

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF REPLACING AND WIDENING OF THE EXISTING I-75 NORTHBOUND AND SOUTHBOUND THREE-SPAN BRIDGES OVER NORTH BRANCH PORTAGE RIVER. THE PROJECT ALSO INCLUDES WIDENING THE SHOULDERS NORTH AND SOUTH OF THE BRIDGES IN ORDER TO ACCOMMODATE THE WIDENING OF THE BRIDGES. THE SHOULDER WIDENING INCLUDES THE CONSTRUCTION OF A TEMPORARY "RUNAROUND" LANE TO BE UTILIZED DURING CONSTRUCTION FOR MAINTENANCE OF TRAFFIC.

HISTORIC RECORDS

PLAN-AND-PROFILE DRAWINGS FOR THE ORIGINAL CONSTRUCTION IDENTIFIED AS I-75-6(28)174 FOR WOO-75-9.90 (REVISION DATE 11-5-65) WERE REVIEWED. DATA WERE ALSO REVIEWED FROM THE ODOT SOIL PROFILE FOR WOO-75-9.90 DRILLED IN 1963 BY THE OHIO STATE HIGHWAY TESTING LABORATORY FOR THE ORIGINAL I-75 PROJECT THROUGH WOOD COUNTY.

GEOLOGY

THE SITE LIES WITHIN THE MAUMEE LAKE PLAINS PHYSIOGRAPHIC REGION, COMPRISED OF PLEISTOCENE-AGE SILT, CLAY AND WAVE-PLANED GLACIAL TILL OVER SILURIAN-AGE CARBONATE ROCK AND SHALE. THE UPPER PROFILE BEDROCK IS MAPPED AS MONROE OR NIAGARA LIMESTONE AND SHALE FORMATIONS. WITHIN THE DEPTH OF BORINGS DRILLED FOR THIS INVESTIGATION, ONLY DOLOMITE (CARBONATE ROCK) FORMATIONS WERE ENCOUNTERED.

RECONNAISSANCE

THE INTERSTATE HIGHWAY AT THIS LOCATION IS TWO LANES IN EACH DIRECTION, SEPARATED BY A GRASS MEDIAN WITH SOME SMALL MOUNDS. THE EXISTING ASPHALT PAVEMENTS ALONG THE APPROACHES TO THE BRIDGE WERE OBSERVED TO BE IN GENERALLY GOOD CONDITION. THE OUTSIDE SHOULDERS INCLUDED EXIT AND ENTRANCE RAMPS TO ODOT REST AREAS ON EITHER SIDE OF THE HIGHWAY.

THE EXISTING BRIDGES ARE CONTINUOUS REINFORCED CONCRETE SLABS ON CONCRETE WALL PIERS. THE WEARING SURFACE CONSISTS OF CONCRETE.

SUBSURFACE EXPLORATION

TWENTY-TWO (22) TEST BORINGS WERE COMPLETED AS PART OF THIS SUBSURFACE EXPLORATION, BETWEEN MAY 24 AND JUNE 3, 2010. SIXTEEN (16) ROADWAY BORINGS WERE DRILLED, GENERALLY WITH A TRUCK-MOUNTED ROTARY DRILLING RIG (RIG NO. 105) UTILIZING 3-INCH DIAMETER SOLID-STEM AUGERS. TWO (2) STRUCTURE BORINGS AND FOUR (4) SUPPLEMENTAL ROADWAY BORINGS WERE COMPLETED WITH AN ATV-MOUNTED RIG (RIG NO. 550) UTILIZING 3/4-INCH INSIDE DIAMETER HOLLOW-STEM AUGERS. PAVEMENT CORES WERE OBTAINED AT FOUR ROADWAY BORINGS USING A 4-INCH DIAMETER SINGLE-WALL, DIAMOND-TIPPED CORE BARREL. DISTURBED SOIL SAMPLES WERE OBTAINED BY THE STANDARD PENETRATION TEST (SPT) METHOD (ASTM D 1586). THE CALIBRATED HAMMER/ROD ENERGY RATIOS FOR THE DRILL RIGS UTILIZED IN THIS PROJECT WERE 63 PERCENT FOR RIG NO. 105 AND 66 PERCENT FOR RIG NO. 550. BOTH RIGS WERE CALIBRATED ON DECEMBER 28, 2009.

UNDISTURBED SOIL SAMPLES WERE OBTAINED AT SELECTED DEPTHS IN THE STRUCTURE BORINGS IN ACCORDANCE WITH ASTM D 1587. WHERE BEDROCK WAS ENCOUNTERED, THE BORINGS WERE ADVANCED USING AN NX DIAMOND-BIT CORE BARREL AND CORING TECHNIQUES IN GENERAL ACCORDANCE WITH ASTM D 2113.

EXPLORATION FINDINGS

ROADWAY

WITH THE EXCEPTION OF SUPPLEMENTAL BORINGS R-004-1-10, R-007-1-10, R-012-1-10, AND R-015-1-10, THE SURFACE MATERIALS ENCOUNTERED IN THE ROADWAY BORINGS CONSISTED OF ASPHALT OF VARYING THICKNESS, UNDERLAIN BY CRUSHED STONE. IN THE SUPPLEMENTAL BORINGS, THE SURFACE MATERIALS CONSISTED OF TOPSOIL OF VARYING THICKNESS. BASED ON THE AS-DRILLED SURVEY DATA, IT APPEARS THAT SOME BORINGS WERE PERFORMED WITHIN CLOSE PROXIMITY OF THE UNDERDRAINS LOCATED ALONG THE MEDIAN SHOULDERS. AS A RESULT, MANY OF THESE BORINGS ENCOUNTERED CRUSHED STONE AND/OR FILL SAND THAT APPEAR TO BE GRANULAR FILL ZONES UNCHARACTERISTICALLY IN EXCESS OF THE AGGREGATE BASE THICKNESS INDICATED IN THE TYPICAL DESIGN PAVEMENT SECTIONS. THE ASPHALT THICKNESS AVERAGED APPROXIMATELY 14 INCHES. THE UNDERLYING GRANULAR MATERIALS VARIED IN THICKNESS FROM 6 TO 46 INCHES AND VARIED IN COMPOSITION FROM SAND TO CRUSHED STONE.

UNDERLYING THE PAVEMENT MATERIALS, GRANULAR FILL MATERIALS WERE PREDOMINANTLY ENCOUNTERED TO DEPTHS RANGING FROM APPROXIMATELY 2 1/2 TO 6 FEET. THE GRANULAR FILL MATERIALS INCLUDED FINE SAND, COARSE AND FINE SAND, AS WELL AS CRUSHED STONE. UNDERLYING THE TOPSOIL IN BORINGS R-004-1-10, R-007-1-10, R-012-1-10, AND R-015-1-10, AS WELL AS THE GRANULAR FILL MATERIALS IN BORING R-014-0-10, COHESIVE FILL MATERIALS WERE ENCOUNTERED TO DEPTHS GENERALLY RANGING FROM 1 1/2 TO 4 FEET. THE COHESIVE FILL MATERIALS INCLUDED SILT AND CLAY, SILTY CLAY, AS WELL AS CLAY.

THE SUBSOILS UNDERLYING THE SURFACE MATERIALS AND EXISTING FILL MATERIALS CONSISTED OF PREDOMINANTLY STIFF TO VERY STIFF COHESIVE SOILS ENCOUNTERED TO BORING TERMINATION. THE COHESIVE SOILS CONSISTED PREDOMINANTLY OF SILT AND CLAY (ODOT A-6A), SILTY CLAY (ODOT A-6B), OR CLAY (ODOT A-7-6), ALTHOUGH ZONES OF SANDY SILT (ODOT A-4A) AND SILT (ODOT A-4B) WERE ENCOUNTERED IN SOME BORINGS PERFORMED ALONG THE SOUTHBOUND LANES.

EXPLORATION FINDINGS (CONT'D.)

BRIDGE

UNDERLYING THE TOPSOIL, COHESIVE FILL MATERIALS CONSISTING OF SILT AND CLAY WERE ENCOUNTERED TO A DEPTH OF 3 1/2 FEET BELOW EXISTING GRADE.

THE SUBSOILS UNDERLYING THE FILL MATERIALS CONSISTED OF PREDOMINANTLY STIFF TO VERY STIFF COHESIVE SOILS ENCOUNTERED TO A DEPTH OF 13 1/2 FEET. THESE COHESIVE SOILS INCLUDED SILT AND CLAY (ODOT A-6A), SILTY CLAY (ODOT A-6B), AS WELL AS SANDY SILT (ODOT A-4A).

UNDERLYING THE STIFF TO VERY STIFF COHESIVE SOILS, VERY STIFF TO HARD COHESIVE SOILS CONSISTING OF SANDY SILT (ODOT A-4A) WERE ENCOUNTERED TO A DEPTH OF 19 1/2 FEET IN BORING S-001-0-10. UNDERLYING THE STIFF TO VERY STIFF COHESIVE SOILS IN BORING S-002-0-10, A ZONE OF SOFT TO MEDIUM STIFF COHESIVE SOILS WAS ENCOUNTERED TO A DEPTH OF 16 FEET. THESE COHESIVE SOILS CONSISTED OF SILT AND CLAY (ODOT A-6A). UNDERLYING THE SOFT TO MEDIUM STIFF COHESIVE SOILS IN BORING S-002-0-10, VERY STIFF SILT AND CLAY (ODOT A-6A) WAS ENCOUNTERED TO A DEPTH OF 17 1/2 FEET (APPROXIMATE ELEV. 662).

UNDERLYING THE COHESIVE SOILS, WEATHERED/FRACTURED DOLOMITE WAS ENCOUNTERED TO AUGER REFUSAL AT DEPTHS OF 20.8 FEET AND 18.2 FEET IN BORINGS S-001-0-10 AND S-002-0-10, RESPECTIVELY. BEDROCK CORES OF 5 FEET WERE OBTAINED IN EACH BORING. THE BEDROCK IS GENERALLY DESCRIBED AS DOLOMITE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, LAMINATED, JOINTED, MODERATELY FRACTURED, NARROW TO TIGHT, SLIGHTLY TO VERY ROUGH.

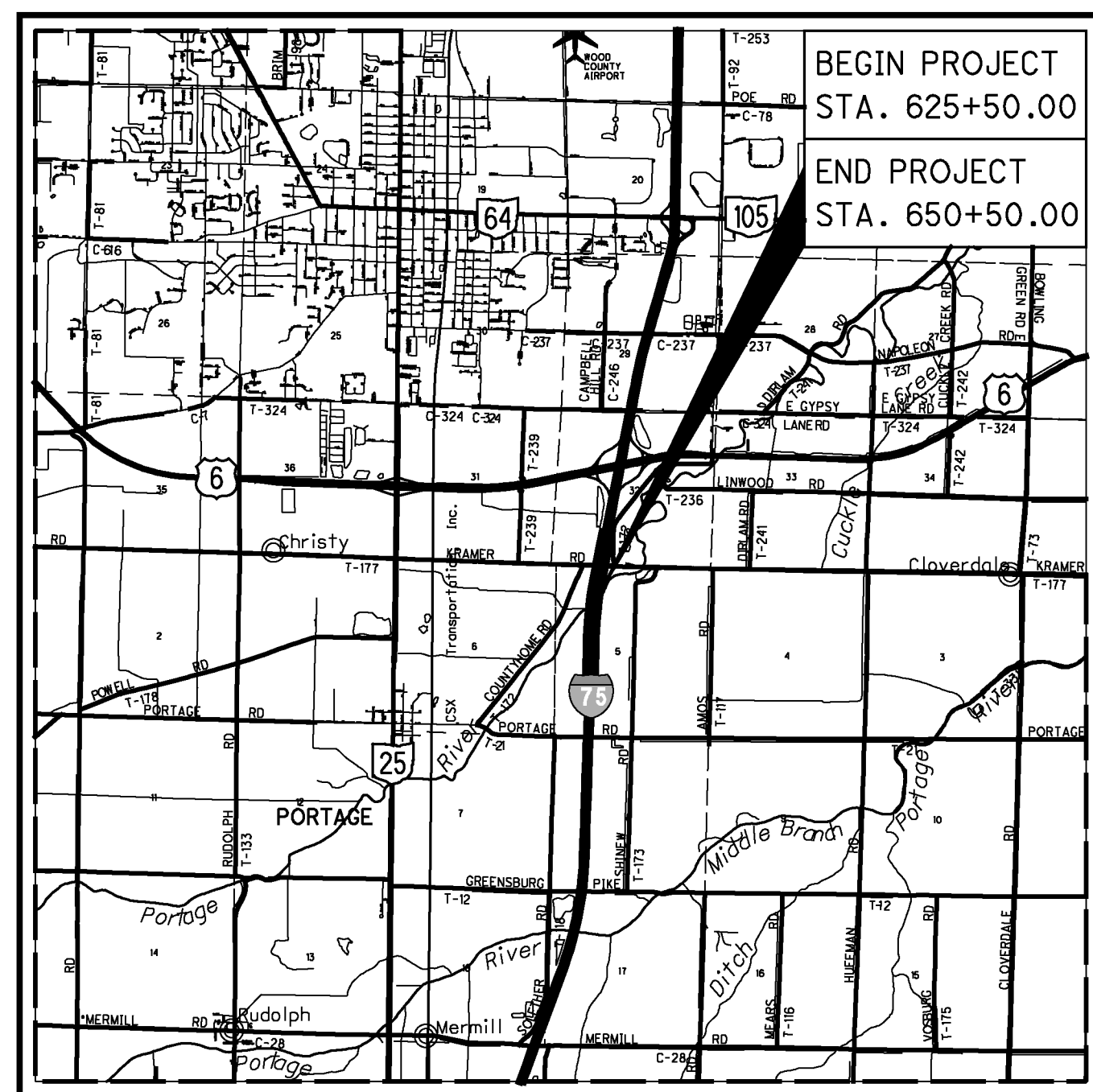
GROUNDWATER WAS INITIALLY ENCOUNTERED DURING DRILLING AT DEPTHS GENERALLY RANGING FROM 3 TO 13 FEET BELOW EXISTING GRADE IN 10 OF THE 22 BORINGS. GROUNDWATER WAS OBSERVED UPON COMPLETION OF DRILLING OPERATIONS AT DEPTHS RANGING FROM 7 TO 10 1/2 FEET BELOW EXISTING GRADE IN EIGHT OF THE BORINGS.

SPECIFICATIONS

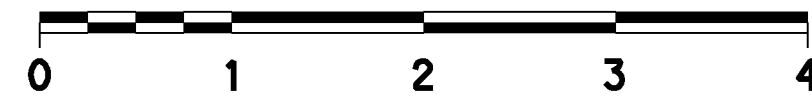
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, 2007 SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS AND CURRENT REVISIONS THROUGH MAY 2010. ADDITIONALLY, THE ROADWAY BORINGS WERE PERFORMED IN ACCORDANCE WITH GB-1 "PLAN SUBGRADES" SAMPLING CRITERIA.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.



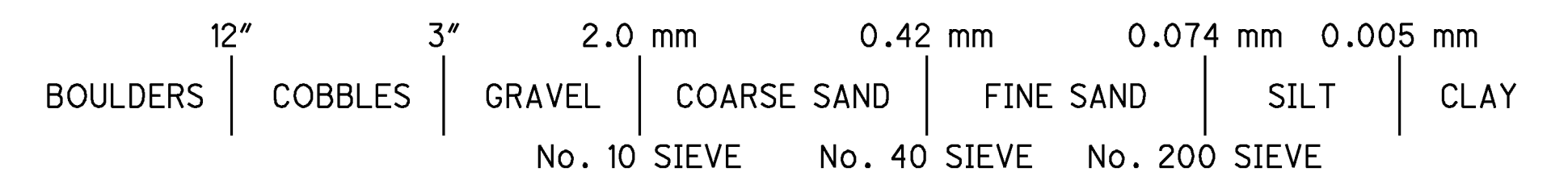
LOCATION MAP
SCALE IN MILES



LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	-	2
FINE SAND	A-3	-	3
COARSE AND FINE SAND	A-3a	1	1
GRAVEL AND/OR ST. FRAGS. WITH SAND AND SILT	A-2-4	1	-
GRANULAR BASE		-	14
SANDY SILT	A-4a	2	4
SILT	A-4b	1	-
SILT AND CLAY	A-6a	7	45
SILTY CLAY	A-6b	15	14
CLAY	A-7-6	9	12
	TOTAL	36	95
EMBANKMENT FILL	VISUAL		
WEATHERED DOLOMITE	VISUAL		
DOLOMITE	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
BORING LOCATION - PLAN VIEW			
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
N_{60}	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.		
WC	INDICATES WATER CONTENT IN PERCENT.		
W	INDICATES FREE WATER ELEVATION.		
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.		
*	INDICATES A SAMPLE TAKEN WITHIN 3 FEET OF PROPOSED GRADE.		
NI	INDICATES A NON-INTACT COHESIVE SAMPLE.		
NP	INDICATES A NON-PLASTIC SAMPLE.		
RC	INDICATES A ROCK CORE SAMPLE.		
SS	INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.		
SSR	INDICATES A SPLIT SPOON REFUSAL.		
ST	INDICATES A SHELBY TUBE SAMPLE.		
TR	INDICATES TOP OF ROCK.		

PARTICLE SIZE DEFINITIONS



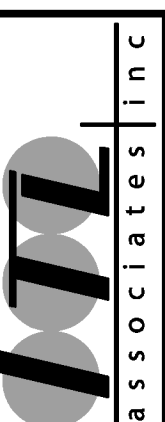
RECON. - RJM 05/19/10

DRAWN - CLW 03/14/11-03/31/11

DRILLING - CM/TB 05/24/10-06/03/10

REVIEWED - JSH 03/31/11

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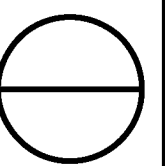
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87569

SOIL PROFILE
BRIDGE NO. WOO-75-12.04

WOO-75-12.04

1/13



SUMMARY OF SOIL TEST DATA
WOO - 75 - 12.04

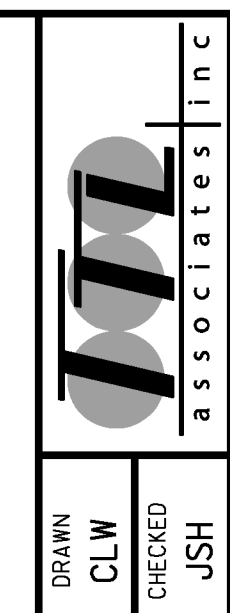
EXPLORATION. ID STATION & OFFSET	FROM - TO	SAMPLE ID	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)
R-001-0-10 STA. 621+71, 41' RT. NORTHING = 609230.6 EASTING = 1659344.8	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 100 100 100 100 100										15 A-3 (VISUAL) * 17 A-6b (10) 22 A-6b (13) 17 A-6b (VISUAL) 17 A-6b (VISUAL) 15 A-6b (VISUAL)
R-002-0-10 STA. 625+70, 42' RT. NORTHING = 609629.7 EASTING = 1659360.0	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	44 100 100 100 100 100	31 2 2	13 5 4	29 16 16	23 39 21	4 38 57	NP 39 44	NP 18 19	NP 21 25	10 18 21 23 26 20	A-2-4 (0) * A-6b (12) A-7-6 (15) A-7-6 (VISUAL) A-7-6 (VISUAL) A-7-6 (VISUAL)
R-003-0-10 STA. 629+69, 41' RT. NORTHING = 610028.0 EASTING = 1659372.2	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	44 100 100 100 100 100										13 A-3 (VISUAL) * 4 A-1-a (VISUAL) 5 A-1-a (VISUAL) 17 A-6a (9) 9 A-6a (VISUAL) 15 A-6a (VISUAL)
R-004-0-10 STA. 634+14, 41' RT. NORTHING = 610470.8 EASTING = 1659400.4	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 100 100 100 100 100										19 A-6a (VISUAL) 23 A-6a (VISUAL) 16 A-6a (VISUAL) 13 A-6a (VISUAL) 16 A-6a (VISUAL) 14 A-6a (VISUAL)
R-004-1-10 STA. 634+14, 31' RT. NORTHING = 610470.8 EASTING = 1659390.4	0.00 - 1.50 1.50 - 3.00 3.00 - 4.50 4.50 - 6.00	SS-1 SS-2 SS-3 SS-4	17 0 44 100	33 8	8 10	13 14	21 21	25 47	31 42	18 19	13 23	19 20 20 14	A-6a (3) * A-6a (VISUAL) A-7-6 (12) A-7-6 (VISUAL)
R-005-0-10 STA. 637+87, 39' RT. NORTHING = 610840.7 EASTING = 1659433.4	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	78 100 100 100 100 100										13 GRANULAR BASE * 20 A-6b (11) 22 A-6b (12) 11 A-6b (VISUAL) 16 A-6b (VISUAL) 15 A-6b (VISUAL)
R-006-0-10 STA. 639+95, 40' RT. NORTHING = 611046.6 EASTING = 1659458.7	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	56 67 44 89 100 89										5 GRANULAR BASE * 5 GRANULAR BASE 18 A-6b (9) 17 A-6b (VISUAL) 18 A-6a (VISUAL) 19 A-6a (VISUAL)
R-007-0-10 STA. 644+04, 41' RT. NORTHING = 611451.2 EASTING = 1659500.7	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	44 67 100 67 89 100										3 GRANULAR BASE * 7 GRANULAR BASE 19 A-6b (12) 19 A-6a (VISUAL) 16 A-6a (VISUAL) 15 A-6a (VISUAL)
R-007-1-10 STA. 644+04, 32' RT. NORTHING = 611451.2 EASTING = 1659509.7	0.00 - 1.50 1.50 - 3.00 3.00 - 4.00 4.00 - 4.50 4.50 - 6.00	SS-1 SS-2 SS-3a SS-3b SS-4	83 72 100 100 83	3 4	7 7	15 15	24 31	51 43	33 31	16 15	17 16	16 17 14 18 19	A-6b (11) * A-6b (10) A-6b (VISUAL) A-6b (VISUAL) A-6b (VISUAL)
R-008-0-10 STA. 648+12, 40' RT. NORTHING = 611850.6 EASTING = 1659589.5	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	67 100 100 100 100 100										13 A-3a (VISUAL) * 24 A-7-6 (14) 18 A-6b (12) 17 A-6b (VISUAL) 15 A-6a (VISUAL) 15 A-6a (VISUAL)

SUMMARY OF SOIL TEST DATA
WOO - 75 - 12.04

EXPLORATION. ID STATION & OFFSET	FROM - TO	SAMPLE ID	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)
R-009-0-10 STA. 656+02, 40' LT. NORTHING = 612640.7 EASTING = 1659662.6	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	67 56 56 100 100 100										5 GRANULAR BASE * 6 GRANULAR BASE 25 A-7-6 (13) 18 A-7-6 (VISUAL) 19 A-6a (VISUAL) 18 A-6a (VISUAL)
R-010-0-10 STA. 651+86, 43' LT. NORTHING = 612232.9 EASTING = 1659584.2	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	17 100 100 100 100 100										4 GRANULAR BASE * 23 A-7-6 (12) 21 A-7-6 (14) 23 A-7-6 (VISUAL) 18 A-7-6 (VISUAL) 15 A-7-6 (VISUAL)
R-011-0-10 STA. 647+80, 40' LT. NORTHING = 611834.4 EASTING = 1659504.7	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 67 56 100 100 100										6 GRANULAR BASE * 6 GRANULAR BASE 17 A-6b (9) 21 A-6a (VISUAL) 16 A-6a (VISUAL) 15 A-6a (VISUAL)
R-012-0-10 STA. 643+74, 41' LT. NORTHING = 611432.5 EASTING = 1659433.1	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 100 100 100 100 100										7 GRANULAR BASE * 14 A-4a (VISUAL) 23 A-7-6 (13) 21 A-7-6 (VISUAL) 15 A-6a (VISUAL) 15 A-6a (VISUAL)
R-012-1-10 STA. 643+74, 33' LT. NORTHING = 611432.5 EASTING = 1659441.1	0.00 - 1.50 1.50 - 3.00 3.00 - 4.50 4.50 - 6.00	SS-1 SS-2 SS-3 SS-4	83 100 83 89	4	7	14	38	37	31	17	14	17 19 22 22	A-6a (10) * A-6a (VISUAL) A-6b (13) A-6b (VISUAL)
R-013-0-10 STA. 639+45, 44' LT. NORTHING = 611007.8 EASTING = 1659369.1	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	78 22 56 78 100 100										6 GRANULAR BASE * 18 A-6b (10) 17 A-6a (9) 18 A-6a (VISUAL) 18 A-6a (VISUAL) 20 A-6a (VISUAL)
R-014-0-10 STA. 637+53, 41' LT. NORTHING = 610816.2 EASTING = 1659350.6	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	78 56 67 100 100 100										4 GRANULAR BASE * 15 A-6a (VISUAL) 27 A-7-6 (17) 17 A-6a (VISUAL) 16 A-6a (VISUAL) 15 A-6a (VISUAL)
R-015-0-10 STA. 633+47, 41' LT. NORTHING = 610409.8 EASTING = 1659313.4	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 100 100 100 100 100										21 A-3 (VISUAL) * 21 A-6a (VISUAL) 20 A-6a (VISUAL) 14 A-6a (VISUAL) 13 A-6a (VISUAL) 15 A-6a (VISUAL)
R-015-1-10 STA. 633+47, 34' LT. NORTHING = 610409.8 EASTING = 1659320.4	0.00 - 1.50 1.50 - 2.00 2.00 - 3.00 3.00 - 4.50 4.50 - 6.00	SS-1 SS-2a SS-2b SS-3 SS-4	56 83 83 100 100	4	7	22	33	34	35	16	19	21 27 23 23 17	A-6b (10) * A-7-6 (VISUAL) A-7-6 (13) A-7-6 (VISUAL) A-7-6 (VISUAL)
R-016-0-10 STA. 629+38, 41' LT. NORTHING = 610001.0 EASTING = 1659289.7	1.50 - 3.00 3.00 - 4.50 4.50 - 6.00 6.00 - 7.50 7.50 - 9.00 9.00 - 10.50	SS-1 SS-2 SS-3 SS-4 SS-5 SS-6	100 100 100 100 100 100										8 GRANULAR BASE * 15 A-3a (0) 25 A-4b (8) 15 A-6a (VISUAL) 15 A-6a (VISUAL) 15 A-6a (VISUAL)

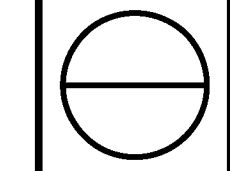
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NOTE:
THE TERM "GRANULAR BASE" IS USED BROADLY TO DENOTE WHERE GRANULAR FILLS WERE NOT MECHANICALLY TESTED FOR PARTICLE SIZE. MOST OF THE BORINGS WERE PERFORMED IN CLOSE PROXIMITY TO THE EXISTING UNDERDRAINS, AND AS A RESULT, GRANULAR FILL ZONES WERE ENCOUNTERED WHICH WERE UNCHARACTERISTICALLY IN EXCESS OF THE AGGREGATE BASE THICKNESS INDICATED IN THE TYPICAL FLEXIBLE PAVEMENT SECTIONS. THE "GRANULAR BASE" MATERIALS CONSISTED OF VISUALLY IDENTIFIED FINE SAND, COARSE AND FINE SAND, AND CRUSHED STONE, EACH WITH VARYING AMOUNTS OF CLAY AND SILT.

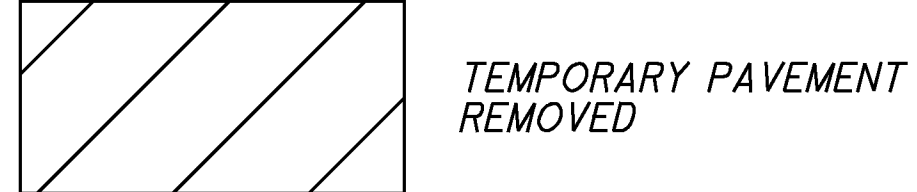
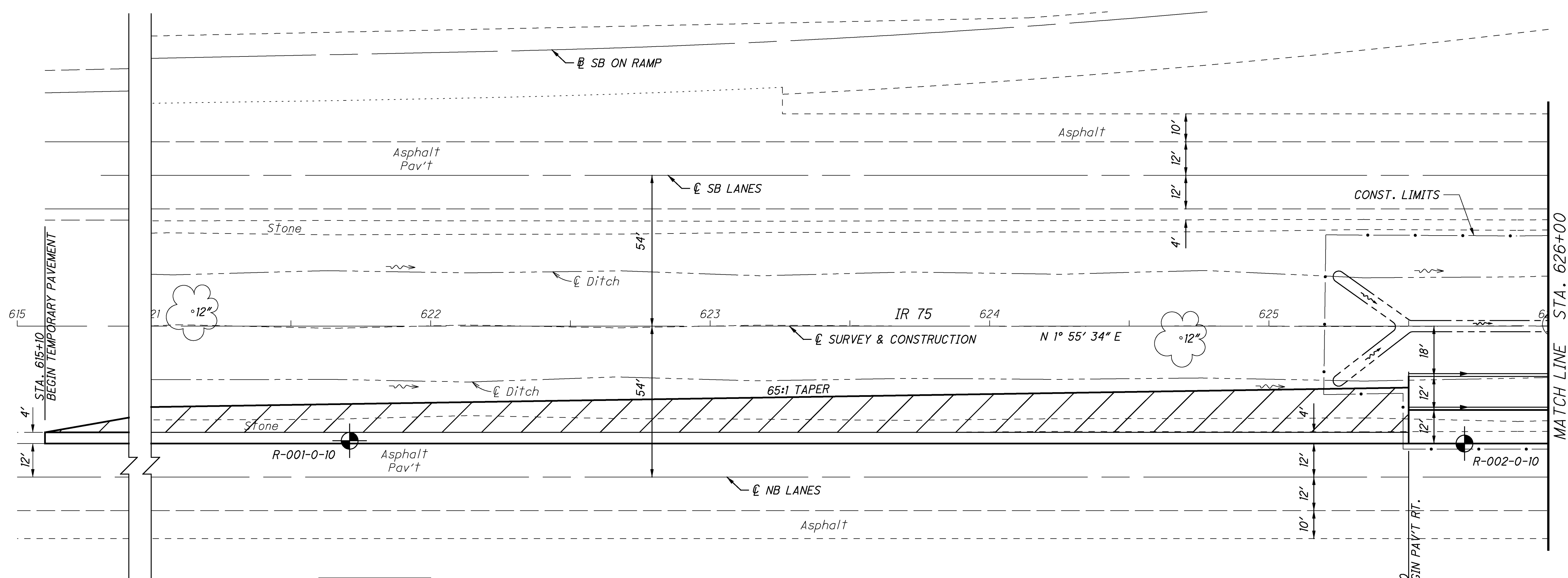


SOIL PROFILE SUMMARY OF SOIL TEST DATA

WOO - 75 - 12.04



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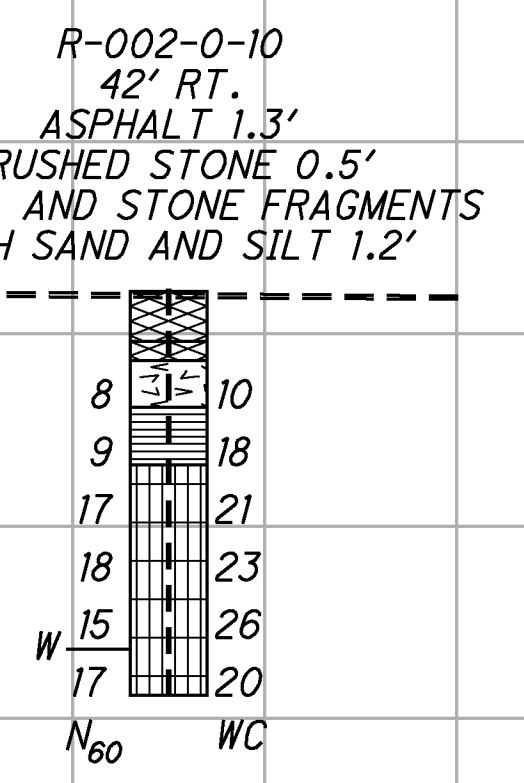
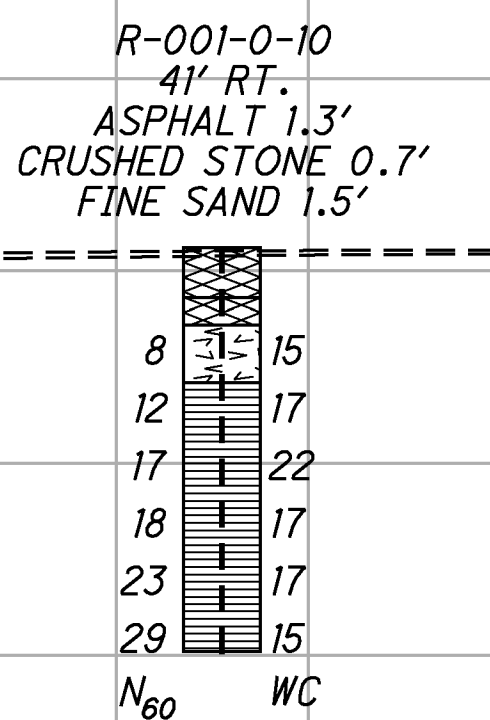


BENCHMARK #4
 4" CUT NE CORNER OF CB CASTING
 STA. 620+03.08 - 21.16' RT.
 ELEV. 677.95

BEGIN PROJECT
 STA. 625+50

EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. NB EOP GRADE	PROP. NB EOP GRADE
680.54	680.34	690	690
680.60	680.42	685	685
680.66	680.50	680	680
680.70	680.57	675	675
680.72	680.62	670	670
680.77	680.67	665	665
680.87	680.69		
680.96	680.73		
681.04	680.76		
681.11	680.81		
681.16	680.88		
681.21	680.96		
681.25	681.02		
681.28	681.08		
681.30	681.13		
681.31	681.19		
681.30	681.19		
681.28	681.18		
681.25	681.15		
681.21	681.11		
681.16	681.18		
EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. NB EOP GRADE	PROP. NB EOP GRADE

Station	Profile Description	Grade
621+00	R-001-0-10 41' RT. ASPHALT 1.3' CRUSHED STONE 0.7' FINE SAND 1.5'	680.57
622+00		680.62
623+00		680.67
624+00		680.73
625+00		681.15
626+00	R-002-0-10 42' RT. ASPHALT 1.3' CRUSHED STONE 0.5' GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT 1.2'	681.11



W00-75-12.04

3/13

SOIL PROFILE

STA. 621+00 TO STA. 626+00

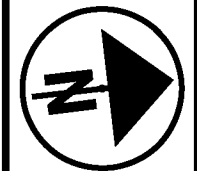
HORIZONTAL SCALE IN FEET

0 10 20 40

DRAWN: CLW
CHECKED: JSH

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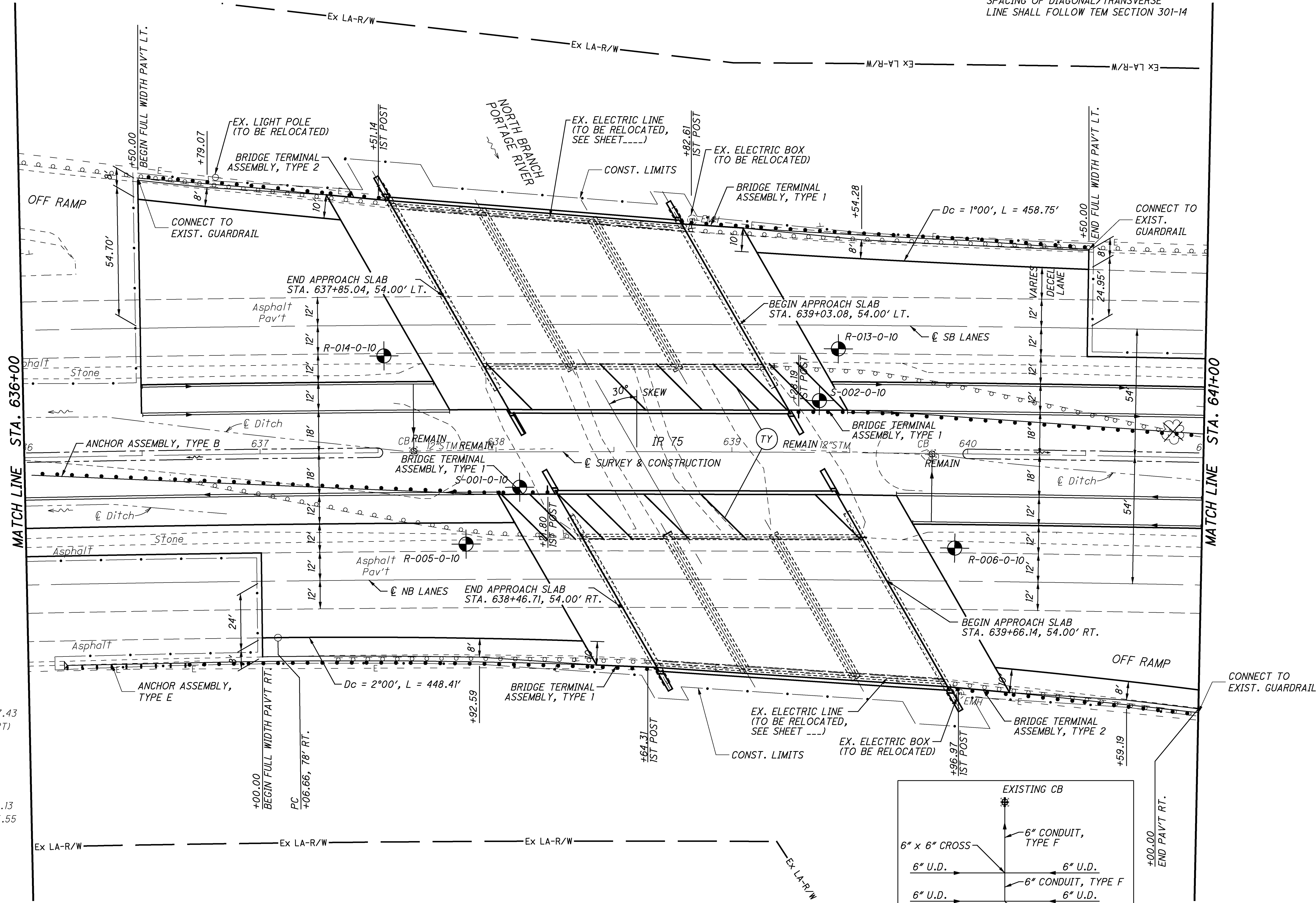
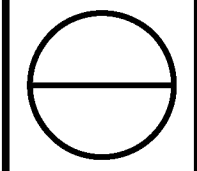
TY DIAGONAL/TRANSVERSE LINE;
12", YELLOW.
SPACING OF DIAGONAL/TRANSVERSE
LINE SHALL FOLLOW TEM SECTION 301-14



DRAWN: CLW
CHECKED: JSH

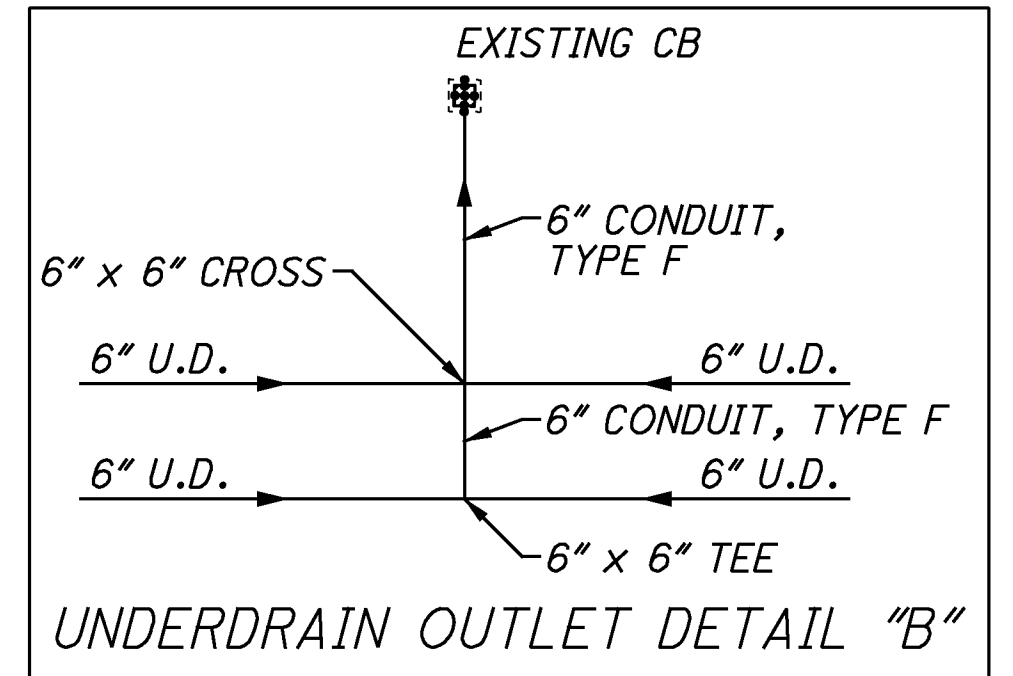
SOIL PROFILE
STA. 636+00 TO STA. 641+00

W00-75-12.04

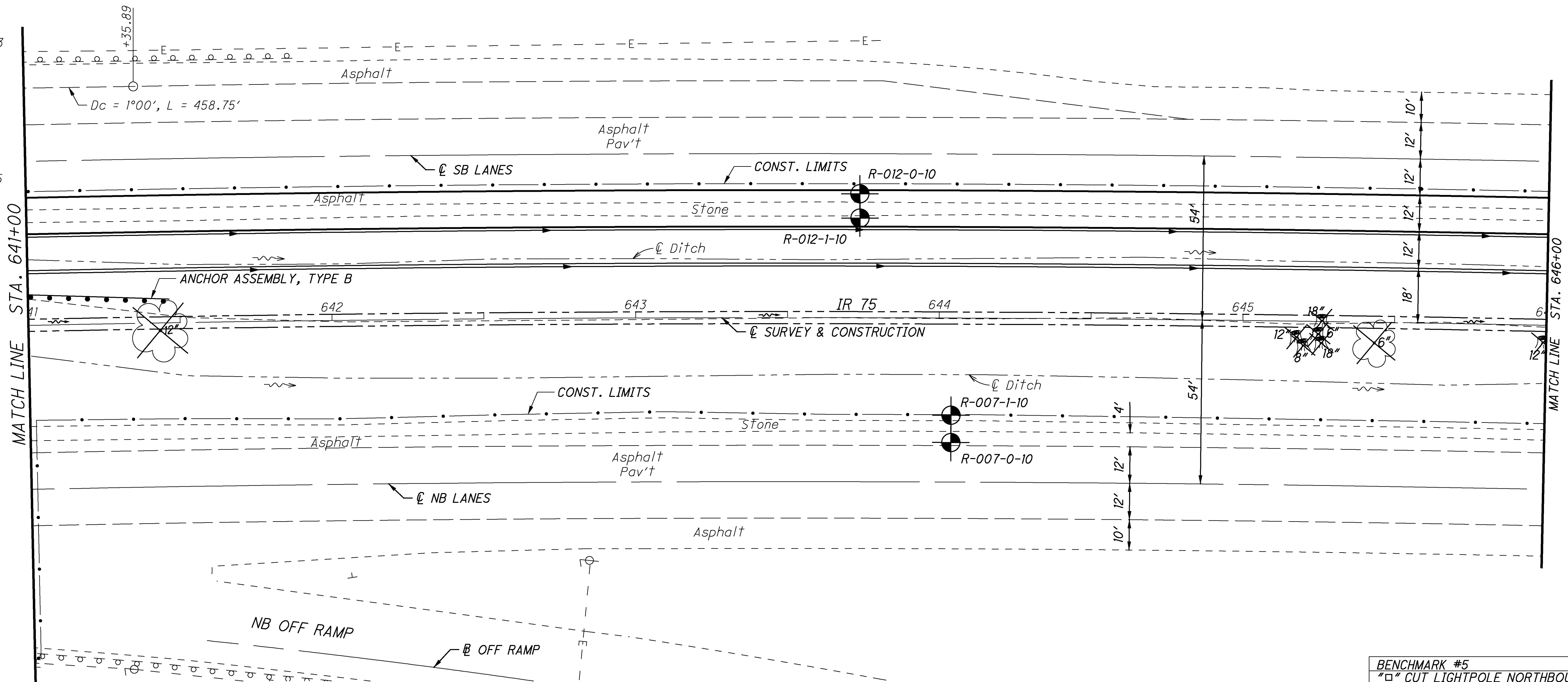


P.I. = Sta. 638+27.43
D = 09° 08' 55" (RT)
Dc = 00° 28' 00"
R = 12277.67'
T = 982.30'
L = 1960.42
E = 39.23'
PC Sta. = 628+45.13
PT Sta. = 648+05.55

BENCHMARK #1 4" FD. SW CURB OF SOUTHBOUND STRUCTURE STA. 637+57.65 - 104.2' LT. ELEV. 679.91	BENCHMARK #2 4" CHISLED SW WINGWALL OF NORTHBOUND STRUCTURE STA. 638+35.42 - 31.8' RT. ELEV. 679.63
--	---



P.I. = Sta. 638+27.43
 D = 09° 08' 55" (RT)
 Dc = 00° 28' 00"
 R = 12277.67'
 T = 982.30'
 L = 1960.42
 E = 39.23'
 PC Sta. = 628+45.13
 PT Sta. = 648+05.55

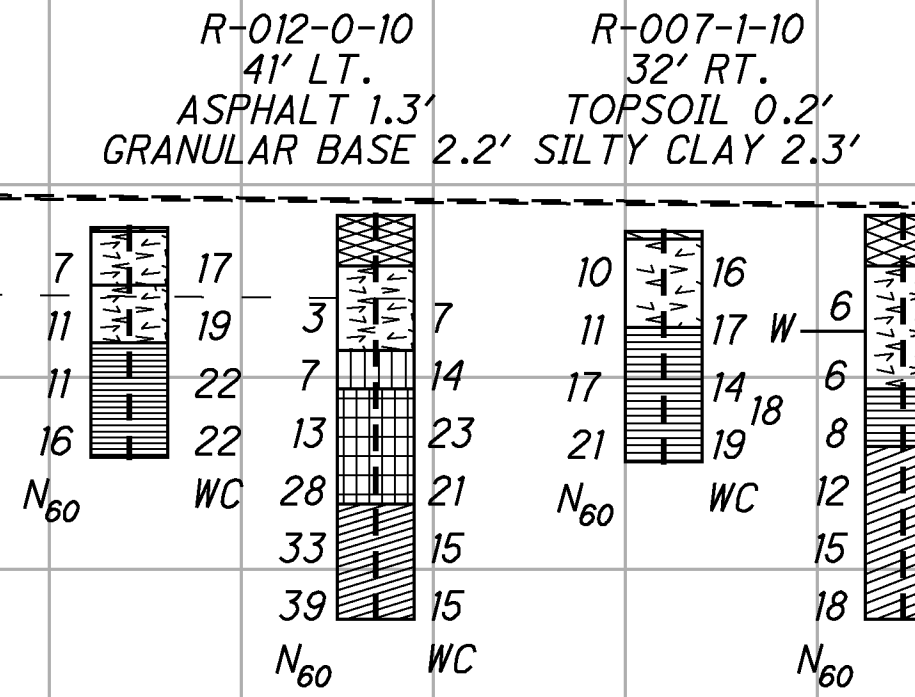


BENCHMARK #5
 7" CUT LIGHTPOLE NORTHBOUND SE CORNER
 STA. 642+83.62 - 80.30' RT.
 ELEV. 678.89

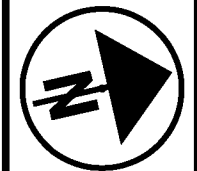
EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE	PROP. SB EOP GRADE
680.36	680.35	680.35	680.35
680.31	680.29	680.29	680.29
680.26	680.24	680.24	680.24
680.23	680.18	680.18	680.18
680.21	680.13	680.13	680.13
680.18	680.07	680.07	680.07
680.15	680.02	680.02	680.02
680.09	679.96	679.96	679.96
680.01	679.89	679.89	679.89
679.94	679.84	679.84	679.84
679.87	679.79	679.79	679.79
679.81	679.73	679.73	679.73
679.75	679.67	679.67	679.67
679.90	679.91	679.91	679.91
679.66	679.54	679.54	679.54
679.61	679.47	679.47	679.47
679.55	679.40	679.40	679.40
679.48	679.34	679.34	679.34
679.42	679.30	679.30	679.30
679.37	679.25	679.25	679.25
679.31	679.21	679.21	679.21
EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	665	665

(MOVED 25' DOWNSTATION FOR CLARITY)
 R-012-1-10
 33' LT.
 TOPSOIL 0.1'
 SILT AND CLAY 2.9'

(MOVED 25' UPSTATION FOR CLARITY)
 R-007-0-10
 41' RT.
 ASPHALT 1.3'
 GRANULAR BASE 3.2'



EX. PROFILE NB EOP
 EX. PROFILE SB EOP



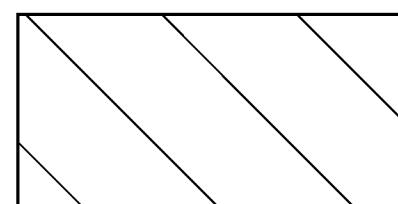
DRAWN: CLW
 CHECKED: JSH

SOIL PROFILE
 STA. 641+00 TO STA. 646+00

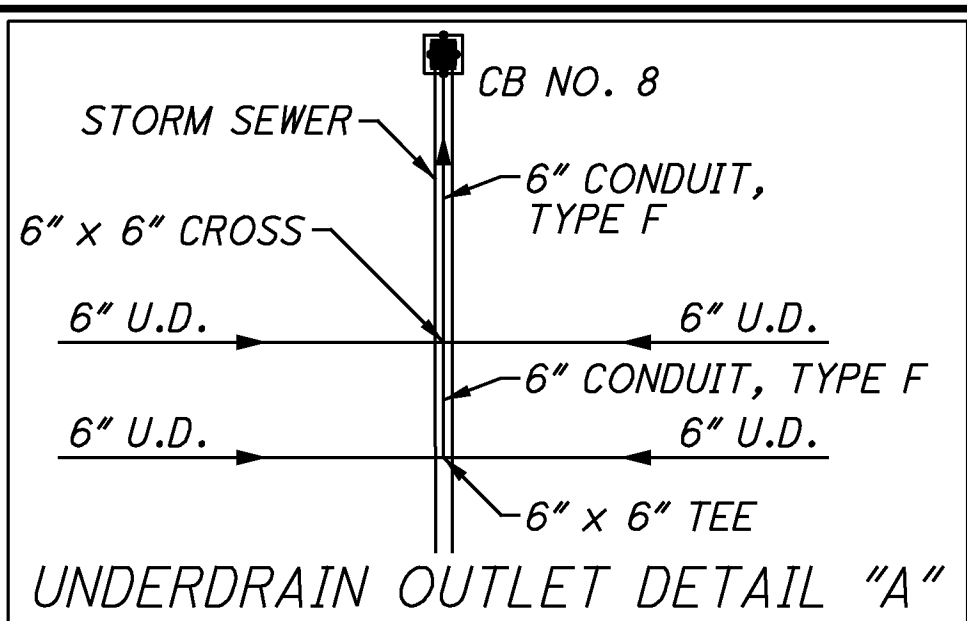
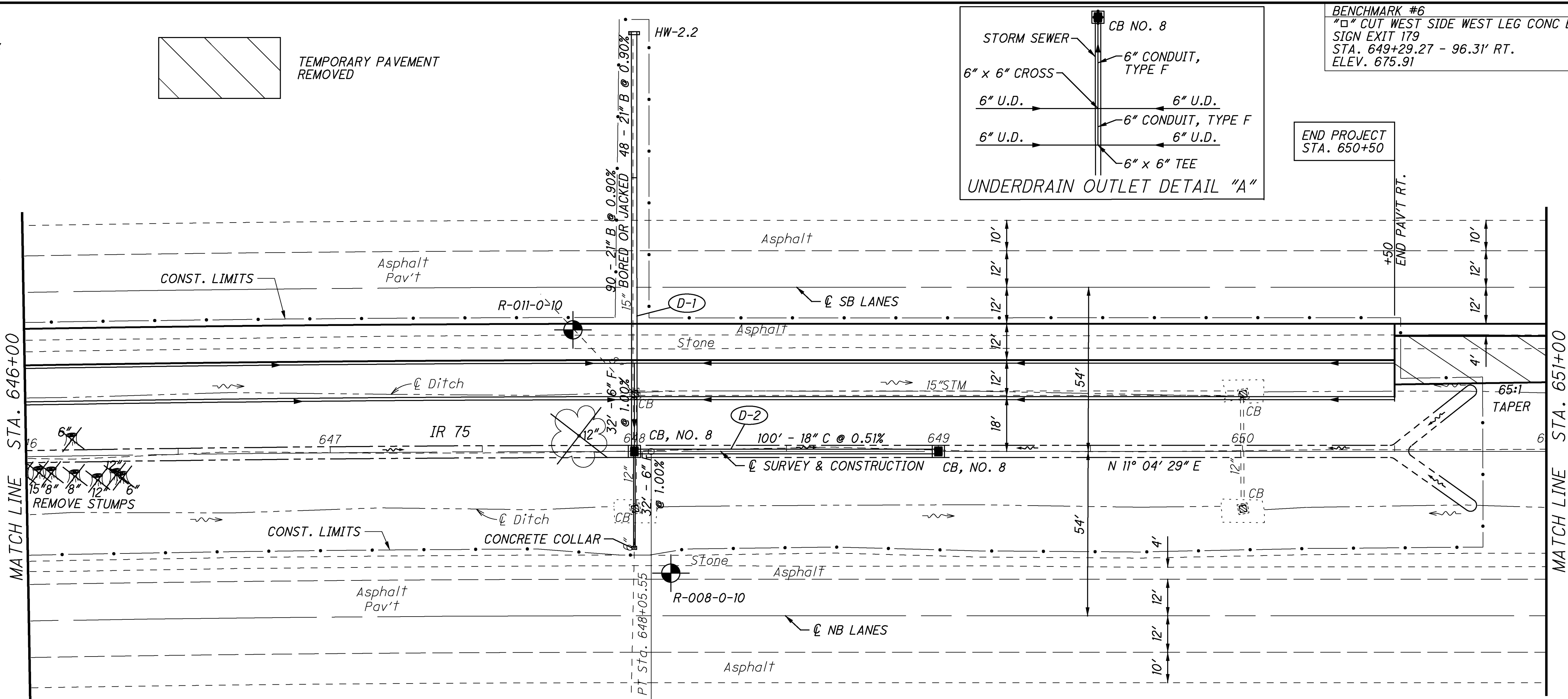
W00-75-12.04

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P.I. = Sta. 638+27.43
 D = 09° 08' 55" (RT)
 Dc = 00° 28' 00"
 R = 12277.67'
 T = 982.30'
 L = 1960.42
 E = 39.23'
 PC Sta. = 628+45.13
 PT Sta. = 648+05.55



TEMPORARY PAVEMENT
 REMOVED



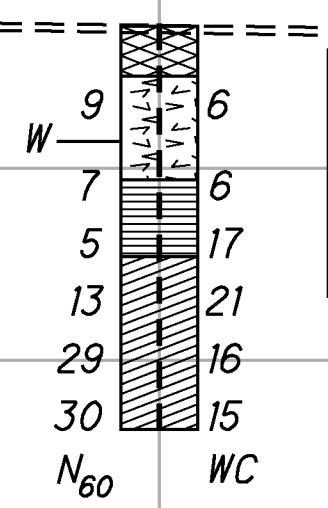
END PROJECT
 STA. 650+50

BENCHMARK #6
 "□" CUT WEST SIDE WEST LEG CONC BASE
 SIGN EXIT 179
 STA. 649+29.27 - 96.31' RT.
 ELEV. 675.91



SOIL PROFILE
 STA. 646+00 TO STA. 651+00

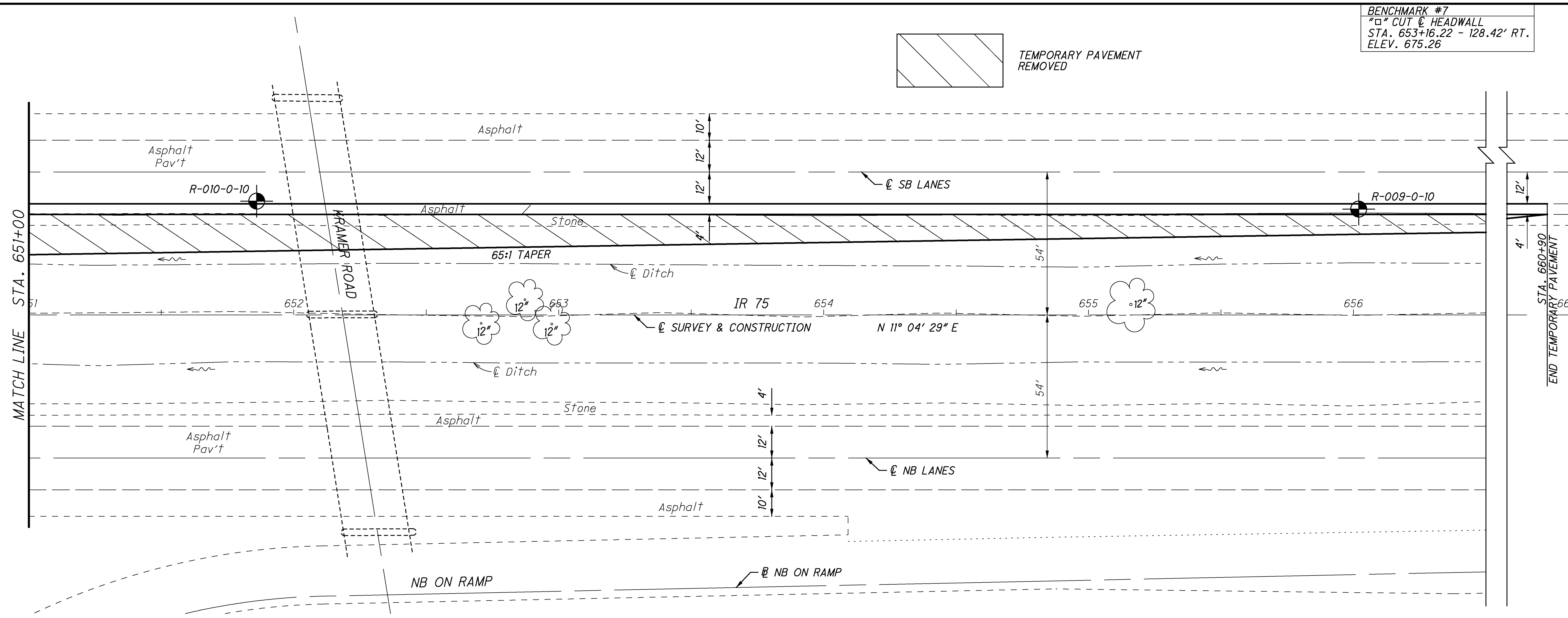
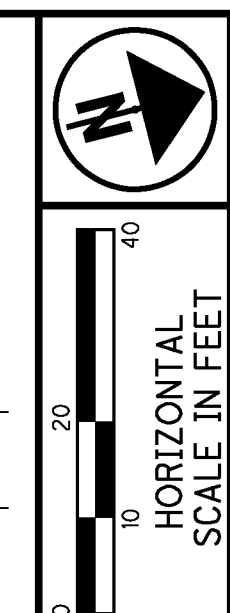
EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE	EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE
679.31	679.21	679.21	679.31	679.21	679.21
679.26	679.15	679.15	679.26	679.15	679.15
679.20	679.07	679.07	679.20	679.07	679.07
679.15	678.99	678.99	679.15	678.99	678.99
679.11	678.91	678.91	679.11	678.91	678.91
679.05	678.84	678.84	679.05	678.84	678.84
678.99	678.79	678.79	678.99	678.79	678.79
678.94	678.73	678.73	678.94	678.73	678.73
678.84	678.64	678.64	678.84	678.64	678.64
678.78	678.56	678.56	678.78	678.56	678.56
678.75	678.51	678.51	678.75	678.51	678.51
678.74	678.46	678.46	678.74	678.46	678.46
678.76	678.42	678.42	678.76	678.42	678.42
678.78	678.42	678.42	678.78	678.42	678.42
678.80	678.47	678.47	678.80	678.47	678.47
678.83	678.54	678.54	678.83	678.54	678.54
678.90	678.66	678.66	678.90	678.66	678.66
678.96	678.75	678.75	678.96	678.75	678.75
69.02	678.83	678.83	69.02	678.83	678.83
679.08	678.88	678.88	679.08	678.88	678.88
679.11	678.94	678.94	679.11	678.94	678.94
EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE	EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE



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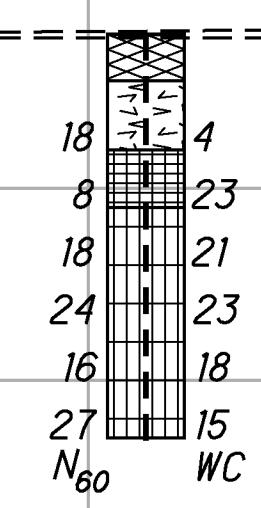
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BENCHMARK #7
 4" CUT @ HEADWALL
 STA. 653+16.22 - 128.42' RT.
 ELEV. 675.26

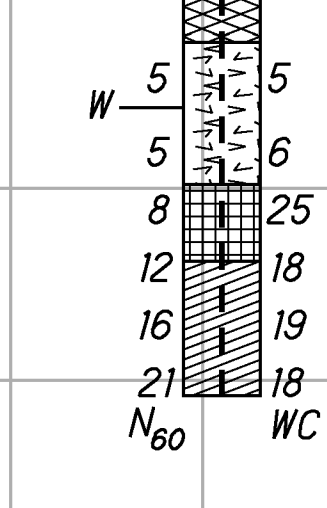


EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE	EXISTING PROFILE NB EDGE PAV'T	EXISTING PROFILE SB EDGE PAV'T	PROP. SB EOP GRADE
679.11	678.94		679.11	678.94	665
679.13	679.00		679.13	679.00	
679.18	679.05		679.18	679.05	
679.23	679.09		679.23	679.09	
679.29	679.10		679.29	679.10	
679.34	679.11		679.34	679.11	
679.39	679.18		679.39	679.18	
679.43	679.28		679.43	679.28	
679.51	679.13		679.51	679.13	
679.60	679.34		679.60	679.34	
679.68	679.53		679.68	679.53	
679.75	679.62		679.75	679.62	
679.82	679.71		679.82	679.71	
679.90	679.80		679.90	679.80	
679.98	679.88		679.98	679.88	
680.03	679.95		680.03	679.95	
680.08	680.02		680.08	680.02	
680.12	680.08		680.12	680.08	
680.15	680.13		680.15	680.13	
680.18	680.16		680.18	680.16	
680.31	680.20		680.31	680.20	665

R-010-0-10
 43' LT.
 ASPHALT 1.2'
 GRANULAR BASE 1.8'



R-009-0-10
 40' LT.
 ASPHALT 1.3'
 GRANULAR BASE 3.7'



SOIL PROFILE
STA. 651+00 TO STA. 656+00

PROJECT: WOO - 75 - 12.04	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 638+10, 15 RT	EXPLORATION ID
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-75	S-001-0-10
PID: 87659 BR ID: WOO - 75 - 12.04	DRILLING METHOD: 3-1/4 IN. HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 679.0 (MSL) EOB: 25.8 ft.	PAGE
START: 6/3/10 END: 6/3/10	SAMPLING METHOD: SPT	ENERGY RATIO (%): 66	COORD: 610866.100 N, 1659411.600 E	1 OF 1
MATERIAL DESCRIPTION AND NOTES				
TOPSOIL - 3 INCHES	ELEV. 679.0	SPT/ ROD	GRADATION (%)	ATTERBERG
STIFF, BROWN, SILT AND CLAY, SAND, MOIST	678.7	1		LL PL PI WC
		2		
		3		
STIFF, GRAY, SILT AND CLAY, SAND, MOIST	675.5	3		
		4		
		5		
-SOME SAND AND TRACE GRAVEL		6		
		7		
		8		
-STIFF TO VERY STIFF		9		
		10		
		11		
STIFF, GRAY, SANDY SILT, TRACE CLAY AND GRAVEL, MOIST	668.0	11		
		12		
		13		
VERY STIFF TO HARD, BROWN, SANDY SILT, LITTLE GRAVEL AND TRACE CLAY, MOIST	666.1	13		
		14		
		15		
		16		
		17		
		18		
		19		
-GRAY TRACE GRAVEL	659.5	19		
		20		
MOIST VERY DENSE GRAY WEATHERED DOLOMITE	658.2	20		
		21		
DOLOMITE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, LAMINATED, MODERATELY FRACTURED, NARROW TO TIGHT, VERY ROUGH.		21		
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PROJECT: WOO - 75 - 12.04 TYPE: BRIDGE WIDENING PID: 87659 BR ID: WOO - 75 - 12.04 START: 5/26/10 END: 5/26/10	DRILLING FIRM / OPERATOR: TTL / CM SAMPLING FIRM / LOGGER: TTL / KKC DRILLING METHOD: PAVEMENT CORING WITH 3 IN. SSA SAMPLING METHOD: SPT	DRILL RIG: CME 75 TRUCK 105 HAMMER: CME AUTOMATIC CALIBRATION DATE: 12/28/09 ENERGY RATIO (%): 63	STATION / OFFSET: 637+87.39 RT ALIGNMENT: I-75 ELEVATION: 679.9 (MSL) EOB: 10.5 ft. COORD: 610840.700 N, 1659433.400 E	EXPLORATION ID R-005-0-10 PAGE 1 OF 1											
MATERIAL DESCRIPTION AND NOTES		SPT/ ROD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	OOOT CLASS (GI)	INST.
ASPHALT - 13 INCHES	ELEV. 679.9	DEPTHS													
CRUSHED STONE - 21 INCHES	678.8	1													
STIFF TO VERY STIFF, BROWN, SILTY CLAY, SOME SAND AND TRACE GRAVEL, MOIST -BROWN/GRAY	677.1	2 3 6	78	SS-1	1.50	-	-	-	-	-	-	-	13		
-GRAY		2 3 7	100	SS-2	3.25	3	19	36	39	40	23	17	20	A-6b (11)	
-VERY STIFF TO HARD LITTLE GRAVEL		5 8 7	100	SS-3	2.00	1	3	21	39	36	18	21	22	A-6b (12)	
-VERY STIFF BROWN SOME GRAVEL		12 10 11	100	SS-4	>4.5	-	-	-	-	-	-	-	11	A-6b (V)	
-VERY STIFF TO HARD		12 12 12	100	SS-5	3.50	-	-	-	-	-	-	-	16	A-6b (V)	
	669.4	10 13 14	100	SS-6	4.25	-	-	-	-	-	-	-	15	A-6b (V)	
EOB															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 3/28/11 12:24 - S:\PROJECTS\6328\01\ODOT.GPJ

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: WOO - 75 - 12.04 TYPE: BRIDGE WIDENING PID: 87659 BR ID: WOO - 75 - 12.04 START: 5/26/10 END: 5/26/10	DRILLING FIRM / OPERATOR: TTL / CM SAMPLING FIRM / LOGGER: TTL / KKC DRILLING METHOD: 3 IN. SSA SAMPLING METHOD: SPT	DRILL RIG: CME 75 TRUCK 105 HAMMER: CME AUTOMATIC CALIBRATION DATE: 12/28/09 ENERGY RATIO (%): 63	STATION / OFFSET: 639+95.40 RT ALIGNMENT: I-75 ELEVATION: 680.2 (MSL) EOB: 10.5 ft. COORD: 611046.600 N, 1659458.700 E	EXPLORATION ID R-006-0-10 PAGE 1 OF 1											
MATERIAL DESCRIPTION AND NOTES		SPT/ ROD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	OOOT CLASS (GI)	INST.
ASPHALT - 14 INCHES	ELEV. 680.2	DEPTHS													
MEDIUM DENSE, GRAY, GRANULAR BASE, LITTLE SAND, MOIST	679.0	1													
VERY LOOSE, GRAY, GRANULAR BASE, LITTLE SAND, MOIST	677.2	3 7 9	56	SS-1	NP	-	-	-	-	-	-	-	5		
MEDIUM STIFF TO STIFF, BROWN/GRAY, SILTY CLAY, SOME SAND, MOIST -BROWN	675.2	2 1 2	67	SS-2	NP	-	-	-	-	-	-	-	5		
VERY STIFF, BROWN, SILT AND CLAY, SOME SAND AND TRACE GRAVEL, MOIST	672.7	2 2 3	44	SS-3	2.00	16	8	12	27	37	34	16	18	A-6b (9)	
		3 3 4	89	SS-4	>4.5	-	-	-	-	-	-	-	17	A-6b (V)	
		9 10 12	100	SS-5	3.75	-	-	-	-	-	-	-	18	A-6a (V)	
		11 13 10	89	SS-6	3.50	-	-	-	-	-	-	-	19	A-6a (V)	
EOB															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 3/28/11 12:24 - S:\PROJECTS\6328\01\ODOT.GPJ

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

