

REFERENCE: SF-620025

PROJECT: 17BP.8.R.116

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

**STRUCTURE
SUBSURFACE INVESTIGATION**

COUNTY MOORE
PROJECT DESCRIPTION BRIDGE NO. 25 ON SR 1122
(JACKSON SPRINGS RD) OVER JACKSON CREEK

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4-5	CROSS SECTIONS
6-7	BORE LOGS
8	SITE PHOTOGRAPHS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.8.R.116	1	8

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

B. WORLEY, PG

L. GONZALEZ

D. SUTTON

INVESTIGATED BY B. WORLEY, PG

DRAWN BY B. WORLEY, PG

CHECKED BY D. DEWEY, PE

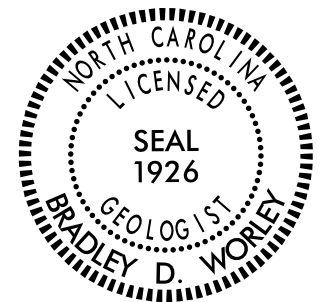
SUBMITTED BY Summit Design and Engineering Services, PLLC

DATE OCTOBER, 2016

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DocuSigned by:

Brad Worley

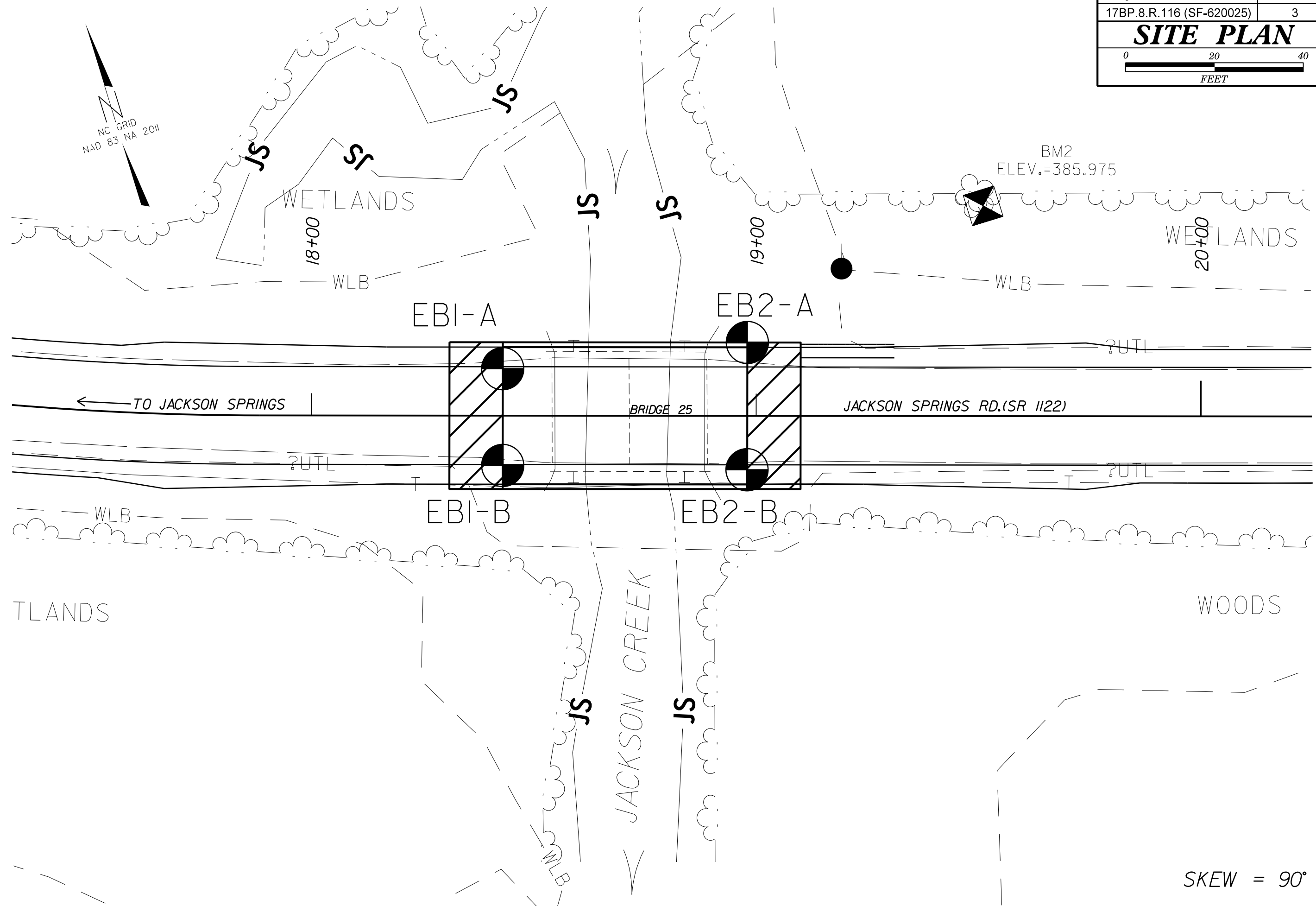
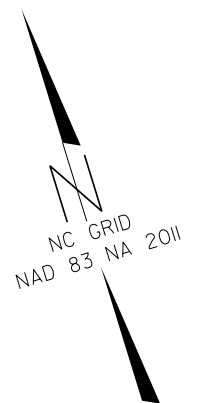
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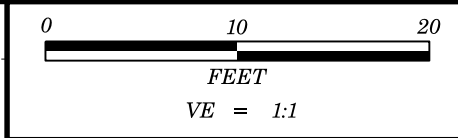
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DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

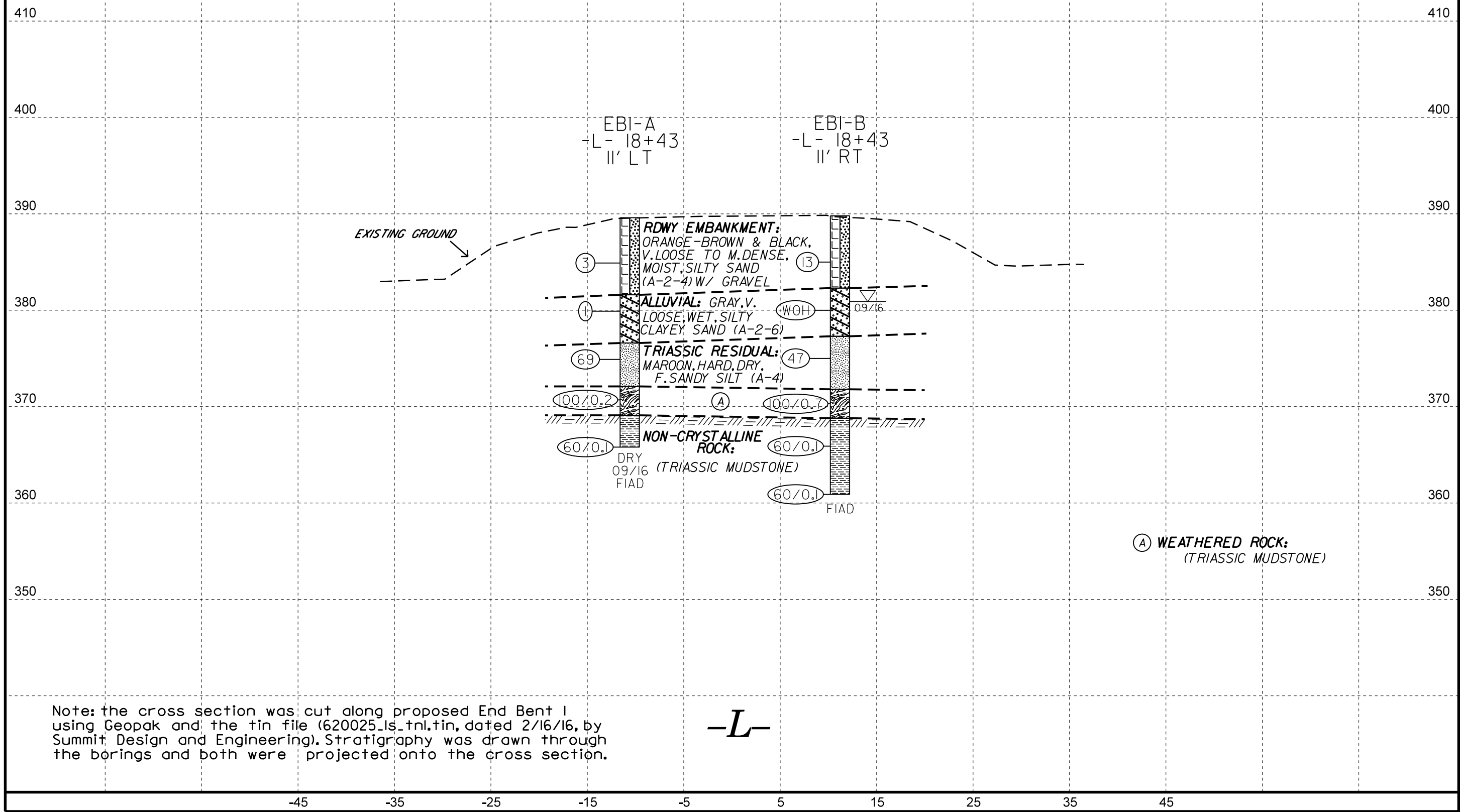
PROJECT REFERENCE NO.	SHEET NO.
17BP.8.R.116 (SF-620025)	3
SITE PLAN	



SKEW = 90°

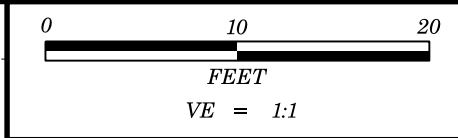


PROJECT REFERENCE NO.	SHEET
17BP.8.R.116 (SF-620025)	4
BRIDGE 25	
EBI CROSS SECTION	

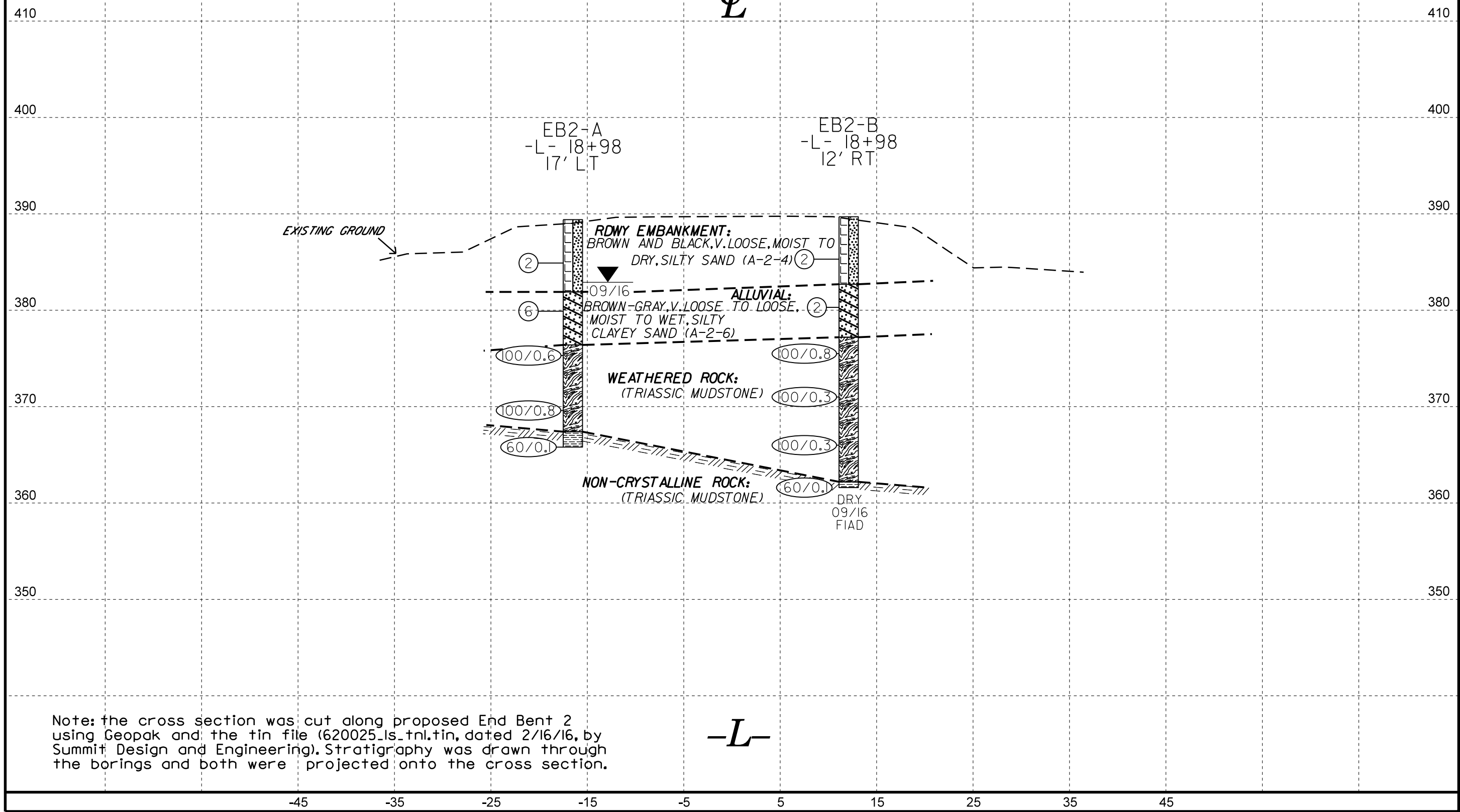


Note: the cross section was cut along proposed End Bent 1 using Geopak and the tin file (620025_ls_tnl.tin, dated 2/16/16, by Summit Design and Engineering). Stratigraphy was drawn through the borings and both were projected onto the cross section.

-L-



PROJECT REFERENCE NO.	SHEET
17BP.8.R.116 (SF-620025)	5
BRIDGE 25	
EB2 CROSS SECTION	



Note: the cross section was cut along proposed End Bent 2 using Geopak and the tin file (620025_ls_tnl.tin, dated 2/16/16, by Summit Design and Engineering). Stratigraphy was drawn through the borings and both were projected onto the cross section.

-L-

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.8.R.116		TIP SF-620025		COUNTY MOORE		GEOLOGIST B. Worley, PG										
SITE DESCRIPTION Bridge No. 25 on SR 1122 (Jackson Springs Rd) over Jackson Creek							GROUND WTR (ft)									
BORING NO. EB1-A		STATION 18+43		OFFSET 11 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 389.6 ft		TOTAL DEPTH 23.8 ft		NORTHING 525,176		EASTING 1,815,328										
DRILL RIG/HAMMER EFF./DATE SUM3123 CME-550X 93% 11/06/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Gonzalez		START DATE 09/22/16		COMP. DATE 09/22/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
390														389.6	GROUND SURFACE	0.0
															ROADWAY EMBANKMENT	
	385.9	3.7	3	1	2										Brown, Silty SAND (A-2-4) w/ gravel	
385																
	380.9	8.7	WOH	WOH	1										ALLUVIAL	8.0
380															Gray, Silty Clayey SAND (A-2-6)	
															(harder drilling at 13.0')	
	375.9	13.7	15	25	44										TRIASSIC RESIDUAL	13.0
375															Maroon, f. Sandy SILT (A-4)	
															(harder drilling at 17.5')	
	370.9	18.7	100/0.2												WEATHERED ROCK	17.5
370															(Triassic mudstone)	
															NON-CRYSTALLINE ROCK	20.5
															(Triassic mudstone)	
	365.9	23.7	60/0.1												Boring Terminated with Standard Penetration Test Refusal at Elevation 365.8 ft in Non-Crystalline Rock (Triassic mudstone)	23.8

WBS 17BP.8.R.116		TIP SF-620025		COUNTY MOORE		GEOLOGIST B. Worley, PG										
SITE DESCRIPTION Bridge No. 25 on SR 1122 (Jackson Springs Rd) over Jackson Creek							GROUND WTR (ft)									
BORING NO. EB1-B		STATION 18+43		OFFSET 11 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 389.9 ft		TOTAL DEPTH 28.9 ft		NORTHING 525,155		EASTING 1,815,322										
DRILL RIG/HAMMER EFF./DATE SUM3123 CME-550X 93% 11/06/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Gonzalez		START DATE 09/22/16		COMP. DATE 09/22/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
390														389.9	GROUND SURFACE	0.0
															ROADWAY EMBANKMENT	
	386.1	3.8	3	8	5										Orange-brown and black, Silty SAND (A-2-4) w/ gravel	
385																
	381.1	8.8	WOH	WOH	WOH										ALLUVIAL	7.5
380															Gray, Silty Clayey SAND (A-2-6)	
															(harder drilling at 12.5')	
	376.1	13.8	31	25	22										TRIASSIC RESIDUAL	12.5
375															Maroon, f. Sandy SILT (A-4)	
															(harder drilling at 18.0')	
	371.1	18.8	31	69/0.2											WEATHERED ROCK	18.0
370															(Triassic mudstone)	
															NON-CRYSTALLINE ROCK	21.0
															(very hard drilling at 21.0')	
	366.1	23.8	60/0.1												NON-CRYSTALLINE ROCK	21.0
365															(Triassic mudstone)	
	361.1	28.8	60/0.1												Boring Terminated with Standard Penetration Test Refusal at Elevation 361.0 ft in Non-Crystalline Rock (Triassic mudstone)	28.9

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.8.R.116		TIP SF-620025		COUNTY MOORE		GEOLOGIST B. Worley, PG										
SITE DESCRIPTION Bridge No. 25 on SR 1122 (Jackson Springs Rd) over Jackson Creek							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 18+98		OFFSET 17 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 389.4 ft		TOTAL DEPTH 23.6 ft		NORTHING 525,166		EASTING 1,815,383										
DRILL RIG/HAMMER EFF./DATE SUM3123 CME-550X 93% 11/06/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Gonzalez		START DATE 09/22/16		COMP. DATE 09/22/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
390														389.4	GROUND SURFACE	0.0
	385.9	3.5	1	1	1							M		381.9	ROADWAY EMBANKMENT Brown and black, Silty SAND (A-2-4)	
385																
	380.9	8.5	1	2	4							M		376.4	ALLUVIAL Gray, Silty Clayey SAND (A-2-6) (harder drilling at 13.0')	13.0
380																
	375.9	13.5	44	56/0.1										367.4	WEATHERED ROCK (Triassic mudstone) (very hard drilling at 22.0')	22.0
375																
	370.9	18.5	45	50	50/0.3									365.8	NON-CRYSTALLINE ROCK (Triassic mudstone) Boring Terminated with Standard Penetration Test Refusal at Elevation 365.8 ft in Non-Crystalline Rock (Triassic mudstone)	23.6
370																
	365.9	23.5	60/0.1													

WBS 17BP.8.R.116		TIP SF-620025		COUNTY MOORE		GEOLOGIST B. Worley, PG										
SITE DESCRIPTION Bridge No. 25 on SR 1122 (Jackson Springs Rd) over Jackson Creek							GROUND WTR (ft)									
BORING NO. EB2-B		STATION 18+98		OFFSET 12 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 389.7 ft		TOTAL DEPTH 28.1 ft		NORTHING 525,138		EASTING 1,815,374										
DRILL RIG/HAMMER EFF./DATE SUM3123 CME-550X 93% 11/06/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Gonzalez		START DATE 09/22/16		COMP. DATE 09/22/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
390														389.7	GROUND SURFACE	0.0
	386.3	3.4	1	1	1							D		382.7	ROADWAY EMBANKMENT Brown and black, Silty SAND (A-2-4)	
385																
	381.3	8.4	WOH	1	1							W		377.2	ALLUVIAL Brown-gray, Silty Clayey SAND (A-2-6) (harder drilling at 12.5')	12.5
380																
	376.3	13.4	31	69/0.3										372.2	WEATHERED ROCK (Triassic mudstone) (very hard drilling at 27.5')	27.5
375																
	371.3	18.4	100/0.3													
370																
	366.3	23.4	100/0.3													
365																
	361.7	28.0	60/0.1											361.6	NON-CRYSTALLINE ROCK (Triassic mudstone) Boring Terminated with Standard Penetration Test Refusal at Elevation 361.6 ft in Non-Crystalline Rock (Triassic mudstone)	28.1

NCDOT BORE DOUBLE_SF620025_GEO_BRDG_GINT.GPJ NC_DOT.GDT 10/26/16

SITE PHOTOGRAPH

Bridge No. 25 on SR 1122 (Jackson Springs Rd.) over Jackson Creek



View Facing East (Upstation)



View Facing West (Downstation)