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March 20, 2017

Project No. 071-202

Jeff MacKinnon, P.Eng.
Crandall Engineering Ltd.
Via email: jam@crandallengineering.ca

Jeff:

Re: Soils Investigation – Parking Lot Upgrades – Dorchester Penitentiary, Dorchester NB

As requested, Conquest Engineering Ltd. (CEL) has performed a series of shallow boreholes throughout the access road and parking areas to assess the existing conditions of the pavement structure.

The purpose of the investigation was to obtain the geotechnical conditions at the site and to provide recommendations for the new pavement structure. This report has been prepared specifically and solely for the area as described and should not be extrapolated beyond the limits of the investigation

FIELD PROCEDURES

The field investigation was carried out on March 10, 2017. Nine (9) boreholes were drilled to depths ranging from 1.0 m to 1.8 m below the existing ground surface. The borehole locations were established in the field by Crandall Engineering Ltd. personnel prior to the drilling operations. The borehole locations are shown on the attached Borehole Location Plan (Figure 1). Ground surface elevations shown on the attached Borehole Records are referenced to geodetic datum and were obtained and provided to us by Crandall Engineering Ltd.

During the field work a CEL geotechnical engineer supervised the drilling and sample collection activities and logged the subsurface conditions encountered at each borehole. The boreholes were advanced vertically using 100 mm diameter solid stem augers. Soil samples were collected at close intervals within the overburden material using a 50 mm outside diameter split-spoon. Detailed descriptions of the soils encountered are given on the attached Borehole Records.

Standard Penetration Tests (SPT's) were performed and N-values recorded for each split-spoon sample obtained. The performance of the Standard Penetration Tests was based on the test method described in ASTM D1586-84. The determination of the compactness of granular soil strata, as indicated on the Borehole Records, is based primarily on the results of Standard Penetration Testing.

Soil samples recovered were placed in moisture tight containers and returned to our laboratory for further engineering review. All remaining samples will be kept in storage for a period of two (2) months from the date of issue of this report. After this time the samples will be discarded unless we are instructed otherwise.

SOIL CONDITIONS

The soil strata encountered at the site are described in detail on the attached Borehole Records. Soil classification was based on the procedures described in ASTM D2488 (Standard Practice for Description and Identification of Soils, Visual-Manual Procedure) and limited laboratory testing on representative samples. For an explanation of the descriptions used on the Borehole Records, reference should be made to the attached Symbols and Terms used on Borehole and Test Pit Records.

In general, the principle strata encountered at the site are as follows:

1. ASPHALT (all boreholes with the exception of BH-08);
2. Brown to reddish brown sand with silt and gravel: FILL;
3. Reddish brown silty SAND with gravel (BH-01, BH-02, BH-03, BH-07 and BH-09);
4. Reddish brown silty/clayey SAND with gravel (BH-05 and BH-08);

An obstruction (concrete conduit) was encountered at a depth of 0.6 m in borehole BH-06.

GROUNDWATER CONDITIONS

Groundwater was only observed in borehole BH-08 at a depth of 0.4 m below the existing ground surface at the time of drilling. Groundwater levels should be expected to fluctuate due to site use, adjacent site use, seasonal weather trends, construction activity, and/or from the effects of a particular precipitation event.

RECOMMENDATIONS FOR PAVEMENT STRUCTURE

Based on our findings, we offer the following recommendations for an upgraded pavement structure. We understand that the proposed final grades will be consistent with existing grades.

Table 1: Pavement Structure

Material	Recommended Thickness	
	Standard Duty Pavement	Heavy Duty Pavement
Asphaltic Concrete – NBDTI Type C or D	75 mm	40 mm
Asphaltic Concrete – NBDTI Type B	-	60 mm
Aggregate Base (25 mm or 31.5 mm Minus)	150 mm	150 mm
Aggregate Subbase (75 mm Minus)	300 mm	450 mm

- To achieve this will require the excavation and removal of the existing materials to a sufficient depth to accommodate the new pavement structure.
- Following excavation to the subgrade level we recommend that a proof-rolling operation of the subgrade take place in the presence of geotechnical personnel to identify any potentially weak or yielding zones.

- Proof-rolling should be carried out with a loaded tandem truck. Any soft or yielding zones should be over-excavated as directed by geotechnical personnel and the material reinstated with approved subgrade material. The materials encountered on site (FILL free of organics and native) may be reused within the subgrade zone provided that compaction of at least 95% of the standard Proctor maximum dry density (ASTM D698) is achievable and have a moisture content close to the optimum moisture content.
- The subbase material should consist of 75 mm minus Crushed Rock or Crushed Gravel meeting the gradation requirements as shown on Table 2.
- The base material should consist of 25 mm or 31.5 mm minus Crushed Rock meeting the gradation limits for Crushed Rock Base as shown on Table 2.
- The base and subbase materials should be placed in lifts and compacted to a minimum of 95% of the standard Proctor corrected maximum dry density (ASTM D698).
- The lift thickness used during placement of backfill materials should be compatible with the compaction equipment and material type to ensure proper compaction throughout each lift. Generally, the maximum lift thickness should be limited to about 300 mm.

Table 2: Aggregate Grading Specification

Sieve Size	Aggregate Base Crushed Rock		Aggregate Subbase (75 mm minus)	
	25 mm (% Passing)	31.5 mm (% Passing)	Crushed Gravel (% Passing)	Crushed Rock (% Passing)
90 mm	-	-	100	100
75 mm	-	-	95-100	95-100
63 mm	-	-	86-100	85-100
50 mm	-	-	75-95	73-95
37.5 mm	-	100	61-87	58-87
31.5 mm	100	95-100	-	-
25 mm	95-100	81-100	-	-
19 mm	71-100	66-90	38-70	35-69
12.5 mm	56-82	50-77	-	-
9.5 mm	47-74	41-70	28-56	25-54
4.75 mm	31-59	27-54	19-46	17-43
2.36 mm	21-46	17-43	13-37	12-35
1.18 mm	13-34	11-32	9-30	8-28
300 µm	5-18	4-19	4-16	4-16
75 µm	0-8	0-8	0-7	0-9

- Materials should meet the durability requirements of NBDTI Standard Specification as per Table 201-1 – Properties of Rock and Gravel Aggregate.

- The soil strata encountered at the site contain relatively high percentages of fines and, as such, these soils will be easily disturbed by construction equipment and may degrade when subjected to construction traffic or other disturbance in wet conditions. All excavations and exposed subgrades should, therefore, be maintained in a dry condition throughout construction. Any soils that become disturbed/softened during construction should be over-excavated and replaced with approved material.
- Excavation and site grading should be designed so as to shed surface water away from the excavation. Dewatering pumps and sump pits may be required to control and maintain the base of the excavations in a dry state.

CLOSURE

This report has been prepared for the sole benefit of the client. Any use or reliance on this report under any of the following conditions would render this report inapplicable:

- where there have been any changes in site conditions; or
- where used for purposes not intended or delineated in this report; or
- where used by third parties without the express written agreement of Conquest Engineering.

Any use of, or reliance upon, this report under such circumstances or by such parties is strictly prohibited and without risk or liability to Conquest.

Conquest Engineering used reasonable care, skill, competence and judgment in the preparation of this report. The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. The information and conclusions contained in this report are generally consistent with professional standards for individuals providing similar services at the same time, in the same locale and under like circumstances.

A field investigation is a limited and random sampling of a site. Some variation between sampling locations should be expected. The conclusions presented in this report represent the best technical judgment of Conquest Engineering based on the data obtained from the work. The conclusions are based on the site conditions observed by Conquest Engineering at the time the work was performed at the specific testing and/or sampling locations, and can only be extrapolated to an undefined limited area around these locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the site reflecting natural, construction and other activities. Due to the nature of the investigation and the limited data available, Conquest Engineering cannot warrant against undiscovered environmental liabilities.

If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein. Further, if there are changes to the proposed work, such as the proposed final grades of the parking areas, etc., we require that we be notified to allow for review of our recommendations.

It is strongly recommended that Conquest Engineering Ltd. be engaged during the earthworks phase of the project to enable us to confirm general conformance of the work to our recommendations for site preparation (including excavation and replacement of the unsuitable soils present at the site). Failure to engaged Conquest Engineering Ltd. during this work will relieve Conquest Engineering Ltd., its officers, directors, employees and sub-consultants against all damages, liabilities or costs arising out of, or in any way connected with, the performance of such services by other persons or entities and from any and all claims arising from modifications, clarifications, interpretations, adjustments or changes to the Contract Documents to reflect changed field or other conditions.

We trust the information in this report is sufficient for your requirements at this time. If you have any questions or if we can be of any further assistance please feel free to contact us.

Yours truly,
CONQUEST ENGINEERING LTD.

Robert Y. Cyr, M.A.Sc., P. Eng.
Senior Engineer / Principal

Attachment:
- Symbols and Terms used on Borehole and Test Pit Records
- Borehole Records
- Borehole Location Plan (Figure 1)

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SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Terminology describing common soil genesis:

Topsoil	-	mixture of soil and humus capable of supporting good vegetative growth
Peat	-	fibrous aggregate of visible and invisible fragments of decayed organic matter
Till	-	unstratified glacial deposit which may range from clay to boulders
Fill	-	any materials below the surface identified as placed by humans (excluding buried services)

Terminology describing soil structure:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure
Varved	-	composed of regular alternating layers of silt and clay
Stratified	-	composed of alternating successions of different soil types, e.g. silt and sand
Layer	-	>75 mm
Seam	-	2 mm to 75 mm
Parting	-	< 2 mm
Well Graded	-	having wide range in grain sizes and substantial amounts of all intermediate particle sizes
Uniformly Graded	-	predominantly of one grain size

Terminology describing soils on the basis of grain size and plasticity is based on the ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). The classification excludes particles larger than 76 mm (3 inches). This system provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification.

Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present:

Trace, or occasional	Less than 10%
Some	10-20%
Frequent	Greater than 20%

The standard terminology to describe cohesionless soils includes the compactness (formerly "relative density"), as determined by laboratory test or by the Standard Penetration Test 'N' – value.

Relative Density	'N' Value	Compactness %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by insitu vane tests, penetrometer tests, unconfined compression tests, or occasionally by standard penetration tests.

Consistency	Undrained Shear Strength (Su)		'N' Value
	Kips/sq.ft.	KPa	
Very Soft	< 0.25	< 12.5	< 2
Soft	0.25 – 0.5	12.5 – 25	2 – 4
Firm	0.5 – 1.0	25 – 50	4 – 8
Stiff	1.0 – 2.0	50 – 100	8 – 15
Very Stiff	2.0 – 4.0	100 – 200	15 – 30
Hard	> 4.0	> 200	> 30

ROCK DESCRIPTION

Rock Quality Designation (RQD)

The classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be due to close shearing, jointing, faulting, or weathering in the rock mass and are not counted. RQD was originally intended to be done on N-size (45 mm) core; however, it can be used on different core sizes if the bulk of the fractures caused by drilling stresses are easily distinguishable from in situ fractures.

RQD	ROCK QUALITY
90 – 100	Excellent, intact, very sound
75 – 90	Good, massive, moderately jointed or sound
50 – 75	Fair, blocky and seamy, fractured
25 – 50	Poor, shattered and very seamy or blocky, severely fractured
0 – 25	Very poor, crushed, very severely fractured

Terminology describing rock mass:

Spacing (mm)	Bedding, Laminations, Bands	Discontinuities
2000 – 6000	*Very Thick*	*Very Wide*
600 – 2000	*Thick*	*Wide*
200 – 600	*Medium*	*Moderate*
60 – 200	*Thin*	*Close*
20 – 60	*Very Thin*	*Very Close*
< 20	*Laminated*	*Extremely Close*
< 6	*Thinly Laminated*	

Strength Classification	Uniaxial Compressive Strength (MPa)
Very Weak	1 – 5
Weak	5 – 25
Medium Strong	25 – 50
Strong	50 – 100
Very Strong	100 – 250
Extremely Strong	> 250

Terminology describing weathering:

Slight - Weathering limited to the surface of major discontinuities. Typically iron stained.
Moderate - Weathering extends throughout rock mass. Rock is not friable.
High - Weathering extends throughout rock mass. Rock is friable.

STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:

Boulders, Cobbles, Gravel | Sand | Silt | Clay | Organics | Asphalt | Concrete | Fill | Igneous Bedrock | Metamorphic Bedrock | Sedimentary

WATER LEVEL MEASUREMENT

Borehole or Standpipe

Piezometer

SAMPLE TYPE AND/OR FIELD TESTS

SS	Split Spoon Sample (obtained by performing the Standard Penetration Test)	AS	Auger Sample
		BS	Bulk Sample
		WS	Wash Sample
ST	Shelby Tube or Thin Wall Tube	HQ, NQ, BQ, etc. Rock Core Samples (obtained with the use of standard size diamond drilling bits)	
PS	Piston sample		
DC	Dynamic Cone Penetration		
FSV	Field Shear Vane		

N- VALUE

Numbers in this column are the results of the SPT (Standard Penetration Test): the number of blows of a 140 pound (64kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (305 mm) into the soil. For split spoon samples where insufficient penetration was achieved and 'N' values cannot be presented, the abbreviation SSR (Split Spoon Refusal) will appear in place of a numerical value.

OTHER TESTS

Symbols in this column indicate that the following laboratory tests have been carried out and the results are presented separately.

S	Sieve analysis	H	Hydrometer analysis
G_s	Specific gravity of soil particles	γ	Unit weight
k	Permeability	C	Consolidation
	Single packer permeability test; test interval from depth shown to bottom of borehole	CD	Consolidated drained triaxial
		CU	Consolidated undrained triaxial with pore pressure measurements
	Double packer permeability test; Test interval as indicated	UU	Unconsolidated undrained triaxial
		DS	Direct shear
	Falling head permeability test using casing	Q_u	Unconfined compression
		I_p	Point Load Index (I_p on Borehole Records equals I_p (50); the index corrected to a reference diameter of 50 mm)
	Falling head permeability test using well point or piezometer	MSV	Laboratory Miniature Shear Vane

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 01
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								44.4		
0							ASPHALT (100 mm thick)	0.0 44.3		
		AS	1	-	-		Brown sand with silt and gravel : FILL	0.1 44.1		
1		SS	2	46	600		Compact reddish brown silty SAND with gravel - frost to a depth of 0.7 m	0.3	□	
3		SS	3	17	550			42.9	□	
5							End of Borehole	1.5		

ft m
0 0
1
2
3
4
5
6
1
2

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 02
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
ft m								44.5		
0 0							ASPHALT (100 mm thick)	0.0 44.4		
		AS	1	-	-		Brown sand with silt and gravel: FILL	0.1 44.3		
1							Compact to very dense reddish brown silty SAND with gravel	0.2		
2		SS	2	16	550				□	
3 1										
4		SS	3	59	500					
5							End of Borehole	43.0 1.5		
6 2										

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 03
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								54.9		
0							ASPHALT (80 mm thick)	0.0 54.8		
		AS	1	-	-		Compact brown to reddish brown sand with silt, gravel and trace of organics and brick pieces: FILL	0.1		
1										
2		SS	2	17	600			54.0		
3							Compact reddish brown silty SAND with gravel	0.9		
4		SS	3	10	200			53.4		
5							End of Borehole	1.5		
6										

ft / m: 0 / 0; 1 / 1; 2 / 2

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202
Client: Crandall Engineering Ltd.
Location: Dorchester, NB
Water Level: Not observed at time of drilling

BH - 04
Page: 1 of 1
Date Drilled: March 10, 2017
Datum: Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								52.8		
0							ASPHALT (100 mm thick)	0.0		
								52.7		
		-	-	-	-		Brown sand with silt and gravel: FILL	0.1		
1										
								52.3		
							Loose reddish brown sand with silt, clay, gravel and trace of organics: FILL	0.5		
2		SS	1	8	550				□	
3										
4		SS	2	4	200				□	
								51.3		
5							End of Borehole	1.5		
6										

ft m
0 0
1
2
3 1
4
5
6 2

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 05
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								49.5		
0							ASPHALT (100 mm thick)	0.0 49.4		
		AS	1	-	-		Brown sand with silt and gravel: FILL	0.1		
1							- black sand layer	49.0		
							Compact reddish brown silty/clayey SAND with gravel	0.5		
2		SS	2	26	550				□	
3										
		SS	3	15	500				□	
4										
								48.0		
5							End of Borehole	1.5		
6										

ft m
0 0
1
1
2
2
3
3 1
4
4
5
5
6
6 2

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 06
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								51.1		
							ASPHALT (115 mm thick)	0.0 51.0		
		AS	1	-	-		Compact brown to reddish brown sand with silt and gravel: FILL - trace of organics at 0.5 m	0.1		
		SS	2	SSR	300			50.5		
		-	-	-	-		- hit concrete obstructions at 0.6 m and 1.0 m	0.6 50.1		
							End of Borehole	1.0		

ft / m
0 / 0
1 / 1
2 / 2
3
4
5
6

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 07
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Not observed at time of drilling **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								54.5		
0							ASPHALT (90 mm thick)	0.0 54.4		
		AS	1	-	-		Loose brown to reddish brown sand with silt and gravel: FILL	0.1		
1										
2		SS	2	9	230				□	
3										
		SS	3	6	0		Loose reddish brown silty SAND with gravel	53.4 1.1	□	
4										
5							End of Borehole	53.0 1.5		
6										

ft m
0 0
1
2
3 1
4
5
6 2

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BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202 **BH -** 08
Client: Crandall Engineering Ltd. **Page:** 1 of 1
Location: Dorchester, NB **Date Drilled:** March 10, 2017
Water Level: Water at 0.4 m on March 10, 2017 **Datum:** Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
								51.3		
0 ft / 0 m							Compact brown sand with silt and gravel: FILL	0.0		
								51.1		
1	▼	SS	1	23	600		Loose reddish brown sand with silt and gravel: FILL	0.2	□	
							- Wood piece at 0.4 m			
2							- Ice lenses at 0.6 m			
3		SS	2	7	500				□	
1										
4										
		SS	3	8	530			49.8	□	
5							Loose reddish brown silty/clayey SAND with gravel	1.5		
								49.5		
6							End of Borehole	1.8		
2										

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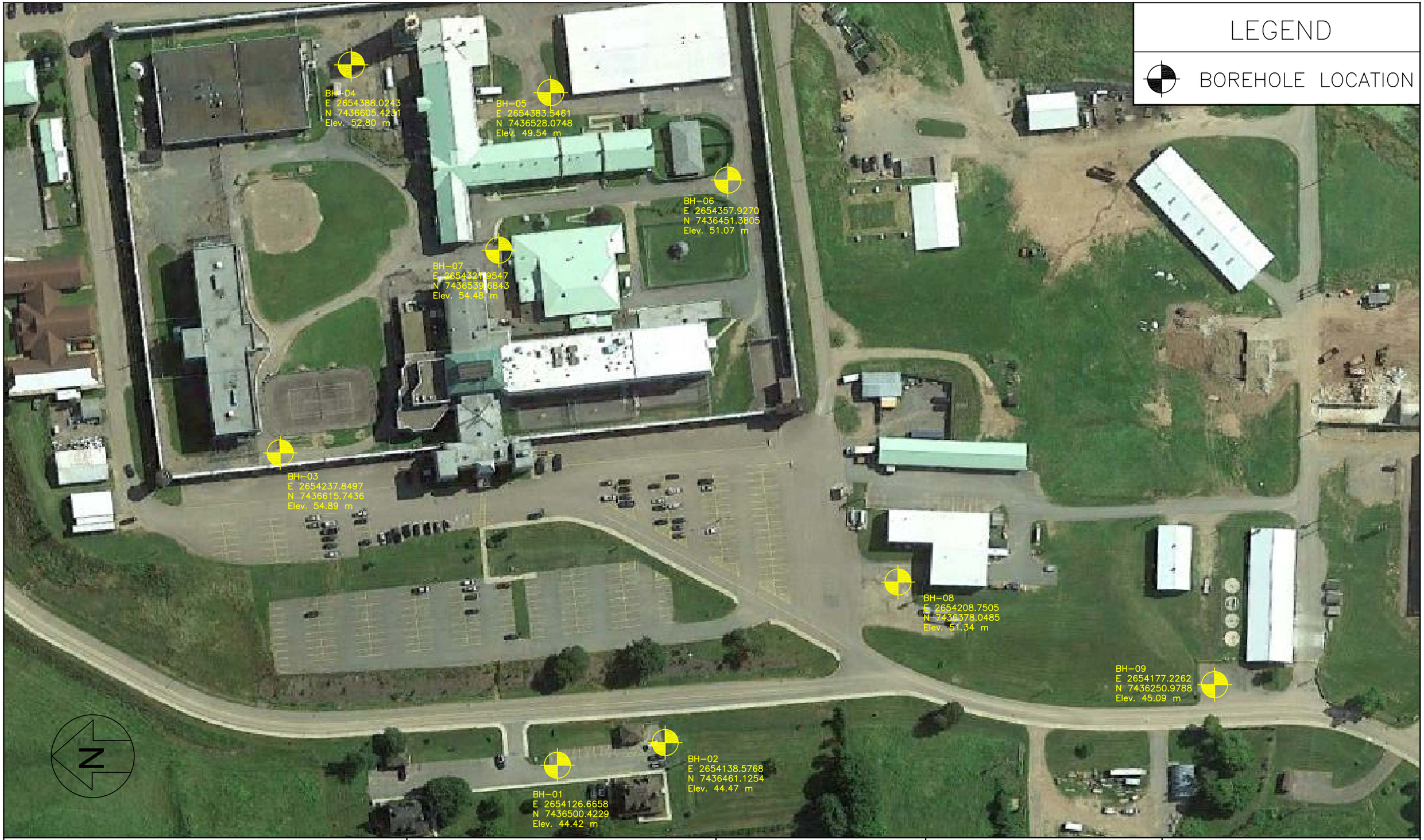
BOREHOLE RECORD

Project Name: Parking Lot Upgrades - Dorchester Penitentiary
Project No.: 071-202
Client: Crandall Engineering Ltd.
Location: Dorchester, NB
Water Level: Not observed at time of drilling

BH - 09
Page: 1 of 1
Date Drilled: March 10, 2017
Datum: Geodetic

Depth (m)	Water Level (m)	Sample Type	Sample Number	N Value or RQD %	Recovery (mm)	Symbols	SOIL AND/OR ROCK DESCRIPTION	Elevation/Depth (m)	SPT (N) Blows/300mm 5 15 25 35 45	Moisture Content (%) Wp |---O---| WL 5 15 25 35 45
ft m								45.1		
0 0							ASPHALT (90 mm thick)	0.0 45.0		
		AS	1	-	-		Brown sand with silt and gravel: FILL	0.1		
1								44.6		
		SS	2	34	600		Compact reddish brown silty SAND with gravel and trace of organics - ice lenses at 0.6 m - frost to a depth of 0.6 m	0.5	□	
2 3										
1		SS	3	12	80			43.6	□	
4 5							End of Borehole	1.5		
6 2										



BOREHOLE LOCATION PLAN
PARKING LOT UPGRADES PROJECT
DORCHESTER PENITENTIARY
DORCHESTER, NB

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Saint John
Moncton
Fredericton
Bedford

DATE:	SCALE:
MARCH 19, 2017	NTS
PROJECT No.:	FIGURE:
071-202	1