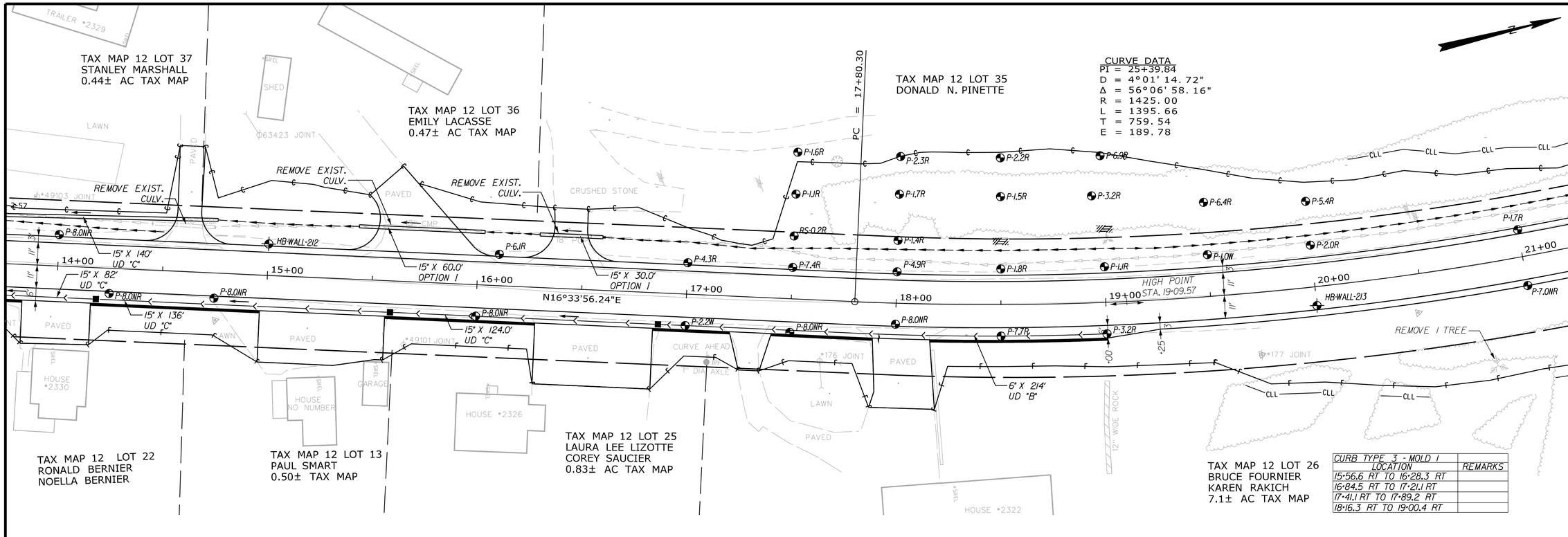
PLAN / PROFILE 1

SHEET NUMBER

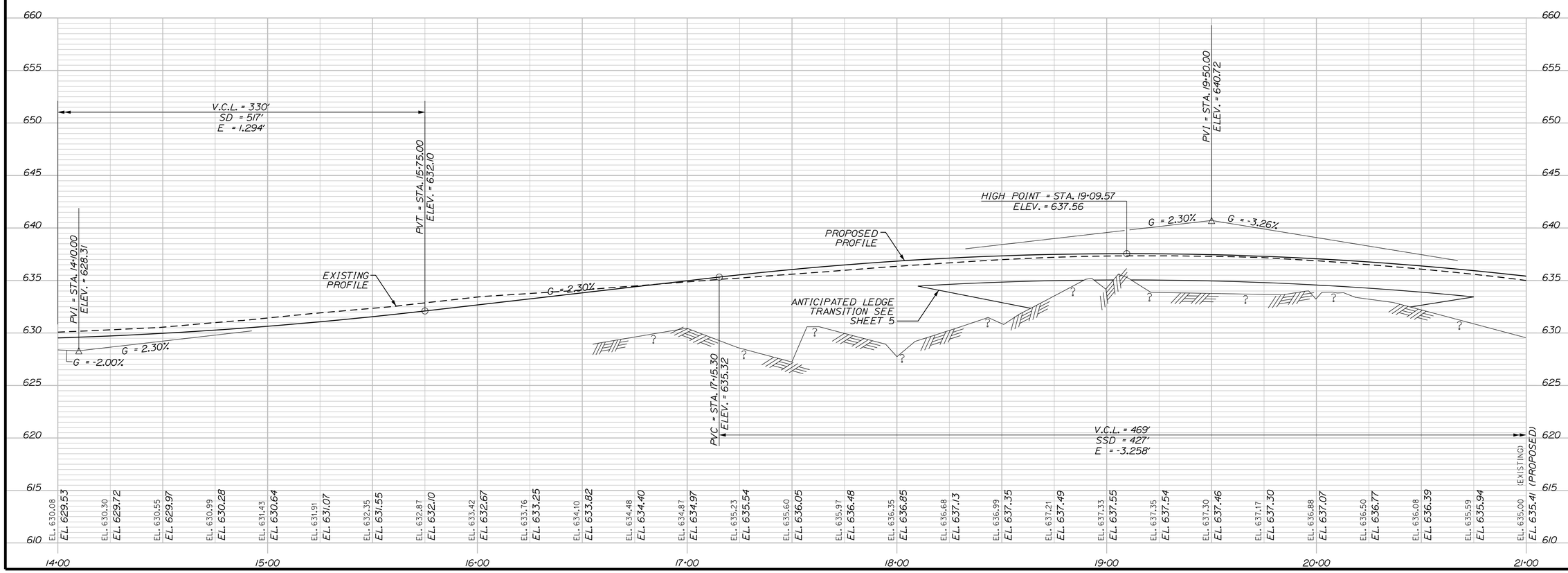
12

OF 216

Filename: ...\HIGHWAY\MSTA\012_Plan-Pro1.dgn Division: HIGHWAY Username: parmata Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
15+56.6 RT TO 16+28.3 RT	
16+84.5 RT TO 17+21.1 RT	
17+41.1 RT TO 17+89.2 RT	
18+16.3 RT TO 19+00.4 RT	



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

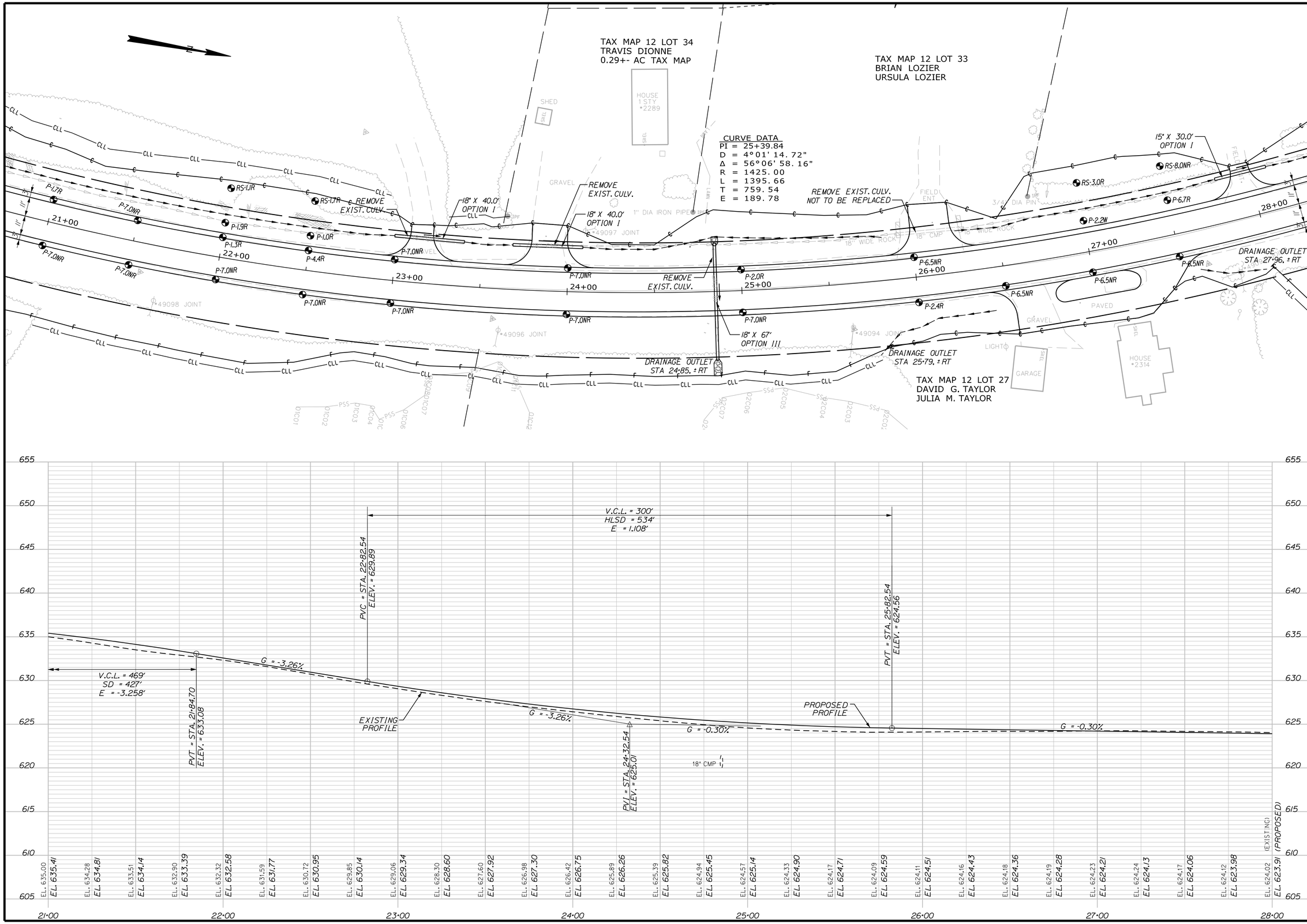
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 2

SHEET NUMBER
13
OF 216

Filename: ...\HIGHWAY\MSTA\013_Plan-Pro2.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS: 1		
REVISIONS: 2		
REVISIONS: 3		
REVISIONS: 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

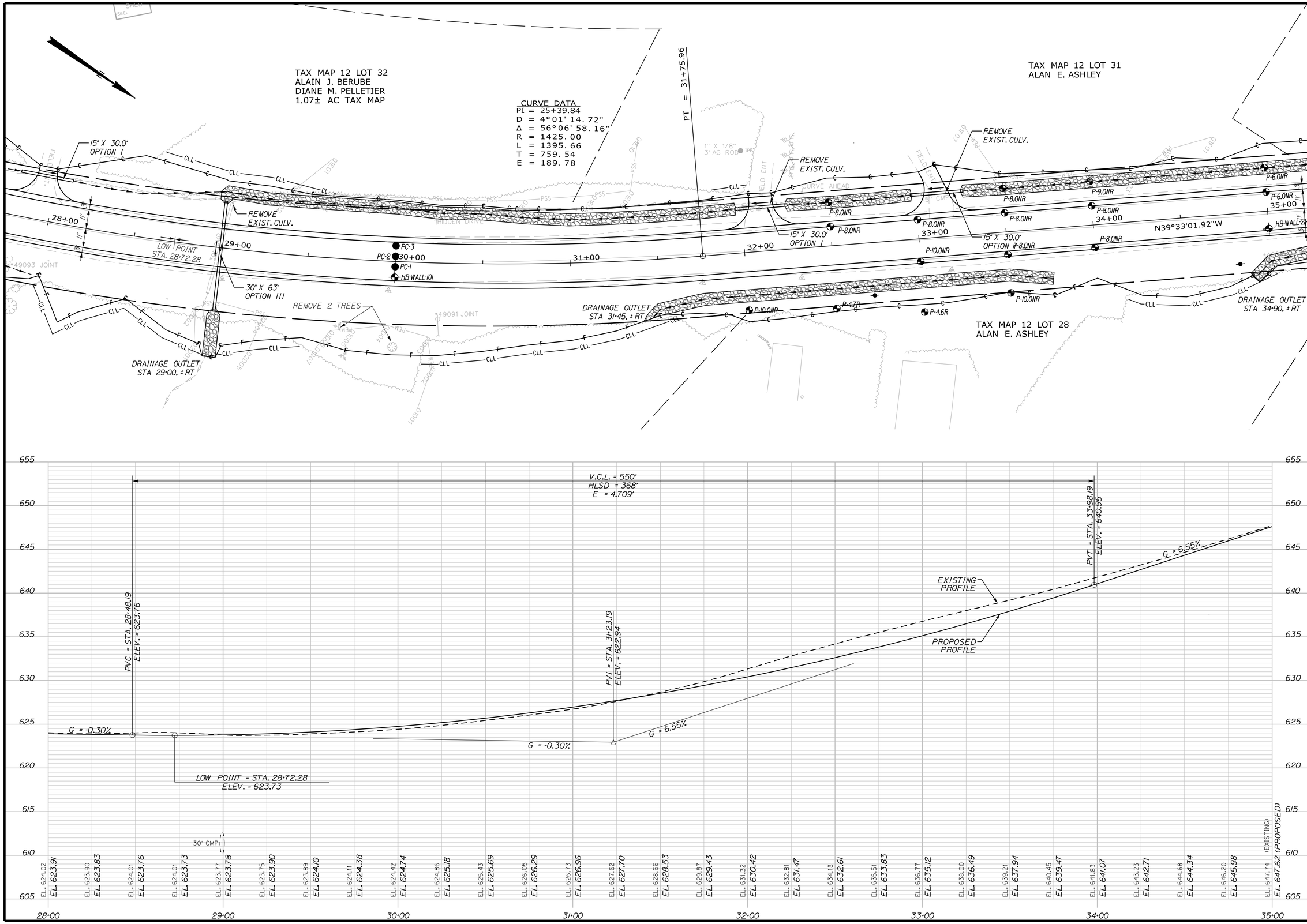
PLAN / PROFILE 3

SHEET NUMBER

14

OF 216

Filename: ...\HIGHWAY\MSTA\014_Plan-Pro3.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

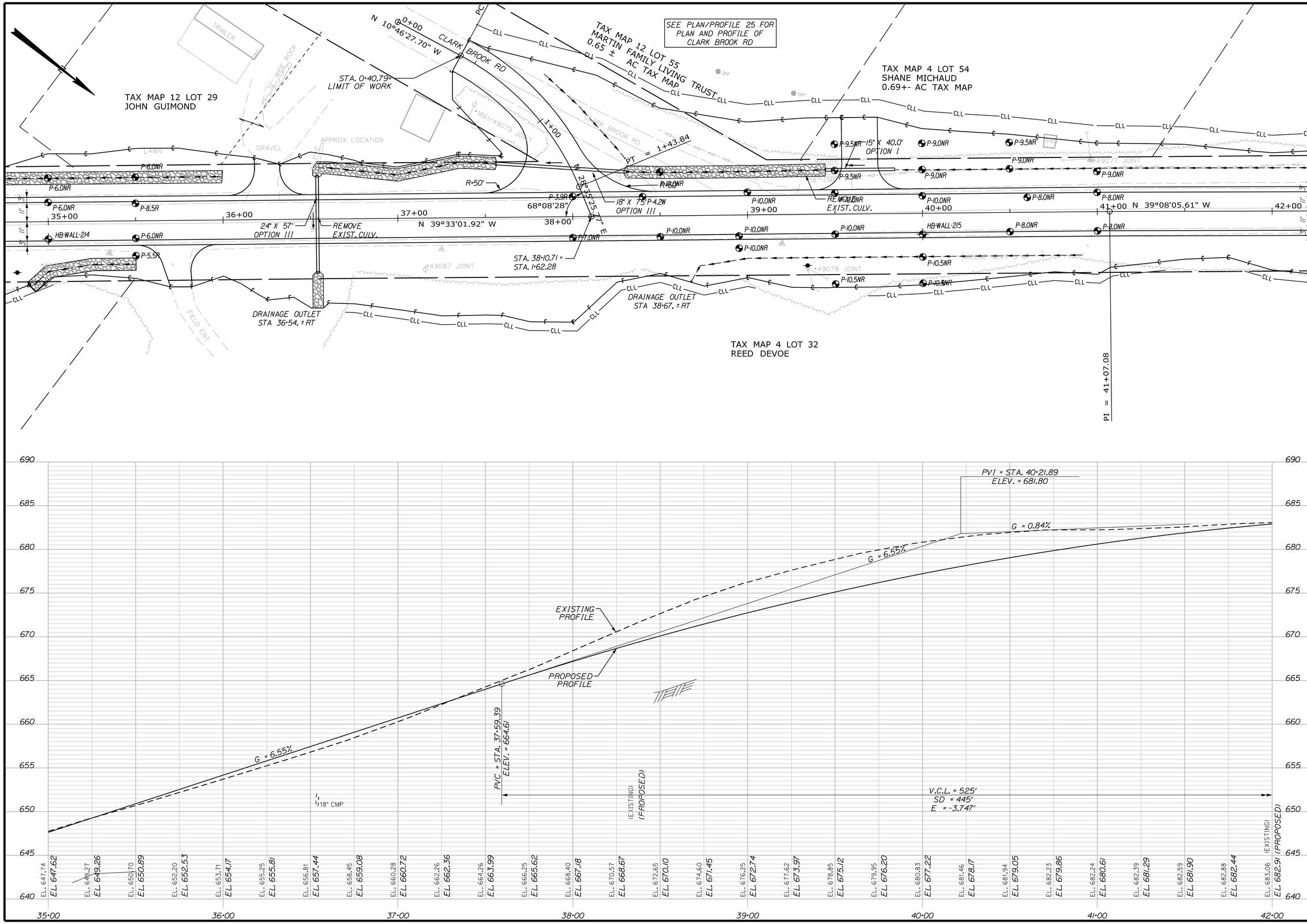
PLAN / PROFILE 4

SHEET NUMBER

15

OF 216

Filename: ...\HIGHWAY\MSTA\015_Plan-Pro4.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER/RAY DEMERCHANT			
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

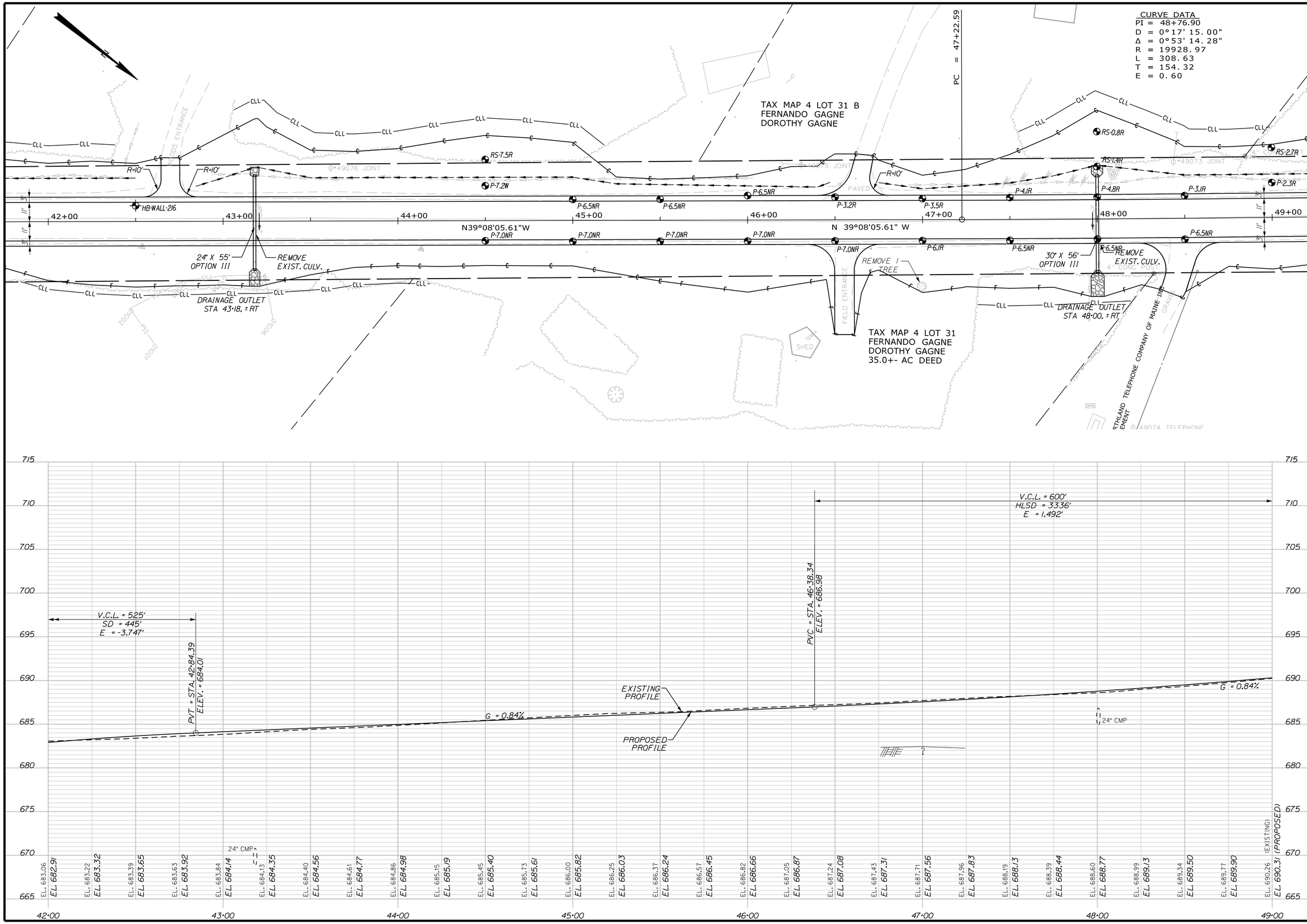
PLAN / PROFILE 5

SHEET NUMBER

16

OF 216

Filename: ...\HIGHWAY\MSTA\016_Plan-Pro5.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

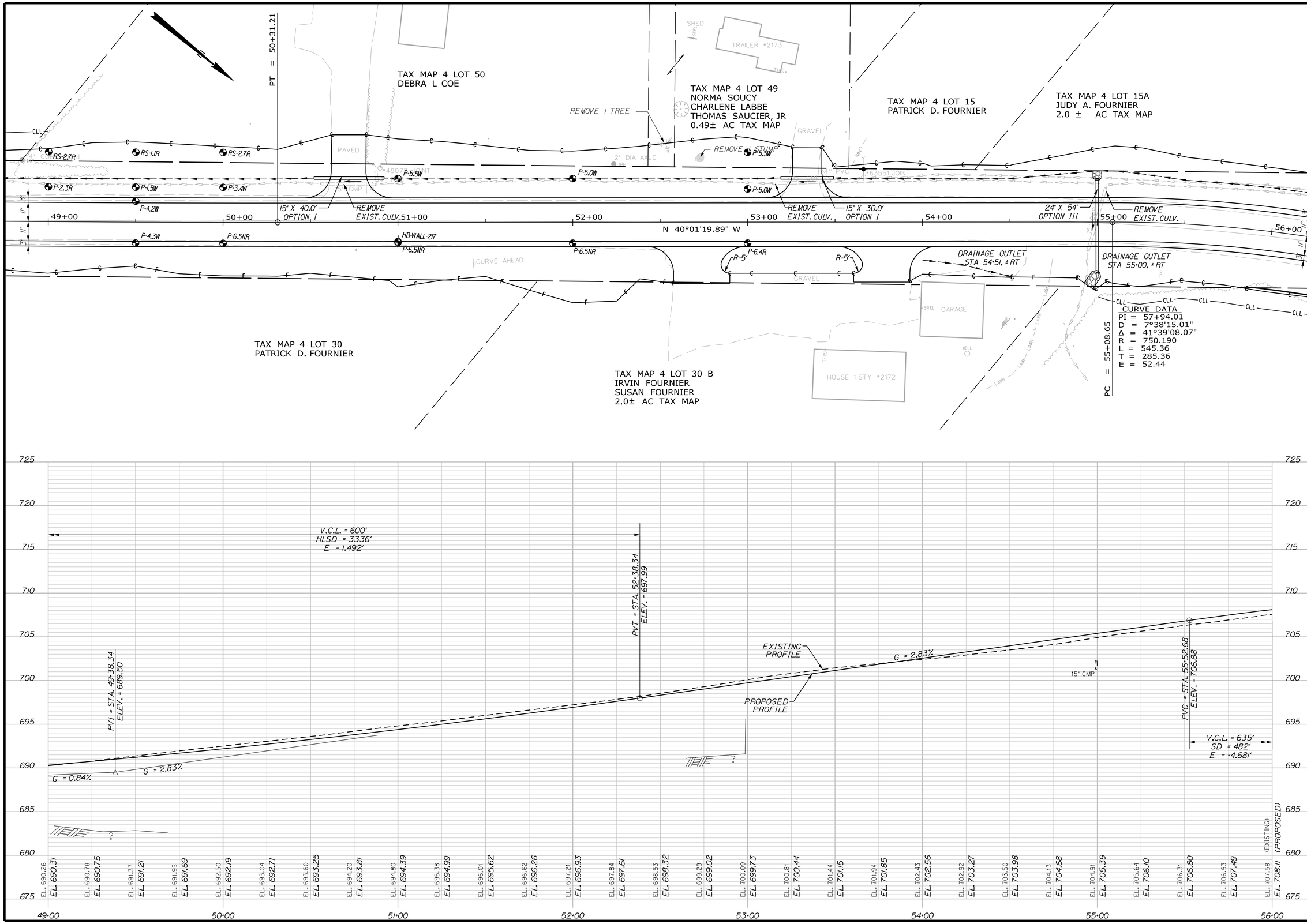
PLAN / PROFILE 6

SHEET NUMBER

17

OF 216

Filename: ...\HIGHWAY\MSTA\017_Plan-Pro6.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

SIGNATURE			
P.E. NUMBER			
DATE			

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WALLAGRASS
ROUTE 11

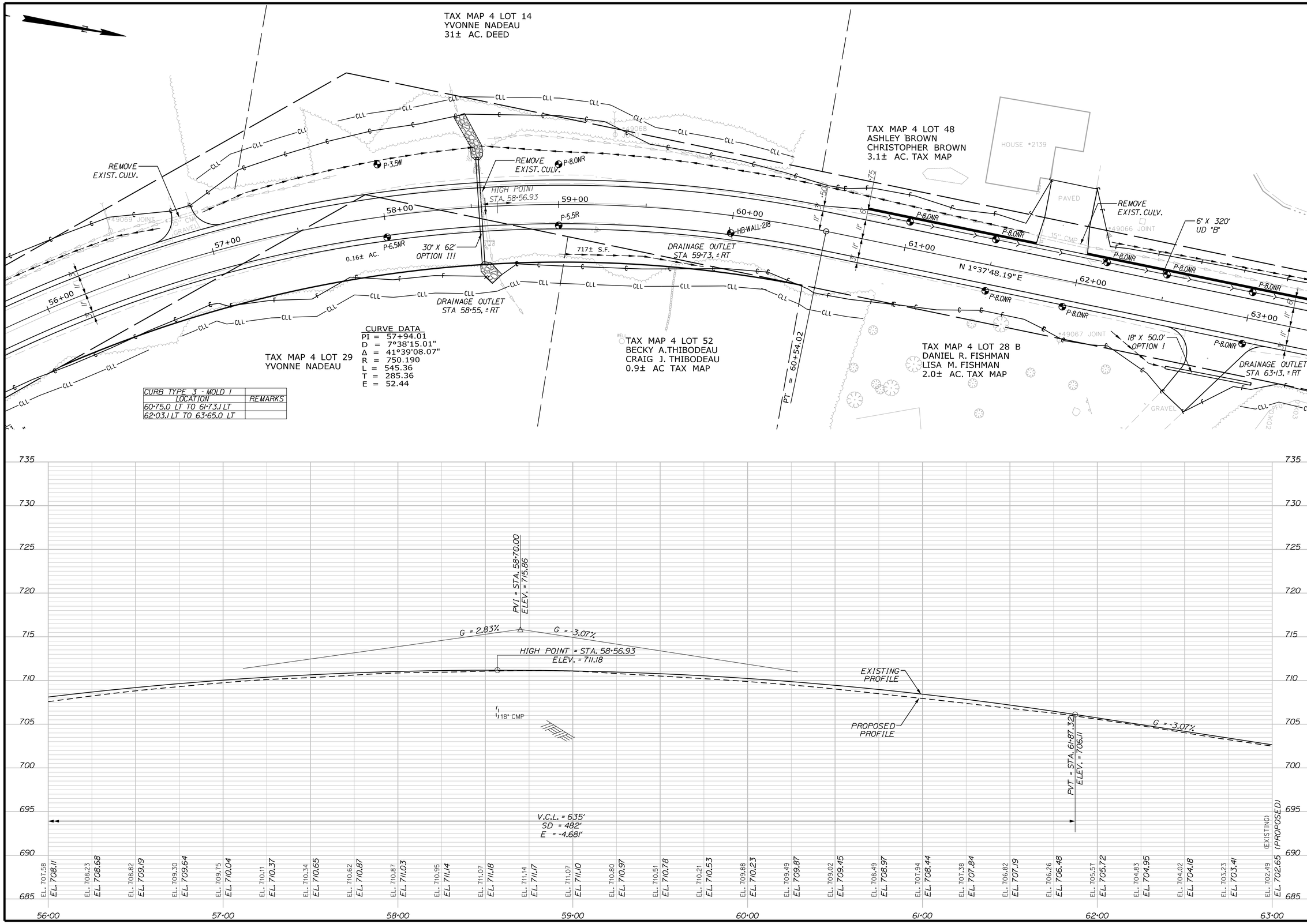
PLAN / PROFILE 7

SHEET NUMBER

18

OF 216

Filename: ...\HIGHWAY\MSTA\018_Plan-Pro7.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER/RAY DEMERCHANT			
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

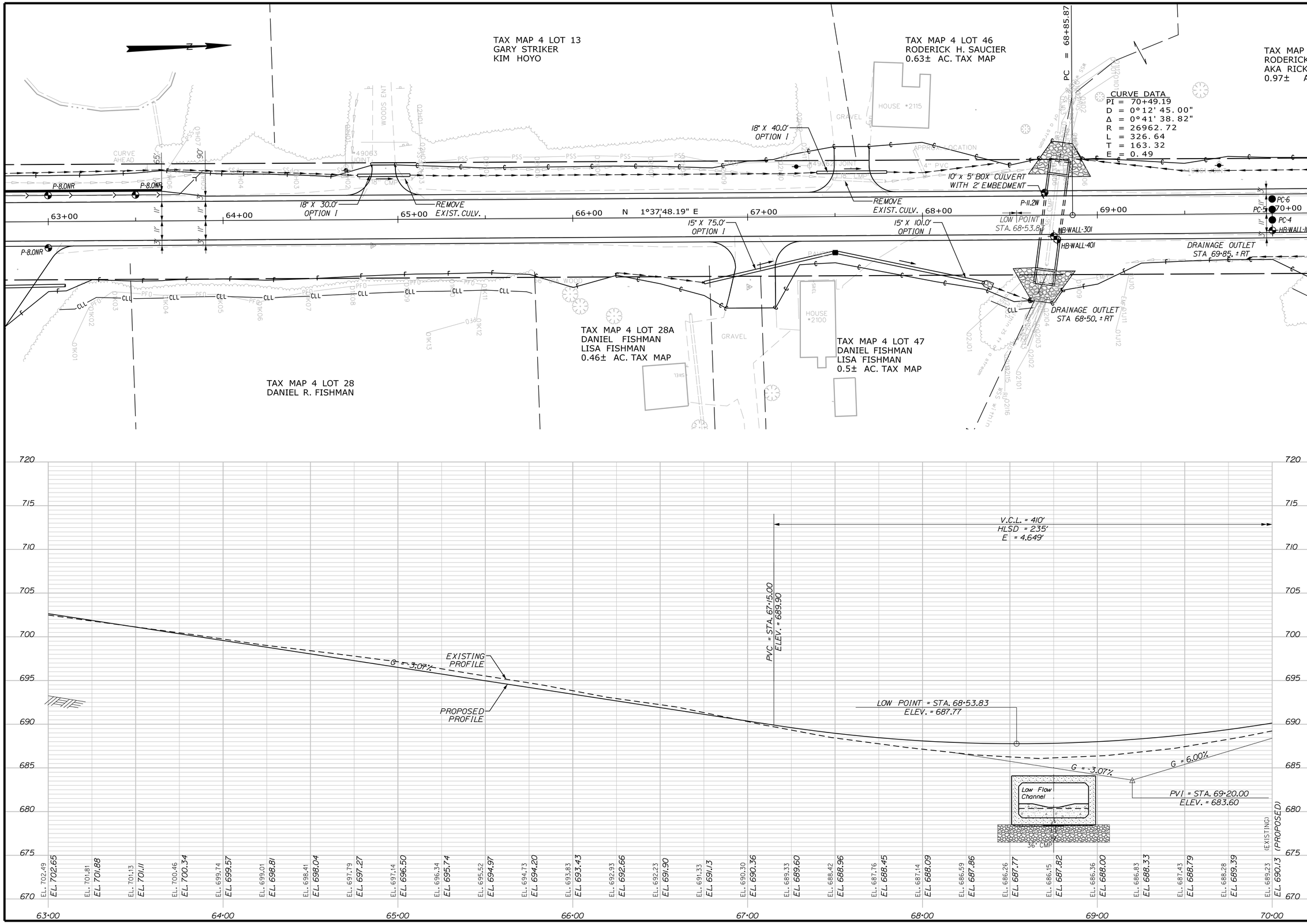
PLAN / PROFILE 8

SHEET NUMBER

19

OF 216

Filename: ...\HIGHWAY\MSTA\019_Plan-Pro8.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

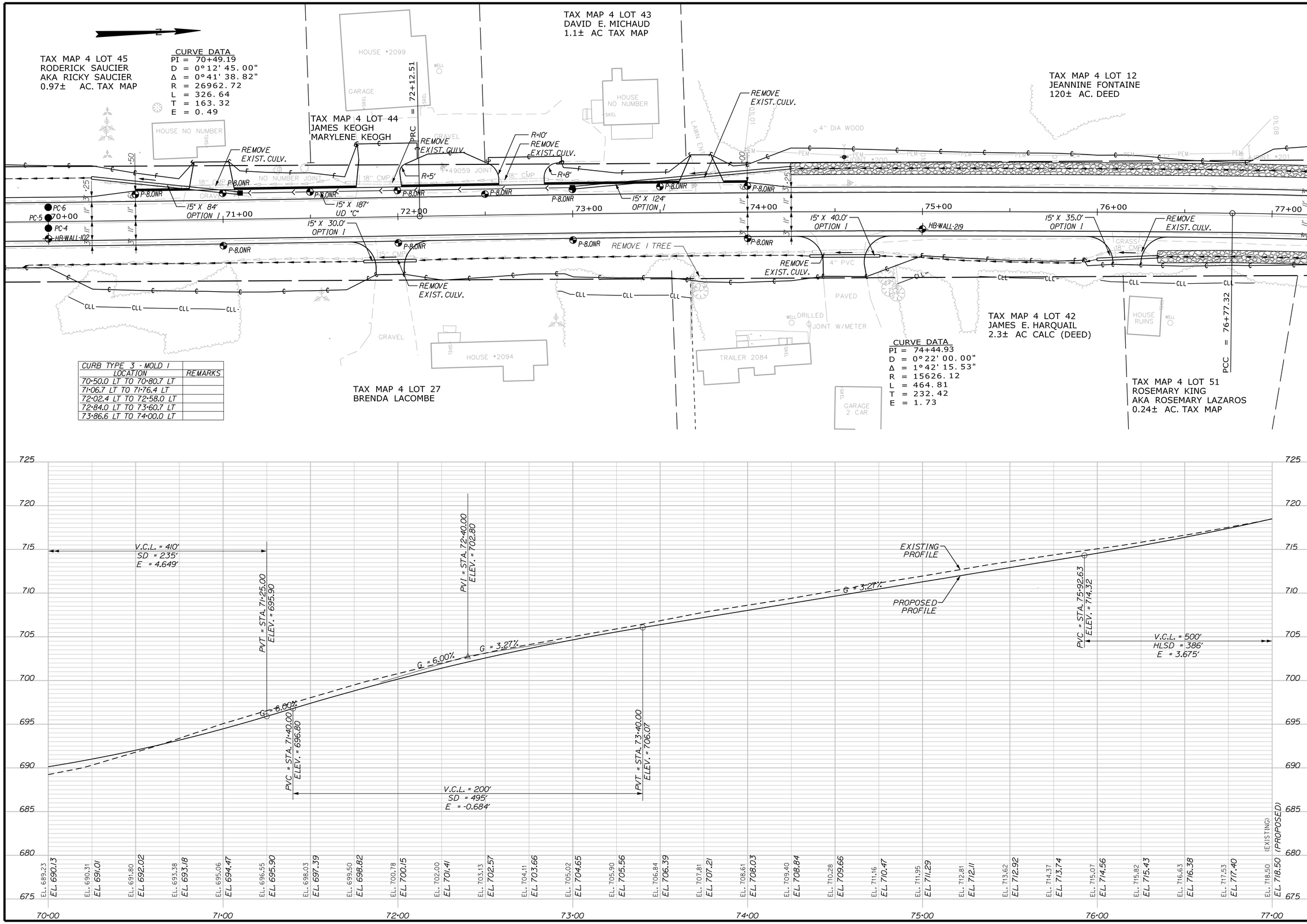
PLAN / PROFILE 9

SHEET NUMBER

20

OF 216

Filename: ...\HIGHWAY\MSTA\020_Plan-Pro9.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
70+50.0 LT TO 70+80.7 LT	
71+06.7 LT TO 71+76.4 LT	
72+02.4 LT TO 72+58.0 LT	
72+84.0 LT TO 73+60.7 LT	
73+86.6 LT TO 74+00.0 LT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

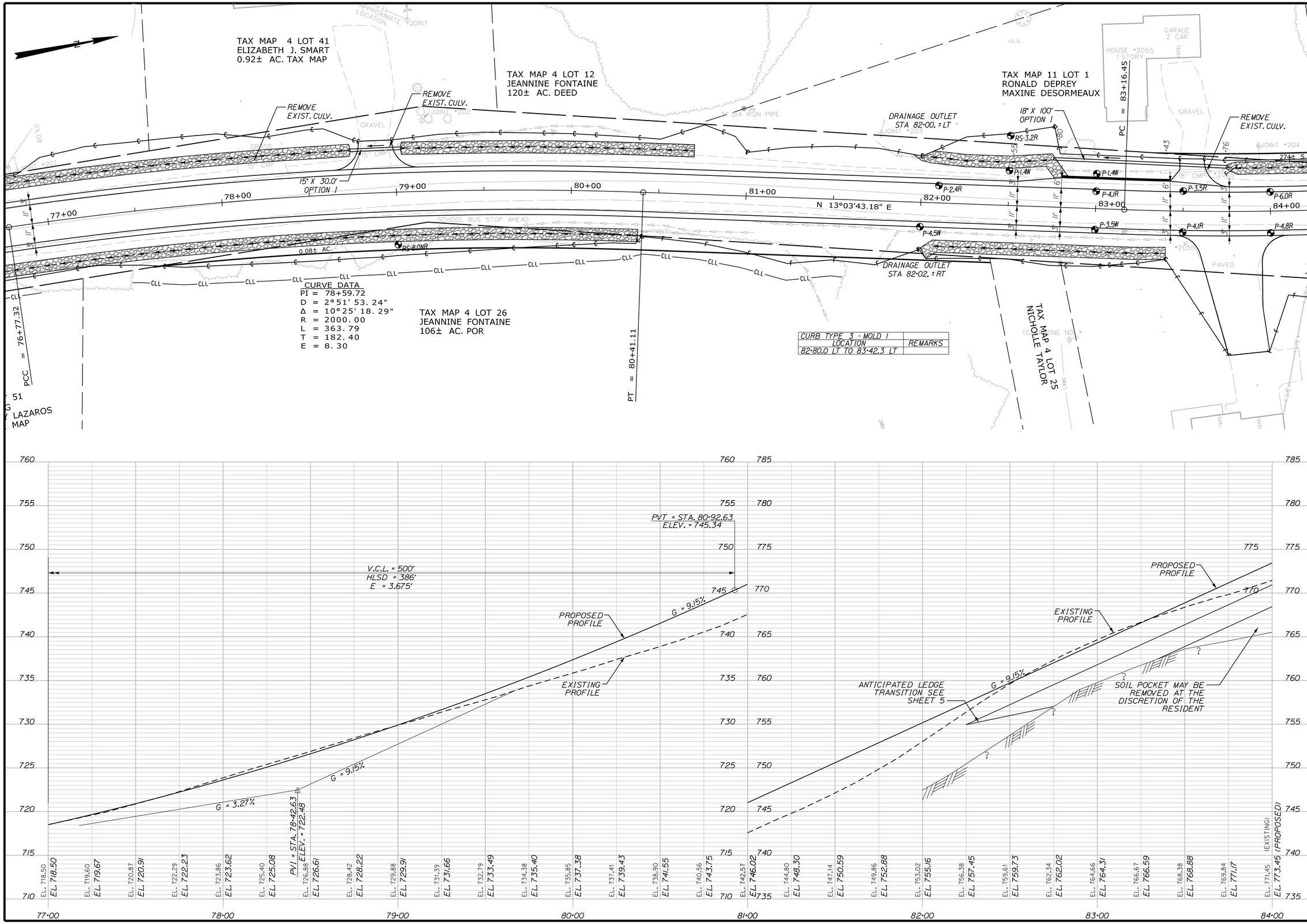
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 10

SHEET NUMBER
21
OF 216

Filename: ...\MSTA\021_Plan-Pro10.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER	RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

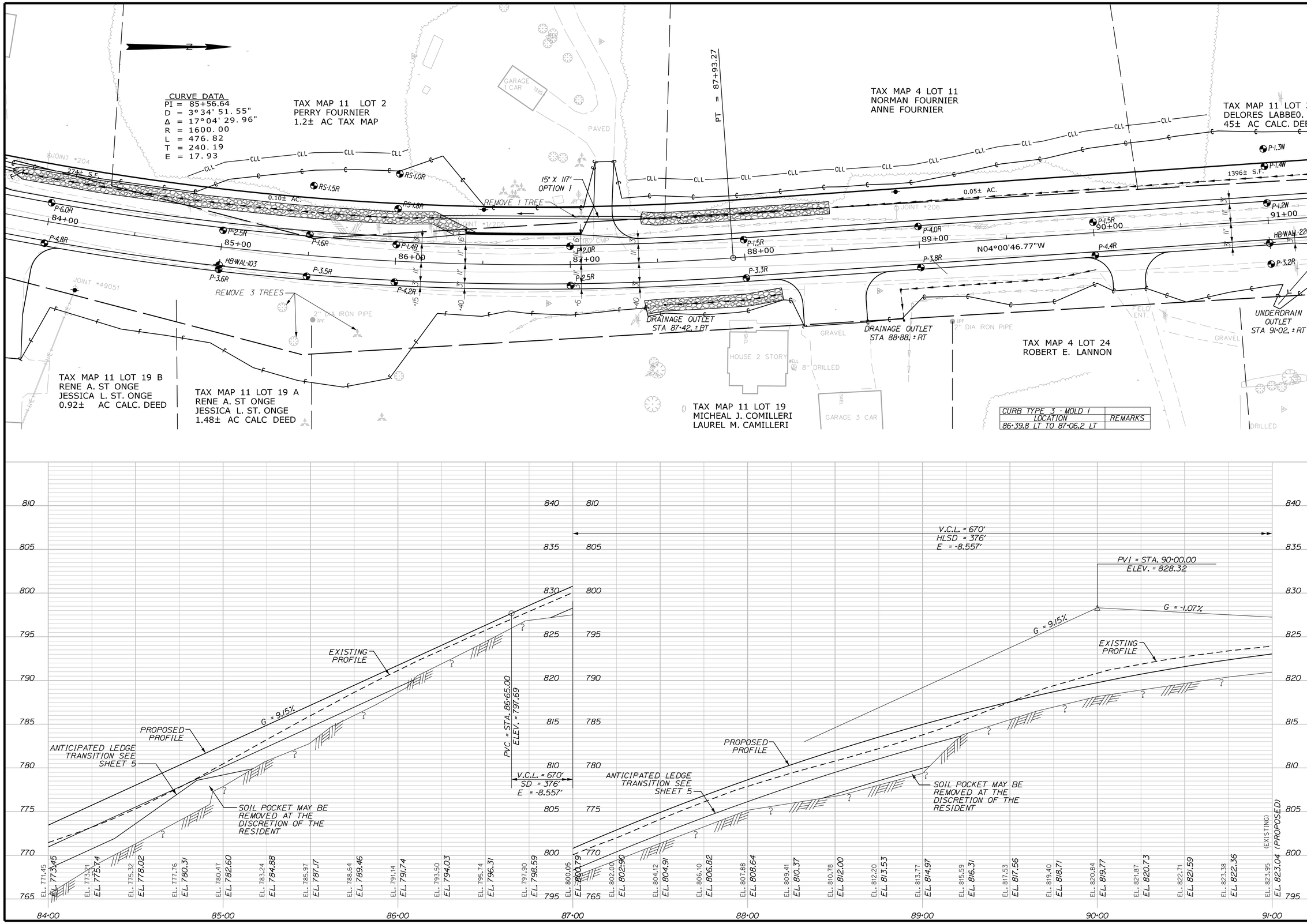
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 11

SHEET NUMBER
22
OF 216

Filename: ...\MSTA\022_Plan-Pro11.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

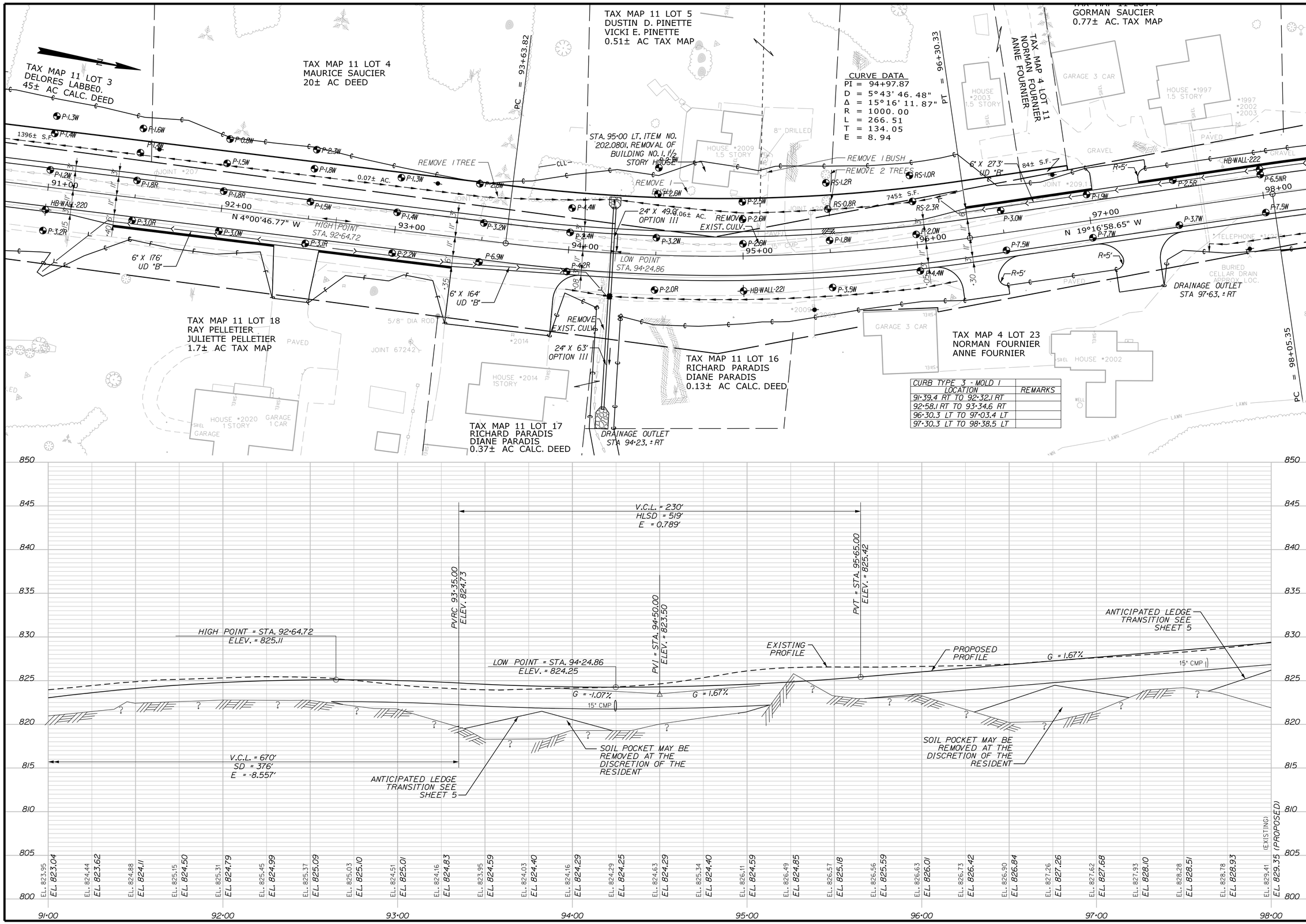
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 12

SHEET NUMBER
23
OF 216

Filename: ...\MSTA\023_Plan-Pro12.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
91+39.4 RT TO 92+32.1 RT	
92+58.1 RT TO 93+34.6 RT	
96+30.3 LT TO 97+03.4 LT	
97+30.3 LT TO 98+38.5 LT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	RAY DEMERCHANT		
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

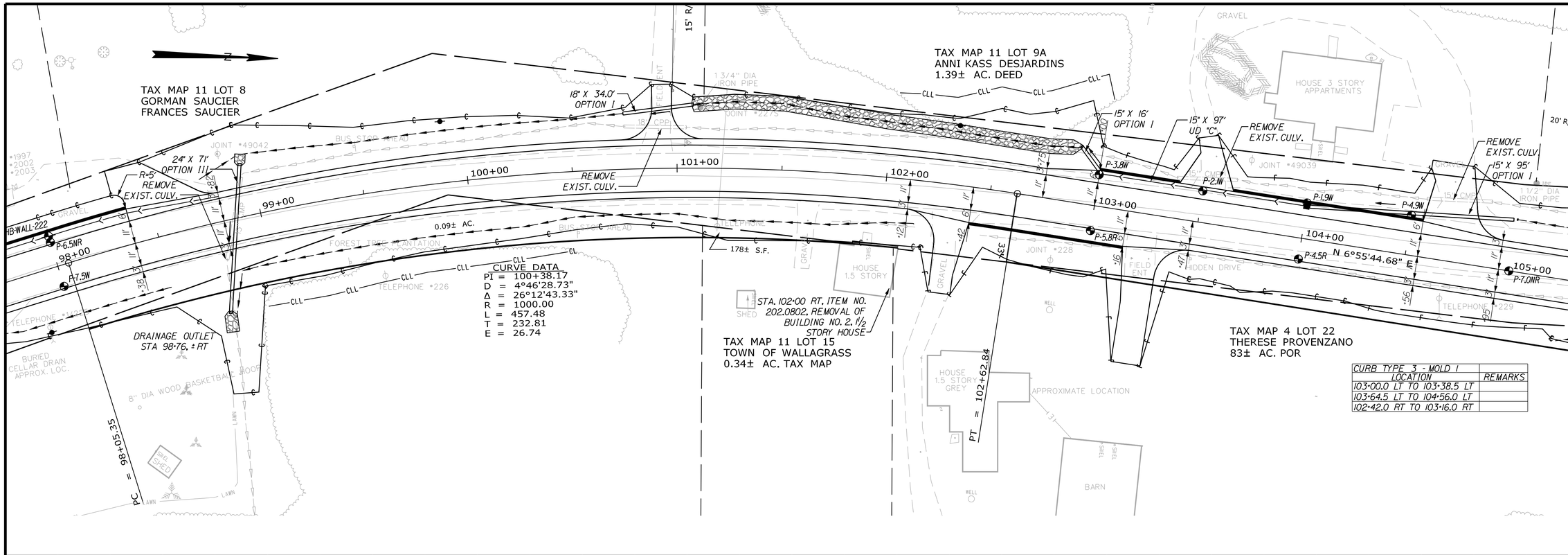
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 13

SHEET NUMBER
24
OF 216

Filename: ...\MSTA\024_Plan-Prof3.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD I	
LOCATION	REMARKS
103+00.0 LT TO 103+38.5 LT	
103+64.5 LT TO 104+56.0 LT	
102+42.0 RT TO 103+16.0 RT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 14

SHEET NUMBER
25
OF 216

Filename: ...\MSTA\025_Plan-Pro14.dgn Division: HIGHWAY Username: parmala Date:3/6/2013

TAX MAP 4 LOT 9
ROMAN CATHOLIC BISHOP OF PORTLAND

TAX MAP 11 LOT 9
ROMAN CATHOLIC BISHOP OF PORTLAND

TAX MAP 11 LOT 11
MID-OZARKS INVESTMENTS L.L.C
0.44± AC. TAX MAP

TAX MAP 11 LOT 10
JAMY BLANCHARD
NOAH ELSTON
0.66± AC. DEED

CURVE DATA
PI = 109+53.65
D = 1°54'35.49"
Δ = 9°11'26.47"
R = 3000.00
L = 481.22
T = 241.12
E = 9.67

PC = 107+12.52
PT = 111+93.74

4" LOAM & SEED

REMOVE EXIST. CULV.

STA. 110+34 RT. ITEM NO. 202.0806. REMOVAL OF BUILDING NO. 6, 1½ STORY HOUSE

20' R/W

105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00

N6°55'44.68"E

DRAINAGE OUTLET STA 105+28. ± RT

0.16± AC.

0.10± AC.

0.11± AC.

0.06± AC.

0.13± AC.

REMOVE 7 TREES

REMOVE 6 TREES

REMOVE 2 TREES

15" X 40.0' OPTION 1

HIGH POINT STA. 108+35.59

HB-WALL-104

STA. 108+72 RT. ITEM NO. 202.0803. REMOVAL OF BUILDING NO. 3. SHED

STA. 109+48 RT. ITEM NO. 202.0804. REMOVAL OF BUILDING NO. 4. 1½ STORY HOUSE

STA. 110+09 RT. ITEM NO. 202.0805. REMOVAL OF BUILDING NO. 5. SHED

TAX MAP 11 LOT 14
JAMES H. CLARKE JR.).
0.34± AC. TAX MAP

TAX MAP 11 LOT 13
JAMES H. CLARKE JR.

TAX MAP 11 LOT 12
JOSEPH A. SAUCIER
RITA P. SAUCIER
0.45± AC. TAX MAP

TAX MAP 11 LOT 20
JOSEPH SAUCIER
RITA SAUCIER
0.43± AC TAX MAP

TAX MAP 4 LOT 21
LEWELLYN DESCHA

DRAINAGE OUTLET STA 111+49. ± RT

PVI = STA. 109+18.78
ELEV. = 893.43

G = 7.20%

G = -9.89%

HIGH POINT = STA. 108+35.59
ELEV. = 871.40

ANTICIPATED LEDGE TRANSITION SEE SHEET 5

EXISTING HOUSE

EXISTING PROFILE

PROPOSED PROFILE

V.C.L. = 1057'
SD = 365'
E = -22.588'

895 890 885 880 875 870 865 860 855 850

EL. 861.82 EL. 862.30
EL. 863.55 EL. 863.61
EL. 865.32 EL. 864.81
EL. 867.28 EL. 865.91
EL. 869.13 EL. 866.92
EL. 871.15 EL. 867.82
EL. 873.22 EL. 868.62
EL. 874.76 EL. 869.32
EL. 875.96 EL. 869.91
EL. 876.77 EL. 870.41
EL. 877.05 EL. 870.81
EL. 877.32 EL. 871.10
EL. 877.31 EL. 871.30
EL. 877.05 EL. 871.39
EL. 877.14 EL. 871.38
EL. 877.22 EL. 871.27
EL. 876.03 EL. 871.07
EL. 875.63 EL. 870.75
EL. 870.34
EL. 873.08 EL. 869.83
EL. 871.52 EL. 869.22
EL. 868.50
EL. 867.69
EL. 869.88 EL. 866.77
EL. 867.44 EL. 865.75
EL. 865.51 EL. 864.63
EL. 859.98 EL. 863.41
EL. 858.18 EL. 862.09
EL. 856.63 (EXIST) EL. 860.67 (PROPOSED)

105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER	RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

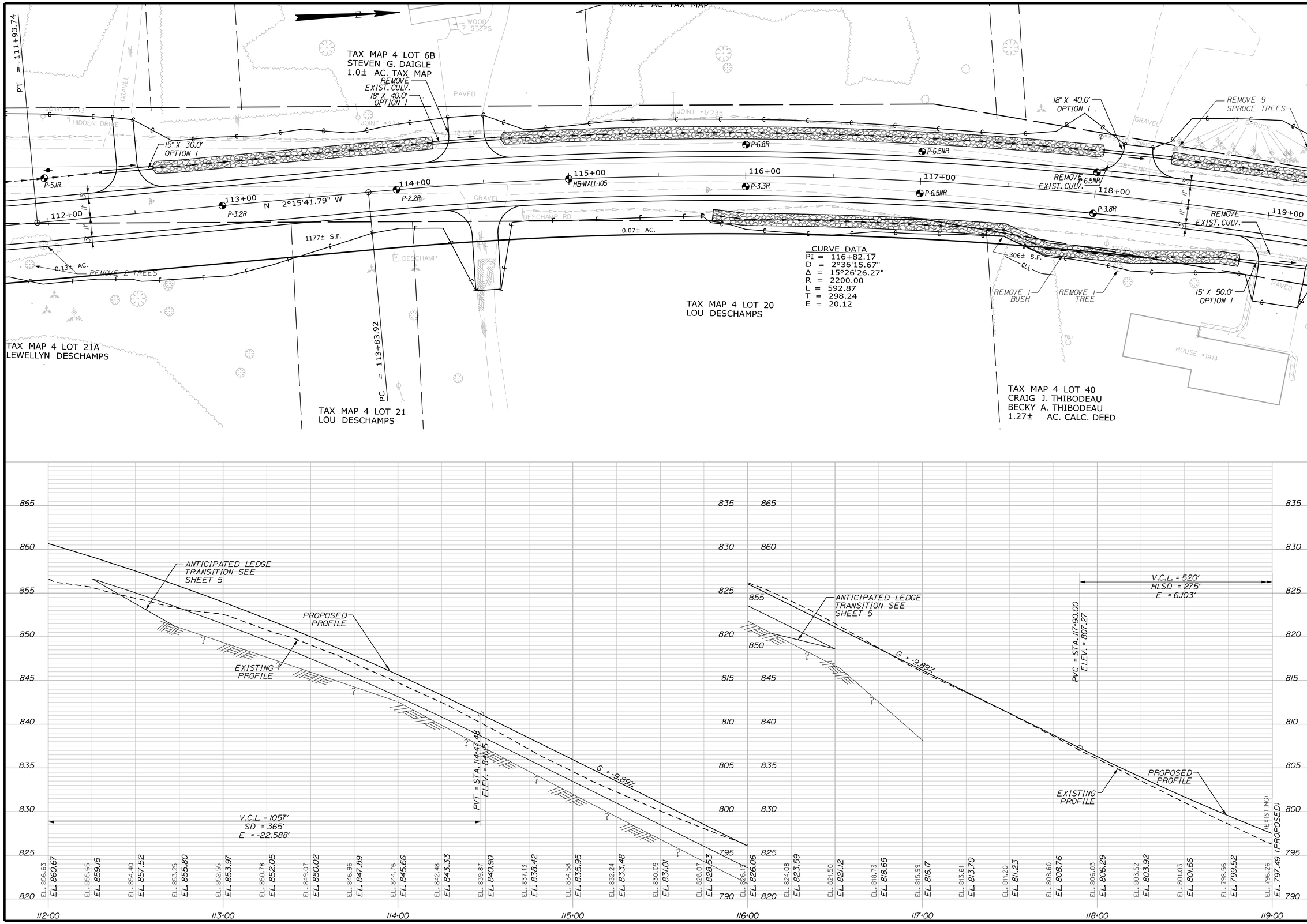
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 15

SHEET NUMBER
26
OF 216

Filename: ...\MSTA\026_Plan-Pro15.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED TPL	PZA	
CHECKED-REVIEWED GAS	GAE	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

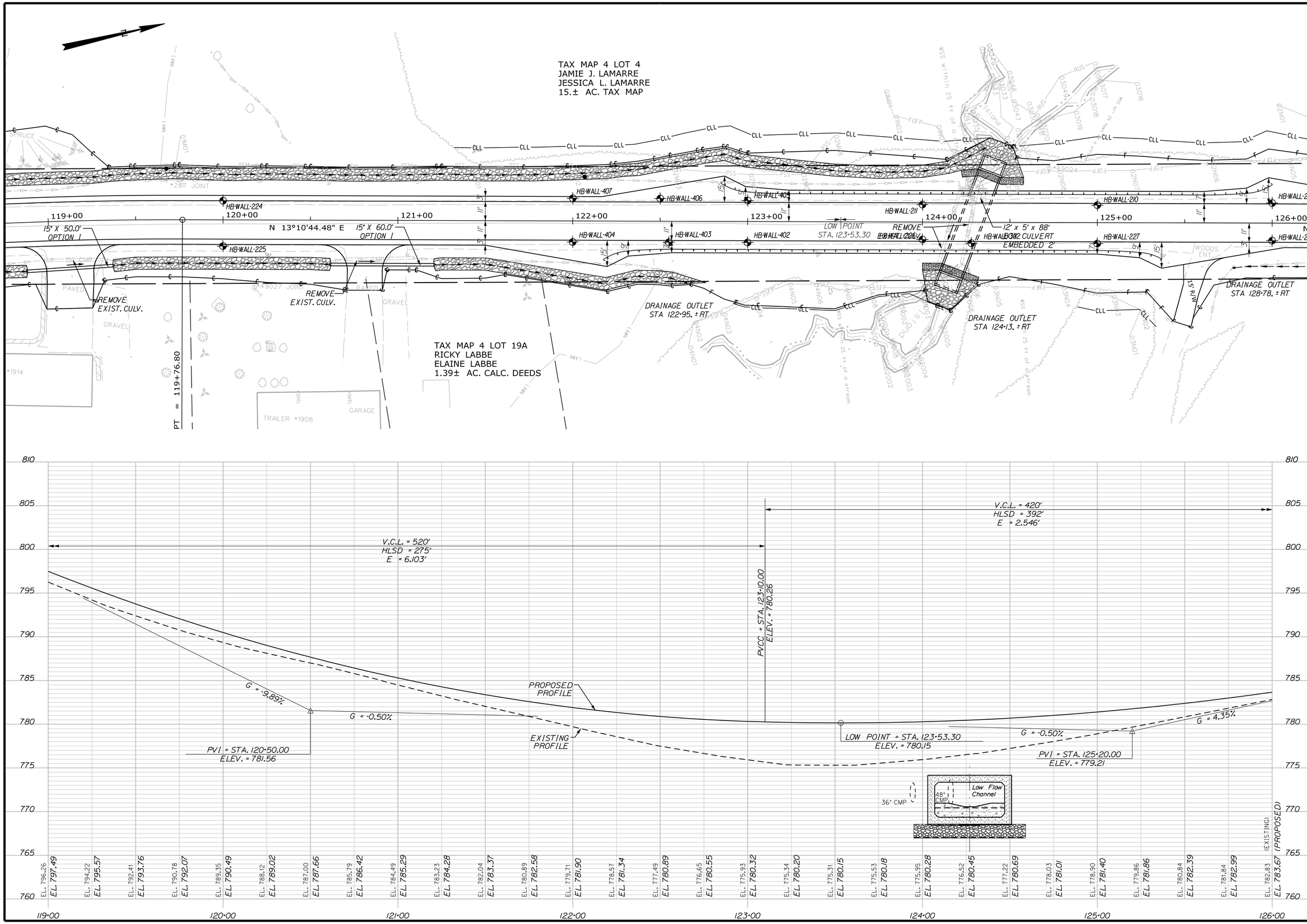
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 16

SHEET NUMBER
27
OF 216

Filename: ...\MSTA\027_Plan-Pro16.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

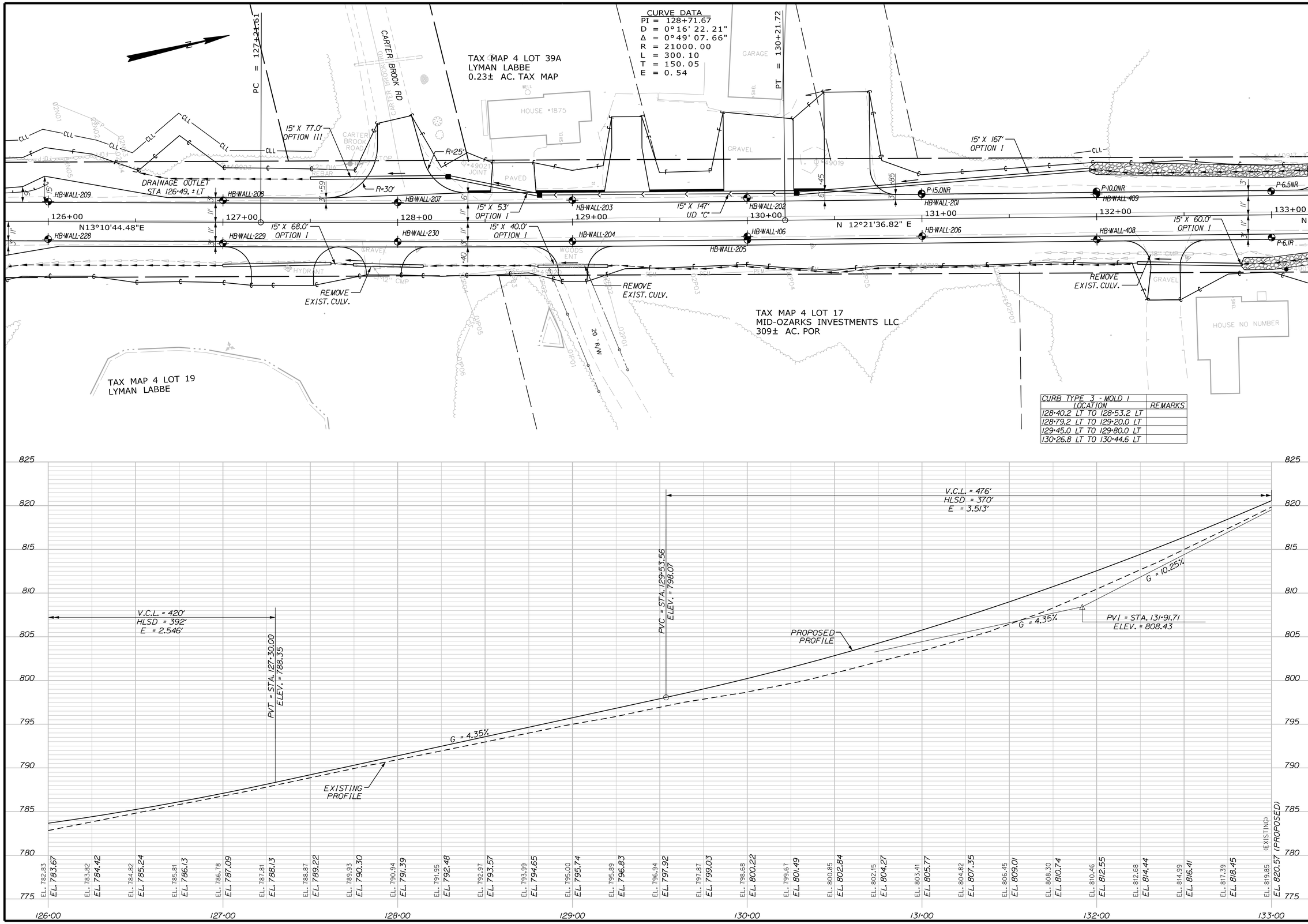
PLAN / PROFILE 17

SHEET NUMBER

28

OF 216

Filename: ...\MSTA\028_Plan-Pro17.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
128+40.2 LT TO 128+53.2 LT	
128+79.2 LT TO 129+20.0 LT	
129+45.0 LT TO 129+80.0 LT	
130+26.8 LT TO 130+44.6 LT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER RAY DEMERCHANT		
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

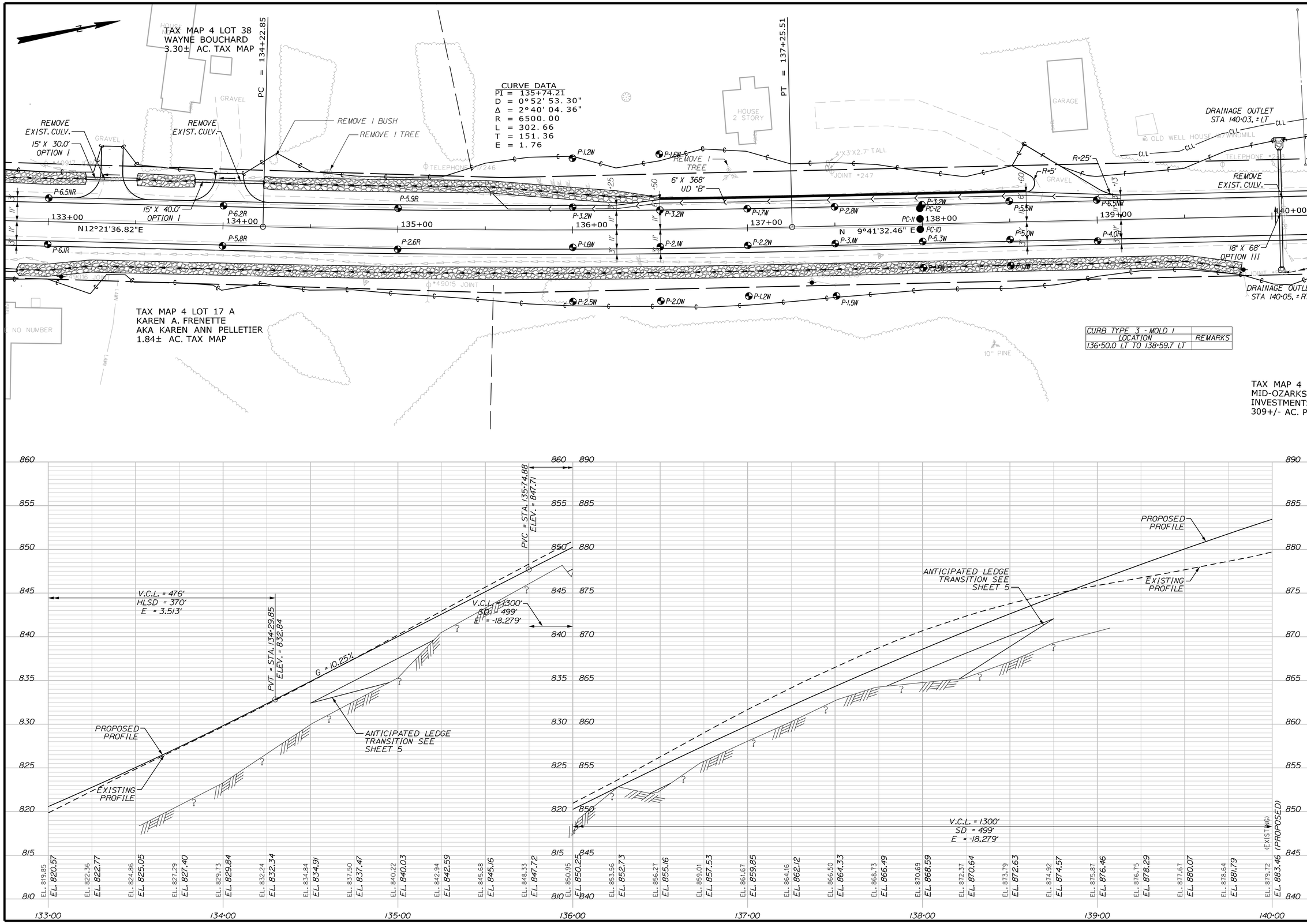
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 18

SHEET NUMBER
29
OF 216

Filename: ...\MSTA\029_Plan-Pro18.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
136+50.0 LT TO 138+59.7 LT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

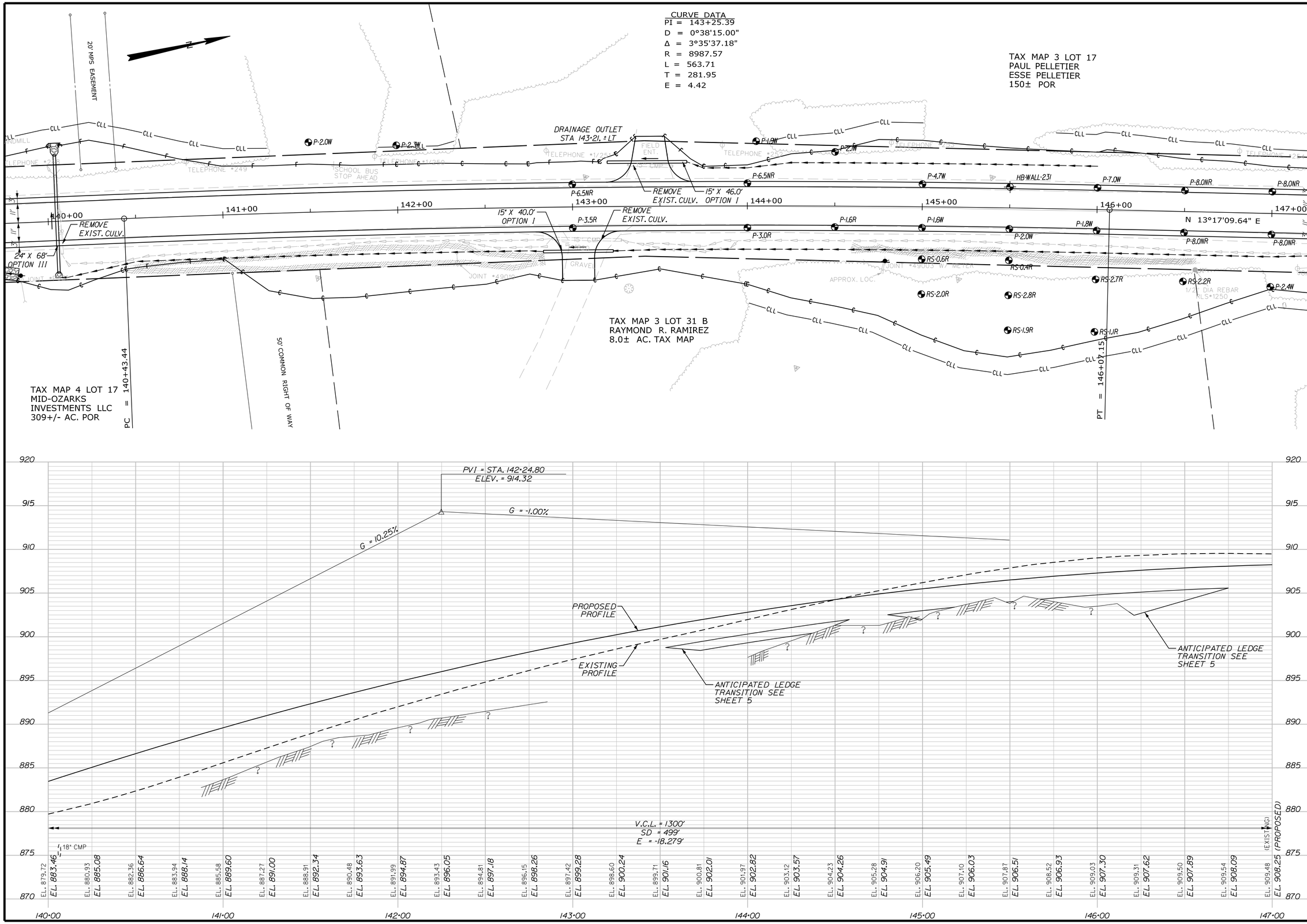
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 19

SHEET NUMBER
30
OF 216

Filename: ...\MSTA\030_Plan-Pro19.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA	------
CHECKED-REVIEWED	GAS	GAE	------
DESIGN2-DETAILED2	------	------	------
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

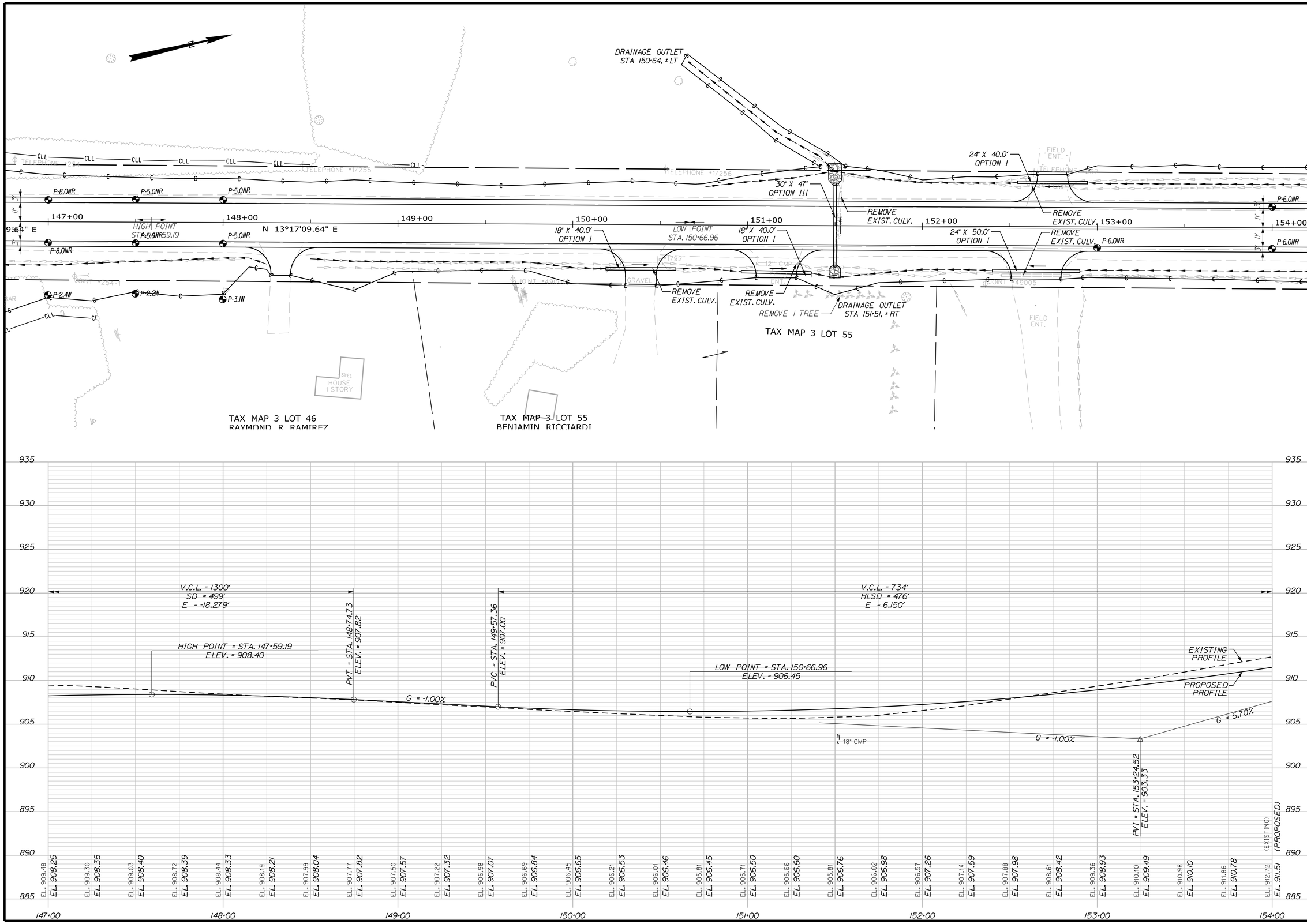
SIGNATURE
P.E. NUMBER
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 20

SHEET NUMBER
31
OF 216

Filename: ...\MSTA\031_Plan-Pro20.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

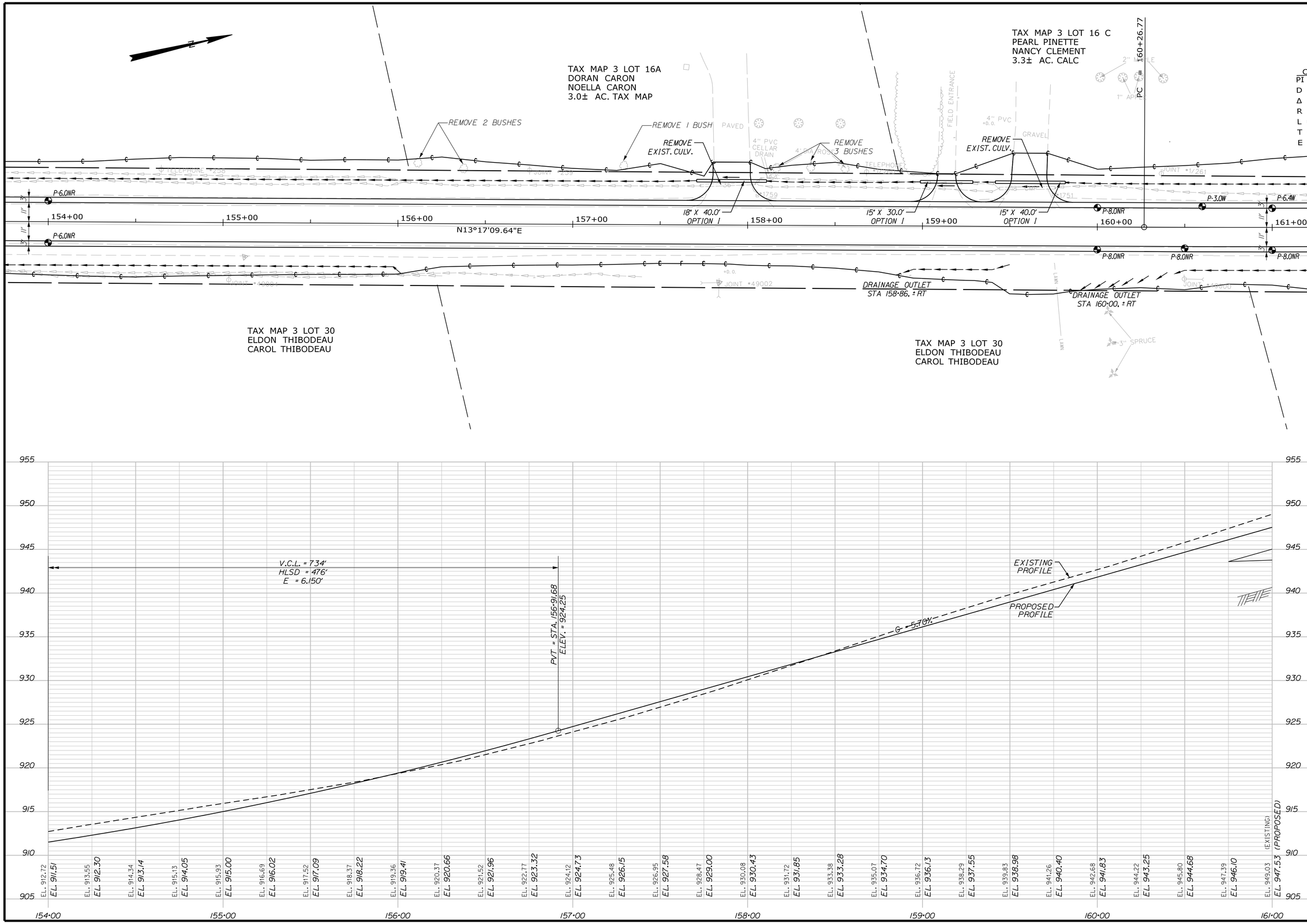
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 21

SHEET NUMBER
32
OF 216

Filename: ...\MSTA\032_Plan-Pro21.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

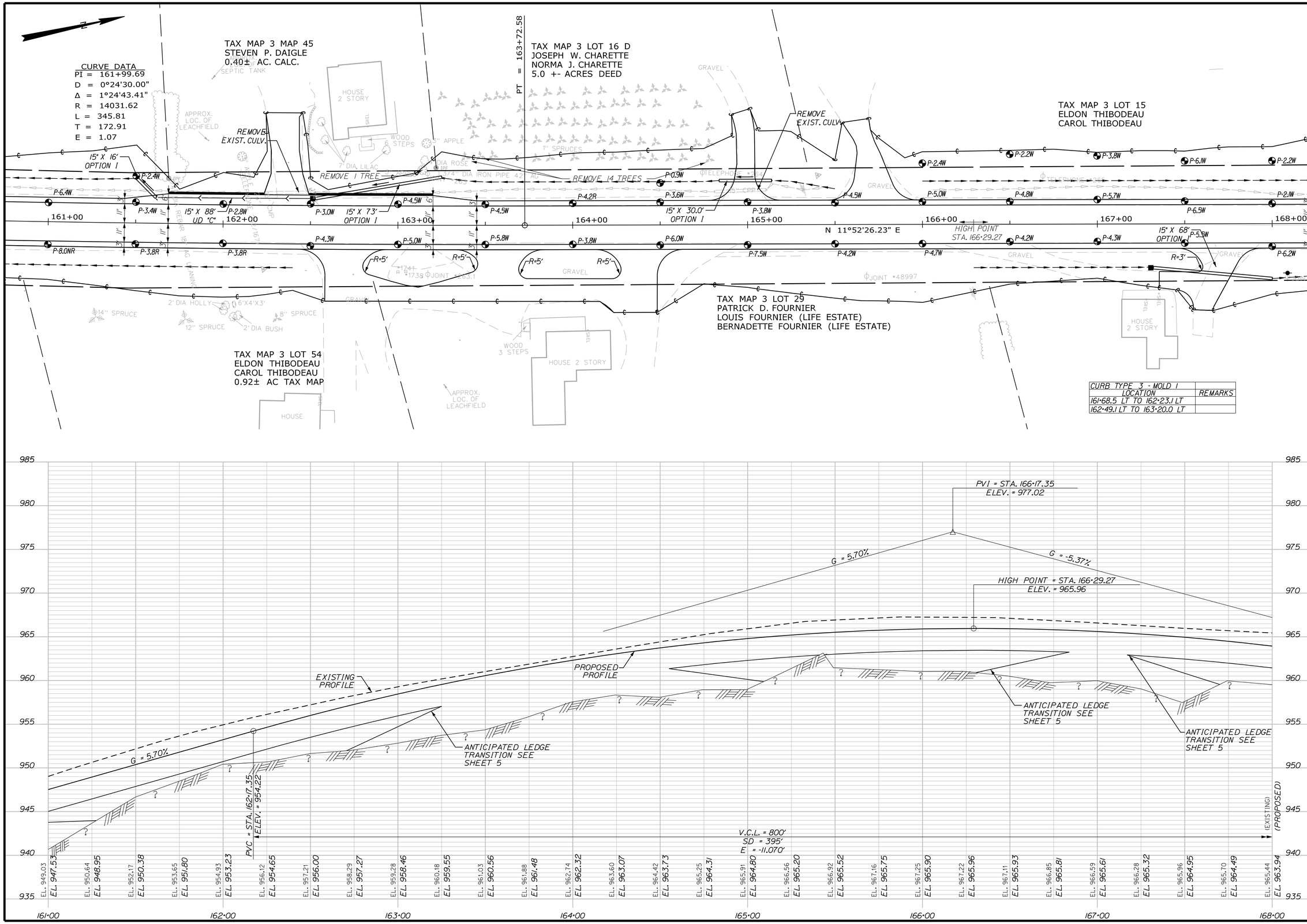
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 22

SHEET NUMBER
33
OF 216

Filename: ...\MSTA\033_Plan-Pro22.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



CURB TYPE 3 - MOLD 1	
LOCATION	REMARKS
161+68.5 LT TO 162+23.1 LT	
162+49.1 LT TO 163+20.0 LT	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE
DESIGN-DETAILED	TPL	PZA
CHECKED-REVIEWED	GAS	GAE
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

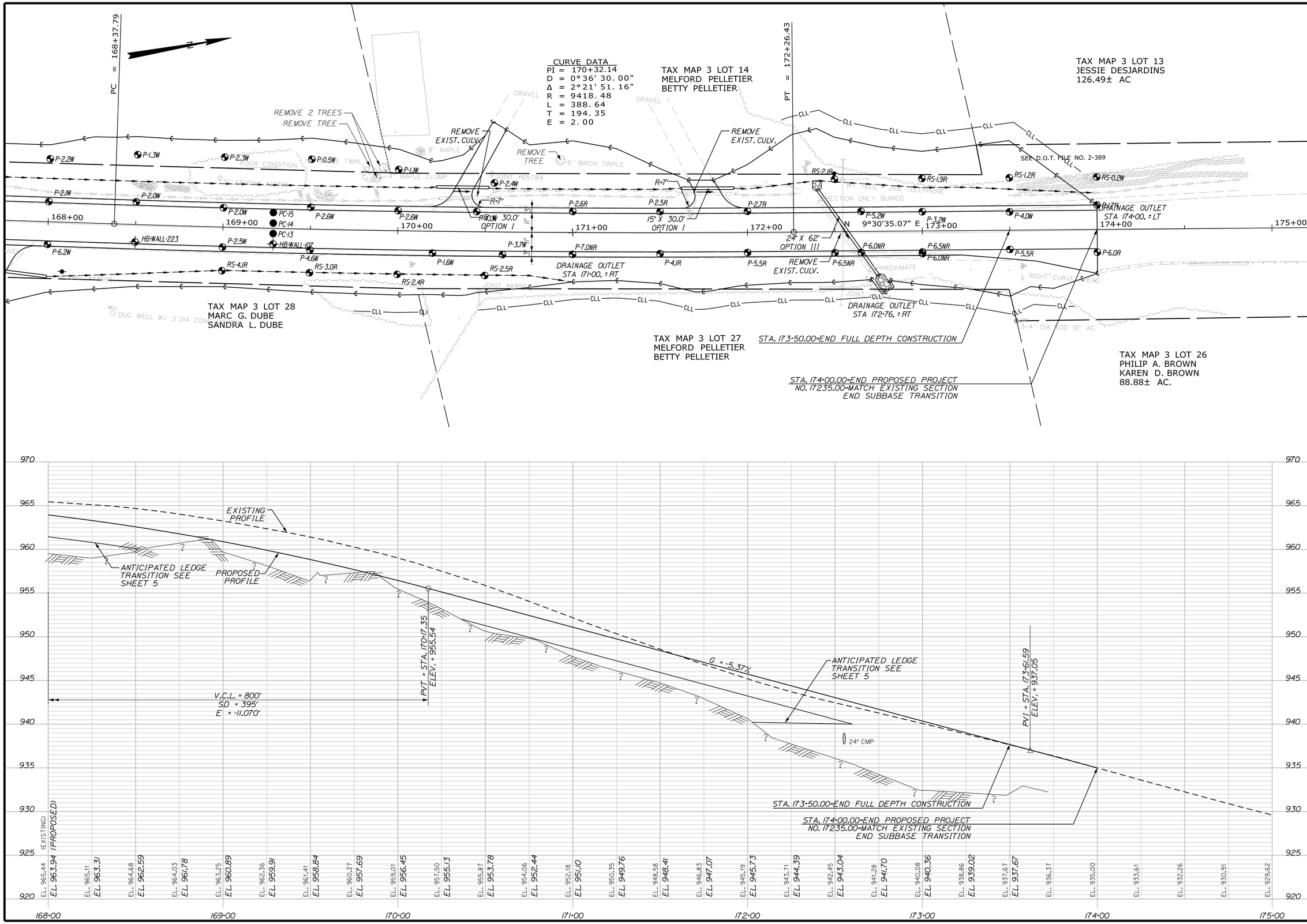
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 23

SHEET NUMBER
34
OF 216

Filename: ...\MSTA\034_Plan-Pro23.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT	BY	DATE	
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

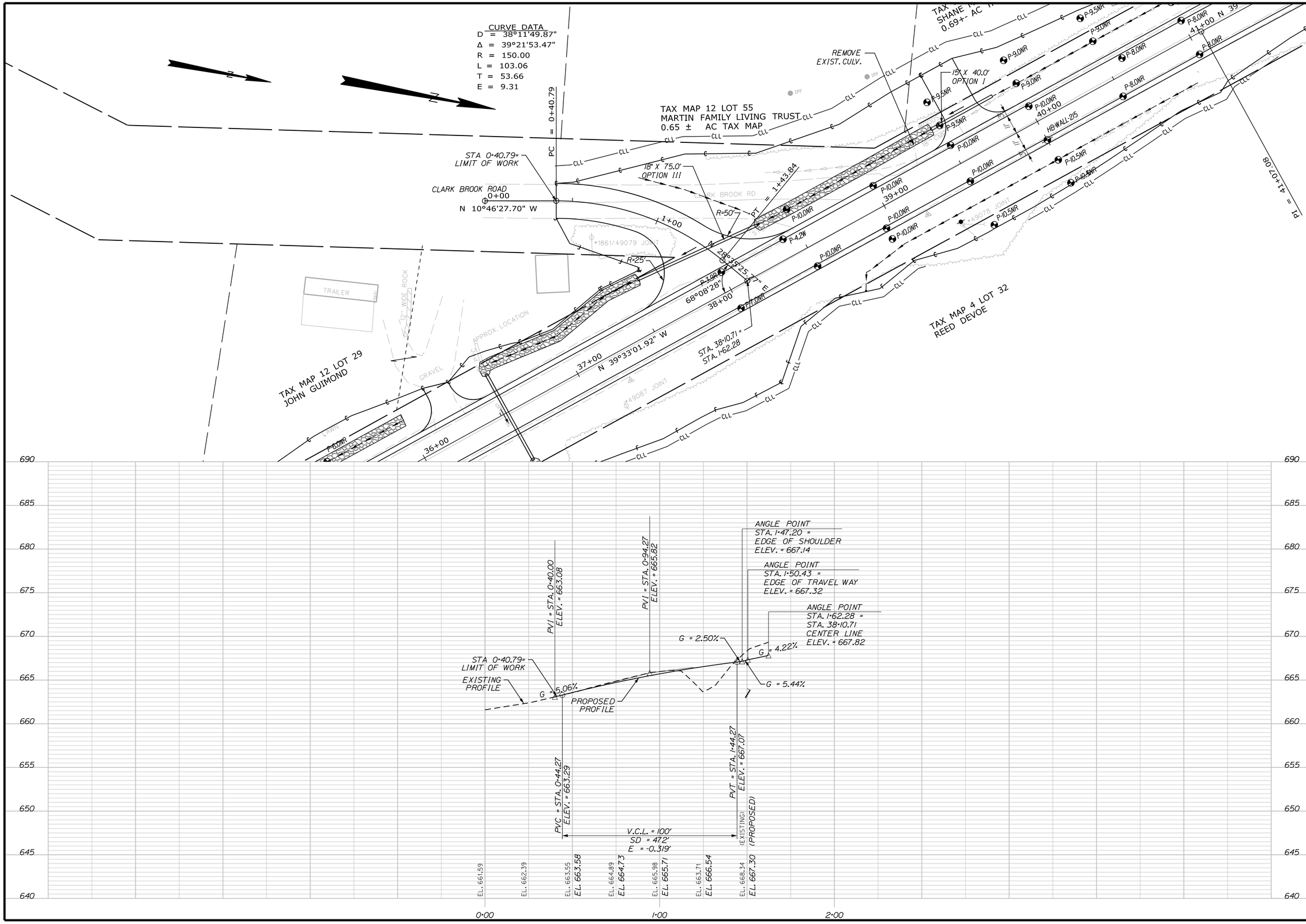
DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 24

SHEET NUMBER
35
OF 216

Filename: ...\MSTA\035_Plan-Pro24.dgn Division: HIGHWAY Username: parmala Date:3/6/2013



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IB-1723(500)X

17235.00

HIGHWAY PLANS

PROJ. MANAGER/RAY DEMERCHANT		BY	DATE
DESIGN-DETAILED	TPL	PZA	
CHECKED-REVIEWED	GAS	GAE	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

WALLAGRASS
ROUTE 11

PLAN / PROFILE 25

SHEET NUMBER

36

OF 216

Filename: ...\MSTA\036_Plan-Pro25.dgn Division: HIGHWAY Username: parmala Date:3/6/2013