

SOIL AND ROCK CLASSIFICATION, LEGEND, AND ABBREVIATIONS

SOIL LEGEND AND AASHTO CLASSIFICATION										CONSISTENCY OR DENSENESS			
GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)				SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS	PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N - VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (q _u) (kN / m ²)
GROUP CLASS.	A-1	A-3	A-2		A-4	A-5	A-6	A-7	A-1-A-2 A-3	A-4-A-5 A-6-A-7	GENERALLY GRANULAR MATERIAL	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	N/A
SYMBOL													
% PASSING	#10 #40 #200	50 MX 30 MX 15 MX	50 MX 30 MX 15 MX	50 MN 30 MN 15 MN	35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	35 MN 35 MN 35 MN	35 MN 35 MN 35 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT		
(PASSING #40)	LL PI	6 MX	N.P.	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER	HIGHLY ORGANIC SOILS	GENERALLY SILT-CLAY MATERIAL	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 25 25 TO 50 50 TO 100 100 TO 200 200 TO 400 > 400
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX					
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS GRAVEL & SAND	FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND	SILTY SOILS	CLAYEY SOILS								
* PI OF A-7-5 (LL-30) PI OF A-7-6 (LL-30)													
TEXTURE OR GRAIN SIZE													
BOULDER	COBBLE	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY							
GRAIN (mm)	305	75	2	0.25	0.075	0.0075							
SIZE (IN)	12	3											
SOIL MOISTURE - CORRELATION OF TERMS													
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION									
LL	LIQUID LIMIT	-SATURATED- (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE										
PLASTIC RANGE (IP) PL	PLASTIC LIMIT	-WET- (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE										
OM	OPTIMUM MOISTURE	-MOIST- (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE										
SL	SHRINKAGE LIMIT	-DRY- (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE										
ROCK DESCRIPTION													
IN THE BROADEST MEANING, HARD ROCK IS CONSIDERED TO BE THAT INDURATED EARTH MATERIAL WHICH CANNOT BE SAMPLED BY CONVENTIONAL SOIL SAMPLING TOOLS OR TECHNIQUES. THE BOUNDARY BETWEEN SOIL AND ROCK IS ARBITRARY. TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF "WEATHERED ROCK". FOR THE PURPOSE OF THIS INVESTIGATION, THESE MATERIALS ARE DIVIDED AS FOLLOWS:													
TERM	SYMBOLS		DESCRIPTION										
HARD ROCK (HR)	CORED ROCK	INFERRED ROCK LINE	MATERIAL THAT CANNOT BE PENETRATED BY POWER AUGERS, EXCEPT IN THIN LEDGES, AND REQUIRES ROCK CORING TOOLS FOR OBTAINING A SAMPLE										
WEATHERED ROCK (WR)	HARD WEATHERED ROCK (HWR)		MATERIAL THAT CAN BE PENETRATED WITH GREAT DIFFICULTY USING POWER AUGERS AND YIELDS SPT REFUSAL										
	SOFT WEATHERED ROCK (SWR)		MATERIAL THAT CAN BE PENETRATED WITH SOME DIFFICULTY USING POWER AUGERS AND YIELDS SPT VALUES > 100 BLOWS BUT < SPT REFUSAL										
¹ SPT REFUSAL ≤ 2.5 cm of PENETRATION PER 50 BLOWS IN SPT. ² AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH AUGERS COULD NO LONGER PENETRATE. THE HARD ROCK SYMBOL IS SHOWN WHEN ROCK IS CORED AND ONLY TO THAT DEPTH CORED. A DESCRIPTION OF ROCK IS GIVEN, INCLUDING: CORE RECOVERY (REC.) - TOTAL LENGTH OF ROCK RECOVERED IN THE CORE BARREL DIVIDED BY THE TOTAL LENGTH OF THE CORE RUN TIMES 100%. ROCK QUALITY DESIGNATION (ROD) - TOTAL LENGTH OF SOUND ROCK SEGMENTS RECOVERED THAT ARE LONGER THAN OR EQUAL TO 0.1 m DIVIDED BY THE TOTAL LENGTH OF THE CORE RUN TIMES 100%.													
GROUND WATER													
<input type="checkbox"/> WATER LEVEL IN BORE HOLE (IMMEDIATELY AFTER DRILLING (L.A.D.) SOON AFTER DRILLING (0 HRS.)) <input type="checkbox"/> STATIC WATER LEVEL (AFTER 24 HRS.) <input type="checkbox"/> PERCHED WATER (PW), SATURATED ZONE, OR WATER BEARING STRATA <input type="checkbox"/> SPRING OR SEEPAGE													
MISCELLANEOUS SYMBOLS AND ABBREVIATIONS													
ROADWAY EMBANKMENT WITH SOIL DESCRIPTION				SPT TEST BORING		SAMPLE DESIGNATIONS							
SOIL SYMBOL				AUGER BORING		S-BULK SAMPLE							
ARTIFICIAL FILL OTHER THAN ROADWAY EMBANKMENTS				CORE BORING		SS SPLIT SPOON SAMPLE							
INFERRED SOIL BOUNDARIES				PIEZOMETER INSTALLATION		ST-SHELBY TUBE SAMPLE							
25° STRIKE AND DIP				SLOPE INDICATOR INSTALLATION		RS-ROCK SAMPLE							
APPARENT DIP (NORMAL TO _____)				SPT N-VALUE									
ROD SOUNDING				MONITORING WELL									
ABBREVIATIONS													
ALLUV.	ALLUVIUM	MIC.	MICACEOUS										
AR	AUGER REFUSAL	MOT.	MOTTLED										
BLDOR.	BOULDER	N	BLOWS / 30 CM										
CALC.	CALCAREOUS	NS	NO SAMPLE TAKEN										
CL.	CLAY	ORG.	ORGANIC										
CLY.	CLAYEY	P.P.	POCKET PENETROMETER										
COB.	COBBLE	REF.	REFER TO										
CSE.	COARSE	RES.	RESIDUAL										
DPT	DYNAMIC PENETRATION TEST	S.	SOFT										
EST.	ESTIMATED	SAT.	SATURATED										
F.	FINE	SD.	SAND										
FIAD	FILLED (IMED. AFTER DRILLING)	SDY.	SANDY										
FOSS.	FOSSILIFEROUS	SED(S).	SEDIMENT(S)										
FRAC.	FRACTURED	SL.	SILT, SILTY										
FRAC(S).	FRAGMENT(S)	SLI.	SLIGHTLY										
GR.	GRAVEL	SPT	STANDARD PENETRATION TEST										
GS.	SPECIFIC GRAVITY	TS.	TOPSOIL										
GW	GROUND WATER	VST	VANE SHEAR TEST										
MED.	MEDIUM	V.	VERY										
		W/	WITH										
BENCH MARK: Elevation is 97.834 meters Bench Mark is metal cap marked as BLREV-909 at BY5, Station 16+52.326													
STATE PROJECT NO. 8.T311002													
T.I.P. NO. R-2552AB F.A. NO. NHF-60-119													
COUNTY JOHNSTON ROUTE US 70 BYPASS													
SITE DESCRIPTION BRIDGE ON -Y2- (INC 42) OVER -L- (US 70 BYPASS)													
PROJECT GEOLOGIST SPB SUBMITTED BY RSJ													

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~~PRELIMINARY~~
NOT FOR LETTING