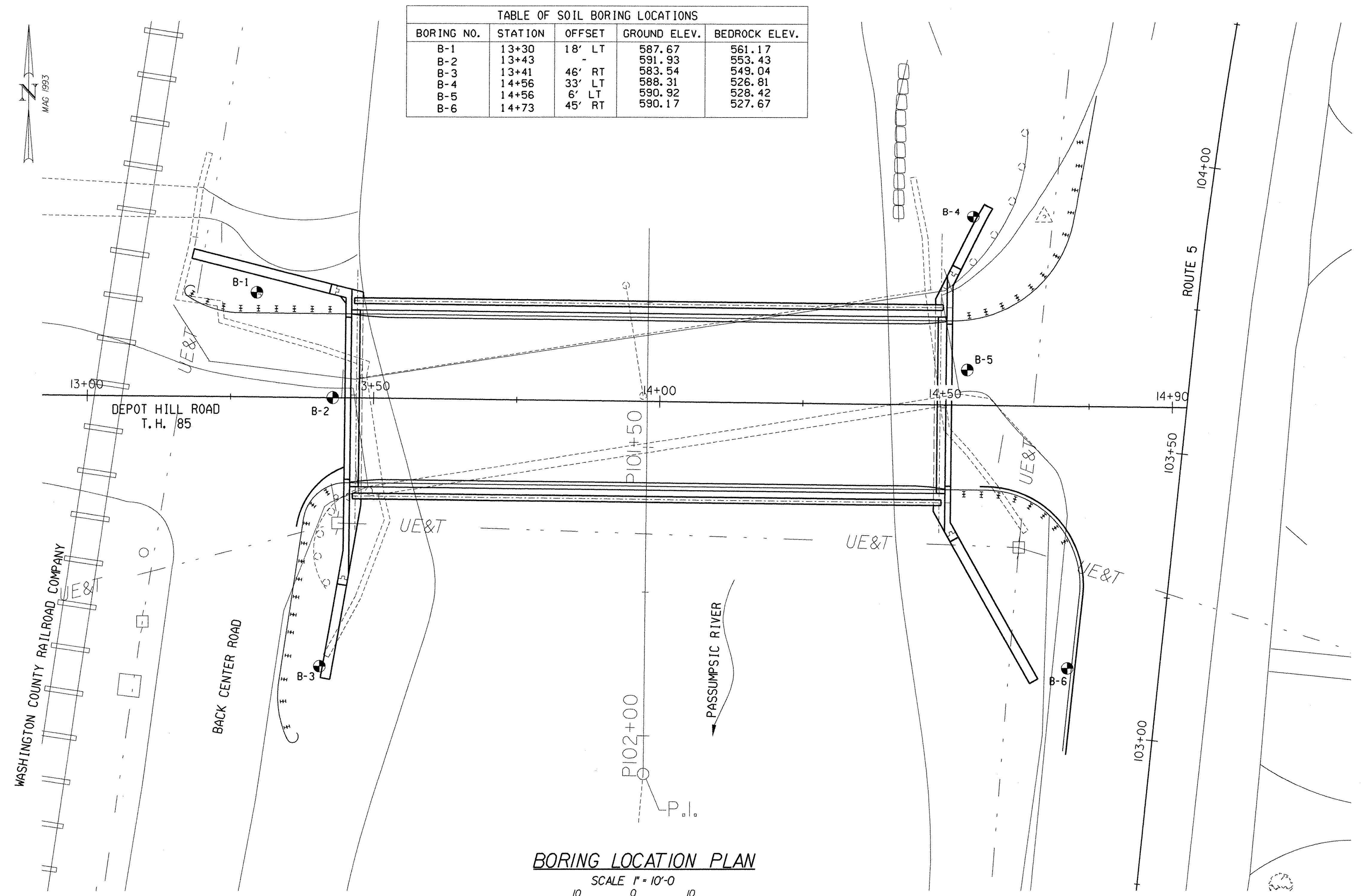


SOIL CLASSIFICATION		COMMONLY USED SYMBOLS	
AASHTO		▽	WATER ELEVATION
A1	GRAVEL AND SAND	⊕	STANDARD PENETRATION BORING
A3	FINE SAND	⊙	AUGER BORING
A2	SILTY OR CLAYEY GRAVEL AND SAND	⊖	ROD SOUNDING
A4	SILTY SOIL - LOW COMPRESSIBILITY	⊗	SAMPLE
A5	SILTY SOIL - HIGHLY COMPRESSIBLE	N	STANDARD PENETRATION TEST
A6	CLAYEY SOIL - LOW COMPRESSIBILITY		BLOW COUNT PER FOOT FOR:
A7	CLAYEY SOIL - HIGHLY COMPRESSIBLE		2" O.D. SAMPLER
			1 3/8" I.D. SAMPLER
			HAMMER WEIGHT OF 140 LBS.
			HAMMER FALL OF 30 INCHES
ROCK QUALITY DESIGNATION		VS	FIELD VANE SHEAR TEST
R. Q. D. (%)	ROCK DESCRIPTION	US	UNDISTURBED SOIL SAMPLE
<25	VERY POOR	B	BLAST
25 TO 50	POOR	DC	DIAMOND CORE
51 TO 75	FAIR	MD	MUD DRILL
76 TO 90	GOOD	WA	WASH AHEAD
>90	EXCELLENT	HSA	HOLLOW STEM AUGER
		AX	CORE SIZE 1 1/8"
		BX	CORE SIZE 1 5/8"
		NX	CORE SIZE 2 1/8"
		M	DOUBLE TUBE CORE BARREL USED
		LL	LIQUID LIMIT
		PL	PLASTIC LIMIT
		PI	PLASTICITY INDEX
		NP	NON PLASTIC
		w	MOISTURE CONTENT (DRY WGT. BASIS)
		D	DRY
		M	MOIST
		MTW	MOIST TO WET
		W	WET
		SAT	SATURATED
		BO	BOULDER
		GR	GRAVEL
		SA	SAND
		SI	SILT
		CL	CLAY
		HP	HARDPAN
		LE	LEDGE
		NLTD	NO LEDGE TO DEPTH
		CNPF	CAN NOT PENETRATE FURTHER
		TLOB	TO LEDGE OR BOULDER
		NR	NO RECOVERY
		REC.	RECOVERY
		%REC.	PERCENT RECOVERY
		ROD	ROCK QUALITY DESIGNATION
		CBR	CALIFORNIA BEARING RATIO
		<	LESS THAN
		>	GREATER THAN
		R	REFUSAL (N > 100)
UNIFIED SOIL SYSTEM			
GW/GP	CLEAN GRAVELS (FEW FINES)		
GM/GC	GRAVELS (APPRECIABLE FINES)		
SW/SP	CLEAN SANDS (FEW FINES)		
SM/SC	SAND (APPRECIABLE FINES)		
ML/CL	LOW PLASTIC SILTS & CLAYS		
OL	LOW PLASTIC ORGANIC SILT		
MH/CH	HIGH PLASTIC SILTS & CALYS		
OH	HIGH PLASTIC ORGANIC SILT		
PT	HIGH ORGANIC SOILS		
MOISTURE			
DESCRIPTIVE TERM	OBSERVED IN FIELD	% BY ANALYSIS	
DRY	NO VISIBLE WATER	10	
MOIST	DAMP	10-20	
MOIST TO WET	MOIST TO WET	21-50	
WET	VISIBLE WATER	51-70	
SATURATED		>70	
SHEAR STRENGTH			
UNDRAINED SHEAR STRENGTH IN P. S. F.	CONSISTENCY		
<250	VERY SOFT		
250-500	SOFT		
500-1000	MED. STIFF		
1000-2000	STIFF		
2000-4000	VERY STIFF		
>4000	HARD		
CORRELATION GUIDE OF *N* TO DENSITY/CONSISTENCY			
DENSITY (GRANULAR SOILS)	CONSISTENCY (COHESIVE SOILS)		
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	VERY LOOSE	<2	VERY SOFT
5-10	LOOSE	2-4	SOFT
11-24	MED. DENSE	5-8	MED. STIFF
25-50	DENSE	9-15	STIFF
>50	VERY DENSE	16-30	VERY STIFF
		31-60	HARD
		>60	VERY HARD
DEFINITIONS (AASHTO)			
BEDROCK (LEDGE) ROCK IN ITS NATIVE LOCATION OF INDEFINITE THICKNESS.	VARVED - ALTERNATE LAYERS OF SILT AND CLAY.		
BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION > 12 INCHES.	HARDPAN - EXTREMELY DENSE SOIL, CEMENTED LAYER, NOT SOFTENED WHEN WET.		
COBBLE - ROCK FRAGMENTS WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.	MUCK - SOFT ORGANIC SOIL (CONTAINING > 10% ORGANIC MATERIAL).		
GRAVEL - ROUNDED PARTICLES OF ROCK < 3" AND > 0.075" (#10 SIEVE).	MOISTURE CONTENT - WEIGHT OF WATER DIVIDED BY DRY WEIGHT OF SOIL.		
SAND - PARTICLES OF ROCK < 0.075" (#10 SIEVE) AND > 0.0029" (#200 SIEVE).	FLOWING SAND - GRANULAR SOIL SO SATURATED (LOOSE) THAT IT FLOWS INTO DRILL CASING DURING EXTRACTION OF WASH ROD.		
SILT - SOIL < 0.0029" (#200 SIEVE), NON OR SLIGHTLY PLASTIC AND EXHIBITS NO STRENGTH WHEN AIR-DRIED.	STRIKE - ANGLE FROM MAGNETIC NORTH TO LINE OF INTERSECTION OF BED WITH A HORIZONTAL PLANE.		
CLAY - FINE GRAINED SOIL, EXHIBITS PLASTICITY WHEN MOIST AND CONSIDERABLE STRENGTH WHEN AIR-DRIED.	DIP - INCLINATION OF BED WITH A HORIZONTAL PLANE.		

BORING NO.	STATION	OFFSET	GROUND ELEV.	BEDROCK ELEV.
B-1	13+30	18' LT	587.67	561.17
B-2	13+43	-	591.93	553.43
B-3	13+41	46' RT	583.54	549.04
B-4	14+56	33' LT	588.31	526.81
B-5	14+56	6' LT	590.92	528.42
B-6	14+73	45' RT	590.17	527.67



BORING LOCATION PLAN

SCALE 1" = 10'-0"

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GENERAL NOTES

1. THE SUBSURFACE EXPLORATIONS SHOWN HEREIN WERE MADE BETWEEN 9/29/99 AND 10/29/99 BY THE AGENCY.
2. SOIL AND ROCK CLASSIFICATIONS, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION FROM AVAILABLE SUBSURFACE INFORMATION BY THE AGENCY AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING OR SAMPLE LOCATIONS.
3. OBSERVED WATER LEVELS AND/OR CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.
4. ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREIN. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTERPRETED FOR AGENCY DESIGN AND ESTIMATING PURPOSES. PRESENTATION OF THE INFORMATION IN THE CONTRACT IS INTENDED TO PROVIDE THE CONTRACTOR ACCESS TO THE SAME DATA AVAILABLE TO THE AGENCY. THE SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATION, INDEPENDENT ANALYSIS OR JUDGEMENT BY THE CONTRACTOR.
5. PICTORIAL STRUCTURE DETAILS SHOWN ON THE BORING PLAN LAYOUT OR SOILS PROFILE ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT ACCURATELY PORTRAY FINAL CONTRACT DETAILS.
6. TERMINOLOGY USED ON BORING LOGS TO DESCRIBE THE HARDNESS, DEGREE OF WEATHERING, AND SPACING OF FRACTURES, JOINTS AND OTHER DISCONTINUITIES IN THE BEDROCK IS DEFINED IN THE AASHTO MANUAL ON SUBSURFACE INVESTIGATIONS, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	ST. JOHNSBURY	Bridge No.	29
Highway No.	T.H. 85	Log Sta.	
DEPOT HILL ROAD OVER THE PASSUMPSIC RIVER		Surv. Sta.	
BORING INFORMATION SHEET			
Designed By	M. SMULLEN	Drawn by	Wm WEATHERBY
Checked By	M. OLSTAD	Date	7/2003
		Bridge Design Supervisor	P. HALSTEAD
		Date	9/2006
PROJECT	ST. JOHNSBURY	PROJECT NO.	BRO 1447(09)
I.G.C. Info.			
Bridge Sheet No. BR103		Sheet 36 OF 72	



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