STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3440	1	75

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39010.1.1	STP-0003(6)	P.E.
		R/W & UTIL.

NOTE: SEE SHEET 2A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-L-	10+10.00 to 149+81.04	4-14		15-73
SOIL TEST RESULTS		74-75		

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

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. *39010.1.1 (U-3440)* F.A. PROJ. *STP-0003(6)*

COUNTY *CABARRUS*

PROJECT DESCRIPTION *NC 3, PROPOSED WEST SIDE BYPASS (U-2009) TO SR 1691 (LOOP ROAD) IN KANNAPOLIS*

INVENTORY

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) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE 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 ON-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 THIS 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.

PERSONNEL
KLEINFELDER

INVESTIGATED BY *J.P. ROGERS*

CHECKED BY *C.B. LITTLE*

SUBMITTED BY *C.B. LITTLE*

DATE *MAY 2014*

NORTH CAROLINA LICENSED SEAL 1104 GEOLOGIST CLINTON B. LITTLE

6-17-14

ID: U-3440

CONTRACT:

DRAWN BY: *J.K. McCLURE*

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

PROJECT REFERENCE NO.	SHEET NO.
39010.1.1 (U-3440)	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
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	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
LIQUID LIMIT	6 MX		NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PLASTIC INDEX				10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	<4	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	>30	>4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL - LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL - PLASTIC LIMIT		
OM - OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL - SHRINKAGE LIMIT		
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	>10%	>20%	HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW - PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT / DPT / PMT / VST / PMT TEST BORING
- AUGER BORING
- CORE BORING
- MW MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING W/ CORE
- SPT N-VALUE
- (REF) SPT REFUSAL

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [X] MOBILE B- 57
- [ ] BK-51
- [ ] CME-45C
- [X] CME-550
- [ ] PORTABLE HOIST
- [ ] _____
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC
- [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [X] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, YIELDS SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, YIELDS SPT N VALUES < 100 BPF*
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FEET
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	> 4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FT.

NOTES:
SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR CROSS SECTIONS.

BORING ELEVATIONS DERIVED FROM THE U3440_LS_TIN.TIN FILE.

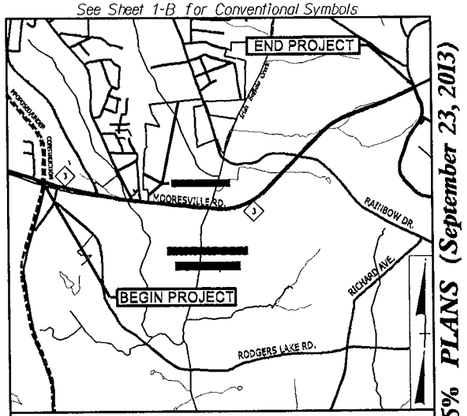
REVISED 09/23/09

09/08/99

TIP PROJECT: U-3440

CONTRACT:

See Sheet 1-B for Conventional Symbols



VICINITY MAP

25% PLANS (September 23, 2013)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

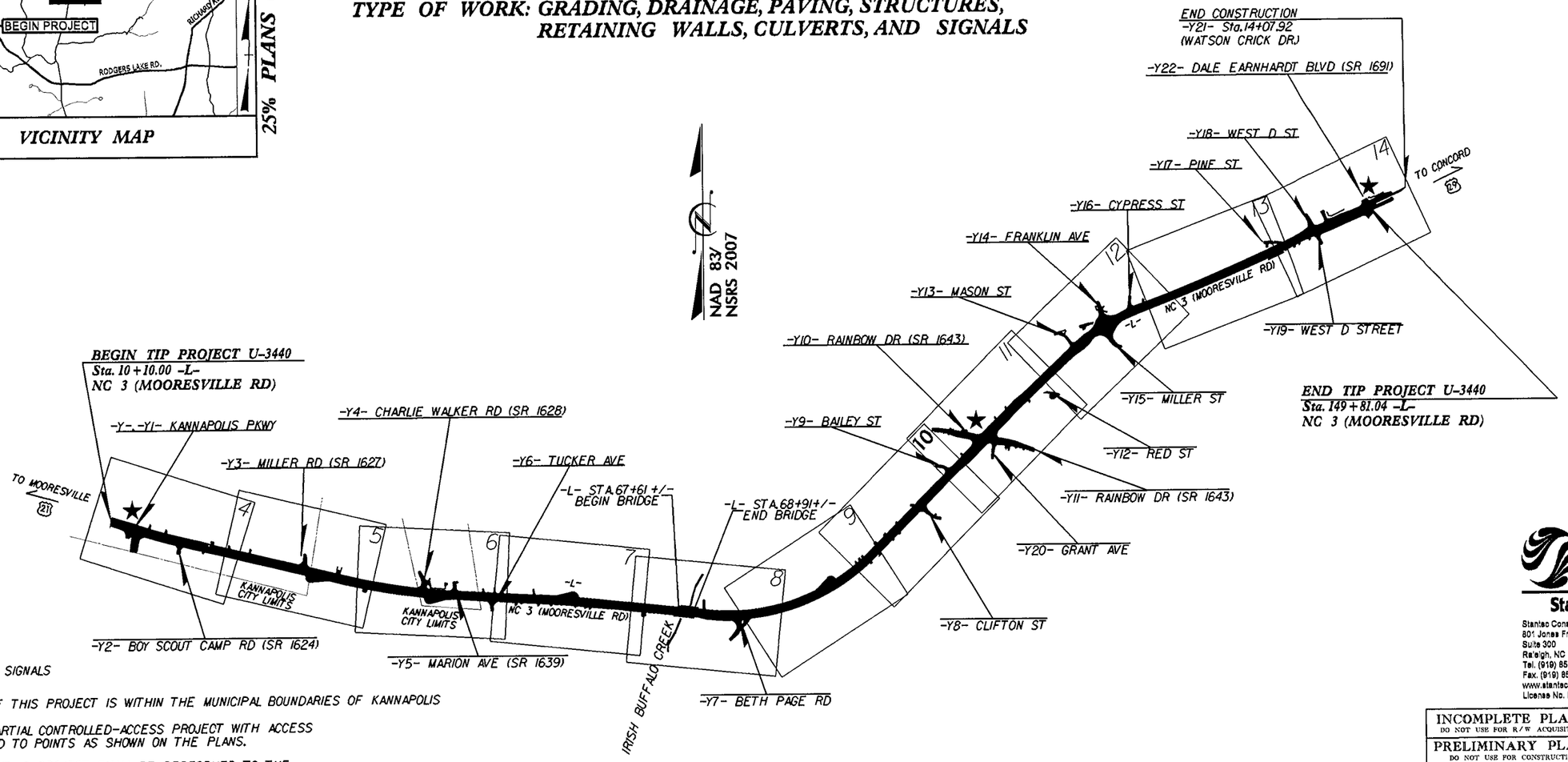
CABARRUS COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3440	2A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39010.1.1	STP-0003(6)	PE	

LOCATION: *NC 3, PROPOSED WEST SIDE BYPASS (U-2009) TO SR 1691 (LOOP ROAD) IN KANNAPOLIS*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, STRUCTURES, RETAINING WALLS, CULVERTS, AND SIGNALS*

NAD 83/
NSRS 2007



BEGIN TIP PROJECT U-3440
Sta. 10+10.00 -L-
NC 3 (MOORESVILLE RD)

END TIP PROJECT U-3440
Sta. 149+81.04 -L-
NC 3 (MOORESVILLE RD)

★ REVISED SIGNALS

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF KANNAPOLIS

THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

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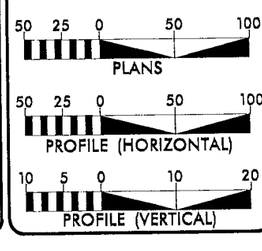
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2015	=	16,800
ADT 2035	=	23,900
DHV	=	12 %
D	=	60 %
T	=	9 % *
V	=	50 MPH
HIST. AREA V	=	40 MPH

*(TTST 7% + DUALS 2%)
FUNC CLASS = MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3440	=	2.621 MILES
LENGTH STRUCTURE TIP PROJECT U-3440	=	0.025 MILE
TOTAL LENGTH TIP PROJECT U-3440	=	2.646 MILES

Prepared for the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: MARCH 21, 2014
LETTING DATE: JUNE 16, 2015

MICHAEL LINDGREN, P.E.
PROJECT ENGINEER

MICHAEL LITTLEFIELD, P.E.
PROJECT DESIGN ENGINEER

NCDOT CONTACT: BRENDA MOORE, PE
ROADWAY DESIGN ENGINEERING COORDINATION SECTION ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ *P.E.*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

16-MAY-2014 07:35
C:\Projects\U3440_GEO_RDWY_CABARRUS\CADD_GEOTECH\PlanProf\U3440_GEO_inv_002A_(orig_rdy_tsh)_CABARRUS.dgn
jmcclure AT GEHRS7466

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Pat McCrory
GOVERNOR

Anthony Tata
SECRETARY

June 5, 2014

STATE PROJECT: 39010.1.R2 (U-3440)
FEDERAL PROJECT:
COUNTY: Cabarrus
DESCRIPTION: Kannapolis – NC 3, Proposed West Side Bypass (U-2009) to SR 1691 (Loop Road).

SUBJECT: Geotechnical Report – Inventory

PROJECT DESCRIPTION

This project is located in northwest Cabarrus County near the City of Kannapolis. The scope of this project includes the widening of existing NC 3 to four lanes with improvements to several – Y- lines and intersection upgrades. A roundabout has been proposed for the NC 3 / Miller Street (Y15) / Franklin Street (Y14) intersection. The widening of the existing bridge over Irish Buffalo Creek is also included in the scope of this project, but it will be submitted under a different cover. Every boring that was performed for this roadway investigation can be found on the attached cross sections. The following alignments were investigated:

-L-	10+10.00 to 149+81.04 (2.65 miles)
-Y1-	10+36.64 to 12+25.00 (0.02 miles)
-Y3-	10+75.00 to 11+94.31 (0.04 miles)
-Y4-	11+00.00 to 12+81.52 (0.03 miles)
-Y7-	10+38.75 to 12+75.00 (0.04 miles)
-Y8-	10+38.78 to 12+50.00 (0.04 miles)
-Y9-	11+50.00 to 12+91.62 (0.03 miles)
-Y10-	11+50.00 to 16+31.39 (0.09 miles)
-Y11-	10+60.94 to 15+00.00 (0.08 miles)
-Y13-	11+00.00 to 13+33.56 (0.04 miles)
-Y14-	10+75.00 to 12+21.84 (0.03 miles)
-Y15-	11+00.35 to 12+80.00 (0.03 miles)
-Y16-	11+50.00 to 12+75.07 (0.02 miles)
-Y18-	10+50.00 to 12+01.50 (0.03 miles)
-Y19-	10+36.67 to 11+50.00 (0.02 miles)
-Y20-	10+22.01 to 11+80.00 (0.03 miles)
-DR2-	10+85.00 to 11+96.39 (0.02 miles)
-RABT-	0+00.00 to 3+83.27 (0.07 miles)

The total length of lines investigated is 3.31 miles. The field investigation of this project was conducted primarily in December of 2013 by Kleinfelder. They employed the use of two ATV-type drilling machines to perform the soil borings within the project corridor. Due to topographical constraints and safety considerations, some borings had to be offset of their intended locations.

Standard Penetration Tests were performed utilizing hollow stem augers with carbide insert teeth. Manual Drop Hammers were used on both rigs to advance the split spoon samplers to their intended depths. Two Hundred and Twenty-Six soil samples and a Shelby Tube were submitted to the Materials and Tests Unit for laboratory analysis.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

Unregulated Landfill: An unregulated landfill was encountered within the project corridor at the following location:

Line	Station(s)	Offset
-L-	68+50 to 73+67	Right.

The site is currently a vacant lot. The previous property owner, Mr. Jerry Baker, reported that the property had been used as a dumpsite back in the 1980s. He stated that the dumped material consisted of tires, construction debris, abandoned UST's, and oil drums. Two site assessments have been performed on this property since 2008 to determine the extent and contents of this Landfill.

Both assessments paid special attention to identifying possible hydrocarbon contamination. The first was performed in 2008 at the request of a local Real Estate company. In June 2011, the NCDOT hired an outside contractor to perform an assessment of the property for the widening of NC 3. Both investigations excavated test pits of varying depths and locations on the property to aid in their subsurface analysis. Contaminated soil was encountered along with tires, shingles, wood debris, and concrete. Please contact Cyrus Parker, LG, PE at the Geotechnical Engineering Unit headquarters in Raleigh for detailed reports of this study.

Alluvial Soils: Several drainage features of varying sizes bisect the project corridor. Irish Buffalo Creek is the largest of these drainage features. In addition, the largest concentration of alluvial soils was encountered in the floodplain adjacent to the Irish Buffalo. It crosses NC 3 at approximately 90 degrees and flows north to south. Alluvial materials encountered in this floodplain are up to 27' thick and consist primarily of sandy and silty clays (A-7-6, A-6), sandy silts (A-4), silty sands (A-2-4), and coarse sands (A-3, A-1-b). Alluvial deposits are thicker on the eastern side of the creek. Maximum fill heights over these deposits are approximately 15'. One Shelby Tube (ST-2) was retrieved in the Irish Buffalo Creek floodplain for triaxial and consolidation analysis.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
FAX: 919-250-4237

WEBSITE:
www.ncdot.gov/doh/preconstruct/highway/geotech

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

SOIL PROPERTIES

Residual Soils / Weathered Rock

All residual soils on the project are derived from the metamorphosed, quartz diorite (PzZq) rocks that are common to the area. Severely weathered crystalline rock and crystalline rock were encountered primarily in the Irish Buffalo Creek floodplain and at the proposed retaining wall right of Station 133+00 –L-. The dominant residual soil types within the project corridor are sandy silt (A-5, A-4) and silty sand (A-2-4, A-1-b). Sandy and silty clay (A-7, A-6) are also present within the project corridor, but in lesser concentrations. Please refer to the attached cross-sections for a graphical depiction of the roadway borings performed on this project.

Respectfully submitted,

John P. Rogers
Project Geological Engineer

PROJECT REFERENCE NO.	SHEET NO.
U-3440	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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8/17/99

~~NOTE: SEE SHEET 15 FOR -L- PROFILE~~
~~SEE SHEET 20 FOR -Y-, -Y1-, & -Y2- PROFILE~~

★ REVISED SIGNAL

NAD 83/NSRS 2007

BEGIN TIP PROJECT U-3440
-L- STA. 10+10.00

HOOKS, MICHEAL W.
DB 6220 PG 52
PB 20 PG 88

HOOKS, MICHEAL W.
DB 1620 PG 52

MCVAY, ROBERT K.
DB 3076 PG 230

HUIE, LINDA DAY
DB 8096 PG 165
PB 25 PG 37

COSENTINO, FRANCIS M.
DB 4229 PG 100

CALVARY BAPTIST CHURCH KANNAPOLIS INC.
DB 4988 PG 342
PB 53 PG 93

THIGPEN, ALTON H.
DB 405 PG 46
DB 5198 PG 114

CORNERSTONE BAPTIST CHURCH
DB 3620 PG 297

ABC PARKWAY LLC
DB 8303 PG 122

MULLIS, VIC A.
DB 7195 PG 196

(NCDOT EXISTING R/W)

-L-
PI Sta 15+20.75
Δ = 4° 18' 59.8" (LT)
D = 1° 08' 45.3"
L = 376.69'
T = 188.44'
R = 5,000.00'
RO = 96'
e = .02 RC

-L- PC Sta. 13+32.32

-L- POT Sta. 10+00.00

-Y1- POT Sta. 10+00.00 =
-L- POT Sta. 12+50.58

-L- PT Sta. 17+09.01

-L- POT Sta. 17+34.33 =
-Y2- POT Sta. 10+00.00

-Y- POT Sta. 10+00.00 =
-L- POT Sta. 11+93.26

S 5° 31' 35.1" W
-Y- PC Sta. 10+21.42

END CONSTRUCTION
-Y- STA. 11+05.00

S 5° 31' 35.1" W
-Y1- PC Sta. 10+09.17

END CONSTRUCTION
-Y1- STA. 12+25.00

END CONSTRUCTION
-Y2- STA. 11+20.00

S 13° 34' 24.0" W

-Y2- POT Sta. 13+06.23

S 72° 08' 09.6" E
-L-

S 76° 27' 09.3" E

ROADWAY EMBANKMENT (FILL)

RESIDUAL B-1
RESIDUAL B-2
RESIDUAL B-3
RESIDUAL B-4
RESIDUAL B-5
B-6

-BL-5
-BY1-
-BL-6=
-BY-
-BL-7=
-BY2-F
-BY1-30
-BY2-31

BM 2

-L- STA. 22+50.00 SEE SHEET 5
MATCHLINE

(FUTURE KANNAPOLS PARKWAY)

-L- (NC 3)

	(15000)	
(5000)		(5400)
14800 / 20600		16000 / 22200
5700 / 7000		6900 / 8200
	12600 / 19800	

2015 ADT / 2035 ADT

-Y- & -Y1-
(KANNAPOLS PARKWAY)

-Y-	-Y1-
PI Sta 12+39.04	PI Sta 12+31.09
Δ = 8° 47' 42.0" (RT)	Δ = 8° 47' 42.0" (RT)
D = 2° 01' 29.1"	D = 1° 59' 07.6"
L = 434.38'	L = 442.97'
T = 217.62'	T = 221.92'
R = 2,829.79'	R = 2,885.79'
RO = SEE PLANS	RO = SEE PLANS
e = SEE PLANS	e = SEE PLANS

-L- (NC 3)

16000 / 22200		16800 / 22800
900 / 2000		1700 / 2600
	2600 / 4600	

2015 ADT / 2035 ADT

-Y2-
(BOY SCOUT CAMP ROAD)

15-MAY-2014 10:51
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mmclinton
ALT_FEIS_72dpi

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3440	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE SHEET 15 FOR -L- PROFILE
SEE SHEET 20 FOR -Y3- PROFILE
SEE SHEET 2-F FOR -Y3- INTERSECTION DETAIL

2015 ADT / 2035 ADT	-Y3- (MILLER ROAD)	
	3200 / 900	
2900 / 400		300 / 500
-L- (NC 3) 16800 / 22800		14200 / 22900

NAD 83/NSRS 2007

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SIMPSON, FREDRICK
DB 6954 PG 294
PB 27 PG 63

SMITH, MILTON A.
DB 5039 PG 229
PB 27 PG 63

LITTLE, BRANDON
DB 8146 PG 82

SHUPING, DANNY R.
DB 773 PG 436

CALVARY BAPTIST CHURCH KANNAPOLIS INC
DB 4988 PG 342
PB 53 PG 93

-Y3-
PI Sta 11+20.14
Δ = 28° 15' 54.9" (RT)
D = 19° 05' 54.9"
L = 148.00'
T = 75.54'
R = 300.00'
RO = SEE PLANS
e = SEE PLANS

-Y3- POT Sta. 10+00.00
-Y3- PC Sta. 10+44.60
BEGIN CONSTRUCTION
-Y3- STA 10+75.00
-Y3- PT Sta. 11+92.60
-L- POT Sta. 29+85.00 =
-Y3- POT Sta. 12+33.06
-L- PC Sta. 34+11.99

-L-
PI Sta 39+62.39
Δ = 10° 28' 57.1" (LT)
D = 0° 57' 17.7"
L = 1,097.73'
T = 550.40'
R = 6,000.00'
RO = 96'
e = .02' RC

RESIDUAL
ALLUVIUM
ROADWAY EMBANKMENT (FILL)

B-7 B-8 B-9 B-10 B-12 B-14 B-16 B-17 B-18

BY3-33
-BL-9-
-BY3-

MATCHLINE -L- STA 22+50.00 SEE SHEET 4
MATCHLINE -L- STA 36+00.00 SEE SHEET 6

15-MAY-2014 10:23
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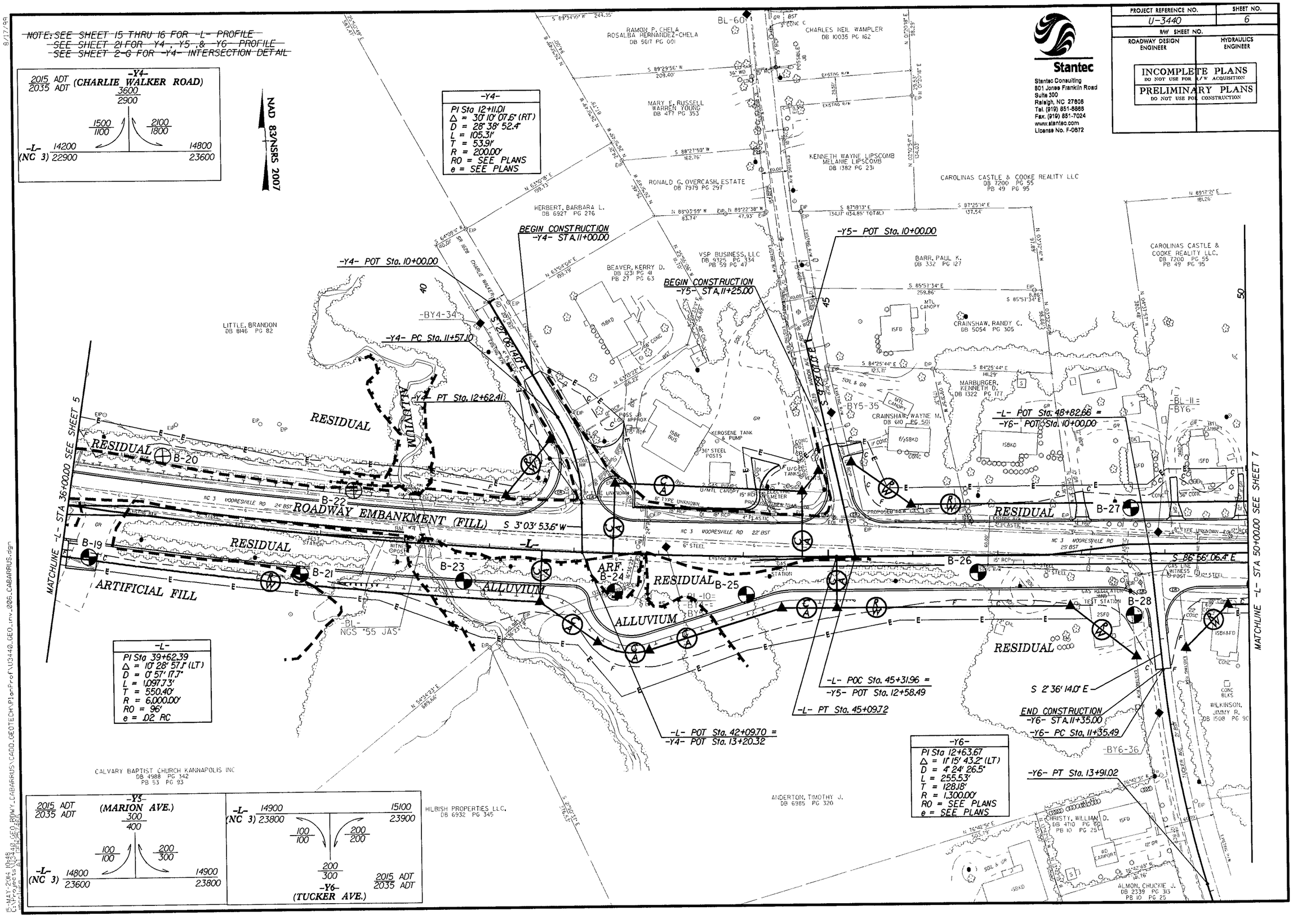

PROJECT REFERENCE NO.
U-3440
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
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NOTE: SEE SHEET 15 THRU 16 FOR -L- PROFILE
SEE SHEET 21 FOR -Y4-, -Y5-, & -Y6- PROFILE
SEE SHEET 2-G FOR -Y4- INTERSECTION DETAIL
-Y4-
2015 ADT
2035 ADT
(CHARLIE WALKER ROAD)
3600
2900
1500
1100
2100
1800
-L-
(NC 3)
14200
22900
14800
23600
NAD 83/NSRS 2007
-Y4-
PI Sta 12+11.01
Δ = 30° 10' 07.6" (RT)
D = 28° 38' 52.4"
L = 105.31'
T = 53.91'
R = 200.00'
RO = SEE PLANS
e = SEE PLANS
BEGIN CONSTRUCTION
-Y4- STA.11+00.00
BEGIN CONSTRUCTION
-Y5- STA.11+25.00
-Y4- POT Sta. 10+00.00
-Y5- POT Sta. 10+00.00
-Y4- PC Sta. 11+57.10
-Y4- PT Sta. 12+62.41
-L- POT Sta. 48+82.66 =
-Y6- POT Sta. 10+00.00
-L- POC Sta. 45+31.96 =
-Y5- POT Sta. 12+58.49
-L- PT Sta. 45+09.72
-L- POT Sta. 42+09.70 =
-Y4- POT Sta. 13+20.32
END CONSTRUCTION
-Y6- STA.11+35.00
-Y6- PC Sta. 11+35.49
-Y6- PT Sta. 13+91.02
-Y6-
PI Sta 12+63.67
Δ = 11° 15' 43.2" (LT)
D = 4° 24' 26.5"
L = 255.53'
T = 128.18'
R = 1,300.00'
RO = SEE PLANS
e = SEE PLANS
-L-
PI Sta 39+62.39
Δ = 10° 28' 57.1" (LT)
D = 0° 57' 17.7"
L = 1,097.73'
T = 550.40'
R = 6,000.00'
RO = 96'
e = .02 RC
MATCHLINE -L- STA 36+00.00 SEE SHEET 5
MATCHLINE -L- STA 50+00.00 SEE SHEET 7
RAMON P. CHELA
ROSALBA HERNANDEZ-CHELA
DB 5617 PG 001
CHARLES NEIL WAMPLER
DB 10035 PG 162
MARY E. RUSSELL
WARREN YOUNG
DB 477 PG 353
KENNETH WAYNE LIPSCOMB
MELANIE LIPSCOMB
DB 1382 PG 231
RONALD G. OVERCASH, ESTATE
DB 7979 PG 297
CAROLINAS CASTLE & COOKE REALITY LLC
DB 7200 PG 55
PB 49 PG 95
HERBERT, BARBARA L.
DB 6927 PG 276
VSP BUSINESS, LLC
DB 9325 PG 334
PB 59 PG 47
BEAVER, KERRY D.
DB 1231 PG 41
PB 27 PG 63
BARR, PAUL K.
DB 332 PG 127
CRAINSHAW, RANDY C.
DB 5054 PG 305
LITTLE, BRANDON
DB 8146 PG 82
MARBURGER, KENNETH D.
DB 1322 PG 177
CRAINSHAW, WAYNE M.
DB 610 PG 501
RESIDUAL
ALLUVIUM
ROADWAY EMBANKMENT (FILL)
ARTIFICIAL FILL
ARF.
B-19
B-20
B-21
B-22
B-23
B-24
B-25
B-26
B-27
B-28
-BY4-34
-BY5-35
-BY6-36
-BL-
NGS "55 JAS"
CALVARY BAPTIST CHURCH KANNAPOLIS INC
DB 4988 PG 342
PB 53 PG 93
HILBISH PROPERTIES LLC.
DB 6932 PG 345
ANDERTON, TIMOTHY J.
DB 6985 PG 320
CHRISTY, WILLIAM D.
DB 4710 PG 60
PB 10 PG 25
ALMON, CHUCKIE J.
DB 2339 PG 313
PB 10 PG 25
WILKINSON, JIMMY R.
DB 1508 PG 90
-Y5-
(MARION AVE.)
2015 ADT
2035 ADT
300
400
100
100
200
300
-L-
(NC 3)
14800
23600
14900
23800
-L-
(NC 3)
14900
23800
15100
23900
100
100
200
200
200
300
-Y6-
(TUCKER AVE.)
2015 ADT
2035 ADT

PROJECT REFERENCE NO.	SHEET NO.
U-3440	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

~~NOTE: SEE SHEET 16 FOR -L- PROFILE~~
~~SEE SHEET 2-H FOR -L- BULBOUT DETAIL~~

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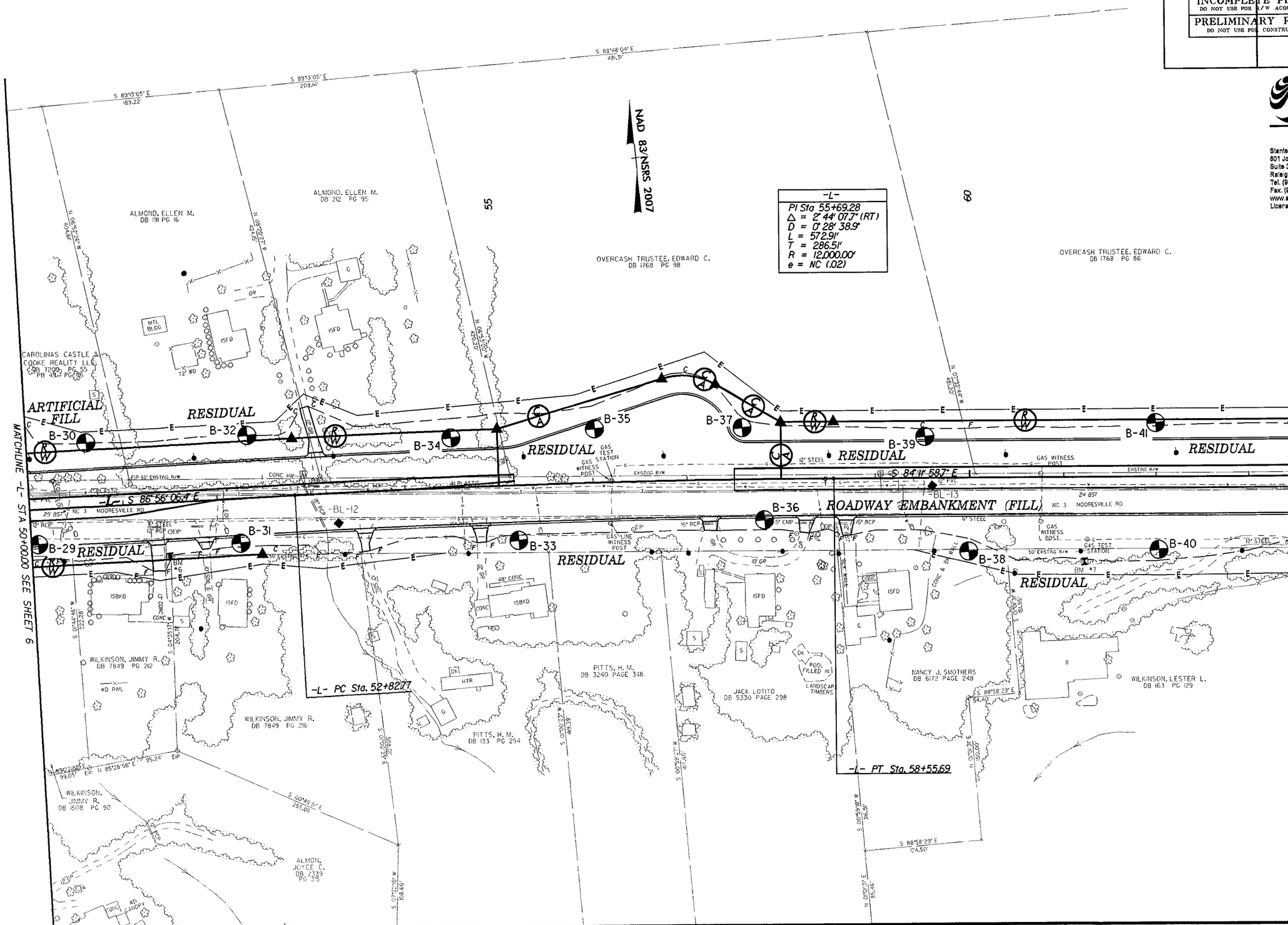

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PROJECT REFERENCE NO.	SHEET NO.
U-3440	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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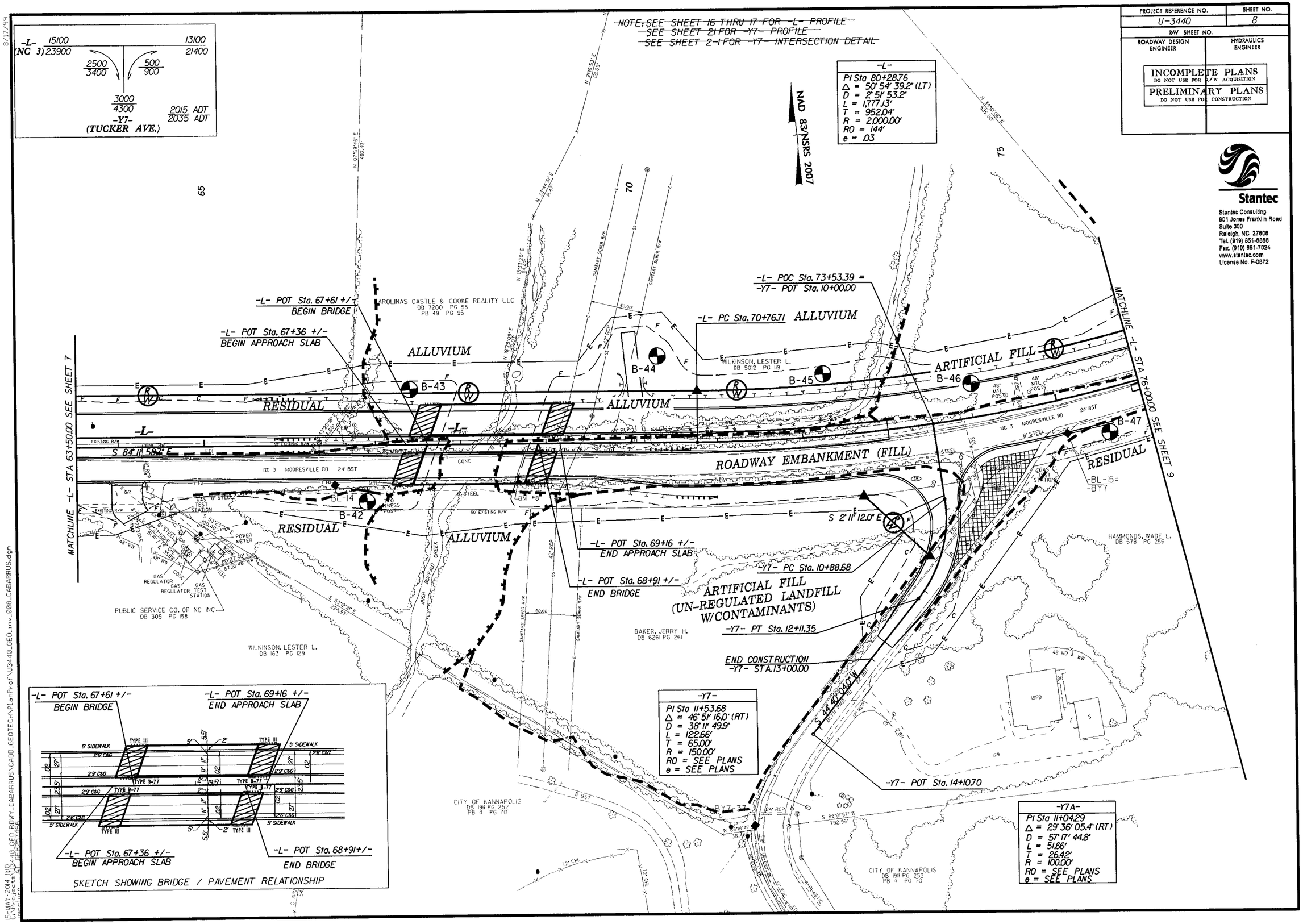

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3440	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

~~NOTE: SEE SHEET 17 FOR -L- PROFILE~~
~~SEE SHEET 2-J FOR -L- BULBOUT DETAIL~~

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NAD 83/NSRS 2007

80

85

OVERCASH TRUSTEE, JOE L.
DB 1457 PG 5

-L-
PI Sta 80+28.76
Δ = 50° 54' 39.2" (LT)
D = 2° 51' 53.2"
L = 1,777.13'
T = 952.04'
R = 2,000.00'
RO = 144'
e = .03

MATCHLINE -L- STA 76+00.00 SEE SHEET 8

MATCHLINE -L- STA 88+00.00 SEE SHEET 10

WILKINSON, LESTER L.
DB 5012 PG 119

LEAR SR., JAMES C
DB 2969 PG 212

LAFFERTY, TIMOTHY S.
DB 3495 PG 308

HAMMONDS, WADE L.
DB 578 PG 256

CITY OF KANNAPOLIS
DB 196 PG 252
PB 4 PG 70

MISENHEIMER, MARK A.
DB 7320 PG 228

MISENHEIMER, MARK A.
DB 7208 PG 9
PB 9 PG 52

BM #9

BM #10

B-48

B-49

B-50

B-51

B-52

B-53

B-54

B-55

RESIDUAL

ALLUVIUM

ROADWAY EMBANKMENT (FILL)

NC 3 MOORESVILLE RD 24' BST

EXISTING R/W

50' EXISTING R/W

8" STEEL

CONC HW

BL-16

ISFD

GR

SOIL

G

N 46°11'52" E
190.40'

S 42°41'08" E
190.24'

S 42°43'08" E
159.07'

N 52°36'52" E
199.80'

S 01°29'30" W
163.22'

N 48°22'40" E
159.55'

N 48°22'40" E
142.61'

S 01°12'17" W
384.56'

S 46°59'29" E
413.74'

E-MAY-2014 14:02
U:\Projects\3440_GEO_RDWY_CABARRUS\CADD_GEOTECH\PlanProf\U3440_GEO_inv_004_CABARRUS.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-3440	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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801 Jones Franklin Road
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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

8/17/09

NOTE: SEE SHEETS 17 THRU 18 FOR -L- PROFILE
SEE SHEET 22 FOR -Y8- & -Y9- PROFILE

NAD 83/NSRS 2007

-L-
PI Sta 80+28.76
△ = 50° 54' 39.2" (LT)
D = 2° 51' 53.2"
L = 1,777.13'
T = 952.04'
R = 2,000.00'
RO = 144'
e = .03

-Y9-
PI Sta 12+41.02
△ = 39° 26' 04.3" (RT)
D = 57° 17' 44.8"
L = 68.83'
T = 35.84'
R = 100.00'
RO = SEE PLANS
e = SEE PLANS

-Y9- POT Sta. 10+00.00
S 84° 32' 42.3" E

BEGIN CONSTRUCTION
-Y9- STA 11+50.00

-Y9- PC Sta. 12+05.18

-L- PT Sta. 88+53.84

-L- POT Sta. 95+38.48 =
-Y8- POT Sta. 10+00.00

-Y9- PT Sta. 12+74.01

-Y8- PC Sta. 10+58.86

-Y8- PCC Sta. 11+42.42

-BY8-38 POT 7+58.81

-Y8- PT Sta. 12+31.20

END CONSTRUCTION
-Y8- STA 12+50.00

-Y8- POT Sta. 12+54.18

-L- POT Sta. 99+71.92
-Y9- POT Sta. 13+30.37 =

MATCHLINE -L- STA 88+00.00 SEE SHEET 9

MATCHLINE -L- STA 100+00.00 SEE SHEET 11

OVERCASH TRUSTEE, JOE L.
DB 1457 PG 5

LEAR SR., JAMES C
DB 2969 PG 212

THREATT, DAVID L.
DB 1216 PG 227

POSS JR
LOC APPROX

LOVE, WILLIAM E.
DB 2818 PG 76
DB 2818 PG 95

ISBK&MTL CHURCH

VANPELT, CLARENCE R.
DB 6488 PG 14

SPRAGUE, RHONDA W.
DB 6521 PG 154
PB 9 PG 32

BROCK TRUSTEE, DOROTHY P.
DB 1501 PG 67

BREWER, WAYNE C.
DB 6011 PG 200
DB 2402 PG 324
PB 9 PG 32

BUCKEYE STATE
DB 6619 PG 292

DANIEL
PB 9 PG 32

HOPKINS, EDWARD J.
DB 7042 PG 100
PB 8 PG 52

MISENHEIMER, MARK A.
DB 8305 PG 87
PB 8 PG 52

BROWN, LIRCEY L.
DB 595 PG 738
PB 8 PG 52

BROWN, PHILIP L.
DB 603 PG 216
PB 8 PG 52

PRICE JR, JAMES H
DB 4512 PG 239
PB 9 PG 53

MUNDAY, T. M.
DB 252 PG 72
PB 9 PG 53

MUNDAY, T. M.
DB 260 PG 307
PB 9 PG 53

ROBIE, DANIEL C.
DB 1130 PG 222
PB 9 PG 53

MCGINNIS, JIMMIE D.
DB 735 PG 212
PB 9 PG 53

RGA PROPERTY MGMT, LLC
DB 6728 PAGE 249
PB 9 PG 53

FERGUSON, SHARON C.
DB 4316 PG 18

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ALLUVIUM

B-56 B-57 B-58 B-59 B-60 B-61 B-62

NC 3 MOORESVILLE RD 24' BST

-L- (NC 3)	2015 ADT	2035 ADT
	13100	13300
	21400	21600
-Y8- (CLIFTON ST.)	50 / 50	200 / 200
	200 / 200	

-Y9- (BAILEY ST.)	2015 ADT	2035 ADT
	100 / 100	
-L- (NC 3)	13300	13400
	21600	21700
	50 / 50	100 / 100

-Y8-

PI Sta 11+00.71	PI Sta 11+88.15
△ = 7° 58' 44.2" (LT)	△ = 33° 54' 43.4" (LT)
D = 9° 32' 57.5"	D = 38° 11' 49.9"
L = 83.56'	L = 88.78'
T = 41.85'	T = 45.73'
R = 600.00'	R = 150.00'
RO = SEE PLANS	RO = SEE PLANS
e = SEE PLANS	e = SEE PLANS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3440	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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★ REVISED SIGNAL

NOTE: SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 22 FOR -Y10 & -Y11 PROFILE
SEE SHEET 23 FOR -Y12 PROFILE
SEE SHEET 25 FOR -Y20 PROFILE
SEE SHEET 2-F FOR -Y10-, -Y11- AND -Y20 INTERSECTION DETAILS

NAD 83/NSRS 2007

-Y10-
PI Sta 12+38.37
Δ = 6° 40' 36.4" (RT)
D = 2° 51' 53.2"
L = 233.06'
T = 116.66'
R = 2,000.00'
RO = SEE PLANS
e = SEE PLANS

-L-
PI Sta 110+18.89
Δ = 1° 45' 47.3" (RT)
D = 1° 25' 56.6"
L = 123.09'
T = 61.55'
R = 4,000.00'
RO = 96'
e = .02 RC

-BY10-53
-Y10- PC Sta. 11+21.70
GOODNIGHT, EVELYN B DB 1846 PG 37
S 85° 27' 18" E
BEGIN CONSTRUCTION -Y10- STA 11+50.00
ELDER, DAVID S. DB 6500 PG 288
TRITT, HARLEY D. DB 7182 PG 10
-Y10- PT Sta. 13+54.77
FOREST JR, WALTER DB 432 PG 602
-L- POT Sta. 104+51.67
-Y10- POT Sta. 16+77.93 =
-Y11- POT Sta. 10+00.00 =
MCCOLLUM, TERRY M. DB 515 PG 225
SYLVIA F. McMULLEN DB 2706 PAGE 246
SMULLEN, MARK A. DB 3085 PG 234
DANNY BOST, LLC DB 5930 PG 107
SELLERS JR, EDWARD H. DB 684 PG 298 PB 5 PG 49
SELLERS JR, EDWARD H. DB 684 PG 298 PB 5 PG 49 DB 1089 PG 193
-L- PC Sta. 109+57.34
-BY10-40
BREWER, WAYNE C. DB 6011 PG 200 DB 2402 PG 324 PB 9 PG 32
DEAL, VIVIAN M. DB 311 PG 19
DAVID G. MATTHEWS DB 5459 PAGE 136
-L- PT Sta. 110+80.43
SELLERS, JEFFERY L. DB 1182 PG 3 DB 1182 PG 5 DB 2406 PG 317
WILLIAMSON, JOSEPH E. DB 6585 PG 194
-BL-20=
-BY10-
-BL-19
-BY10-
B-63
B-65
B-67
B-70
RESIDUAL
ALLUVIUM
PROP. GUARDRAIL
BM #15
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD 24' BST
6" TYPE UNKNOWN
15" RCP
2" PLASTIC
8" STEEL
N 44° 53' 22.0" E
B-64
BM #13
N 46° 39' 09.3" E
B-66
B-68
B-69
B-71
-BL-21=
-BY11-
-Y20- POT Sta. 10+00.00 =
-Y11- POT Sta. 10+98.68
JON R. FINGER, SR. DB 0568 PAGE 357
-Y11- PC Sta. 12+62.72
-Y20- PC Sta. 10+73.21
MCGINNIS, CARL D. DB 4283 PG 149 PB 002 PG 001
CROWNSHAW, RANDY C. DB 10698 PAGE 174 PB 9 PG 53
-BY10-54
-BY19-55
TOMAS M. BAZA DB 7392 PAGE 283 PB 002 PG 001
-BY11-41
-Y12- POT Sta. 13+26.33
-Y12- PT Sta. 12+23.26=
-L- Sta. 112+36.83 (143.33' RT)
-Y20- POT Sta. 12+59.31
END CONSTRUCTION -Y20- STA 11+80.00
MATTHEWS, JAMES E. DB 307 PG 51 PB 002 PG 001
-BY10-51
-Y20- PT Sta. 11+23.25
END CONSTRUCTION -Y11- STA 15+12.60
S 69° 16' 35.0" E
S 78° 43' 42.5" E
S 9° 09' 47.5" W
S 25° 45' 8" W

-Y11-
PI Sta 14+28.06
Δ = 9° 27' 07.3" (RT)
D = 2° 51' 53.2"
L = 329.94'
T = 165.34'
R = 2,000.00'
RO = SEE PLANS
e = SEE PLANS

-Y12-
PI Sta 11+42.98
Δ = 25° 39' 03.5" (RT)
D = 15° 41' 50.9"
L = 163.41'
T = 83.10'
R = 365.00'
RO = SEE PLANS
e = SEE PLANS

-Y20-
PI Sta 10+98.25
Δ = 5° 44' 01.7" (LT)
D = 11° 27' 33.0"
L = 50.04'
T = 25.04'
R = 500.00'
RO = SEE PLANS
e = SEE PLANS

-Y10- (RAINBOW DR.)
2700 / 4000
700 / 700 | 400 / 400
-L- (NC 3) 21700 — 13400 | 12700 — 20300
1300 / 1300 | 900 / 900
3800 / 4900
-Y11- (RAINBOW DR.)
2015 ADT / 2035 ADT

MATCHLINE -L- STA 100+00.00 SEE SHEET 10
MATCHLINE -L- STA 113+25.00 SEE SHEET 12

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jmcclellan

NOTE: SEE SHEETS 18 THRU 19 FOR -L- PROFILE
SEE SHEET 23 FOR -Y13-, -Y14-, & -Y15- PROFILE
SEE SHEET 24 FOR -Y16- PROFILE
SEE SHEET 2-K FOR -L-, -Y14-, & -Y15- ROUNDABOUT DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U-3440	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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NAD 83/NSRS 2007

-L-
PI Sta 120+71.54
Δ = 22° 22' 58.0" (RT)
D = 2° 51' 53.2"
L = 781.31'
T = 395.70'
R = 2,000.00'
RO = 104°
e = .025

-Y13-
PI Sta 11+73.86
Δ = 65° 56' 54.4" (RT)
D = 71° 37' 11.0"
L = 92.08'
T = 51.90'
R = 80.00'
RO = SEE PLANS
e = SEE PLANS

-RABT- (CIRCLE)
PI Sta 0+00.00
Δ = 360° 00' 00.0" (RT)
D = 93° 55' 39.0"
L = 383.27'
T = 0.00'
R = 61.00'
RO = SEE PLANS
e = SEE PLANS

-Y16-
PI Sta 12+61.36
Δ = 16° 52' 51.3" (LT)
D = 38° 11' 49.9"
L = 44.19'
T = 22.26'
R = 150.00'
RO = SEE PLANS
e = SEE PLANS

-Y13- POT Sta. 10+00.00
BEGIN CONSTRUCTION -Y13- STA. 11+00.00
-Y13- PC Sta. 11+21.96
-Y13- PT Sta. 12+14.04
-RABT- POC Sta. 2+72.19=
-L- POC Sta. 120+37.16
-RABT- PC Sta. 0+00.00=
-RABT- PT Sta. 3+83.27=
-Y14- POT Sta. 12+60.84
-Y14- POT Sta. 10+00.00
BEGIN CONSTRUCTION -Y14- STA. 10+75.00
-Y14- POT Sta. 13+21.84=
-L- POC Sta. 120+98.16
-RABT- POC Sta. 0+82.41=
-L- POC Sta. 121+59.16
-Y14- PC Sta. 12+39.10
-Y16- POT Sta. 10+00.00
BEGIN CONSTRUCTION -Y16- STA. 11+50.00
-Y16- PT Sta. 12+83.29
-L- PC Sta. 116+75.84
-L- POC Sta. 117+21.33 =
-Y13- POT Sta. 13+73.61
-Y15- PC Sta. 11+29.89
-Y15- PT Sta. 11+98.37
-Y15- PC Sta. 12+02.22
-Y15- PT Sta. 12+66.01
-Y15- POT Sta. 12+89.46
-Y15- POT Sta. 10+00.00 =
POT Sta. 121+00.45 -L-
-RABT- POC Sta. 1+85.12 =
-Y15- POC Sta. 10+66.33
-L- POC Sta. 123+80.39 =
-Y16- POT Sta. 13+12.36
END CONSTRUCTION -Y15- STA. 12+80.00
-L- PT Sta. 124+57.15

ALLUVIUM
ROADWAY EMBANKMENT (FILL)
RESIDUAL
ALLUVIUM
ARTIFICIAL FILL
RESIDUAL
ALLUVIUM

B-72 B-73 B-74 B-75 B-76 B-77 B-78

SELLERS, JEFFERY L. DB 2406 PG 317 PB 5 PG 49
LEWIS, ALICE B. DB 1942 PG 214 PB 5 PG 49
VARGAS, JAVIER DB 3881 PG 31 PB 5 PG 49
THOMPSON, STEPHEN P. DB 7249 PG 345 PB 5 PG 49
BROWN, JEROME W. DB 1260 PG 173 PB 5 PG 49
POWELL, JAMES DB 8138 PG 267 PB 5 PG 49
CHEEK, JEFFREY L. DB 7124 PG 262 PB 1 PG 51
SELLERS, JEFFERY L. DB 182 PG 3 DB 182 PG 5 DB 2406 PG 317
CORRELL, KATHY A. DB 3464 PG 294
PATTERSON, JODY L. DB 4136 PG 161
SELLERS III, EDWARD W. DB 4066 PG 89
LINN, BOBBIE S. 77-E-58
BIGGERSTAFF, ROY L. DB 463 PG 158
CHEEK, JEFFREY G. DB 1025 PG 998 DB 1308 PG 182 PB 5 PG 49
WATTS, BILLY E. DB 2774 PG 301 PB 3 PG 37
BEAVER, GEORGE L. DB 6192 PG 341
MORGAN, PATRICIA DB 8518
FOIL, FRANK E. DB 549 PG 544
COOPER, JIMMY DB 976 PG 88
WAIRN, RICHARD B. 85-E-239
CULLEDGE, A. B. DB 369 PG 017
REDS OIL COMPANY DB 488 PG 624 PB 3 PG 6
PREMIER PROPERTIES LLC. DB 8431 PG 106 PB 3 PG 18
JUNG JR, NEWTOON DB 3196 PG 121 PB 3 PG 51
WILLIAMSON, JOSEPH E. DB 6585 PG 194
WINBORN, CINDY DB 5102
JACKSON, ROBERT PB 7 PG 79
HOWARD V. WYRICK DB 4094 PAGE 309
DOSTER, SANFORD R. DB 5587 PG 118
LINN, BOBBIE S. DB 1868 PG 1

OWNER UNKNOWN

MATCHLINE -L- STA 113+25.00 SEE SHEET 11
MATCHLINE -L- STA 128+50.00 SEE SHEET 13
HISTORICAL BOUNDARY (APPROX.)

-Y14- (FRANKLIN AVE.)

	2400 / 3400	
1900 / 2400		500 / 1000
-L- (NC 3) 20400	12800	11800 / 19400
50 / 50		200 / 200
	200 / 200	

-Y15- (MILLER ST.) 2015 ADT 2035 ADT

2015 ADT 2035 ADT -Y13- (MASON ST.)

	200 / 200	
50 / 50		50 / 50
-L- (NC 3) 20400	12800	11800 / 19400

-Y15-

PI Sta 11+64.47	PI Sta 12+35.37
Δ = 19° 37' 06.1" (LT)	Δ = 38° 28' 31.8" (LT)
D = 28° 38' 52.4"	D = 60° 18' 40.8"
L = 68.48'	L = 63.79'
T = 34.58'	T = 33.15'
R = 200.00'	R = 95.00'
RO = SEE PLANS	RO = SEE PLANS
e = SEE PLANS	e = SEE PLANS

2015 ADT 2035 ADT -Y16- (CYPRESS AVE.)

	50 / 50	
50 / 50		50 / 50
-L- (NC 3) 20400	11800	11800 / 19400

5/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-3440	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

~~NOTE: SEE SHEET 19 FOR -L- PROFILE~~
~~SEE SHEET 24 FOR -Y17- PROFILE~~

-L-
PI Sta 133+14.77
Δ = 3° 55' 58.4" (LT)
D = 0° 21' 29.2"
L = 1,098.27'
T = 549.35'
R = 16,000.00'
e = NC (.02)

-Y17- PC Sta. 11+72.03=
-L- Sta.139+61.38 (80.60' LT)

-Y17- POT Sta. 10+00.00

NAD 83/NSRS 2007

HISTORICAL BOUNDARY (APPROX.)

END RET. WALL
STA 138+50.00

BEGIN RET. WALL
STA 137+00.00

ABERNATHY, JAMES E. DB 454 PG 483

FREEMAN, JOHNSIE S. DB 812 PG 417

ABERNATHY, JAMES E. DB 4039 PG 254

ABERNATHY, JAMES S. DB 812 PG 411

FOIL, FRANK E. DB 549 PG 544

COOPER, JIMMY R. DB 975 PG 88

MOORE, NORMAN R. DB 1930 PG 108

PHILLIPS ESTATES, J.W. DB 258 PG 183

RUBINSTEIN, BRIAN DB 5283 PG 68

DALRYMPLE, JOHN W. DB 5524 PG 137

DAVIS SR., KENNETH L. DB 1290 PG 250

MURPH, MERLE D. DB 2349 PG 228

MURPH, MERLE D. DB 695 PG 300

BARBER, FRANKLIN O. DB 402 PG 179

MCGINNIS, JIMMIE D. DB 786 PG 239

HARVEY, ELZIE DB 695 PG 67

UNKNOWN OWNER

ALLUVIUM

RESIDUAL

B-79 B-80 B-81 B-82 B-83 B-84 B-85 B-86 B-88 B-89 B-90 B-91

BM #19

NC 3 MOORESVILLE RD 24' BST

ROADWAY EMBANKMENT (FILL)

N 65° 06' 08.9" E

MATCHLINE -L- STA 126+50.00 SEE SHEET 12

MATCHLINE -L- STA 140+00.00 SEE SHEET 14

-L- PC Sta. 127+65.42

-L- PT Sta. 138+63.69

END RET. WALL
STA 136+25.00
47.75' RT.

BEGIN RET. WALL
STA 132+00.00
92.6' RT.

SENHOUR, DENNIS C. DB 3021 PG 193 PB 3 PG 5

ISENHOUR, DENNIS C. DB 2812 PG 136 PB 1 PG 34

EURY, IRA D. DB 680 PG 29 PB 1 PG 34

LINGERFELT, JENNIE M. DB 583 PG 877 PB 1 PG 34

JACOBS, GRACE D. DB 242 PG 266 PB 1 PG 34

HILTON, BIM D. DB 318 PG 164

HILTON, BIM C. DB 1030 PG 132

MOORE, ALVIN W. DB 1930 PG 118

ABARGE, SHERRY DB 6353 PG 258 PB 3 PG 5

REYNOLDS, CAROLYN DB 1930 PG 107

WATTS, BILLY E. DB 1868 PG 7 PB 20 PG 5 DB 1313 PG 157 BB 4537 PG 102

BUTLER BUILDERS OF NORTH CAROLINA INC. DB 7362 PG 15

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3440	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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-Y18-
(WEST D ST.)
200 / 300
50 / 100 — 200 / 200
-L- (NC 3) 21300 — 13000 — 13400 — 21600
100 / 200 — 300 / 400
400 / 600
2015 ADT / 2035 ADT
-Y19-
(WEST D ST.)

NOTE: SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 24 FOR -Y17-, -Y18- & -Y19- PROFILE
SEE SHEET 25 FOR -Y21- & -DR2- PROFILE
SEE SHEET 2-L FOR -L-, -Y18-, -Y19-, & -DR2- INTERSECTION DETAIL

★ REVISED SIGNAL

NAD 83/NSRS 2007

-L-
PI Sta 142+98.62
Δ = 1° 30' 00.0" (RT)
D = 1° 00' 00.0"
L = 150.00'
T = 75.00'
R = 5729.58'
e = NC (.02)

-Y18- POT Sta. 10+00.00

HISTORICAL BOUNDARY (APPROX.)

BEGIN CONSTRUCTION
-Y18- STA 10+50.00

-L- POT Sta. 143+98.21 =
-Y18- POT Sta. 12+37.34

-DR2- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-DR2- STA 10+85.00

-L- POT Sta. 149+81.04=
-Y22- POT Sta. 13+63.62

END CONSTRUCTION
-Y22- STA 12+67.19

END CONSTRUCTION
-Y21- STA 14+07.92

-Y22- POT Sta. 10+00.00

END RET. WALL
-L- STA 147+64.79
(67.25' LT)

BEGIN RET. WALL
-DR2- STA 11+08.33
(37.82' LT)

BEGIN RET. WALL
-L- STA 144+28.84
(67.88' LT)

END RET. WALL
-DR2- STA 10+78.85
(16.82' RT)

-L- POT Sta. 145+49.41=
-DR2- POT Sta. 12+32.15
-L- POT Sta. 143+99.74
-Y19- POT Sta. 10+00.00

-Y19- PC Sta. 11+20.28

-Y19- PT Sta. 11+27.83

END CONSTRUCTION
-Y19- STA 11+50.00

-Y19- POT Sta. 12+62.71

-L- PC Sta. 142+23.62

-L- PT Sta. 143+73.62

-Y19-
PI Sta 11+24.06
Δ = 2° 09' 44.8" (LT)
D = 28° 38' 52.4"
L = 7.55'
T = 3.77'
R = 200.00'
RO = SEE PLANS
e = SEE PLANS

-Y22- POT Sta. 13+63.93=
-Y21- POT Sta. 9+81.05

END CONSTRUCTION
-Y22- STA 14+76.11

-Y22- POT Sta. 16+70.00

END TIP PROJECT U-3440
-L- STA. 149+81.04

-Y22-
(DALE EARNHARDT BLVD.)
22000 / 32700
6400 / 12200 — 1800 / 2200
-L- (NC 3) 21600 — 13400 — 5700 — 22200 — -Y21- (WATSON-CRICK DRIVE)
5600 / 7700 — 1600 / 1800
21000 / 27800
2015 ADT / 2035 ADT
-Y22-
(DALE EARNHARDT BLVD.)

MATCHLINE -L- STA 140+00.00 SEE SHEET 13

HISTORICAL BOUNDARY (APPROX.)

ROADWAY EMBANKMENT (FILL)

ARTIFICIAL FILL

B-92 B-93 B-94 B-95 B-96 B-97 B-98 B-99 B-100

RET. WALL

BLIND CONNECTIONS
UNKNOWN PIPE SIZE AND TYPE
POSS. JB'S
24" C&G LOCATION APPROX

HEALTH AUTHORITY OF CABARRUS COUNTY
DB 8308 PG 67
DB 8362 PG 49
PB 20 PG 6

BODDIE-NOELL ENTERPRISES INC.,
DB 4678 PG 215
PB 20 PG 6

LIBRA REALTY ASSOCIATES, LLC
DB 6259 PG 17
PB 41 PG 100

CASTLE & COOKE NORTH CAROLINA LLC
DB 7275 PG 100
PB 56 PG 19-21

CASTLE & COOKE NCRC LLC
DB 8416 PG 210

SOUTHERN SELECT COMMUNITY CREDIT UNION
DB 3455 PG 226

ATLANTIC AMERICAN PROPERTIES INC
DB 712 PG 166
DB 8711 PG 341

OAK AVENUE MALL LP
DB 7595 PG 323

MURDOCK, DAVID H.
DB 606 PG 766

WEAKS, ZELMA L.
DB 591 PG 55
PB 20 PG 6

RATLIFF, COLLEEN H.
DB 576 PG 125
PB 20 PG 6

CHISHOLM, MICHAEL W.
DB 7418 PG 226
PB 20 PG 6

BUNN, JACK O.
DB 580 PG 515
DB 1347 PG 161
PB 26 PG 5

RABON, MICHAEL E.
DB 8007 PG 201
DB 3709 PG 274

OFFNER, MADALINE A.
DB 2600 PG 55

CHAPMAN, ANN P.
DB 966 PG 239

SUGGS, BARRY S.
DB 1768 PG 218

PRICE, GEORGE F.
DB 579 PG 645

WATER COMPANY ACQUISITION CORP
DB 734 PG 335

BURLEW, DEBORAH A.
DB 2839 PG 180

NC 3 MOORESVILLE RD

DALE EARNHARDT BLVD (SR 1858 S LOOP RD)

WEST D ST

WATSON-CRICK DRIVE

CHESTNUT AVE

S JUNIPER ST

UNIONVILLE RD

N 65° 06' 08.9" E

N 66° 36' 08.9" E

N 65° 39' 32.6" E

S 21° 50' 32.8" E

S 27° 18' 01.0" E

S 25° 07' 55.7" E

S 28° 02' 06.7" E

S 30° 11' 50.9" E

BM #21

BM #22

BM #23

BM #24

BK COLUMN (TYP)

BST PARKING

ISBK BUS

CANOPY

GENERATOR

ELEC CABPET

WATER SPIGOT

MAG NAIL

BY17-47

BY17-48

BY17-49

BY18-48

BY18-50

BL-26

BY16-

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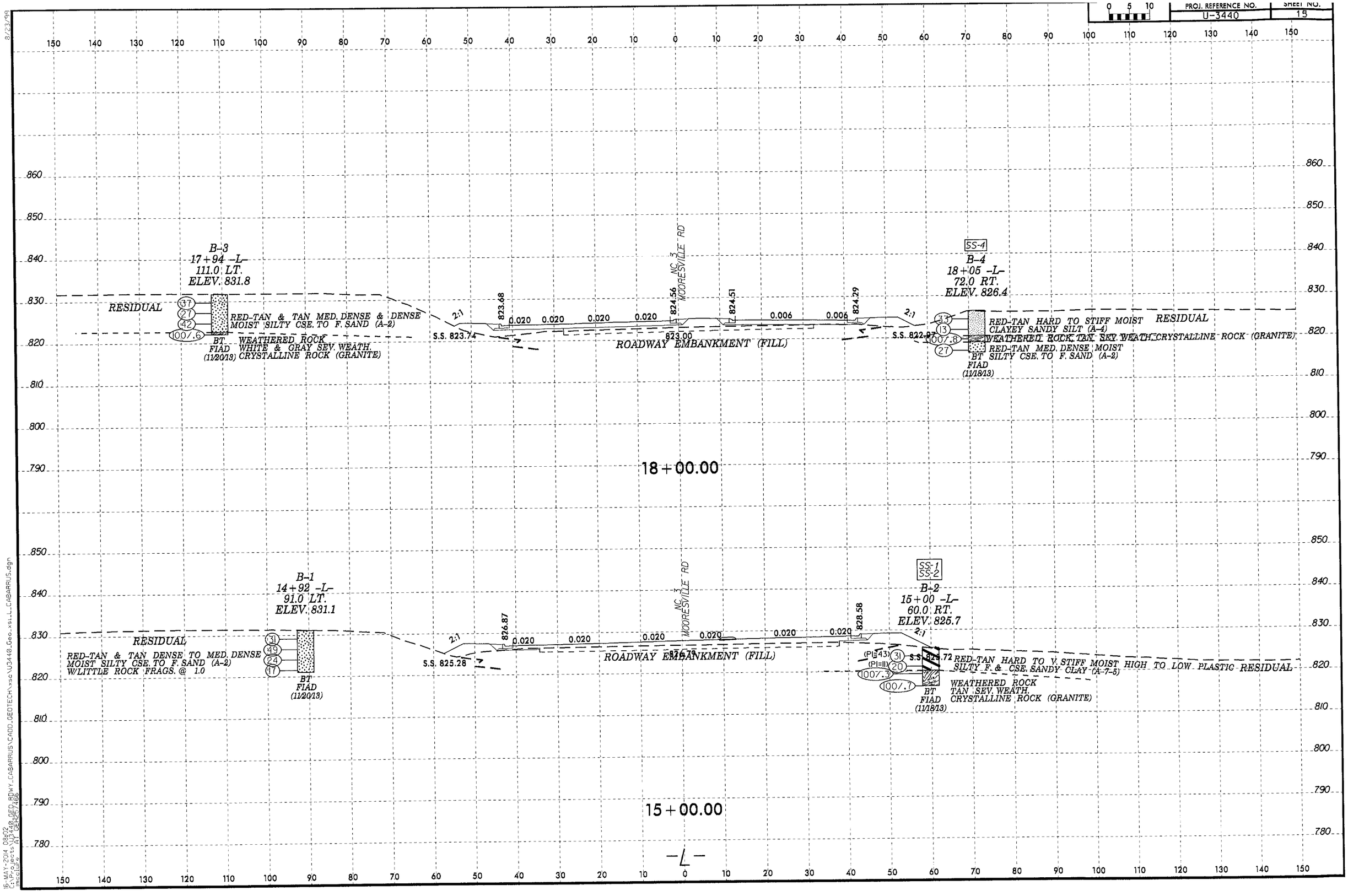

PROJ. REFERENCE NO.
U-3440
SHEET NO.
15
B-3
17+94 -L-
111.0 LT.
ELEV. 831.8
RESIDUAL
RED-TAN & TAN MED. DENSE & DENSE MOIST SILTY CSE. TO F. SAND (A-2)
BT FIAD (11/20/13)
WEATHERED ROCK WHITE & GRAY SEV. WEATH. CRYSTALLINE ROCK (GRANITE)
S.S. 823.74
823.68
824.56
824.51
824.29
NC 3 MOORESVILLE RD
ROADWAY EMBANKMENT (FILL)
823.00
SS-4
B-4
18+05 -L-
72.0 RT.
ELEV. 826.4
S.S. 822.97
RED-TAN HARD TO STIFF MOIST CLAYEY SANDY SILT (A-4)
WEATHERED ROCK TAN SEV. WEATH. CRYSTALLINE ROCK (GRANITE)
RED-TAN MED. DENSE MOIST SILTY CSE. TO F. SAND (A-2)
BT FIAD (11/18/13)
18+00.00
B-1
14+92 -L-
91.0 LT.
ELEV. 831.1
RESIDUAL
RED-TAN & TAN DENSE TO MED. DENSE MOIST SILTY CSE. TO F. SAND (A-2) W/LITTLE ROCK FRAGS. @ 1.0
BT FIAD (11/20/13)
S.S. 825.28
826.87
826.79
828.58
NC 3 MOORESVILLE RD
ROADWAY EMBANKMENT (FILL)
SS-1
SS-2
B-2
15+00 -L-
60.0 RT.
ELEV. 825.7
S.S. 825.72
RED-TAN HARD TO V. STIFF MOIST HIGH TO LOW PLASTIC RESIDUAL SILTY F. & CSE. SANDY CLAY (A-7-5)
WEATHERED ROCK TAN SEV. WEATH. CRYSTALLINE ROCK (GRANITE)
BT FIAD (11/18/13)
15+00.00
-L-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3440	16

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

820 810 800 790 780 770 760 750

SS-5
B-7
23+44 -L-
53.0 LT.
ELEV. 792.9

ROADWAY EMBANKMENT (FILL)
RED-TAN TO GRAY MED. STIFF MOIST
HIGH PLASTIC SILTY SANDY CLAY (A-7-6)

S.S. 791.48
(PI=30)
10
21
28
13
BT
FIAD
(11/2013)

RESIDUAL
RED-TAN TO TAN MED. DENSE
MOIST SILTY CSE. TO F. SAND (A-2)

NC-3
MOORESVILLE RD

795.79 0.020 796.43 0.020 796.52 0.020 795.79

2:1 2:1

ROADWAY EMBANKMENT (FILL) 795.71

S.S. 795.32

23+50.00

840 830 820 810 800 790 780 770

B-5
21+00 -L-
54.0 LT.
ELEV. 810.8

811.39 0.020 812.03 812.03 0.020 811.39

NC 3
MOORESVILLE RD

B-6
21+01 -L-
44.0 RT.
ELEV. 810.4

2:1 2:1

RED-TAN V. DENSE MOIST
SILTY CSE. TO F. SAND (A-2)
53
56
S.S. 810.79
WEATHERED ROCK, TAN SEV. WEATH. CRYSTALLINE ROCK (GRANITE) 100/.4
TAN MED. DENSE MOIST CSE. TO F. SAND (A-2) 100/.7
WEATHERED ROCK
TAN SEV. WEATHERED
CRYSTALLINE ROCK (GRANITE)
BT
FIAD
(11/2013)

ROADWAY EMBANKMENT (FILL)
810.60
CRYSTALLINE ROCK

74
100/.5
100/.9
60/.0
S.S. 810.25
BT
FIAD
(11/2013)

RESIDUAL
ORANGE-TAN V. DENSE MOIST
SILTY CSE. TO F. SAND (A-2)
WEATHERED ROCK
TAN & WHITE SEV. WEATH.
CRYSTALLINE ROCK (GRANITE)

21+00.00

-L-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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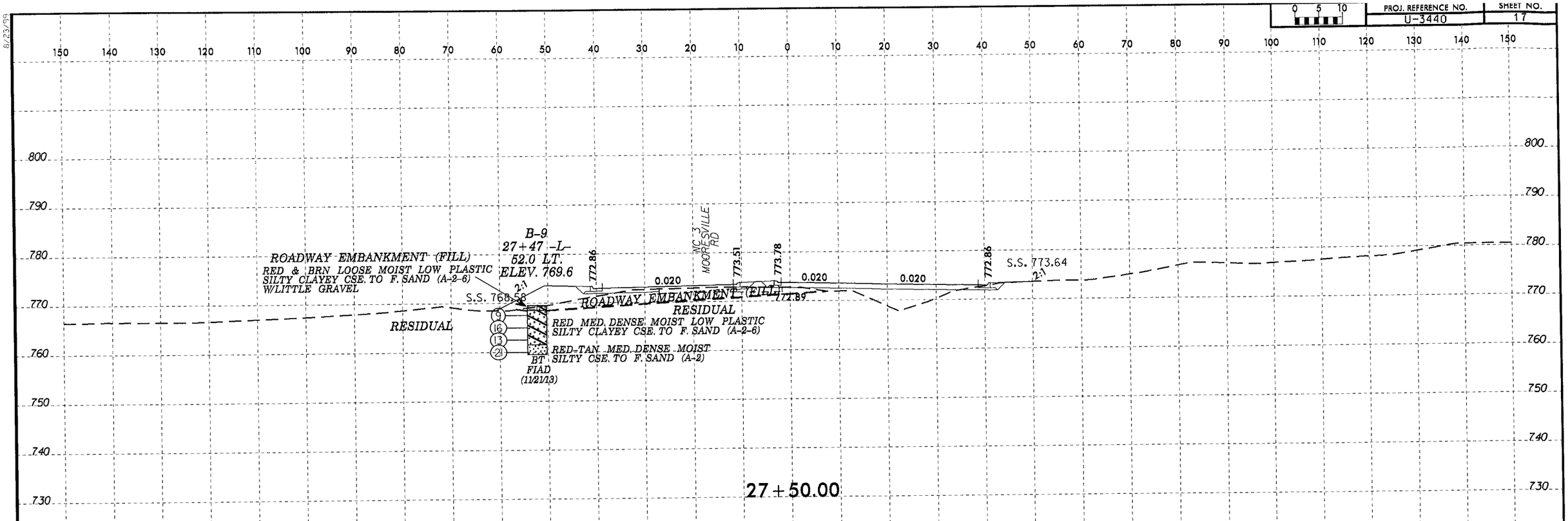
AT GEH257466

6/23/98



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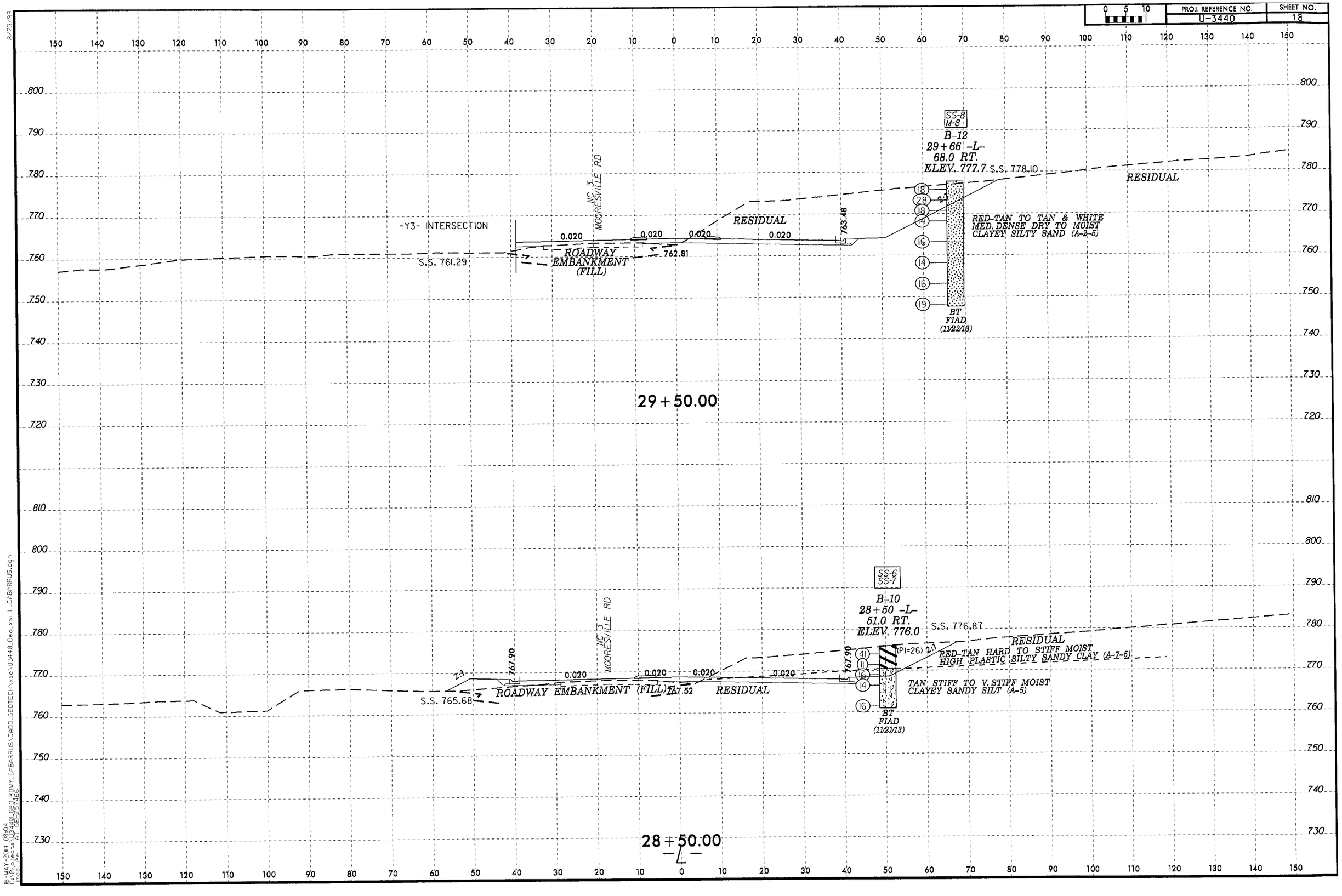
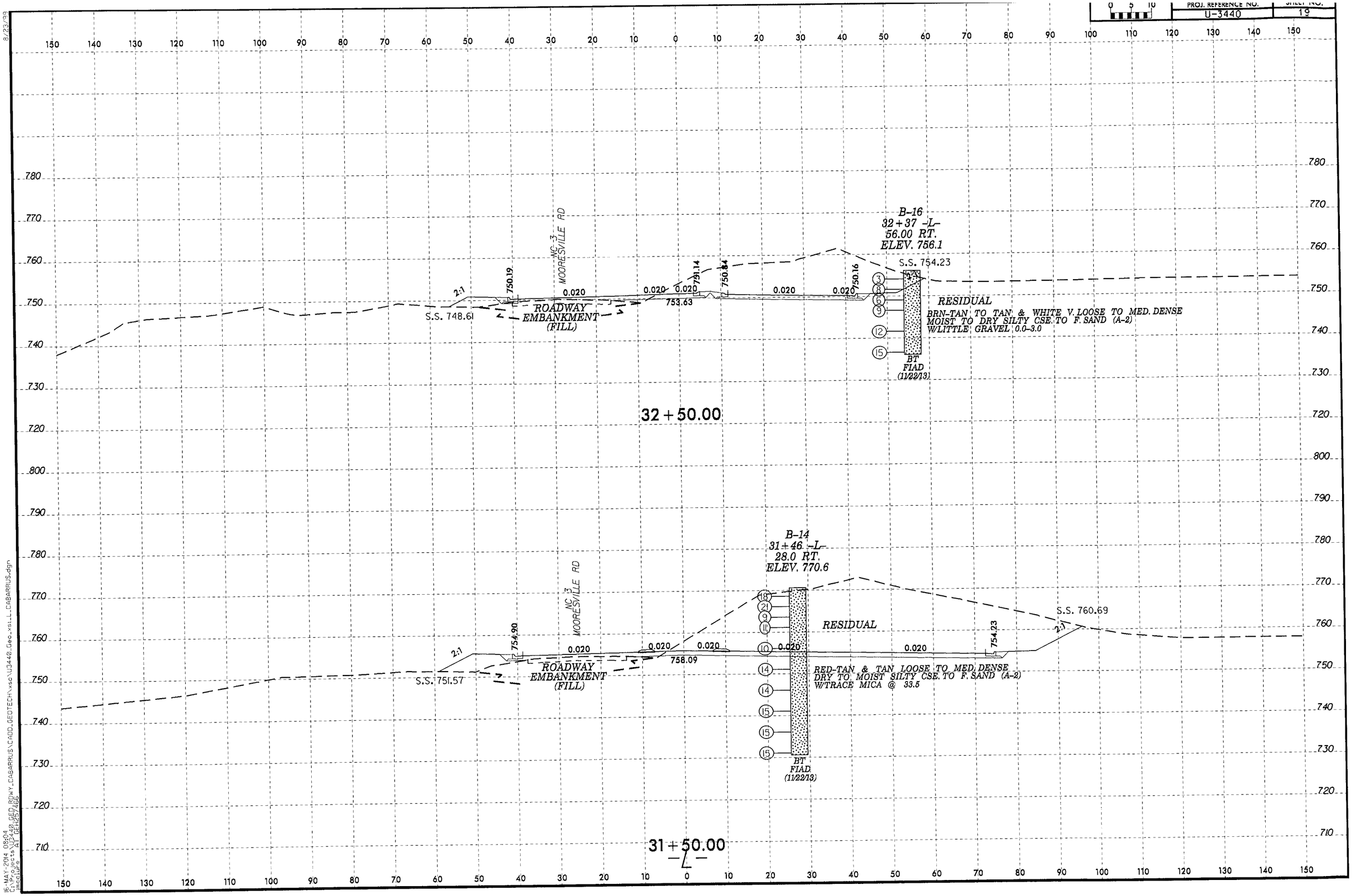
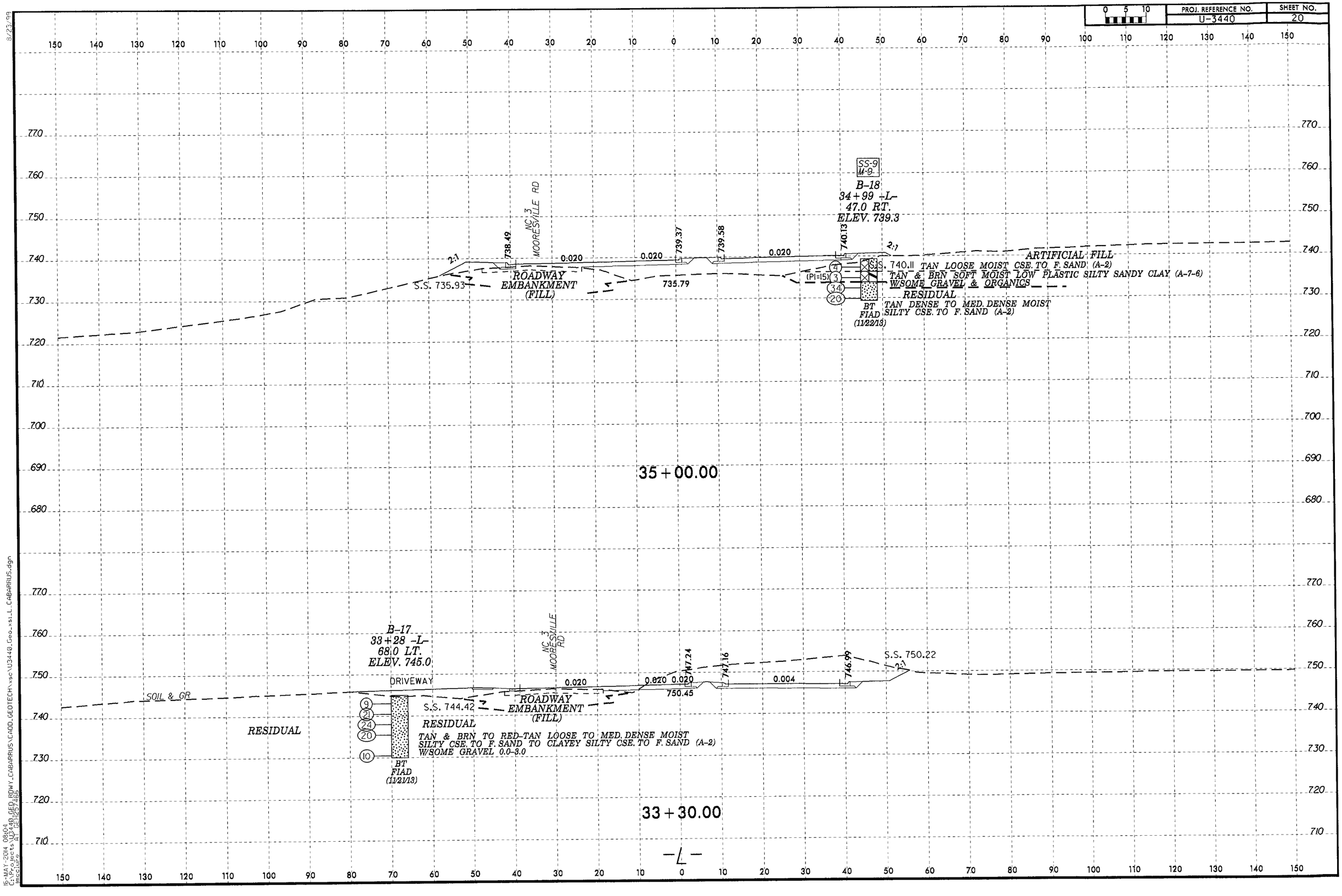


PROJ. REFERENCE NO.
U-3440
SHEET NO.
18
SS-8
M-8
B-12
29+66 -L-
68.0 RT.
ELEV. 777.7
S.S. 778.10
RESIDUAL
RED-TAN TO TAN & WHITE
MED. DENSE DRY TO MOIST
CLAYEY SILTY SAND (A-2-5)
BT
FIAD
(11/22/13)
-Y3- INTERSECTION
S.S. 761.29
NC 3
MOORESVILLE RD
ROADWAY
EMBANKMENT
(FILL)
762.81
763.48
0.020
29+50.00
SS-6
SS-7
B-10
28+50 -L-
51.0 RT.
ELEV. 776.0
S.S. 776.87
(PI=26)
RED-TAN HARD TO STIFF MOIST
HIGH PLASTIC SILTY SANDY CLAY (A-7-5)
TAN STIFF TO V. STIFF MOIST
CLAYEY SANDY SILT (A-5)
BT
FIAD
(11/21/13)
S.S. 765.68
767.90
767.52
28+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
19
B-16
32+37 -L-
56.00 RT.
ELEV. 756.1
S.S. 754.23
NC 3
MOORESVILLE RD
750.19
751.14
750.84
750.16
0.020
753.63
2:1
S.S. 748.61
ROADWAY
EMBANKMENT
(FILL)
RESIDUAL
BRN-TAN TO TAN & WHITE V. LOOSE TO MED. DENSE
MOIST TO DRY SILTY CSE. TO F. SAND (A-2)
W/LITTLE GRAVEL 0.0-3.0
BT
FIAD
(11/22/13)
32+50.00
B-14
31+46 -L-
28.0 RT.
ELEV. 770.6
S.S. 760.69
754.90
754.23
758.09
S.S. 751.57
RESIDUAL
RED-TAN & TAN LOOSE TO MED. DENSE
DRY TO MOIST SILTY CSE. TO F. SAND (A-2)
W/TRACE MICA @ 33.5
BT
FIAD
(11/22/13)
31+50.00
-L-



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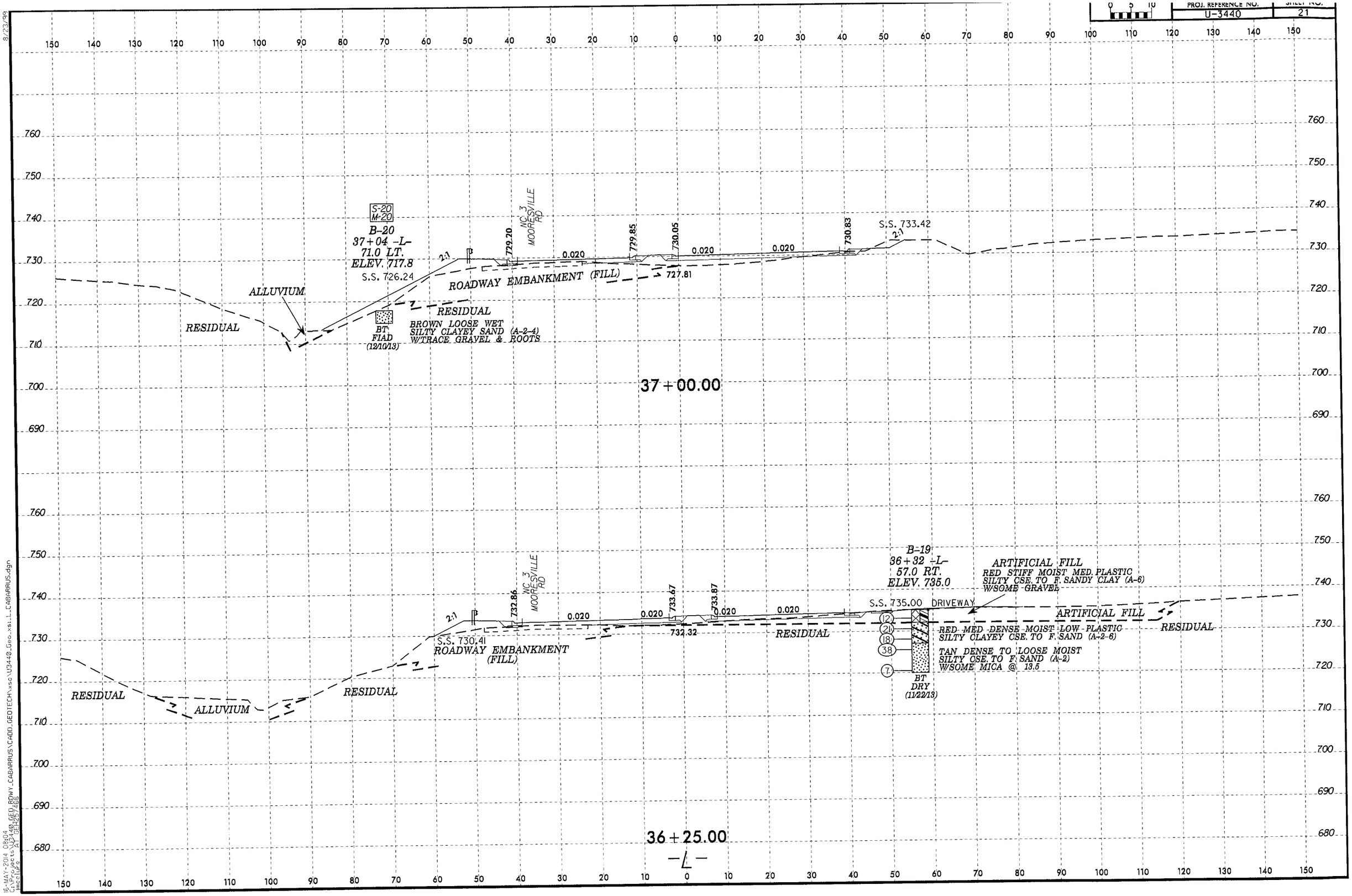

PROJ. REFERENCE NO.
U-3440
SHEET NO.
21
S-20
M-20
B-20
37+04 -L-
71.0 LT.
ELEV. 717.8
S.S. 726.24
NC 3
MOORESVILLE
RD
729.20
729.85
730.05
730.83
S.S. 733.42
0.020
727.81
ROADWAY EMBANKMENT (FILL)
ALLUVIUM
RESIDUAL
BT
FIAD
(12/10/13)
BROWN LOOSE WET
SILTY CLAYEY SAND (A-2-4)
W/TRACE GRAVEL & ROOTS
37+00.00
B-19
36+32 -L-
57.0 RT.
ELEV. 735.0
ARTIFICIAL FILL
RED STIFF MOIST MED. PLASTIC
SILTY CSE. TO F. SANDY CLAY (A-6)
W/SOME GRAVEL
S.S. 735.00
DRIVEWAY
732.86
733.67
733.87
732.32
S.S. 730.41
RED MED DENSE MOIST LOW PLASTIC
SILTY CLAYEY CSE. TO F. SAND (A-2-6)
TAN DENSE TO LOOSE MOIST
SILTY CSE. TO F. SAND (A-2)
W/SOME MICA @ 13.5
BT
DRY
(11/22/13)
36+25.00
-L-

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690

S-22
M-22
B-22
39+35 -L-
55.0 LT.
ELEV. 715.2

ROADWAY EMBANKMENT (FILL)
BROWN & TAN LOOSE WET
SILTY CLAYEY SAND (A-2-4)

2:1

719.35

NC 3
MOORESVILLE RD

0.020

719.99

720.28

0.020 0.020

0.020

720.98

2:1

S.S. 718.54

ROADWAY EMBANKMENT (FILL)

715.58

RESIDUAL

RESIDUAL

12/13

BT
FIAD
(12/10/13)

S.S. 708.86

ALLUVIUM

RESIDUAL

39+50.00

SS-10
M-10
SS-11
M-11
B-21
38+81 -L-
48.0 RT.
ELEV. 823.3

720.71

NC 3
MOORESVILLE RD

0.020

721.35

721.59

0.020 0.020

0.020

722.34

2:1

RESIDUAL

S.S. 722.66

TAN MED. DENSE DRY TO MOIST
SILTY CSE. TO F. SAND (A-2)

16
30
29
18
(PI=46)
15
(PI=21)

GRAY & TAN V. STIFF MOIST HIGH PLASTIC SILTY SANDY CLAY (A-7-5)

TAN MED. DENSE MOIST MED. PLASTIC
CLAYEY SAND (A-2-6)

BT
FIAD
(11/22/13)

2:1

ROADWAY EMBANKMENT
(FILL)

717.81

RESIDUAL

S.S. 709.79

ALLUVIUM

39+00.00

-L-

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AT GEH25468

8/23/99

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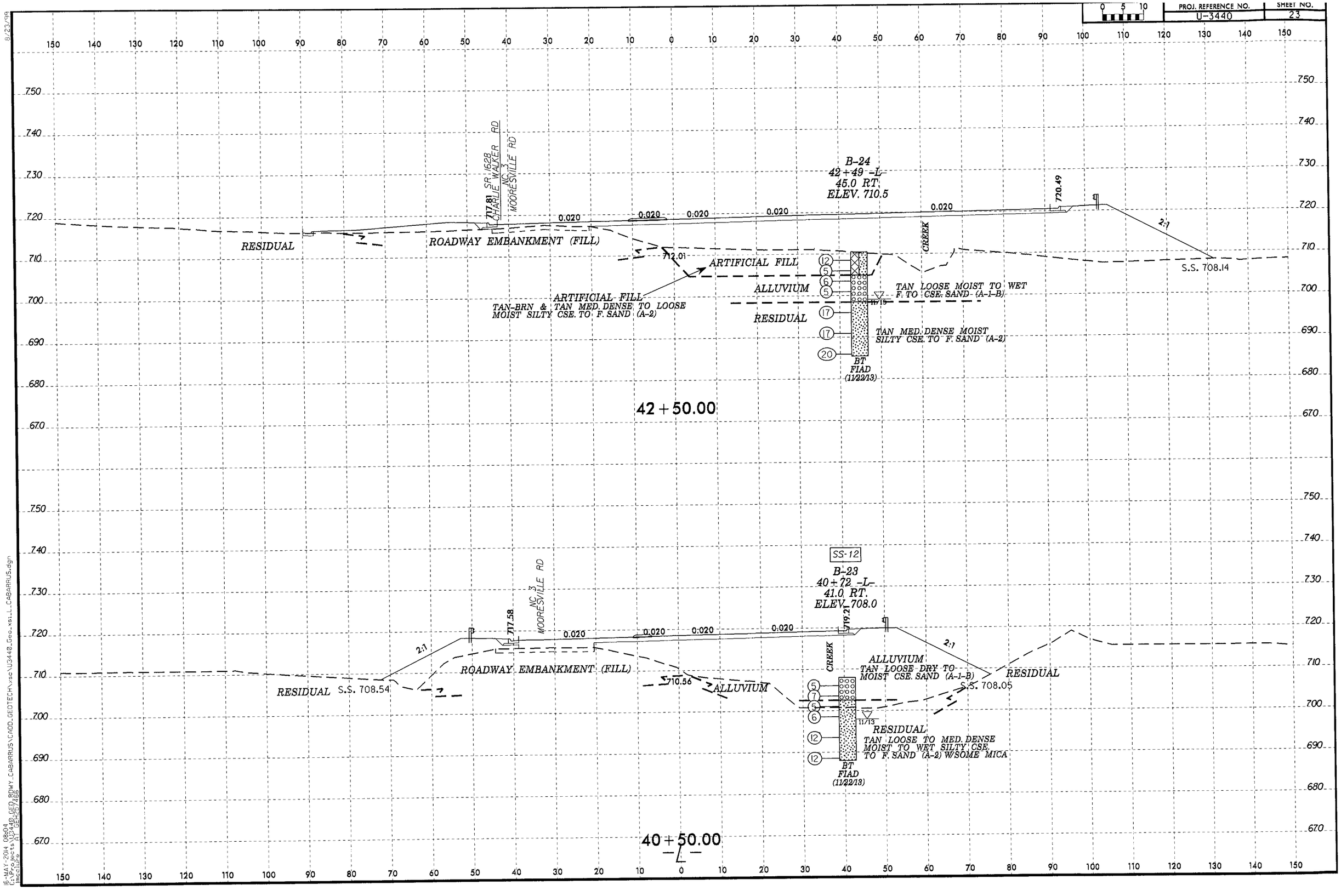
	U-3440	23



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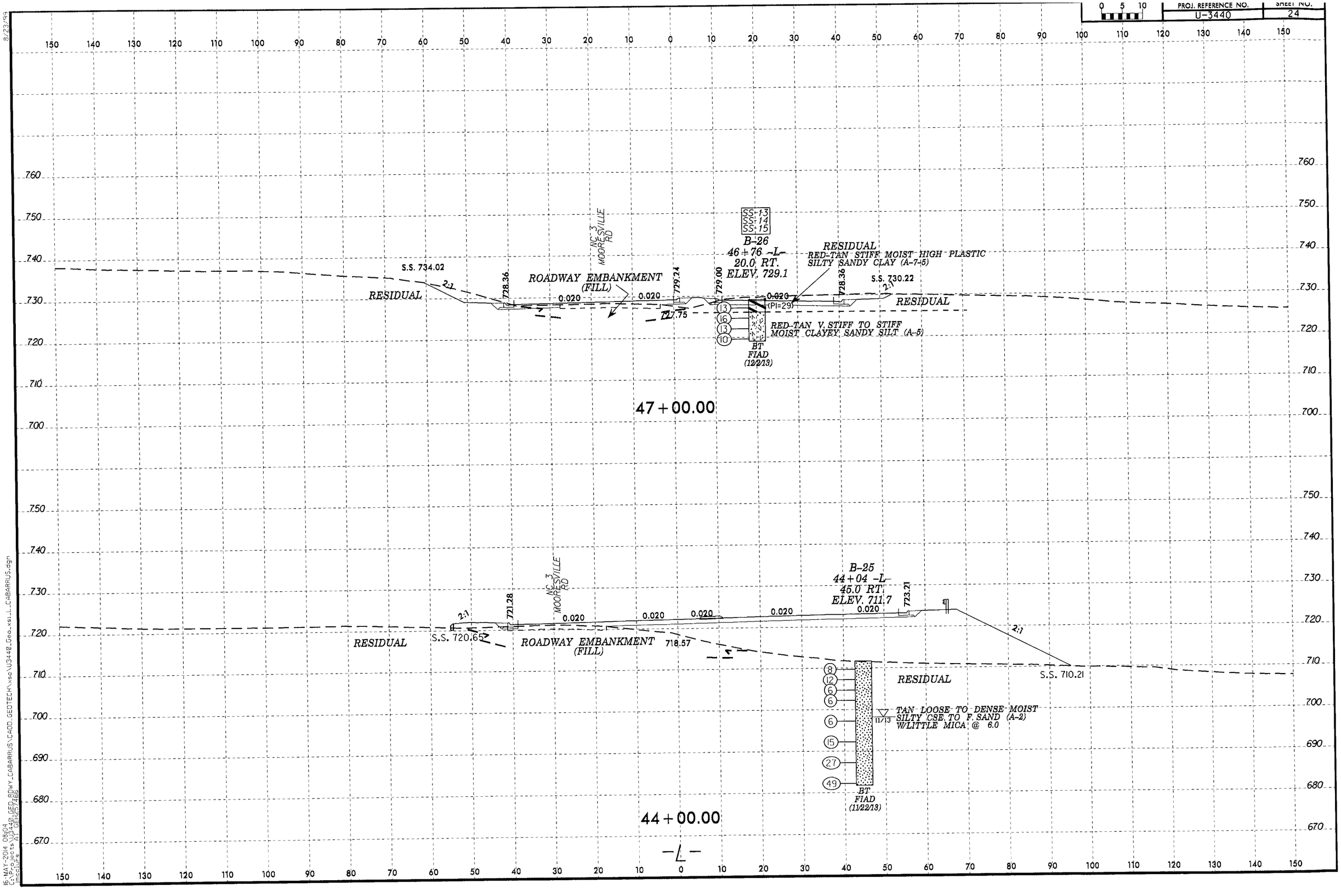

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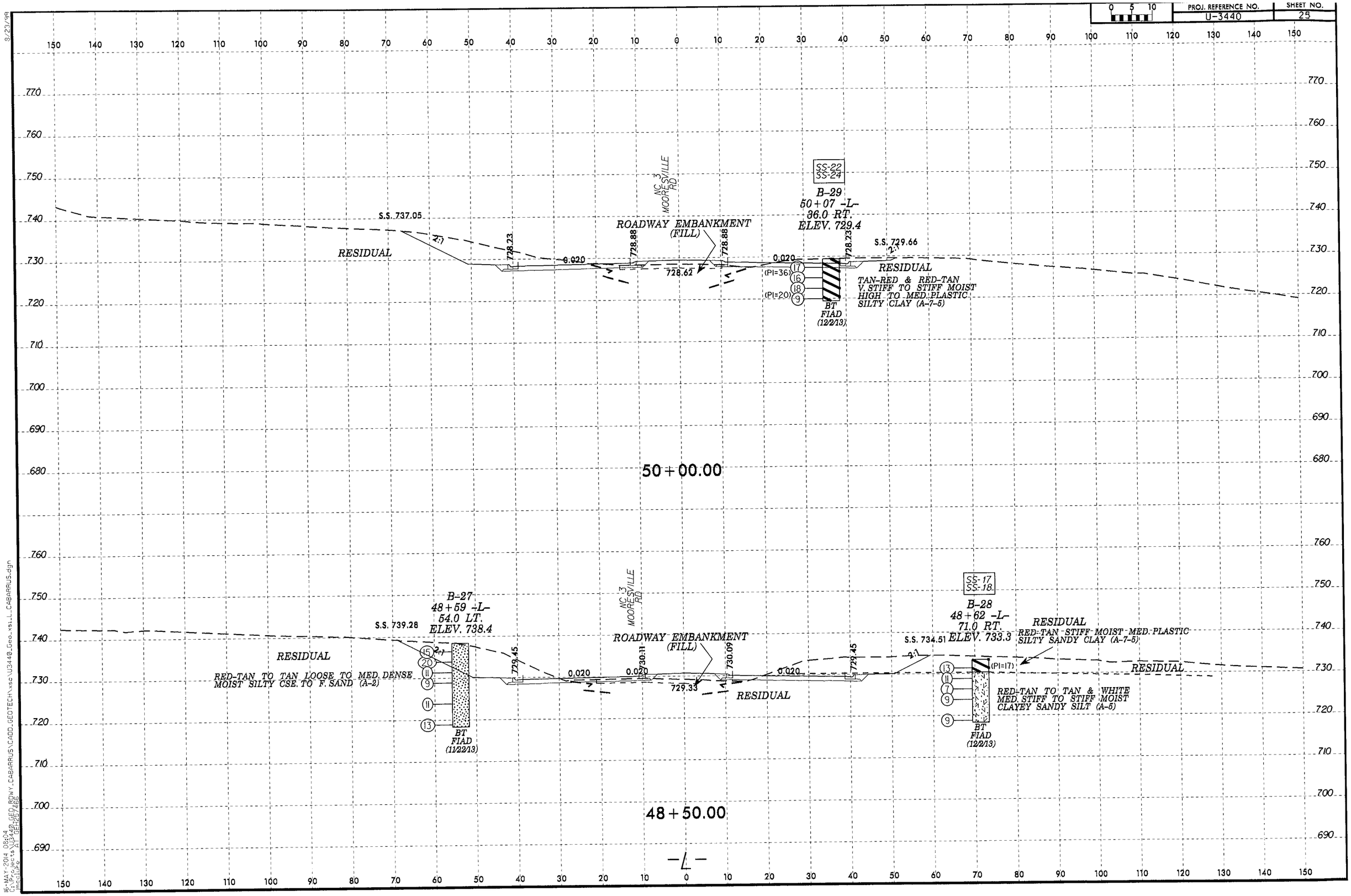

PROJ. REFERENCE NO.
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25
0 5 10
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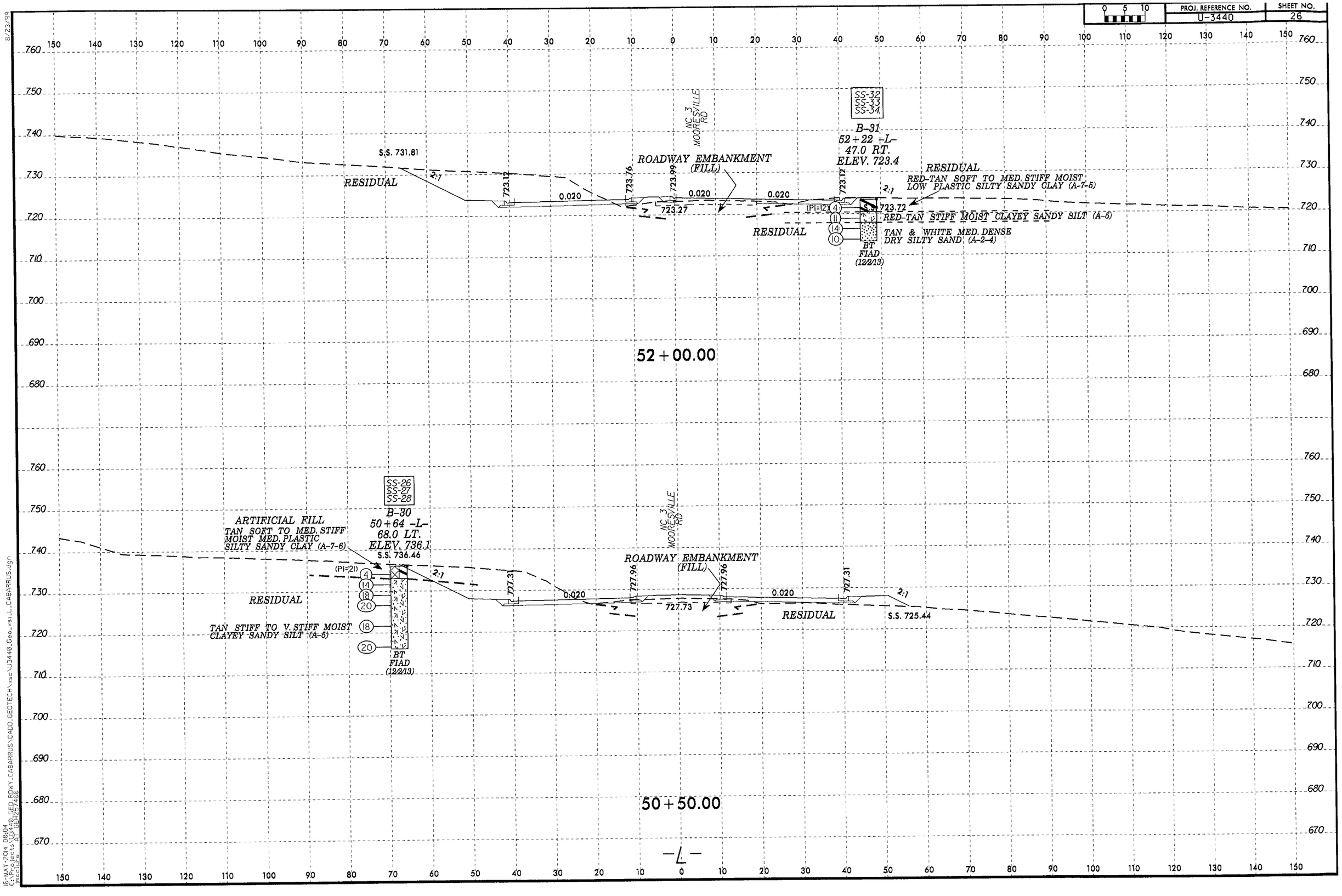
Inclusive AT GEH257466
SS-22
SS-24
B-29
50+07 -L-
36.0 RT.
ELEV. 729.4
NC 3
MOORESVILLE
RD
ROADWAY EMBANKMENT
(FILL)
S.S. 737.05
RESIDUAL
728.23
0.020
728.88
728.62
728.88
0.020
728.23
S.S. 729.66
RESIDUAL
(PI=36)
(PI=20)
BT
FIAD
(12/2/13)
TAN-RED & RED-TAN
V. STIFF TO STIFF MOIST
HIGH TO MED. PLASTIC
SILTY CLAY (A-7-5)
50+00.00
B-27
48+59 -L-
54.0 LT.
ELEV. 738.4
S.S. 739.28
RESIDUAL
RED-TAN TO TAN LOOSE TO MED. DENSE
MOIST SILTY CSE. TO F. SAND (A-2)
BT
FIAD
(11/22/13)
729.45
0.020
730.11
0.020
730.09
729.33
0.020
729.45
RESIDUAL
SS-17
SS-18
B-28
48+62 -L-
71.0 RT.
ELEV. 733.3
S.S. 734.51
RESIDUAL
RED-TAN STIFF MOIST MED. PLASTIC
SILTY SANDY CLAY (A-7-5)
(PI=17)
RESIDUAL
RED-TAN TO TAN & WHITE
MED. STIFF TO STIFF MOIST
CLAYEY SANDY SILT (A-5)
BT
FIAD
(12/2/13)
48+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
26
0 5 10
8/23/99
S.S. 731.81
RESIDUAL
2:1
723.12
0.020
723.76
723.99
723.27
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
SS-32
SS-33
SS-34
B-31
52+22 -L-
47.0 RT.
ELEV. 723.4
RESIDUAL
RED-TAN SOFT TO MED. STIFF MOIST LOW PLASTIC SILTY SANDY CLAY (A-7-5)
(PI=12)
723.72
RED-TAN STIFF MOIST CLAYEY SANDY SILT (A-5)
TAN & WHITE MED. DENSE DRY SILTY SAND (A-2-4)
BT FIAD (12/2/13)
52+00.00
SS-26
SS-27
SS-28
B-30
50+64 -L-
68.0 LT.
ELEV. 736.1
S.S. 736.46
ARTIFICIAL FILL
TAN SOFT TO MED. STIFF MOIST MED. PLASTIC SILTY SANDY CLAY (A-7-6)
(PI=21)
TAN STIFF TO V. STIFF MOIST CLAYEY SANDY SILT (A-5)
727.31
727.96
727.73
S.S. 725.44
50+50.00
-L-
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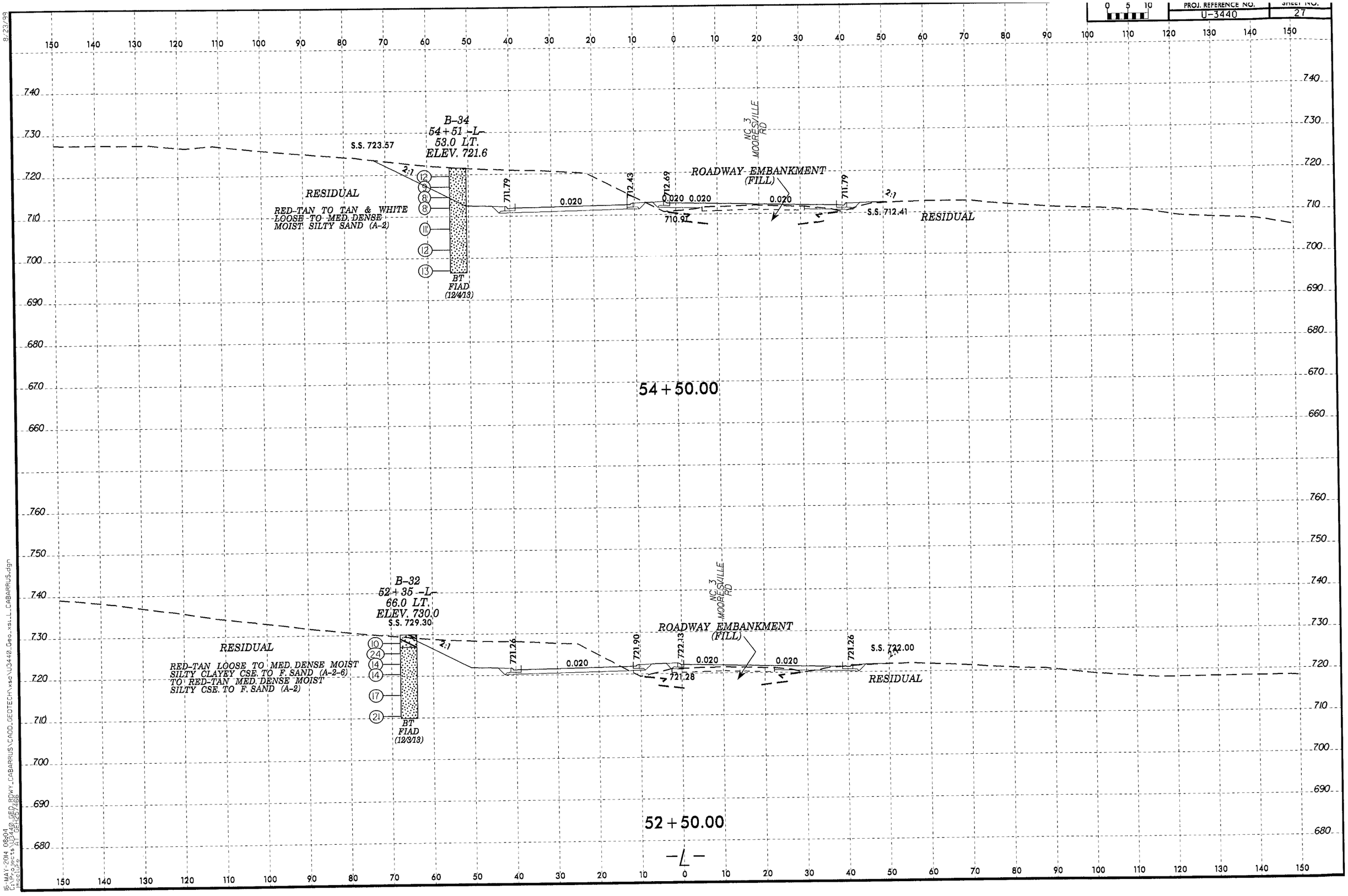
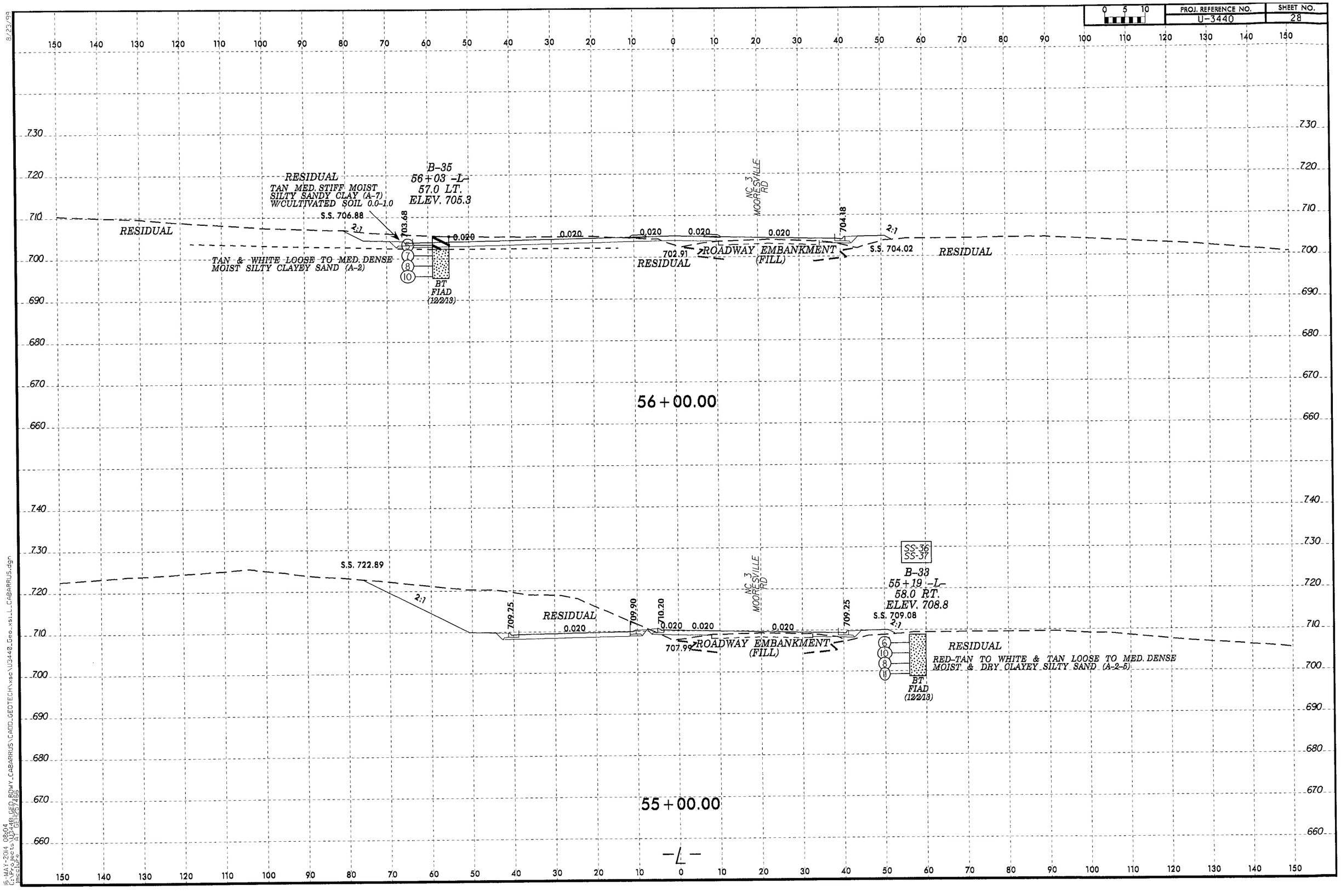
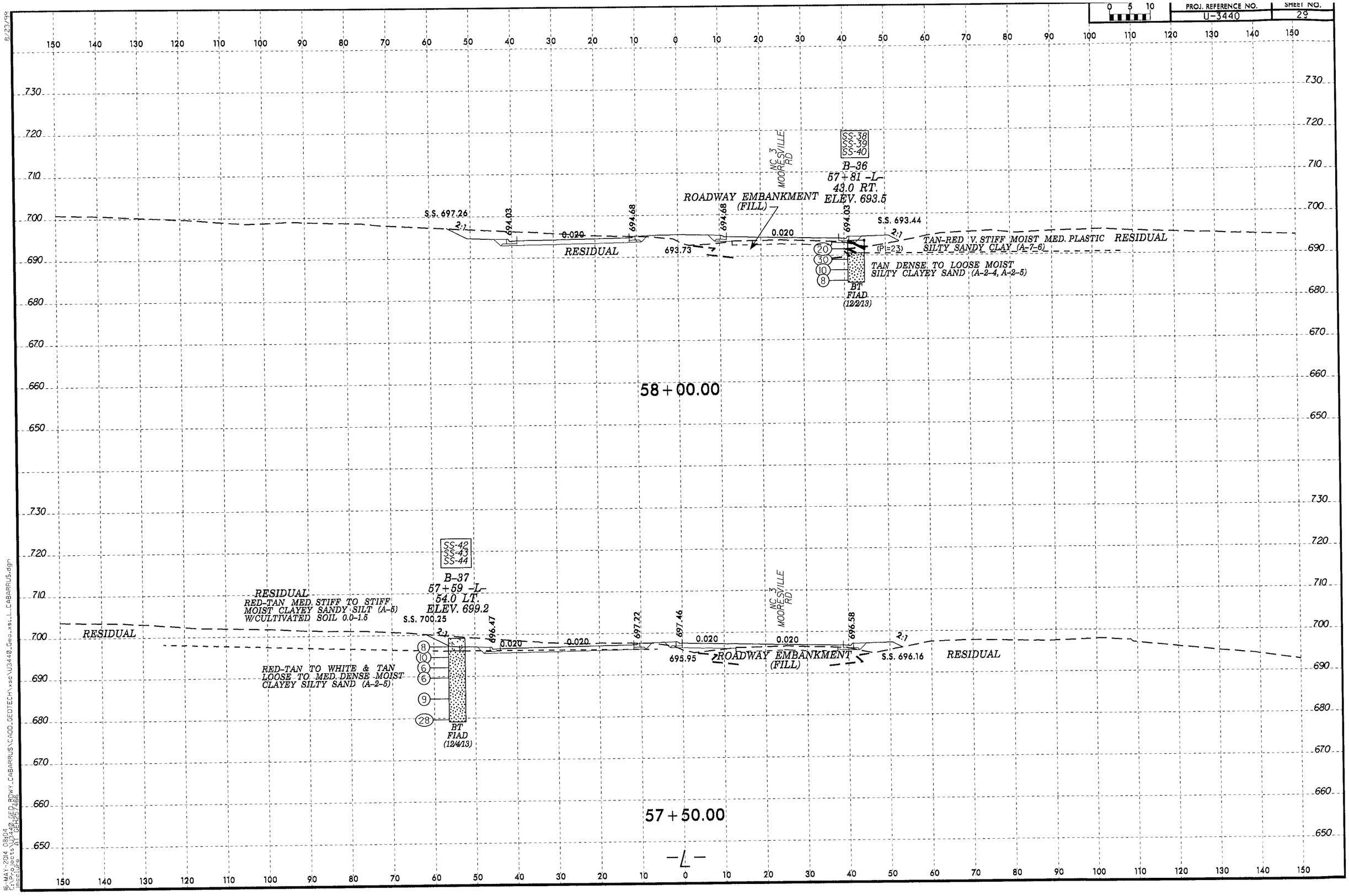


PROJ. REFERENCE NO.
U-3440
SHEET NO.
27
B-34
54+51 -L-
53.0 LT.
ELEV. 721.6
S.S. 723.57
RESIDUAL
RED-TAN TO TAN & WHITE LOOSE TO MED. DENSE MOIST SILTY SAND (A-2)
BT
FIAD
(12/4/13)
711.79
712.43
712.69
710.97
0.020
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
S.S. 712.41
RESIDUAL
54+50.00
B-32
52+35 -L-
66.0 LT.
ELEV. 730.0
S.S. 729.30
RESIDUAL
RED-TAN LOOSE TO MED. DENSE MOIST SILTY CLAYEY CSE. TO F. SAND (A-2-6) TO RED-TAN MED. DENSE MOIST SILTY CSE. TO F. SAND (A-2)
BT
FIAD
(12/3/13)
721.26
721.90
722.13
721.28
0.020
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
S.S. 722.00
RESIDUAL
52+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
28
RESIDUAL
TAN MED. STIFF MOIST SILTY SANDY CLAY (A-7) W/CULTIVATED SOIL 0.0-1.0
S.S. 706.88
B-35
56+03 -L-
57.0 LT.
ELEV. 705.3
703.68
RESIDUAL
TAN & WHITE LOOSE TO MED. DENSE MOIST SILTY CLAYEY SAND (A-2)
BT FIAD (12/2/13)
0.020
NC 3 MOORESVILLE RD
702.91
RESIDUAL
ROADWAY EMBANKMENT (FILL)
704.18
S.S. 704.02
RESIDUAL
56+00.00
S.S. 722.89
709.25
RESIDUAL
709.90
710.20
707.99
ROADWAY EMBANKMENT (FILL)
709.25
SS-36
SS-37
B-33
55+19 -L-
58.0 RT.
ELEV. 708.8
S.S. 709.08
RESIDUAL
RED-TAN TO WHITE & TAN LOOSE TO MED. DENSE MOIST & DRY CLAYEY SILTY SAND (A-2-5)
BT FIAD (12/2/13)
55+00.00
-L-

PROJ. REFERENCE NO. U-3440 SHEET NO. 29



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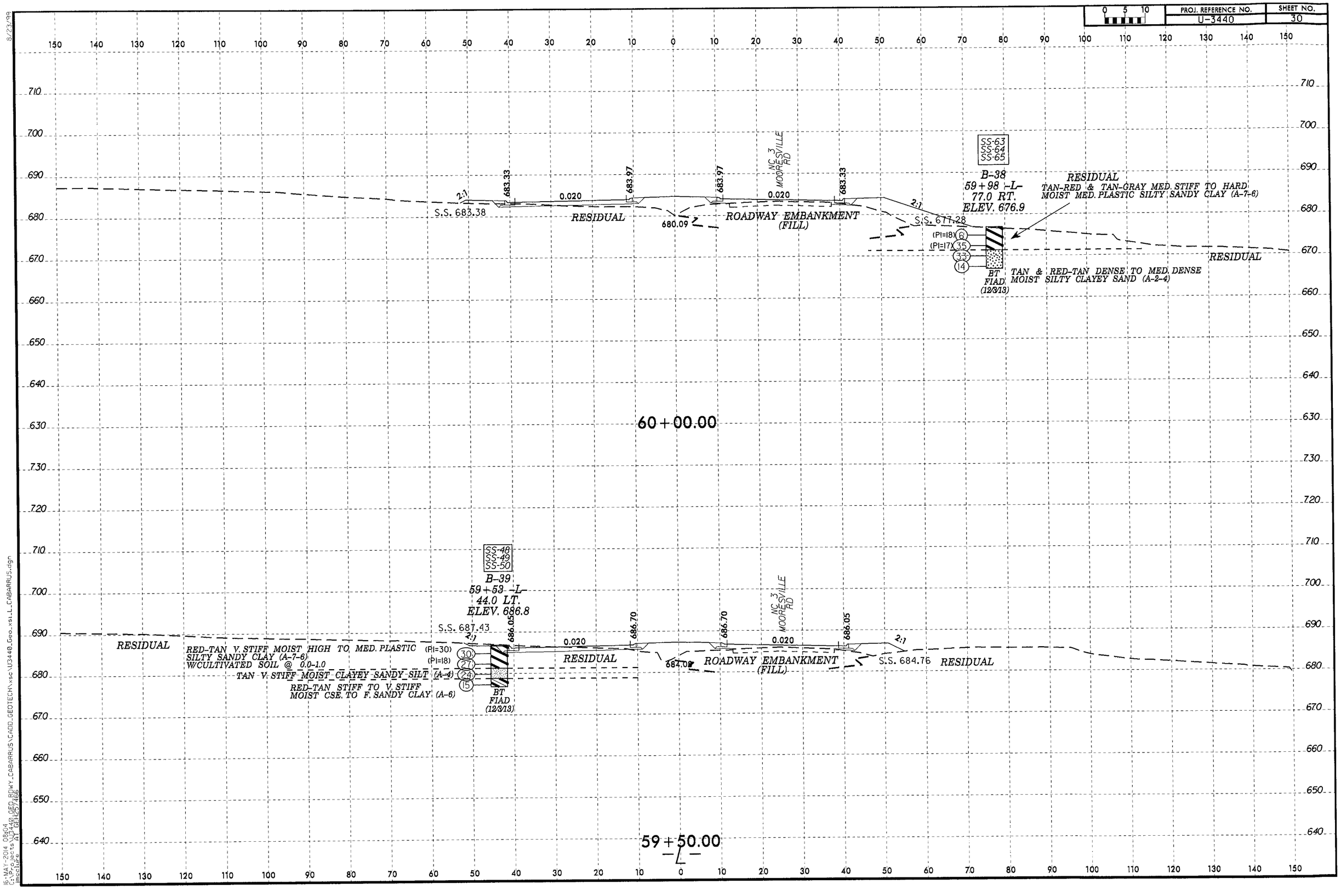
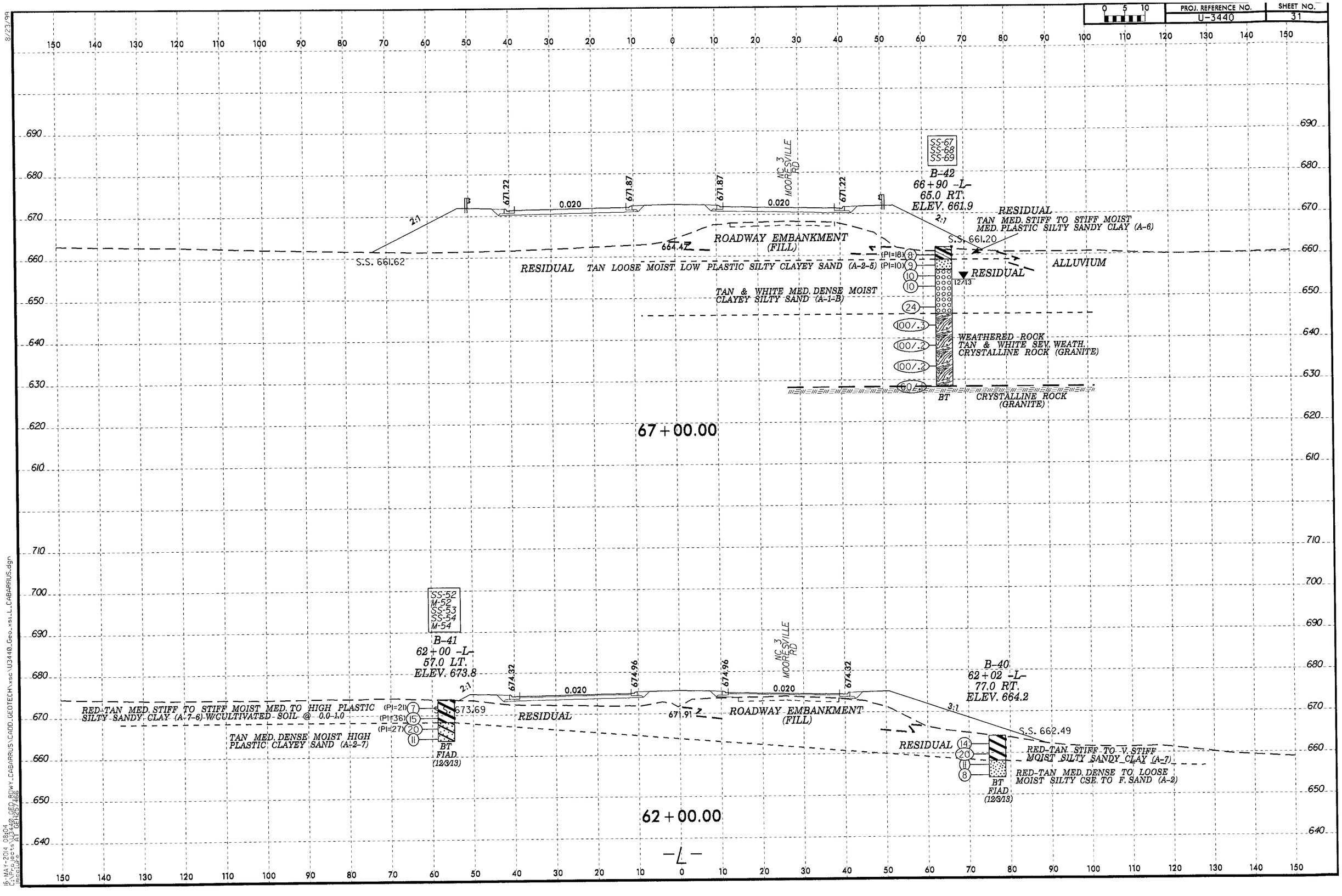


PROJ. REFERENCE NO.
U-3440
SHEET NO.
30
60+00.00
SS-63
SS-64
SS-65
B-38
59+98 -L-
77.0 RT.
ELEV. 676.9
RESIDUAL
TAN-RED & TAN-GRAY MED. STIFF TO HARD MOIST MED. PLASTIC SILTY SANDY CLAY (A-7-6)
S.S. 683.38
RESIDUAL
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
S.S. 677.28
(PI=18)
(PI=17)
BT FIAD (12/3/13)
TAN & RED-TAN DENSE TO MED. DENSE MOIST SILTY CLAYEY SAND (A-2-4)
RESIDUAL
SS-48
SS-49
SS-50
B-39
59+53 -L-
44.0 LT.
ELEV. 686.8
S.S. 687.43
RESIDUAL
RED-TAN V. STIFF MOIST HIGH TO MED. PLASTIC SILTY SANDY CLAY (A-7-6) W/CULTIVATED SOIL @ 0.0-1.0
TAN V. STIFF MOIST CLAYEY SANDY SILT (A-4)
RED-TAN STIFF TO V. STIFF MOIST CSE. TO F. SANDY CLAY (A-6)
(PI=30)
(PI=18)
BT FIAD (12/3/13)
RESIDUAL
ROADWAY EMBANKMENT (FILL)
S.S. 684.76
RESIDUAL
59+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
31
0 5 10
8/23/99
SS-67
SS-68
SS-69
B-42
66+90 -L-
65.0 RT.
ELEV. 661.9
NC 3
MOORESVILLE RD
671.22
671.87
0.020
2:1
S.S. 661.62
664.47
ROADWAY EMBANKMENT (FILL)
RESIDUAL
TAN MED. STIFF TO STIFF MOIST MED. PLASTIC SILTY SANDY CLAY (A-6)
S.S. 661.20
ALLUVIUM
RESIDUAL TAN LOOSE MOIST LOW PLASTIC SILTY CLAYEY SAND (A-2-5)
(PI=18) 8
(PI=10) 9
10
10
12/13
TAN & WHITE MED. DENSE MOIST CLAYEY SILTY SAND (A-1-B)
24
100/.3
100/.2
100/.2
60/.1
WEATHERED ROCK
TAN & WHITE SEV. WEATH. CRYSTALLINE ROCK (GRANITE)
BT
CRYSTALLINE ROCK (GRANITE)
67+00.00
SS-52
M-52
SS-53
SS-54
M-54
B-41
62+00 -L-
57.0 LT.
ELEV. 673.8
674.32
674.96
671.91
3:1
B-40
62+02 -L-
77.0 RT.
ELEV. 664.2
S.S. 662.49
RED-TAN MED. STIFF TO STIFF MOIST MED. TO HIGH PLASTIC SILTY SANDY CLAY (A-7-6) W/CULTIVATED SOIL @ 0.0-1.0
(PI=21) 7
(PI=36) 15
(PI=27) 20
11
673.69
TAN MED. DENSE MOIST HIGH PLASTIC CLAYEY SAND (A-2-7)
BT
FIAD (12/3/13)
RESIDUAL
ROADWAY EMBANKMENT (FILL)
RESIDUAL
14
20
11
8
RED-TAN STIFF TO V. STIFF MOIST SILTY SANDY CLAY (A-7)
RED-TAN MED. DENSE TO LOOSE MOIST SILTY CSE. TO F. SAND (A-2)
BT
FIAD (12/3/13)
62+00.00
-L-
16-MAY-2014 08:04
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8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
U-3440	32

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

700 690 680 670 660 650 640 630 710 700 690 680 670 660 650 640 630 620

0.020 0.016 2:1 2:1

ROADWAY EMBANKMENT (FILL)

662.46

ALLUVIUM

ALLUVIUM

ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS

69+00.00

SS-56
SS-57
SS-58
SS-59
SS-60

B-43
67+41 -L-
64.0 LT.
ELEV. 659.6

NC 3
MOORESVILLE
RD

0.020 0.020 2:1 2:1

664.41

ROADWAY EMBANKMENT
(FILL)

ALLUVIUM

BRN & GRAY MED. STIFF TO V. SOFT MOIST MED. PLASTIC SILTY CLAY & SANDY SILTY CLAY (A-7-6) W/TRACE ORGANICS (PI=21) 6 (PI=17) 0

TAN TO BRN V. LOOSE TO LOOSE WET SAND (A-2-4, A-1-B) 3 5

▽ 643

TAN MED. DENSE MOIST SILTY SAND (A-1-B) W/LITTLE MICA 29

RESIDUAL

WEATHERED ROCK
WHITE & TAN SEV. WEATH. CRYSTALLINE ROCK (GRANITE) 100/.7 100/.6 50/.0

BT

CRYSTALLINE ROCK
(GRANITE)

67+50.00
-L-

16-MAY-2014 08:04
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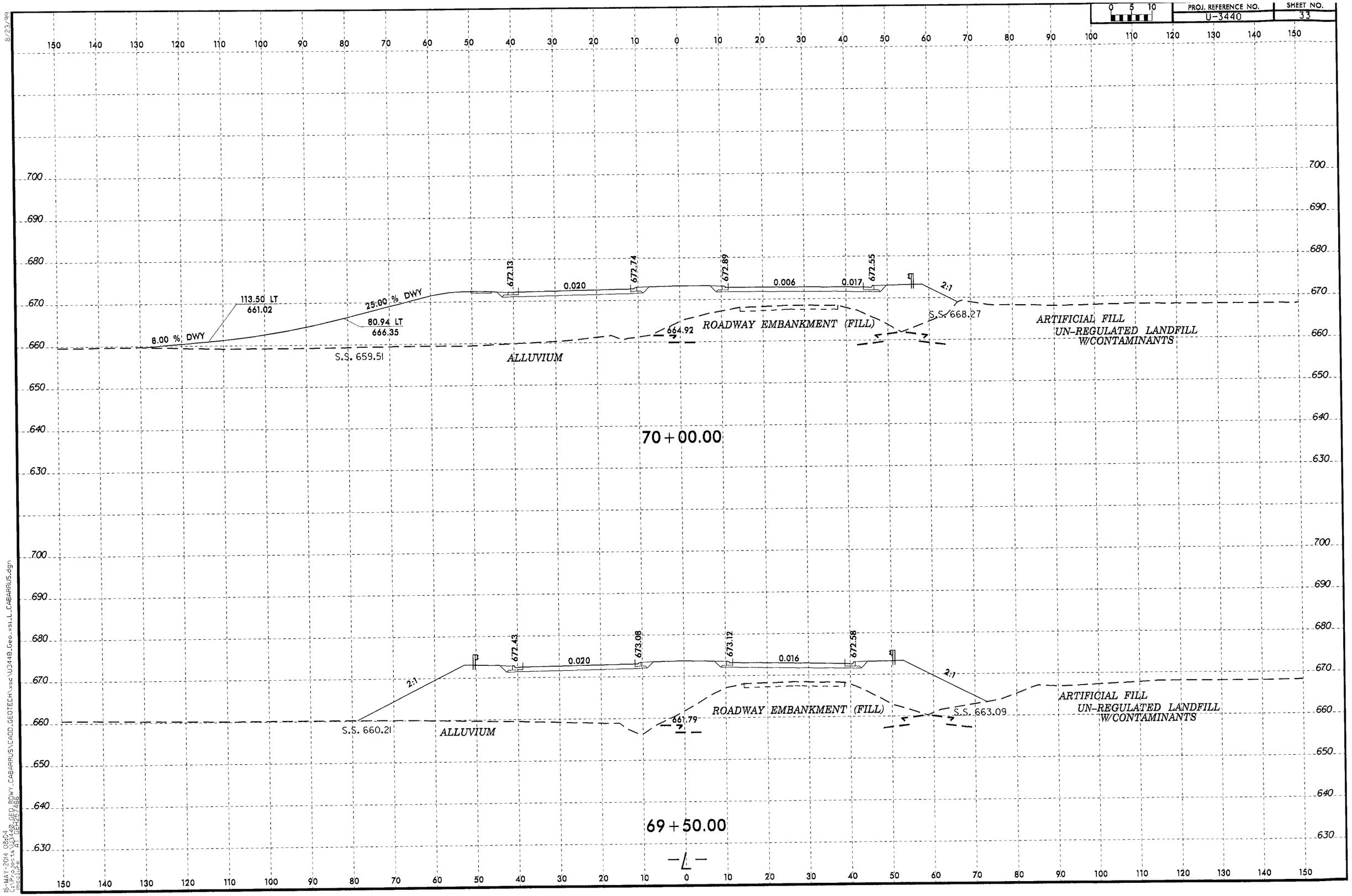
imcclure
AT GEOPAK



PROJ. REFERENCE NO.
U-3440
SHEET NO.
33
0 5 10
8/23/99
113.50 LT
661.02
8.00 % DWY
25.00 % DWY
80.94 LT
666.35
672.13
0.020
672.74
672.89
0.006
0.017
672.55
2:1
S.S. 659.51
ALLUVIUM
664.92
ROADWAY EMBANKMENT (FILL)
S.S. 668.27
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
70+00.00
672.43
0.020
673.08
673.12
0.016
672.58
2:1
2:1
S.S. 660.21
ALLUVIUM
661.79
ROADWAY EMBANKMENT (FILL)
S.S. 663.09
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
69+50.00
-L-
15-MAY-2014 08:04
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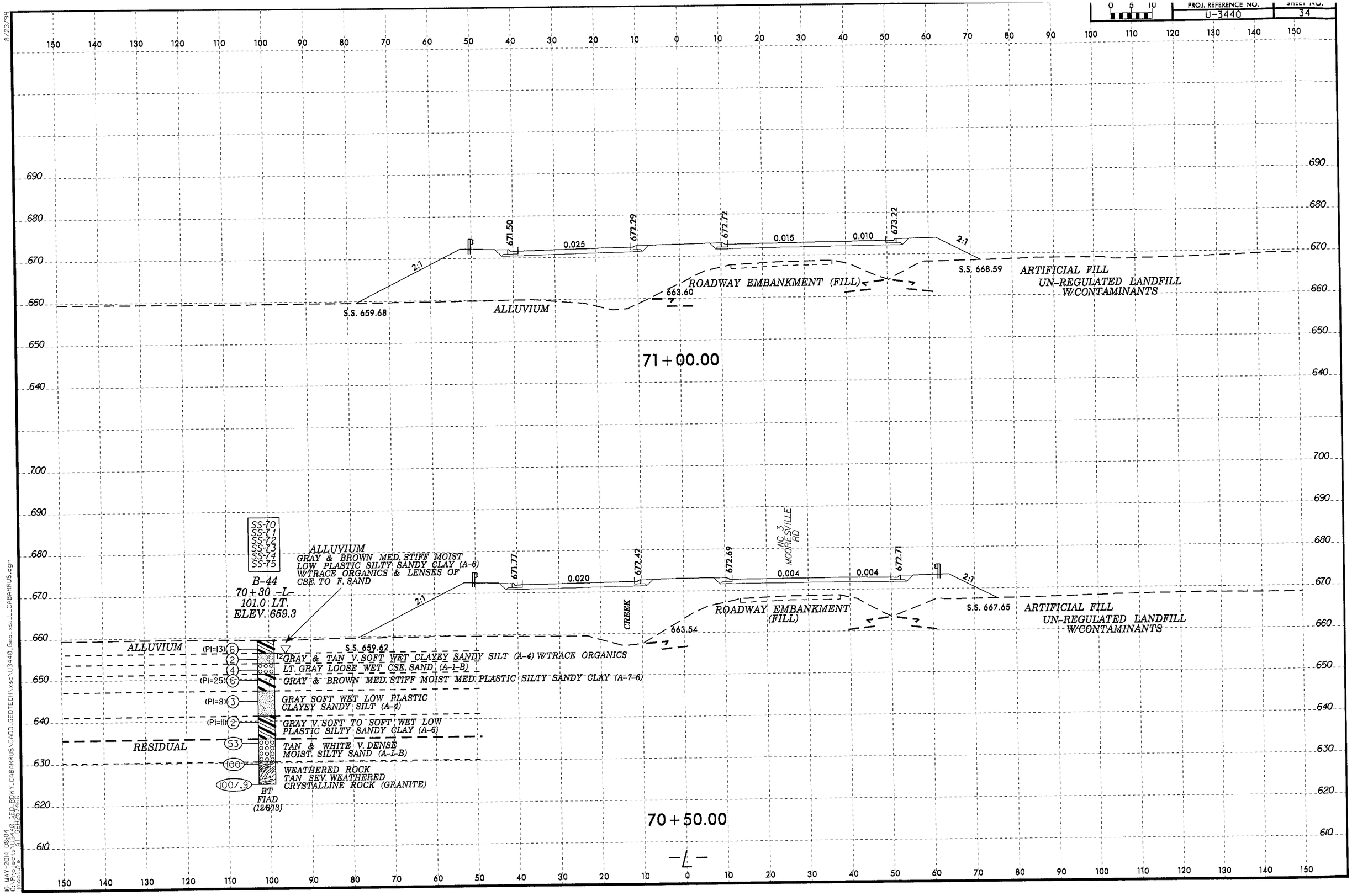
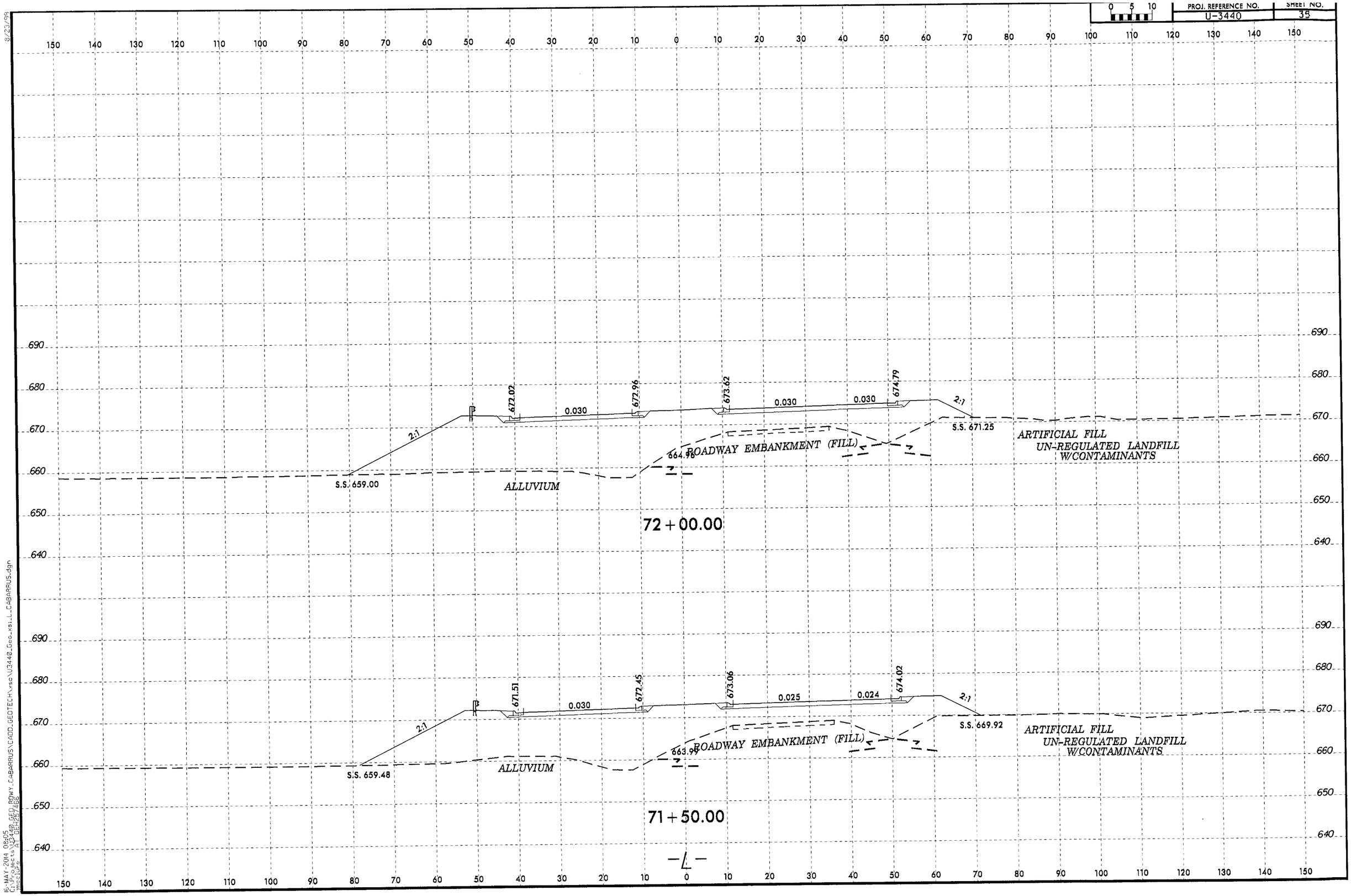
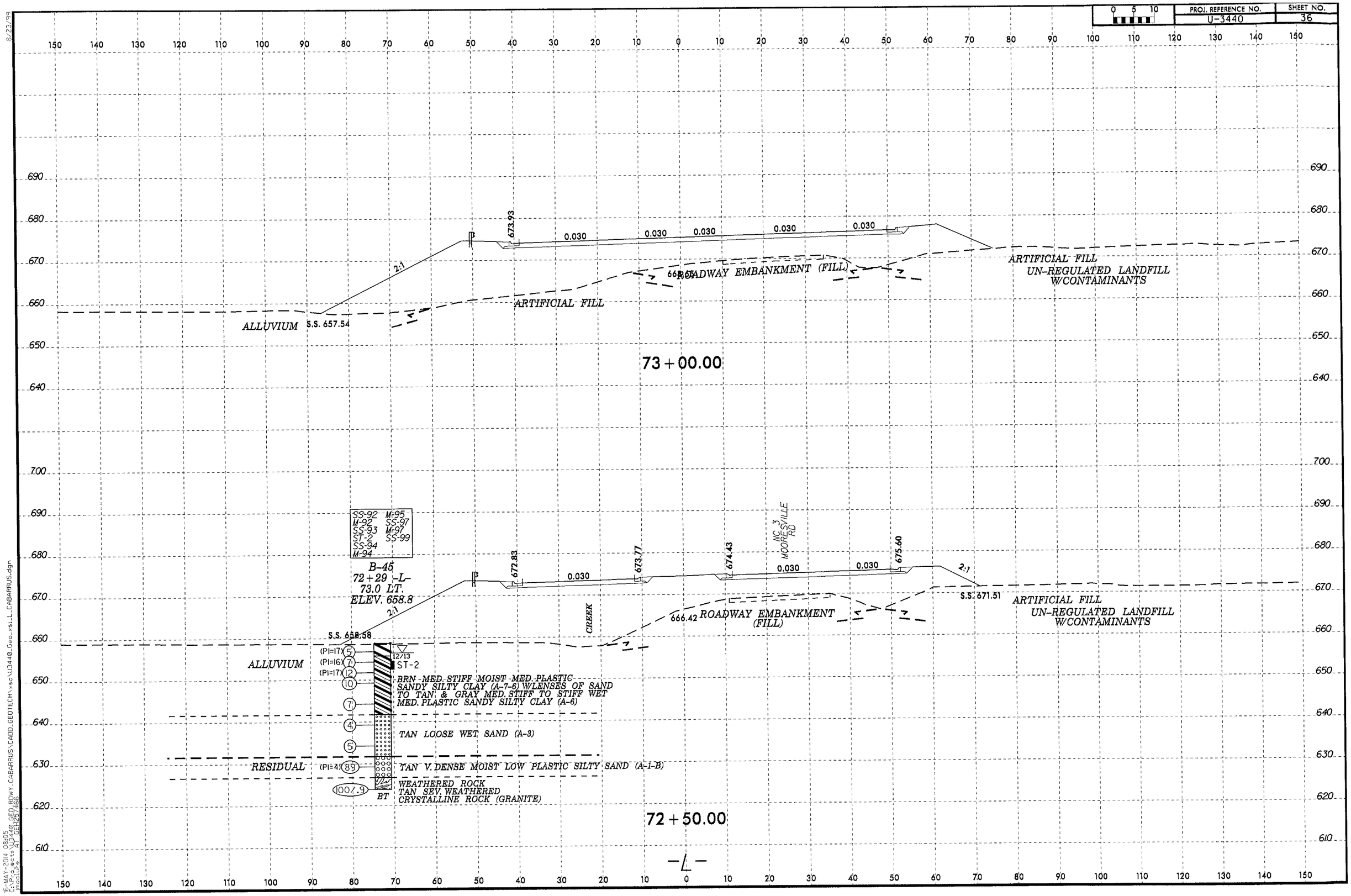


PROJ. REFERENCE NO.
U-3440
SHEET NO.
34
71+00.00
70+50.00
-L-
ALLUVIUM
RESIDUAL
ROADWAY EMBANKMENT (FILL)
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
S.S. 659.68
S.S. 668.59
S.S. 659.62
S.S. 667.65
671.50
672.29
672.72
673.22
671.77
672.42
672.69
672.71
0.025
0.015
0.010
0.020
0.004
0.004
663.60
663.54
2:1
NC 3
MOORESVILLE RD
CREEK
SS-70
SS-71
SS-72
SS-73
SS-74
SS-75
B-44
70+30 -L-
101.0 LT.
ELEV. 659.3
ALLUVIUM
GRAY & BROWN MED. STIFF MOIST LOW PLASTIC SILTY SANDY CLAY (A-6) W/TRACE ORGANICS & LENSES OF CSE. TO F. SAND
GRAY & TAN V. SOFT WET CLAYEY SANDY SILT (A-4) W/TRACE ORGANICS
LT. GRAY LOOSE WET CSE. SAND (A-1-B)
GRAY & BROWN MED. STIFF MOIST MED. PLASTIC SILTY SANDY CLAY (A-7-6)
GRAY SOFT WET LOW PLASTIC CLAYEY SANDY SILT (A-4)
GRAY V. SOFT TO SOFT WET LOW PLASTIC SILTY SANDY CLAY (A-6)
TAN & WHITE V. DENSE MOIST SILTY SAND (A-1-B)
WEATHERED ROCK
TAN SEV. WEATHERED CRYSTALLINE ROCK (GRANITE)
(PI=13) 6
2
4
(PI=25) 6
(PI=8) 3
(PI=11) 2
53
100
100/.9
BT
FIAD
(12/6/13)



PROJ. REFERENCE NO.
U-3440
SHEET NO.
35
0 5 10
72+00.00
S.S. 659.00
2:1
672.02
0.030
672.96
673.62
0.030
0.030
674.79
2:1
S.S. 671.25
664.98
ROADWAY EMBANKMENT (FILL)
ALLUVIUM
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
71+50.00
S.S. 659.48
2:1
671.51
0.030
672.45
673.06
0.025
0.024
674.02
2:1
S.S. 669.92
663.99
ROADWAY EMBANKMENT (FILL)
ALLUVIUM
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
36
0 5 10
73+00.00
ALLUVIUM
S.S. 657.54
2:1
673.93
0.030
ARTIFICIAL FILL
ROADWAY EMBANKMENT (FILL)
ARTIFICIAL FILL
UN-REGULATED LANDFILL
W/CONTAMINANTS
72+50.00
SS-92 M-95
M-92 SS-97
SS-93 M-97
ST-2 SS-99
SS-94
M-94
B-45
72+29 -L-
73.0 LT.
ELEV. 658.8
S.S. 658.58
672.83
673.77
674.43
675.60
NC 3
MOORESVILLE
RD
CREEK
666.42
S.S. 671.51
ALLUVIUM
(PI=17) 5
(PI=16) 7
(PI=17) 12
10
7
4
5
(PI=4) 89
100/.9
12/13
ST-2
BRN MED. STIFF MOIST MED. PLASTIC
SANDY SILTY CLAY (A-7-6) W/LENSES OF SAND
TO TAN & GRAY MED. STIFF TO STIFF WET
MED. PLASTIC SANDY SILTY CLAY (A-6)
TAN LOOSE WET SAND (A-3)
RESIDUAL
TAN V. DENSE MOIST LOW PLASTIC SILTY SAND (A-1-B)
WEATHERED ROCK
TAN SEV. WEATHERED
CRYSTALLINE ROCK (GRANITE)
BT
-L-

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

710 700 690 680 670 660 650 640 630 620 610

SS-79 SS-82 SS-83 M-83 SS-84 M-84
SS-85 M-85 SS-86 M-86 SS-87 SS-88

B-46
74+05 -L-
39.0 LT.
ELEV. 671.1

677.02

2:1

0.030 0.030 0.030 0.030 0.030

NC 3 MOORESVILLE RD

-Y7- INTERSECTION

BETH PAGE RD

S.S. 674.25 ROADWAY EMBANKMENT (FILL)

672.63 ROADWAY EMBANKMENT (FILL)

ARTIFICIAL FILL S.S. 670.27

TAN & BRN STIFF TO HARD MOIST & DRY LOW PLASTIC CLAYEY SANDY SILT (A-4) W/SOME GRAVEL & CONCRETE DEBRIS

(PI=9) 25 42 10 16 12/13

ALLUVIUM

BRN & GRAY LOOSE WET CLAYEY SAND (A-1-B) 6

GRAY STIFF MOIST HIGH PLASTIC SILTY CLAY (A-7-6) W/TRACE ORGANICS (PI=26) 9

GRAY SOFT MOIST CLAYEY SILT (A-4) W/SOME ORGANICS (WOOD) 3

GRAY LOOSE WET CSE. SAND (A-1-B) W/SOME ORGANICS (WOOD) 4

TAN V. STIFF WET MED. PLASTIC SANDY SILTY CLAY (A-7-5) (PI=19) 18

TAN & WHITE MED. DENSE WET SILTY SAND (A-2-4) 100/.9

RESIDUAL

WEATHERED ROCK TAN & WHITE SEV. WEATH. BT CRYSTALLINE ROCK (GRANITE) 100/.3

FIAD (12/6/13)

74+00.00

675.33

2:1

0.030 0.030 0.030 0.030 0.030

-Y7- INTERSECTION

BETH PAGE RD

S.S. 667.63 ARTIFICIAL FILL

ARTIFICIAL FILL

ROADWAY EMBANKMENT (FILL)

672.18

S.S. 672.89 ARTIFICIAL FILL UN-REGULATED LANDFILL W/CONTAMINANTS

ROADWAY EMBANKMENT (FILL)

73+50.00

-L-

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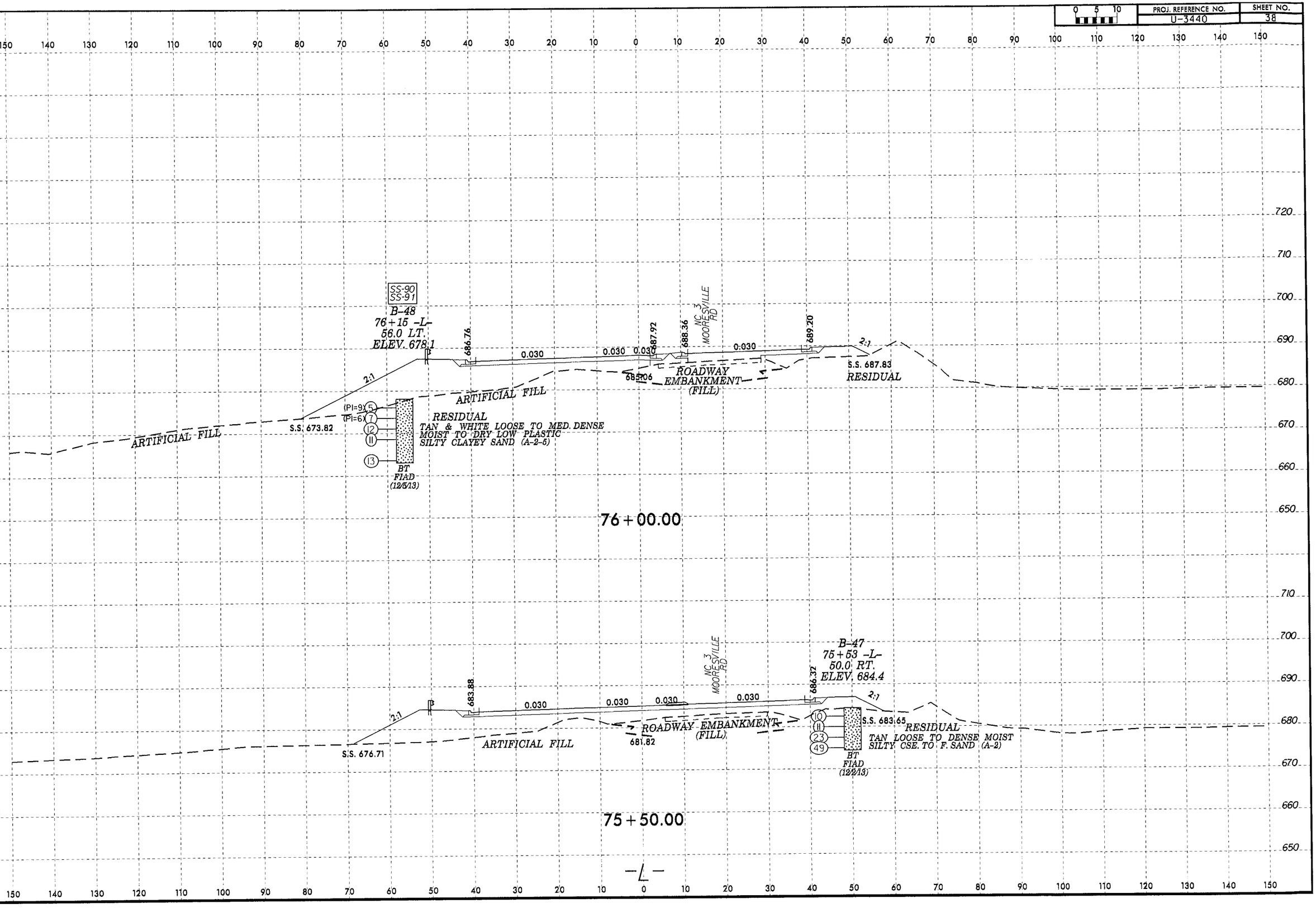
8/23/99



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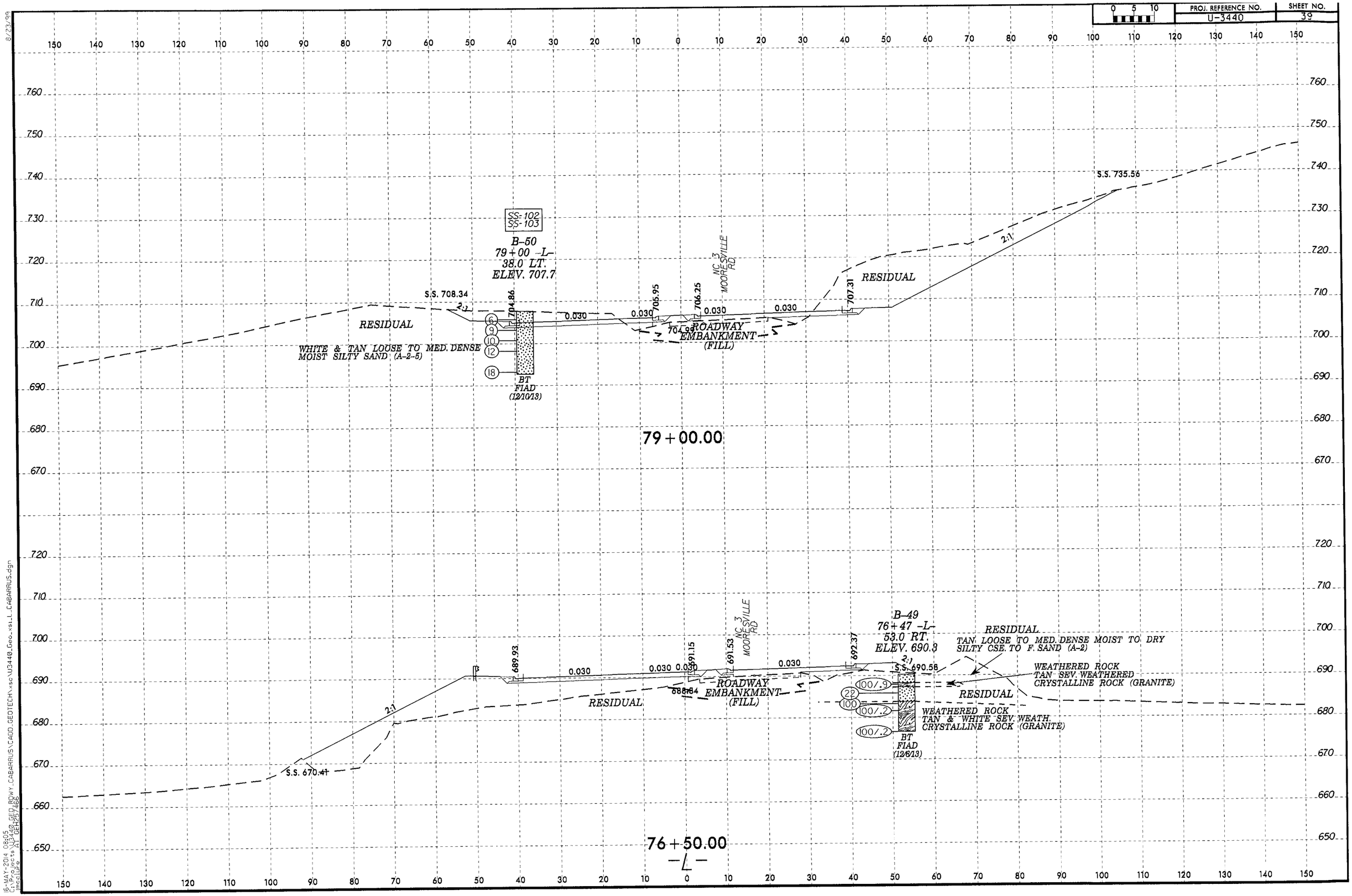

8/23/99

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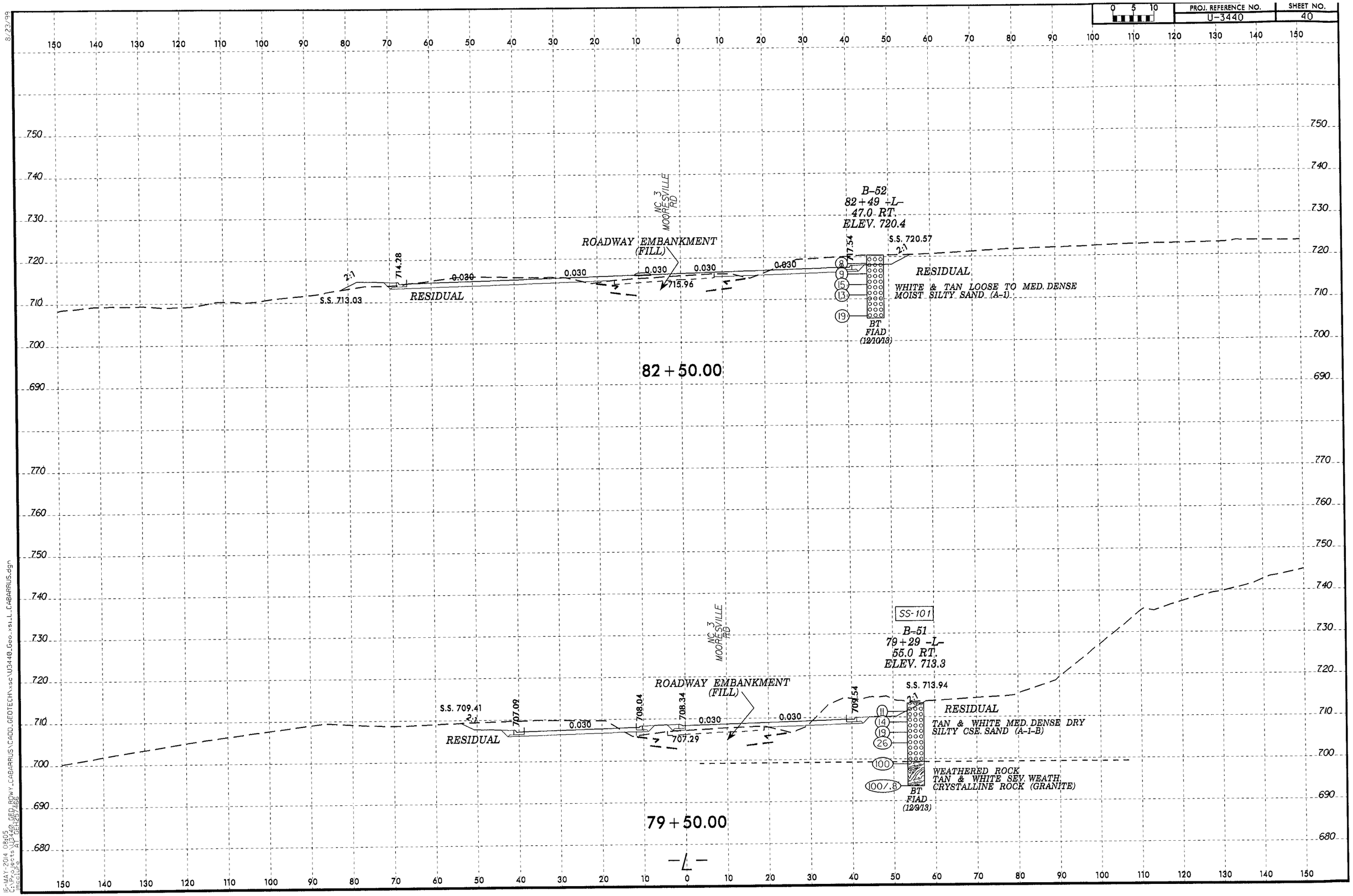
AT OEH25746



PROJ. REFERENCE NO.
U-3440
SHEET NO.
40
0 5 10
82+50.00
B-52
82+49 -L-
47.0 RT.
ELEV. 720.4
S.S. 720.57
NC 3
MOORESVILLE
RD
ROADWAY EMBANKMENT
(FILL)
S.S. 713.03
714.28
715.96
717.54
RESIDUAL
WHITE & TAN LOOSE TO MED. DENSE
MOIST SILTY SAND (A-1)
BT
FIAD
(12/10/13)
79+50.00
SS-101
B-51
79+29 -L-
55.0 RT.
ELEV. 713.3
S.S. 713.94
S.S. 709.41
707.09
708.04
708.34
707.29
709.54
TAN & WHITE MED. DENSE DRY
SILTY CSE. SAND (A-1-B)
WEATHERED ROCK
TAN & WHITE SEV. WEATH.
CRYSTALLINE ROCK (GRANITE)
BT
FIAD
(12/9/13)
-L-

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690 680 670 660

SS-107
SS-109
SS-110
SS-111

B-55
85+87 -L-
75.0 LT.
ELEV. 697.6

2:1

S.S. 694.05

(PI=2) 5
3
(PI=7) 7
8
(PI=9) 9
12

12/13

ALLUVIUM

RESIDUAL

ALLUVIUM
TAN LOOSE TO V. LOOSE MOIST TO WET
LOW PLASTIC CLAYEY SAND (A-2-4)
GRAY MED. STIFF WET LOW PLASTIC CLAYEY SANDY SILT (A-4)
GRAY LOOSE WET CLAYEY SILTY SAND (A-2-4)
WHITE & GRAY LOOSE TO MED. DENSE WET TO MOIST
LOW PLASTIC CLAYEY SILTY SAND (A-2-5)

BT
FIAD
(12/12/13)

715.24

0.030

NC 3
MOORESVILLE
RD

716.19

716.85

0.030

717.69

714.71

ROADWAY EMBANKMENT
(FILL)

SS-113
SS-114
SS-115
SS-116

B-54
86+15 -L-
69.0 RT.
ELEV. 702.9

2:1

ALLUVIUM

3
4
10
6
7
(PI=11) 11
25

12/13 S.S. 703.01 GRAY SOFT WET CLAYEY SANDY SILT (A-4)
W/LENSES OF CSE. SAND
TAN V. LOOSE WET SAND (A-3)
GRAY MED. STIFF WET
CLAYEY SANDY SILT (A-4)

RESIDUAL
WHITE & GRAY LOOSE TO MED. DENSE
WET TO MOIST LOW PLASTIC
CLAYEY SILTY SAND (A-2-7)

BT
FIAD
(12/12/13)

86+00.00

B-53
83+51 -L-
69.0 LT.
ELEV. 716.4

S.S. 715.31

2:1

714.22

0.030

RESIDUAL

TAN & WHITE LOOSE TO MED. DENSE
MOIST SILTY SAND (A-2)

BT
FIAD
(12/10/13)

NC 3
MOORESVILLE
RD

ROADWAY EMBANKMENT
(FILL)

0.030
0.030
0.030
0.030

716.76

718.31

S.S. 724.53

2:1

RESIDUAL

83+50.00

-L-

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mcclure

8/23/99

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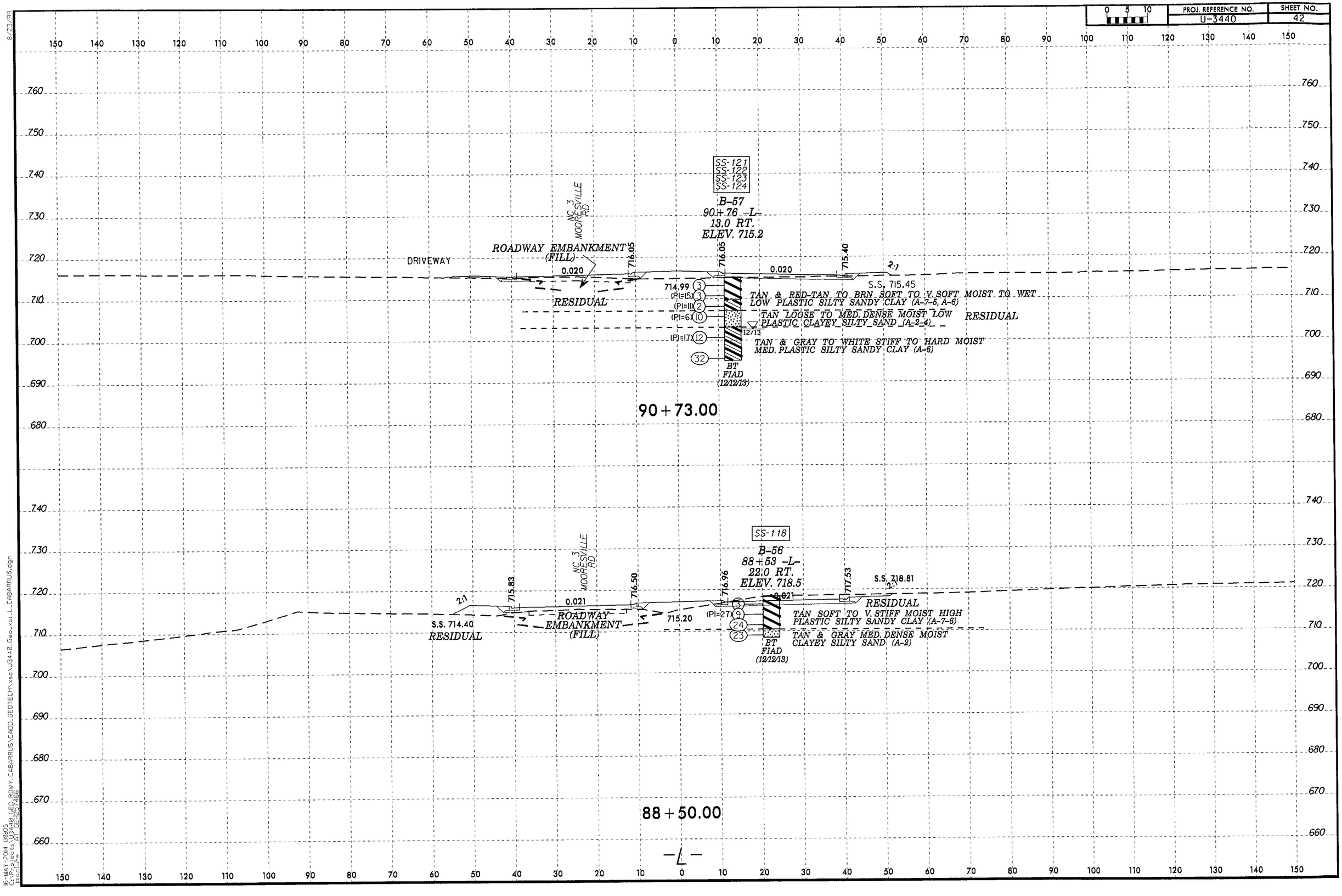
	U-3440	42



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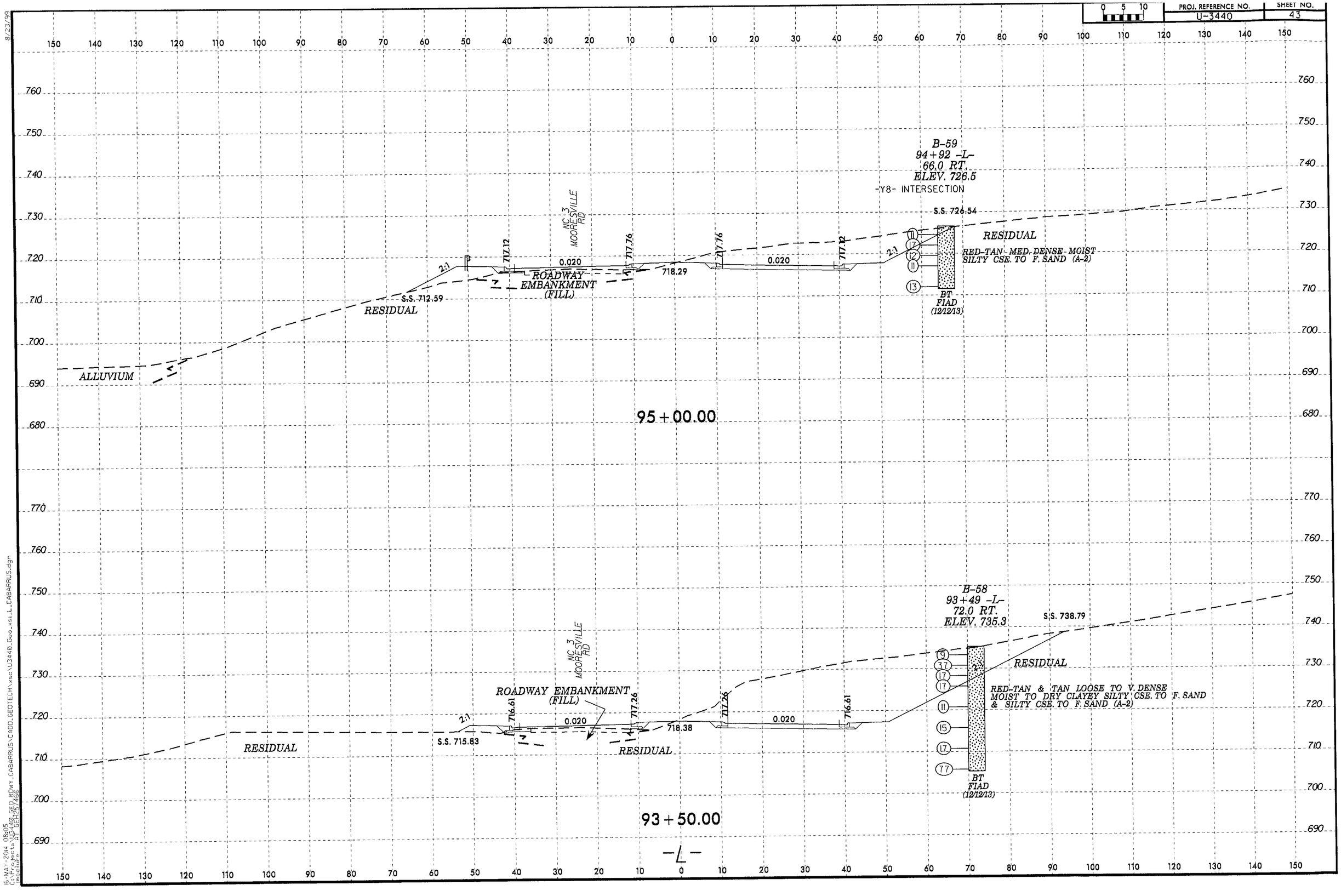
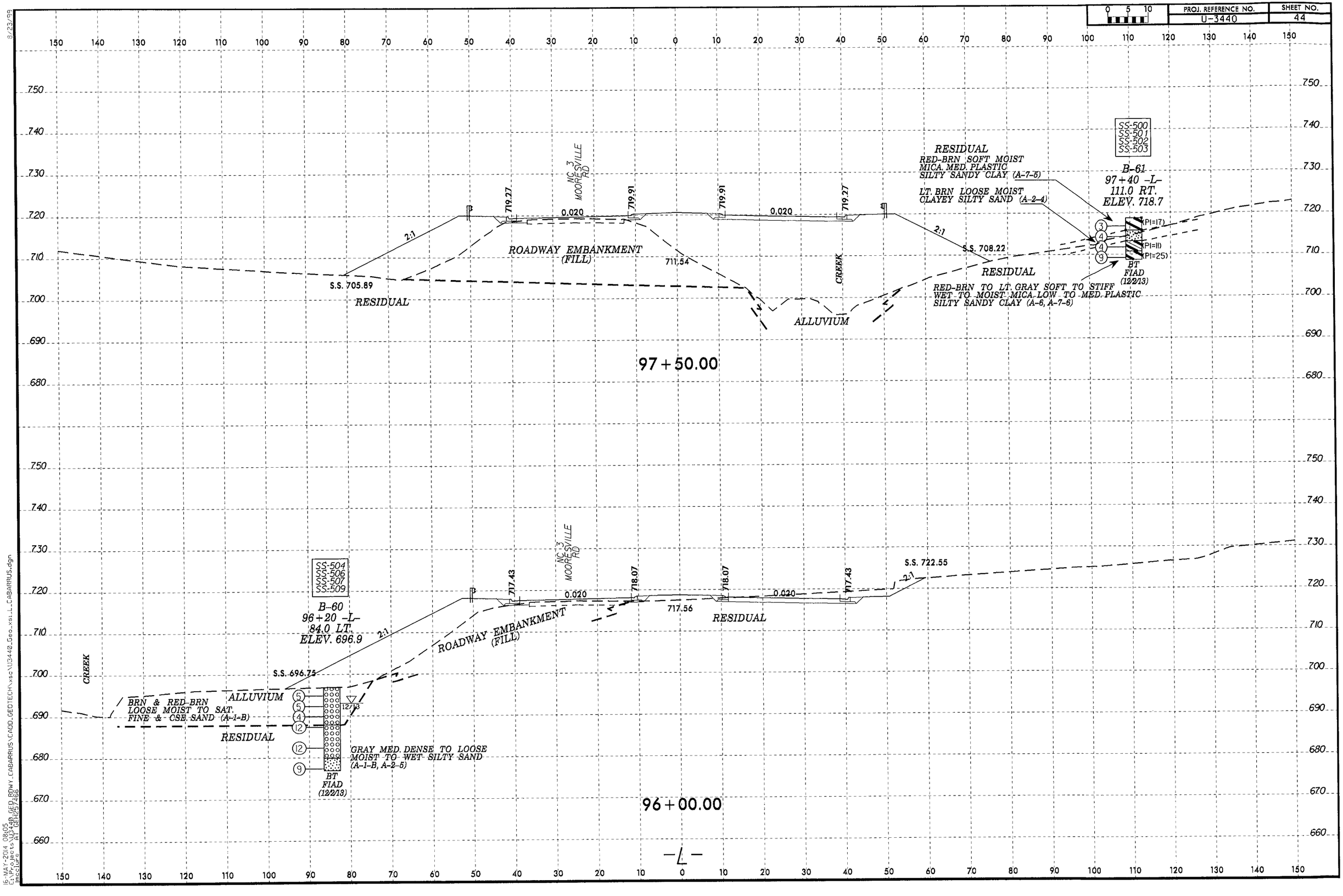
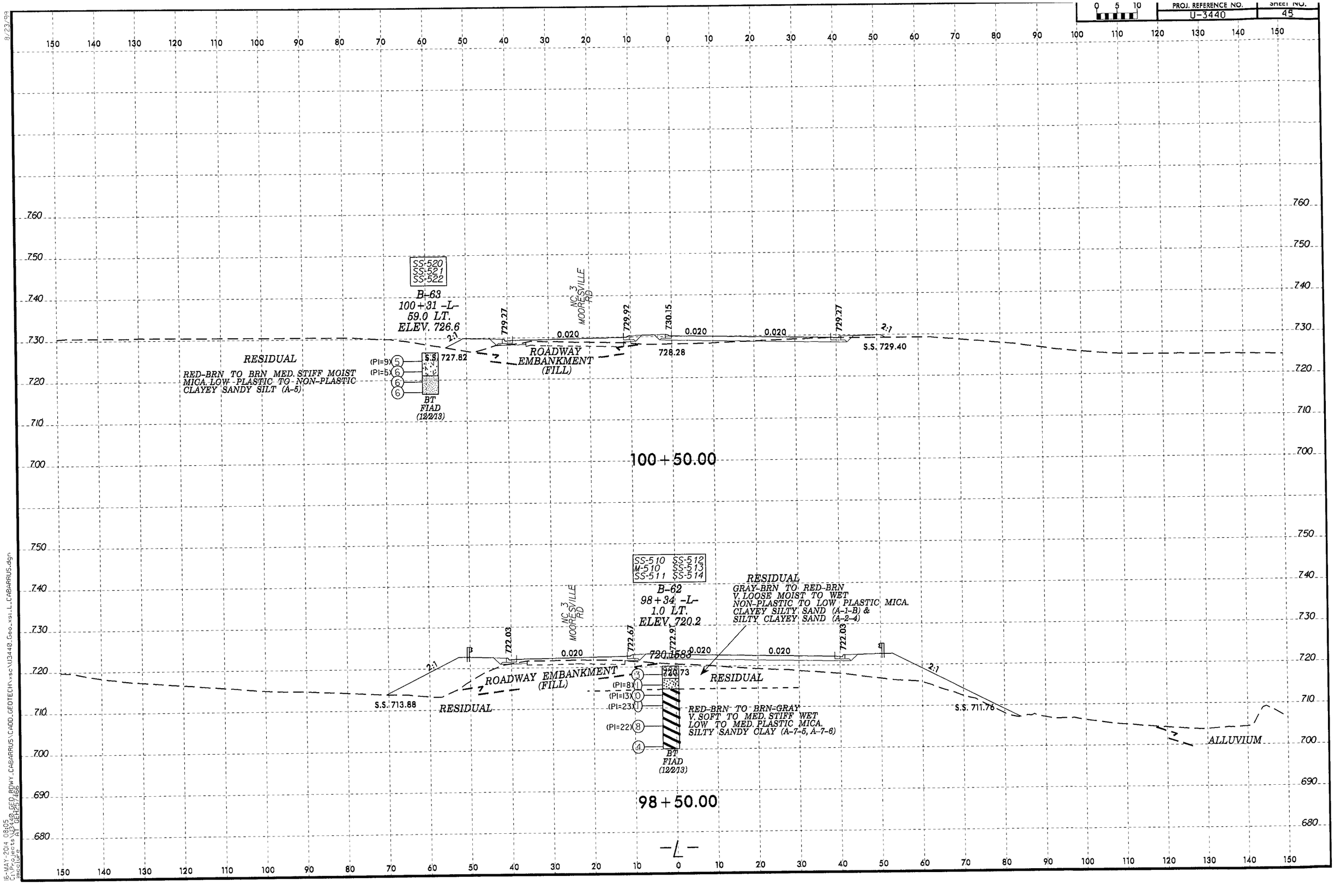


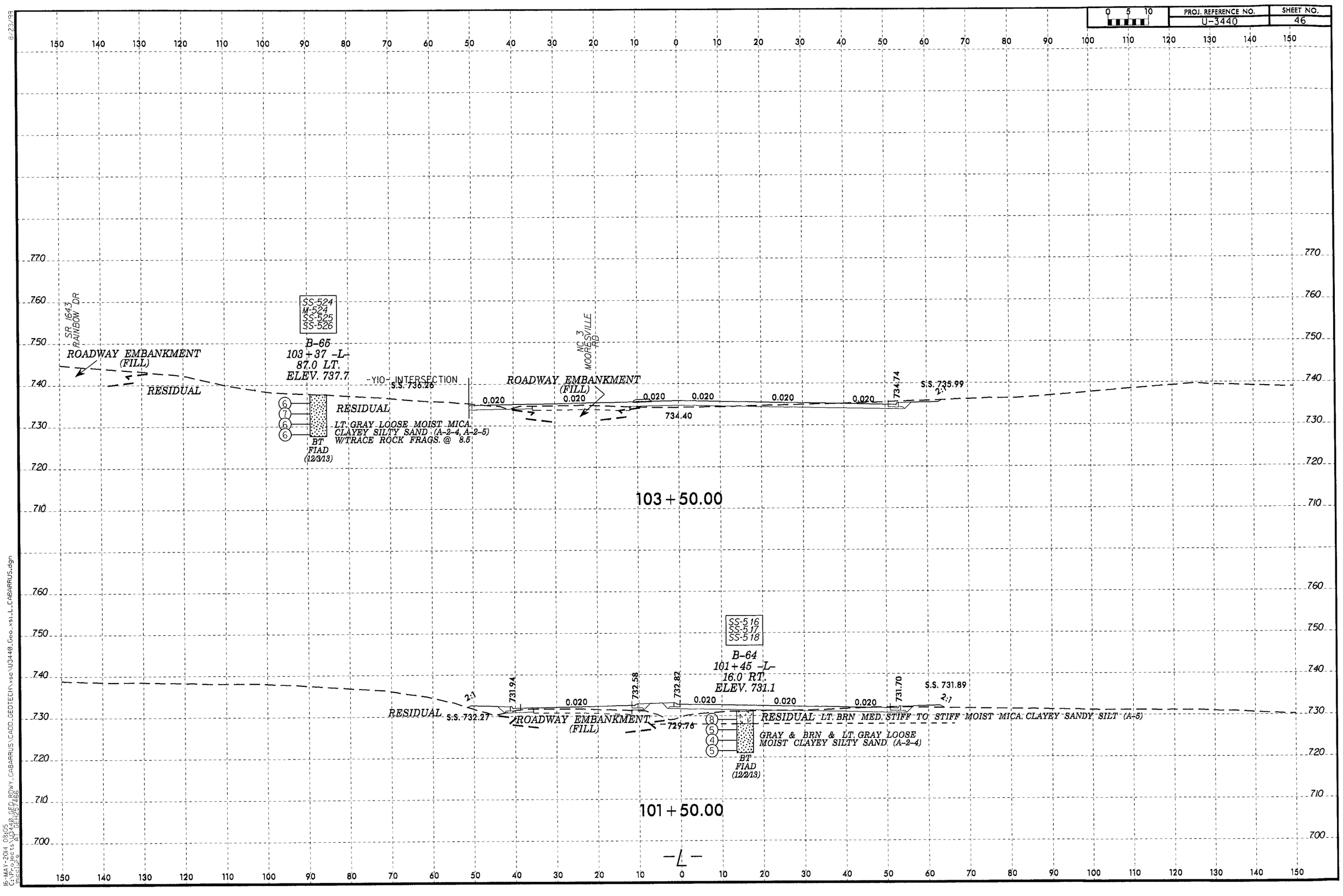
PROJ. REFERENCE NO.
U-3440
SHEET NO.
43
B-59
94+92 -L-
66.0 RT.
ELEV. 726.5
-Y8- INTERSECTION
S.S. 726.54
RESIDUAL
RED-TAN MED. DENSE MOIST SILTY CSE. TO F. SAND (A-2)
BT FIAD (12/12/13)
NC 3 MOORESVILLE RD
717.12
717.76
0.020
718.29
ROADWAY EMBANKMENT (FILL)
S.S. 712.59
RESIDUAL
ALLUVIUM
95+00.00
B-58
93+49 -L-
72.0 RT.
ELEV. 735.3
S.S. 738.79
RESIDUAL
RED-TAN & TAN LOOSE TO V. DENSE MOIST TO DRY CLAYEY SILTY CSE. TO F. SAND & SILTY CSE. TO F. SAND (A-2)
BT FIAD (12/12/13)
716.61
717.26
718.38
S.S. 715.83
RESIDUAL
93+50.00
-L-



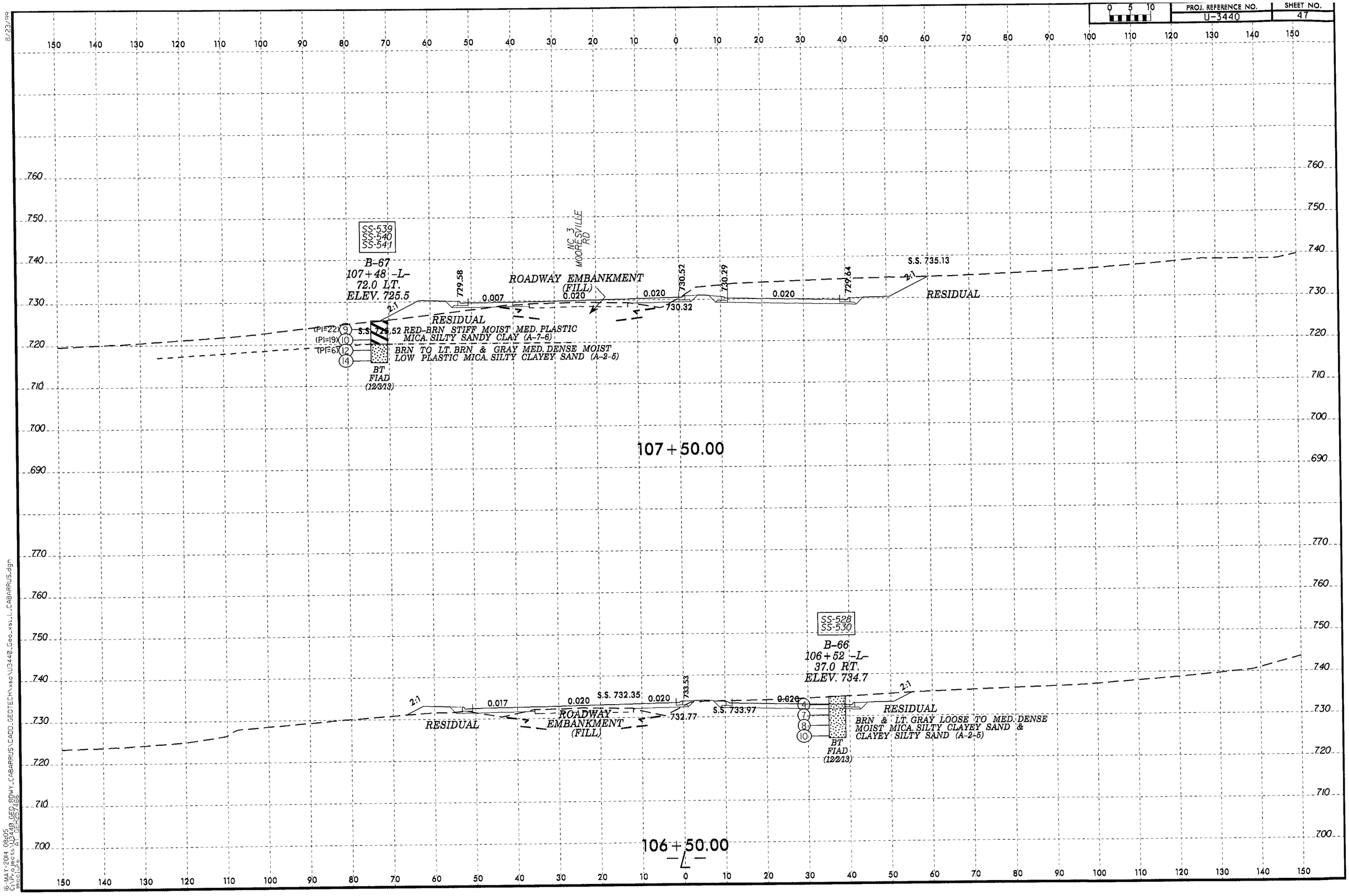
PROJ. REFERENCE NO.
U-3440
SHEET NO.
44
97+50.00
RESIDUAL
RED-BRN SOFT MOIST MICA. MED. PLASTIC SILTY SANDY CLAY (A-7-5)
LT. BRN LOOSE MOIST CLAYEY SILTY SAND (A-2-4)
SS-500
SS-501
SS-502
SS-503
B-61
97+40 -L-
111.0 RT.
ELEV. 718.7
(PI=17)
(PI=11)
(PI=25)
BT
FIAD
(12/2/13)
RED-BRN TO LT. GRAY SOFT TO STIFF WET TO MOIST MICA LOW TO MED. PLASTIC SILTY SANDY CLAY (A-6, A-7-6)
S.S. 708.22
RESIDUAL
ALLUVIUM
CREEK
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
719.27
719.91
0.020
711.54
S.S. 705.89
2:1
96+00.00
SS-504
SS-506
SS-507
SS-509
B-60
96+20 -L-
84.0 LT.
ELEV. 696.9
S.S. 722.55
717.43
718.07
717.56
S.S. 696.75
BRN & RED-BRN LOOSE MOIST TO SAT. FINE & CSE. SAND (A-1-B)
GRAY MED. DENSE TO LOOSE MOIST TO WET SILTY SAND (A-1-B, A-2-5)
BT
FIAD
(12/2/13)
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
45
SS-520
SS-521
SS-522
B-63
100+31 -L-
59.0 LT.
ELEV. 726.6
NC 3
MOORESVILLE
RD
729.27
729.92
730.15
729.27
0.020
0.020
0.020
2:1
2:1
S.S. 729.40
728.28
727.82
ROADWAY
EMBANKMENT
(FILL)
RESIDUAL
RED-BRN TO BRN MED. STIFF MOIST
MICA. LOW PLASTIC TO NON-PLASTIC
CLAYEY SANDY SILT (A-5)
(PI=9)
(PI=5)
BT
FIAD
(12/2/13)
100+50.00
SS-510
SS-512
M-510
SS-513
SS-511
SS-514
B-62
98+34 -L-
1.0 LT.
ELEV. 720.2
RESIDUAL
GRAY-BRN TO RED-BRN
V. LOOSE MOIST TO WET
NON-PLASTIC TO LOW PLASTIC MICA.
CLAYEY SILTY SAND (A-1-B) &
SILTY CLAYEY SAND (A-2-4)
722.03
722.67
722.91
722.03
720.1583
720.73
0.020
0.020
0.020
2:1
2:1
ROADWAY EMBANKMENT
(FILL)
RESIDUAL
RESIDUAL
S.S. 713.88
S.S. 711.76
(PI=8)
(PI=13)
(PI=23)
(PI=22)
RED-BRN TO BRN-GRAY
V. SOFT TO MED. STIFF WET
LOW TO MED. PLASTIC MICA.
SILTY SANDY CLAY (A-7-5, A-7-6)
BT
FIAD
(12/2/13)
ALLUVIUM
98+50.00
-L-



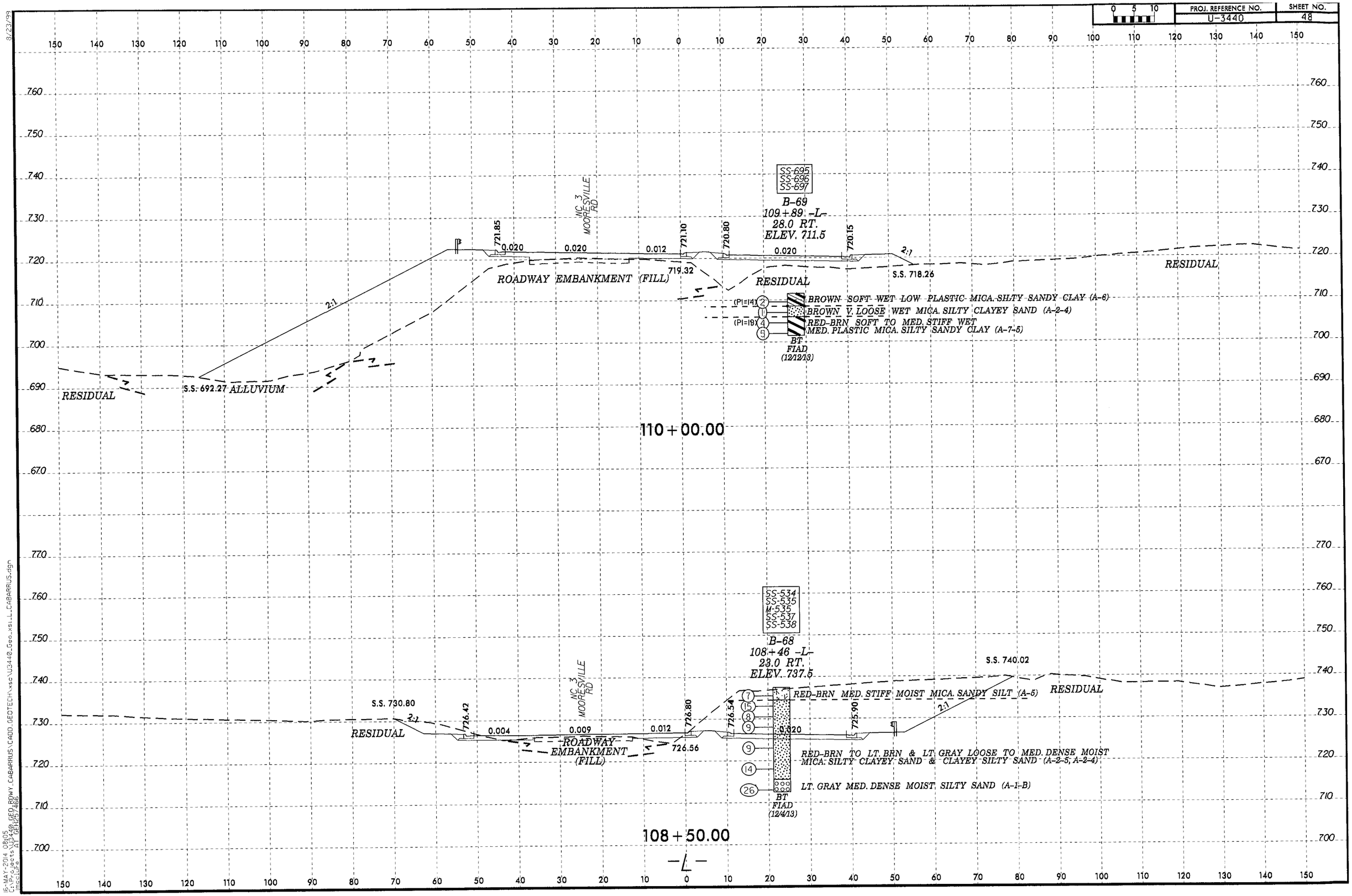
PROJ. REFERENCE NO.
U-3440
SHEET NO.
46
SR 1643 RAINBOW DR
ROADWAY EMBANKMENT (FILL)
RESIDUAL
SS-524
M-524
SS-525
SS-526
B-65
103+37 -L-
87.0 LT.
ELEV. 737.7
-Y10- INTERSECTION
S.S. 736.26
RESIDUAL
LT. GRAY LOOSE MOIST MICA CLAYEY SILTY SAND (A-2-4, A-2-5) W/TRACE ROCK FRAGS. @ 8.5
BT FIAD (12/3/13)
NC 3 MOORESVILLE RD
ROADWAY EMBANKMENT (FILL)
0.020
734.40
734.74
S.S. 735.99
2:1
103+50.00
SS-516
SS-517
SS-518
B-64
101+45 -L-
16.0 RT.
ELEV. 731.1
731.94
732.58
732.82
731.70
S.S. 731.89
2:1
RESIDUAL
S.S. 732.27
ROADWAY EMBANKMENT (FILL)
729.76
RESIDUAL LT. BRN MED. STIFF TO STIFF MOIST MICA CLAYEY SANDY SILT (A-5)
GRAY & BRN & LT. GRAY LOOSE MOIST CLAYEY SILTY SAND (A-2-4)
BT FIAD (12/2/13)
101+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
47
SS-539
SS-540
SS-541
B-67
107+48 -L-
72.0 LT.
ELEV. 725.5
NC 3
MOORESVILLE
RD
ROADWAY EMBANKMENT
(FILL)
729.58
0.007
0.020
730.52
730.29
729.64
S.S. 735.13
730.32
RESIDUAL
RESIDUAL
(PI=22) 9
(PI=19) 10
(PI=6) 12
14
S.S. 725.52 RED-BRN STIFF MOIST MED. PLASTIC
MICA. SILTY SANDY CLAY (A-7-6)
BRN TO LT. BRN & GRAY MED. DENSE MOIST
LOW PLASTIC MICA. SILTY CLAYEY SAND (A-2-5)
BT
FIAD
(12/3/13)
107+50.00
SS-528
SS-530
B-66
106+52 -L-
37.0 RT.
ELEV. 734.7
0.017
0.020
S.S. 732.35
0.020
733.53
S.S. 733.97
0.020
732.77
RESIDUAL
ROADWAY
EMBANKMENT
(FILL)
RESIDUAL
4
7
8
10
BRN & LT. GRAY LOOSE TO MED. DENSE
MOIST MICA. SILTY CLAYEY SAND &
CLAYEY SILTY SAND (A-2-5)
BT
FIAD
(12/2/13)
106+50.00
-L-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3440	48



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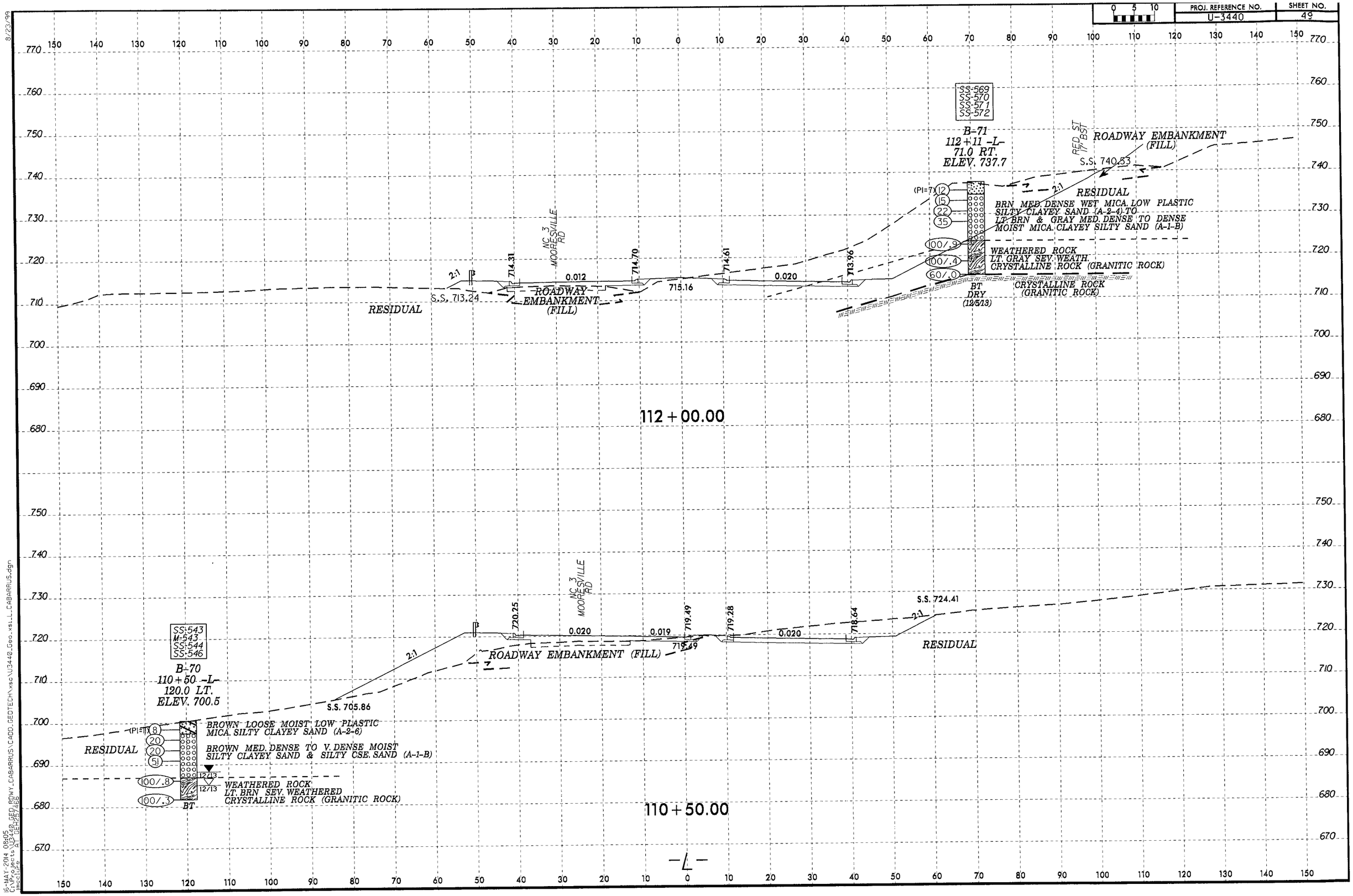
mcclure
AT GEH257466

8/23/99



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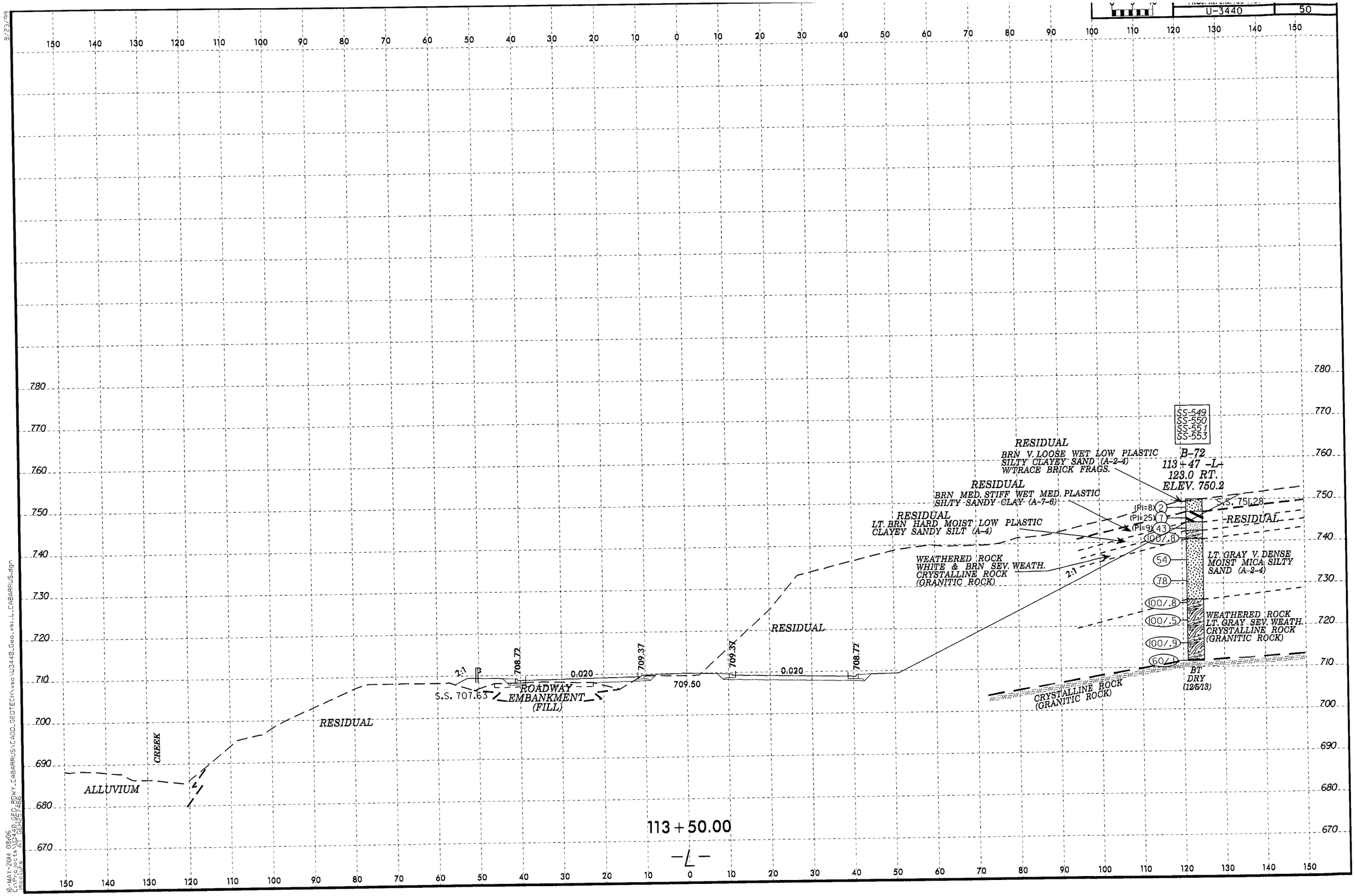
User:jrc
File: GEH-257466



U-3440
50
SS-549
SS-550
SS-551
SS-553
B-72
113+47 -L-
123.0 RT.
ELEV. 750.2
RESIDUAL
BRN V. LOOSE WET LOW PLASTIC SILTY CLAYEY SAND (A-2-4) W/TRACE BRICK FRAGS.
RESIDUAL
BRN MED. STIFF WET MED. PLASTIC SILTY SANDY CLAY (A-7-6)
RESIDUAL
LT. BRN HARD MOIST LOW PLASTIC CLAYEY SANDY SILT (A-4)
WEATHERED ROCK WHITE & BRN SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
S.S. 751.28
RESIDUAL
LT. GRAY V. DENSE MOIST MICA SILTY SAND (A-2-4)
WEATHERED ROCK LT. GRAY SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
BT DRY (12/5/13)
CRYSTALLINE ROCK (GRANITIC ROCK)
RESIDUAL
2:1
708.72
709.37
709.37
708.72
0.020
0.020
709.50
S.S. 707.63
ROADWAY EMBANKMENT (FILL)
RESIDUAL
CREEK
ALLUVIUM
113+50.00
-L-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3440	51

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

790
780
770
760
750
740
730
720
710
700
690
680
670

SS-559
SS-563

B-73
115+39 -L-
115.0 RT.
ELEV. 746.5

S.S. 749.43

(PI=3) 11
12
14
17
12
63
100/.9
100
100/.4
60/.1

BT
DRY
(12/6/13)

RESIDUAL
GRAY & BRN STIFF TO V.STIFF MOIST MICA
LOW PLASTIC CLAYEY SANDY SILT (A-4)

2:1

LT GRAY MED. DENSE TO V.DENSE
MOIST MICA. SILTY SAND (A-2-4)

WEATHERED ROCK
LT GRAY SEV. WEATH.
CRYSTALLINE ROCK
(GRANITIC ROCK)

CRYSTALLINE ROCK
(GRANITIC ROCK)

NC 3
MOORESVILLE
RD

706.05
706.50
706.43
705.77

0.014
710.58
0.020

2:1

S.S. 702.50

ROADWAY
EMBANKMENT
(FILL)

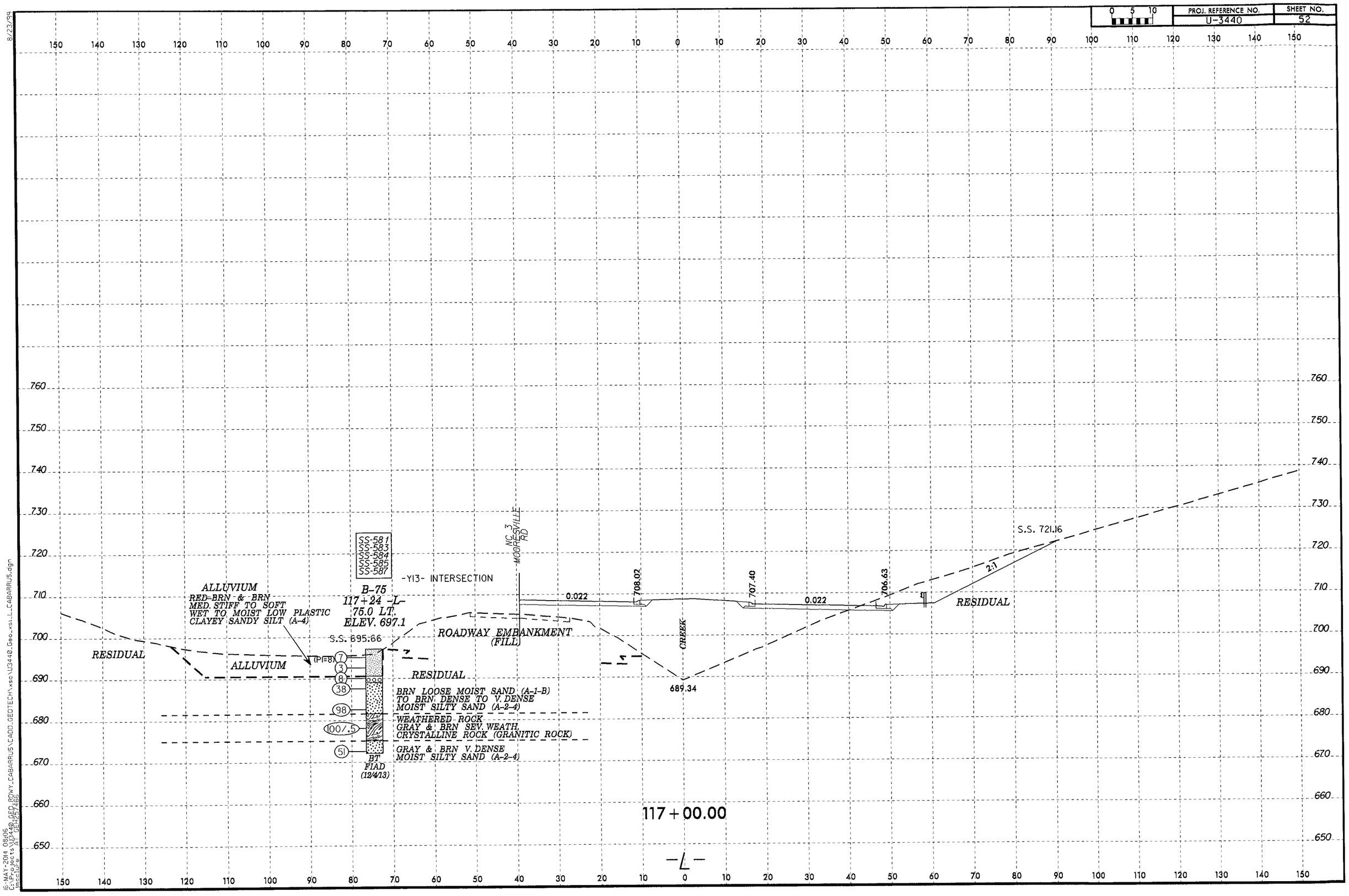
RESIDUAL

CREEK

ALLUVIUM

115+50.00
-L-

16-MAY-2014 08:06
C:\Projects\U3440_GEO_RDWY_CABARRUS\CADD_GEOTECH\xsc\U3440_Geo_xsi_1_CABARRUS.dgn
mcclure
AT GEH257466



PROJ. REFERENCE NO.
U-3440
SHEET NO.
52
0 5 10
8/23/99
SS-581
SS-583
SS-584
SS-585
SS-587
-Y13- INTERSECTION
B-75
117+24 -L-
75.0 LT.
ELEV. 697.1
S.S. 695.66
ALLUVIUM
RED-BRN & BRN
MED. STIFF TO SOFT
WET TO MOIST LOW PLASTIC
CLAYEY SANDY SILT (A-4)
RESIDUAL
ALLUVIUM
RESIDUAL
(PI=8)
7
3
8
38
98
100/.5
51
BRN LOOSE MOIST SAND (A-1-B)
TO BRN DENSE TO V. DENSE
MOIST SILTY SAND (A-2-4)
WEATHERED ROCK
GRAY & BRN SEV. WEATH.
CRYSTALLINE ROCK (GRANITIC ROCK)
GRAY & BRN V. DENSE
MOIST SILTY SAND (A-2-4)
BT
FIAD
(12/4/13)
NC 3
MOORESVILLE
RD
ROADWAY EMBANKMENT
(FILL)
0.022
708.02
707.40
0.022
706.63
CREEK
689.34
S.S. 721.16
2:1
RESIDUAL
117+00.00
-L-
760
750
740
730
720
710
700
690
680
670
660
650
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
16-MAY-2014 08:06
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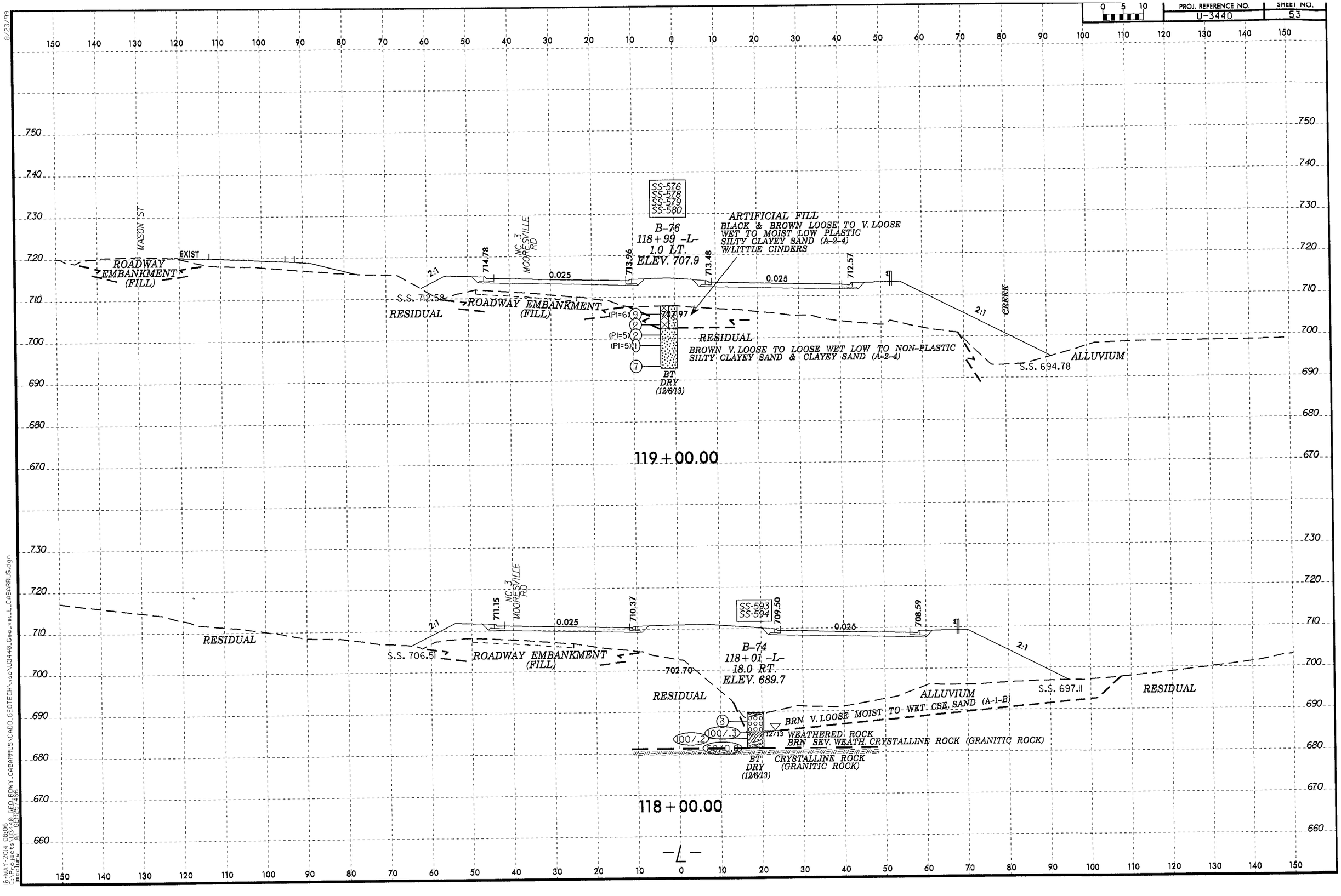
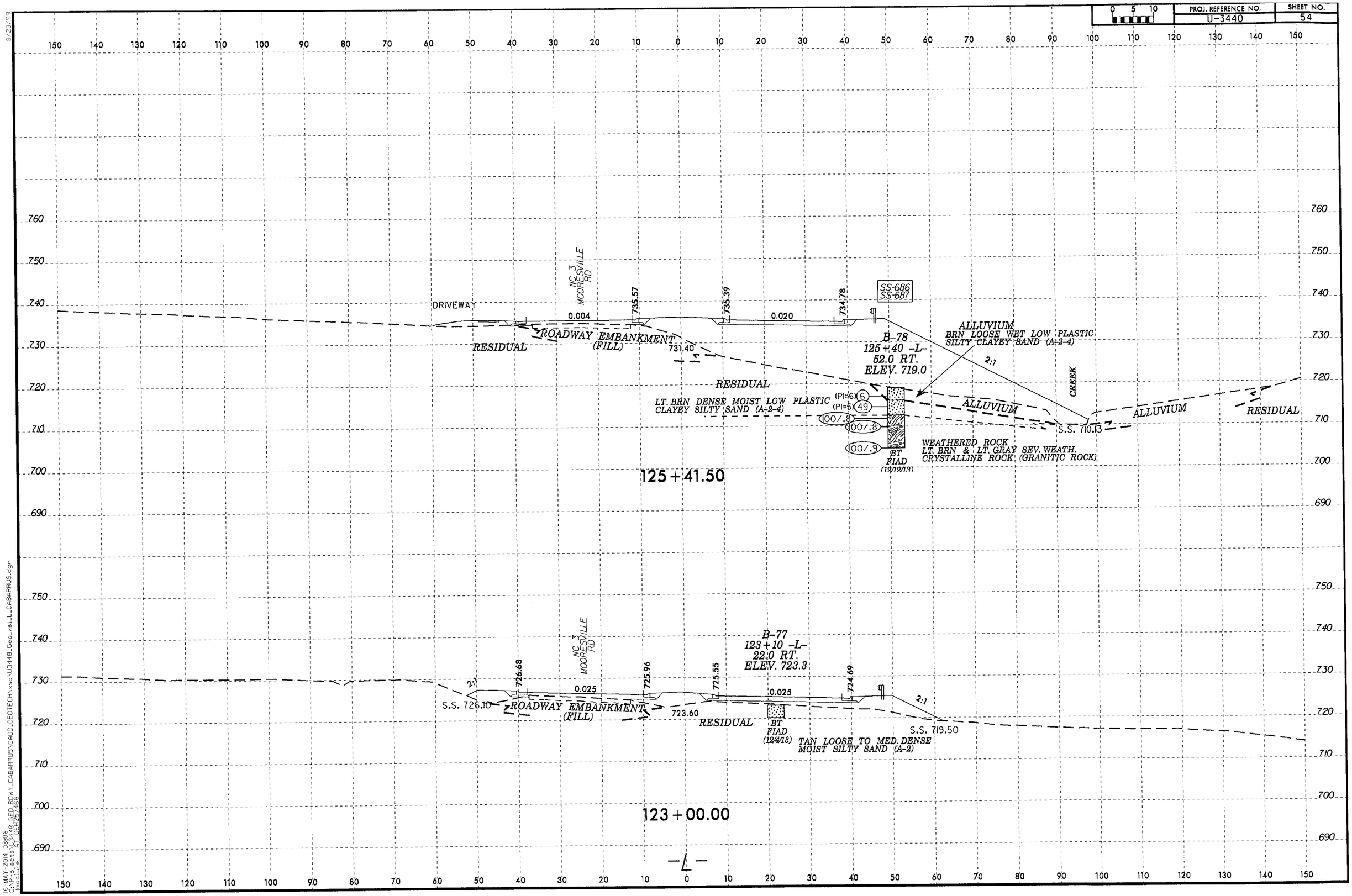
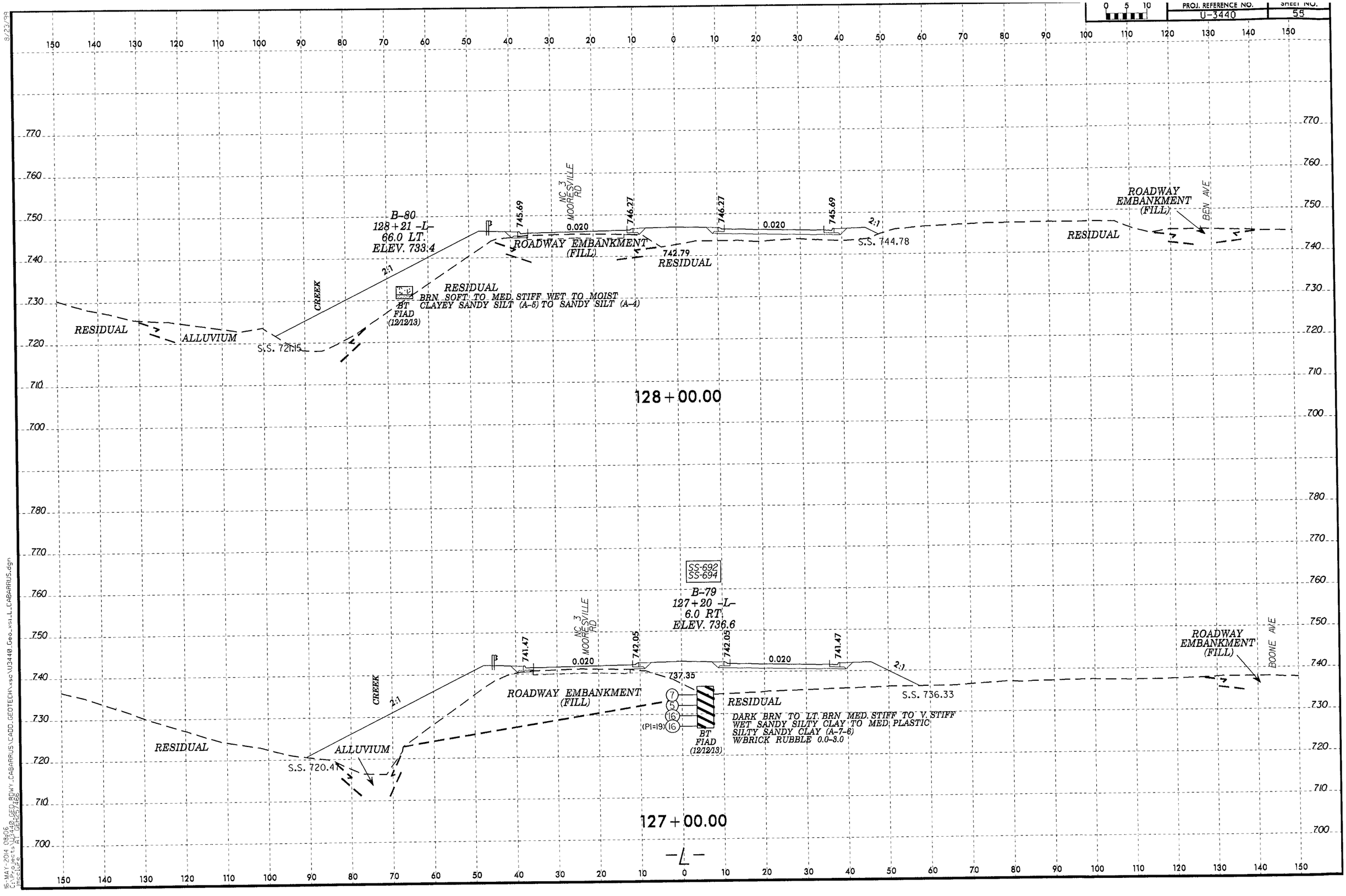


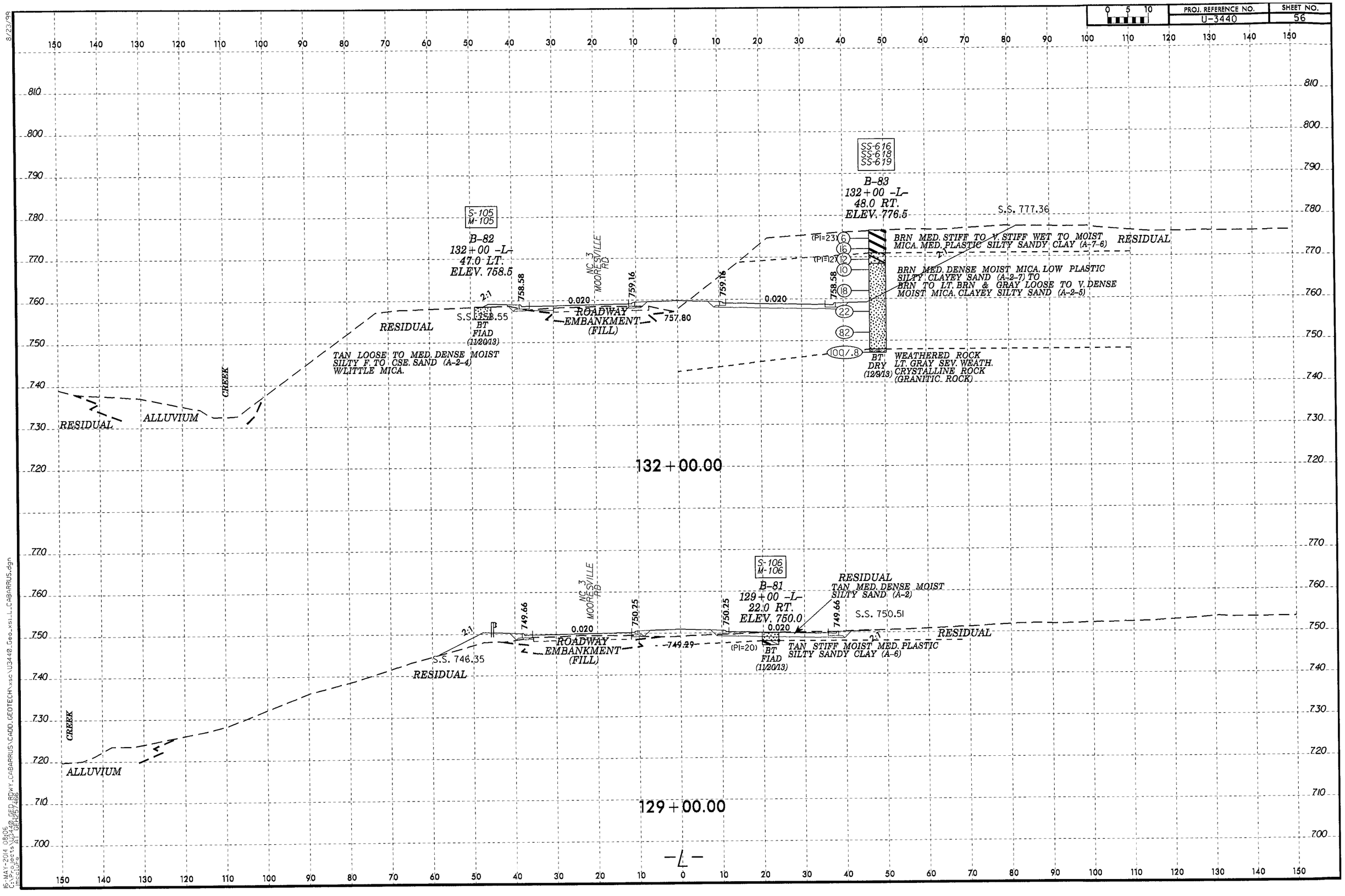
PROJ. REFERENCE NO.
U-3440
SHEET NO.
53
8/23/99
MASON ST
EXIST
ROADWAY EMBANKMENT (FILL)
S.S. 712.58
RESIDUAL
NC 3 MOORESVILLE RD
714.78
713.96
713.48
712.57
0.025
SS-576
SS-578
SS-579
SS-580
B-76
118+99 -L-
1.0 LT.
ELEV. 707.9
ARTIFICIAL FILL
BLACK & BROWN LOOSE TO V. LOOSE WET TO MOIST LOW PLASTIC SILTY CLAYEY SAND (A-2-4) W/LITTLE CINDERS
707.97
RESIDUAL
BROWN V. LOOSE TO LOOSE WET LOW TO NON-PLASTIC SILTY CLAYEY SAND & CLAYEY SAND (A-2-4)
BT DRY (12/6/13)
CREEK
ALLUVIUM
S.S. 694.78
119+00.00
711.15
710.37
709.50
708.59
SS-593
SS-594
S.S. 706.51
702.70
B-74
118+01 -L-
18.0 RT.
ELEV. 689.7
S.S. 697.11
BRN V. LOOSE MOIST TO WET CSE. SAND (A-1-B)
WEATHERED ROCK
BRN SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
CRYSTALLINE ROCK (GRANITIC ROCK)
BT DRY (12/6/13)
118+00.00
-L-



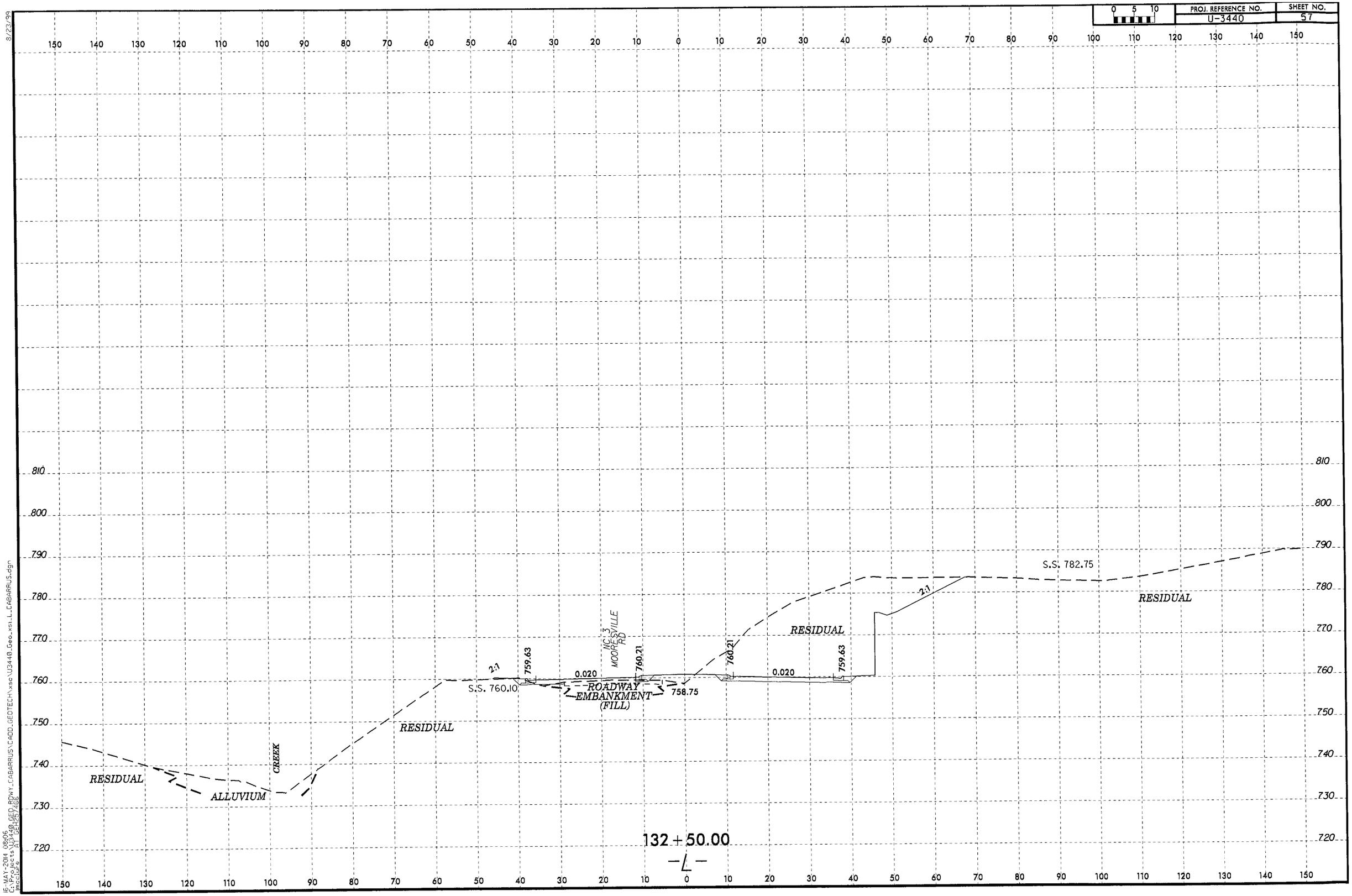
PROJ. REFERENCE NO.
U-3440
SHEET NO.
54
DRIVEWAY
NC 3 MOORESVILLE RD
0.004
735.57
735.39
0.020
734.78
SS-686
SS-687
ROADWAY EMBANKMENT (FILL)
RESIDUAL
731.40
B-78
125+40 -L-
52.0 RT.
ELEV. 719.0
ALLUVIUM
BRN LOOSE WET LOW PLASTIC SILTY CLAYEY SAND (A-2-4)
2:1
CREEK
RESIDUAL
LT. BRN DENSE MOIST LOW PLASTIC CLAYEY SILTY SAND (A-2-4)
(PI=6) 6
(PI=5) 49
100/.8
100/.8
100/.9
BT FIAD (12/12/13)
ALLUVIUM
S.S. 710.13
ALLUVIUM
RESIDUAL
WEATHERED ROCK
LT. BRN & LT. GRAY SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
125+41.50
NC 3 MOORESVILLE RD
B-77
123+10 -L-
22.0 RT.
ELEV. 723.3
726.68
725.96
725.55
724.69
2:1
0.025
0.025
2:1
S.S. 726.10
ROADWAY EMBANKMENT (FILL)
723.60
RESIDUAL
BT FIAD (12/4/13)
TAN LOOSE TO MED. DENSE MOIST SILTY SAND (A-2)
S.S. 719.50
123+00.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
55
B-80
128+21 -L-
66.0 LT.
ELEV. 733.4
NC 3
MOORESVILLE
RD
745.69
746.27
746.27
745.69
0.020
0.020
2:1
ROADWAY EMBANKMENT
(FILL)
742.79
RESIDUAL
S.S. 744.78
ROADWAY
EMBANKMENT
(FILL)
BEN AVE
RESIDUAL
CREEK
2:1
RESIDUAL
BRN SOFT TO MED. STIFF WET TO MOIST
CLAYEY SANDY SILT (A-5) TO SANDY SILT (A-4)
BT
FIAD
(12/12/13)
RESIDUAL
ALLUVIUM
S.S. 721.15
128+00.00
SS-692
SS-694
B-79
127+20 -L-
6.0 RT.
ELEV. 736.6
NC 3
MOORESVILLE
RD
741.47
742.05
742.05
741.47
0.020
0.020
2:1
737.35
ROADWAY EMBANKMENT
(FILL)
RESIDUAL
S.S. 736.33
ROADWAY
EMBANKMENT
(FILL)
BOONE AVE
CREEK
2:1
7
5
16
(PI=19) 16
BT
FIAD
(12/12/13)
DARK BRN TO LT. BRN MED. STIFF TO V. STIFF
WET SANDY SILTY CLAY TO MED. PLASTIC
SILTY SANDY CLAY (A-7-6)
W/BRICK RUBBLE 0.0-3.0
RESIDUAL
ALLUVIUM
S.S. 720.41
127+00.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
56
0 5 10
S-105
M-105
B-82
132+00 -L-
47.0 LT.
ELEV. 758.5
SS-616
SS-618
SS-619
B-83
132+00 -L-
48.0 RT.
ELEV. 776.5
S.S. 777.36
BRN MED. STIFF TO V. STIFF WET TO MOIST MICA. MED. PLASTIC SILTY SANDY CLAY (A-7-6)
RESIDUAL
BRN MED. DENSE MOIST MICA. LOW PLASTIC SILTY CLAYEY SAND (A-2-7) TO BRN TO LT. BRN & GRAY LOOSE TO V. DENSE MOIST MICA. CLAYEY SILTY SAND (A-2-5)
(PI=23)
(PI=12)
758.58
759.16
0.020
757.80
S.S. 758.55
BT FIAD (11/20/13)
ROADWAY EMBANKMENT (FILL)
NC 3 MOORESVILLE RD
TAN LOOSE TO MED. DENSE MOIST SILTY F. TO CSE. SAND (A-2-4) W/LITTLE MICA.
BT DRY (12/9/13)
WEATHERED ROCK LT. GRAY SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
CREEK
ALLUVIUM
132+00.00
S-106
M-106
B-81
129+00 -L-
22.0 RT.
ELEV. 750.0
RESIDUAL
TAN MED. DENSE MOIST SILTY SAND (A-2)
S.S. 750.51
749.66
750.25
749.29
(PI=20)
TAN STIFF MOIST MED. PLASTIC SILTY SANDY CLAY (A-6)
S.S. 746.35
129+00.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
57
0 5 10
8/23/99
16-MAY-2014 08:06
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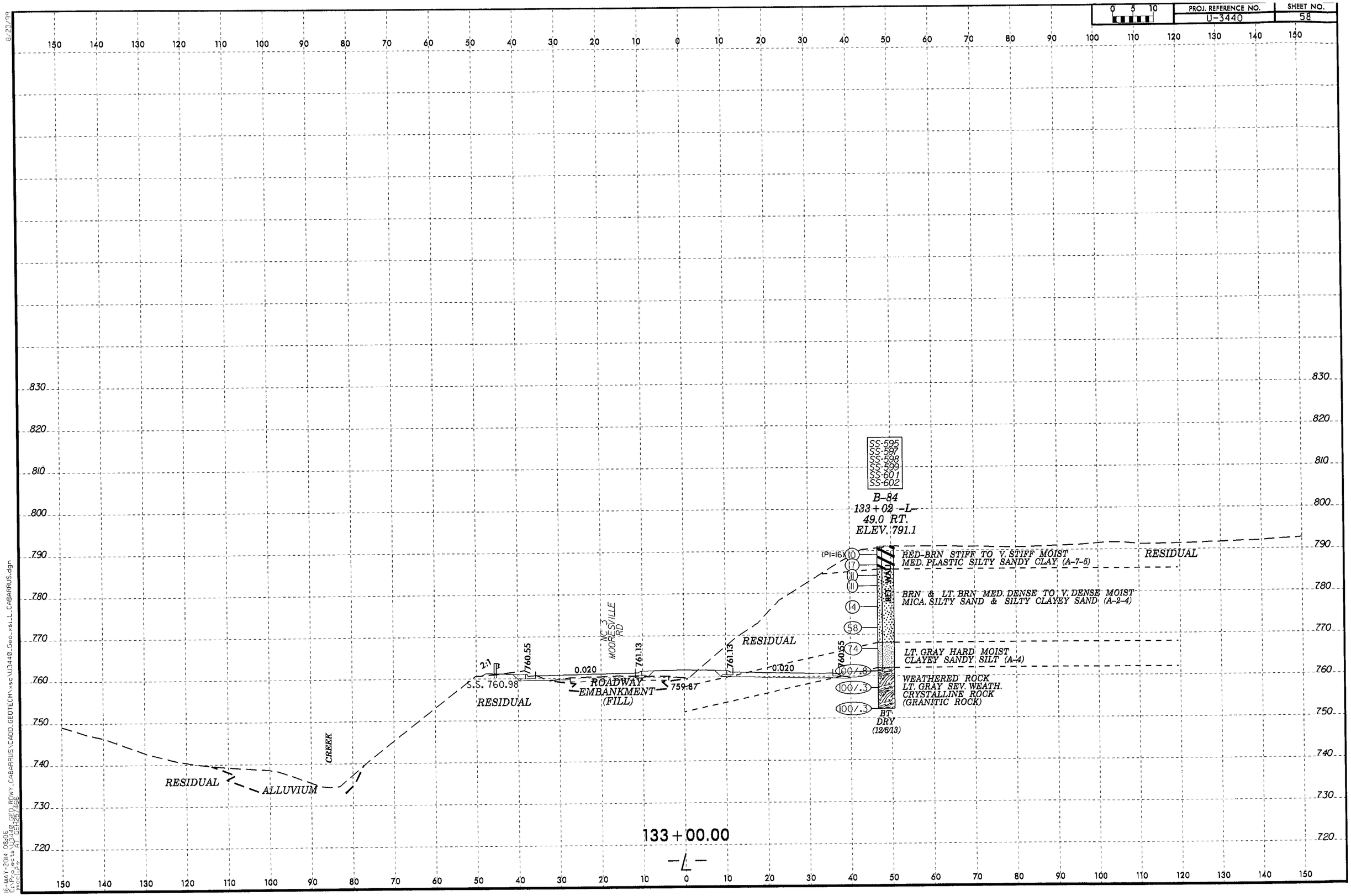
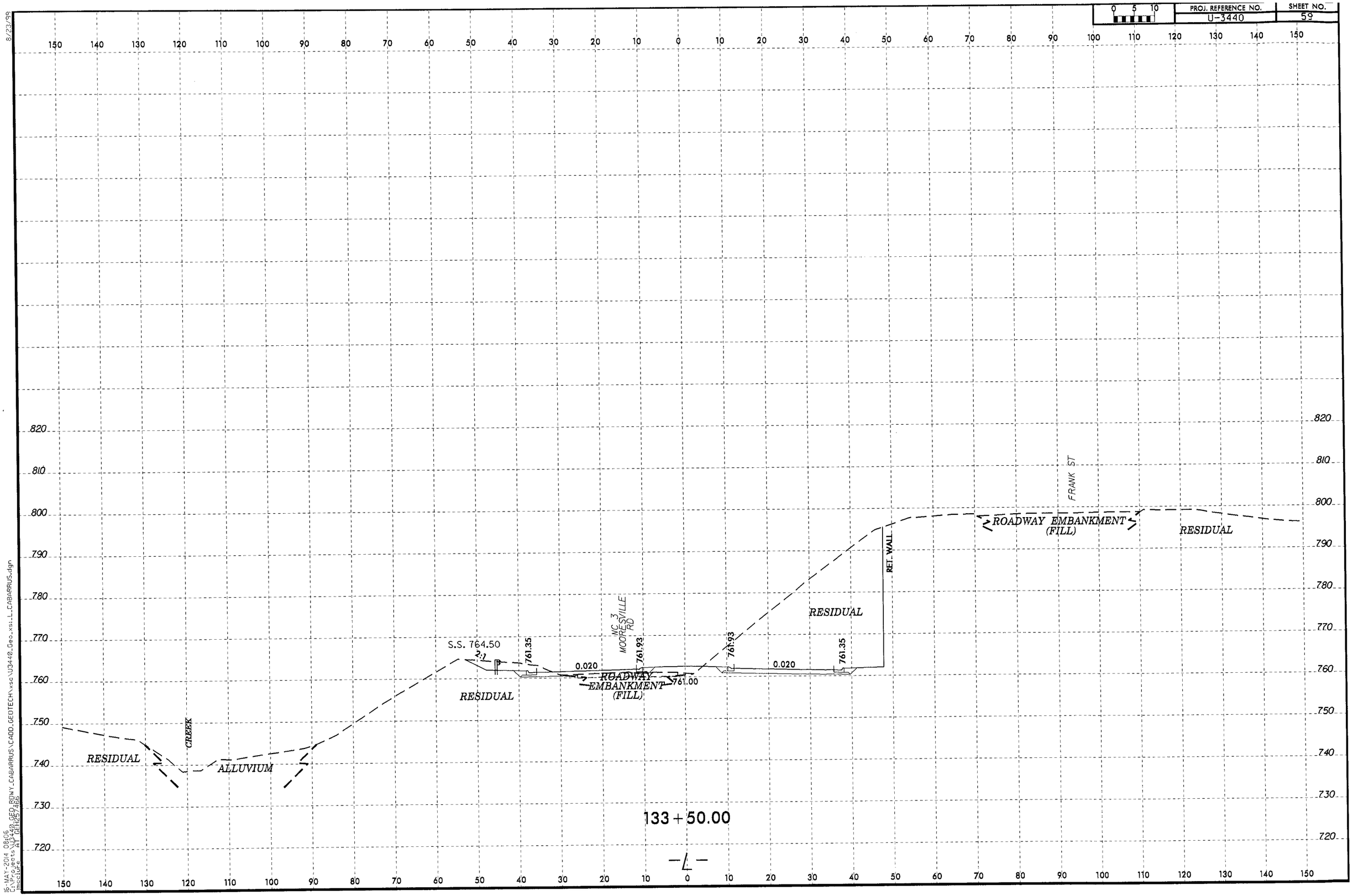
Imcclure AT GEH257466
RESIDUAL
ALLUVIUM
CREEK
RESIDUAL
S.S. 760.10
2:1
759.63
0.020
NC 3
MOORESVILLE
RD
760.21
ROADWAY
EMBANKMENT
(FILL)
758.75
760.21
0.020
759.63
RESIDUAL
2:1
S.S. 782.75
RESIDUAL
132 + 50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
58
SS-595
SS-597
SS-598
SS-599
SS-601
SS-602
B-84
133+02 -L-
49.0 RT.
ELEV. 791.1
(PI=16)
RED-BRN STIFF TO V. STIFF MOIST
MED. PLASTIC SILTY SANDY CLAY (A-7-5)
RESIDUAL
BRN & LT. BRN MED. DENSE TO V. DENSE MOIST
MICA. SILTY SAND & SILTY CLAYEY SAND (A-2-4)
LT. GRAY HARD MOIST
CLAYEY SANDY SILT (A-4)
WEATHERED ROCK
LT. GRAY SEV. WEATH.
CRYSTALLINE ROCK
(GRANITIC ROCK)
BT
DRY
(12/6/13)
NC 3
MOORESVILLE
RD
S.S. 760.98
760.55
761.13
759.87
0.020
ROADWAY
EMBANKMENT
(FILL)
RESIDUAL
ALLUVIUM
CREEK
133+00.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
59
0 5 10
8/23/99
16-MAY-2014 08:06
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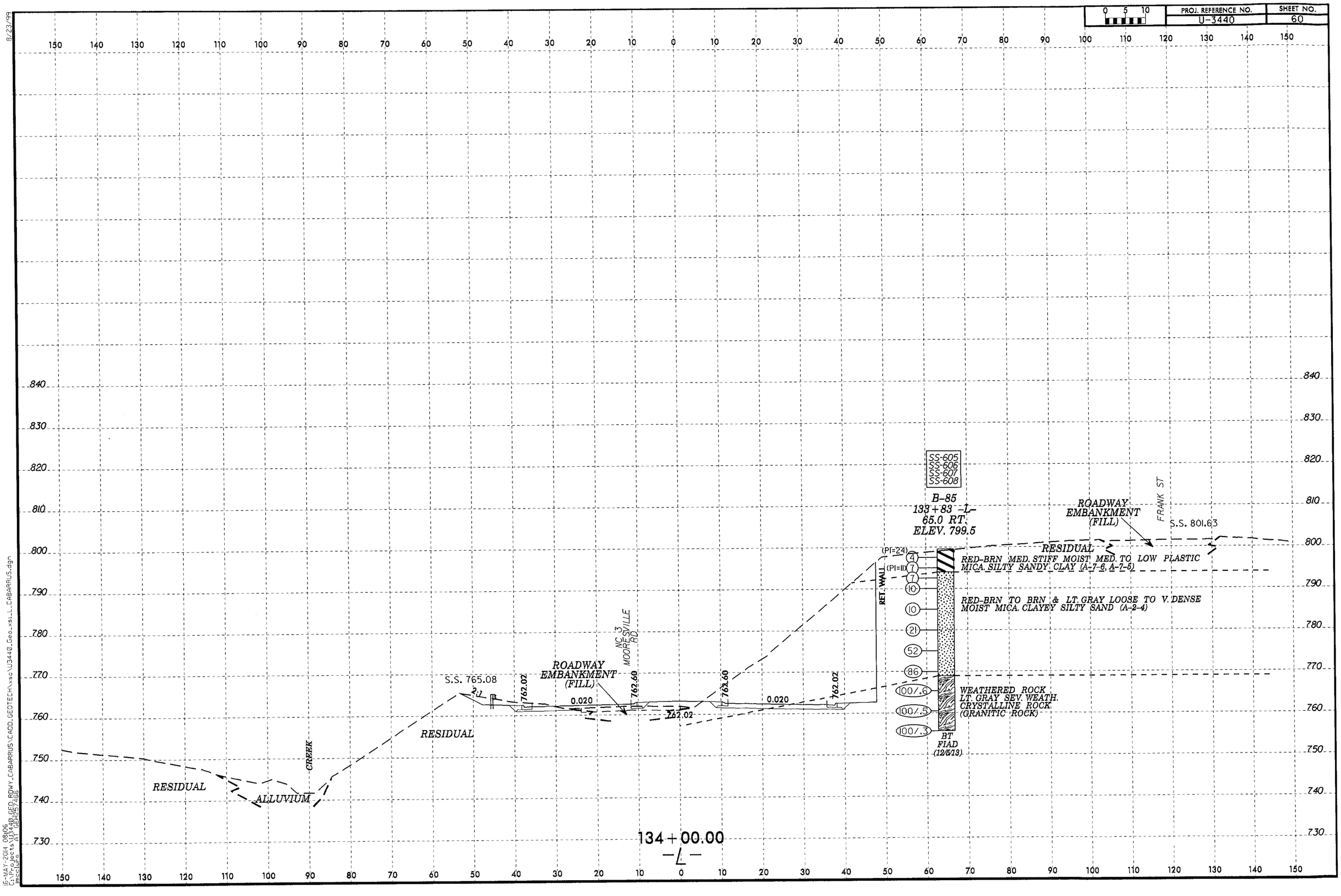
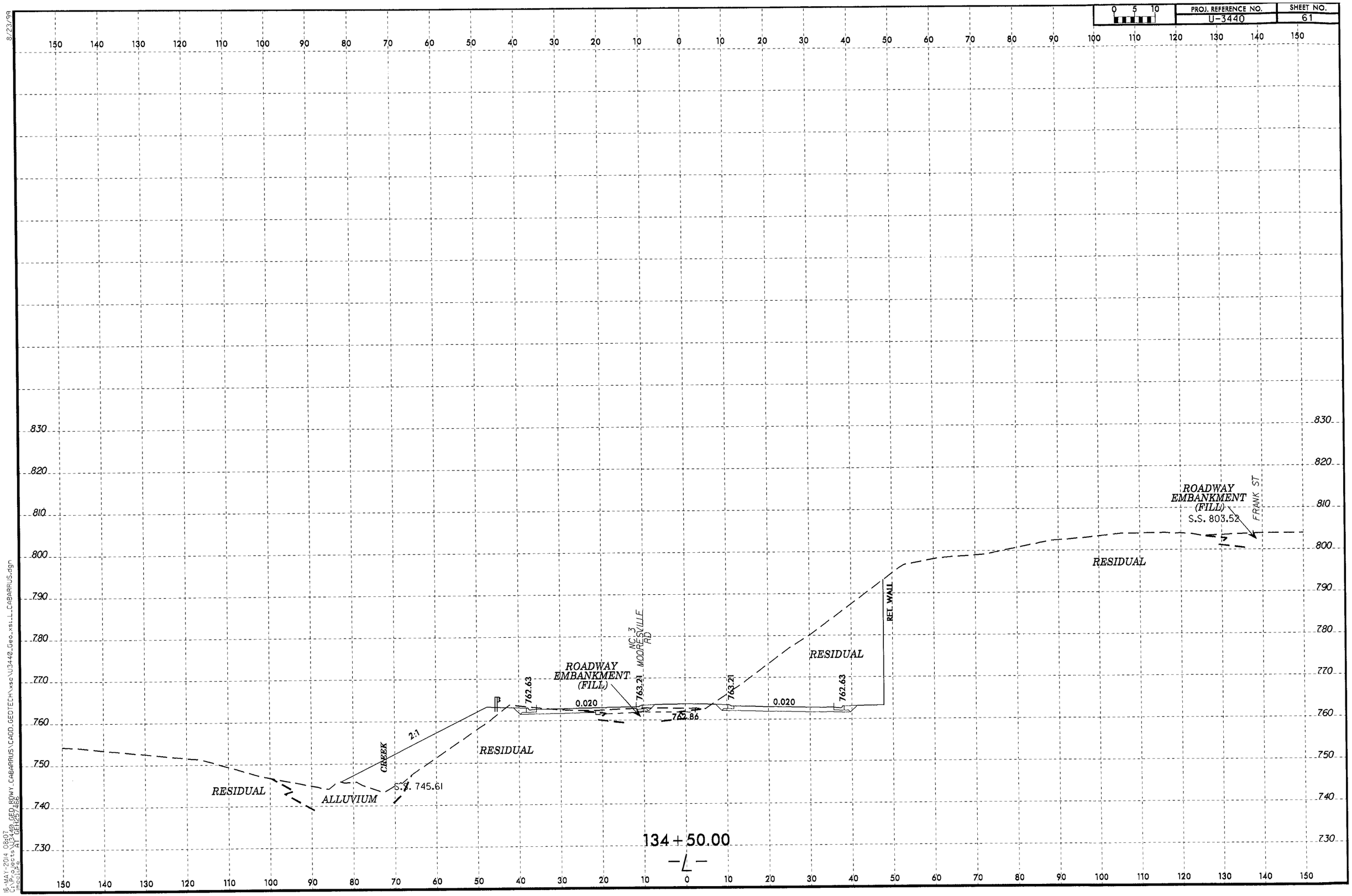
Imcclure AT GEH257466
820
810
800
790
780
770
760
750
740
730
720
RESIDUAL
CREEK
ALLUVIUM
S.S. 764.50
2:1
761.35
0.020
NC 3
MOORESVILLE
RD
761.93
ROADWAY
EMBANKMENT
(FILL)
761.00
761.93
0.020
761.35
RESIDUAL
RET. WALL
FRANK ST
ROADWAY EMBANKMENT
(FILL)
RESIDUAL
133 + 50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
60
SS-605
SS-606
SS-607
SS-608
B-85
133+83 -L-
65.0 RT.
ELEV. 799.5
ROADWAY EMBANKMENT (FILL)
FRANK ST
S.S. 801.63
RESIDUAL
RED-BRN MED. STIFF MOIST MED. TO LOW PLASTIC MICA. SILTY SANDY CLAY (A-7-6, A-7-5)
RED-BRN TO BRN & LT. GRAY LOOSE TO V. DENSE MOIST MICA. CLAYEY SILTY SAND (A-2-4)
WEATHERED ROCK LT. GRAY SEV. WEATH. CRYSTALLINE ROCK (GRANITIC ROCK)
BT FIAD (12/5/13)
RET. WALL
(PI=24)
(PI=11)
NC 3 MOORESVILLE RD
S.S. 765.08
762.02
762.60
0.020
RESIDUAL
CREEK
ALLUVIUM
134+00.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
61
0 5 10
ROADWAY EMBANKMENT (FILL)
S.S. 803.52
FRANK ST
RESIDUAL
RET. WALL
NC 3 MOORESVILLE RD
ROADWAY EMBANKMENT (FILL)
762.63
763.21
0.020
762.86
2:1
CREEK
S.S. 745.61
ALLUVIUM
134 + 50.00
-L-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3440	62

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

830 820 810 800 790 780 770 760 750 740 730 720 710

ROADWAY EMBANKMENT (FILL)

S.S. 807.09

RESIDUAL

RET. WALL

NC 3 MOORESVILLE RD

763.26 0.020 763.85 763.85 0.020 763.26

ROADWAY EMBANKMENT (FILL)

763.85

SS-636
SS-637
SS-638

B-88
134+98 -L-
66.0 LT.
ELEV. 748.2

ALLUVIUM
GRAY V. LOOSE TO LOOSE WET LOW PLASTIC MICA CLAYEY SILTY SAND (A-2-4) W/TRACE ORGANICS

S.S. 748.03

2:1

CREEK

12/13

(PI=3) 0 7 7 24 47 97

RESIDUAL

LT. GRAY LOOSE TO V. DENSE WET TO MOIST MICA SAND & SILTY SAND (A-2-4)

BT
FIAD
(12/10/13)

135+00.00

-L-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

16-MAY-2014 08:07
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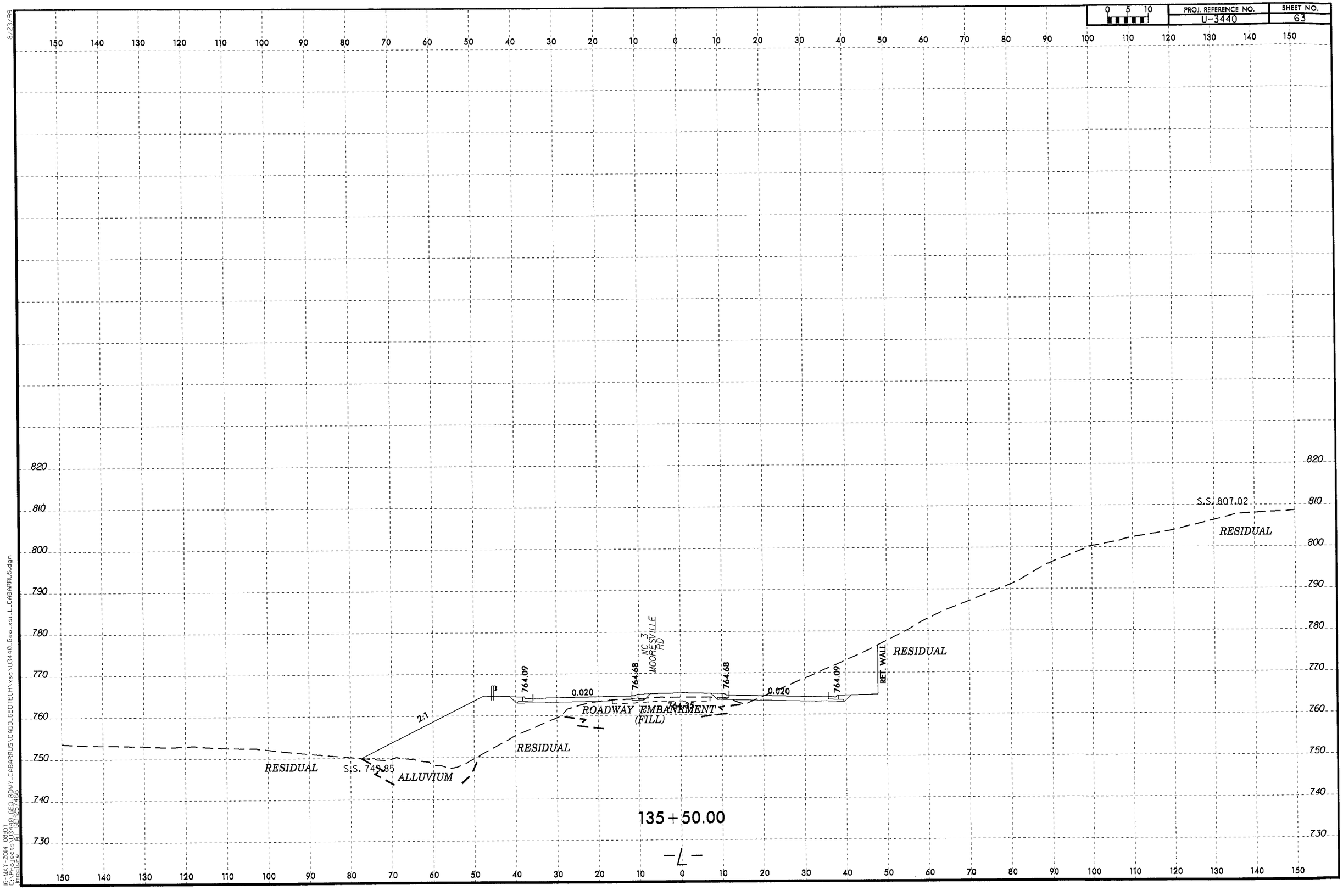
AT GEH2557466



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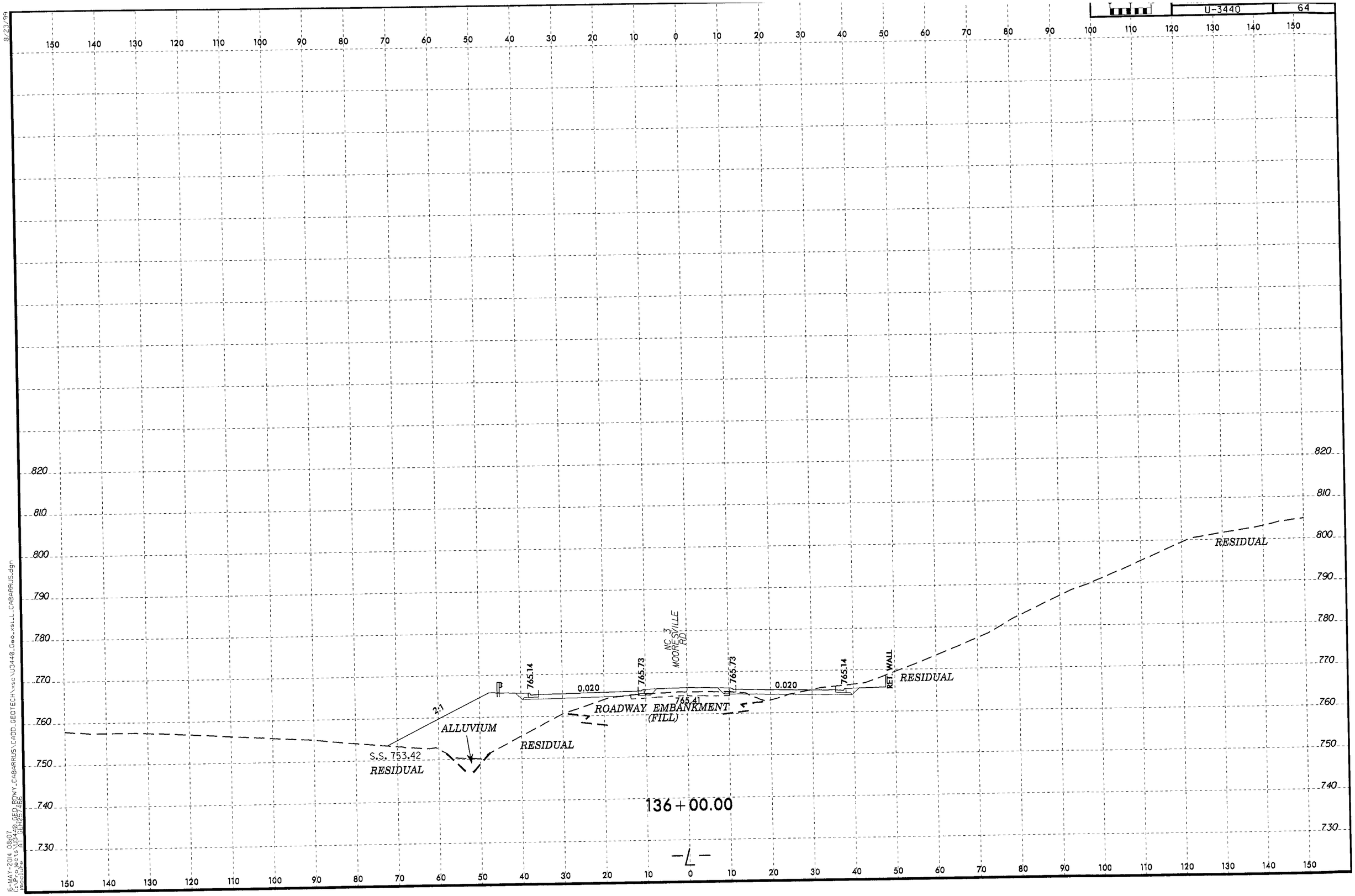
U-3440
SHEET NO.
63
0 5 10
S.S. 807.02
RESIDUAL
RESIDUAL
RET. WALL
NC 3
MOORESVILLE
RD
764.09
764.68
764.68
764.09
0.020
0.020
764.35
ROADWAY EMBANKMENT
(FILL)
2:1
RESIDUAL
RESIDUAL
S.S. 749.85
ALLUVIUM
135 + 50.00
-L-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64
8/23/99
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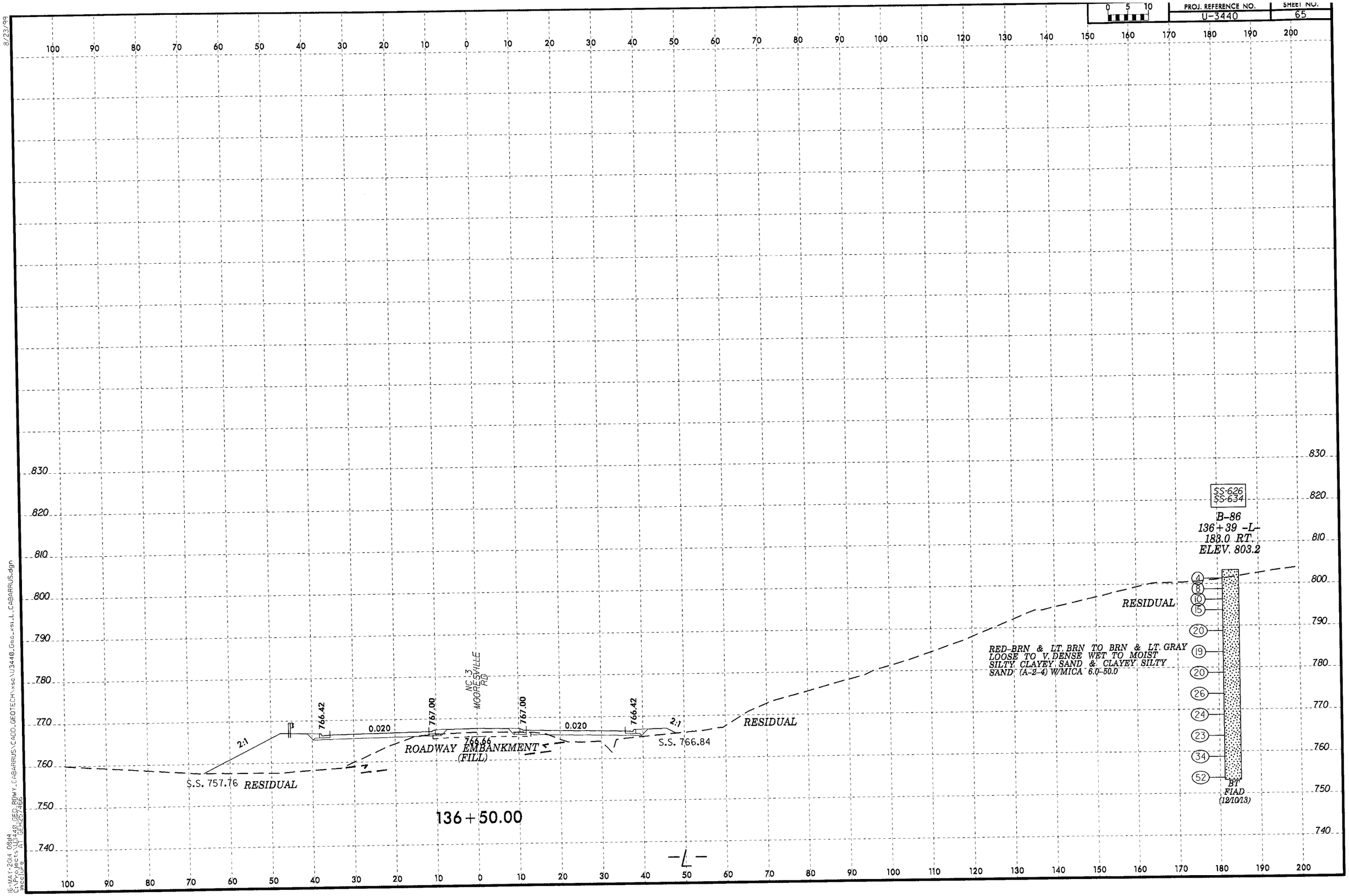
Imcclure AT GEH257466
820
810
800
790
780
770
760
750
740
730
765.14
0.020
765.73
NC 3
MOORESVILLE
RD
765.73
0.020
765.14
RET. WALL
RESIDUAL
RESIDUAL
765.41
ROADWAY EMBANKMENT
(FILL)
2:1
ALLUVIUM
RESIDUAL
S.S. 753.42
RESIDUAL
136+00.00
-L-



8/23/99

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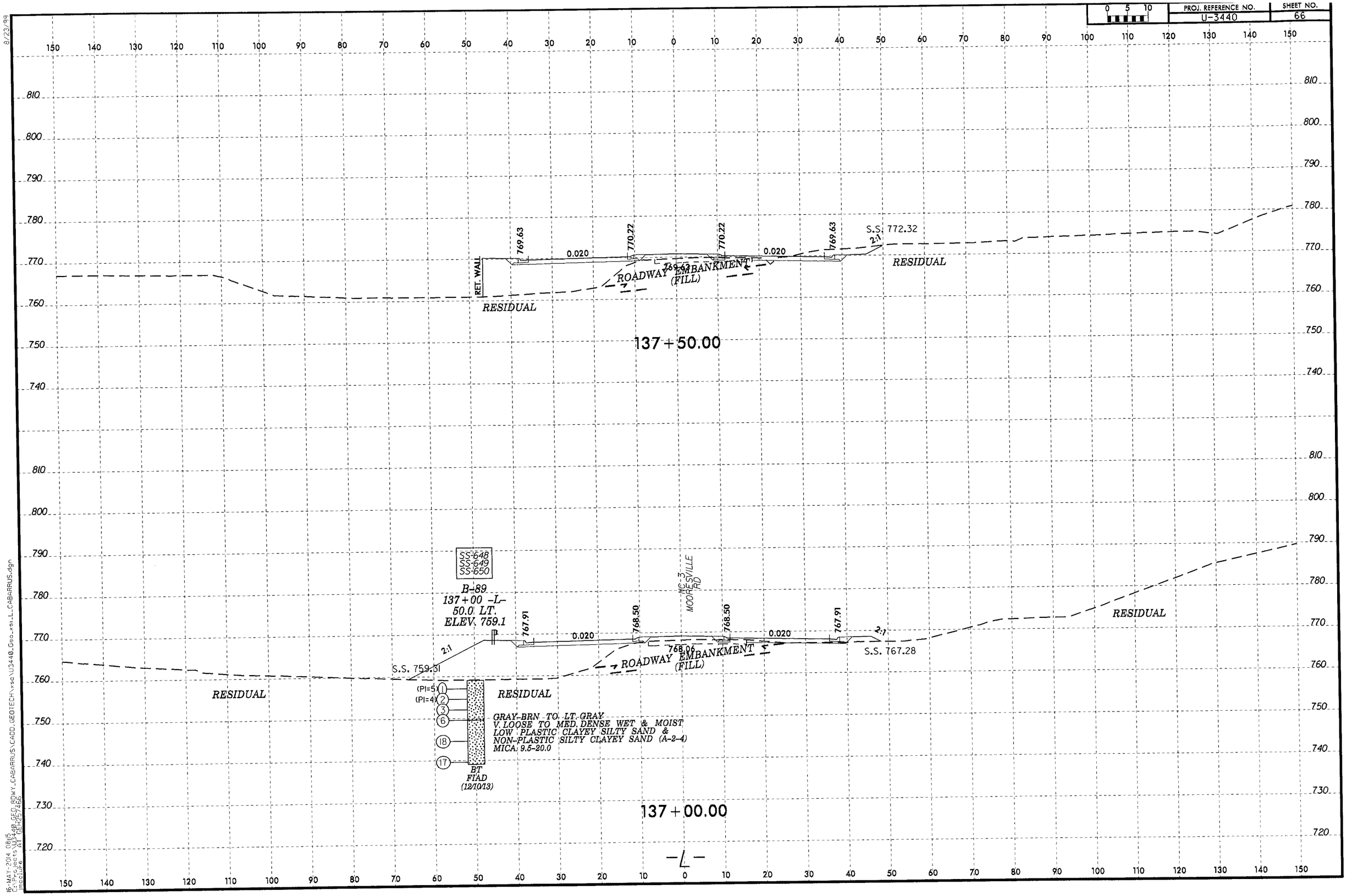
mcclure AT GEH257466



8/23/99

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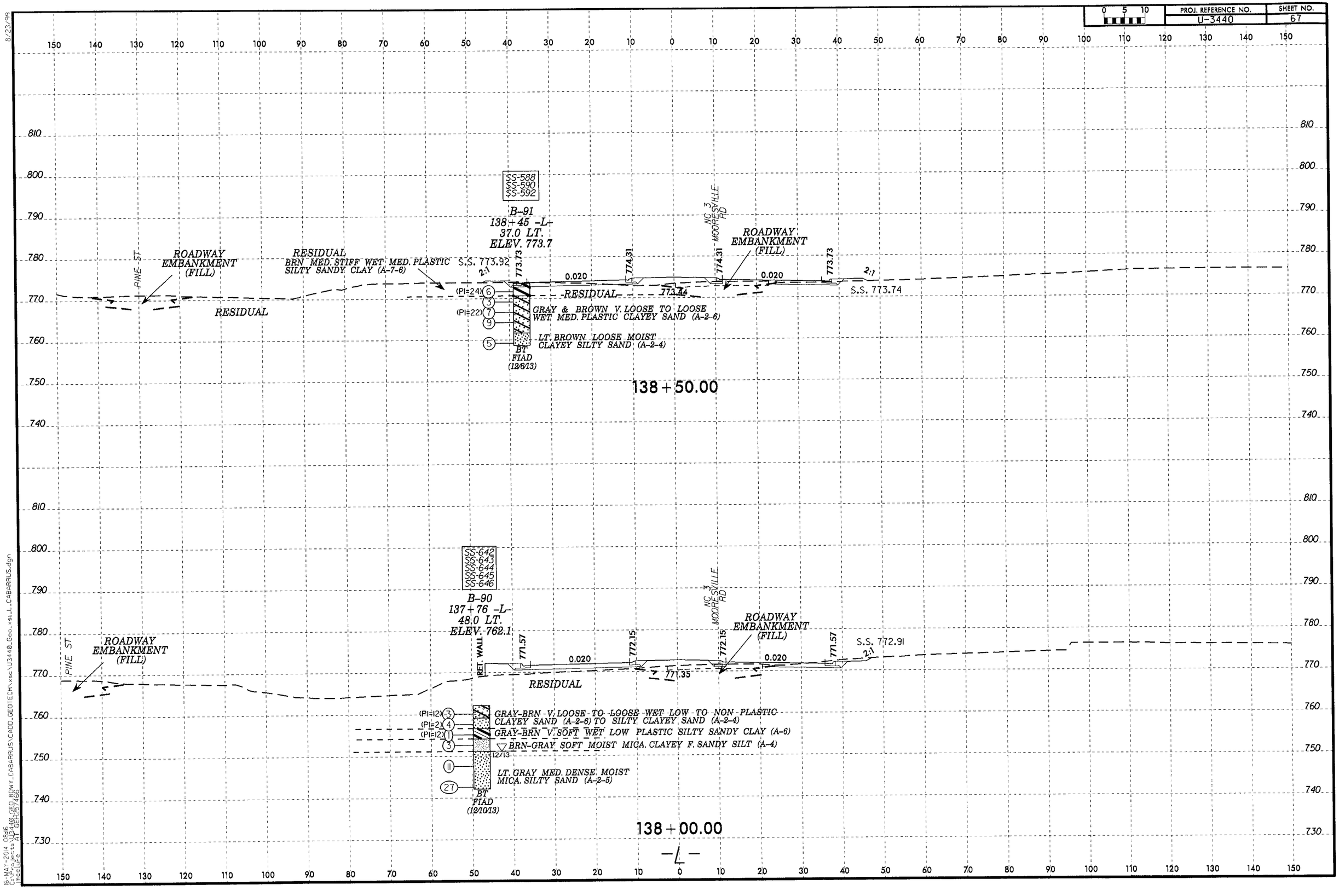

8/23/99

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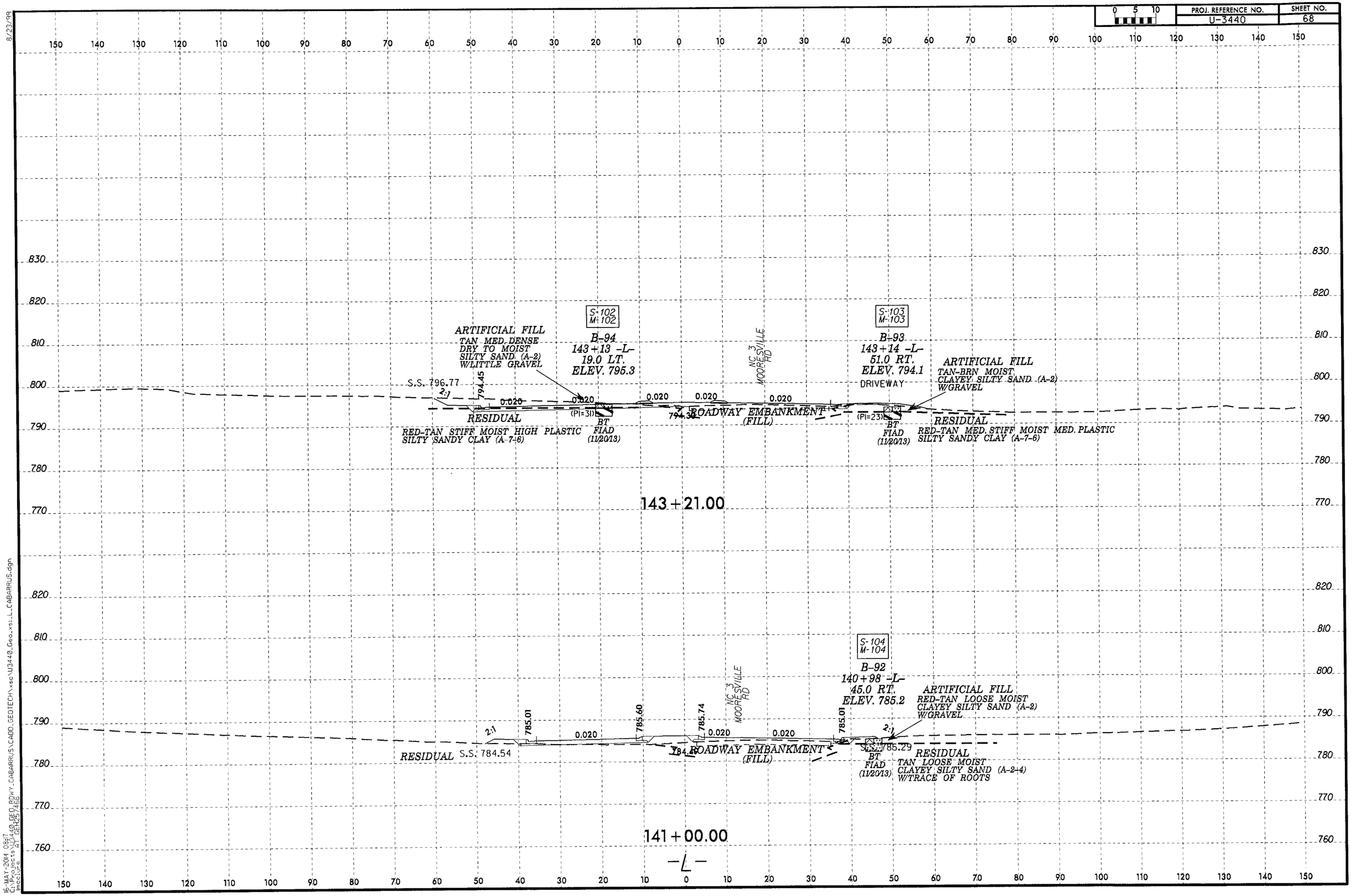
imcclure AT GEH257466



8/23/99

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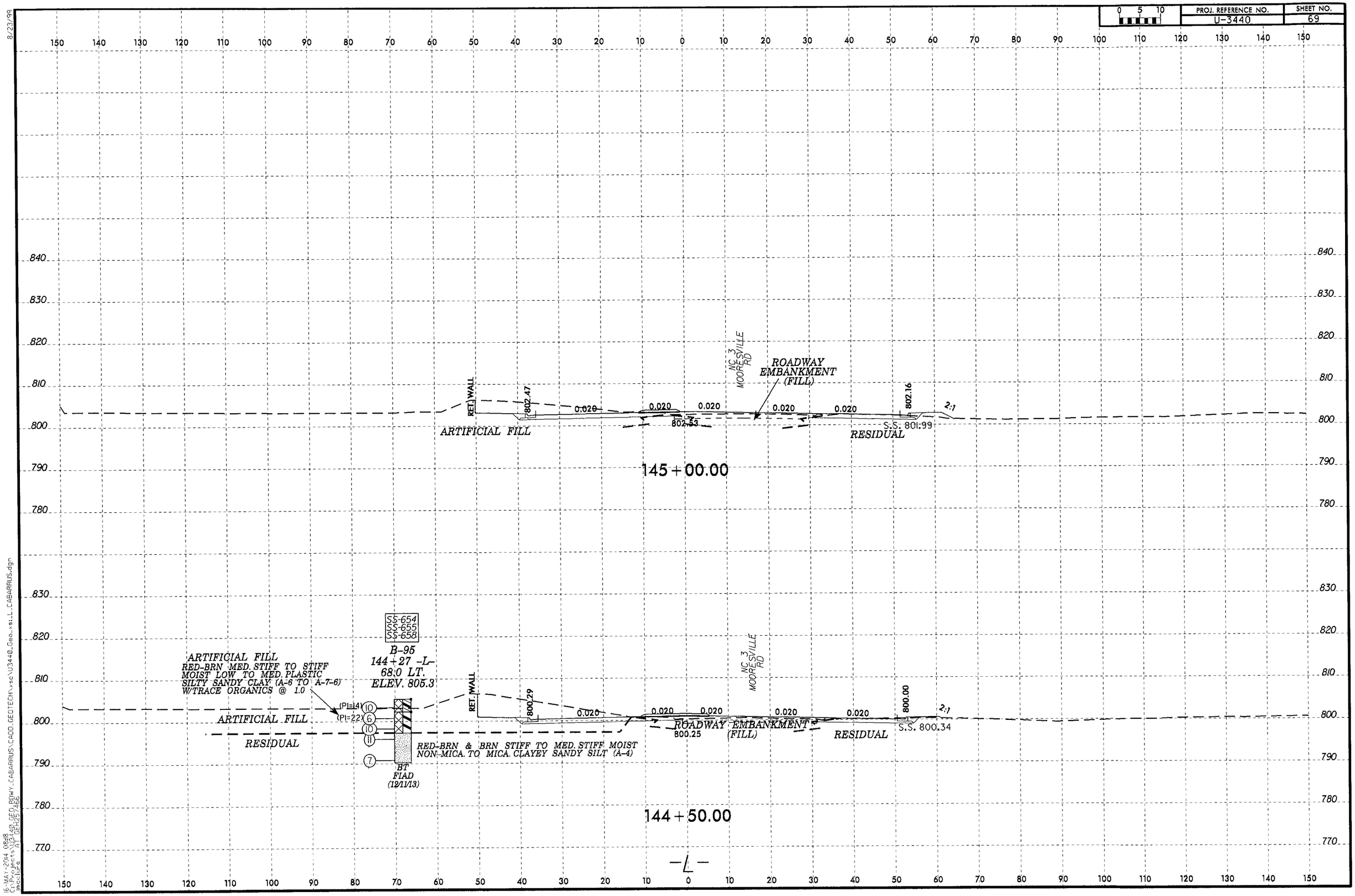
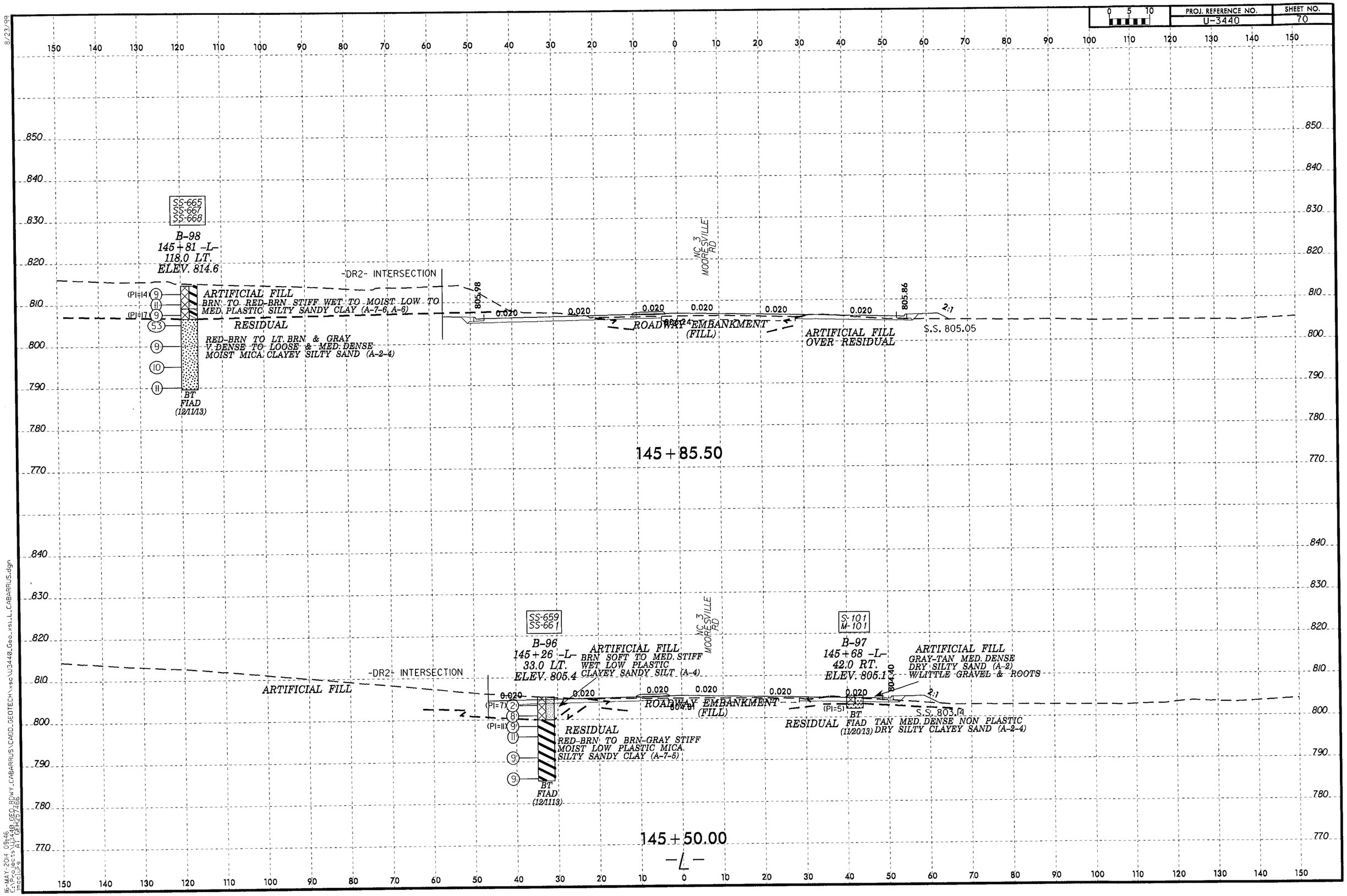
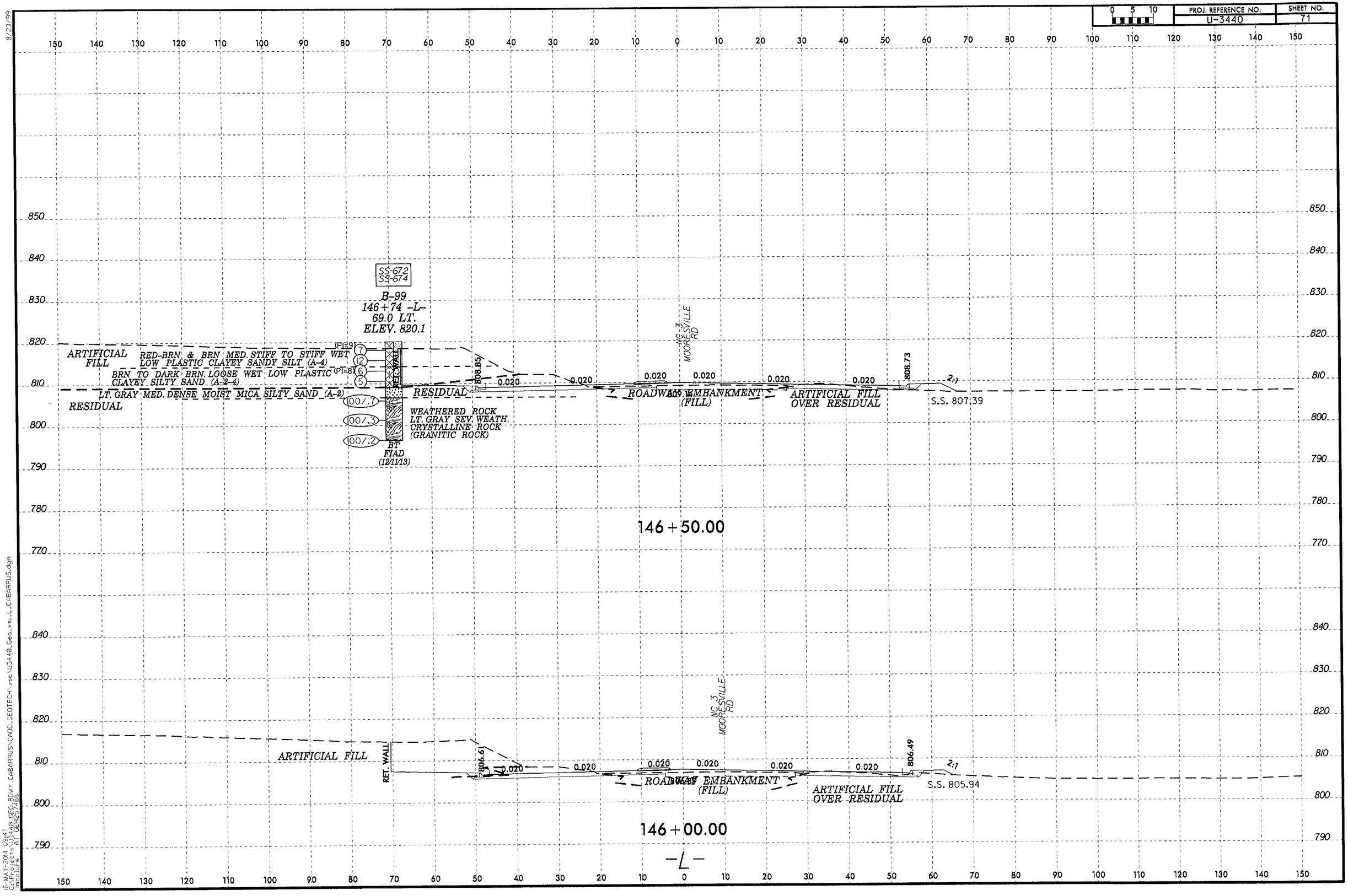
Imcclure AT GEH257466



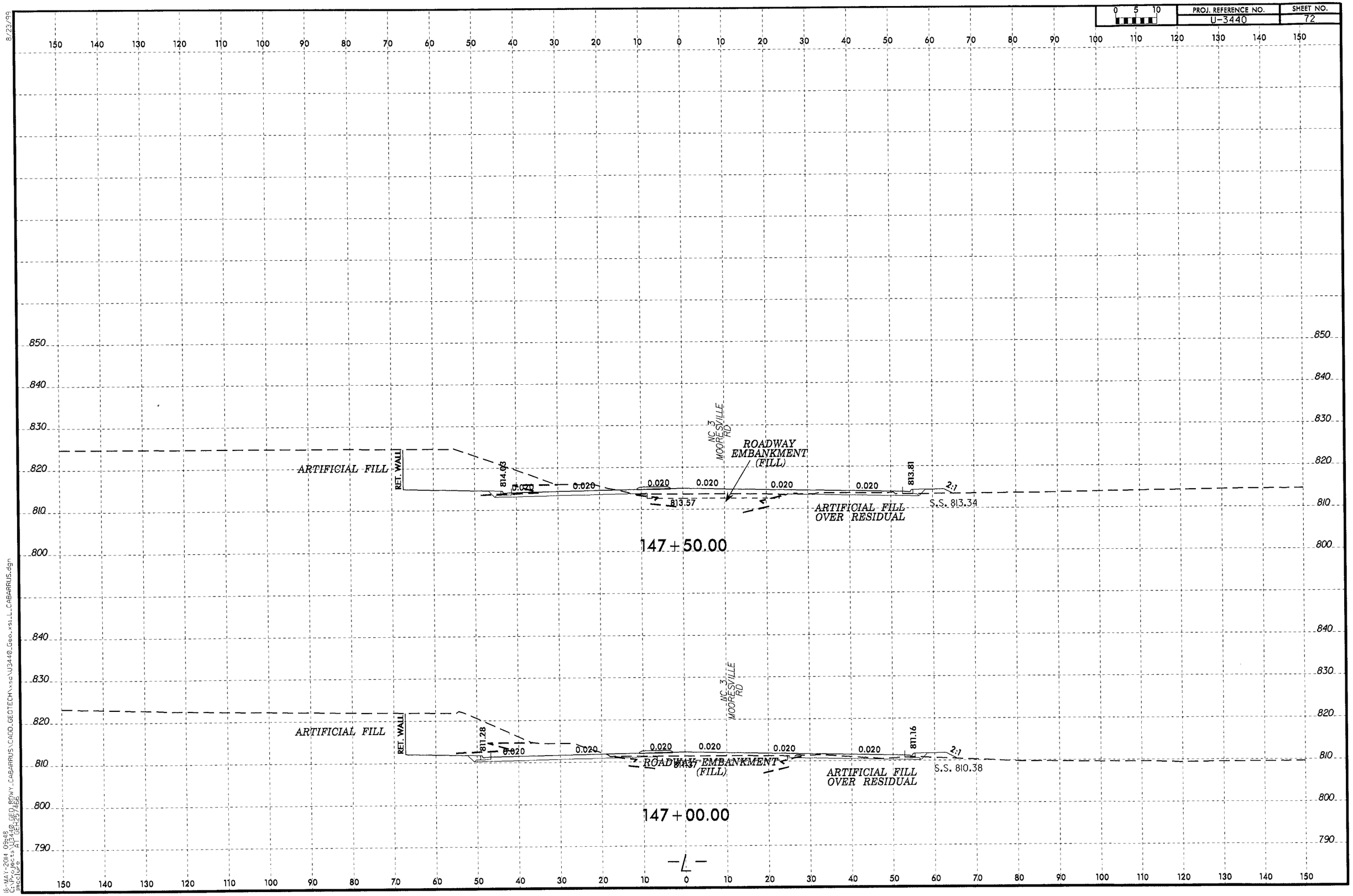
PROJ. REFERENCE NO.
U-3440
SHEET NO.
69
0 5 10
ARTIFICIAL FILL
RESIDUAL
RET. WALL
802.47
802.53
802.16
0.020
NC 3 MOORESVILLE RD
ROADWAY EMBANKMENT (FILL)
S.S. 801.99
2:1
145+00.00
SS-654
SS-655
SS-658
B-95
144+27 -L-
68.0 LT.
ELEV. 805.3
ARTIFICIAL FILL
RED-BRN MED. STIFF TO STIFF MOIST LOW TO MED. PLASTIC SILTY SANDY CLAY (A-6 TO A-7-6) W/TRACE ORGANICS @ 1.0
(PI=14)
(PI=22)
ARTIFICIAL FILL
RESIDUAL
BT FIAD (12/11/13)
RED-BRN & BRN STIFF TO MED. STIFF MOIST NON-MICA. TO MICA. CLAYEY SANDY SILT (A-4)
800.29
800.25
800.00
S.S. 800.34
144+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
70
SS-665
SS-667
SS-668
B-98
145+81 -L-
118.0 LT.
ELEV. 814.6
-DR2- INTERSECTION
ARTIFICIAL FILL
BRN TO RED-BRN STIFF WET TO MOIST LOW TO MED. PLASTIC SILTY SANDY CLAY (A-7-6, A-6)
RESIDUAL
RED-BRN TO LT. BRN & GRAY V. DENSE TO LOOSE & MED. DENSE MOIST MICA. CLAYEY SILTY SAND (A-2-4)
BT
FIAD
(12/11/13)
NC 3
MOORESVILLE
RD
805.98
805.86
0.020
ROADWAY EMBANKMENT
(FILL)
ARTIFICIAL FILL
OVER RESIDUAL
S.S. 805.05
2:1
145+85.50
SS-659
SS-661
B-96
145+26 -L-
33.0 LT.
ELEV. 805.4
ARTIFICIAL FILL
BRN SOFT TO MED. STIFF WET LOW PLASTIC CLAYEY SANDY SILT (A-4)
ARTIFICIAL FILL
-DR2- INTERSECTION
RESIDUAL
RED-BRN TO BRN-GRAY STIFF MOIST LOW PLASTIC MICA. SILTY SANDY CLAY (A-7-5)
BT
FIAD
(12/1113)
S-101
M-101
B-97
145+68 -L-
42.0 RT.
ELEV. 805.1
ARTIFICIAL FILL
GRAY-TAN MED. DENSE DRY SILTY SAND (A-2) W/LITTLE GRAVEL & ROOTS
804.40
S.S. 803.14
RESIDUAL
BT
FIAD
(11/20/13)
TAN MED. DENSE NON PLASTIC DRY SILTY CLAYEY SAND (A-2-4)
145+50.00
-L-



PROJ. REFERENCE NO.
U-3440
SHEET NO.
71
SS-672
SS-674
B-99
146+74 -L-
69.0 LT.
ELEV. 820.1
ARTIFICIAL FILL
RED-BRN & BRN MED. STIFF TO STIFF WET LOW PLASTIC CLAYEY SANDY SILT (A-4)
BRN TO DARK BRN. LOOSE WET LOW PLASTIC CLAYEY SILTY SAND (A-2-4)
LT. GRAY MED. DENSE MOIST MICA. SILTY SAND (A-2)
RESIDUAL
(PI=9)
(PI=8)
RET. WALL
100/.7
100/.3
100/.2
BT
FIAD
(12/11/13)
WEATHERED ROCK
LT. GRAY SEV. WEATH.
CRYSTALLINE ROCK
(GRANITIC ROCK)
808.85
0.020
NC 3
MOORESVILLE
RD
ROADWAY EMBANKMENT
(FILL)
ARTIFICIAL FILL
OVER RESIDUAL
808.73
2:1
S.S. 807.39
146+50.00
ARTIFICIAL FILL
RET. WALL
806.61
806.49
S.S. 805.94
146+00.00
-L-



8/23/99

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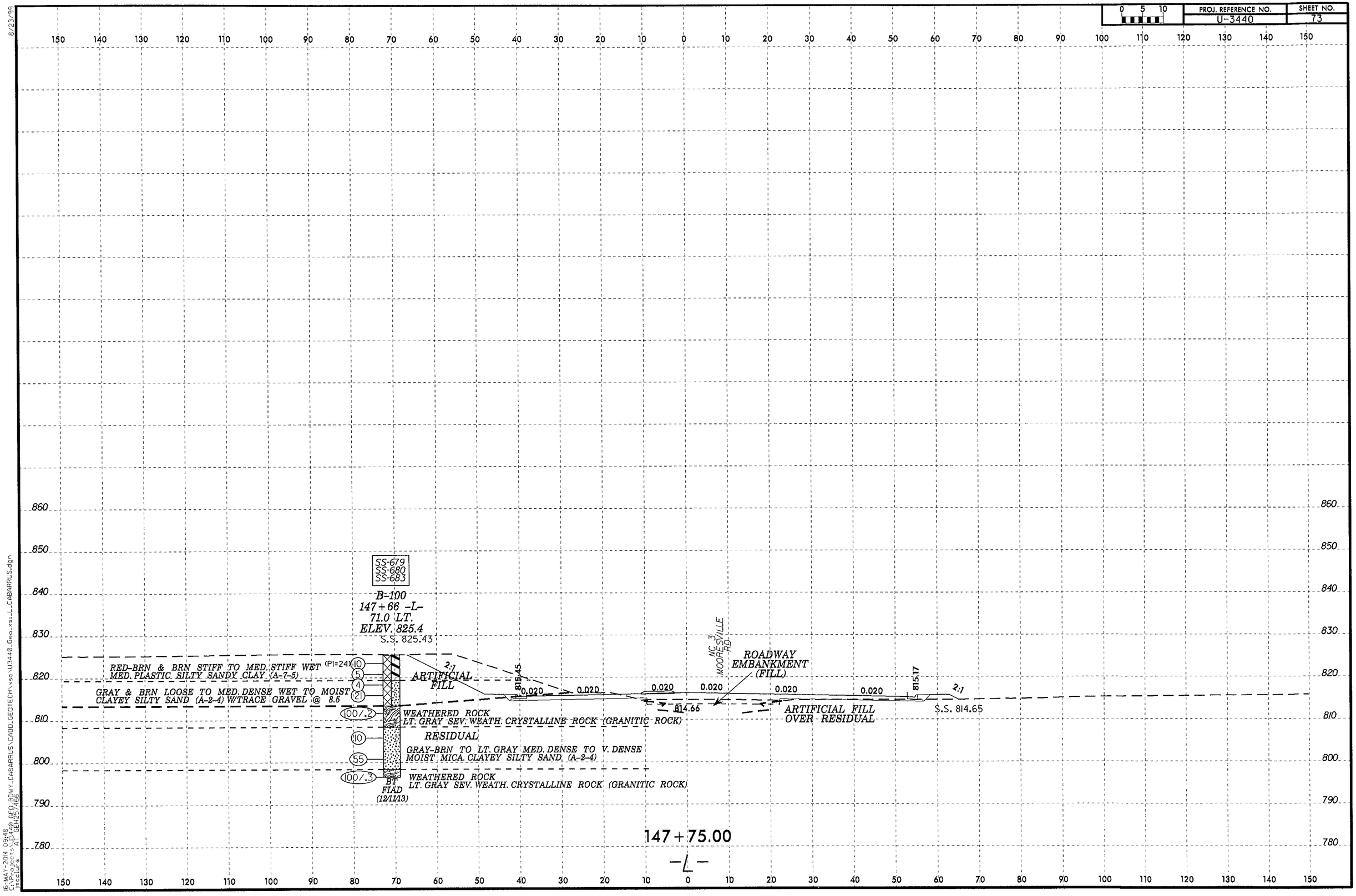

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mcclure

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
SS-1	60 RT	15+00	1.0-2.5	A-7-5(28)	78	43	23.4	9.8	8.7	58.1	95	78	65	-	-	L
SS-2	60 RT	15+00	3.5-5.0	A-7-5(5)	53	11	29.6	19.8	18.5	32.0	94	73	51	-	-	L
SS-3	60 RT	15+00	6.0-6.3	A-2-4(0)	29	NP	50.1	26.0	17.9	6.0	82	51	24	-	-	L
SS-4	72 RT	18+05	1.0-2.5	A-4(0)	29	NP	42.8	24.6	18.5	14.0	97	66	36	-	-	L
SS-5	53 LT	23+44	1.0-2.5	A-7-6(17)	59	30	24.6	11.6	15.7	48.0	93	75	62	-	-	L
SS-6	50 RT	28+50	1.0-2.5	A-7-5(14)	58	26	26.6	15.4	17.9	40.0	96	76	59	-	-	L
SS-7	50 RT	28+50	6.0-7.5	A-5(1)	44	9	39.2	21.6	21.1	18.0	90	63	39	-	-	L
M-8	68 RT	29+66	6.0-7.5				0.0	0.0	0.0	0.0		0	0	15	-	L
SS-8	68 RT	29+66	6.0-7.5	A-2-5(0)	53	10	42.6	23.8	19.5	14.0	92	63	34	-	-	L
M-9	47 RT	34+99	3.5-5.0				0.0	0.0	0.0	0.0		0	0	23	-	L
SS-9	47 RT	34+99	3.5-5.0	A-7-6(3)	42	15	37.6	18.4	17.9	26.0	91	65	43	-	-	L
M-10	48 RT	38+81	8.5-10.0				0.0	0.0	0.0	0.0		0	0	22.3	-	L
SS-10	48 RT	38+81	8.5-10.0	A-7-5(37)	79	46	16.4	10.2	17.3	56.1	98	86	75	-	-	L
M-11	48 RT	38+81	13.5-15.0				0.0	0.0	0.0	0.0		0	0	17.8	-	L
SS-11	48 RT	38+81	13.5-15.0	A-2-6(2)	38	21	46.0	18.0	9.9	26.0	87	55	34	-	-	L
SS-12	41 RT	40+72	1.0-2.5	A-1-b(0)	20	NP	81.3	12.6	4.1	2.0	71	23	5	-	-	L
SS-13	20 RT	46+76	1.0-2.5	A-7-5(13)	72	29	23.2	23.8	14.5	38.4	90	76	52	-	-	L
SS-14	20 RT	46+76	3.5-5.0	A-5(0)	55	NP	29.9	28.1	17.8	24.2	87	71	41	-	-	L
SS-15	20 RT	46+76	6.0-7.5	A-5(0)	52	NP	31.9	28.1	19.8	20.2	88	70	39	-	-	L
SS-17	71 RT	48+62	1.0-2.5	A-7-5(5)	54	17	28.3	23.6	17.8	30.3	90	72	47	-	-	L
SS-18	71 RT	48+62	3.5-5.0	A-5(2)	53	9	30.3	26.9	22.6	20.2	91	72	44	-	-	L
M-20	71 LT	37+04	2.5-3.0				0.0	0.0	0.0	0.0		0	0	18.2	-	L
S-20	71 LT	37+04	2.5-3.0	A-2-4(0)	29	10	45.3	22.2	12.3	20.2	86	57	32	-	-	L
M-22	70 LT	39+35	2.0-3.0				0.0	0.0	0.0	0.0		0	0	20.6	-	L
S-22	70 LT	39+35	2.0-3.0	A-2-4(0)	30	9	45.9	24.4	13.5	16.2	88	58	30	-	-	L
SS-22	36 RT	50+07	1.0-2.5	A-7-5(39)	75	36	5.5	7.7	18.1	68.8	100	97	89	-	-	L
SS-24	36 RT	50+07	6.0-7.5	A-7-5(26)	63	20	1.4	7.9	28.0	62.7	100	99	94	-	-	L
SS-26	68 LT	50+64	1.0-2.5	A-7-6(3)	49	21	29.7	17.0	14.9	38.4	66	52	38	-	-	L
SS-27	68 LT	50+64	3.5-5.0	A-5(2)	51	9	25.1	24.2	22.4	28.3	82	68	46	-	-	L
SS-28	68 LT	50+64	6.0-7.5	A-5(2)	51	8	21.4	28.5	25.9	24.2	85	74	47	-	-	L
SS-32	47 RT	52+22	1.0-2.5	A-7-5(4)	50	12	22.6	31.8	17.6	28.0	88	76	47	-	-	L
SS-33	47 RT	52+22	3.5-5.0	A-5(0)	42	6	35.6	29.8	22.6	12.0	88	67	36	-	-	L
SS-34	47 RT	52+22	6.0-7.5	A-2-4(0)	27	NP	53.6	29.4	11.0	6.0	99	67	20	-	-	L
SS-36	58 RT	55+19	1.0-2.5	A-2-5(0)	64	NP	36.4	36.6	17.0	10.0	91	71	32	-	-	L
SS-37	58 RT	55+19	8.5-10.0	A-2-5(0)	42	NP	41.6	31.4	17.0	10.0	90	65	30	-	-	L
SS-38	43 RT	57+81	1.0-2.5	A-7-6(5)	43	23	39.0	19.0	9.7	32.3	90	63	41	-	-	L
SS-39	43 RT	57+81	3.5-5.0	A-2-4(0)	28	8	41.8	23.2	12.7	22.2	90	63	35	-	-	L
SS-40	43 RT	57+81	6.0-7.5	A-2-5(0)	48	5	42.6	22.2	14.9	20.2	85	60	33	-	-	L
SS-42	54 LT	57+59	1.0-2.5	A-5(2)	52	9	30.5	25.5	13.7	30.3	91	73	43	-	-	L
SS-43	54 LT	57+59	3.5-5.0	A-2-5(0)	48	NP	37.0	29.7	15.2	18.2	89	68	34	-	-	L
SS-44	54 LT	57+59	1.0-2.5	A-2-5(0)	45	NP	40.8	28.5	16.6	14.1	86	63	30	-	-	L
SS-48	44 LT	59+53	1.0-2.5	A-7-6(15)	56	30	29.0	13.8	15.1	42.0	95	73	57	-	-	L
SS-49	44 LT	59+53	3.5-5.0	A-7-6(5)	45	18	36.8	17.8	13.3	32.0	91	64	45	-	-	L
SS-50	44 LT	59+53	6.0-7.5	A-4(0)	30	10	42.8	21.2	15.9	20.0	90	60	36	-	-	L
M-52	57 LT	62+00	1.0-2.5				0.0	0.0	0.0	0.0		0	0	19.5	-	L
SS-52	57 LT	62+00	1.0-2.5	A-7-6(9)	41	21	28.5	14.9	14.1	42.4	94	74	56	-	-	L
SS-53	57 LT	62+00	3.5-5.0	A-7-6(16)	65	36	30.7	14.5	8.3	46.5	94	73	54	-	-	L
M-54	57 LT	62+00	6.0-7.5				0.0	0.0	0.0	0.0		0	0	14.1	-	L
SS-54	57 LT	62+00	6.0-7.5	A-2-7(2)	49	27	51.7	12.3	3.6	32.3	66	39	25	-	-	L
SS-56	64 LT	67+41	1.0-2.5	A-7-6(21)	50	21	6.3	6.3	18.7	68.8	100	97	88	-	-	L
SS-57	64 LT	67+41	3.5-5.0	A-7-6(14)	42	17	4.2	20.4	26.8	48.5	100	99	79	-	-	L
SS-58	64 LT	67+41	6.0-7.5	A-2-4(0)	26	NP	63.1	27.7	3.1	6.1	95	60	11	-	-	L
SS-59	64 LT	67+41	8.5-10.0	A-1-b(0)	23	NP	76.4	15.8	5.8	2.0	58	21	6	-	-	L
SS-60	64 LT	67+41	3.5-5.0	A-1-b(0)	31	NP	48.5	30.1	17.3	4.0	74	49	19	-	-	L
SS-63	77 RT	59+98	1.0-2.5	A-7-6(7)	43	18	30.2	15.1	16.3	38.3	93	71	54	-	-	L
SS-64	77 RT	59+98	3.5-5.0	A-7-6(6)	41	17	30.6	17.7	17.3	34.3	95	73	52	-	-	L
SS-65	77 RT	59+98	6.0-7.5	A-2-4(0)	28	8	57.7	15.9	12.3	14.1	84	44	25	-	-	L
SS-67	65 RT	66+90	1.0-2.5	A-6(3)	40	18	34.5	20.2	12.9	32.3	85	63	41	-	-	L
SS-68	65 RT	66+90	3.5-5.0	A-2-5(0)	42	10	43.8	24.6	11.3	20.2	79	54	28	-	-	L
SS-69	65 RT	66+90	6.0-7.5	A-1-b(0)	38	NP	46.5	29.3	14.1	10.1	71	48	20	-	-	L
SS-70	101 LT	70+30	1.0-2.5	A-6(4)	37	13	32.3	15.6	17.8	34.3	87	66	49	-	-	L
SS-71	101 LT	70+30	3.5-5.0	A-4(0)	26	5	13.7	41.2	18.8	26.3	97	90	52	-	-	L
SS-72	101 LT	70+30	6.0-7.5	A-1-b(0)	26	NP	76.8	10.7	6.5	6.1	59	20	8	-	-	L
SS-73	101 LT	70+30	8.5-10.0	A-7-6(15)	54	25	15.4	24.2	16.0	44.4	98	90	63	-	-	L
SS-74	101 LT	70+30	13.5-15.0	A-4(1)	27	8	16.6	38.8	16.4	28.3	100	96	50	-	-	L
SS-75	101 LT	70+30	18.5-20.0	A-6(5)	33	11	13.3	25.3	21.0	40.4	91	83	62	-	-	L
SS-76	101 LT	70+30	23.5-25.0	A-1-b(0)	29	NP	54.5	28.7	12.7	4.0	80	48	19	-	-	L
SS-79	39 LT	74+05	1.0-2.5	A-4(0)	37	9	37.8	24.2	13.9	24.0	84	62	36	-	-	L
SS-82	39 LT	74+05	8.5-10.0	***	-	-	51.7	22.8	11.5	14.0	38	24	11	-	-	L
M-83	39 LT	74+05	13.5-15.0				0.0	0.0	0.0	0.0		0	0	23	-	L
SS-83	39 LT	74+05	13.5-15.0	A-1-b(0)	28	NP	53.1	25.6	7.3	14.0	74	44	19	-	-	L
M-84	39 LT	74+05	13.5-15.0				0.0	0.0	0.0	0.0		0	0	38.7	-	L
SS-84	39 LT	74+05	18.5-20.0	A-7-5(30)	56	26	1.4	4.4	28.1	66.1	100	99	97	-	-	L

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
M-85	39 LT	74+05	23.5-25.0				0.0	0.0	0.0	0.0		0	0	79.5	-	L
SS-85	39 LT	74+05	23.5-25.0	A-4(0)	21	NP	3.0	7.2	31.7	58.1	100	98	92	-	-	L
M-86	39 LT	74+05	28.5-30.0				0.0	0.0	0.0	0.0		0	0	72	-	L
SS-86	39 LT	74+05	28.5-30.0	A-1-b(0)	26	NP	65.1	23.8	7.1	4.0	98	46	14	-	-	L
SS-87	39 LT	74+05	33.5-35.0	A-7-5(3)	53	19	14.6	11.4	27.9	46.0	52	47	39	-	-	L
SS-88	39 LT	74+05	38.5-40.0	A-2-4(0)	28	NP	29.2	45.4	17.3	8.0	87	71	30	-	-	L
SS-90	56 LT	76+15	1.0-2.5	A-2-5(0)	46	9	44.8	20.8	12.1	22.2	80	53	30	-	-	L
SS-91	56 LT	76+15	3.5-5.0	A-2-5(0)	45	6	39.8	25.7	12.3	22.2	85	60	32	-	-	L
M- 92	73 LT	72+29	1.0-2.5				0.0	0.0	0.0	0.0		0	0	32.7	-	L
SS-92	73 LT	72+29	1.0-2.5	A-7-6(15)	46	17	11.9	8.9	29.0	50.3	98	90	80	-	-	L
SS-93	73 LT	72+29	3.5-5.0	A-6(14)	37	16	3.2	14.7	31.8	50.3	100	98	87	-	-	L
M- 94	73 LT	72+29	6.0-7.5				0.0	0.0	0.0	0.0		0	0	26.6	-	L
SS-94	73 LT	72+29	6.0-7.5	A-6(15)	38	17	6.2	12.3	29.2	52.3	100	95	86	-	-	L
M- 95	73 LT	72+29	8.5-10.0				0.0	0.0	0.0	0.0		0	0	24	-	L
M- 97	73 LT	72+29	18.5-20.0				0.0	0.0	0.0	0.0		0	0	27	-	L
SS-97	73 LT	72+29	18.5-20.0	A-3(0)	30	NP	65.2	26.2	4.6	4.0	97	68	10	-	-	L
SS-99	73 LT	72+29	28.5-53.0	A-1-b(0)	35	4	44.7	31.2	16.1	8.0	55	38	15	-	-	L
SS-101	55 RT	79+29	1.0-2.5	A-1-b(0)	38	NP	50.5	28.5	14.9	6.1	81	49	22	-	-	L
M-101	42 RT	145+68	2.7-3.0				0.0	0.0	0.0	0.0		0	0	5	-	L
S-101	42 RT	145+68	2.7-3.0	A-2-4(0)	20	5	43.4	21.6	16.9	18.0	91	62	35	-	-	L
M-102	19 LT	143+13	2.7-3.0				0.0	0.0	0.0	0.0		0	0	22.7	-	L
S-102	19 LT	143+13	2.7-3.0	A-7-6(17)	55	31	26.2	13.4	12.3	48.0	97	78	61	-	-	L
SS-102	38 LT	79+00	1.0-2.5	A-2-5(0)	41	NP	49.7	31.5	12.7	6.1	81	52	19	-	-	L
SS-103	38 LT	79+00	3.5-5.0	A-2-5(0)	43	NP	46.9	31.5	15.6	6.1	83	55	22	-	-	L
M-103	51 RT	143+14	2.7-3.0				0.0	0.0	0.0	0.0		0	0	23.8	-	L
S-103	51 RT	143+14	2.7-3.0	A-7-6(11)	47	23	26.2	17.6	16.1	40.0	96	79	57	-	-	L
M-104	45 RT	140+98	2.7-3.0				0.0	0.0	0.0	0.0		0	0	30.6	-	L
S-104	45 RT	140+98	2.7-3.0	A-2-4(0)	30	NP	36.0	40.0	13.9	10.0	90	73	25	-	-	L
M-105	47 LT	132+00	2.7-3.0				0.0	0.0	0.0	0.0		0	0	14.4	-	L
S-105	47 LT	132+00	2.7-3.0	A-2-4(0)	30	NP	29.4	49.9	14.6	6.0	99	90	27	-	-	L
M-106	22 RT	129+00	2.7-3.0				0.0	0.0	0.0	0.0		0	0	14.9	-	L
S-106	22 RT	129+00	2.7-3.0	A-6(5)	39	20	27.2	23.8	12.9	36.0	88	73	46	-	-	L
SS-107	75 LT	85+87	1.0-2.5	A-2-4(0)	31	2	53.1	24.1	8.7	14.1	85	54	22	-	-	L
SS-109	75 LT	85+87	6.0-7.5	A-4(0)	25	7	33.6	21.7	18.5	26.2	86	64	42	-	-	L
SS-110	75 LT	85+87	8.5-10.0	A-2-4(0)	21	NP	38.4	35.8	15.7	10.1	85	63	25	-	-	L
SS-111	75 LT	85+87	13.5-15.0	A-2-5(0)	47	9	42.9	24.3	20.7	12.1	77	51	29	-	-	L
SS-113	69 RT	86+15	1.0-2.5	A-4(3)	30	7	21.0	16.2	40.6	22.2	96	80	66	-	-	L
SS-114	69 RT	86+15	6.0-7.5	A-3(0)	25	NP	72.1	21.2	2.6	4.0	98	51	9	-	-	L
SS-115	69 RT	86+15	8.5-10.0	A-4(0)	25	4	46.3	22.8	16.8	14.1	100	64	36	-	-	L
SS-116	69 RT	86+15	18.5-20.0	A-2-7(0)	47	11	42.8	23.8	21.2	12.1	75	49	28	-	-	L
SS-118	22 RT	88+53	3.5-5.0	A-7-6(14)	50	27	23.8	13.3	20.4	42.4	93	75	61	-	-	L
SS-121	13 RT	90+76	3.5-5.0	A-7-5(4)	45	15	33.9	20.6	13.1	32.3	91	69	45	-	-	L
SS-122	13 RT	90+76	6.0-7.5	A-6(1)	33	11	41.4	15.2	21.2	22.2	87	58	41	-	-	L
SS-123	13 RT	90+76	8.5-10.0	A-2-4(0)	24	6	45.1	17.8	19.0	18.2	89	57	35	-	-	L
SS-124	13 RT	90+76	13.5-15.0	A-6(2)	35	17	39.6	20.2	13.9	26.3	85	59	38	-	-	L
SS-500	111 RT	97+40	1.0-2.5	A-7-5(6)	48	17	26.8	23.6	19.4	30.2	93	78	50	-	-	L
SS-501	111 RT	97+40	3.5-5.0	A-2-4(0)	18	3	44.8	20.0	19.2	16.1	85	56	33	-	-	L
SS-502	111 RT	97+40	6.0-7.5	A-6(1)	30	11	41.5	17.1	17.1	24.2	91	61	40	-	-	L
SS-503	111 RT	97+40	8.5-10.0	A-7-6(5)	46	25	40.3	17.9	13.5	28.2	86	60	39	-	-	L
SS-504	84 LT	96+20	1.0-2.5	A-1-b(0)	22	NP	72.2	18.5	5.2	4.0	68	31	8	-	-	L
SS-506	84 LT	96+20	6.0-7.5	A-1-b(0)	25	NP	75.4	15.5	5.0	4.0	51	18	6	-	-	L
SS-507	84 LT	96+20	8.5-10.0	A-1-b(0)	33	NP	53.4	24.2	16.3	6.0	68	41	17	-	-	L
SS-509	84 LT	96+20	18.5-20.0	A-2-5(0)	41	NP	24.6	50.2	21.2	4.0	94	85	30	-	-	L
SS-510	1 LT	98+34	1.0-2.5	A-1-b(0)	30	NP	50.6	24.8	14.5	10.1	81	50	23	-	-	L
M-510	1 LT	98+34	1.0-2.5				0.0	0.0	0.0	0.0		0	0	14.4	-	L
SS-511	1 LT	98+34	3.5-5.0	A-2-4(0)	38	8	44.4	20.8	14.7	20.2	84	56	32	-	-	L
SS-512	1 LT	98+34	6.0-7.5	A-7-5(3)	43	13	32.7	22.2	19.0	26.2	92	71	44	-	-	L
SS-513	1 LT	98+34	8.5-10.0	A-7-6(10)	52	23	27.4	18.7	15.5	38.3	93	76	54	-	-	L
SS-514	1 LT	98+34	13.5-15.0	A-7-5(7)	54	22	36.7	10.5	16.5	36.3	84	58	46	-	-	L
SS-516	16 RT	101+45	1.0-2.5	A-5(0)	46	NP	32.0	34.8	13.1	20.0	93	77	37	-	-	L
SS-517	16 RT	101+45	3.5-5.0	A-2-4(0)	38	NP	39.2	34.2	14.5	12.0	88	67	30	-	-	L
SS-518	16 RT	101+45	6.0-7.5	A-2-4(0)	38	NP	43.0	33.8	13.1	10.0	85	62	24	-	-	L
SS-520	59 LT	100+31	1.0-2.5	A-5(6)	45	9	1.8	49.8	16.3	32.0	100	99	62	-	-	L
SS-521	59 LT	100+31	3.5-5.0	A-5(3)	43	5	1.8	55.7	18.5	24.0	100	99	57	-	-	L
SS-522	59 LT	100+31	6.0-7.5	A-4(0)	40	NP	2.0	61.7	18.3	18.0	100	99	53	-	-	L
M-524	87 LT	103+37	1.0-2.5				0.0	0.0	0.0	0.0		0	0	13.1	-	L
SS-524	87 LT	103+37	1.0-2.5	A-2-4(0)	39	NP	40.4	33.4	14.1	12.0	88	64	29	-	-	L
SS-525	87 LT	103+37	3.5-5.0	***	-	-	45.4	29.2	13.3	12.0	90	61	28	-	-	L
SS-526	87 LT	103+37	3.5-5.0	A-2-5(0)	44	NP	44.4	31.6	13.9	10.0	87	60	27	-	-	L
SS-528	37 RT	106+52	1.0-2.5	A-2-5(0)	49	NP	44.4	31.8	11.7	12.0	76	53	23	-	-	L
SS-530	37 RT	106+52	6.0-7.5	A-2-5(0)	43	NP	46.8	31.2	11.9	10.0	83	55	22	-	-	L
SS-534	23 LT	108+46	6.0-7.5	A-2-5(0)	46	NP	42.4	31.4	12.1	14.0	77	54	25	-	-	L
M-535	23 LT	108+46	8.5-10.0				0.0	0.0	0.0	0.0		0	0	5	-	L

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
SS-535	23 LT	108+46	8.5-10.0	A-2-5(0)	42	NP	44.0	32.2	13.7	10.0	73	51	22	-	-	L
SS-537	23 LT	108+46	18.5-20.0	A-2-4(0)	32	NP	44.5	29.3	14.1	12.0	83	57	26	-	-	L
SS-538	23 LT	108+46	23.5-25.0	A-1-b(0)	34	NP	47.3	32.5	14.1	6.0	71	47	18	-	-	L
SS-539	72 LT	107+48	1.0-2.5	A-7-6(6)	48	22	33.5	17.5	12.9	36.1	84	63	44	-	-	L
SS-540	72 LT	107+48	3.5-5.0	A-7-6(3)	46	19	35.7	20.3	9.9	34.1	80	58	38	-	-	L
SS-541	72 LT	107+48	6.0-7.5	A-2-5(0)	44	6	41.3	26.9	15.7	16.0	79	54	30	-	-	L
M-543	120 LT	110+50	1.0-2.5				0.0	0.0	0.0	0.0		0	0	15	-	L
SS-543	120 LT	110+50	1.0-2.5	A-2-6(0)	38	11	44.1	23.9	9.9	22.1	74	50	27	-	-	L
SS-544	120 LT	110+50	3.5-5.0	A-1-b(0)	35	NP	45.1	31.3	11.5	12.0	68	47	20	-	-	L
SS-546	120 LT	110+50	8.5-10.0	A-1-b(0)	25	NP	53.0	29.1	9.9	8.0	70	44	16	-	-	L
SS-549	123 RT	113+47	1.0-2.5	A-2-4(0)	31	8	40.9	25.8	15.1	18.1	76	54	28	-	-	L
SS-550	123 RT	113+47	3.5-5.0	A-7-6(12)	52	25	20.2	25.8	19.8	34.3	97	87	56	-	-	L
SS-551	123 RT	113+47	6.0-7.5	A-4(0)	31	9	37.9	27.8	18.1	16.1	94	72	37	-	-	L
SS-553	123 RT	113+47	13.5-15.0	A-2-4(0)	28	NP	31.5	41.1	19.4	8.1	87	73	29	-	-	L
SS-559	115 RT	115+39	1.0-2.5	A-4(0)	26	3	30.4	32.9	20.6	16.1	90	75	38	-	-	L
SS-563	115 RT	115+39	13.5-15.0	A-2-4(0)	37	NP	35.1	39.7	17.1	8.1	100	84	29	-	-	L
SS-569	71 RT	112+11	1.0-2.5	A-2-4(0)	34	7	44.7	25.1	12.1	18.1	62	42	22	-	-	L
SS-570	71 RT	112+11	3.5-5.0	A-1-b(0)	28	NP	43.3	30.5	14.1	12.0	70	49	22	-	-	L
M-570	71 RT	112+11	6.0-7.5				0.0	0.0	0.0	0.0		0	0	7.9	-	L
SS-571	71 RT	112+11	6.0-7.5	A-1-b(0)	30	NP	48.3	30.9	10.7	10.0	70	48	18	-	-	L
SS-572	71 RT	112+11	8.5-10.0	A-1-b(0)	30	NP	46.5	31.7	13.7	8.0	71	48	20	-	-	L
SS-576	1 LT	118+99	1.0-2.5	A-2-4(0)	36	6	53.4	15.8	12.7	18.1	91	54	30	-	-	L
SS-578	1 LT	118+99	6.0-7.5	A-2-4(0)	23	5	45.3	25.7	10.9	18.1	81	55	27	-	-	L
SS-579	1 LT	118+99	8.5-10.0	A-2-4(0)	24	5	44.9	26.1	12.9	16.0	81	57	27	-	-	L
SS-580	1 LT	118+99	13.5-15.0	A-2-4(0)	24	NP	51.2	31.1	7.7	10.0	82	62	18	-	-	L
SS-581	75 LT	117+24	1.0-2.5	A-4(1)	29	8	28.6	23.0	26.2	22.2	87	69	47	-	-	L
SS-583	75 LT	117+24	6.0-7.5	A-1-b(0)	24	NP	79.2	14.3	2.4	4.0	60	22	5	-	-	L
SS-584	75 LT	117+24	8.5-10.0	A-2-4(0)	28	NP	36.1	45.0	14.9	4.0	92	76	23	-	-	L
SS-585	75 LT	117+24	13.5-15.0	A-2-4(0)	25	NP	33.5	46.4	16.1	4.0	94	78	24	-	-	L
SS-587	75 LT	117+24	23.5-25.0	A-2-4(0)	27	NP	44.6	37.7	13.7	4.0	86	63	20	-	-	L
SS-588	49 LT	138+50	13.5-15.0	A-7-6(9)	45	24	29.1	19.5	13.3	38.1	92	74	51	-	-	L
SS-590	49 LT	138+50	6.0-7.5	A-2-6(2)	37	22	38.7	24.5	6.7	30.1	86	64	34	-	-	L
SS-592	49 LT	138+50	13.5-15.0	A-2-4(0)	39	NP	33.1	38.7	14.1	14.0	91	75	31	-	-	L
SS-593	18 RT	118+01	1.0-2.5	A-1-b(0)	25	NP	67.1	20.6	6.2	6.0	76	37	11	-	-	L
SS-594	18 RT	118+01	3.5-4.8	A-1-b(0)	21	NP	81.0	12.7	4.2	2.0	77	27	6	-	-	L
SS-595	49 RT	133+02	1.0-2.5	A-7-5(4)	48	16	27.4	31.9	14.5	26.2	98	88	44	-	-	L
SS-597	49 RT	133+02	6.0-7.5	A-2-4(0)	28	NP	29.6	46.7	15.6	8.1	97	87	29	-	-	L
SS-598	49 RT	133+02	8.5-10.0	A-2-4(0)	38	NP	34.3	40.5	11.1	14.1	97	85	28	-	-	L
SS-599	49 RT	133+02	13.5-15.0	A-2-4(0)	36	NP	50.9	27.9	12.1	9.1	93	60	24	-	-	L
SS-601	49 RT	133+02	23.5-25.0	A-4(0)	35	NP	30.6	36.9	12.3	20.2	98	87	36	-	-	L
SS-602	49 RT	133+02	28.5-30.0	A-2-4(0)	29	NP	29.3	47.2	15.4	8.1	98	87	29	-	-	L
SS-605	65 RT	133+83	1.0-2.5	A-7-6(12)	51	24	15.3	28.4	12.1	44.3	98	93	58	-	-	L
SS-606	65 RT	133+83	3.5-5.0	A-7-5(3)	42	11	18.3	39.0	14.5	28.2	98	93	46	-	-	L
SS-607	65 RT	133+83	6.0-7.5	A-2-4(0)	36	NP	22.5	48.1	15.3	14.1	97	92	35	-	-	L
SS-608	65 RT	133+83	8.5-10.0	A-2-4(0)	32	NP	25.6	49.1	15.3	10.1	96	89	30	-	-	L
SS-616	48 RT	132+00	1.0-2.5	A-7-6(5)	49	23	35.0	19.3	13.5	32.2	85	63	41	-	-	L
SS-618	48 RT	132+00	6.0-7.5	A-2-7(0)	44	12	41.9	18.1	19.9	20.1	81	55	35	-	-	L
SS-619	48 RT	132+00	8.5-10.0	A-2-5(0)	43	8	40.8	22.3	22.7	14.1	79	53	33	-	-	L
SS-626	183' RT	136+39	6.0-7.5	A-2-4(0)	38	NP	36.8	30.2	12.9	20.1	73	56	27	-	-	L
SS-634	183' RT	136+39	43.5-45.0	A-2-4(0)	32	NP	31.8	38.6	17.5	12.1	83	70	30	-	-	L
SS-636	66 LT	134+98	1.0-2.5	A-2-4(0)	27	3	39.0	36.0	14.9	10.1	91	68	28	-	-	L
SS-637	66 LT	134+98	3.5-5.0	A-2-4(0)	28	NP	45.7	39.4	8.9	6.0	94	73	18	-	-	L
SS-638	66 LT	134+98	6.0-7.50	A-2-4(0)	29	NP	41.6	42.7	11.7	4.0	92	75	19	-	-	L
SS-642	48' LT	137+76	1.0-2.5	A-2-6(0)	32	12	45.9	22.9	7.0	24.1	76	52	25	-	-	L
SS-643	48' LT	137+76	3.5-5.0	A-2-4(0)	28	2	31.0	38.2	12.7	18.1	80	66	28	-	-	L
SS-644	48' LT	137+76	6.0-7.5	A-6(1)	32	12	31.6	27.0	11.3	30.2	90	74	41	-	-	L
SS-645	48 LT	137+76	8.5-10.0	A-4(0)	38	NP	3.0	65.0	21.9	10.1	100	99	44	-	-	L
SS-646	48 LT	137+76	13.5-15.0	A-2-5(0)	41	NP	24.3	50.9	16.7	8.0	90	81	28	-	-	L
SS-648	50 LT	137+00	1.0-2.5	A-2-4(0)	28	5	44.8	26.3	16.8	12.1	85	58	28	-	-	L
SS-649	50 LT	137+00	3.5-5.0	A-2-4(0)	31	4	40.6	30.7	14.5	14.1	86	63	29	-	-	L
SS-650	50 LT	137+00	6.0-7.5	A-2-4(0)	26	NP	45.1	33.7	9.1	12.1	88	62	22	-	-	L
SS-654	68 LT	144+27	1.0-2.5	A-6(2)	35	14	33.8	21.1	16.9	28.2	84	63	41	-	-	L
SS-655	68 LT	144+27	3.5-5.0	A-7-6(10)	46	22	27.2	16.7	13.9	42.3	94	76	56	-	-	L
SS-658	68 LT	144+27	13.5-15.0	A-4(0)	37	NP	23.9	39.0	22.9	14.1	97	88	40	-	-	L
SS-659	33 LT	145+26	1.0-2.5	A-4(0)	25	7	40.0	19.3	16.5	24.1	91	66	40	-	-	L
SS-661	33 LT	145+26	6.0-7.5	A-7-5(5)	44	11	20.1	31.4	20.3	28.2	100	92	54	-	-	L
SS-665	118 LT	145+81	1.0-2.5	A-7-6(3)	42	14	34.4	21.1	20.3	24.1	89	67	44	-	-	L
SS-667	118 LT	145+81	6.0-7.5	A-6(5)	37	17	31.0	21.3	17.5	30.2	96	78	49	-	-	L
SS-668	118 LT	145+81	8.5-10.0	A-2-4(0)	31	NP	50.7	25.2	12.1	12.1	83	52	24	-	-	L
SS-672	69 LT	146+74	1.0-2.5	A-4(2)	40	9	33.4	20.3	22.1	24.1	87	65	44	-	-	L
SS-674	69 LT	146+74	6.0-7.5	A-2-5(0)	46	8	45.5	21.3	21.1	12.1	85	56	31	-	-	L
SS-679	71 LT	147+66	1.0-2.5	A-7-5(15)	57	24	17.7	23.7	22.3	36.2	98	86	63	-	-	L
SS-680	71 LT	147+66	6.0-7.5	A-2-4(0)	38	NP	41.9	24.1	23.9	10.1	80	55	31	-	-	L

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
SS-683	71 LT	147+66	18.5-20.0	A-2-4(0)	40	NP	44.5	23.9	17.5	14.1	86	60	31	-	-	L
SS-686	52 RT	125+40	1.0-2.5	A-2-4(0)	25	6	35.2	32.6	10.1	22.1	86	68	32	-	-	L
SS-687	52 RT	125+40	3.5-5.0	A-2-4(0)	29	5	34.6	38.2	17.1	10.1	94	75	31	-	-	L
SS-692	6 RT	127+20	3.5-5.0	***	-	-	58.1	19.1	10.7	12.1	65	36	16	-	-	L
SS-694	6 RT	127+20	8.5-10.0	A-7-6(7)	46	19	27.4	21.1	17.3	34.2	92	77	51	-	-	L
SS-695	28 RT	109+89	1.0-2.5	A-6(2)	40	14	37.4	23.0	15.4	24.2	85	62	38	-	-	L
SS-696	28 RT	109+89	3.5-5.0	A-2-4(0)	34	NP	41.4	32.1	12.3	14.1	84	62	27	-	-	L
SS-697	28 RT	109+89	6.0-7.5	A-7-5(5)	51	19	32.5	22.2	12.9	32.3	87	68	43	-	-	L
*** = INSUFFICIENT MATTERIAL TO TEST SAMPLE														-	-	