Maine Department of Transportation
Urban and Arterial
Geotechnical Report

PRELIMINARY GEOTECHNICAL REPORT FOR A 1.22 km PORTION OF WEST MAIN STREET, ROUTE 6& 15 IN DOVER-FOXCROFT, PISCATAQUIS COUNTY

Prepared by

Albert E. Eggleston, CG
Soils Research Scientist

Reviewed by
M. Moreau, PE

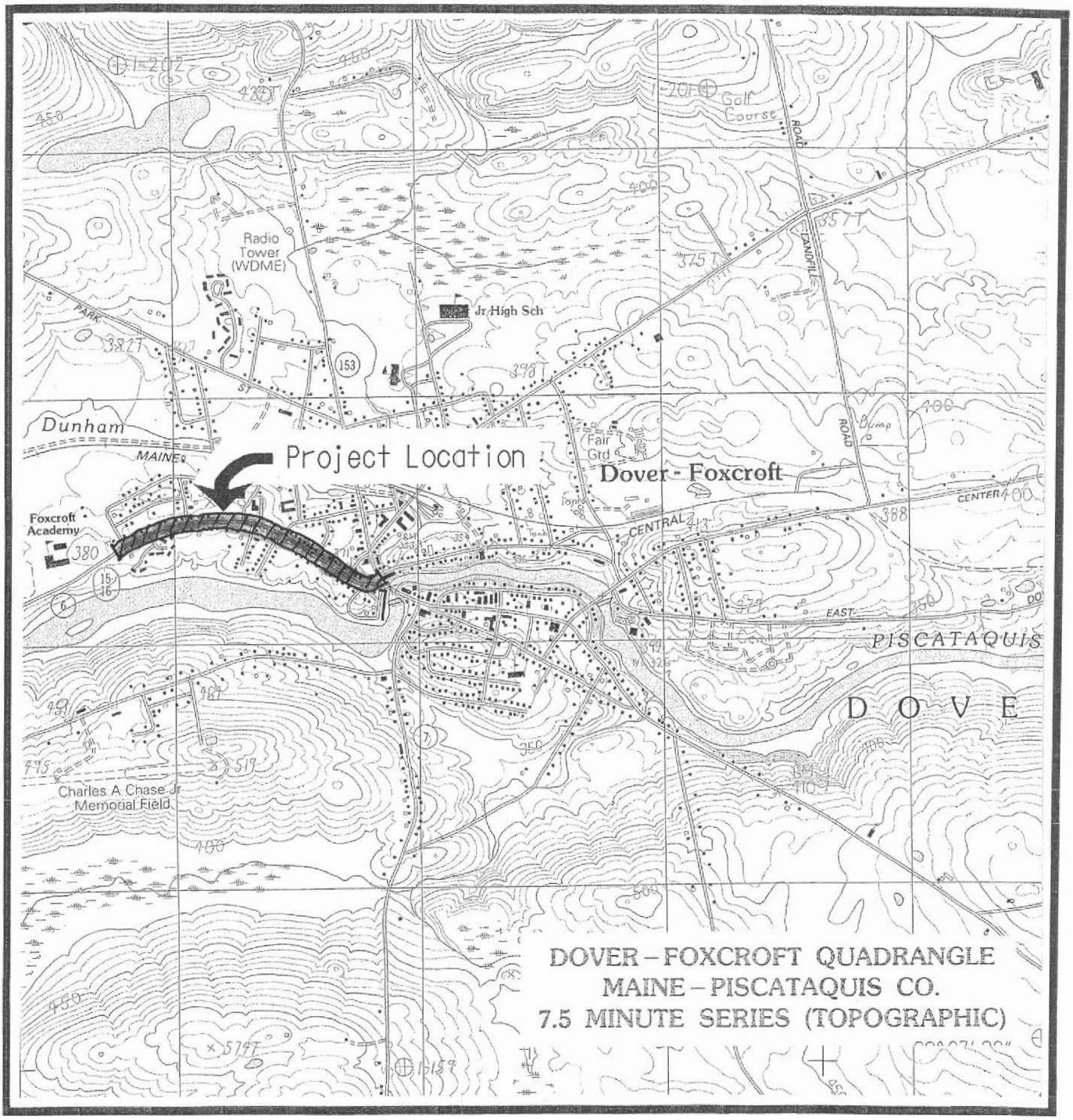
STP-9199(00)X

Piscataquis County

PIN 9199.00
August 2002

Soils Report 2002-07

Location Map



Dover-Foxcroft, Maine, West Main Street, Routes 6 & 15, PIN. 9199.00

1 .5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

1:24000, 1"= 2000', 1 cm = 240 m

N

CONTENTS

Text	Page No.
INTRODUCTION:	1
RECOMMENDATIONS:	2
CONCLUSIONS:	3
GENERAL CONDITIONS:	4
DETAILED CONDITION:.....	5
SAMPLE TABULATION:.....	7
Appendix A	Sheet No.
Grain Size Distribution Curves:.....	1 - 6
Geological Explorations:	7 - 42
Plan & Profile	43 - 57

Appendix B

FWD Data:

Figure 1 & 2:

Special Provision 650.65, Reinforcement Geogrids

TEXT

1. INTRODUCTION

1.1. The proposed project begins 110m west of the intersection of West Main St. and Sanford St. and extends easterly 1.22 km to the intersection of West Main and Lincoln St. This project has completed the preliminary development phase. Final design is being completed. Explorations including FWD testing, power auger borings, soundings and sample testing were conducted to establish a Geotechnical background database for final design and construction. Explorations and sample testing were completed in early simmer, 2002 provided, additional data to the Design Consultants.

1.2. The project as presently defined closely follows the existing horizontal and vertical alignment with minor changes in alignment and grade to meet present and future traffic demands. The existing core is to be ground and repaved. In addition full depth reconstruction of the shoulders and installation of a subsurface drainage system are proposed.

1.3. Preliminary exploration data and laboratory soil test results are included with this report. Exploration data has been plotted on a set of cross sections, which will be forwarded to the design consultants with a copy of this report.

1.4. Samples were classified by the AASHTO M-145-40 and Unified systems. Frost Susceptibility Rating from zero (non-frost susceptible) to Class IV (highly frost susceptible) is based on MDOT and Corps of Engineers systems.

2. RECOMMENDATIONS

2.1. It is recommended that the shoulders be reconstructed to meet present specifications and anticipated traffic demand.

2.2. It is recommended that the Portland cement concrete pavement (PCC) located between stations 2+130-2+160 remain in place. The PCC pavement should be treated as follows:

1, The bituminous pavement should be ground off. Estimated depth 25-75mm.

2, The PCC pavement and the newly constructed shoulders should be covered with Geogrid. See Special Provision 620.65.

3, The Geogrid should be placed to provide a 2m transition between the PCC pavement and the adjacent roadway , approximately stations 2+128-2+130 and 2+160-2+162.

4, The Geogrid should be covered with a 75mm layer of compacted pavement grindings to serve as insulation when final paving is being completed.

2.3. Four hundred fifty (450) millimeter undercuts with 20:1 longitudinal transitions between the bedrock and class III/IV subgrade soils the base are recommended on the left between stations 1+593-1+616. See fig. 1 and 2.

3. CONCLUSIONS

3.1. Earth Excavation:

3.1.1. It is anticipated that the earth excavation will consist of silty sand/sandy silts from the shoulder area plus under drain and catch basin locations. The excavation should be suitable for use as borrow in embankment or subgrade where required during a construction season with "normal" precipitation.

3.2. Rock Excavation:

3.2.1 Rock excavation is anticipated for under drain and catch basins on the left between stations 1+593 to 1+675. In addition removal of Portland cement concrete pavement may be required on both left and right of the project between stations 2+130 to 2+160 during construction of the drainage system if required by final design. It is proposed to leave the PCC pavement in place.

3.3. Embankment Foundation:

3.3.1. It is anticipated that the existing subgrade soils will adequately support the proposed embankments. FWD testing indicates that the subgrade resilient modulus (RM) varies between a low of 34609 and a high of 165762, both of which are single anomalies. The weighted average RM is 57250. This is recommended for design purposes.

3.4 Subgrade Conditions:

3.4.1 The subgrade will consist of the existing utility trench backfill (an unknown variety) with in the core of the road plus the class III/IV silty sand/sandy silts in the shoulder areas to be reconstructed

3.4.2. Freezing Index and Frost Penetration estimates for 760mm pavement and base are as follows:

	Total Frost Penetration		Frost Penetration into Subgrade	
	Nongranular Subgrade	Granular Subgrade	Nongranular Subgrade	Granular Subgrade
Freezing Index				
Mean 1400	1200mm	1825mm	470mm	1075mm
Design 1900	1475mm	2380mm	725mm	1635mm

3.4.3. It is anticipated that standard erosion control practices will meet design and construction needs.

3,5 Drainage:

3.5.1. The existing drainage system requires upgrading to meet the requirements established by the proposed design. Four principle outlets will utilize existing locations.

GENERAL CONDITIONS

4.1 The project lies in an urban area which contains regional high school, a hospital and a number of small business and residences. The area is located on the upper reaches of the Piscataquis River flood plane. The Piscataquis River is subject to periodic severe flooding. The last major flood was in the spring of 1987. At that time the to the lower lying areas to the west and south of the project were inundated to approximately elevation 97.6m (320 ft). There was no flooding in the immediate project area. The lowest lying portion of the project is at elevation 110m. Flooding also occurred adjacent to the Piscataquis River bridge easterly of the project.

4.2. The soils deposited in the upper most reaches of the flood plane consist of moderately deep well drained fine silty sand and sandy silts with some interbedded sand and gravel. The silty soils are deeply weathered and firm. At the time of the preliminary exploration the water table lay at depths greater than 3.96m after a three year period of below normal precipitation. More seasonal precipitation and construction activity may result in fluctuation of the water table.

4.3 Bedrock in the area consists of thinly bedded phyllites and schist which generally have a north easterly trend. These rocks are exposed on the project on the left in the vicinity of stations 1+593 to 1+616. Limited rock excavation is anticipated in this area.

DETAILED CONDITIONS

5.1 Station 1+000 (begin project) to Station 1+680:

5.1.1. The project begins 115m westerly of Sanford St. extending easterly. The alignment and grade closely follow that of the existing roadway with limited changes to accommodate anticipated future estimated traffic demand. In addition the intersections of West Main St. with Sanford St., Paul St., Grange St. and the two principle entrances to Mayo Regional Hospital will be reconstructed. The grade results in a shallow fill section, which is the result of grinding and repaving, with a maximum height increase of 0.38m to finish grade on centerline in the vicinity of station 1+160. Fill up to 0.4m is proposed along the right shoulder where additional base material is required to establish cross section grade.

5.1.2. Preliminary exploration and field review indicates that shallow bedrock is present on the left between stations 1+593-1+675. Rock excavation should be anticipated with in the proposed drainage system and shoulder in this area.

5.1.3. The soils in this area consist of the existing base and complex deposits of firm interbedded Class III and Class IV sandy silts, silty sand with traces of gravelly material, and silty clay. At the time of exploration (Sept. 2002) the subgrade was well drained. Note that this was at the end of two consecutive years of below normal precipitation.

5.1.4. Preliminary samples of the existing base taken from the core indicate that the material consists of. sandy/silty gravel with 11-18% fines passing the number 200 sieve (average 14%). This exceeds the appropriate MDOT grave base/aggregate base spec (1958 to date) for minus 200 material 6 to 13 + percent. Data from the shoulder areas indicate that the shoulders contain 2-300mm of sandy/silty gravel similar to the core. It should be noted that this area does not have a history of severe frost heave distress associated with silty frost susceptible base and subgrade soils.

5.1.5. The existing roadway and adjacent area are drained by an existing surface and subsurface drainage system. Drainage appears to have been adequate historically. Changes in land use in the adjacent area plus the changes proposed in the roadway require upgrading the existing drainage system.

5.2. Station 1+680 to Station 2+222 (end project)

5.2.1. Travel way grade changes are limited to changes due to shim and repaving. Limited alignment changes are proposed to accommodate present and anticipated traffic demand. The shoulders are to be rebased and upgraded to meet anticipated future need. In addition the intersections of West Main St with Green St., Winter St., Riverside Ave., Central St., and Exchange St. are to be reconstructed.

5.2.2. Field and sample test data indicate that the subgrade soils in this section consist of firm Class III and Class IV silty sand, sandy silts with some gravelly zones. At the time of exploration the subgrade was well drained. This may be partially due to a period of prolonged drought.

5.2.3. Samples of the existing base taken from the core of the roadway consisted of approximately 400mm silty/sandy gravel with 7-20% material passing the number 200 sieve (average 16%). The samples exceed present spec (703.06) by 2-15%. This section does not have a history of severe frost distress usually associated with frost susceptible base and subgrade soils. Explorations indicate that the shoulders contain 2-300mm of similar material.

5.2.4. Portland cement concrete (pcc) pavement is present between stations 2+130-2+160.

5.2.5. No bedrock was found with in the proposed construction limits in this section.

5.2.5. The area is drained by an existing surface and subsurface system. The proposed new drainage system will utilize the existing system outfalls.

State of Maine - Department of Transportation

Laboratory Testing Summary Sheet

Town(s): Dover-Foxcroft Project Number: 9199.00

Boring & Sample Identification Number	Station (Meter)	Offset (Meter)	Depth (Meter)	Reference Number	G.S.D.C. Sheet	W.C.	L.L.	P.I.	Classification		
									Unified	AASHTO	Frost
HB-DOVE-304, S2	1+170	25.3 Rt.	0.18-1.83	176078	1	10.3			SM	A-4	III
HB-DOVE-302, S1	1+419.7	19.2 Rt.	0.30-1.68	176077	1	8.9			SM	A-2-4	II

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): Dover - Foxcroft Project Number: 9199.00

Boring & Sample Identification Number	Station (Meter)	Offset (Meter)	Depth (Meter)	Reference Number	G.S.D.C. Sheet	W.C.	L.L.	P.I.	Classification		
									Unified	AASHTO	Frost
HB-DOVE-101, S1	1+110	6.2 LT.	0.15-0.43	105117	1	4.4			GM	A-1-a	I
HB-DOVE-101, S2	1+110	6.2 LT.	0.43-3.96	105118	1	10.3			SM	A-4	IV
HB-DOVE-102, S3	1+120	3.6 LT.	0.24-0.46	105119	1	1.8			GW-GM	A-1-a	I
HB-DOVE-103, S4	1+220	2.2 RT.	0.21-0.40	105120	1	6.3			SW-SM	A-1-b	0
HB-DOVE-103, S5	1+220	2.2 RT.	0.40-1.83	105121	1	4.7			GM	A-1-b	I
HB-DOVE-104, S6	1+220	4.5 RT.	0.40-1.83	105122	1	7.1			SM	A-2-4	III
HB-DOVE-105, S7	1+235	4.4 RT.	0.55-3.05	105123	2	9.2			SM	A-4	IV
HB-DOVE-106, S8	1+300	4.7 RT.	0.46-3.05	105124	2	13.9			SM	A-4	IV
HB-DOVE-108, S9	1+320	2.1 RT.	0.24-0.52	105125	2	1.8			GM	A-1-b	I
HB-DOVE-108, S10	1+320	2.1 RT.	0.52-1.83	100484	2	13.0			SM	A-4	IV
HB-DOVE-110, S11	1+420	4.4 LT.	0.15-0.55	100485	2	2.7			GM	A-1-a	I
HB-DOVE-110, S12	1+420	4.4 LT.	0.55-1.83	100486	2	5.7			SM	A-2-4	III
HB-DOVE-112, S13	1+520	3.7 RT.	0.09-0.46	105115	3	3.1			GM	A-2-4	II
HB-DOVE-112, S14	1+520	3.7 RT.	0.46-1.83	105116	3	21.6			SC-SM	A-4	IV
HB-DOVE-113, S15	1+520	0.7 RT.	0.91-1.52	105114	3	30.1			CL-ML	A-6	IV
HB-DOVE-115, S16	1+620	1.8 LT.	0.15-0.40	128250	6	2.6			GM	A-1-b	I
HB-DOVE-118, S17	1+675	6.8 LT.	0.08-0.30	105112	3	4.0			GP-GM	A-1-a	I
HB-DOVE-118, S18	1+675	6.8 LT.	0.30-1.4	105113	3	12.3			CL-ML	A-6	IV
HB-DOVE-119, S19	1+720	4.4 RT.	0.09-0.30	128251	6	1.6			SW-SM	A-1-b	0
HB-DOVE-119, S20	1+720	4.4 RT.	0.30-1.52	128252	6	15.7			CL-ML	A-4	IV
HB-DOVE-121, S21	1+775	5.4 RT.	0.37-10.0	128253	6	14.2			SM	A-4	IV
HB-DOVE-123, S22	1+820	1.7 LT.	0.13-0.52	105109	3	1.6			GM	A-1-b	I
HB-DOVE-123, S23	1+820	1.7 LT.	0.61-1.83	128254	6	5.6			SM	A-4	IV
HB-DOVE-124, S24	1+820	4.8 LT.	0.09-0.34	105111	4	5.3			SM	A-2-4	II
HB-DOVE-124, S25	1+820	4.8 LT.	0.34-1.83	105110	4	5.0			SM	A-2-4	II
HB-DOVE-126, S26	1+917	4.9 RT.	0.15-0.46	105102	4	6.1			GM	A-1-b	I
HB-DOVE-126, S27	1+917	4.9 RT.	0.46-1.83	105103	4	28.9			CL-ML	A-6	IV
HB-DOVE-126, S28	1+917	4.9 RT.	1.83-3.66	105104	4	11.7			SM	A-4	III
HB-DOVE-128, S29	2+015	1.8 LT.	0.16-0.40	105105	5	2.8			GM	A-1-b	I
HB-DOVE-128, S30	2+015	1.8 LT.	0.40-1.83	105106	5	10.5			SM	A-4	IV
HB-DOVE-130, S31	2+158	10.7 RT.	0.12-0.98	105107	5	4.7			GM	A-1-a	I
HB-DOVE-130, S32	2+158	10.7 RT.	0.98-2.68	105108	5	5.2			GM	A-2-4	II

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.

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

State of Maine - Department of Transportation

Ledge Outcrop Summary Sheet

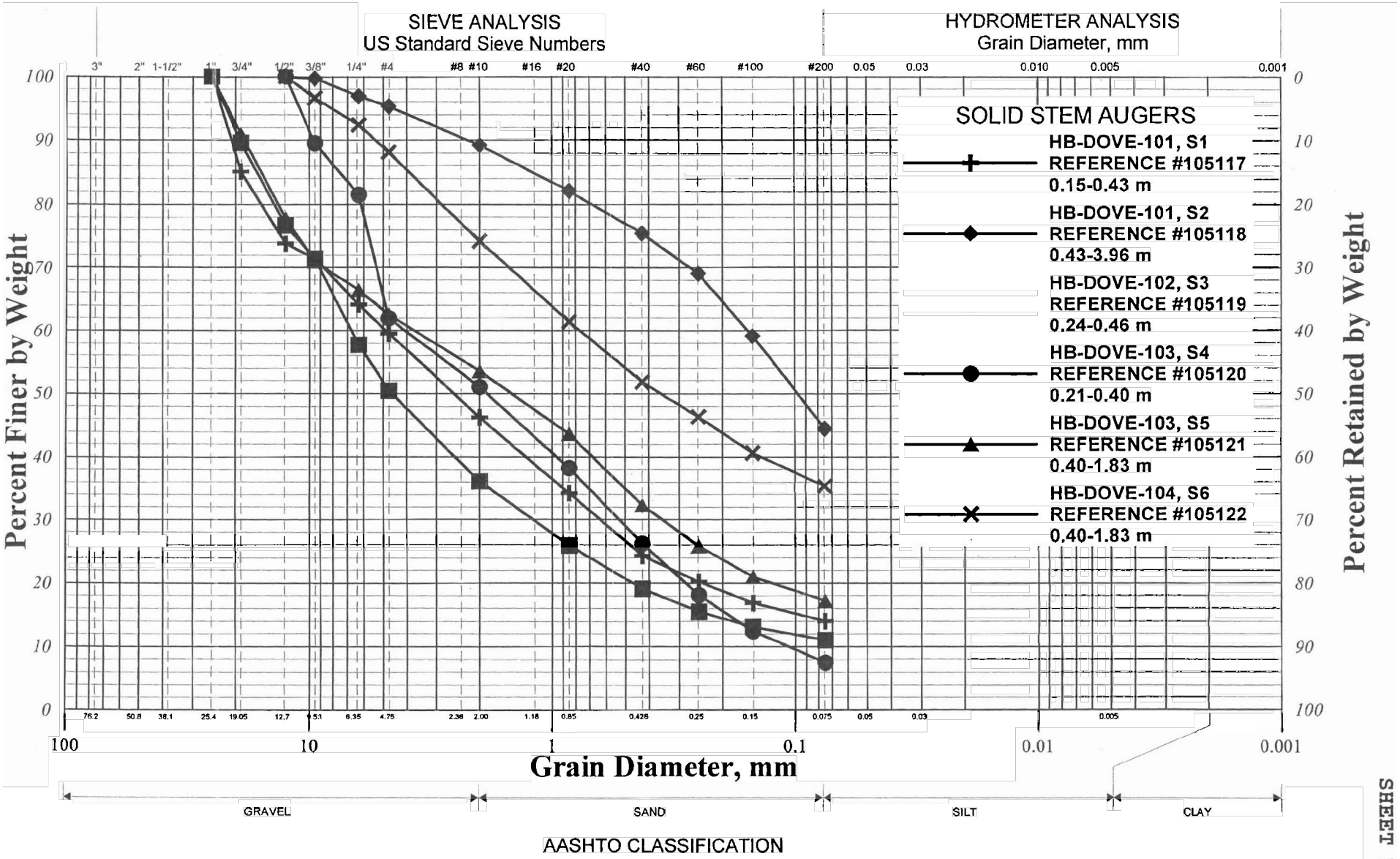
Town(s): Dover-Foxcroft Project Number: 9199.00

Station (Meter)	Offset (Meter)	Weathered Rock (Meter)	Refusal (Meter)	No Refusal (Meter)	Water (X) = Yes	Comments
1+593	5.6 LT.					Ledge Outcrop
1+596	5.6 LT.					Ledge Outcrop
1+603	5.6 LT.					Ledge Outcrop
1+616	5.6 LT.					Ledge Outcrop

GRAIN SIZE DISTRIBUTION CURVES

State of Maine Department of Transportation

GRAIN SIZE DISTRIBUTION CURVE



AASHTO CLASSIFICATION

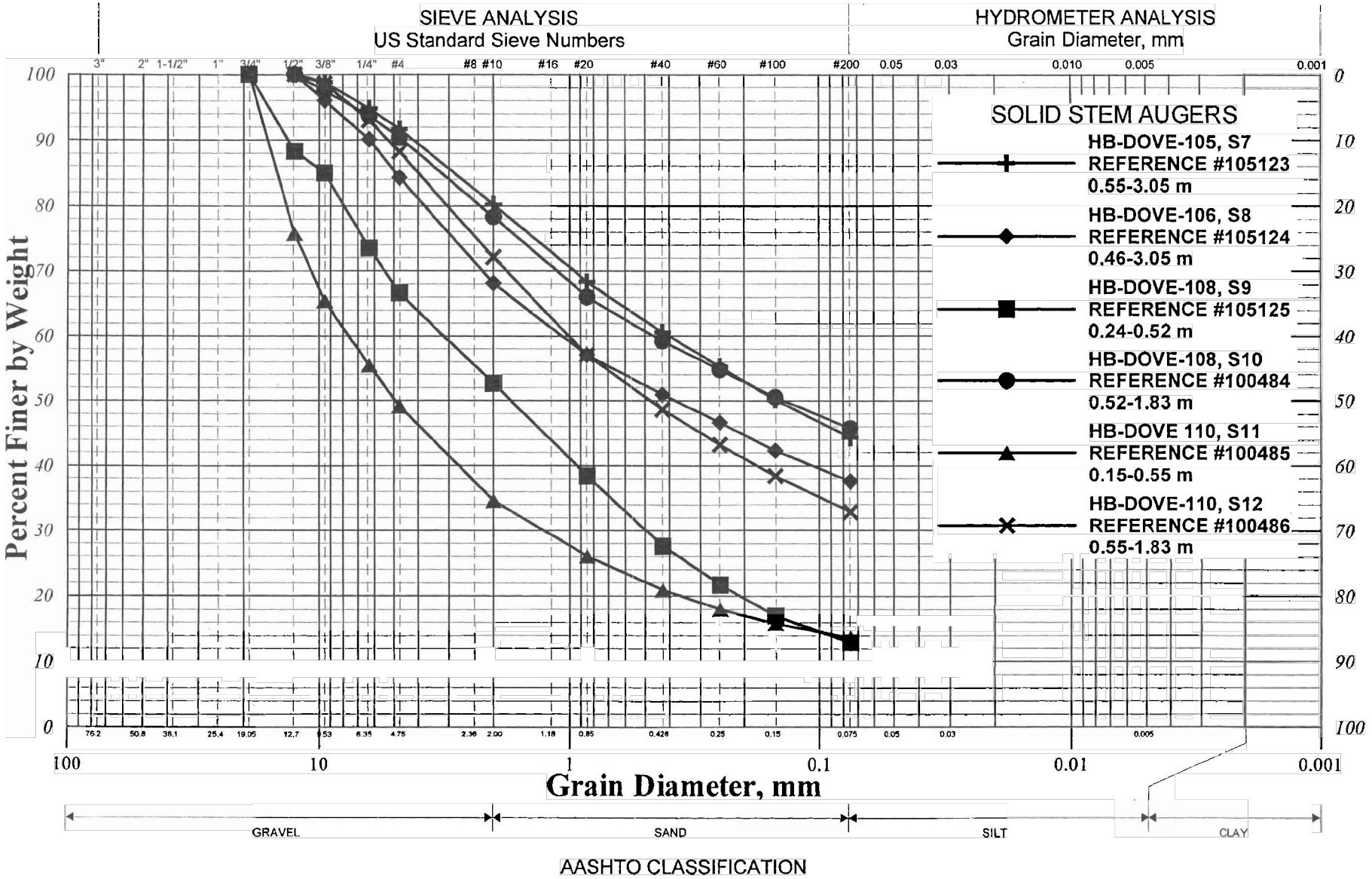
PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 10/17/01

SHEET NO 1

State of Maine Department of Transportation

GRAIN SIZE DISTRIBUTION CURVE



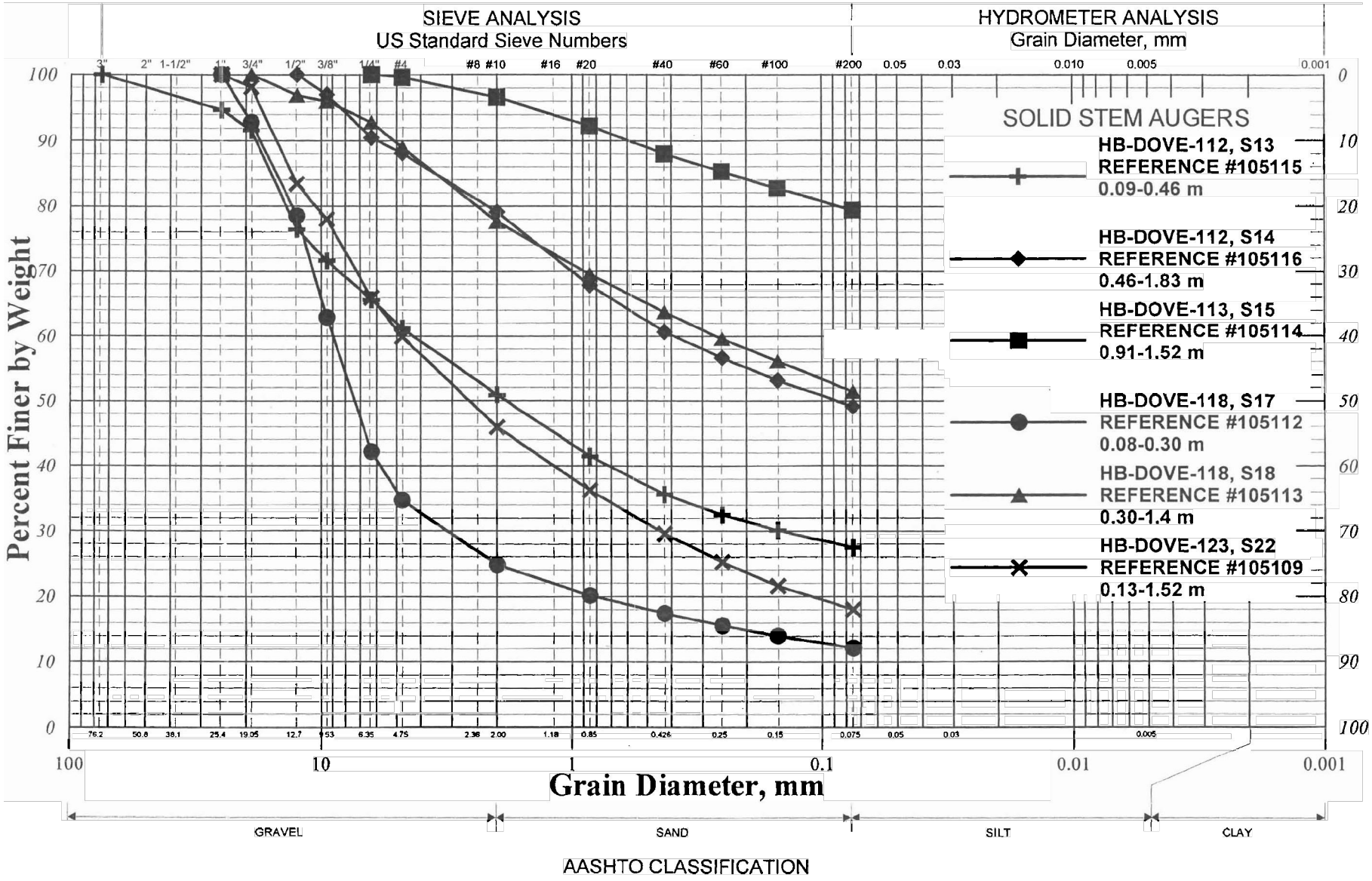
AASHTO CLASSIFICATION

PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 10/17/01

SHEET NO 2

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



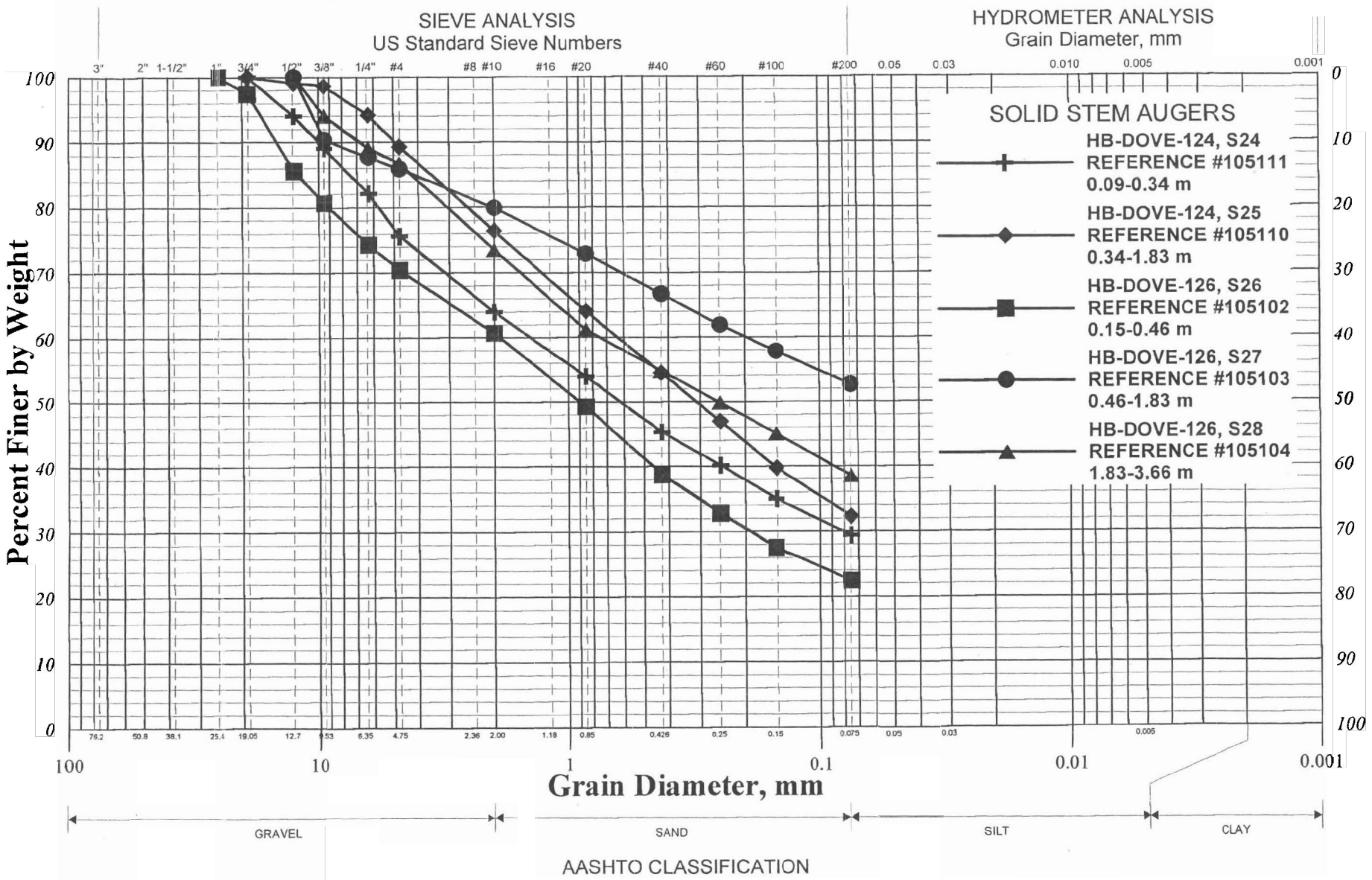
PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 10/17/01

SHEET NO 3

State of Maine Department of Transportation

GRAIN SIZE DISTRIBUTION CURVE



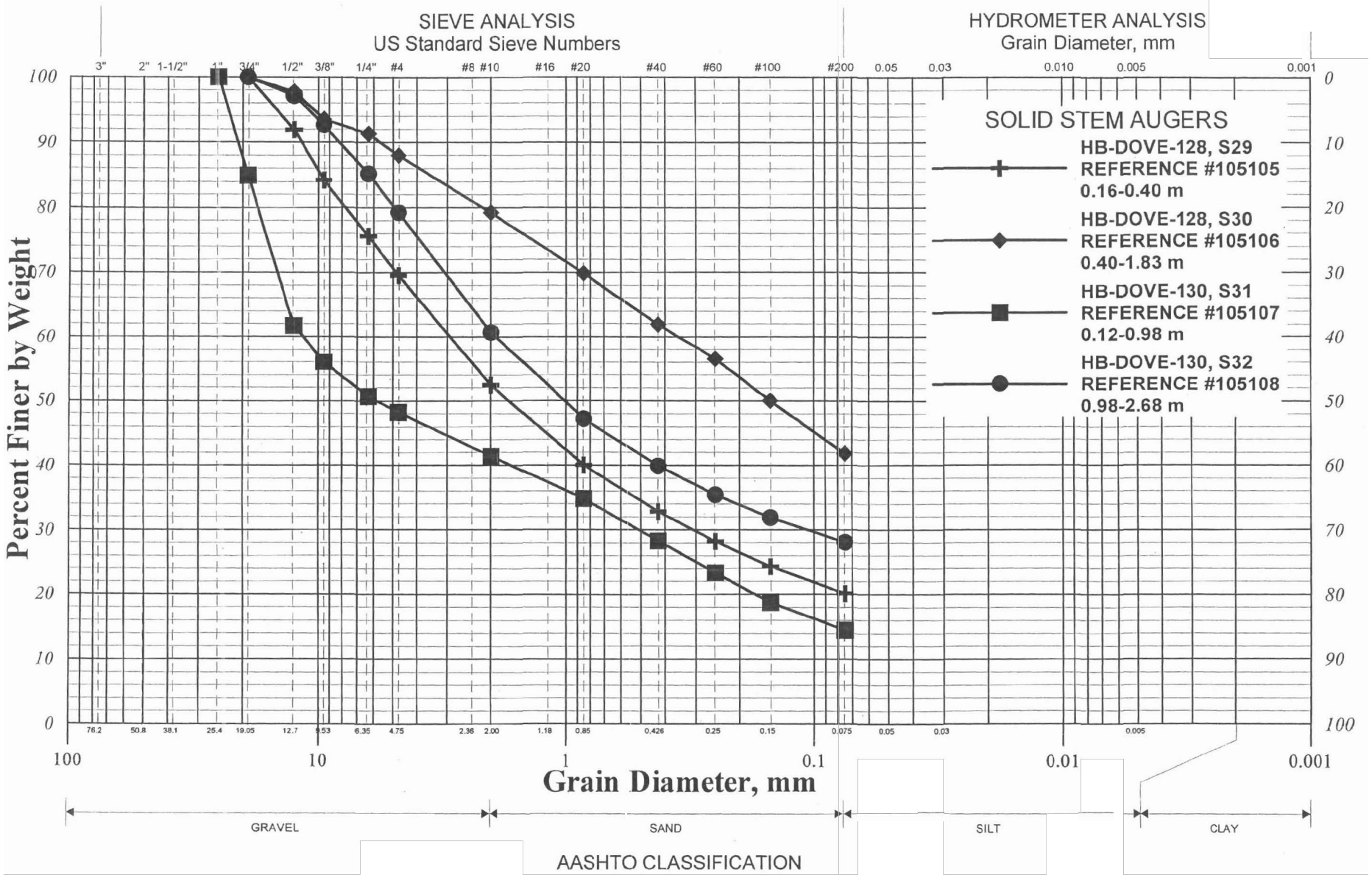
PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 10/17/01

SHEET NO. 4

State of Maine Department of Transportation

GRAIN SIZE DISTRIBUTION CURVE



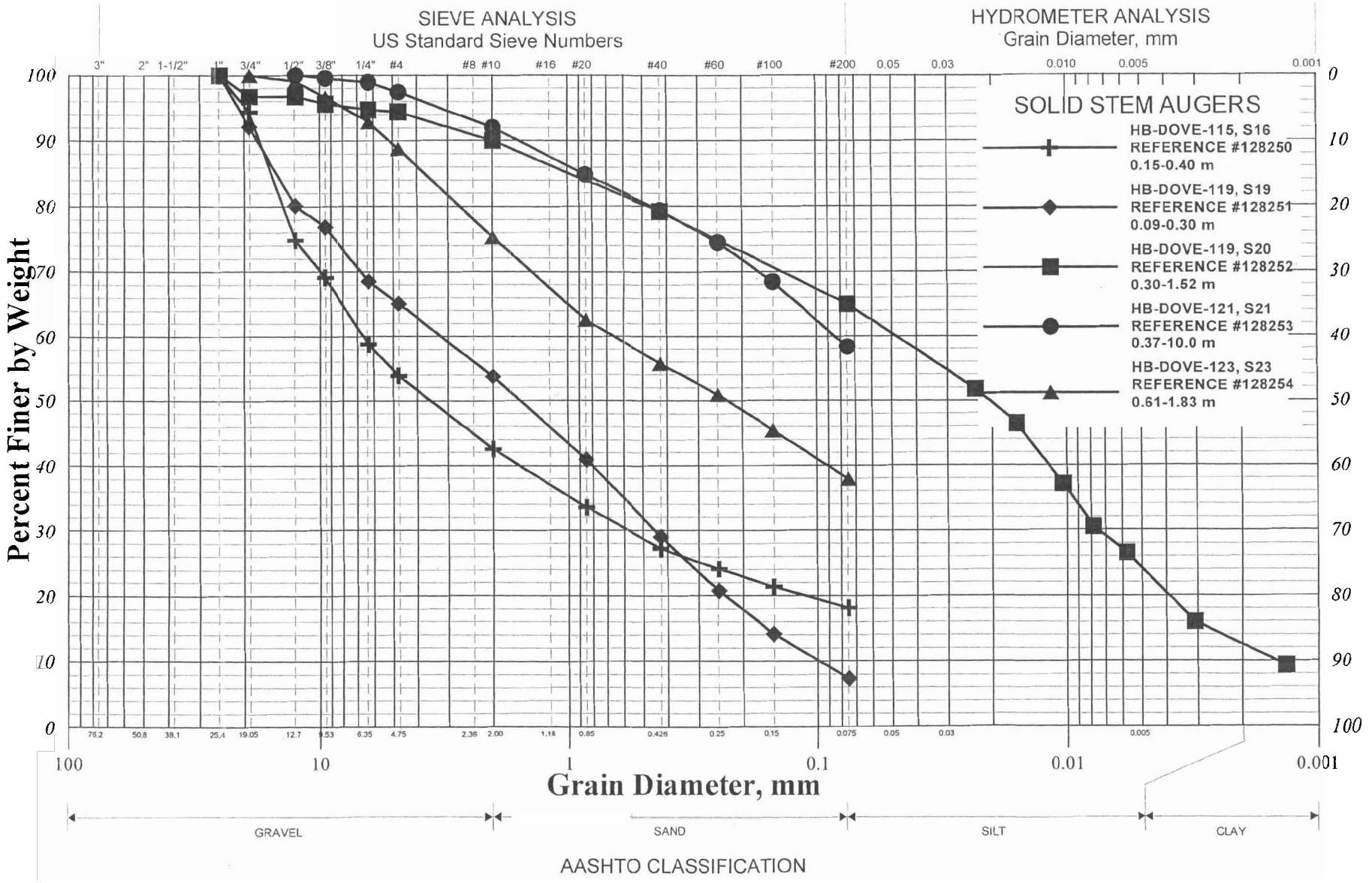
PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 10/17/01

SHEET NO. 5

State of Maine Department of Transportation

GRAIN SIZE DISTRIBUTION CURVE



PIN: 9199.00
Town: Dover - Foxcroft

Reported by: T.White
Date: 12/03/01

SHEET NO. 6

GEOLOGICAL EXPLORATIONS

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: ENV-1
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	108.90	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+197, 9.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	105.85			
1.2										
2.4										
3.6										
4.8										
6										
7.2										
8.4										
									3.05 **Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	

Remarks:

CONCRETE ROADWAY UNDER PAVEMENT, +- 2+150 TO +- 2+180 AND EXTENDING OUT TO LEFT AND RIGHT WHITE LINES, EXPOSED AT EDGES.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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.: ENV-1

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: ENV-2
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	111.26	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+178, 5.8 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	108.21			
1.2										
2.4										
3.6										
4.8										
6										
7.2										
8.4										
									3.05 **Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	

Remarks:

CONCRETE ROADWAY UNDER PAVEMENT, +- 2+150 TO +- 2+180 AND EXTENDING OUT TO LEFT AND RIGHT WHITE LINES, EXPOSED AT EDGES.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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.: ENV-2

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: ENV-3
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	111.70	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+165, 6.5 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	108.65			
1.2										
2.4										
3.6										
4.8										
6										
7.2										
8.4										
									3.05 **Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	

Remarks:

CONCRETE ROADWAY UNDER PAVEMENT, +- 2+150 TO +- 2+180 AND EXTENDING OUT TO LEFT AND RIGHT WHITE LINES, EXPOSED AT EDGES.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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.: ENV-3

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: ENV-4
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	112.60	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+112, 6.5 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	109.55			
1.2										
2.4										
3.6										
4.8										
6										
7.2										
8.4										
									3.05 **Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	

Remarks:

CONCRETE ROADWAY UNDER PAVEMENT, +- 2+150 TO +- 2+180 AND EXTENDING OUT TO LEFT AND RIGHT WHITE LINES, EXPOSED AT EDGES.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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.: ENV-4

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-101
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	115.85	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+110, 6.2 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	115.75		PAVEMENT	
	S1						115.70		0.10	G #105117 A-1-a, GM
	S2						115.42		Black treated GRAVEL.	
									0.15	G #105118 A-4, SM
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
1.2									0.43	
									Brown, dry, dense silty fine to coarse SAND, some gravel, occasional cobbles, (Till).	
2.4										
3.6										
							111.89		3.96	
									Bottom of Exploration at 3.96 m below ground surface. NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

24.9 m DOWN AND 0.2 m IN FROM POLE #24.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-101

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-102
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	115.90	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+120, 3.6 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	115.76		PAVEMENT	
	S3						115.66		0.14	G #105119
							115.44		Black treated GRAVEL.	A-1-a, GW-GM
									0.24	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
1.2									0.46	
									Brown, dry, dense silty fine to coarse SAND, some gravel, occasional cobbles, (Till).	
							114.07		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

13.5 m DOWN AND 2.1 m IN FROM POLE #24.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING CL.
SKIPPED TRAVEL LANE BORING, SEWER MAIN.

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-DOVE-102

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-103
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.58	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+220, 2.2 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.44		PAVEMENT	
	S4						116.37		0.14	G #105120
	S5						116.18		Black treated GRAVEL.	A-1-b, SW-SM
									0.21	G #105121
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	A-1-b, GM
1.2									0.40	
									Brown, dry, silty fine to coarse SAND, some gravel, occasional cobbles, (Till).	
							114.75		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

5.4 m DOWN AND 11.7 m IN FROM POLE #22.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-103

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-104
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.41	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+220, 4.5 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.38		PAVEMENT	
									0.03	
	S6						116.01		Brown, dry, sandy GRAVEL, trace silt, (Fill).	G #105122 A-2-4, SM
									0.40	
1.2									Brown, dry, silty fine to coarse SAND, some gravel, occasional cobbles, (Till).	
							114.58		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

5.4 m DOWN AND 9.4 m IN FROM POLE #22.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-104

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-105
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.41	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+235, 4.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.28		PAVEMENT — 0.13	
	S7						115.86		Brown, dry, sandy GRAVEL, trace silt, (Fill). — 0.55	G #105123 A-4, SM
1.2									Brown, dry, silty fine to coarse SAND, some gravel, occasional cobbles, (Till).	
2.4										
							113.36		**Bottom of Exploration at 3.05 m below ground surface.** — 3.05	
3.6									NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

8.5 UP AND 9.7 m IN FROM POLE #22.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-105

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-106
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.30	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+300, 4.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.25		PAVEMENT	
									0.05	
	S8						115.84		Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.46	G #105124 A-4, SM
1.2									Brown, dry, dense sandy SILT, some gravel, occasional cobbles, (Till).	
2.4										
							113.25		3.05	
3.6									**Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

2.8 m DOWN AND 10.7 m IN FROM POLE #232/20.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-106

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-107
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.35	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+320, 4.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.30		PAVEMENT	
							116.20		0.05	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.15	
									Brown, dry, silty fine to coarse SAND, some gravel, (Till).	
1.2										
							114.52		1.83	
									Bottom of Exploration at 1.83 m below ground surface.	
2.4									NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

12.1 UP AND 10.8 m IN FROM POLE #232/20.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-107

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-108
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.50	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+320, 2.1 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.33		PAVEMENT	
	S9						116.26		0.17	G #105125
									Black treated GRAVEL.	A-1-b, GM
	S10						115.98		0.24	G #100484
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	A-4, SM
1.2									0.52	
									Brown, dry, silty fine to coarse SAND, some gravel, (Till).	
							114.67		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.**	
									NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

12.1 UP AND 8.2 m IN FROM POLE #232/20.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-108

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-109
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.68	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/10/01-9/10/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+384, 11.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	117.58		PAVEMENT	
									0.10	
							117.22		Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.46	
									Brown, silty fine to coarse SAND, some gravel.	
1.2										
2.4										
							114.63		3.05	
3.6									Gray, silty fine to coarse SAND, some gravel.	
							113.11		4.57	
4.8									**Bottom of Exploration at 4.57 m below ground surface.** NO REFUSAL	
6										
7.2										
8.4										

Remarks:

6.7 UP AND 6.1 m OUT FROM POLE #24/18/232.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-109

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-110
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.45	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+420, 4.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S11					SSA	116.30		PAVEMENT	
									0.15	G #100485 A-1-a, GM
	S12						115.90		Brown, dry, sandy GRAVEL, trace silt, (Fill).	
1.2									0.55	G #100486 A-2-4, SM
									Brown, dry, dense sandy SILT, some gravel, occasional cobbles, (Till).	
							114.62		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

6.4 m UP AND 2.2 m IN FROM POLE #22/16.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-110

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-111
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.50	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+420, 1.6 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.34		PAVEMENT	
							116.29		0.16	
							116.04		Black treated GRAVEL.	
									0.21	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.46	
1.2									Brown, dry, dense sandy SILT, some gravel.	
							115.16		1.34	
									Bottom of Exploration at 1.34 m below ground surface.	
									REFUSAL	
2.4										
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-112
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	114.40	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+520, 3.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S13					SSA	114.32		PAVEMENT	G #105115 A-2-4, GM
									0.09	
	S14						113.94		Brown, dry, sandy GRAVEL, trace silt, (Fill).	G #105116 A-4, SC-SM
									0.46	
1.2									Brown, dry, medium soft sandy SILT, trace clay.	
							112.57		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

26.0 m UP AND 9.2 m IN FROM POLE #2?/14.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-112

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-113
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	114.55	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+520, 0.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	114.37		PAVEMENT — 0.18	
							114.12		Brown, dry, sandy GRAVEL, trace silt, (Fill). — 0.43	
									Brown, dry, silty fine to coarse SAND.	
	S15						113.64		— 0.91	G #105114
1.2									Brown, dry, soft sandy SILT, trace clay.	A-6, CL-ML
							113.03		— 1.52	
2.4									**Bottom of Exploration at 1.52 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

26.0 m UP AND 6.2 m IN FROM POLE #2?/14.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-113

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-114
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.40	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+606, 7.3 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	117.34		PAVEMENT	
							117.16		0.06	
									Brown, dry, sandy GRAVEL, trace silt.	
							116.76		0.24	
									Brown, dry, silty fine to coarse SAND.	
1.2									0.64	
2.4									**Bottom of Exploration at 0.64 m below ground surface.**	
3.6									REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

24.4 m UP AND 2.1 m IN FROM POLE #18/12.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-114

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-115
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.37	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+620, 1.8 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S16					SSA	117.26		PAVEMENT	G #128250 A-1-b, GM
							117.22		0.11	
							116.97		Black treated GRAVEL.	
									0.15	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.40	
1.2							116.42		Brown, dry, silty fine to coarse SAND.	
									0.94	
									Bottom of Exploration at 0.94 m below ground surface.	
2.4									REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

1.5 m UP AND 3.8 m IN FROM POLE #17/11.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-115

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-116
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.40	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+620, 4.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	117.29		PAVEMENT	
							117.22		0.11	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
							116.82		0.18	
1.2									Brown, dry, silty fine to coarse SAND.	
									0.58	
2.4									**Bottom of Exploration at 0.58 m below ground surface.**	
									REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

1.2 m UP AND 1.8 m IN FROM POLE #17/11.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-116

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-117
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.87	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+650, 5.2 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.75		PAVEMENT — 0.12	
							116.63		Brown, dry, sandy GRAVEL, trace silt, (Fill). — 0.24	
									Brown, dry, silty fine to coarse SAND, some gravel, (Till).	
1.2							115.62		1.25	
									Bottom of Exploration at 1.25 m below ground surface.	
									REFUSAL	
2.4										
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

16.4 DOWN AND 11.6 m IN FROM POLE #16/232/10.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-117

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-118
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.00	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+675, 6.8 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S17					SSA	116.92		PAVEMENT	G #105112 A-1-a, GP-GM
									0.08	
	S18						116.70		Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.30	G #105113 A-6, CL-ML
1.2									Brown, dry, sandy SILT, some gravel, (Till).	
							115.60		1.40	
									Bottom of Exploration at 1.40 m below ground surface. REFUSAL	
2.4										
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

8.2 m UP AND 1.5 m OUT FROM POLE #16/232/10.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-118

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-119
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.65	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+720, 4.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S19					SSA	116.57		PAVEMENT	G #128251
									0.09	A-1-b, SW-SM
	S20						116.35		Brown, dry, sandy GRAVEL, trace silt, (Fill).	G #128252
									0.30
1.2									Brown, dry, dense sandy SILT, little gravel, (Till).	
							115.13		1.52
2.4									**Bottom of Exploration at 1.52 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

5.9 m UP AND 8.9 m IN FROM POLE #15/9.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-119

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-120
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.87	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+720, 0.9 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	116.66		PAVEMENT — 0.21	
							116.47		Brown, dry, sandy GRAVEL, trace silt, (Fill). — 0.40	
1.2									Brown, dry, dense sandy SILT, little gravel, (Till).	
							115.04		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

5.9 m UP AND 5.4 m IN FROM POLE #15/9.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-120

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-121
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.12	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+775, 5.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	117.00		PAVEMENT	
									0.12	
	S21						116.75		Brown, dry, sandy GRAVEL, trace silt, (Fill).	G #128253 A-4, SM
									0.37	
1.2									Brown, dry, medium dense sandy SILT, some gravel, (Till).	
2.4										
							114.07		3.05	
3.6									**Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

2.7 m DOWN AND 11.8 m IN FROM POLE #232/7.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-121

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-122
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	117.11	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/11/01-9/11/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+785, 8.6 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	117.02		PAVEMENT	
							116.93		0.09	
							116.78		Black treated GRAVEL.	
									0.18	
									Brown, dry, sandy GRAVEL, trace silt, (Fill).	
1.2									0.34	
									Brown, dry, medium dense sandy SILT, some gravel, (Till).	
2.4										
							114.06		3.05	
3.6									**Bottom of Exploration at 3.05 m below ground surface.** NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

10.5 m UP AND 2.7 m OUT FROM POLE #232/7.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-122

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-123
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.85	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+820, 1.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S22					SSA	116.72		PAVEMENT — 0.13	G #105109 A-1-b, GM
							116.33		Brown, dry, sandy GRAVEL, little silt, (Fill). — 0.52	
	S23						116.24		CONCRETE ? — 0.61	G #128254 A-4, SM
1.2									Brown, dry, medium dense silty fine to medium SAND, little coarse sand, trace gravel.	
							115.02		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

4.8 m STRAIGHT IN FROM POLE #12/6.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-123

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-124
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	116.70	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+820, 4.8 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S24					SSA	116.61		PAVEMENT	G #105111 A-2-4, SM
									0.09	
	S25						116.36		Brown, dry, sandy GRAVEL, trace silt, (Fill).	G #105110 A-2-4, SM
									0.34	
1.2									Brown, dry, medium dense silty fine to medium SAND, little coarse sand, trace gravel.	
							114.87		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

1.7 m IN FROM POLE #12/6.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-124

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-125
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	115.50	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+918, 1.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	115.32		PAVEMENT — 0.18	
							115.07		Brown, dry, sandy GRAVEL, trace silt, (Fill). — 0.43	
1.2									Brown, dry, silty fine to medium SAND, little coarse sand, trace gravel.	
							113.67		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

12.5 m UP AND 8.6 m IN FROM POLE #10/4.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-125

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-126
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	115.40	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+917, 4.9 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S26					SSA	115.25		PAVEMENT	
									0.15	G #105102
							114.94		Brown, dry, sandy GRAVEL, little silt, (Fill).	A-1-b, GM
	S27								0.46	G #105103
									Brown, dry, soft sandy SILT.	A-6, CL-ML
1.2										
	S28						113.57		1.83	G #105104
									Brown, dry, dense sandy SILT, cobbles, some gravel.	A-4, SM
2.4										
3.6							111.74		3.66	
									Bottom of Exploration at 3.66 m below ground surface. NO REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

11.5 m UP AND 11.9 m IN FROM POLE #10/4.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-126

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-127
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	113.27	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+015, 4.5 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	113.14		PAVEMENT	
									0.13	
							112.84		Brown, dry, sandy GRAVEL, trace silt, (Fill).	
									0.43	
1.2									Brown, dry, medium dense sandy SILT, occasional cobbles, some gravel.	
							111.44		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

6.9 m UP AND 1.4 m IN FROM POLE #7/2.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-127

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-128
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	113.40	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+015, 1.8 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	113.24		PAVEMENT — 0.16	
	S29									G #105105
	S30						113.01		Brown, dry, sandy GRAVEL, little silt, (Fill). — 0.40	A-1-b, GM
									Brown, dry, medium dense sandy SILT, some gravel.	G #105106
1.2										A-4, SM
							111.57		1.83	
									Bottom of Exploration at 1.83 m below ground surface.	
2.4									NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

6.9 m UP AND 4.3 m IN FROM POLE #7/2.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-128

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-129
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	112.65	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+120, 2.1 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	112.41		PAVEMENT — 0.24	
							112.16		Brown, dry, sandy GRAVEL, little silt, (Fill). — 0.49	
1.2									Brown, dry, medium dense sandy SILT, some gravel.	
							110.82		1.83	
2.4									**Bottom of Exploration at 1.83 m below ground surface.** NO REFUSAL	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-129

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-130
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	111.95	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+158, 10.7 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S31					SSA	111.83		PAVEMENT	
									0.12	G #105107 A-1-a, GM
									Brown, dry, sandy GRAVEL, little silt.	
	S32						110.98		0.98	G #105108 A-2-4, GM
1.2									Brown, dry, dense sandy SILT, some gravel, (Till).	
2.4							109.27		2.68	
									Soft, weathered ROCK.	
							108.90		3.05	
3.6									**Bottom of Exploration at 3.05 m below ground surface.** REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

11.4 m DOWN AND 5.8 m OUT FROM POLE #3/1-11.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-130

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-131
PIN: 9199.00

Driller:	Maine Test Borings, Inc.	**Elevation (m):**	110.60	**Auger ID/OD:**	100 mm
Operator:	D. Quentin	**Datum:**		**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	MOBIL53	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	9/17/01-9/17/01	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	2+195, 10.9 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	110.50		PAVEMENT	
									0.10	
									Brown, dry, sandy GRAVEL, little silt.	
1.2										
							108.77		1.83	
									Brown, dry, medium dense sandy SILT, some gravel.	
2.4										
							107.70		2.90	
									Soft, weathered ROCK.	
3.6							107.10		3.51	
									Bottom of Exploration at 3.51 m below ground surface.	
									REFUSAL	
4.8										
6										
7.2										
8.4										

Remarks:

12.0 m DOWN AND 1.9 m OUT FROM POLE #2/1-10.
STATIONS TAKEN FROM PLAN, OFFSETS FROM EXISTING 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-DOVE-131

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-301
PIN: 9199.00

Driller:	MaineDOT	**Elevation (m):**		**Auger ID/OD:**	125 mm
Operator:	C. Mann	**Datum:**	NGVD	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/25/03-8/25/03	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+432.1, 19.4 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.09		TOPSOIL, (Sod). 0.09	
									Brown, damp, sandy SILT, trace gravel.	
1.2							-1.68		1.68	
									Bottom of Exploration at 1.68 m below ground surface. No Refusal	
2.4										
3.6										
4.8										
6										
7.2										
8.4										

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-DOVE-301

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-302
PIN: 9199.00

Driller:	MaineDOT	**Elevation (m):**		**Auger ID/OD:**	125 mm
Operator:	C. Mann	**Datum:**	NGVD	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/25/03-8/25/03	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+419.7, 19.2 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, sandy GRAVEL, little silt, (Fill) .	
	S1	137.2/137.2	0.30 - 1.68				-0.30		0.30	G#176077 A-2-4, SM WC=8.9%
1.2									Brown, moist, sandy SILT, trace gravel.	
							-1.68		1.68	
2.4									**Bottom of Exploration at 1.68 m below ground surface.** No Refusal	
3.6										
4.8										
6										
7.2										
8.4										

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-DOVE-302

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-303
PIN: 9199.00

Driller:	MaineDOT	**Elevation (m):**		**Auger ID/OD:**	125 mm
Operator:	C. Mann	**Datum:**	NGVD	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/25/03-8/25/03	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+186.2, 22.3 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Brown, dry, sandy GRAVEL, trace silt, (Fill) .	
							-0.30		0.30	
									Brown, moist, sandy SILT, some gravel.	
1.2										
							-1.68		1.68	
									Bottom of Exploration at 1.68 m below ground surface.	
2.4									No Refusal	
3.6										
4.8										
6										
7.2										
8.4										

Remarks:

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

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Boring No.: HB-DOVE-303

Maine Department of Transportation

Soil/Rock Exploration Log
METRIC UNITS

Project: DOVER-FOXCROFT
Location: ROUTES 6/15

Boring No.: HB-DOVE-304
PIN: 9199.00

Driller:	MaineDOT	**Elevation (m):**		**Auger ID/OD:**	125 mm
Operator:	C. Mann	**Datum:**	NGVD	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	8/25/03-8/25/03	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	1+170, 25.3 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 (kPa)
T_v = Pocket Torvane Shear Strength (kPa)
q_p = Unconfined Compressive Strength (Pa)
$S_{u(lab)}$ = Lab Vane Shear Strength (kPa)
WOH = weight of 64 kg hammer
WOR = weight of rods

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

Depth (m)	Sample Information: Sample No.	Pen/Rec (cm)	Sample Depth (m)	Blows (150 mm) Shear Strength (kPa) or RQD (%)	N-value	Casing Blows	Elevation (m)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA				
	S2	164.6/164.6	0.18 - 1.83				-0.18		Brown, dry, sandy GRAVEL, trace silt, (Fill) . 0.18	G#176078 A-4, SM WC=10.3%
1.2									Brown, moist, sandy SILT, some gravel. Wetter with depth.	
							-1.83		1.83 **Bottom of Exploration at 1.83 m below ground surface.** No Refusal	
2.4										
3.6										
4.8										
6										
7.2										
8.4										

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.

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Paving
	Gravel
	Silty sand and gravel
	Variable sand and silt mix
	Description not given for: "YZ"
	Description not given for: "OO"
	Silty sand
	Description not given for: "Z3"
	Fill
	Weathered
	Topsoil

Symbol	Description
Misc. Symbols	
	Description not given for: "DOWNAROW"

Notes:

1. Exploratory borings were drilled on 8/25/03-8/25/03 using a 4-inch diameter continuous flight power auger.

2. No free water was encountered at the time of drilling or when re-checked the following day.

3. Boring locations were taped from existing features and elevations extrapolated from the final design schematic plan.

4. These logs are subject to the limitations, conclusions, and recommendations in this report.

5. Results of tests conducted on samples recovered are reported on the logs.

State of Maine - Department of Transportation

Rod Sounding Probe Summary Sheet

Town(s): Dover-Foxcroft Project Number: 9199.00

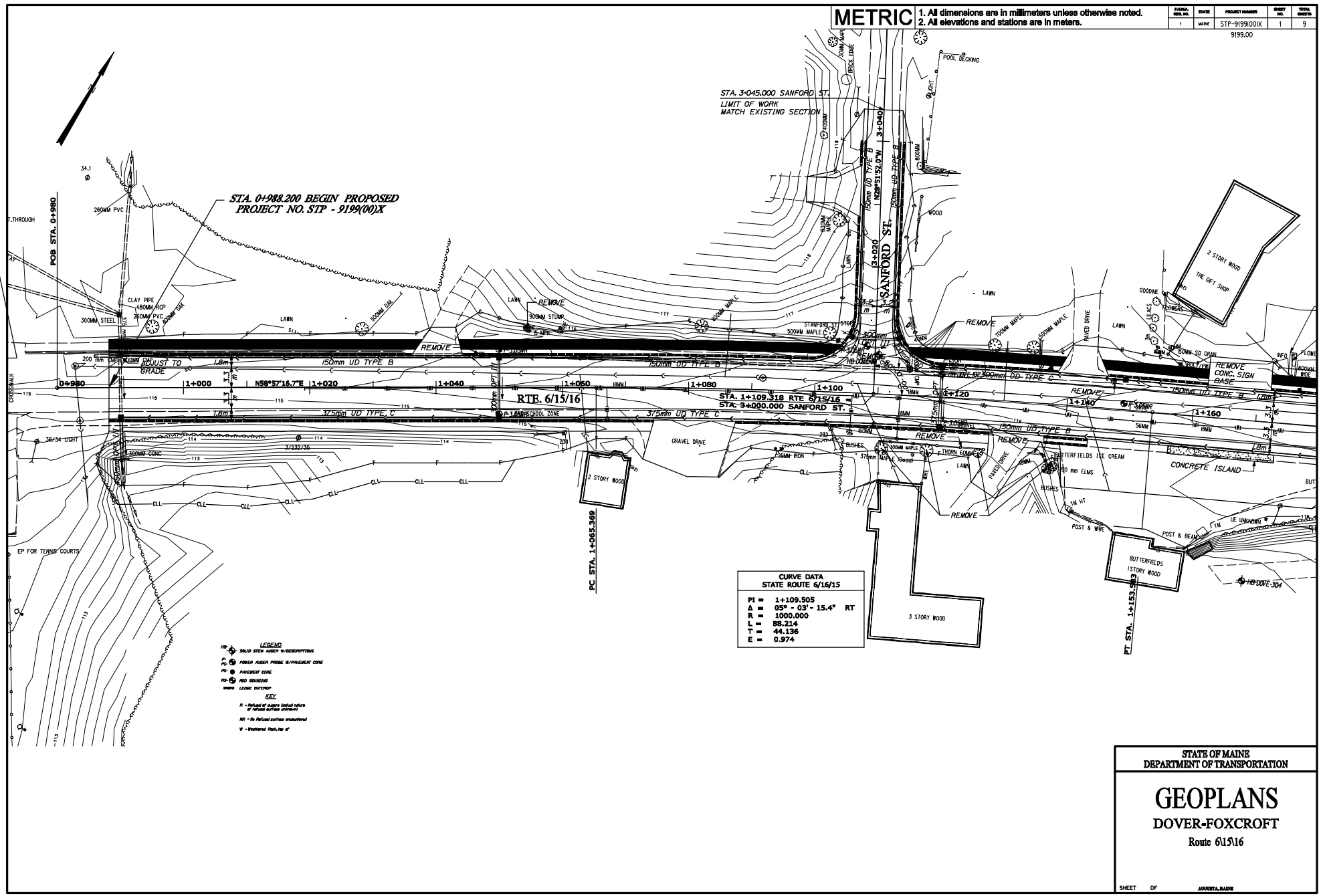
Boring	Station (Meter)	Offset (Meter)	Refusal (Meter)	No Refusal (Meter)	Water (X) = Yes	Comments 7/15/02-7/15/02
	1+590	5.5 LT.	1.3			
	1+590	4.5 LT.	1.0			
	1+600	4.0 LT.	0.5			
	1+640	5.2 LT.	0.75			
	1+640	4.5 LT.	0.8			
	1+660	5.0 LT.	1.25			
	1+660	4.0 LT.	1.3			
	1+680	5.0 LT.	1.3			
						A.EGGLESTON

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Dover-Foxcroft Project Number: 9199.00

Station (Meter)	Offset (Meter)	Weathered Rock (Meter)	Refusal (Meter)	No Refusal (Meter)	Water (X) = Yes	Comments
1+593	5.6 LT.					Ledge Outcrop
1+596	5.6 LT.					Ledge Outcrop
1+603	5.6 LT.					Ledge Outcrop
1+616	5.6 LT.					Ledge Outcrop



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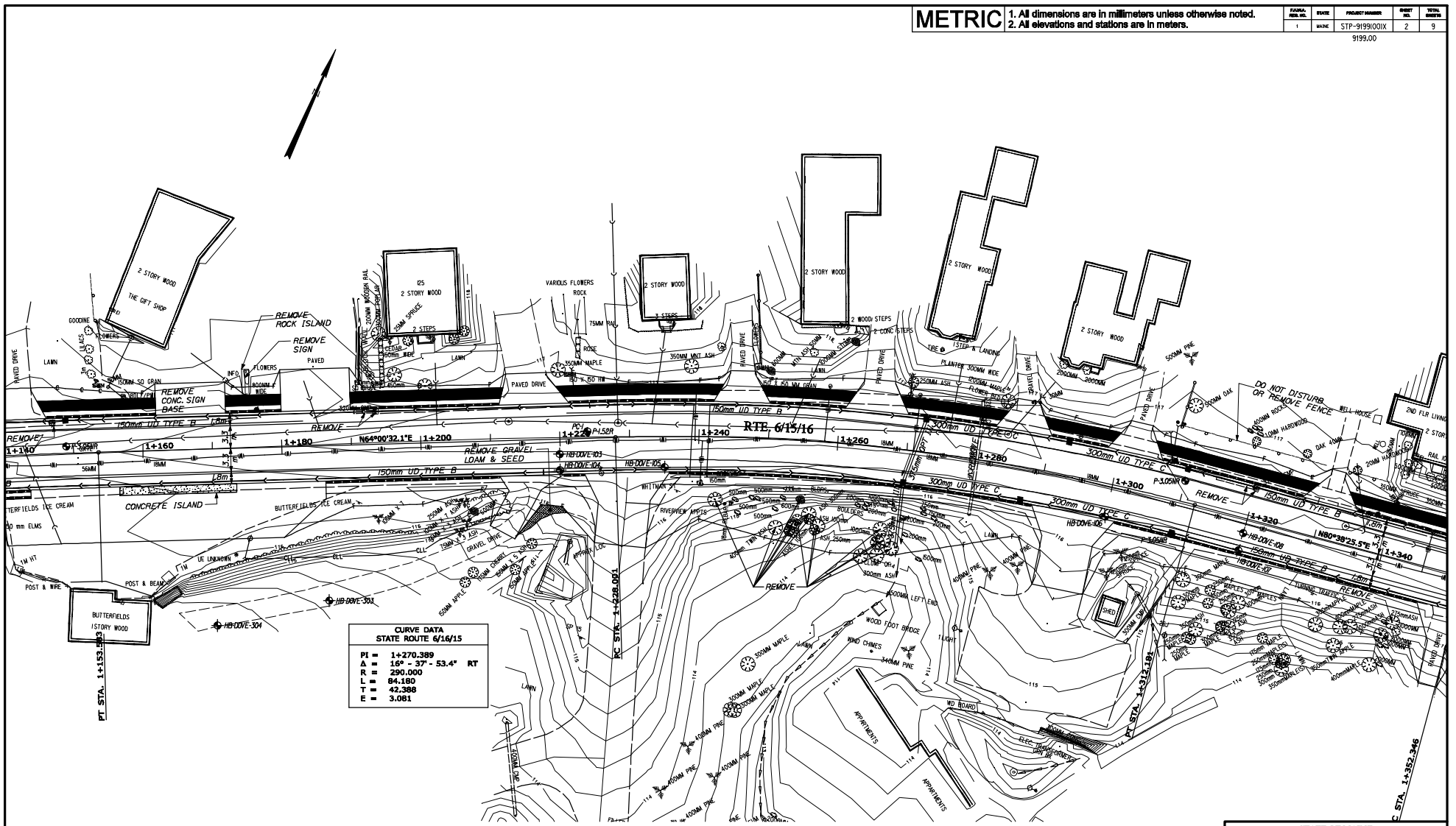
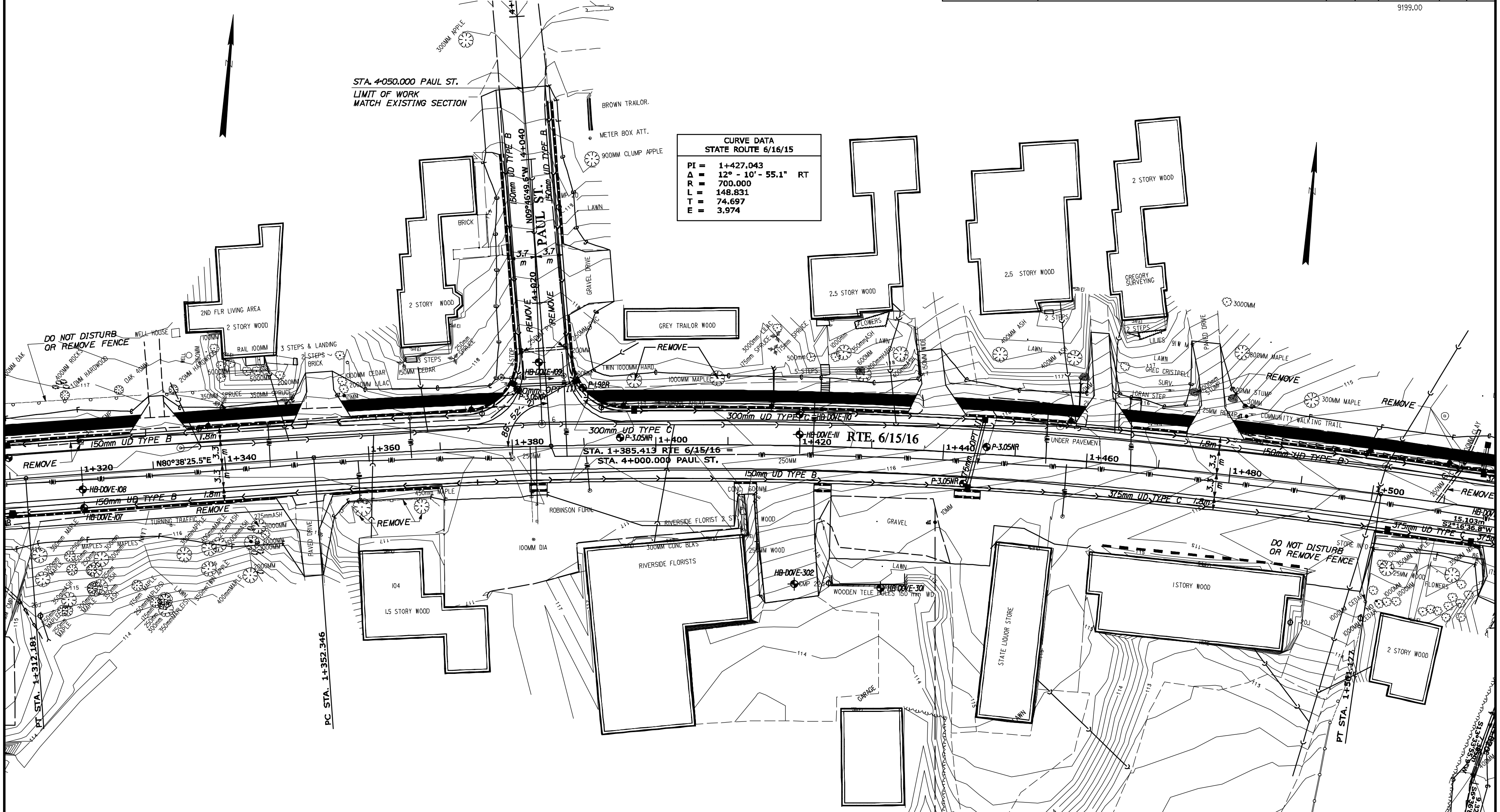

METRIC
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.
FAUNA-PERM. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS
1 | MAINE | STP-9199(00)X | 2 | 9
9199.00
PROJECT DESIGN ENGINEER | BY | DATE
DESIGN-DETAILED | K. BRESKIN | T. WHITE | AUG 2008
CHECKED
PLANS
REVISIONS
FIELD CHANGES
Filename: ...\geotech\msta\002_Geoplan2.dgn Division: GEOTECH Username: terry.white Date:12/15/2008
CURVE DATA
STATE ROUTE 6/16/15
PI = 1+270.389
Δ = 16° - 37' - 53.4" RT
R = 290.000
L = 84.180
T = 42.388
E = 3.081
PT STA. 1+153.583
PC STA. 1+228.001
PC STA. 1+312.182
PT STA. 1+352.346
RTE. 6/15/16
N64°00'32.1"E
N80°38'25.5"E
REMOVE ROCK ISLAND
REMOVE SIGN
REMOVE CONC. SIGN BASE
REMOVE GRAVEL LOAM & SEED
CONCRETE ISLAND
150mm UD TYPE B
300mm UD TYPE C
DO NOT DISTURB OR REMOVE FENCE
2 STORY WOOD
THE GIFT SHOP
BUTTERFIELDS
ICE CREAM
APARTMENTS
WOOD FOOT BRIDGE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
GEOPLANS
DOVER-FOXCROFT
Route 6\15\16
SHEET OF
AUGUSTA, MAINE

METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	STP-9199(00)X	3	9

9199.00



PROJECT DESIGN ENGINEER		BY	DATE
DESIGN-DETAILED	K BRESKIN	T WHITE	AUG 2008
CHECKED			
REVISIONS			
FIELD CHANGES			

PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GEOPLANS

DOVER-FOXCROFT

Route 6\15\16

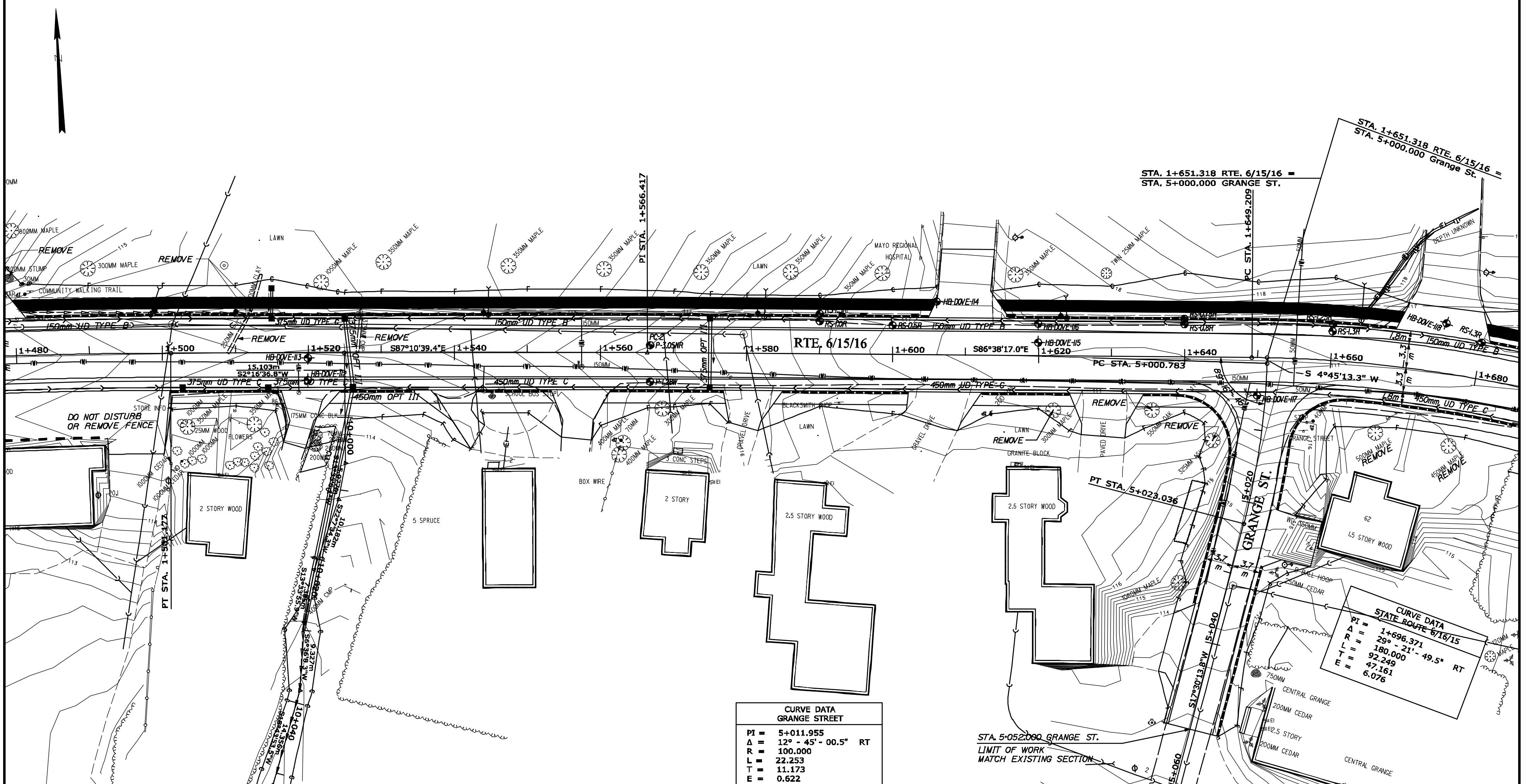
SHEET OF AUGUSTA, MAINE

Filename: ...\geotech\msta\003_Geoplan3.dgn Division: GEOTECH Username: terry.white Date:12/15/2008

METRIC 1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	STP-9199(00)X	4	9

9199.00



CURVE DATA GRANGE STREET	
PI =	5+011.955
Δ =	12° - 45' - 00.5" RT
R =	100.000
L =	22.253
T =	11.173
E =	0.622

CURVE DATA STATE ROUTE 6/16/15	
PI =	1+696.371
Δ =	29° - 21' - 49.5" RT
R =	180.000
L =	92.249
T =	47.161
E =	6.076

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GEOPLANS

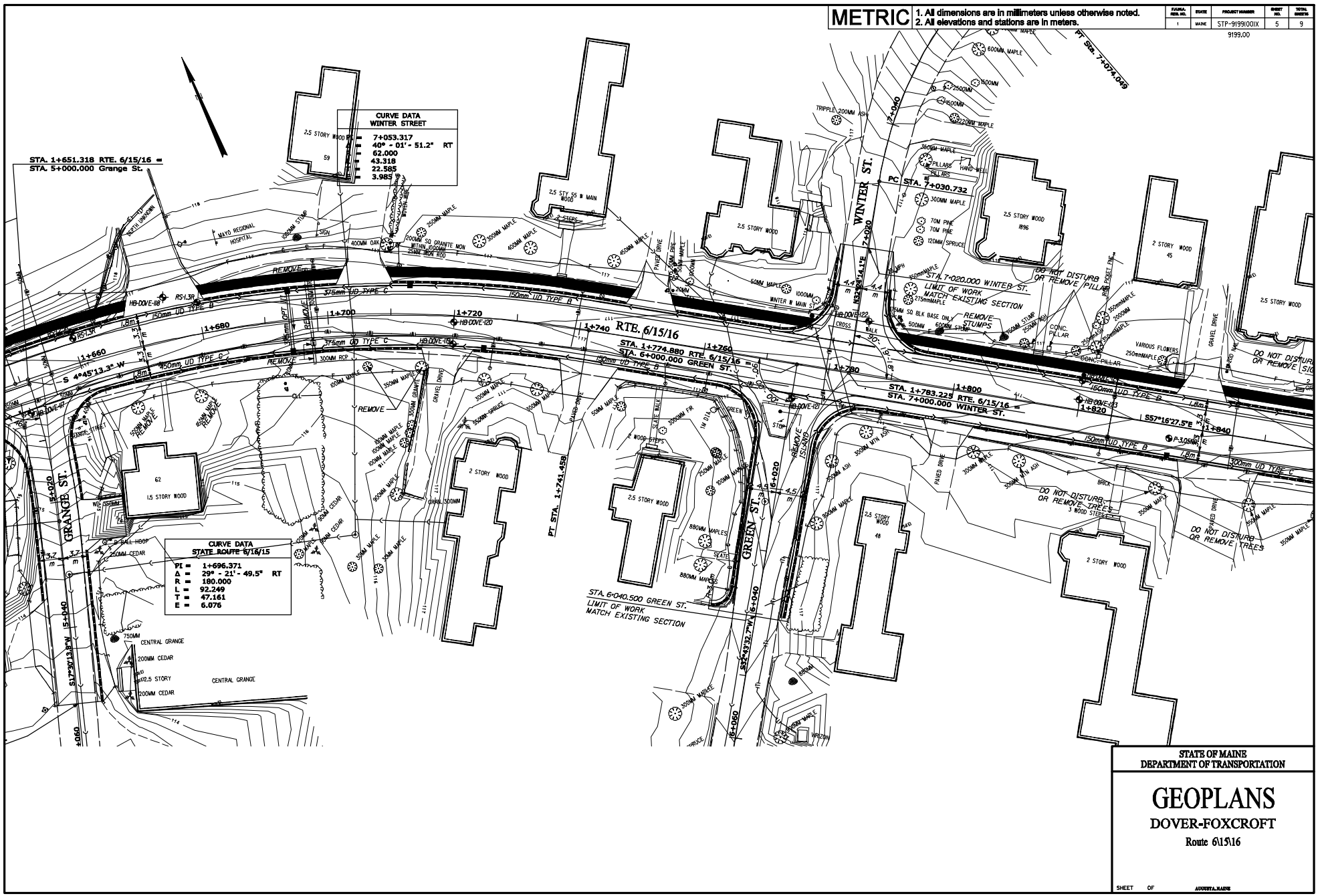
DOVER-FOXCROFT

Route 6\15\16

SHEET OF AUGUSTA, MAINE

PLANS		BY	DATE
PROJECT DESIGN ENGINEER	DESIGN-DETAILED	K BRESKIN	T WHITE AUG 2008
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

Filename: ...\geotech\msta\004_Geoplan4.dgn Division: GEOTECH Username: terry.white Date:12/15/2008

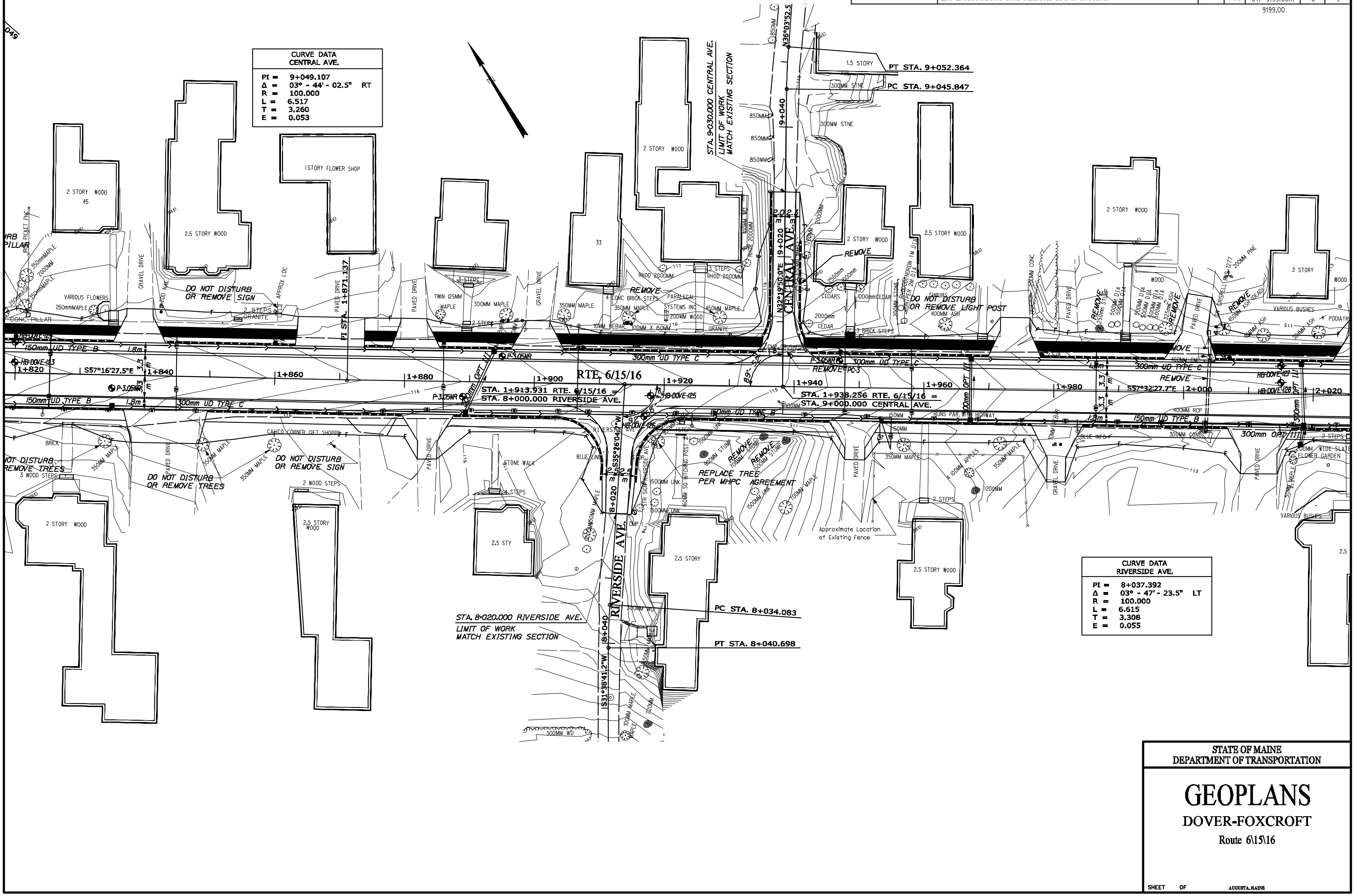


Filename: ...\geotech\mrsta\005_Geoplan5.dgn Division: GEOTECH Username: terry.white Date:12/15/2008

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	STP-9199(00)X	6	9

9199.00

METRIC
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.



CURVE DATA CENTRAL AVE.	
PI =	9+049.107
Δ =	03° - 44' - 02.5" RT
R =	100.000
L =	6.517
T =	3.260
E =	0.053

CURVE DATA RIVERSIDE AVE.	
PI =	8+037.392
Δ =	03° - 47' - 23.5" LT
R =	100.000
L =	6.615
T =	3.308
E =	0.055

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GEOPLANS

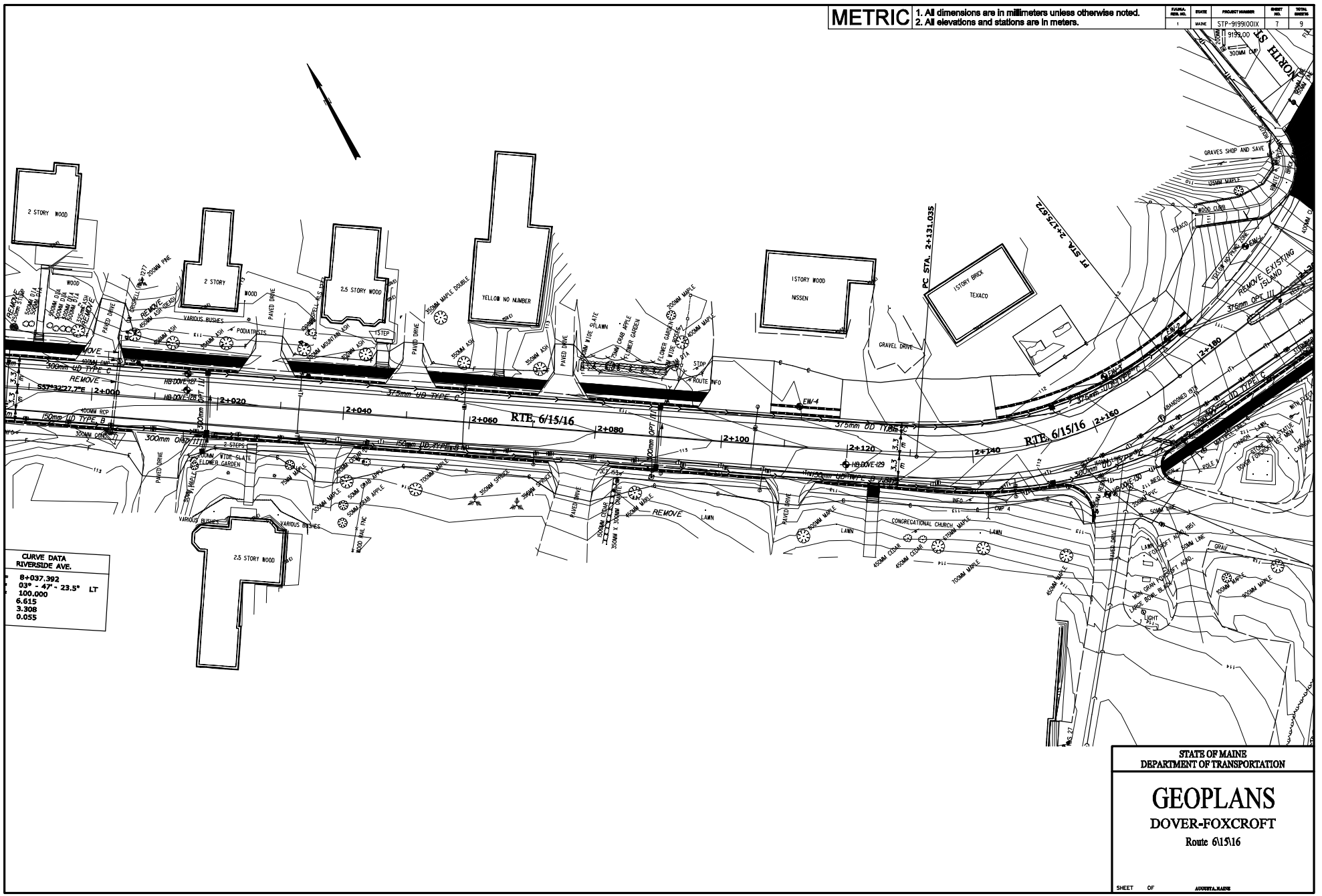
DOVER-FOXCROFT

Route 6\15\16

SHEET OF AUGUSTA, MAINE

PLANS		BY	DATE
PROJECT DESIGN ENGINEER			
DESIGN-DETAILED	K BRESKIN	T WHITE	AUG 2008
CHECKED			
REVISIONS			
FIELD CHANGES			

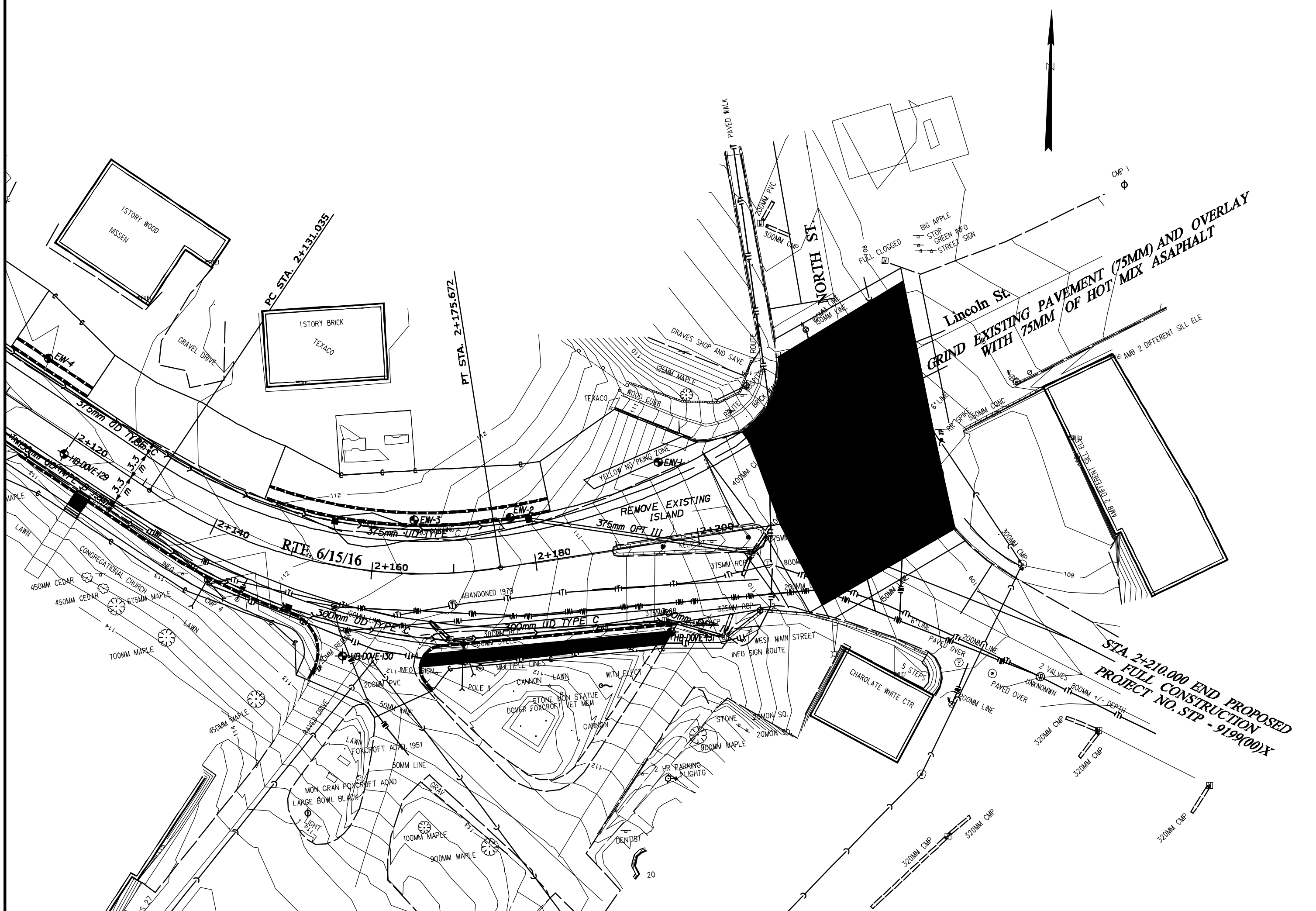
Filename: ...\geotech\msta\006_Geoplan6.dgn   Division: GEOTECH   Username: terry.white   Date:12/15/2008


METRIC
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.
FAUNA-FERN NO.
STATE
PROJECT NUMBER
SHEET NO.
TOTAL SHEETS
1
MAINE
STP-9199(00)X
7
9
PC STA. 2+131.035
PT STA. 2+175.672
RTE. 6/15/16
REMOVE EXISTING ISLAND
375mm OPT III
375mm UD TYPE C
300mm UD TYPE C
150mm UD TYPE B
300mm OPT III
HB-DOVE-127
HB-DOVE-128
HB-DOVE-129
HB-DOVE-130
S57°32'27.7"E
2+000
2+020
2+040
2+060
2+080
2+100
2+120
2+140
2+160
2+180
2 STORY WOOD
2.5 STORY WOOD
1STORY WOOD
NISSEN
1STORY BRICK
TEXACO
YELLOW NO NUMBER
GRAVES SHOP AND SAVE
CONGREGATIONAL CHURCH
GRAVEL DRIVE
PAVED DRIVE
LAWN
REMOVE
ROUTE INFO
CURVE DATA
RIVERSIDE AVE.
8+037.392
03° - 47' - 23.5" LT
100.000
6.615
3.308
0.055
PROJECT DESIGN ENGINEER
DESIGN-DETAILED
CHECKED
REVISIONS
FIELD CHANGES
PLANS
BY
K. BRESKIN
T. WHITE
DATE
AUG 2008
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
GEOPLANS
DOVER-FOXCROFT
Route 6\15\16
SHEET OF
AUGUSTA, MAINE
Filename: ...\geotech\mnsta\007_Geoplan7.dgn
Division: GEOTECH
Username: terry.white
Date:12/15/2008

METRIC 1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	STP-9199(00)X	8	9

9199.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GEOPLANS

DOVER-FOXCROFT

Route 6\15\16

SHEET OF AUGUSTA, MAINE

PLANS		BY	DATE
	PROJECT DESIGN ENGINEER		
	DESIGN-DETAILED	K BRESKIN	T WHITE	AUG 2008
	CHECKED	------	------
	REVISIONS	------	------
	FIELD CHANGES		

Filename: ...\geotech\msta\008_Geoplan8.dgn Division: GEOTECH Username: terry.white Date:12/15/2008

METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	STP-9199(00)X	9	9

9199.00

CURVE DATA OUTLET DITCH

PI =	10+126.481
Δ =	15° - 30' - 57.2" RT
R =	15.000
L =	4.062
T =	2.044
E =	0.139

CURVE DATA OUTLET DITCH

PI =	10+118.352
Δ =	26° - 23' - 29.9" LT
R =	10.000
L =	4.606
T =	2.345
E =	0.271

CURVE DATA OUTLET DITCH

PI =	10+161.146
Δ =	28° - 20' - 21.5" RT
R =	10.000
L =	4.946
T =	2.525
E =	0.314

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GEOPLANS

DOVER-FOXCROFT

Route 6\15\16

SHEET OF AUGUSTA, MAINE

PLANS	PROJECT DESIGN ENGINEER	BY	DATE
	DESIGN-DETAILED	K BRESKIN / T WHITE	AUG 2008
	CHECKED	------	------
	REVISIONS	------	------
	FIELD CHANGES		

Filename: ...\geotech\msta\009_Geoplan9.dgn Division: GEOTECH Username: terry.white Date:12/15/2008

APPENDIX B

FWD DATA

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	53,657 kPa
Calculated Structural Number for Future Traffic	106 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	550 mm
Backcalculated Effective Pavement Modulus	1,114,038 kPa
Milling Thickness	0 mm
Effective Existing Pavement SN (SNEff)	137 mm

Backcalculation - 0+050

Total Pavement Thickness	550 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular
Data Evaluation Basis	Mean

Calculated Results

Subgrade Resilient Modulus (MR)	53,657 kPa
Effective Pavement Modulus (Ep)	1,114,038 kPa
Dynamic k-value	- kPa/mm

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	34,609 kPa
Calculated Structural Number for Future Traffic	122 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	550 mm
Backcalculated Effective Pavement Modulus	956,296 kPa
Milling Thickness	0 mm
Effective Existing Pavement SN (SNEff)	130 mm

Backcalculation - 0+200

Total Pavement Thickness	550 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular
Data Evaluation Basis	Mean

Calculated Results

Subgrade Resilient Modulus (MR)	34,609 kPa
Effective Pavement Modulus (Ep)	956,296 kPa
Dynamic k-value	- kPa/mm

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	49,579 kPa
Calculated Structural Number for Future Traffic	109 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	500 mm
Backcalculated Effective Pavement Modulus	1,562,867 kPa
Milling Thickness	0 mm
Effective Existing Pavement SN (SNEff)	139 mm

Backcalculation - 0+400

Total Pavement Thickness	500 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular
Data Evaluation Basis	Mean

Calculated Results

Subgrade Resilient Modulus (MR)	49,579 kPa
Effective Pavement Modulus (Ep)	1,562,867 kPa
Dynamic k-value	- kPa/mm

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare
Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	40,459 kPa
Calculated Structural Number for Future Traffic	116 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	500 mm
Backcalculated Effective Pavement Modulus	1,674,170 kPa
Milling Thickness	0 mm
Effective Existing Pavement SN (SNEff)	142 mm

Backcalculation - 0+600

Total Pavement Thickness	500 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular
Data Evaluation Basis	Mean

Calculated Results

Subgrade Resilient Modulus (MR)	40,459 kPa
Effective Pavement Modulus (Ep)	1,674,170 kPa
Dynamic k-value	- kPa/mm

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	55,147 kPa

Calculated Structural Number for Future Traffic: 105 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	500 mm
Backcalculated Effective Pavement Modulus	1,548,031 kPa
Milling Thickness	0 mm

Effective Existing Pavement SN (SNEff): 139 mm

Backcalculation - 0+800

Total Pavement Thickness	500 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular

Data Evaluation Basis: Mean

Calculated Results

Subgrade Resilient Modulus (MR)	55,147 kPa
Effective Pavement Modulus (Ep)	1,548,031 kPa
Dynamic k-value	- kPa/mm

1997 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare
Computer Software Product

Maine Department of Transportation
State House Station 16
Augusta, Maine
USA

Overlay Design Module

Dover Foxcroft PIN# 9199.00
Route 15

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	3,051,400
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	95 %
Overall Standard Deviation	0.45
Subgrade Resilient Modulus	42,725 kPa
Calculated Structural Number for Future Traffic	114 mm

Effective Structural Number - Non-Destructive Testing

Total Pavement Thickness	500 mm
Backcalculated Effective Pavement Modulus	1,106,108 kPa
Milling Thickness	0 mm
Effective Existing Pavement SN (SNEff)	124 mm

Backcalculation - 1+000

Total Pavement Thickness	500 mm
Resilient Modulus Correction Factor, C	0.29
Existing AC Thickness	150 mm
Base Type	Granular
Data Evaluation Basis	Mean

Calculated Results

Subgrade Resilient Modulus (MR)	42,725 kPa
Effective Pavement Modulus (Ep)	1,106,108 kPa
Dynamic k-value	- kPa/mm

Data Evaluation Basis	Mean

Calculated Results

ubgrade Resilient Modulus (MR)	37,784 kPa
Effective Pavement Modulus (Ep)	886,972 kPa
Dynamic k-value	- kPa/mm

Specified Layer Design

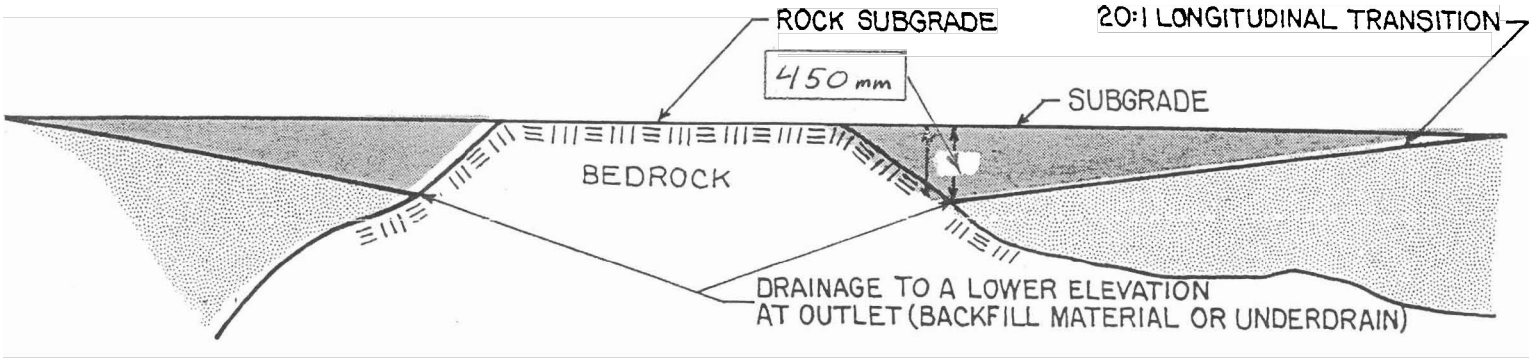
Layer	Material Description	Struct Coef. (Ai)	Drain Coef. (Mi)	Thickness (Di)(mm)	Width (m)	Calculated SN (mm)
1	Asphalt Pavement	0.44	1	9	3.65	4
Total				9	-	4

FIGURES 1 & 2

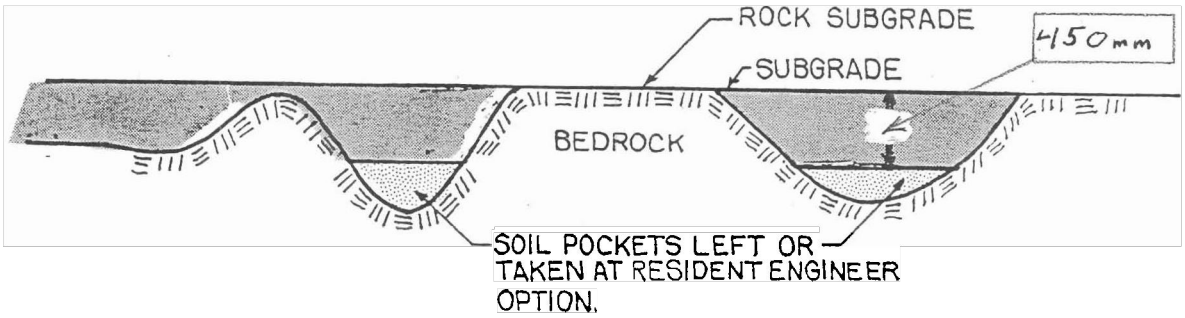
FIGURE 1

PROFILE OF UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE

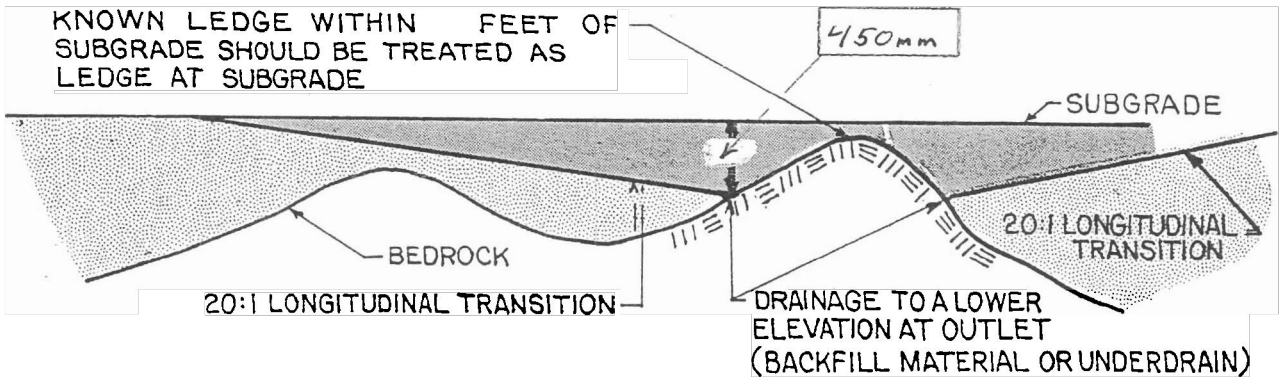
CONDITION 1



CONDITION 2



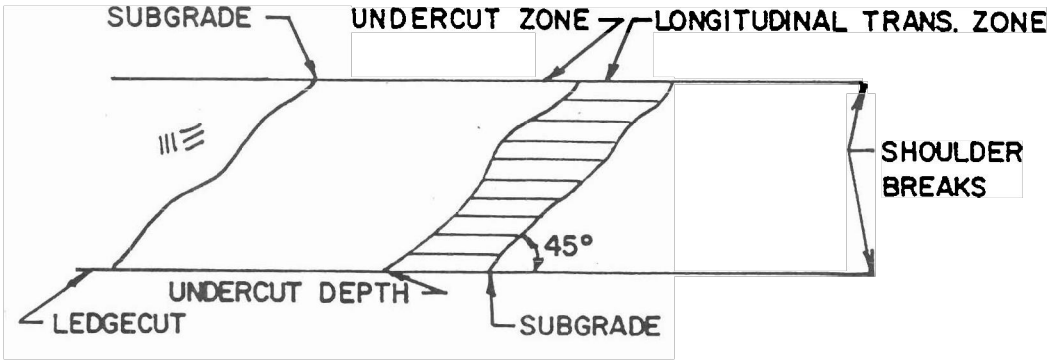
CONDITION 3

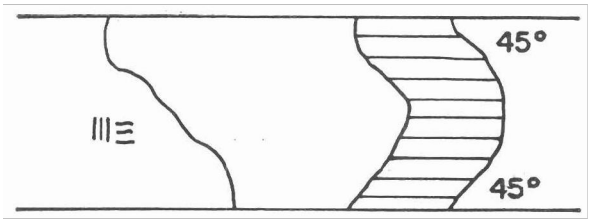


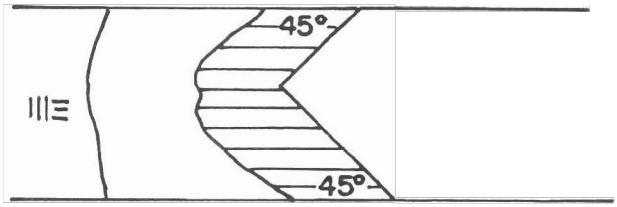
IF A SOIL SECTION BETWEEN LEDGE SUBGRADE IS OF SUCH LENGTH THAT THE TRANSITION FROM EACH EDGE WOULD MEET IT SHOULD BE TREATED AS AN EARTH POCKET

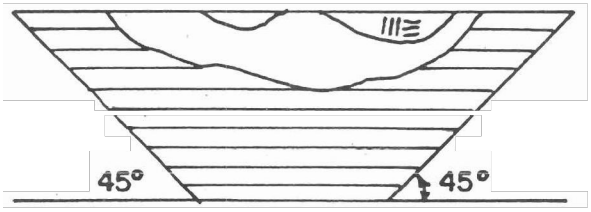
FROST SUSCEPTIBLE SOIL TO BE UNDERCUT AND REPLACED WITH NON FROST SUSCEPTIBLE MATERIAL.

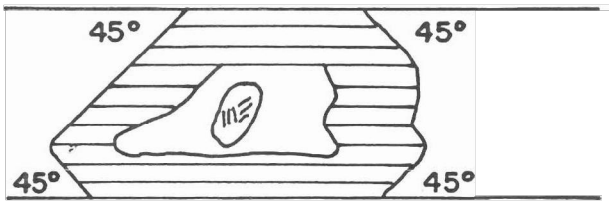
FROST SUSCEPTIBLE SOIL

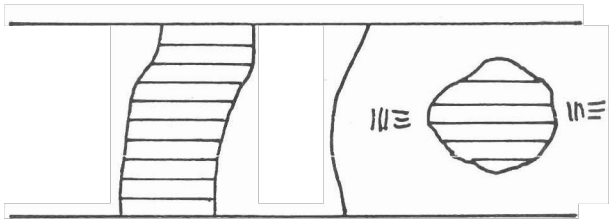












PLAN VIEW OF UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER BEDROCK WITHIN THE FROST PENETRATION ZONE.

NOTE: THE UNDERCUT SHOULD BE FROM SHOULDER BREAK TO SHOULDER BREAK AND FROM THE LONGITUDINAL EXTREMETIES OF THE LEDGE AT THE UNDERCUT DEPTH, PARALLEL TO THIS LEDGE DEPTH AND/OR ON AN ANGLE OR ANGLES NOT LESS THAN 45° FROM ℄.

SPECIAL PROVISION
SECTION 620.65
REINFORCEMENT GEOGRID

SPECIAL PROVISION
SECTION 620.65
REINFORCEMENT GEOGRID

Description.

This work shall consist of furnishing and placing a Reinforcement Geogrid in reasonably close conformity with the lines and grades shown on the plans, as specified herein, and as directed by the Engineer.

Materials.

1. The Reinforcement Geogrid shall meet or exceed the Minimum Average Roll Values (MARV) of the properties in Table 1.

2. Acceptable manufacturers for Reinforcement Geogrids must be approved by the Engineer.

Table 1. - Physical Property Requirements
(Reinforcement Geogrid)

Reinforcement Geogrid Mechanical Property	Test Method	Minimum Average Roll Value (MARV)
Modulus @5% strain (MD)	ASTM D4595	175 kN/m
Tensile Modulus @5% strain (XD)	ASTM D4595	350 kN/m
Ultimate Tensile Strength	ASTM D4595	17.5 kN/m (both directions)
Aperture Openings		Between 20 and 75 mm
Percent Open Area		Greater than 50%

Construction Requirements.

Reinforcement Geogrid shall be laid to the proper elevation and alignment, as shown on the plans or as directed by the Engineer.

1. The Reinforcement Geogrid shall be placed directly over the Portland cement concrete pavement and adjacent shoulders.

2. Reinforcement Geogrid shall be oriented such that the roll length runs parallel to the construction centerline.

3. Adjacent rolls of Reinforcement Geogrid shall be overlapped a minimum of 300 mm.

4. Lengths of Reinforcement Geogrid shall be continuous, splicing along the length will not be allowed.

5. Seams along adjacent lengths of Reinforcement Geogrid shall be tied together with hog rings or cable ties every 1.0 - 2.0 meters.

6. The Reinforcement Geogrid shall be anchored at each end, and pulled taut, to reduce any considerable slack, as directed by the Engineer.

7. Pavement grindings shall not be dumped directly onto the Reinforcement Geogrid . It shall be dumped at the edge of Reinforcement Geogrid or on a previous course of fill with a minimum compacted depth of 75 mm.

8. Fill may then be pushed onto the Reinforcement Geogrid using a track mounted bulldozer. At no time shall construction equipment be allowed directly onto the Reinforcement Geogrid. Track mounted equipment shall be allowed on previous courses of fill with a minimum compacted depth of 75 mm. Smooth drum roller compaction equipment shall be allowed on previous courses of fill with a minimum compacted depth of 200 mm and spread the grindings with a minimum depth of 100 mm, loose measure. At no time shall rubber tired or sheeps-foot rollers be allowed onto the reinforcement gridsl.

9. Placement, spreading, and compaction of soil on top of the Reinforcement Geogrid shall advance from one end of the Reinforcement Geogrid and move towards the other. Care shall be taken to ensure that the Reinforcement Geogrid doesn't move from its position on the PCC pavement during girndings placement. Limited stacking may the permitted, as directed by the Engineer.

10. Rutting may develope within the initial granular lift but rut depths should not exceed 25 mm. It may be necessary to decrease the size and/or weight of the construction equipment or increase the thickness of the granular lift if rut depths of 25 mm or less cannot be maintained.

11. All rutting formed during construction shall be filled with new base material. In no case shall rutting be filled by blading down

Method of Measurement.

Reinforcement Geogrid measurement will be by the square meter of material installed.

Basis of Payment.

Reinforcement Geogrid placement will be paid for at the Contract unit price per square meter which shall be full compensation for all labor, materials and complete installation.

Pav Item	Description	Pay Unit
620.65	Reinforcement Geogrid	Square Meter