CONTRACT: C202745

ID: U-4909

NOTE: SEE SHEET 1A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-L-	8+15.00 - 225+10.00	4 - 18	26 - 33	
-Y1-	12+00.00-37+05.00	4 - 5	34 - 35	
-Y2-	10+19.15-14+00.00	4	35	
-Y3-	16+82.33-64+10.00	5, 19-20	35 - 37	
-Y3RPA-	13+10.27-29+26.34	5	37 - 38	
-Y3RPB-	10+00.00-26+49.10	5, 19	38 - 39	
-Y3LPB-	10+00.00-21+09.19	5	39	
-Y3RPC-	14+41.09-31+26.62	5	40	
-Y3RPD-	10+00.00-26+82.65	5, 20	40 - 41	
-Y3LPD-	10+00.00-21+09.19	5	41	
-Y4-	11+00.00-32+00.00	5, 6, 21	42	
-Y5-	10+47.07-12+05.00	6	43	
-Y6-	10+53.35-12+40.00	7	43	
-Y7-	10+41.12-11+75.00	8	43	
-Y7A-	10+43.58-11+95.00	8	43	
-Y8-	15+02.24-16+50.00	8	43	
-Y9-	10+00.00-15+65.00	9	44	
-Y10-	14+11.91-15+50.00	10	44	
-Y11-	10+41.39-12+00.00	10	44	
-Y12-	13+85.00-15+25.00	11	44	
-Y13-	12+00.00-23+46.83	12, 22	45	
-Y14-	12+94.72-14+50.00	12	45	
-Y15-	27+00.00-56+00.00	13	46	
-Y15RPA-	11+38.61-20+91.63	13	47	
-Y15RPB-	10+75.00-22+04.81	13	47	
-Y15RPC-	10+00.00-20+88.80	13	48	
-Y15RPD-	10+75.00-21+70.04	13	48	
-Y15SPA-	10+00.00-13+75.72	13	49	
-Y15SPB-	10+28.46-13+06.07	13	49	
-Y15SPC-	10+00.00-13+75.72	13	49	
-Y15SPD-	10+28.46-13+05.35	13	49	
-Y16-	10+00.00-14+00.00	13	50	
-Y17-	10+30.00-21+58.82	14, 23	50	
-Y18-	14+60.00-16+00.00	14	50	
-Y19-	12+40.00-14+91.41	15	51	
-Y20-	10+53.81-12+75.00	15	51	
-Y21-	11+00.00-13+76.42	15	51	
-Y22-	10+53.28-11+85.00	16	51	
-Y23-	10+60.00-33+75.00	16, 24, 25	52	
-Y24-	13+30.00-14+81.25	17	53	
-Y25-	10+00.00-10+51.33	17	53	
SAMPLE RESULTS		54		

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

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 40278.1.1 (U-4909) F.A. PROJ. STP-2643(2)

COUNTY FORSYTH

PROJECT DESCRIPTION SR 2643 (UNION CROSS RD.) FROM SR 2691 (WALLBURG RD.) TO SR 2632 (SEDGE GARDEN RD.)

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4909	1	54

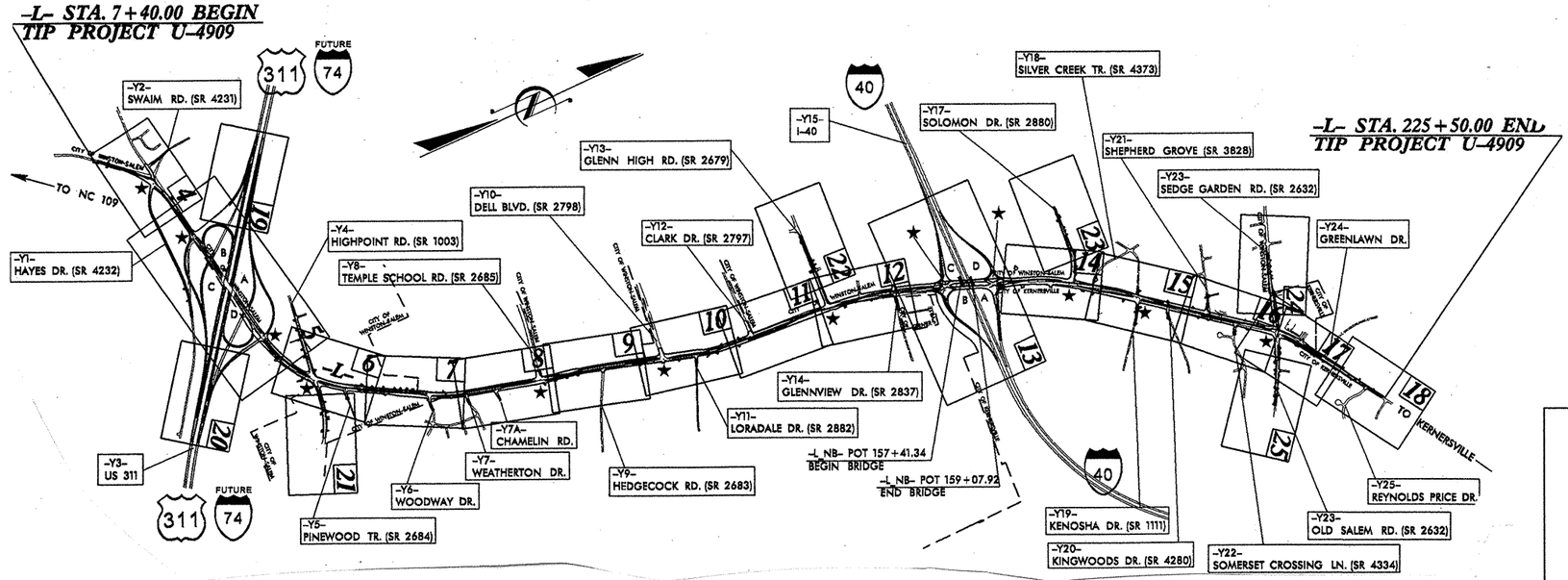
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
40278.1.1	STP-2643(2)	PE
40278.2.1	STP-2643(3)	R/W
40278.3.1	STP-2643(5)	CONST

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 (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON 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

C. C. MURRAY

J. E. ESTEP

L. N. HARPER

INVESTIGATED BY C. C. MURRAY

CHECKED BY C. B. LITTLE

SUBMITTED BY C. B. LITTLE

DATE JULY 2008

NORTH CAROLINA LICENSED SEAL 3149 GEOLOGIST CLINTON B. LITTLE

DRAWN BY: C. E. BURRIS

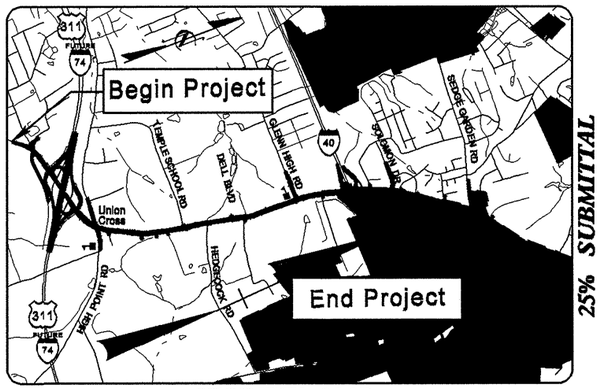
NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

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.

TIP PROJECT: U-4909

CONTRACT:

SEE SHEET 1-A FOR INDEX OF SHEETS
SEE SHEET 1-B FOR CONVENTIONAL SYMBOLS



25% SUBMITTAL

VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4909	1A	54

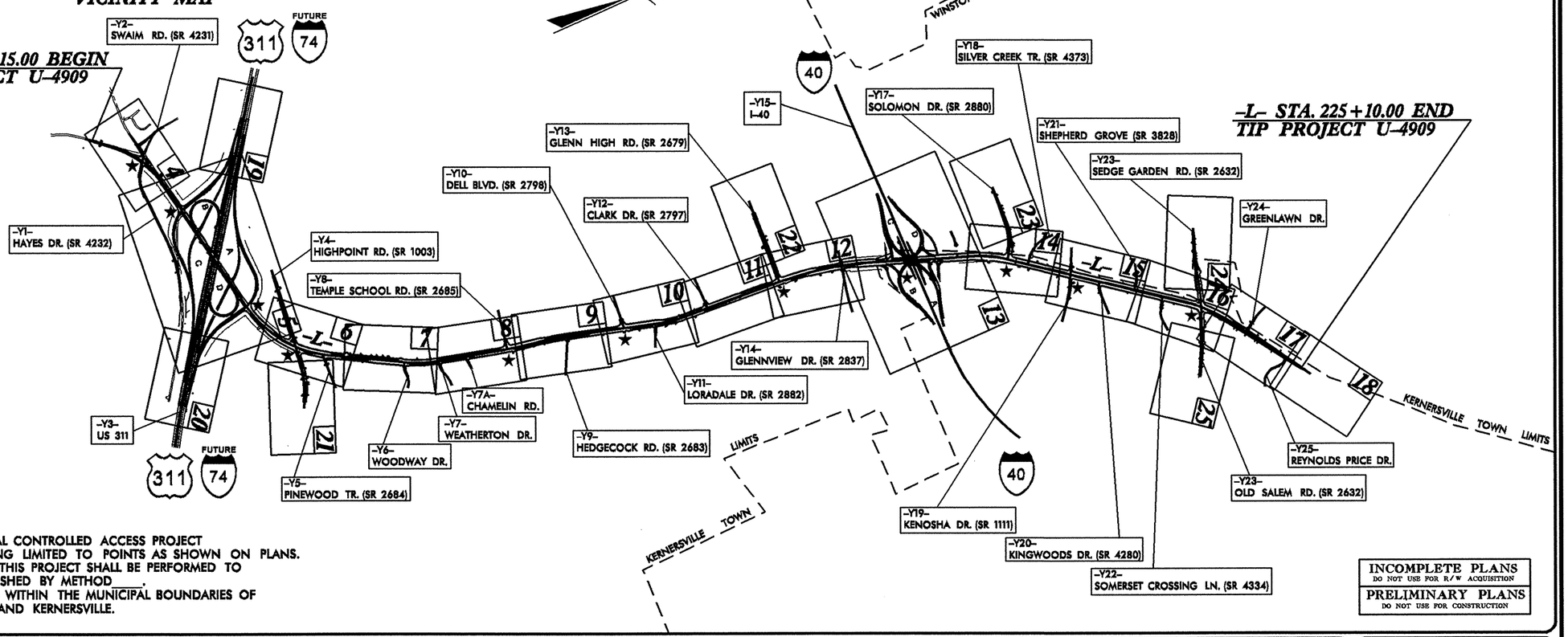
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
40278.1.1	STP-2643(2)	PE

LOCATION: SR 2643 (UNION CROSS RD.) FROM SR 2691 (WALLBURG RD) TO SR 2632 (SEDGE GARDEN RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, CULVERTS, SIGNING, AND SIGNALS

-L- STA. 8+15.00 BEGIN TIP PROJECT U-4909

-L- STA. 225+10.00 END TIP PROJECT U-4909

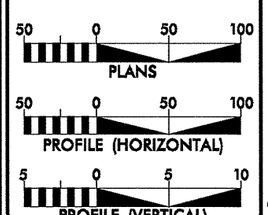


NOTES:
1. THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON PLANS.
2. CLEARING FOR THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ___.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WINSTON-SALEM AND KERNERSVILLE.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2010	= 24,300
ADT 2030	= 40,700
DHV	= 10%
D	= 60%
T	= 5% *
V	= 50 MPH
CLASS	= URBAN COLLECTOR

* TTST = 3% DUAL = 6%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4909.....	4.07 mi
LENGTH STRUCTURE TIP PROJECT U-4909.....	0.04 mi
TOTAL LENGTH TIP PROJECT U-4909.....	4.11 mi

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
FOR
DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 15, 2008

LETTING DATE:
AUGUST 17, 2010

J.T. PEACOCK, JR., P.E.
PROJECT ENGINEER
MICHAEL T. MERRITT, P.E.
PROJECT DESIGN ENGINEER
NCDOT CONTACT:
DOUG TAYLOR, P.E.
PROJECT ENGINEER - PROJECT SERVICES

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
U-4909	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 PLASTIC INDEX	6 MX		NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
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/FT²)
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
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%
MODERATELY ORGANIC	5 - 10%	12 - 20%
HIGHLY ORGANIC	>10%	>20%

OTHER MATERIAL	
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
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
- SOUNDING ROD
- SPT CPT DPT DMT VST PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- SPT N-VALUE
- REF — SPT REFUSAL

SAMPLE DESIGNATIONS

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

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

EQUIPMENT USED ON SUBJECT PROJECT

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

ADVANCING TOOLS:
- [ ] CLAY BITS
- [X] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [X] 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
- [ ] 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:

_

REVISED 02/23/06

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 18, 2008

STATE PROJECT: 40278.1.1 (U-4909)
COUNTY: Forsyth
DESCRIPTION: SR 2643 (Union Cross Road) from SR 2691 (Wallburg Rd.) to SR 2632 (Sedge Garden Road)

SUBJECT: Geotechnical Report - Inventory

PROJECT DESCRIPTION

The project is in Forsyth County, east of Winston-Salem and just south of Kernersville. It consists primarily of widening and improvement to existing Union Cross Road. It also includes revisions to the existing interchanges of Union Cross Road with I-40 and US 311 (Future I-74).

The geotechnical investigation consisted of 56 Standard Penetration Test borings conducted with a CME 550 drill rig with automatic hammer, utilizing 8" hollow stem augers.

SITE DESCRIPTION AND GEOLOGY

The geology is mapped as PiPg, granitic rock of the Churchland Plutonic Suite, Charlotte Belt (Geologic Map of North Carolina, N.C. Geologic Survey, 1985). No rock core samples were obtained. The typical soil profile encountered consists of a surface clay layer eight feet thick with moderate to high plasticity over silty sand or sandy silt subsoils. The depth of the investigation was generally shallow since the existing grade will not be altered significantly. Three of the borings encountered weathered or crystalline rock well below proposed grade. Typical soil density/hardness was medium dense for the sands and stiff to very stiff for the clays and silts. Standard Penetration Test resistance was most commonly in the 10 to 20 blow per foot range.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

Plastic Clays: The near surface clays commonly had a plastic index above 20; fourteen samples indicated plasticity greater than 30.

Silty soils: There is a significant percentage of AASHTO A-5 soils containing mica. These soils are known to present difficulty in obtaining compaction in embankments and subgrades.

Artificial Fills: At the time of the investigation, there was an active stockpile of soil and rock material in the "D" quadrant of the –Y15- (I-40) interchange. Test borings and inspection indicated that the material was suitable for use in construction. However, the ground surface elevations in the area have changed since the original surveys.

No other specific areas of geotechnical concern were noted.

Respectfully submitted,

Clint Little
Regional Geologic Engineer
Geotechnical Engineering Unit
Western Regional Office

COMPUTED BY:	JLB	DATE:	5/25/08
CHECKED BY:	ABP	DATE:	5/25/2011

TIP PROJECT: U-4909
COUNTY: FORSYTH

EARTHWORK BALANCE SHEET

IN CUBIC YARDS

LINE	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMB. + 20%		ROCK	SUITABLE	UNSUIT.	TOTAL
-L- (RT)	8+15.00	35+05.63 (Begin Bridge)	1,195				1,195	6,591		6,591	7,909	6,714	0	0	0	0
-Y1-	15+66.43	37+05.00	13,086				13,086	17,658		17,658	21,190	8,104	0	0	0	0
-Y3- (RT)	49+50.00	65+00.00	161				161	3		3	4	0	0	157	0	157
-Y3RPC-	14+41.09	31+26.62	35,018				35,018	286		286	343	0	0	34,675	0	34,675
	SUMMARY 1 SUBTOTAL		**49,460**				**49,460**	**24,538**		**24,538**	**29,446**	**14,818**	**0**	**34,832**	**0**	**34,832**
-L- (LT)	8+15.00	34+68.96 (Begin Bridge)	2,982				2,982	1,807		1,807	2,168	0	0	814	0	814
-Y1-	12+00.00	15+16.68	63				63	512		512	614	551	0	0	0	0
-Y2-	10+46.35	13+50.00	165				165	477		477	572	407	0	0	0	0
-Y3- (RT)	16+82.33	31+50.00	1,213				1,213	491		491	589	0	0	624	0	624
-Y3- (RT)	31+50.00	49+50.00	18,991				18,991	501		501	601	0	0	18,390	0	18,390
-Y3RPB-	10+00.00	26+49.10	63,189				63,189	268		268	322	0	0	62,867	0	62,867
-Y3LPB-	10+00.00	21+09.19	21,534				21,534	126		126	151	0	0	21,383	0	21,383
	SUMMARY 2 SUBTOTAL		**108,137**				**108,137**	**4,182**		**4,182**	**5,017**	**958**	**0**	**104,077**	**0**	**104,077**
-L- (RT)	38+41.64 (End Bridge)	56+32.70 (-Y4- Int)	3,295				3,295	2,693		2,693	3,232	0	0	63	0	63
-Y3- (LT)	31+50.00	49+50.00	12,185				12,185	278		278	334	0	0	11,851	0	11,851
-Y3- (LT)	49+50.00	65+00.00	491				491	2,112		2,112	2,534	2,043	0	0	0	0
-Y3RPD-	10+00.00	26+82.65	22,131				22,131	2,754		2,754	3,305	0	0	18,826	0	18,826
-Y3LPD-	10+00.00	21+09.19	4,134				4,134	3,900		3,900	4,680	546	0	0	0	0
	SUMMARY 3 SUBTOTAL		**42,236**				**42,236**	**11,737**	**0**	**11,737**	**14,085**	**2,589**	**0**	**30,741**	**0**	**30,741**
-L- (LT)	38+14.06 (End Bridge)	56+32.70 (-Y4- Int)	1,998				1,998	740		740	888	0	0	1,110	0	1,110
-Y3- (LT)	16+82.33	31+50.00	52				52	38		38	46	0		6	0	6
-Y3RPA-	13+10.27	29+26.34	2,939				2,939	28,476		28,476	34,171	31,232	0	0	0	0
	SUMMARY 4 SUBTOTAL		**4,989**				**4,989**	**29,254**	**0**	**29,254**	**35,105**	**31,232**	**0**	**1,116**	**0**	**1,116**
-L- (RT)	56+32.70 (-Y4- Int)	86+00.00	5,772				5,772	4,217		4,217	5,060	0	0	712	0	712
-Y4-	23+49.27	32+00.00	2,251				2,251	859		859	1,031	0	0	1,220	0	1,220
-Y5-	10+47.07	11+50.00	13				13	106		106	127	114	0	0	0	0
-Y6-	10+53.35	12+40.00	1				1	916		916	1,099	1,098	0	0	0	0
-Y7-	10+41.12	11+75.00	10				10	138		138	166	156	0	0	0	0
-Y7A-	10+43.58	11+95.00	53				53	64		64	77	24	0	0	0	0
	SUMMARY 5 SUBTOTAL		**8,100**				**8,100**	**6,300**	**0**	**6,300**	**7,560**	**1,392**	**0**	**1,932**	**0**	**1,932**
-L- (LT)	56+32.70 (-Y4- Int)	86+00.00	857				857	4,129		4,129	4,955	4,098	0	0	0	0
-Y4-	11+00.00	22+41.66	3,097				3,097	313		313	376	0	0	2,721	0	2,721
	SUMMARY 6 SUBTOTAL		**3,954**				**3,954**	**4,442**	**0**	**4,442**	**5,331**	**4,098**	**0**	**2,721**	**0**	**2,721**

LINE	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMB. + 20%		ROCK	SUITABLE	UNSUIT.	TOTAL
-L- (RT)	86+00.00	116+00.00	1,797				1,797	4,029		4,029	4,835	3,038	0	0	0	0
-Y11-	10+41.39	12+00.00	32				32	156		156	187	155	0	0	0	0
	SUMMARY 7 SUBTOTAL		**1,829**				**1,829**	**4,185**	**0**	**4,185**	**5,022**	**3,193**	**0**	**0**	**0**	**0**
-L- (LT)	86+00.00	116+00.00	1,358				1,358	21,660		21,660	25,992	24,634	0	0	0	0
	SUMMARY 8 SUBTOTAL		**1,358**				**1,358**	**21,660**	**0**	**21,660**	**25,992**	**24,634**	**0**	**0**	**0**	**0**
-L- (RT)	116+00.00	146+00.00	793				793	9,306		9,306	11,167	10,374	0	0	0	0
	SUMMARY 9 SUBTOTAL		**793**				**793**	**9,306**	**0**	**9,306**	**11,167**	**10,374**	**0**	**0**	**0**	**0**
-L- (LT)	116+00.00	146+00.00	411				411	11,480		11,480	13,776	13,365	0	0	0	0
-Y13-	12+00.00	23+46.83	1,753				1,753	1,171		1,171	1,405	0	0	348	0	348
	SUMMARY 10 SUBTOTAL		**2,164**				**2,164**	**12,651**	**0**	**12,651**	**15,181**	**13,365**	**0**	**348**	**0**	**348**
-L- (RT)	146+00.00	157+41.34 (Begin Bridge)	351				351	1,804		1,804	2,165	1,814	0	0	0	0
-Y14-	12+94.72	14+50.00	49				49	72		72	86	37	0	0	0	0
-Y15-	36+50.00	45+00.00	370				370	0		0	0	0	0	370	0	370
-Y15RPB-	14+50.00	23+92.70	12,286				12,286	553		553	664	0	0	11,622	0	11,622
-Y15SPB-	10+00.00	13+03.61	539				539	400		400	480	0	0	59	0	59
	SUMMARY 11 SUBTOTAL		**13,595**				**13,595**	**2,829**	**0**	**2,829**	**3,395**	**1,851**	**0**	**12,051**	**0**	**12,051**
-L- (LT)	146+00.00	157+41.34 (Begin Bridge)	1,892				1,892	14,024		14,024	16,829	14,937	0	0	0	0
-Y15RPC-	12+68.47	20+48.15	4,497				4,497	6,731		6,731	8,077	3,580	0	0	0	0
-Y15SPC-	10+00.00	12+37.53	865				865	213		213	256	0	0	609	0	609
	SUMMARY 12 SUBTOTAL		**7,254**				**7,254**	**20,968**	**0**	**20,968**	**25,162**	**18,517**	**0**	**609**	**0**	**609**
-L- (RT)	159+07.92 (End Bridge)	189+00.00	1,430				1,430	9,769		9,769	11,723	10,293		0		
-Y15RPA-	12+10.00	20+37.68	4,874				4,874	1,038		1,038	1,246	0	0	3,628	0	3,628
-Y15SPA-	10+00.00	12+73.25	30				30	631		631	757	727	0	0	0	0
-Y19-	14+91.41	18+45.00	780				780	83		83	100	0	0	680	0	680
	SUMMARY 13 SUBTOTAL		**7,114**				**7,114**	**11,521**	**0**	**11,521**	**13,826**	**11,020**	**0**	**4,309**	**0**	**4,309**
-L- (LT)	159+07.92 (End Bridge)	189+00.00	1,681				1,681	19,373		19,373	23,248	21,567	0	0	0	0
-Y15RPD-	19+16.63	26+14.07	65				65	5,771		5,771	6,925	6,860	0	0	0	0
-Y15SPD-	10+00.00	12+90.97	0				0	1,893		1,893	2,272	2,272	0	0	0	0
-Y16-	12+00.00	12+61.00	59				59	0		0	0	0	0	59	0	59
-Y17-	10+20.00	21+65.13	3,348				3,348	934		934	1,121	0	0	2,227	0	2,227
-Y18-	14+60.00	15+46.00	164				164	2		2	2	0	0	162	0	162
-Y19-	12+40.00	13+61.63	69				69	108		108	130	61	0	0	0	0
	SUMMARY 14 SUBTOTAL		**5,386**				**5,386**	**28,081**	**0**	**28,081**	**33,698**	**30,760**	**0**	**2,448**	**0**	**2,448**
-L- (RT)	189+00.00	206+18.74 (-Y23- Intersection)	2,449				2,449	824		824	989	0	0	1,460	0	1,460
-Y20-	10+53.81	12+20.00	35				35	88		88	106	71	0	0	0	0
-Y22-	10+53.28	11+85.00	27				27	21		21	25	0	0	2	0	2
	SUMMARY 15 SUBTOTAL		**2,511**				**2,511**	**933**	**0**	**933**	**1,120**	**71**	**0**	**1,462**	**0**	**1,462**

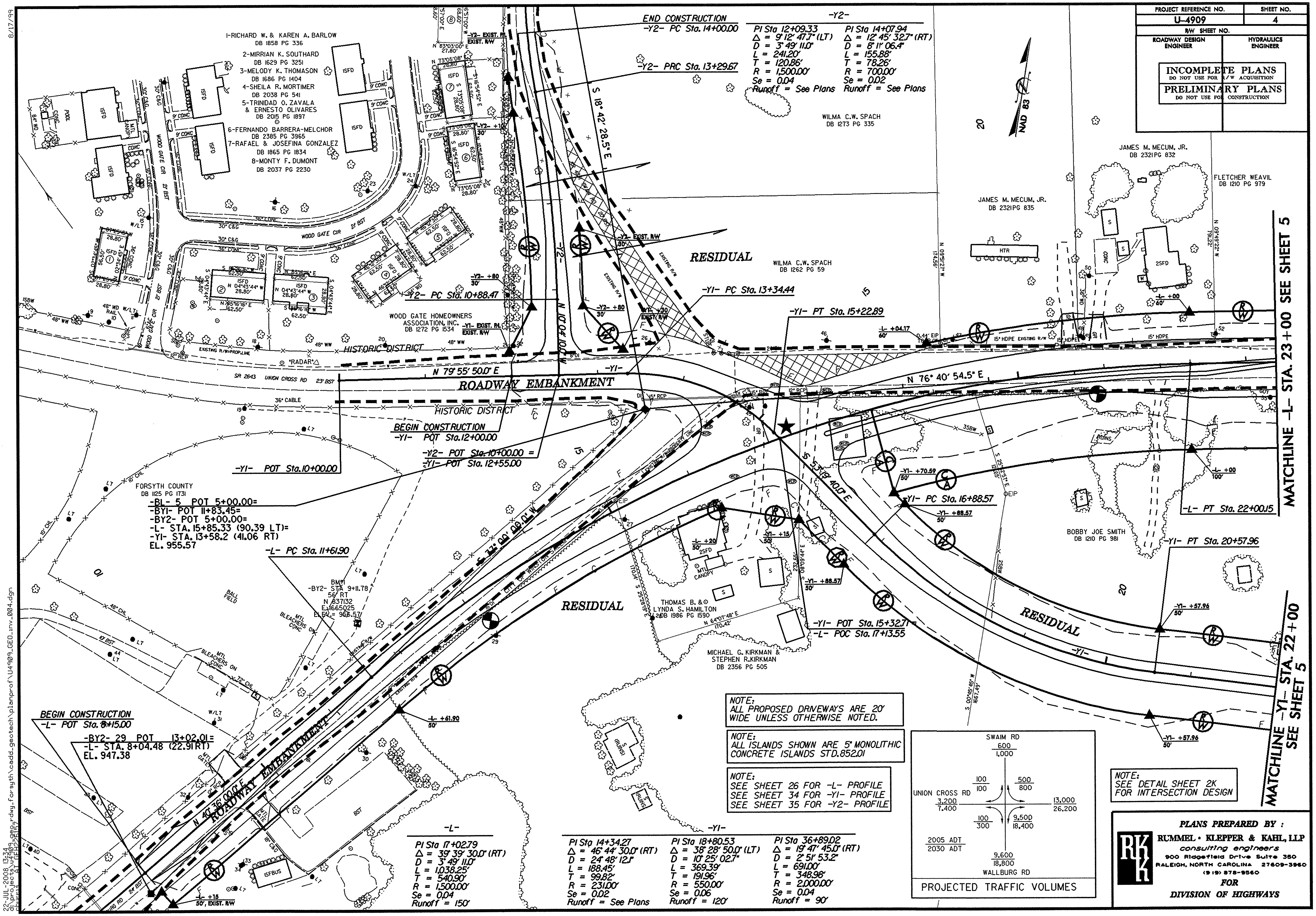
LINE	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMB. + 20%		ROCK	SUITABLE	UNSUIT.	TOTAL
-L- (LT)	189+00.00	206+18.74 (-Y23- Intersection)	3,954				3,954	913		913	1,096	0	0	2,858	0	2,858
-Y21-	11+00.00	13+76.42	339				339	57		57	68	0	0	271	0	271
	SUMMARY 16 SUBTOTAL		**4,293**				**4,293**	**970**	**0**	**970**	**1,164**	**0**	**0**	**3,129**	**0**	**3,129**
-L- (RT)	206+18.74 (-Y23- Intersection)	225+10.00	1,513				1,513	1,487		1,487	1,784	271	0	0	0	0
-Y23-	23+21.73	33+75.00	548				548	3,479		3,479	4,175	3,627	0	0	0	0
	SUMMARY 17 SUBTOTAL		**2,061**				**2,061**	**4,966**	**0**	**4,966**	**5,959**	**3,898**	**0**	**0**	**0**	**0**
-L- (LT)	206+18.74(-Y23- Intersection)	225+10.00	4,072				4,072	213		213	256	0	0	3,816	0	3,816
-Y23-	10+60.00	22+20.37	2,190				2,190	1,653		1,653	1,984	0	0	206	0	206
-Y24-	13+30.00	14+81.25	19				19	9		9	11	0	0	8	0	8
	SUMMARY 18 SUBTOTAL		**6,281**				**6,281**	**1,875**	**0**	**1,875**	**2,251**	**0**	**0**	**4,031**	**0**	**4,031**
		SUBTOTAL	**271,515**	**0**	**0**	**0**	**271,515**	**200,398**	**0**	**200,398**	**240,481**	**172,770**	**0**	**203,807**	**0**	**203,807**
		LOSS DUE TO CLEARING & GRUBBING	-10,000				-10,000							-10,000		-10,000
		WASTE TO REPLACE BORROW										-172,770		-172,770		-172,770
		GRAND TOTAL	261,515		0		261,515					0				21,037
		SAY	**262,000**									**0**				
		ESTIMATED SHOULDER BORROW = 17,900 CY														
		ALTERNATE -L- PAVEMENT STRUCTURE VOLUME = 22,797 CY														

LINE	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMB. + 20%		ROCK	SUITABLE	UNSUIT.	TOTAL
EARTHWORK TOTALS FOR ALTERNATE PAVEMENT DESIGN																
		SUBTOTAL	**271,515**	**0**	**0**	**0**	**271,515**	**200,398**	**0**	**200,398**	**240,481**	**172,770**	**0**	**203,807**	**0**	**203,807**
		ADJUSTMENT FOR PAVEMENT DESIGN (ALTERNATE 2)	-5,192				-5,192	5,800		5,800	6,959	6,959		-5,192		-5,192
		ESTIMATED SHOULDER MATERIAL						14,344		14,344	17,213	17,213				
		LOSS DUE TO CLEARING & GRUBBING	-10,000				-10,000							-10,000		-10,000
		WASTE TO REPLACE BORROW										-188,615		-188,615		-188,615
		PROJECT TOTALS	256,323		0		256,323	220,542		220,542	264,653	8,327		0		0
		5% TO REPLACE TOPSOIL ON BORROW PITS										416				
		GRAND TOTAL	256,323		0		256,323	220,542		220,542	264,653	8,743		0		0
		SAY	**257,000**									**9,000**				**0**
		ALTERNATE -L- PAVEMENT STRUCTURE VOLUME = 13,876 CY														
EARTHWORK TOTALS FOR ALTERNATE PAVEMENT DESIGN																
		SUBTOTAL	**271,515**	**0**	**0**	**0**	**271,515**	**200,398**	**0**	**200,398**	**240,481**	**172,770**	**0**	**203,807**	**0**	**203,807**
		ADJUSTMENT FOR PAVEMENT DESIGN (ALTERNATE 3)	-1,598				-1,598	1,783		1,783	2,140	2,140		-1,598		-1,598
		LOSS DUE TO CLEARING & GRUBBING	-10,000				-10,000							-10,000		-10,000
		WASTE TO REPLACE BORROW										-174,910		-174,910		-174,910
		GRAND TOTAL	259,917		0		259,917	202,181		202,181	242,621	0		17,300		17,300
		SAY	**260,000**									**0**				
		ESTIMATED SHOULDER BORROW = 17,300 CY														
		ALTERNATE -L- PAVEMENT STRUCTURE VOLUME = 19,823 CY														

ESTIMATED UNDERCUT : 1000 CY

ESTIMATED SHALLOW UNDERCUT CONTINGENCY: 5000 CY

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.


PROJECT REFERENCE NO. U-4909
SHEET NO. 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
1-RICHARD W. & KAREN A. BARLOW DB 1858 PG 336
2-MIRRIAN K. SOUTHARD DB 1629 PG 3251
3-MELODY K. THOMASON DB 1686 PG 1404
4-SHEILA R. MORTIMER DB 2038 PG 541
5-TRINIDAD O. ZAVALA & ERNESTO OLIVARES DB 2015 PG 1897
6-FERNANDO BARRERA-MELCHOR DB 2385 PG 3965
7-RAFAEL & JOSEFINA GONZALEZ DB 1865 PG 1834
8-MONTY F. DUMONT DB 2037 PG 2230
END CONSTRUCTION
-Y2- PC Sta. 14+00.00
-Y2- PRC Sta. 13+29.67
-Y2-
PI Sta 12+09.33
Δ = 9° 12' 47.7" (LT)
D = 3° 49' 11.0"
L = 241.20'
T = 120.86'
R = 1,500.00'
Se = 0.04
Runoff = See Plans
PI Sta 14+07.94
Δ = 12° 45' 32.7" (RT)
D = 8° 11' 06.4"
L = 155.88'
T = 78.26'
R = 700.00'
Se = 0.02
Runoff = See Plans
NAD 83
WILMA C.W. SPACH DB 1273 PG 335
JAMES M. MECUM, JR. DB 2321 PG 832
FLETCHER WEAVIL DB 1210 PG 979
JAMES M. MECUM, JR. DB 2321 PG 835
WILMA C.W. SPACH DB 1262 PG 59
RESIDUAL
WOOD GATE CIR
WOOD GATE HOMEOWNERS ASSOCIATION, INC. DB 1272 PG 1534
-Y2- PC Sta. 10+88.47
-Y1- PC Sta. 13+34.44
-Y1- PT Sta. 15+22.89
HISTORIC DISTRICT
SR 2643 UNION CROSS RD
N 79° 55' 50.0" E
N 76° 40' 54.5" E
ROADWAY EMBANKMENT
BEGIN CONSTRUCTION
-Y1- POT Sta. 12+00.00
-Y2- POT Sta. 10+00.00 =
-Y1- POT Sta. 12+55.00
-Y1- POT Sta. 10+00.00
FORSYTH COUNTY DB 1125 PG 1731
-BL- 5 POT 5+00.00=
-BY1- POT 11+83.45=
-BY2- POT 5+00.00=
-L- STA. 15+85.33 (90.39 LT)=
-Y1- STA. 13+58.2 (41.06 RT)
EL. 955.57
-L- PC Sta. 11+61.90
BM1
-BY2- STA 9+11.78
56' RT
N 837132
E 1665025
EL = 968.57
BALL FIELD
-Y1- PC Sta. 16+88.57
-L- PT Sta. 22+00.15
BOBBY JOE SMITH DB 1210 PG 981
-Y1- PT Sta. 20+57.96
THOMAS B. & LYNDA S. HAMILTON DB 1986 PG 1590
MICHAEL G. KIRKMAN & STEPHEN R. KIRKMAN DB 2356 PG 505
-Y1- POT Sta. 15+32.71=
-L- POC Sta. 17+13.55
MATCHLINE -L- STA. 23+00 SEE SHEET 5
MATCHLINE -Y1- STA. 22+00 SEE SHEET 5
BEGIN CONSTRUCTION
-L- POT Sta. 8+15.00
-BY2- 29 POT 13+02.01=
-L- STA. 8+04.48 (22.91 RT)
EL. 947.38
N 40° 36' 00.0" E
NOTE: ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.
NOTE: ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD. 852.01
NOTE: SEE SHEET 26 FOR -L- PROFILE SEE SHEET 34 FOR -Y1- PROFILE SEE SHEET 35 FOR -Y2- PROFILE
NOTE: SEE DETAIL SHEET 2K FOR INTERSECTION DESIGN
-L-
PI Sta 17+02.79
Δ = 39° 39' 30.0" (RT)
D = 3° 49' 11.0"
L = 1,038.25'
T = 540.90'
R = 1,500.00'
Se = 0.04
Runoff = 150'
-Y1-
PI Sta 14+34.27
Δ = 46° 44' 30.0" (RT)
D = 24° 48' 12.1"
L = 188.45'
T = 99.82'
R = 231.00'
Se = 0.02
Runoff = See Plans
PI Sta 18+80.53
Δ = 38° 28' 50.0" (LT)
D = 10° 25' 02.7"
L = 369.39'
T = 191.96'
R = 550.00'
Se = 0.06
Runoff = 120'
PI Sta 36+89.02
Δ = 19° 47' 45.0" (RT)
D = 2° 51' 53.2"
L = 691.00'
T = 348.98'
R = 2,000.00'
Se = 0.04
Runoff = 90'
SWAIM RD
600
1,000
UNION CROSS RD
3,200
7,400
100
100
500
800
13,000
26,200
100
300
9,500
18,400
2005 ADT
2030 ADT
9,600
18,800
WALLBURG RD
PROJECTED TRAFFIC VOLUMES
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS
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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

MATCHLINE -Y3- STA. 25+50 SEE SHEET 19

MATCHLINE -Y4- STA. 16+00 SEE SHEET 6

MATCHLINE -L- STA. 51+00 SEE SHEET 6

MATCHLINE -L- STA. 23+00 MATCHLINE -Y1- STA. 22+00 SEE SHEET 4

MATCHLINE -Y3- 53+50 SEE SHEET 20

A

B

C

D

ARTIFICIAL FILL ACTIVE STOCKPILE AREA

SKETCH SHOWING RELATIONSHIP OF BRIDGE TO PAVEMENT AND SHOULDERS

PROJECTED TRAFFIC VOLUMES

NOTE: ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE: ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.860.01

NOTE:
SEE SHEETS 26 & 27 FOR -L- PROFILE
SEE SHEETS 35 & 36 FOR -Y3- PROFILE
SEE SHEETS 37 & 38 FOR -Y3PA- PROFILE
SEE SHEETS 38 & 39 FOR -Y3PB- PROFILE
SEE SHEET 39 FOR -Y3PD- PROFILE
SEE SHEET 40 FOR -Y3PC- PROFILE
SEE SHEETS 40 & 41 FOR -Y3PD- PROFILE
SEE SHEET 41 FOR -YLPD- PROFILE

PLANS PREPARED BY :
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

NOTE:
SEE DETAIL SHEET 2K FOR INTERSECTION DESIGN

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

SMITH- TUCKER FARMS
RURAL HISTORIC DISTRICT

ROBERT Y. & JONNIE H. TUCKER, ONEITA F. TUCKER, AND PAUL & INA J.T. STEPHENS
DB 321PG 251

HIGH POINT RD
3,900 / 7,900
UNION CROSS RD
600 / 3,200 — 800 / 1,100
11,000 / 23,100 — 12,000 / 23,600
1,700 / 2,400 — 2,500 / 5,000
2005 ADT / 2030 ADT
6,700 / 11,000
HIGH POINT RD

PROJECTED TRAFFIC VOLUMES

MATCHLINE -Y4- STA. 16+00 SEE SHEET 5

MATCHLINE -L- STA. 51+00 SEE SHEET 5

MATCHLINE -L- STA. 65+00 SEE SHEET 7

MATCHLINE -Y4- STA. 27+00 SEE SHEET 21

ROADWAY EMBANKMENT

RESIDUAL

HISTORIC DISTRICT

JAMES S. HEDGECOCK
DB 2278 PG 176
DB 2366 PG 4647

MICKEY D. & ZELMA F. REDDICK
DB 1579 PG 629

JERRY R. & SHIRLEY L. DOWNEY
DB 2065 PG 3726

IMOGENE B. IDOLT
DB 2144 PG 261

PHIL V. MAYS
DB 1022 PG 760

JAMES L. HILL
DB 1023 PG 504

UNION CROSS MORAVIAN CHURCH
DB 494 PG 149
DB 885 PG 376

CEMETERY

R. WAYNE & ISBNU SC. ELLER
DB 2109 PG 3599
DB 627 PG 451

GEORGE L. & ANN C. YOUNTZ
DB 2304 PG 4634

WILLIAM F. & ONEIDA G. THOMAS
DB 1638 PG 1491

DONNA G. PASOUR
DB 2172 PG 1879

SUSIE T. HAUSER
PB 12 PG 124

ETHELENE C. SPAUGH
DB 655 PG 1879

CHARLES BANKS, III
DB 2030 PG 2478

CLARENCE D. ROYALL
DB 860 PG 165

BARRY D. STAFFORD
DB 2397 PG 2580

HERMAN H. & BARBARA H. BROWN AND MONTY L. PETTIT
DB 2396 PG 1821

LARRY E. & DONNA A. HOLMAN
DB 2395 PG 2181

RONALD G. & LEE B. HARTLEY
DB 1502 PG 1685

WINSTON-SALEM/FORSYTH COUNTY BOARD OF EDUCATION
DB 299 PG 260

CITY OF WINSTON-SALEM

-Y4- EXIST. R/W 70'

-L- EXIST. R/W 100'

-Y4- POT Sta. 22+95.91
-L- POC Sta. 56+32.70

-Y5- POT Sta. 10+00.00 =
-L- POC Sta. 60+88.00

-BL- 10 PINC 50+70.12=
-BY6- POT 5+00.00=
-L- STA. 64+17.88 (64.99 LT)
EL. 969.49

-L- PT Sta. 61+90.76

-BL- 9 PINC 45+56.56=
-BY5- PINC 14+53.48=
-L- STA. 56+03.01 (19.76 RT)=
Y4- STA. 22+91.35 (35.51RT)
EL. 961.39

-Y4- TS Sta. 25+03.47

-Y4- SC Sta. 26+63.47

-Y5- POT Sta. 12+05.00

END CONSTRUCTION

-BY6- 43 POT 8+33.17=
-Y5- STA. 12+83+64 (11.62 RT)
EL. 973.41

BM#3
-BY5- STA 16+13.98
138' RT
N 838255
E 1669365
ELEV.= 960.96'

ARTIFICIAL FILL

-L-	-Y4-
PI Sta 54+52.17	PIs Sta 26+10.15 / PI Sta 28+73.48
Δ = 50° 35' 00.0" (LT)	Es = 3° 03' 20.8" / Δ = 15° 56' 23.4" (RT)
D = 3° 10' 59.2"	Ls = 160.00' / D = 3° 49' 11.0"
L = 1,589.12'	LT = 106.68' / L = 417.30'
T = 850.54'	ST = 53.35' / T = 210.01'
R = 1,800.00'	R = 1,500.00'
Se= 0.03	Se= 0.06

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEETS 27 & 28 FOR -L- PROFILE
SEE SHEET 42 FOR -Y4- PROFILE
SEE SHEET 43 FOR -Y5- PROFILE

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

UNION CROSS RD
12,000 / 23,600 — 12,000 / 23,800
900 / 900 — 900 / 1,100
2005 ADT / 2030 ADT
1,800 / 2,000
WEATHERSTONE DEVELOPMENT

PROJECTED TRAFFIC VOLUMES

CHARLES R. LEONARD
DB 2284 PG 2034
DB 953 PG 591
DB 2159 PG 3654

NAD 83

CITY OF WINSTON-SALEM

JOSEPHINE T. FLINCHUM
DB 567 PG 226

MICHAEL D. & DEBORAH D. JONES
DB 1293 PG 1773

SONYA K. KETNER
DB 1714 PG 2553

GREGORY L. MARTIN
DB 1826 PG 4018

PEGGY L. HICKS
DB 1825 PG 2127

JEFFREY V. & EFFIE V. PARRISH
WILLIAM T. MOSS
DB 1686 PG 1779
DB 890 PG 481

-L- PC Sta. 74+27.73

-Y6- POT Sta. 10+00.00 =
-L- POT Sta.74+09.00

RESIDUAL

ROADWAY EMBANKMENT

MATCHLINE -L- STA. 65+00 SEE SHEET 6

MATCHLINE -L- STA. 79+00 SEE SHEET 8

RONALD A. & PEGGY A. COTTER
DB 1457 PG 1560

ETHELENE C. SPAUGH
DB 655 PG 1879

JENNIFER TROUT BOWMAN
DB 2261PG 2856

MARK A. & ANGELA N. WALL
DB 2050 PG 1353

SAM H. & PENNY F. COGGINS
DB 1598 PG 1030

-BL- II PINC 62+59.25=
-L- STA. 76+06.09 (25.50 RT)
EL. 968.10

-Y6- PC Sta. 10+57.50

JADE ASSOCIATED II, LLC
DB 2478 PG 2603
PB 50 PG 66

JADE ASSOCIATES II, LLC
DB 2478 PG 2603
TRACT I

MICAH G. MOORE AND WIFE
JESSICA A. MOORE
DB 2793 PG 243
PB 50 PG 66

END CONSTRUCTION
-Y6- POT Sta. 12+40.00

RYAN P. DOOLEY AND WIFE
LAURA K. WARD-DOOLEY
DB 2737 PG 2736
PB 50 PG 66

SHUGART MANGEMENT, INC.
DB 2731 PG 540
PB 50 PG 66

AREA UNDER CONSTRUCTION AT TIME OF SURVEY

-Y6- PC Sta. 11+93.69

BM #13
-BL- STA. 63+94.36
50' RT
N 839905
E 1620304
ELEV. 959.56'

BILLY R. LANKFORD, JR.
DB 2741PG 3232
PB 51PG 114

WILLIAM P. HUFFMAN AND WIFE
LINSEY B. HUFFMAN
DB 2790 PG 3372
PB 50 PG 66

HELEN C. McELROY
DB 2753 PG 849
PB 51PG 114

MARC B. YOST
DB 2776 PG 2923
PB 50 PG 66

WEATHERSTONE TOWNHOMES HOA, INC.
DB 2685 PG 3782
PB 50 PG 66

XUAN TRANG THINGU
KHANH TRANG THINGU
DB 2786 PG 2117
PB 50 PG 66

-Y6- RT Sta. 14+06.65

-Y6- POT Sta. 14+30.80

-Y6-
PI Sta 11+26.92
Δ = 27° 22' 47.2" (LT)
D = 20° 06' 13.6"
L = 136.19'
T = 69.42'
R = 285.00'
Se = 0.02
Runoff = See Plans

PI Sta 13+05.42
Δ = 42° 48' 47.2" (RT)
D = 20° 06' 13.6"
L = 212.96'
T = 111.73'
R = 285.00'
Se = 0.02
Runoff = See Plans

-L-
PI Sta 76+76.40
Δ = 14° 10' 30.0" (LT)
D = 2° 51' 53.2"
L = 494.80'
T = 248.67'
R = 2,000.00'
Se = 0.03
Runoff = 160'

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 43 FOR -Y6- PROFILE

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

SMITH- TUCKER FARMS
RURAL HISTORIC DISTRICT

ROBERT Y. & JONNIE H. TUCKER AND
ONEITA F. TUCKER AND
PAUL & INA J.T. STEPHENS
DB 74 PG 90
DB 2553 PG 776

TEMPLE SCHOOL RD
2005 ADT 1000 / 5,100
2030 ADT
400 / 8,500
600 / 10,200
12,000 / 23,800
11,200 / 24,900
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES

NAD 83

HISTORIC DISTRICT

-BY8- 45 POT 5+00.00=
-Y8- STA. 13+44.49 (32.19 LT)
EL. 964.50

-BL- 12 PINC 73+82.43=
-BY7- POT 5+00.00=
-L- STA. 87+29.27 (8.92 RT)
EL. 970.01

-L- PC Sta. 88+72.28

BEGIN CONSTRUCTION
-Y8- POT Sta. 15+02.24

-L- PT Sta. 79+22.54

-Y7- POT Sta. 10+00.00 =
-L- POT Sta. 79+72.00

-Y7A- POT Sta. 10+00.00 =
-L- POC Sta. 84+07.42

RESIDUAL

ROADWAY EMBANKMENT

SR 2643 UNION CROSS RD 38' BST

S 79° 03' 35.0" E

N 62° 43' 16.3" E

N 10° 43' 40.5" E

N 19° 19' 21.3" E

N 84° 35' 59.5" E

S 89° 11' 05.0" E

MATCHLINE -L- STA. 79+00 SEE SHEET 7

MATCHLINE -L- STA. 93+00 SEE SHEET 9

-Y7- PC Sta. 10+39.50

-Y7- PRC Sta. 12+62.42

-Y7- PT Sta. 13+87.19

-Y7- POT Sta. 14+61.13

-Y8- POT Sta. 16+50.00 =
-L- POC Sta. 91+03.00

END CONSTRUCTION
-Y7- POC Sta. 11+76.00

END CONSTRUCTION
-Y7A- POT Sta. 11+95.00

POT Sta. 12+22.90

WEATHERSTONE
TOWNHOMES HOA, INC.
DB 2685 PG 3782
PB 50 PG 66

SHUGART ENTERPRISES, LLC
DB 2685 PG 3782
PB 50 PG 66
PB 53 PG 98
PB 51PG 136

JADE ASSOCIATES II, LLC
DB 2478 PG 2601

PAUL & INA J.T. STEPHENS,
ROBERT Y. & JONNIE H. TUCKER,
AND ONEITA F. TUCKER
DB 74 PG 90

PAUL & INA J.T. STEPHENS
DB 764 PG 10

UNION CROSS RD
12,000 / 23,600
12,000 / 23,800
900 / 900
900 / 1,100
2005 ADT
2030 ADT
1,800 / 2,000
WEATHERSTONE DEVELOPMENT

PROJECTED TRAFFIC VOLUMES

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 28 & 29 FOR -L- PROFILE
SEE SHEET 43 FOR -Y7-, -Y7A-, & -Y8- PROFILE

-L-		-Y7-	
PI Sta 76+76.40	PI Sta 91+25.50	PI Sta 11+53.94	PI Sta 13+25.56
Δ = 14° 10' 30.0" (LT)	Δ = 4° 50' 00.0" (LT)	Δ = 31° 55' 50.7" (LT)	Δ = 21° 39' 45.7" (RT)
D = 2° 51' 53.2"	D = 0° 57' 17.7"	D = 14° 19' 26.2"	D = 17° 21' 44.5"
L = 494.80'	L = 506.15'	L = 222.92'	L = 124.77'
T = 248.67'	T = 253.22'	T = 114.44'	T = 63.14'
R = 2,000.00'	R = 6,000.00'	R = 400.00'	R = 330.00'
Se = 0.03	Se = 0.02	Se = 0.02	Se = 0.02
Runoff = 160'	Runoff = 110'	Runoff = See Plans	Runoff = See Plans

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

NAD 83

SMITH- TUCKER FARMS
RURAL HISTORIC DISTRICT

ROBERT Y. & JONNIE H. TUCKER AND
ONEITA F. TUCKER AND
PAUL & INA J.T. STEPHENS
DB 74 PG 90
DB 2553 PG 776

-BL- 13 PINC 82+93.46=
-BY8- POT 8+33.34=
-L- STA. 96+41.42 (48.69 LT)
EL. 963.76

-L- PT Sta. 93+78.43

-L- PC Sta. 95+78.96

-BL- 14 PINC 90+25.74=
-BY9- POT 5+00.00=
-L- STA. 100+70.99 (13.51 RT)
EL. 960.07

-L- PT Sta. 100+66.20

-Y9- POT Sta. 10+00.00 =
-L- POT Sta. 101+01.00

SMITH- TUCKER FARMS
RURAL HISTORIC DISTRICT

ROBERT Y. & JONNIE H. TUCKER AND
ONEITA F. TUCKER AND
PAUL & INA J.T. STEPHENS
DB 660 PG 21

MATCHLINE -L- STA. 93+00 SEE SHEET 8

MATCHLINE -L- STA. 107+00 SEE SHEET 10

RESIDUAL

HISTORIC DISTRICT

ROADWAY EMBANKMENT

N 17° 26' 42.7" E

N 10° 40' 00.0" E

N 15° 15' 00.0" E

N 18° 45' 10.3" E

SR 2643 UNION CROSS RD 38' BST

SR 2643 HEDGECOCK RD 20' BST

S 74°25'54" E 264.69'

N 15°53'17" E 178.56'

PAUL & INA J.T. STEPHENS
DB 764 PG 9

PAUL & INA J.T. STEPHENS
DB 764 PG 10

PAUL & INA J.T. STEPHENS,
ROBERT Y. & JONNIE H. TUCKER,
AND ONEITA F. TUCKER
DB 74 PG 90

PAUL & INA J.T. STEPHENS,
ROBERT Y. & JONNIE H. TUCKER,
AND ONEITA F. TUCKER
DB 664 PG 277

2SBKD

1SBKD

1SFD

RUINS

-L-

PI Sta 91+25.50
Δ = 4° 50' 00.0" (LT)
D = 0° 57' 17.7"
L = 506.15'
T = 253.22'
R = 6,000.00'
Se = 0.02
Runoff = 110'

PI Sta 98+22.77
Δ = 5° 35' 00.0" (RT)
D = 1° 08' 45.3"
L = 487.24'
T = 243.81'
R = 5,000.00'
Se = 0.02
Runoff = 110'

UNION CROSS RD

12,200 / 24,000	12,400 / 26,900
400 / 1,300	600 / 3,300
2005 ADT / 2030 ADT	
1,000 / 4,600	

HEDGECOCK RD

PROJECTED TRAFFIC VOLUMES

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 44 FOR -Y9- PROFILE

-BY9- 46 POT 10+55.05

N 03°20'06" E 471.91'

CHARLES R., JR. & LEE M. HARBINSON

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

-L-
PI Sta 118+15.35
Δ = 11° 39' 30.0" (LT)
D = 2° 51' 53.2"
L = 406.95'
T = 204.18'
R = 2,000.00'
Se = 0.03
Runoff = 160'

DELL BLVD
ADT 2030 ADT
1,200
500
700
26,900
27,100
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES
• TRAFFIC VOLUMES NOT PROVIDED

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

-Y10- POT Sta. 10+00.00

NAD 83

SMITH- TUCKER FARMS
RURAL HISTORIC DISTRICT

ROBERT Y. & JONNIE H. TUCKER AND ONEITA F. TUCKER AND PAUL & INA J.J. STEPHENS
DB 660 PG 21

WINSTON-SALEM ALLIANCE (1' STRIP)
DB 2535 PG 1316

HISTORIC DISTRICT

ROADWAY EMBANKMENT

N 85° 48' 55.3" E

S 84° 00' 05.0" E -Y10-

-BL- 15 PINC 101+17.66=
-BY10- POT 5+00.00=
-BY10- POT 14+38.85=
-L- STA. 111+61.87 (61.19 RT)
EL. 961.79

BEGIN CONSTRUCTION
-Y10- POT Sta. 13+90.00

-Y10- +40
EXIST. R/W

-Y10- +30
EXIST. R/W

-L- PC Sta. 116+11.17

-Y11- POT Sta. 10+00.00 =
-L- POT Sta. 115+31.00

EDNA C. EDWARDS
DB 661 PG 342
DB 2577 PG 895

DARRELL R. & LAURI A. MOSES
DB 2111 PG 1236

SR 2738 DELL BLVD

-L- PT Sta. 120+18.12

MATCHLINE -L- STA. 107+00 SEE SHEET 9

MATCHLINE -L- STA. 121+00 SEE SHEET 11

RESIDUAL

-Y10- POT Sta. 15+50.00 =
-L- POT Sta. 110+23.00

BM#14
-BL- STA 99+28.46
164' RT
N 843276
E 1671342
ELEV.= 963.25'

VICKIE O. & TOMMY D. SAWYER
DB 2353 PG 2499

CHURCH

-BY11- 48 PINC 8+43.25=
-Y11- STA. 10+94.54 (14.38 RT)
EL. 957.57

END CONSRUCTION
-Y11- POT Sta. 12+00.00

-Y11- POT Sta. 13+80.00

IGLESIA BAUTISTA HISPANA DE UNION CROSS
DB 1885 PG 791

UNION CROSS RD
12,500 / 27,100
12,500 / 27,200
200 / 300
300 / 400
2005 ADT
2030 ADT
500 / 700
LORADALE DR

PROJECTED TRAFFIC VOLUMES

KENNY W. & LYNN C. FULP
DB 1324 PG 462

LARRY W. & SANDRA E. WILLIAMS
DB 1749 PG 3233

KENNY W. & LYNN C. FULP
DB 1324 PG 461

WILLIAM M. & LINDA BARNETT
DB 1728 PG 2655

JIMMY D. & JOYCE G. SIDES
DB 1201 PG 1193

DANNY R. & FRANCES G. SINK
DB 1632 PG 1711

HENRY E. JR. & JEANETTE M. HEDGECOCK
DB 1378 PG 590

RONNIE A. & SHARON B. WINTERS
DB 1452 PG 424

DOUG SMITH
DB 2435 PG 2175

CYNTHIA FULP BROWN
DB 1751 PG 3485

RONNIE A. & SHARON B. WINTERS
DB 1558 PG 1147

NOTE:
SEE SHEET 29 & 30 FOR -L- PROFILE
SEE SHEET 44 FOR -Y10- & -Y11- PROFILE

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

-Y12- POT Sta. 10+00.00

EDNA C. EDWARDS
DB 661PG 342
DB 2577 PG 895

NAD 83

-BL- 16 PINC 111+78.72=
-L- STA. 122+19.59 (8.28 RT)
EL. 961.90

S 89°58'30.0" E

CLARKE DR
• ADT
2030 ADT
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES
• TRAFFIC VOLUMES NOT PROVIDED

WINSTON-SALEM/FORSYTH COUNTY
BOARD OF EDUCATION
DB 1536 PG 1627
DB 618 PG 39
DB 617 PG 132
DB 2597 PG 1961
DB 2581PG 4451

N 03°54'44" E
190.77'
R. DENNIS &
FRANKIE E. WEAVIL

BEGIN CONSRUCTION
-Y12- POT Sta. 13+85.00 BST

-Y12-

ISBKD
CONC
36" CONC
+10.08
RESIDUAL
F
20'DI
8'DI
N 8°56'16.3" E
RESIDUAL
EIP
ISBKD
JIMMY D. & JOYCE G. SIDES
DB 1201PG 1193
STONE
EIP
82.50'
33.67'
48" WD RAIL
S
HENRY E. JR., & JEANETTE M. HEDGECOCK
DB 1378 PG 590
JOSE F. ABUNDIS
DB 2071PG 1412

30" C&G
BST
125
130
135
2SBK SCHOOL
18" C&G
48" CONC
FLAGPOLE
60" CONC
24'DI
15
ROADWAY EMBANKMENT
CITY OF WINSTON-SALEM
-L-
N 44° 35' 30.0" E
4"PVC (DATUR)
RESIDUAL
F
-Y12- POT Sta. 15+25.00 =
-L- POT Sta.124+17.00

ROBERT Y. & JONNIE H. TUCKER AND
ONEITA F. TUCKER AND
PAUL & INA J.T. STEPHENS
(OTA TUCKER & INA L. SMITH HEIRS)
DB 54 PG 364
DB 2588 PG 682

N 03°32'05" E
1127.12'

CHARLES O. WILLIARD, JR
DB 289 PG 125

MATCHLINE -L- STA. 121+00 SEE SHEET 10

MATCHLINE -L- STA. 135+00 SEE SHEET 12

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 44 FOR -Y12- PROFILE

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

NOTE: SEE DETAIL SHEET 21 FOR INTERSECTION DESIGN

-L-
PI Sta 144+30.22
Δ = 16° 24' 30.0" (RT)
D = 1° 08' 45.3"
L = 1,431.90'
T = 720.88'
R = 5,000.00'
Se=0.02
Runoff = 110'

-Y14-
PI Sta 17+64.64
Δ = 6° 33' 58.0" (LT)
D = 2° 51' 53.2"
L = 229.20'
T = 114.73'
R = 2,000.00'
Se=0.03
Runoff = 110'

NAD 83

MATCHLINE -Y13- STA.20+00 SEE SHEET 22

MATCHLINE -L- STA. 135+00 SEE SHEET 11

MATCHLINE -L- STA. 149+00 SEE SHEET 13

ROADWAY EMBANKMENT

RESIDUAL

GLENN CENTER DRIVE

GLENVIEW DRIVE

AREA U/C - 01/08

PROJECTED TRAFFIC VOLUMES
* TRAFFIC VOLUMES NOT PROVIDED

2005 ADT
2030 ADT

UNION CROSS RD
GLENN CROSSING ASSOCIATES, LLC
DB 2770 PG 1473
PB 52 PG 85

SHOPS AT GLENN CROSSING

-BL- 17 PINC 126+50.62=
-BY12- POT 12+20.13=
-L- STA. 136+89.65 (65.30 LT)=
-Y13- STA. 23+22.75 (38.02 LT)
EL. 965.78

-BL- 18 PINC 136+67.86=
-BY13- POT 5+00.00=
-L- STA. 147+00.87 (34.47 RT)=
-Y14- STA. 12+85.68 (69.96 RT)=
EL. 961.09

-Y14- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y14- POT Sta. 11+72.45

-Y14- POT Sta. 12+53.67 =
-L- POC Sta.146+89.27

END CONSTRUCTION
-Y14- POT Sta. 14+50.00

-L- PC Sta. 137+09.34

-Y13- POT Sta. 23+87.84 =
-L- POT Sta.136+52.00

-Y14- PC Sta. 16+49.91

-BY13- 51 POT 9+79.86

WEST POINT VILLIAGE ASSOCIATES
DB 2770 PG 1479
PB 52 PG 85

CHARLES O. JR. & RILLA W. WILLARD
DB 1018 PG 439

C. STANLEY & KIMBERLY P. TART
DB 1969 PG 470

DB 2244 PG 3736

LARRY W. & KATHRYN H. BOYLES
DN 927 PG 569

ROBERT H. & TREVA BOYLES
DB 778 PG 312
DB 723 PG 90
DB 831 PG 345

ROBERT H. BOYLES
DB 859 PG 93

LARRY D. SR. & DONNA HOLMAN
DB 2337 PG 5617

HELEN G. WOOD
DB 2156 PG 1086

CITY OF WINSTON-SALEM

SR 2634 UNION CROSS RD 24' BST

SR 4312 SERVICE RD 20' BST

CATHODIC PROTECTION CABLES

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
SEE SHEET 30 & 31 FOR -L- PROFILE
SEE SHEET 45 FOR -Y13- & -Y14- PROFILE

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

MATCHLINE
-L- STA. 168+00
SEE SHEET 14

MATCHLINE
-L- STA. 149+00
SEE SHEET 12

NAD 83

UNION CROSS RD
20,200
38,700
1,500
800
PECAN LN
2,500
3,600
900
2,800
2005 ADT
2030 ADT
15,900
40,700
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES

SKETCH SHOWING RELATIONSHIP OF BRIDGE TO PAVEMENT AND SHOULDERS

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.02

NOTE:
SEE SHEET 3 FOR -L- PROFILE
SEE SHEET 4C FOR -Y5- PROFILE
SEE SHEET 4F FOR -Y5RPA- & -Y5RPB PROFILES
SEE SHEET 4G FOR -Y5RPC- & -Y5RPD- PROFILES
SEE SHEET 4G FOR -Y5SPA-,Y5SPB, -Y5SPC-,& -Y5SPD- PROFILES

UNION CROSS RD
19,900
40,700
7,800
13,500
2,800
10,100
INTERSTATE 40
64,600
79,000
60,000
76,900
1,500
8,400
4,900
9,700
2005 ADT
2030 ADT
15,700
35,200
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	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

-Y17-
PI Sta 18+97.41
Δ = 33° 25' 05.0" (RT)
D = 6° 44' 26.4"
L = 495.77'
T = 255.16'
R = 850.00'
Se= 0.05
Runoff = 100'

-Y18-
PI Sta 13+61.14
Δ = 50° 34' 13.0" (LT)
D = 11° 41' 34.9"
L = 432.48'
T = 231.47'
R = 490.00'
Se= 0.05
Runoff = 100'

-L-
PI Sta 171+16.05
Δ = 17° 00' 00.0" (RT)
D = 2° 51' 53.2"
L = 593.41'
T = 298.90'
R = 2,000.00'
Se= 0.03
Runoff = 110'

-BY17- 59 PINC 9+69.33=
-Y18- STA. 11+90.91 (12.20 RT)
EL. 959.54

BEGIN CONSTRUCTION
-Y18- POT Sta. 14+60.00

MATCHLINE -Y17- STA. 18+00 SEE SHEET 23

MATCHLINE -L- STA. 168+00 SEE SHEET 13

MATCHLINE -L- STA. 182+00 SEE SHEET 15

-BY16- 57 PINC 12+65.05=
-Y17- STA. 19+31.20 (34.94 LT)
EL. 976.56

-BL- 22 PINC 166+68.27=
-BY17- POT 13+89.09=
-L- STA. 177+02.10 (55.97' LT)
EL. 967.35

-L- PC Sta. 168+17.15

-Y17- PT Sta. 21+38.02

-Y18- PC Sta. 11+29.67

-Y18- PT Sta. 15+62.15

-Y17- POT Sta. 22+11.82 =
-L- POC Sta. 173+91.50

-L- PT Sta. 174+10.56

-Y18- POT Sta. 16+62.75 =
-L- POT Sta. 180+31.50

-BL- 21 PINC 158+26.84=
-BY15- POT 15+76.61=
-BY16- POT 19+30.06=
-L- STA. 168+58.71 (64.47 RT)
EL. 967.95

BM#6
-BL- STA 159+04.07
262' RT
N 848973
E 1672785
ELEV.= 962.52'

ROBERT H. & TREVA H. BOYLES
DB 1000 PG 578

HAROLD D. & MARY A. SPAINHOUR
DB 873 PG 36

DAVID A. & PHILIPPA H. KING
DB 1854 PG 238

REX C. JR. & CINDY L. HOYLE
DB 2020 PG 2152

RAYMOND J. & SHIRLEY A. NIFONG
DB 2026 PG 1169

J. ALEXANDER JR. & MIRAM H. WARD
DB 2490 PG 3749

JAMES G. & LISA A. BAKER
DB 2046 PG 123

CHARLES D. & ANGELA K. JENT
DB 2040 PG 3795

ROBERT D. & KATHLEEN A. THORTON
DB 2326 PG 566

JENNIFER STANCIL
DB 2470 PG 3909

BRIAN G. WEANT
DB 2488 PG 2480

THOMAS R. McKENZIE, JR
DB 2295 PG 2750

TERRY P. & JAN H. SPARKS
DB 2134 PG 3624

KENNETH W. & ELIZABETH FLEMING
DB 2544 PG 689

NEWTON S. JR. & JEAN McBRIDE
DB 1277 PG 102

NEWTON S. JR. & JEAN McBRIDE
DB 995 PG 383

NAOMI J. MAY (CROOK)
DB 1290 PG 1503

TIMOTHY W. MCBRIDE
DB 2323 PG 4869

D.H. HORTON, INC
DB 1953 PG 781

SAMUEL H. & BOBBIE R. HENSDALE
DB 902 PG 298
DB 935 PG 310

MARY E.S. SOLOMON
DB 1905 PG 2489

JAY T. PROPERTIES LLC
DB 1814 PG 964

GREENWOOD & CHARLES, INC.
DB 1745 PG 3690
DB 1935 PG 1194

B. ODELL SOLOMON
DB 1905 PG 2486

ALMA R. SINK
DB 1436 PG 840

TALMADGE L. & RACHEL C. SOLOMON
DB 1310 PG 357

R.C. SMITH, VANCE V. SMITH, BYRON W. SMITH, & DELIA A.S. SMITH
DB 2141 PG 333

UNION CROSS STATION, LLC
DB 1982 PG 781

CITY OF WINSTON-SALEM

CITY OF KERNERSVILLE

SR 2643 UNION CROSS RD 36' BST

RESIDUAL

ROADWAY EMBANKMENT

SOLOMON DR
2005 ADT 200
2030 ADT 1,000
500 / 8,500
100 / 10,200
20,200 / 38,700
20,200 / 38,500
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES

SILVER CREEK TR
2005 ADT 2,000
2030 ADT 13,000
1,400 / 1,600
100 / 400
20,200 / 38,500
18,900 / 37,300
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES

NOTE:
SEE DETAIL SHEET 2L FOR INTERSECTION DESIGN

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 31 & 32 FOR -L- PROFILE
SEE SHEET 50 FOR -Y17- & -Y18- PROFILES

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FOR
DIVISION OF HIGHWAYS

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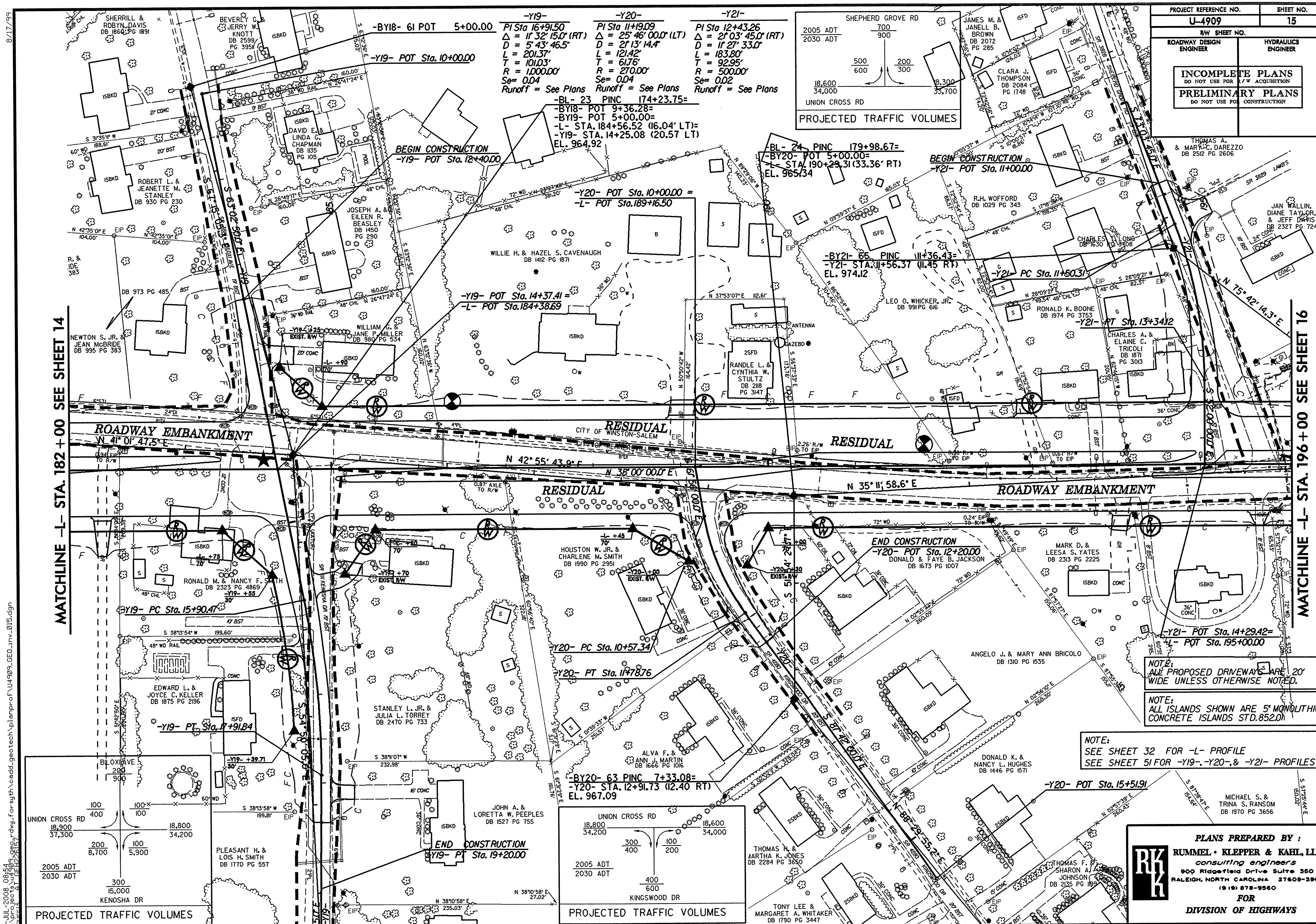
PROJECT REFERENCE NO.	SHEET NO.
U-4909	15

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



-Y19-
PI Sta 16+91.50
Δ = 11° 32' 15.0" (RT)
D = 5° 43' 46.5"
L = 201.37'
T = 101.03'
R = 1,000.00'
Se= 0.04
Runoff = See Plans

-Y20-
PI Sta 11+19.09
Δ = 25° 46' 00.0" (LT)
D = 21° 13' 14.4"
L = 121.42'
T = 61.76'
R = 270.00'
Se= 0.04
Runoff = See Plans

-Y21-
PI Sta 12+43.26
Δ = 21° 03' 45.0" (RT)
D = 11° 27' 33.0"
L = 183.80'
T = 92.95'
R = 500.00'
Se= 0.02
Runoff = See Plans

PROJECTED TRAFFIC VOLUMES (SHEPHERD GROVE RD / UNION CROSS RD)
2005 ADT / 2030 ADT
SHEPHERD GROVE RD 700/900; 500/600; 200/300; 18,600/34,000; 18,300/33,700
UNION CROSS RD

PROJECTED TRAFFIC VOLUMES (BILOXI AVE / UNION CROSS RD / KENOSHA DR)
BILOXI AVE 200/900; 100/400; 100/100; UNION CROSS RD 18,900/37,300; 18,800/34,200; 200/8,700; 100/5,900; 300/15,000
KENOSHA DR
2005 ADT / 2030 ADT

PROJECTED TRAFFIC VOLUMES (UNION CROSS RD / KINGSWOOD DR)
UNION CROSS RD 18,800/34,200; 18,600/34,000; 300/400; 100/200; 400/600
KINGSWOOD DR
2005 ADT / 2030 ADT

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 51 FOR -Y19-, -Y20-, & -Y21- PROFILES

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	16
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

8/17/99

-Y23-
PI Sta 20+64.65
Δ = 6° 56' 58.1" (RT)
D = 1° 54' 35.5"
L = 363.87'
T = 182.16'
R = 3,000.00'
Se = 0.03
Runoff = See Plans

PI Sta 27+97.55
Δ = 5° 57' 35.9" (RT)
D = 1° 54' 35.5"
L = 312.06'
T = 156.17'
R = 3,000.00'
Se = 0.03
Runoff = See Plans

-L-
PI Sta 207+66.48
Δ = 19° 36' 30.0" (RT)
D = 2° 29' 28.0"
L = 787.13'
T = 397.45'
R = 2,300.00'
Se = 0.03
Runoff = 210'

-Y22-
PI Sta 13+08.85
Δ = 36° 27' 25.0" (LT)
D = 22° 55' 05.9"
L = 159.07'
T = 82.33'
R = 250.00'

UNION CROSS RD
18,300 / 33,700 — 18,000 / 33,400
700 / 800 — 400 / 500
2005 ADT / 2030 ADT
1,100 / 1,300
SOMERSET CROSSING LN
PROJECTED TRAFFIC VOLUMES

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

SEDGE GARDEN RD
10,600 / 19,000
UNION CROSS RD
4,700 / 10,800 — 2,800 / 5,900
18,000 / 33,400 — 15,000 / 27,800
1,400 / 4,200 — 300 / 3,500
2005 ADT / 2030 ADT
4,800 / 10,000
OLD SALEM RD
PROJECTED TRAFFIC VOLUMES

MATCHLINE -Y23- STA. 19+00 SEE SHEET 24

MATCHLINE -L- STA. 196+00 SEE SHEET 15

MATCHLINE -L- STA. 210+00 SEE SHEET 17

MATCHLINE -Y23- STA. 27+00 SEE SHEET 25

-Y22- POT Sta. 10+00.00 =
-L- POT Sta. 199+71.50

-BY22- 67 PINC 6+86.42=
-L- STA. 199+52.19 (67.87 RT)=
-Y22- STA. 10+65.52 (26.19 RT)
EL. 976.25

-BL- 25 PINC 187+50.17=
-BY21- POT 15+34.11=
-BY22- POT 5+00.00=
-L- STA. 197+79.91 (3.36' LT)
EL. 974.81

-BY23- 71 PINC 11+66.53=
-Y23- STA. 18+33.99 (51.63 RT)
EL. 976.19

-Y23- PT Sta. 22+46.36

-Y23- POT Sta. 22+77.46 =
-L- POC Sta. 206+18.74

U4909-3 "GPS"
-BL- PINC 196+56.25=
-BY23- PINC 15+56.48=
-L- STA. 206+87.12 (4.35 RT)
EL. 973.41

-Y22- PC Sta. 12+20.52

PC Sta. 203+69.03

-BY22- 68 PINC 9+03.29=
-Y22- STA. 12+78.68 (45.03 RT)
EL. 969.87

-Y22- PT Sta. 13+79.59

-Y22- POT Sta. 15+69.60

END CONSTRUCTION
-Y22- POT Sta. 11+85.00

-Y23- PC Sta. 26+41.38

BM#16
BL- STA 196+59.36
232' LT
N 852261
E 1674626
ELEV. = 983.67'

JAN WALLIN, DIANE TAYLOR, & JEFF DAVIS DB 2327 PG 724

DONALD A. & MAXINE D. JOYCE DB 1513 PG 1074

DONALD A. & MAXINE D. JOYCE DB 1324 PG 1013

RACHAEL JOYCE & BRYANT TAYLOR DB 996 PG 438 DB 1324 PG 1014

DONALD A. & MAXINE D. JOYCE DB 1918 PG 2831

BI-LO, LLC DB 2312 PG 1591

BI-LO, LLC DB 2312 PG 1585

CITY OF KERNERSVILLE DB 1674 PG 1

DUNG ZUAN & THU LIEN T. LE DB 2032 PG 2544

PETER & CHARLENE ISFD AQUINO DB 2487 PG 915

JASON E. CHASE DB 2243 PG 3265

RODNEY & MISTY GODWIN DB 2156 PG 1279

SALLY A. SPRAGUE DB 1957 ISFD PG 1707

ROBERT W. & RIZZA L. SANTUCCI DB 1895 PG 1752

THAD H. & SHERRIL. VALENTINE DB 2017 PG 2650

GARY D. & JUADANE S. SMITH DB 2013 PG 1441

GARY D. & JUADANE S. SMITH DB 2458 PG 2850

JAMES C. HOLLAND & CHELSA L. BOSWELL DB 2553 PG 274

DOMINIC S. & PATRICIA J. ROBERTAZZI DB 2269 PG 1529

AMY R. ADAMS DB 2259 PG 1243

JAE H. & JIN HAN KIM DB 2406 PG 915

KIMBERLY A. DANCH DB 2597 PG 2758

ANNA MARIE DUROY & DORTHY L. HELMS DB 1902 PG 2475

TIMOTHY A. & GWENDOLYN HEDGEPETH DB 1933 PG 114

RODNEY & MISTY GODWIN DB 2156 PG 1279

EDWARD & PATRICIA K. SPRAGUE DB 1886 PG 3264

RICHARD A. & SHIRLEY J. RAMSEY DB 2135 PG 2658

MARIA AWAD DB 2449 PG 1328

ANNA M. WALL DB 2474 PG 1396

BUNRITH & CHANTA NONG DB 2125 PG 812

PAUL G. & JAIME L. MANDERS DB 2365 PG 5512

VINCENT AVERA DB 1933 PG 2122

KYLE H. & FRANCES S. HARRIS DB 1174 PG 1123

BEESON CROSS ROADS FIRE AND RESCUE, INC DB 1296 PG 47

ISBK FIRE STATION

ROBERT T. & BRENDA HICKS DB 1001 PG 576

ROADWAY EMBANKMENT

RESIDUAL

NOTE:
SEE DETAIL SHEET 27 FOR INTERSECTION DESIGN

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEETS 32 & 33 FOR -L- PROFILE
SEE SHEET 51 FOR -Y22- PROFILE
SEE SHEET 52 FOR -Y23- PROFILE

PLANS PREPARED BY :
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consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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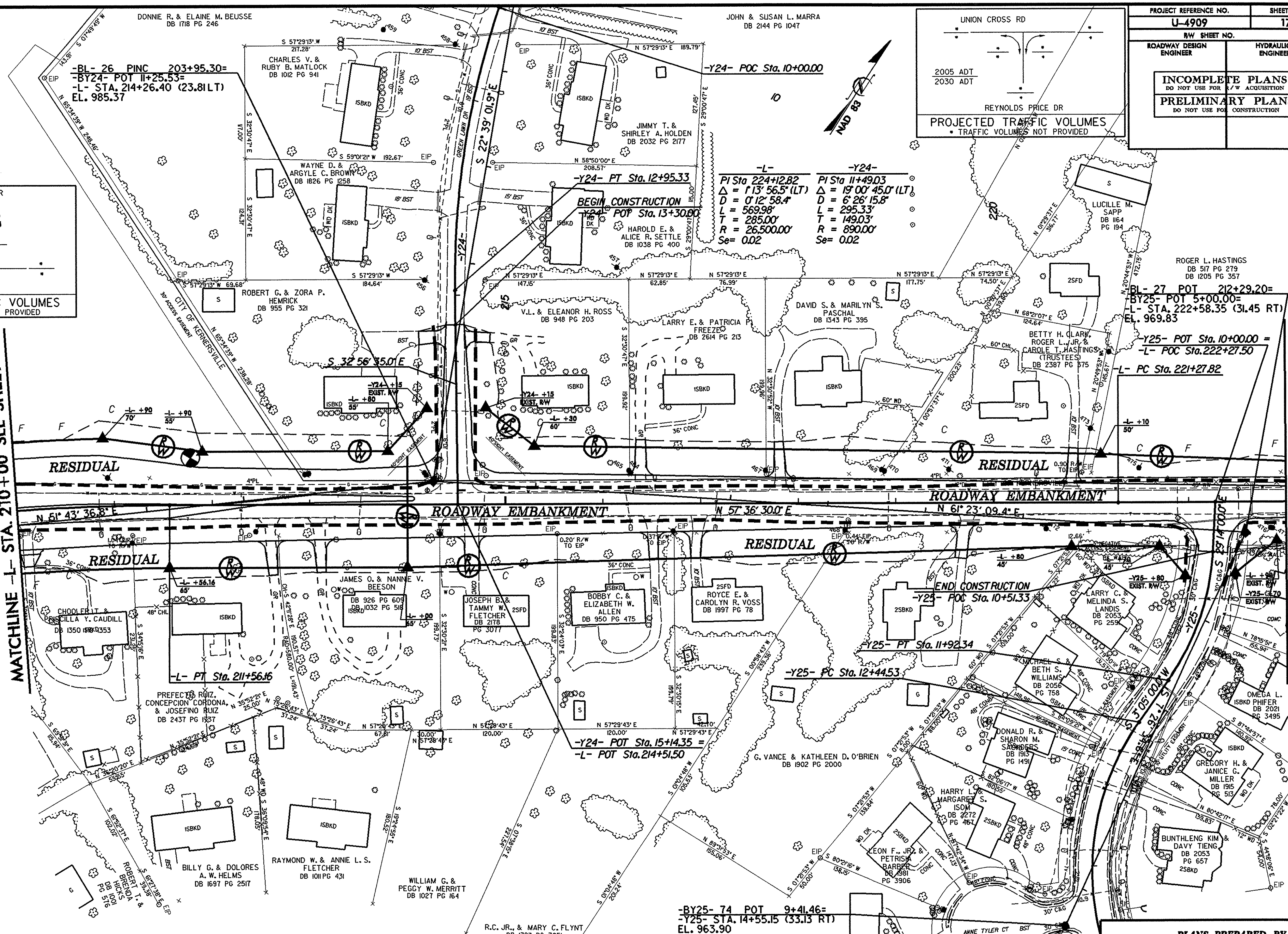
PROJECT REFERENCE NO.	SHEET NO.
U-4909	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 33 FOR -L- PROFILE
SEE SHEET 53 FOR -Y24- & -Y25- PROFILES

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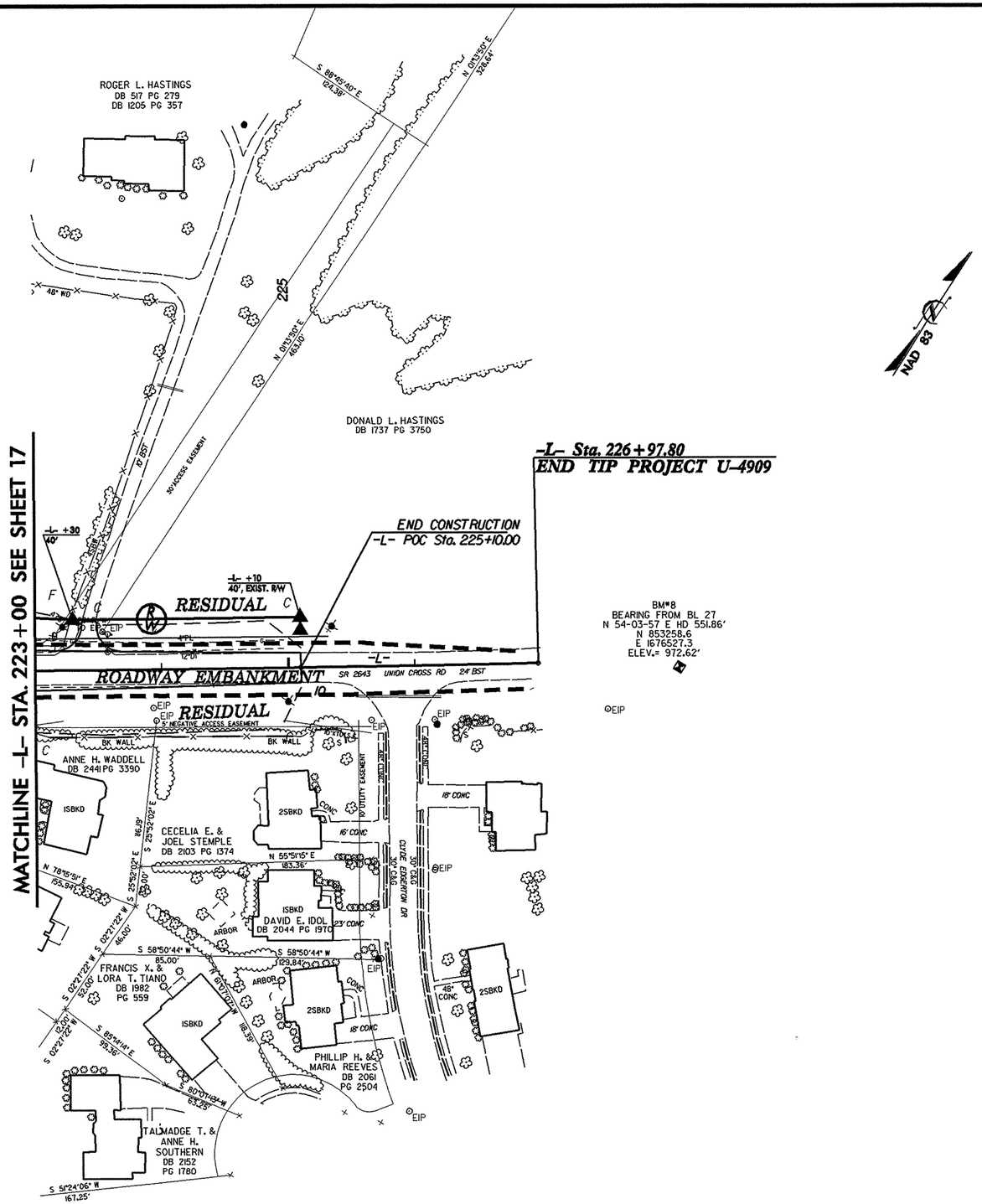
gharris AT GEH226157

8/17/95

PROJECT REFERENCE NO.	SHEET NO.
U-4909	18
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



-L-
PI Sta 224+12.82
Δ = 1° 13' 56.5" (LT)
D = 0° 12' 58.4"
L = 569.98'
T = 285.00'
R = 26,500.00'

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 33 FOR -L- PROFILE

PLANS PREPARED BY :
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

22-JUL-2008 11:26
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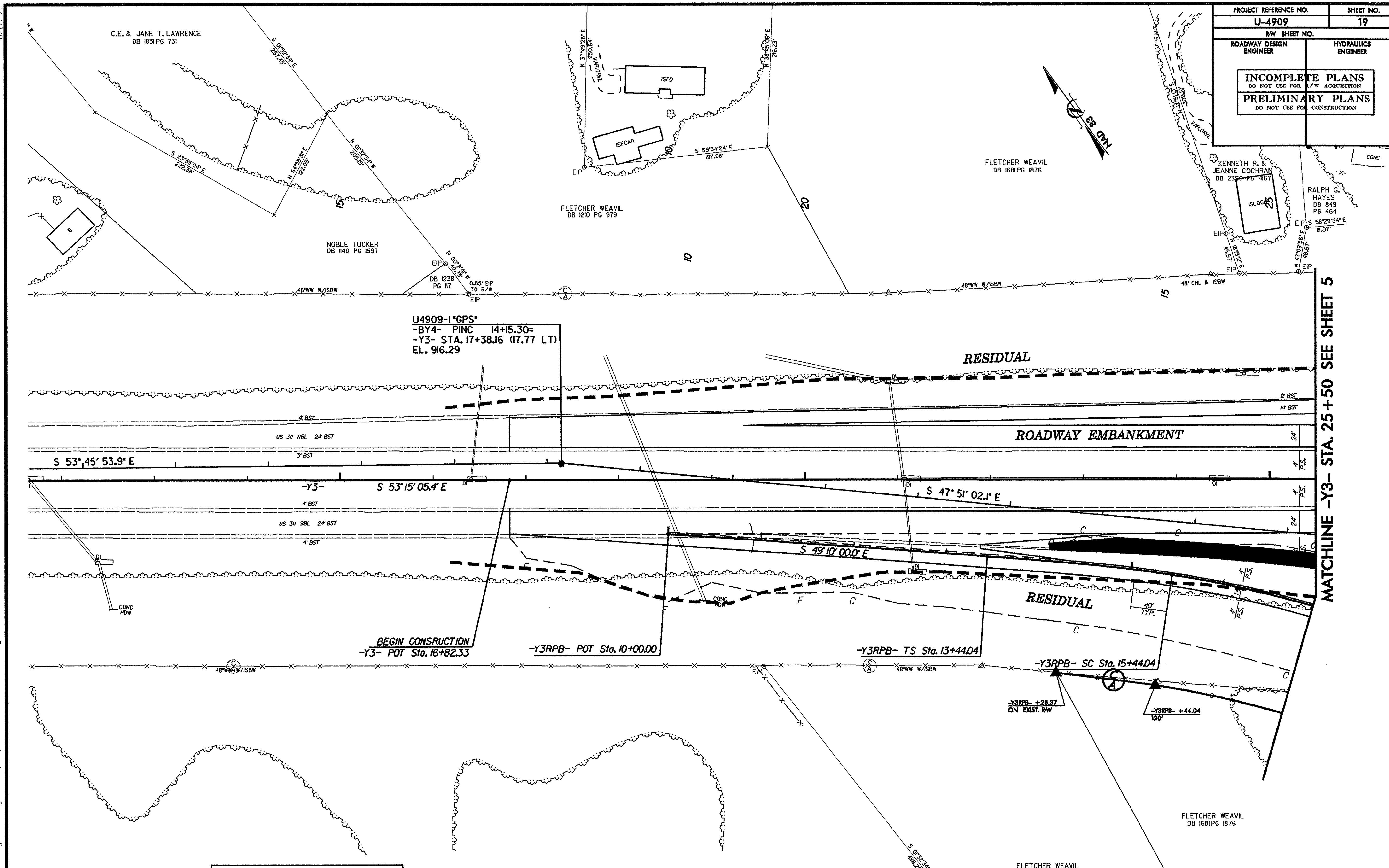
dhurst

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION



NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 35 FOR -Y3- PROFILE
SEE SHEET 38 FOR -Y3RPB- PROFILE

-Y3RPB-

PI Sta 18+10.72	PIs Sta 14+77.42
Δ = 25° 03' 32.5" (RT)	Θs = 4° 46' 28.7"
D = 4° 46' 28.7"	Ls = 200.00'
L = 524.84'	LT = 133.38'
T = 266.68'	ST = 66.71'
R = 1,200.00'	
Se = 0.02	
Runoff = 200'	

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DIVISION OF HIGHWAYS

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22-JUL-2008 11:29
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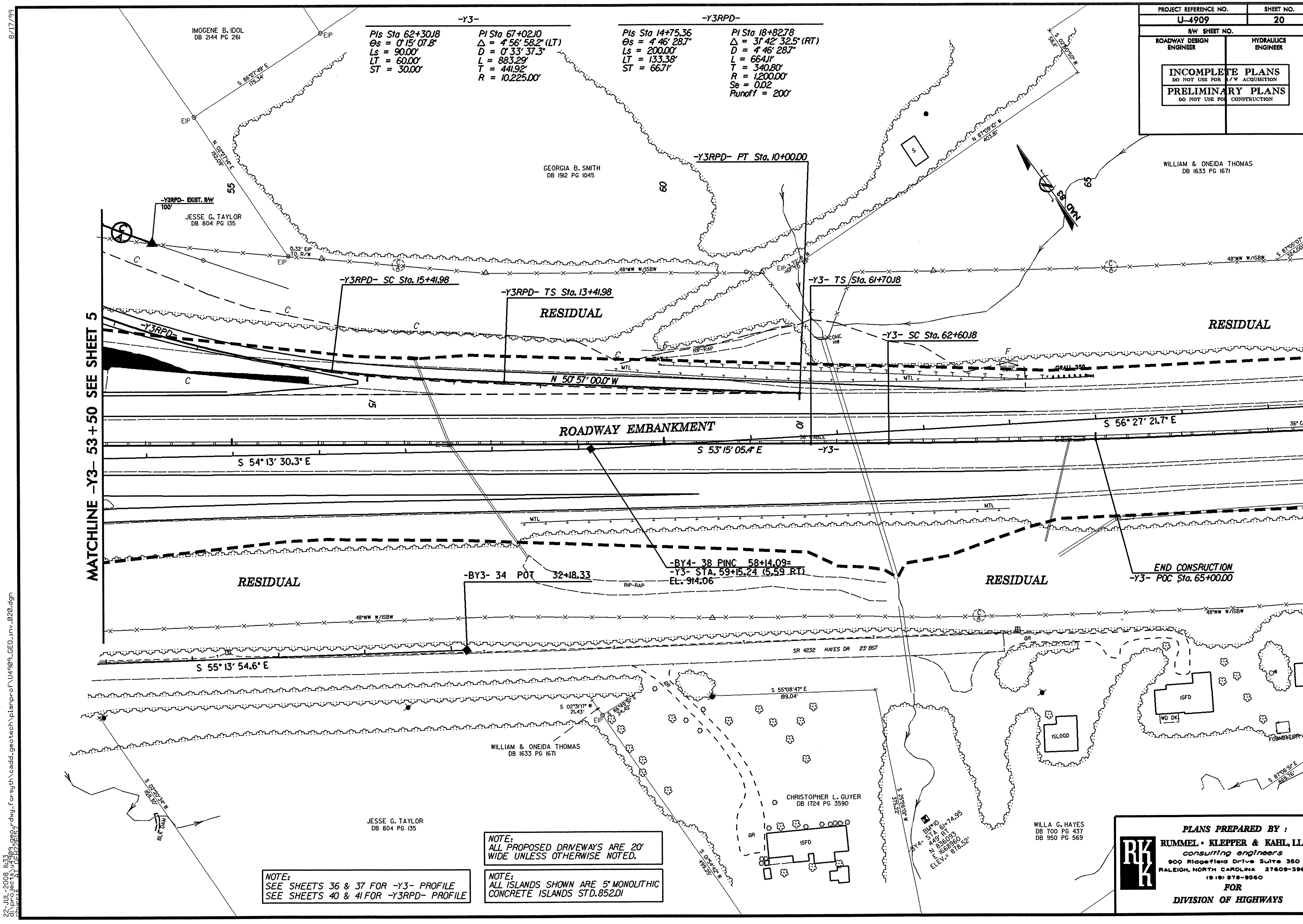
chharris AT GFH226157


PROJECT REFERENCE NO. U-4909
SHEET NO. 20
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
-Y3-
PIs Sta 62+30.18
Θs = 0° 15' 07.8"
Ls = 90.00'
LT = 60.00'
ST = 30.00'
PI Sta 67+02.10
Δ = 4° 56' 58.2" (LT)
D = 0° 33' 37.3"
L = 883.29'
T = 441.92'
R = 10,225.00'
-Y3RPD-
PIs Sta 14+75.36
Θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'
PI Sta 18+82.78
Δ = 31° 42' 32.5" (RT)
D = 4° 46' 28.7"
L = 664.11'
T = 340.80'
R = 1,200.00'
Se = 0.02
Runoff = 200'
IMOGENE B. IDOL DB 2144 PG 261
GEORGIA B. SMITH DB 1912 PG 1045
WILLIAM & ONEIDA THOMAS DB 1633 PG 1671
JESSE G. TAYLOR DB 804 PG 135
-Y3RPD- EXIST. R/W 100'
-Y3RPD- PT Sta. 10+00.00
-Y3RPD- SC Sta. 15+41.98
-Y3RPD- TS Sta. 13+41.98
-Y3- TS Sta. 61+70.18
-Y3- SC Sta. 62+60.18
RESIDUAL
N 50° 57' 00.0" W
ROADWAY EMBANKMENT
S 56° 27' 21.7" E
S 53° 15' 05.4" E
S 54° 13' 30.3" E
MATCHLINE -Y3- 53+50 SEE SHEET 5
-BY4- 38 PINC 58+14.09=
-Y3- STA. 59+15.24 (5.59 RT)
EL. 914.06
-BY3- 34 POT 32+18.33
END CONSRUCTION
-Y3- POC Sta. 65+00.00
SR 4232 HAYES DR 23' BST
S 55° 13' 54.6" E
WILLIAM & ONEIDA THOMAS DB 1633 PG 1671
CHRISTOPHER L. GUYER DB 1724 PG 3590
JESSE G. TAYLOR DB 804 PG 135
WILLA G. HAYES DB 700 PG 437 DB 950 PG 569
NAD 83
NOTE: ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.
NOTE: SEE SHEETS 36 & 37 FOR -Y3- PROFILE SEE SHEETS 40 & 41 FOR -Y3RPD- PROFILE
NOTE: ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS
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22-JUL-2008 11:33

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	21
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

-Y4-
PI Sta 28+73.48
Δ = 15° 56' 23.4" (RT)
D = 3° 49' 11.0"
L = 417.30'
T = 210.01'
R = 1,500.00'

PIs Sta 31+34.12
Θs = 3° 03' 20.8"
Ls = 160.00'
LT = 106.68'
ST = 53.35'

NAD 83

MATCHLINE -Y4- STA. 23+00
SEE SHEET 6

ARNOLD C. & BETTY JO SNYDER
DB 1955 PG 2291

ARNOLD C. & BETTY JO SNYDER
DB 1576 PG 1129

RONALD G. & LEE B. HARTLEY
DB 1502 PG 1685

MARK STOEHR
DB 2030 PG 2746

IRIS D.JOHNSON
DB 818 PG 106

CITY OF WINSTON-SALEM

LARRY D. & DONNA A. HOLMAN
DB 2395 PG 2186

BARRY D. STAFFORD
DB 2397 PG 2580

CHAD E. & KIMBERLY GREENE
DB 2358 PG 1986

RANDY D. & KAREN G. NELSON AND JIMMY H. & LINDA B. NELSON
DB 1985 PG 2671

WILLIAM F. & ONEIDA G. THOMAS
DB 1638 PG 1491

JADE ASSOCIATES II, LLC
DB 2478 PG 2603
TRACT 1

RESIDUAL

ROADWAY EMBANKMENT

RESIDUAL

-Y4- +80.78
70'

-Y4- +00
70', EXIST. R/W

-Y4- +80.78
60'

-Y4- 3+00
60', EXIST. R/W

-Y4- POT Sta. 33+04.60

-Y4- CS Sta. 30+80.78

END CONSTRUCTION
-Y4- POT Sta. 32+09.00

-Y4- ST Sta. 32+40.78

-BY5-42 POT 24+32.59=
-Y4- STA. 32+63.39 (27.12 RT)
EL. 945.44

-BY5- 41 PINC 19+04.62=
-Y4- STA. 27+37.06 (25.79 LT)
EL. 961.61

WINSTON-SALEM/FORSYTH COUNTY
BOARD OF EDUCATION
DB 299 PG 260

WINSTON-SALEM/FORSYTH COUNTY
BOARD OF EDUCATION
DB 1672 PG 1930

HTR CLASSRM

WD RAMP

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5" MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 42 FOR -Y4- PROFILE

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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dlpierce

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	22
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

-Y13-

PI Sta 15+05.83
Δ = 2°16' 33.3" (LT)
D = 1°09' 27.0"
L = 196.63'
T = 98.33'
R = 4,950.00'
Se = 0.02
Runoff = 80'

PI Sta 17+26.70
Δ = 2°50' 13.3" (RT)
D = 1°09' 27.0"
L = 245.10'
T = 122.58'
R = 4,950.00'
Se = 0.02
Runoff = 80'

CHARLES O. WILLIARD, JR.
DB 1211 PG 1524
DB 1037 PG 1008

WANELL W. WALL
DB 797 PG 451

WANELL W. WALL
DB 1225 PG 850

EDWARD P. WEAVER, JR.
DB 940 PG 161

REID W. DAVIS AND WIFE
CAROLYN DAVIS
DB 982 PG 660
DB 1481 PG 1414

WEST POINT VILLIAGE ASSOCIATES
DB 2770 PG 1479
PB 82 PG 85

NAD 83

10

15

EIP

S 86°45'39" E
306.76'

N 03°05'37" E
235.00'

N 04°32'37" E
235.24'

S 04°08'07" W
409.06'

S 11°50'11" W
204.55'

S 37°12'12" W
151.27'

S 70°12'18" W
203.22'

N 05°18'46" E
434.46'

N 04°14'52" E
40.01'

N 04°14'52" E
335.51'

S 87°25'40" E
50.02'

S 86°40'33" E
54.95'

S 86°17'17" E
234.79'

S 86°17' 50.0" E

N 88° 31' 54.0" E

-Y13- PC Sta. 14+07.50

-Y13- PRC Sta. 16+04.13

-Y13- PT Sta. 18+49.23

-Y13- POT Sta. 10+00.00

-Y13- POT Sta. 12+00.00

BEGIN CONSTRUCTION

-BY12- 50 POT 5+00.00=
-Y13- STA. 16+04.75 (27.90 RT)
EL. 959.12

-Y13- +00
60', EXIST. R/W

-Y13- +07.50
60'

-Y13- +04.13
60'

-Y13- +49.23
60'

BM#5
-BL- STA 12+50.62
C 1123'
N 848...
E 1670...
ELEV.= 951.68'

RADIUS = 264.81'
CHORD BEARING = N 37°58'58" E

RADIUS = 264.81'
CHORD BEARING = N 37°58'58" E

RADIUS = 1475.00'
CHORD BEARING = S 84°25'01" W

SR 2679 GLEN HIGH RD 38' BST ROADWAY EMBANKMENT

ISFD

TENNIS COURTS

CONC. PAD
8' CHL FNC

CONC. PAD

MTL BLEACHERS

AREA U/C - 01/08

AREA U/C

18" RCP

15" RCP

12" RCP

6" PL

72" CHL

5S ELEC

VAR. WIDTH ROW

VAR. CONC.

MATCHLINE -Y13- STA.20+00 SEE SHEET 12

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 45 FOR -Y13- PROFILE

PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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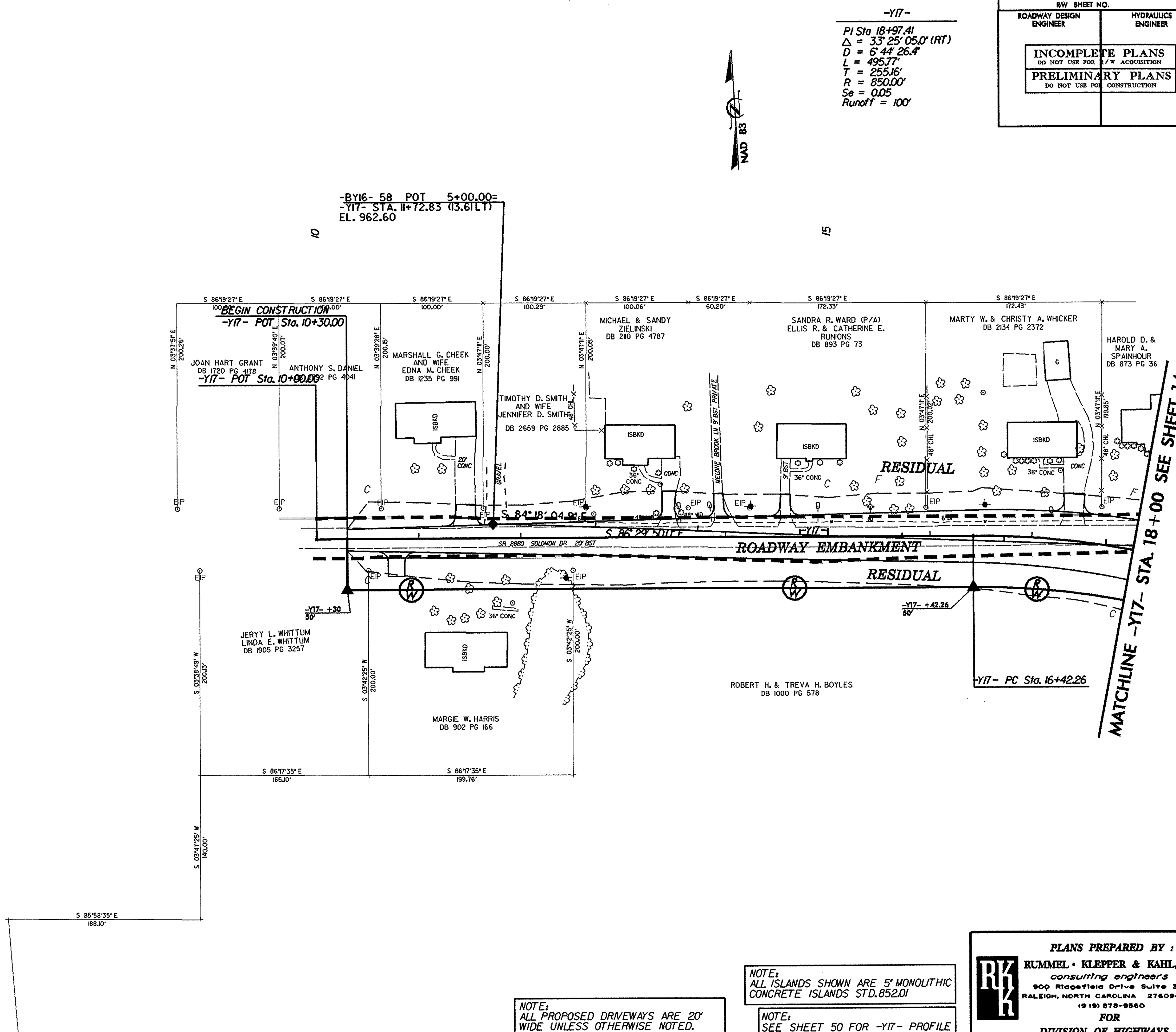
PROJECT REFERENCE NO.	SHEET NO.
U-4909	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99



NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 50 FOR -Y17- PROFILE

PLANS PREPARED BY :

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900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560

FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	24
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

-Y23-

PI Sta 14+95.73	PI Sta 20+64.85
Δ = 5° 16' 34.0" (LT)	Δ = 6° 56' 58.0" (RT)
D = 1° 54' 35.5"	D = 1° 54' 35.5"
L = 267.26'	L = 363.87'
T = 138.23'	T = 182.16'
R = 3,000.00'	R = 3,000.00'
Se = 0.02	Se = 0.02
Runoff = See Plans	Runoff = See Plans

NAD 83

-BY23- 70 POT 5+00.00=
-Y23- STA. 11+70.46 (19.19 LT)
EL. 973.98

BEGIN CONSTRUCTION
-Y23- POT Sta. 10+60.00

-Y23- PCSta. 10+00.00

-Y23- PC Sta. 18+82.49

-Y23- PT Sta. 16+33.76

-Y23- PCSta. 13+57.51

MATCHLINE -Y23- STA. 19+00 SEE SHEET 16

CITY OF KERNERSVILLE

BI-LO, LLC
DB 2312 PG 1591

JOSEPH W. WHICKER
DB 2584 PG 2139

ROGER D. JOHNSON
DB 1499 PG 225

RUSSELL F. & EDITH W. BRENDLE
DB 557 PG 186

FLOYD H. & BETTY W. GOODE
DB 660 PG 19

DB 908 PG 180

DB 908 PG 181

DB 908 PG 182

DB 661 PG 51

RONALD F. & INEZ L. DAY
DB 262 PG 2803

ODELL & MYRTLE BALLARD
DB 614 PG 295

JASON L. & JENNIFER L. KNAPPENBERGER
DB 2445 PG 1225

KEVIN L. & BONNIE L. BIXBY
DB 1877 PG 333

JOHN O. & NANCY J. HARRIS
DB 2035 PG 611

CYNTHIA D. MINOR
DB 2491 PG 2537

ROLAND L. WILLIAMS & KAREN D. DUNCAN
DB 2156 PG 1290

SHEETS FAMILY, LP
DB 2555 PG 2231

RALPH T. KIGER, JR
DB 1640 PG 3457

DANIEL A. & PATSY W. MAYS
DB 2545 PG 964

LEO O. WHICKER
DB 2089 PG 1496

DONALD A. & MAXINE D.
DB 1918 PG 2831

DONALD A. & MAXINE D. JOYCE
DB 1324 PG 1013

RESIDUAL

ROADWAY EMBANKMENT

-Y23-
S 69° 25' 00.0" E

CITY OF WINSTON-SALEM

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 52 FOR -Y23- PROFILE

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	25
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

-Y23-
PI Sta 27+97.56
Δ = 5°57' 36.0" (RT)
D = 1°54' 35.5"
L = 312.06'
T = 156.17'
R = 3,000.00'
Se = 0.02
Runoff = See Plans

END CONSTRUCTION
-Y23- POT Sta. 33+75.00

U4909-4 "GPS"
-BY24- POT 29+23.28

-Y23- POT Sta. 34+00.00

-Y23- PT Sta. 29+53.45

NAD 83

MATCHLINE -Y23- STA. 26+00 SEE SHEET 16

-BY23- 72 PINC 21+31.19=
-Y23- STA. 27+77.55 (17.00)
EL. 960.71

ROADWAY EMBANKMENT
RESIDUAL

-Y23-

S 61° 10' 37.1" E

S 66° 47' 00.0" E

ROBERT T. & BRENDA HICKS DB 1001 PG 576

BILLY G. & DOLORES A. HELMS DB 1631 PG 2517

RAYMOND W. & ANNIE L. S. FLETCHER DB 1001 PG 431

FLOYD E. & MARTHA S. MABE DB 1569 PG 1031

KRISTOPHER & EMILY R. ABERNATHY DB 2507 PG 732

BOBBY L. & EDNA C. BOND DB 953 PG 342

ROBERT J. SKOTCHER DB 2226 PG 3542

MICHAEL W. & PATRICIA POWELL DB 1243 PG 833

ELNORA M. JONES DB 1458 G 1417

STEVEN C. WILLIAMS DB 2330 PG 3061

MAYAN PROPERTIES, LLC DB 2609 PG 815

MURDOCH P. & PAMELA L. MCMILLAN DB 2305 PG 3298

VIRGINIA SMITH DB 2341 PG 3982

DOUGLAS R. & MELISSA C. CATO DB 2347 PG 3886

JENNIFER P. WILLEY DB 2143 PG 355

RANDALL S. & DEBRA J. MCCORMICK DB 1949 PG 560

LISA H. LIPSCOMB (BOONE) DB 1895 PG 1321

TODD LEE & CHRISTINE LYNN ROGERS DB 1913 PG 1458

ARCHIE D. & KEIKI S. KING DB 1926 PG 2172

NOTE:
ALL PROPOSED DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

NOTE:
ALL ISLANDS SHOWN ARE 5' MONOLITHIC CONCRETE ISLANDS STD.852.01

NOTE:
SEE SHEET 52 FOR -Y23- PROFILE

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 1
CHISELED SQUARE ON SE CORNER OF CONCRETE SLAB FOR A GREEN POWER TRANSFORMER AT FIELD NUMBER 2 AT THE OLD RADAR BASE -BY2- STA 9+11.78 56' RIGHT 956.57'

-L-

BEGIN GRADE
-L- Sta. 8+15.00 EL. 949.23

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

PI = 13+35.00
EL = 956.23'
VC = 250'
K = 117

SS-109
M-109
SS-110

13+12.59 -L-
33.6761 RT

(+)1.3459%

RESIDUAL
BROWN-TAN-ORANGE VERY STIFF MOIST TO DRY HIGHLY PLASTIC SILTY SANDY CLAY (A-7-6)

(PI=36)

BROWN-TAN-ORANGE STIFF MOIST SILTY SANDY CLAY (A-7-6)

BT
DRY
0506

(-)0.8000%

RESIDUAL

-Y1- STA. 15+32.71=
-L- STA. 17+13.55

PROPOSED GRADE

EXISTING GROUND

RESIDUAL

PI = 20+85.00
EL = 950.23'
VC = 200'
K = 500

SS-111
M-111
SS-112

20+89.45 -L-
29.4077 RT

(-)0.8000%

RESIDUAL
BROWN TO RED STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN STIFF MOIST SANDY SILT (A-6)

BT
DRY
0506

990 980 970 960 950 940 930 920

7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00

BM 2
RR SPIKE IN SW ROOT OF A 30" RED OAK, +/- 50' FROM END OF CA FENCE -BL- STA 17+98.46 123' LEFT 955.42'

-L-

PI = 20+85.00
EL = 950.23'
VC = 200'
K = 500

(-)1.2000%

RESIDUAL
BROWN TO RED STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN STIFF MOIST SANDY SILT (A-6)

PI = 23+55.00
EL = 946.99'
VC = 245'
K = 107

(-)1.2000%

(+)1.1000%

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

PROPOSED GRADE

EXISTING GROUND

-Y3RPB- STA. 26+77.70=
-Y3RPC- STA. 31+57.25=
-L- STA. 27+35.00

PI = 27+44.00
EL = 951.27'
VC = 350'
K = 700

(+)1.1000%

(+)1.6000%

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

PROPOSED GRADE

SS-101
SS-102

32+12.26 -L-
63.3839 LT

(+)1.6000%

RESIDUAL
TAN VERY STIFF MOIST SILTY SAND VERY MICACEOUS 0 - 8' (A-2-5)

BT
DRY
0606

(+)0.4500%

END GRADE
-L- Sta. 34+91.87 EL. 961.72

PI = 33+60.00
EL = 961.12'
VC = 260'
K = 226

(+)0.4500%

990 980 970 960 950 940 930 920

21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 12
RAIL ROAD SPIKE IN THE NORTH EAST ROOT OF A TWIN CHERRY TREE RIGHT OF -L-
-BL- STATION 35+19.21 186' RIGHT 956.00'

-L-

-Y3- STA. 39+92.17 =
-L- STA. 36+55.48

BEGIN GRADE
-L- Sta. 38+27.88 EL. 963.85

PI = 39+55.00
EL = 964.99'
VC = 195'
K = 156

(+)0.9000% (-)0.3500%

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

US 311

EXISTING US 311 EXISTING US 311

EXISTING GROUND

PI = 42+80.00
EL = 963.85'
VC = 135'
K = 150

(-)0.3500% (+)0.5500%

SS-96
M-96
SS-97

44+08.57 -L-
22.3694 LT

(PI=25)

RESIDUAL
RED-TAN VERY STIFF MOIST SILTY SANDY CLAY (A-7-6)

OLIVE-TAN-WHITE STIFF MOIST NONPLASTIC SANDY SILT (A-6)

BT
DRY
0506

-Y3RPA- STA. 29+56.58 =
-Y3RPD- STA. 27+11.15 =
-L- STA. 46+00.00

(+)0.5500% (-)0.9000%

PI = 47+50.00
EL = 966.44'
VC = 230'
K = 159

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

990 980 970 960 950 940 930

35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00

BM 3
RR SPIKE IN THE SOUTH ROOT OF A 36" OAK WEST OF OLD 311 ACROSS FROM OLD 311 CURB MARKET ON SCHOOL PROPERTY +/-100' NW OF DANIEL BOONE ARROWHEAD HISTORIC MARKER -BY5- STA 16+13.98 138' RIGHT 960.96'

-L-

-Y4- STA. 22+95.91 =
-L- STA. 56+32.70

-Y5- STA. 10+00.00 =
-L- STA. 60+88.00

PI = 54+60.00
EL = 960.05'
VC = 400'
K = 138

PI = 62+25.00
EL = 975.35'
VC = 380'
K = 84

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

PROPOSED GRADE

(-)0.9000% (+)2.0000% (-)2.5000%

SS-94
M-94
SS-95

51+45.73 -L-
25.0165 LT

(PI=22)

RESIDUAL
RED-BROWN-TAN MEDIUM TO VERY STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN-WHITE MEDIUM DENSE MOIST SILTY SAND (A-2-4)

BT
DRY
0506

SS-92
SS-93

54+28.82 -L-
76.9983 LT

(PI=29)

RESIDUAL
TAN MEDIUM STIFF TO STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

WHITE-TAN STIFF DRY CLAYEY SANDY SILT (A-4)

BT
DRY
0506

RESIDUAL

RESIDUAL

EXISTING GROUND

990 980 970 960 950 940 930 920

49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 13
NORTH EAST BOLT IN FIRE HYDRANT EAST OF WOODWAY DRIVE.
-BL- STATION 63+94.36 131' RIGHT 959.56'

-L-

PI = 66+75.00
EL = 964.10'
VC = 450'
K = 130

PI = 72+95.00
EL = 969.99'
VC = 360'
K = 99

-Y6- STA. 10+00.00 = -L- STA. 74+09.00
EL. 966.51

SS-90
SS-91
63+61.8 -L-
73.8366 LT

ARTIFICIAL FILL
TAN LOOSE TO MEDIUM DENSE MOIST SILTY SAND (A-2-4)

ARTIFICIAL FILL

RESIDUAL
TAN HARD MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

(PI=27)

PINK STIFF MOIST CLAYEY SANDY SILT (A-5)

BT
DRY
0506

(-)12.5000%

(+)0.9500%

SS-88
M-88
SS-89
67+96.24 -L-
11.2973 RT

(PI=21)

RESIDUAL
RED STIFF MOIST SILTY SANDY CLAY (A-7-5)

OLIVE-WHITE HARD DRY CLAYEY SILTY SAND (A-2-4)

BT
DRY
0506

PROPOSED GRADE

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

EXISTING GROUND

(+)0.9500%

SS-86
M-86
SS-87
72+95.82 -L-
39.6904 RT

(-)12.7000%

RESIDUAL
RED-TAN VERY STIFF TO STIFF MOIST CLAYEY SANDY SILT (A-6)

BT
DRY
0506

ROADWAY EMBANKMENT

SS-95
75+46.98 -L-
10.3281 RT

RED-ORANGE MEDIUM STIFF MOIST SILTY SANDY CLAY (A-7-5)

(-)12.7000%

RESIDUAL
RED-TAN MEDIUM TO VERY STIFF MOIST SILTY SANDY CLAY (A-7-5)

BT
DRY
0506

63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00

990 980 970 960 950 940 930 920

BM-4
RR SPIKE SE ROOTOF A 14" GUM ON THE WEST SIDE OF TEMPLE SCHOOL RD. 117.2' LT. OF -BL- STA. 79+34.34
EL. 952.06' LEFT

-L-

PI = 77+30.00
EL = 958.24'
VC = 380'
K = 96

-Y7- STA. 10+00.00 = -L- STA. 79+72.00

PI = 82+15.00
EL = 964.30'
VC = 200'
K = 114

PI = 85+30.00
EL = 973.75'
VC = 415'
K = 86

PI = 88+85.00
EL = 967.19'
VC = 255'
K = 96

(-)12.7000%

(+)11.2500%

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

RESIDUAL

PROPOSED GRADE

(+)11.2500%

(+)3.0000%

EXISTING GROUND

RESIDUAL

(+)3.0000%

SS-84
M-84
84+47.59 -L-
22.0987 RT

RESIDUAL
RED-TAN-OLIVE-WHITE STIFF TO HARD MOIST TO DRY SILTY SANDY CLAY (A-7-5)
(PI=25)

BT
DRY
0506

(-)11.8500%

(-)11.8500%

(+)10.8000%

SS-82
SS-83
90+16.23 -L-
113.4909 LT

RESIDUAL
RED-TAN-OLIVE STIFF TO HARD MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

(PI=29)

OLIVE-TAN-WHITE MEDIUM DENSE DRY SILTY SAND (A-2-4)

BT
DRY
0506

63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00

77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00

990 980 970 960 950 940 930 920

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chrisa

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-L-

-YB- STA. 16+50.00 =
-L- STA. 91+03.00

PI = 91+85.00
EL = 969.59'
VC = 270'
K = 84

PI = 94+30.00
EL = 963.71'
VC = 175'
K = 97

PI = 98+75.00
EL = 961.04'
VC = 150'
K = 167

-Y9- STA. 10+00.00 =
-L- STA. 101+36.00

PI = 103+35.00
EL = 962.42'
VC = 175'
K = 167

(+)0.8000%
(-)2.4000%
(-)2.4000%
(+)0.6000%
(-)0.6000%
(+)0.3000%
(+)0.3000%
(-)0.7500%

RESIDUAL
ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

SS-80
M-80
SS-81
97+45.64 -L-
3.4960 LT

(PI=30) 20
(PI=21) 8
RESIDUAL
RED-TAN MEDIUM TO VERY STIFF MOIST HIGHLY TO MEDIUM PLASTIC SILTY SANDY CLAY (A-7-6)
BT
DRY
05/06

PROPOSED GRADE
EXISTING GROUND

SS-78
SS-79
101+46.42 -L-
7.9787 LT
ROADWAY EMBANKMENT
RESIDUAL
(PI=16) 9
(PI=30) 12
RED-TAN MICACEOUS STIFF MOIST SILTY SANDY CLAY (A-7-6)
BT
DRY
05/06

RED MEDIUM STIFF MOIST HIGHLY PLASTIC SANDY SILTY CLAY (A-7-6)
RESIDUAL

990 980 970 960 950 940 930 920

91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00

BM 14
CHISELED SQUARE IN NORTH EAST CORNER OF SIDEWALK AT THE IGLESIA BAUTISTA HISPANA CHURCH, -BL- STATION 99+28.46 164' RIGHT 963.25'

-L-

PI = 108+10.00
EL = 958.85'
VC = 150'
K = 130

-Y10- STA. 15+50.00 =
-L- STA. 110+23.00

PI = 113+00.00
EL = 960.81'
VC = 150'
K = 88

-Y11- STA. 10+00.00 =
-L- STA. 115+31.00

PI = 115+80.00
EL = 957.14'
VC = 400'
K = 97

SS-72
SS-73
118+91.82 -L-
62.5866 LT

SS-74
SS-75
114+98.5 -L-
0.8114 RT

SS-76
SS-77
105+98.94 -L-
13.2684 LT

(-)0.7500%
(+)0.4000%
(+)0.4000%
(-)1.3107%
(-)1.3107%
(+)2.8000%
(+)2.8000%

PROPOSED GRADE
EXISTING GROUND

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

RESIDUAL
RESIDUAL
RESIDUAL (PI=21)

RESIDUAL
BROWN-TAN-WHITE MEDIUM STIFF MOIST CLAYEY SANDY SILT (A-5)
7
10
TAN-WHITE LOOSE TO MEDIUM DENSE DRY SILTY SAND (A-2-4)
BT
DRY
05/06

RED MICACEOUS VERY STIFF MOIST SANDY CLAY (A-7-6)
17
8
TAN VERY MICACEOUS STIFF DRY CLAYEY SANDY SILT W/ QUARTZ VEIN AT 5' (A-5)
BT
DRY
05/06

RESIDUAL (PI=18)
RED STIFF MOIST SILTY SANDY CLAY (A-7-6)
9
RED LOOSE MOIST CLAYEY SILTY SAND (A-2-5)
8
BT
DRY
05/06

990 980 970 960 950 940 930 920

105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-L-

990 980 970 960 950 940 930 920

119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00

PI = 120+10.00
EL = 969.18'
VC = 400'
K = 85

(+)2.8000%

(-)1.9000%

SS-70
SS-71
121+45.19 -L-
47.3460 LT

RESIDUAL
RED STIFF MOIST SILTY SANDY CLAY (A-7-5)

HIGHLY PLASTIC

(PI=29) (12) (7)

RESIDUAL
RED STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

RED LOOSE MOIST SILTY SAND (A-2-4)

BT DRY 0508

(-)1.9000%

PI = 124+00.00
EL = 961.77'
VC = 330'
K = 97

-Y12- STA. 15+25.00 =
-L- STA. 124+17.00

(+)1.5000%

SS-68
SS-69
124+92.71 -L-
45.1306 RT

(PI=31) (12) (10)

RESIDUAL
RED STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

PINK & WHITE STIFF DRY CLAYEY SANDY SILT (A-5)

BT DRY 0506

PROPOSED GRADE

SS-66
SS-67
127+42.82 -L-
32.1563 RT

(PI=26) (10) (PI=13) (8)

RESIDUAL
RED STIFF TO MEDIUM STIFF MOIST HIGH TO LOW PLASTIC SILTY SANDY CLAY (A-7-5)

BT DRY 0506

PI = 129+10.00
EL = 969.43'
VC = 300'
K = 167

(+)1.5000%

(-)0.3000%

EXISTING GROUND

SS-64
SS-65
131+42.32 -L-
12.1592 RT

(PI=17) (9) (PI=12) (12)

RESIDUAL
RED-TAN STIFF MOIST SILTY SANDY CLAY (A-7-6)

BT DRY 0506

-L-

990 980 970 960 950 940 930 920

133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00

PI = 135+50.00
EL = 967.51'
VC = 150'
K = 167

PROPOSED GRADE

(-)0.3000%

(-)1.2000%

EXISTING GROUND

RESIDUAL

ROADWAY EMBANKMENT OVER RESIDUAL
EXISTING UNION CROSS RD

-Y13- STA. 23+87.84 =
-L- STA. 136+52.00

PI = 137+90.00
EL = 964.63'
VC = 150'
K = 100

SS-62
SS-63
137+86.77 -L-
47.4232 LT

(-)1.2000%

(+)0.3000%

(PI=29) (15) (PI=20) (8)

RESIDUAL
RED-BROWN-TAN STIFF TO MEDIUM STIFF MOIST HIGH TO MEDIUM PLASTIC SILTY SANDY CLAY (A-7-5)

BT DRY 0508

PI = 140+10.00
EL = 965.29'
VC = 100'
K = 154

(+)0.3000%

(-)0.3500%

SS-60
SS-61
141+31.79 -L-
3.0746 RT

RESIDUAL (PI=22)
RED STIFF TO VERY STIFF MOIST SILTY SANDY CLAY (A-7-6) (15)

PINK-WHITE STIFF MOIST CLAYEY SANDY SILT (A-5) (9)

BT DRY 0506

ROADWAY EMBANKMENT OVER RESIDUAL

RESIDUAL

S-57
SS-58
SS-59
145+82.19 -L-
31.3304 RT

BROWN MEDIUM STIFF MOIST SILTY SANDY CLAY (A-7-6) (PI=24)

PINK-WHITE STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-6)

ROADWAY EMBANKMENT

(PI=41) RESIDUAL

PINK-WHITE STIFF DRY CLAYEY SANDY SILT (A-5)

BT DRY 0506

-Y14- STA. 12+53.67 =
-L- STA. 146+89.27

(-)0.350

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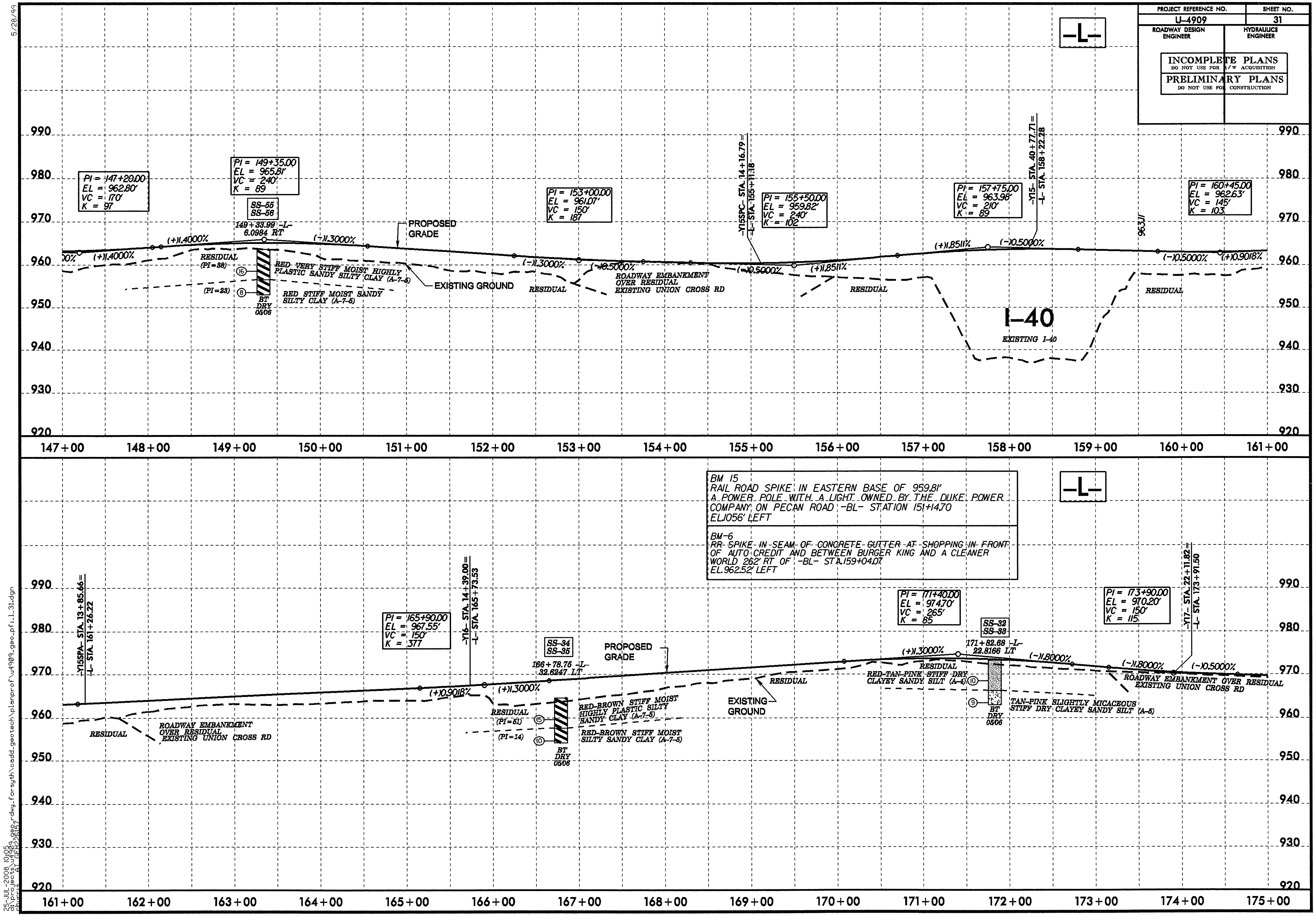
PROJECT REFERENCE NO. U-4909
SHEET NO. 31
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
-L-
PI = 147+20.00 EL = 962.80' VC = 170' K = 97
PI = 149+35.00 EL = 965.81' VC = 240' K = 89
SS-55 SS-56
149+33.99 -L- 6.0984 RT
PROPOSED GRADE
EXISTING GROUND
(+)1.4000%
(-)1.3000%
RESIDUAL (PI=58)
RED VERY STIFF MOIST HIGHLY PLASTIC SANDY SILTY CLAY (A-7-5)
RED STIFF MOIST SANDY SILTY CLAY (A-7-5)
(PI=23)
BT DRY 0506
PI = 153+00.00 EL = 961.07' VC = 150' K = 187
-Y15SPC- STA. 14+16.79 = -L- STA. 155+11.18
PI = 155+50.00 EL = 959.82' VC = 240' K = 102
ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD
(-)0.5000%
(+)1.8511%
PI = 157+75.00 EL = 963.98' VC = 210' K = 89
-Y15- STA. 40+77.71 = -L- STA. 158+22.28
963.11
PI = 160+45.00 EL = 962.63' VC = 145' K = 103
(+)0.9018%
I-40
EXISTING I-40
RESIDUAL
990 980 970 960 950 940 930 920
147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00
-L-
BM 15 RAIL ROAD SPIKE IN EASTERN BASE OF 959.81' A POWER POLE WITH A LIGHT OWNED BY THE DUKE POWER COMPANY ON PECAN ROAD -BL- STATION 151+14.70 EL1056' LEFT
BM-6 RR SPIKE IN SEAM OF CONCRETE GUTTER AT SHOPPING IN FRONT OF AUTO CREDIT AND BETWEEN BURGER KING AND A CLEANER WORLD 262' RT OF -BL- STA.159+04.07 EL.962.52' LEFT
-Y15SPA- STA. 13+85.66 = -L- STA. 161+26.22
ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD
RESIDUAL
PI = 165+90.00 EL = 967.55' VC = 150' K = 377
-Y16- STA. 14+39.00 = -L- STA. 165+73.53
(+)0.9018%
(+)1.3000%
SS-34 SS-35
166+78.75 -L- 32.6247 LT
PROPOSED GRADE
RESIDUAL (PI=51)
(PI=14)
RED-BROWN STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)
RED-BROWN STIFF MOIST SILTY SANDY CLAY (A-7-5)
BT DRY 0506
EXISTING GROUND
PI = 171+40.00 EL = 974.70' VC = 265' K = 85
SS-32 SS-33
171+82.68 -L- 22.8166 LT
RED-TAN-PINK STIFF DRY CLAYEY SANDY SILT (A-4)
TAN-PINK SLIGHTLY MICACEOUS STIFF DRY CLAYEY SANDY SILT (A-5)
(-)1.8000%
PI = 173+90.00 EL = 970.20' VC = 150' K = 115
-Y17- STA. 22+11.82 = -L- STA. 173+91.50
(-)0.5000%
ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD
990 980 970 960 950 940 930 920
161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00 172+00 173+00 174+00 175+00
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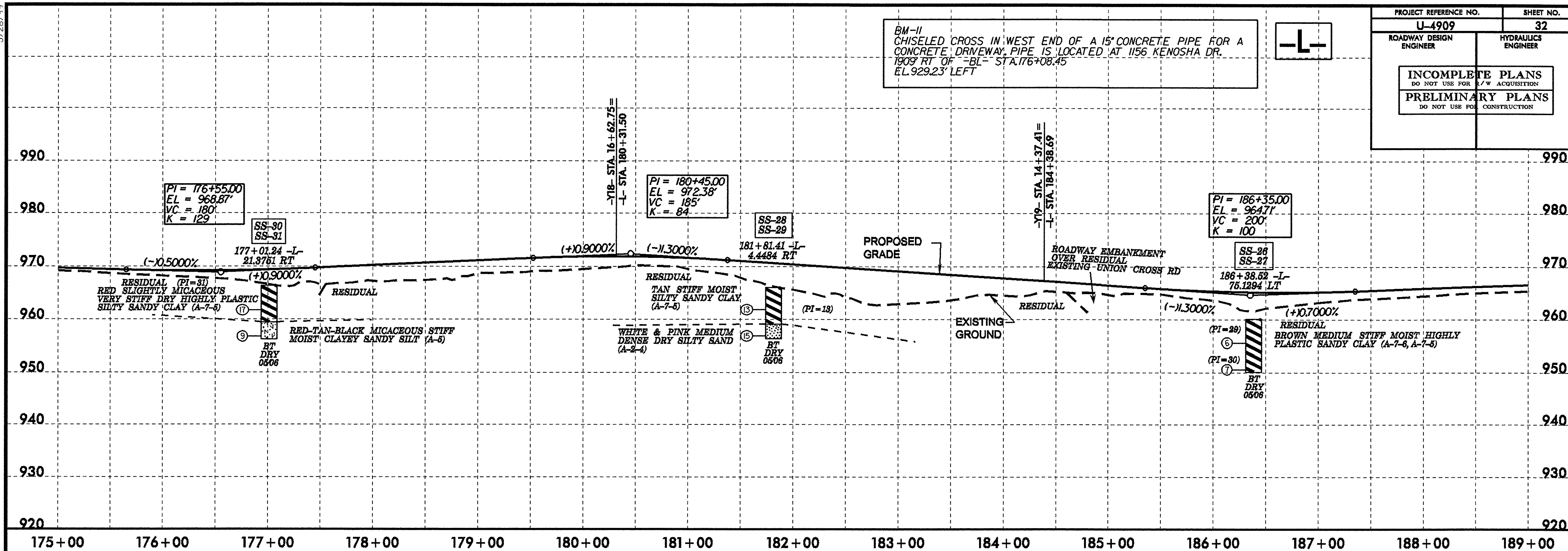
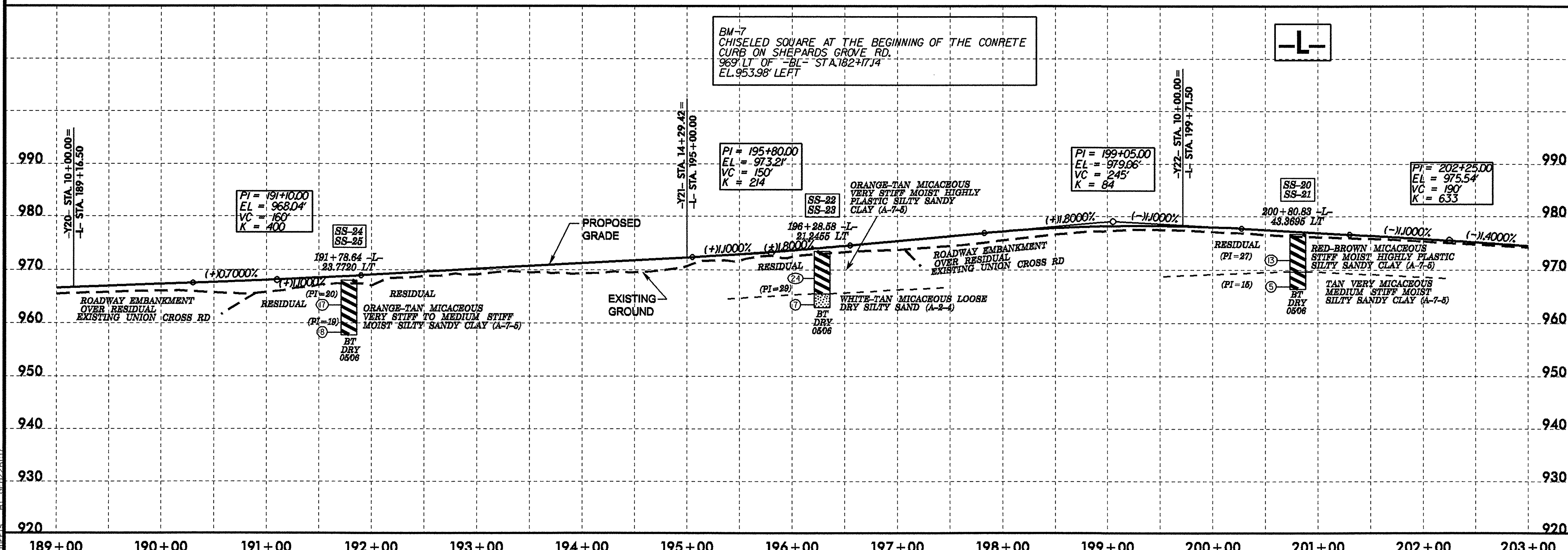
PROJECT REFERENCE NO.	SHEET NO.
U-4909	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





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PROJECT REFERENCE NO.	SHEET NO.
U-4909	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 16
RAIL ROAD SPIKE IN WESTERN ROOT OF 983.67'
A 24" MAPLE IN NORTH EAST QUADRANT
OF THE INTERSECTION OF SEDGE GARDEN
UNION CROSS, AND SALEM ROAD.
-BL- STATION 196+59.36 232' LEFT

-L-

PI = 204+75.00
EL = 972.04'
VC = 300'
K = 97

-Y23- STA. 22+77.46 =
-L- STA. 206+18.74

SS-18
SS-19

206+25.67 -L-
65.1586 LT

PI = 207+15.00
EL = 976.12'
VC = 180'
K = 86

RED MICACEOUS MEDIUM STIFF TO STIFF MOIST SILTY SANDY CLAY (A-7-6)

ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD

(-)1.4000%

(+)1.7000%

RESIDUAL

RED MICACEOUS STIFF MOIST CLAYEY SANDY SILT (A-5)

BT DRY 0506

RED-BROWN MEDIUM STIFF MOIST TO WET HIGHLY PLASTIC SILTY SANDY CLAY (A-7-6)

(-)0.4000%

RESIDUAL

(PI=14)

SS-16
SS-17

208+83.32 -L-
64.4506 LT

(PI=27)

RED-BROWN STIFF MOIST SILTY SANDY CLAY (A-7-6)

BT DRY 0506

PI = 210+10.00
EL = 974.94'
VC = 360'
K = 97

(-)0.4000%

(+)3.3000%

ORANGE-RED VERY STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

SS-13
SS-14
M-14
SS-15

211+77.59 -L-
48.5585 LT

(PI=32)

(PI=14)

RESIDUAL

ORANGE-RED STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN MICACEOUS MEDIUM STIFF MOIST CLAYEY SANDY SILT (A-6)

BT DRY 0506

PROPOSED GRADE

(+)3.3000%

-Y24- STA. 15+14.35 =
-L- STA. 214+51.50

EXISTING GROUND

(-)13.1000%

PI = 214+55.00
EL = 989.62'
VC = 400'
K = 63

ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD

990
980
970
960
950
940
930
920

203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00

-L-

PI = 219+20.00
EL = 975.21'
VC = 180'
K = 100

(-)13.1000%

(-)1.3000%

PROPOSED GRADE

EXISTING GROUND

-Y25- STA. 10+00.00 =
-L- STA. 222+27.50

PI = 222+90.00
EL = 970.40'
VC = 325'
K = 149

(-)1.3000%

(+)0.8867%

END GRADE
-L- Sta. 225+10.00 EL 972.35

ROADWAY EMBANKMENT OVER RESIDUAL EXISTING UNION CROSS RD

990
980
970
960
950
940
930
920

217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 8:
NCGS MONUMENT "SNOW" 13.5' RIGHT 972.62'
OF CENTERLINE OF UNION CROSS RD. (DOT ELEVATION)
BEARING FROM BL-27: N 54°03'57"E
HORIZONTAL DISTANCE 551.86'

-Y1-

BEGIN GRADE
-Y1- Sta.12+00.00 EL. 960.17'

-Y2- STA. 10+00.00 =
-Y1- STA. 12+55.00

END GRADE
-Y1- Sta.15+16.68 EL. 953.83'=
-L- Sta.17+06.77 (14.5' LT)

PI = 14+65.00
EL = 955.93'
VC = 100'
K = 41

-Y1- STA. 15+32.71 =
-L- STA. 17+13.55

BEGIN GRADE
-Y1- Sta.15+66.43 EL. 951.86'=
-L- Sta.17+28.10 (30.5' LT)

(-)1.6000%

(-)4.0635%

039 040

(-)5.0000%

ROADWAY EMBANKMENT OVER RESIDUAL

RESIDUAL

PI = 21+40.00
EL = 923.18'
VC = 670'
K = 96

SS-116
SS-117
22+86.35 -Y1-
51.8234 RT

PROPOSED GRADE

RESIDUAL
RED & TAN TO TAN STIFF MOIST VERY MICACEOUS TO 4' SILTY SANDY CLAY (A-7-6)

TAN & WHITE STIFF MOIST SLIGHTLY MICACEOUS SILTY DRY SAND (A-2-5)
BT
DRY
0508

RESIDUAL

EXISTING GROUND

970 960 950 940 930 920 910 900

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

-Y1-

PI = 32+45.00
EL = 967.93'
VC = 895'
K = 84

SS-113
M-113
SS-114

30+28.45 -Y1-
168.3742 RT

PROPOSED GRADE

EXISTING GROUND

(-)5.5900%

END GRADE
-Y1- Sta.37+05.00 EL. 937.62'

ROADWAY EMBANKMENT

(EXISTING SR 4232)

SS-115
M-115
27+08.84 -Y1-
100.1827 RT

(+)4.0500%

(PI=20)

RESIDUAL
BROWN-TAN STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN STIFF DRY CLAYEY SANDY SILT (A-6)
BT
DRY
0508

RESIDUAL
BROWN STIFF MOIST SILTY SANDY CLAY (A-6)

WEATHERED ROCK
SEVERELY WEATHERED CRYSTALLINE ROCK
BT
DRY
0508

980 970 960 950 940 930 920 910 900

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y1-

970 960 950 940 930 920 910

38+00 39+00

-Y2-

BEGIN GRADE
-Y2- Sta.10+19.15 EL 958.67'=
-Y1- Sta.12+55.00 (19.15' LT.)

END GRADE
-Y2- Sta.14+00.00 EL.950.59'

PI = 11+45.00
EL = 956.15'
VC = 150'
K = 214

PI = 13+30.00
EL = 951.16'
VC = 140'
K = 74

PROPOSED GRADE
(-)2.0000%
(-)2.7000%
(-)2.7000%
(-)0.8051%
RESIDUAL
EXISTING GROUND
ROADWAY EMBANKMENT
(EXISTING SR 4231)

970 960 950 940 930 920 910

10+00 11+00 12+00 13+00 14+00 15+00

NOTE: MIN. RESURFACING -Y3- STA. 16+82.33 TO 64+10.00

-Y3-

950 940 930 920 910 900 890

(EXISTING HWY 311)

15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00

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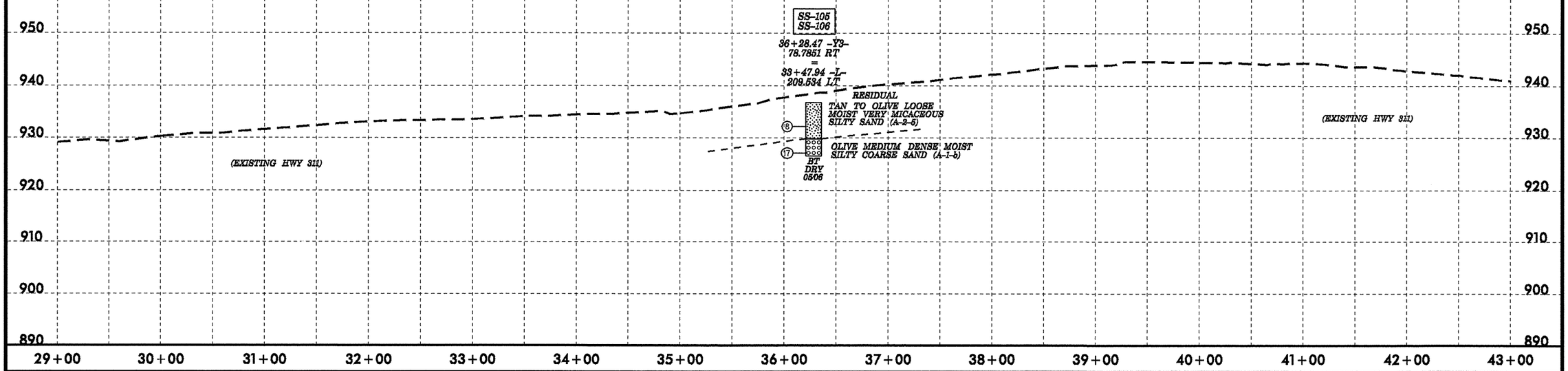
PROJECT REFERENCE NO.	SHEET NO.
U-4909	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

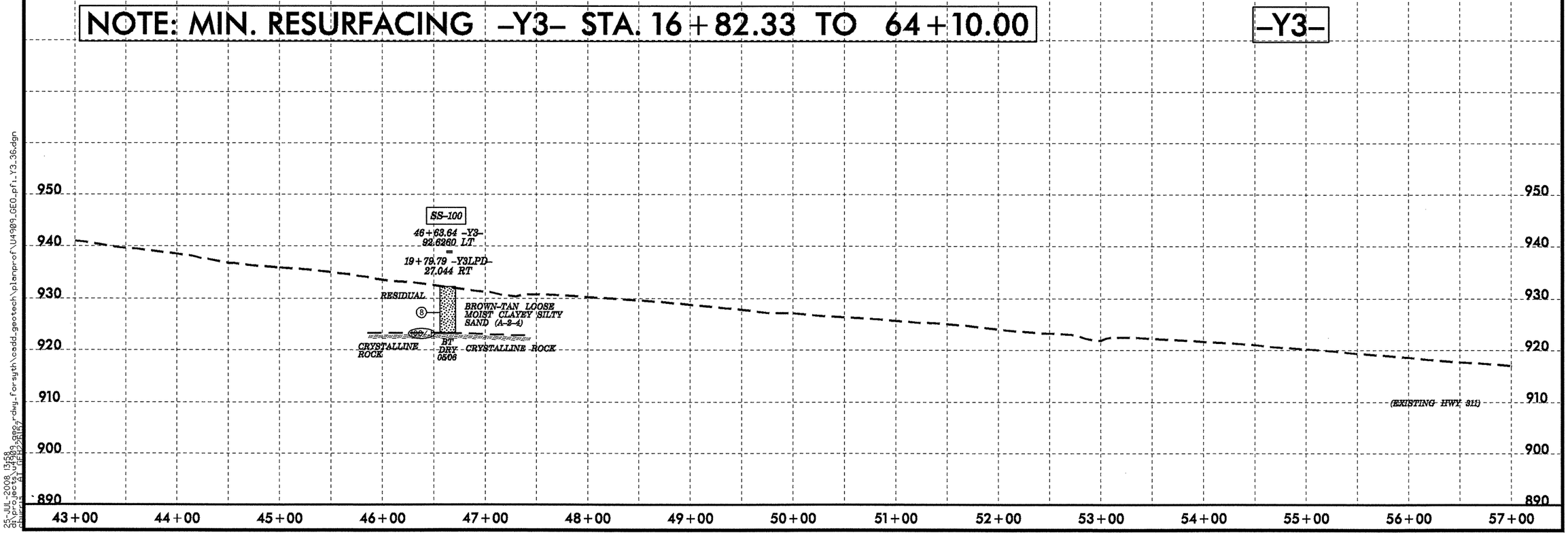
NOTE: MIN. RESURFACING –Y3– STA. 16+82.33 TO 64+10.00

–Y3–



NOTE: MIN. RESURFACING –Y3– STA. 16+82.33 TO 64+10.00

–Y3–



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NOTE: MIN. RESURFACING –Y3– STA. 16+82.33 TO 64+10.00

–Y3–

PROJECT REFERENCE NO.	SHEET NO.
U-4909	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

950
940
930
920
910
900
890

57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00

(EXISTING HWY 311)

–Y3RPA–

970
960
950
940
930
920
910
900

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

BEGIN GRADE
–Y3RPA– Sta.10+00.00 EL.933.29

PI = 13+95.80
EL = 934.85'
VC = 160'
K = 219

(+)1.8200%

(+)2.5500%

(EXISTING RAMP A HWY 311)

PI = 17+85.00
EL = 944.77'
VC = 300'
K = 385

(+)2.5500%

(+)1.7715%

PROPOSED GRADE

SS-98
SS-99
20+18.65 –Y3RPA– 68.3069 RT

ROADWAY EMBANKMENT

ROADWAY EMBANKMENT
TAN TO RED STIFF TO MEDIUM STIFF MOIST SILTY SANDY CLAY (A-6)
(PI=18)
11
7

RESIDUAL
(PI=49)
25
BT
DRY
0508
RED-TAN VERY STIFF MOIST HIGHLY PLASTIC SANDY SILTY CLAY (A-7-6)

EXISTING GROUND

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y3RPA-

END GRADE
-Y3RPA- Sta. 29+26.34 EL. 964.99'=
-L- Sta. 45+89.89 (28.5' LT)

(+)1.7715%

RESIDUAL

021

950
940
930
920
910
900

24+00 25+00 26+00 27+00 28+00 29+00 30+00

890

-Y3RPB-

BEGIN GRADE
-Y3RPB- Sta. 10+00.00 EL. 919.42

PI = 12+00.00
EL = 921.48'
VC = 200'
K = 633

(+)1.0300%

(+)0.7143%

ROADWAY EMBANKMENT

(EXISTING RAMP B AT HWY 311)

ROADWAY EMBANKMENT

RESIDUAL

PI = 19+00.00
EL = 926.48'
VC = 400'
K = 144

(+)0.7143%

(+)3.5000%

EXISTING GROUND

PROPOSED GRADE

RESIDUAL

960
950
940
930
920
910
900

950
940
930
920
910
900
890

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y3RPB-

END GRADE
-Y3RPB- Sta. 26+49.10 EL. 950.76
-L- Sta. 27+32.60 (28.5' RT)

PI = 25+00.00
EL = 947.48'
VC = 200'
K = 154

EXISTING GROUND

RESIDUAL

(+)2.2000%

(+)3.5000%

PROPOSED GRADE

.021

960 950 940 930 920 910 900

24+00 25+00 26+00

-Y3LPB-

BEGIN GRADE
-Y3LPB- Sta. 10+00.00 EL. 956.34

SS-103
SS-104

PI = 10+80.00
EL = 955.25'
VC = 150'
K = 98

SS-105A
M-105
SS-106A
M-106

10+69.61 -Y3LPB- 105.2109' RT

12+88.35 -Y3LPB- 6.6362' RT

(-)1.3625%

(-)2.9000%

RESIDUAL (PI=28)

RED-BROWN STIFF MOIST SILTY SANDY CLAY (A-7-6)

TAN & WHITE MEDIUM DENSE CLAYEY SANDY SILT (A-4)

BT DRY 0506

RESIDUAL (PI=34)

RESIDUAL (PI=12)

RED VERY STIFF MOIST HIGHLY PLASTIC SANDY SILTY CLAY (A-7-5)

TAN STIFF MOIST SILTY SANDY CLAY (A-7-5)

BT DRY 0506

EXISTING GROUND

RESIDUAL

PROPOSED GRADE

PI = 18+20.00
EL = 933.79'
VC = 300'
K = 66

ROADWAY EMBANKMENT (EXISTING RAMP B HWY 311)

(-)2.9000%

(+)1.6566%

END GRADE
-Y3LPB- Sta. 21+09.19 EL. 937.80
-Y3- Sta. 34+45.79 (57'RT)

PI = 20+50.00
EL = 937.60'
VC = 100'
K = 76

(+)1.6566%

(+)10.3379%

ROADWAY EMBANKMENT (EXISTING HWY 311)

960 950 940 930 920 910 900

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00

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PROJECT REFERENCE NO.	SHEET NO.
U-4909	40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y3RPC-

SS-107
M-107
SS-108

22+97.82 -Y3RPC- 103.6971 RT

BEGIN GRADE
-Y3RPC- Sta.14+41.09 EL.929.58

PI = 19+50.00
EL = 939.76'
VC = 200'
K = 191

PROPOSED GRADE
(+)0.9512%
(+)2.0000%

RESIDUAL

RESIDUAL
(PI=33)
20

RED VERY STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-5)

12

TAN STIFF DRY SANDY SILT (A-4)

BT DRY 06/06

ROADWAY EMBANKMENT
(EXISTING RAMP C HWY 311)

960 950 940 930 920 910 900

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

-Y3RPC-

END GRADE
-Y3RPC- Sta.31+26.62 EL. 950.95
-L- Sta.27+46.22 (28.5' RT)

EXISTING GROUND

ROADWAY EMBANKMENT
(EXISTING SR 4232)

(+)0.9512%

RESIDUAL

EXISTING GROUND

PROPOSED GRADE

970 960 950 940 930 920 910 900

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00

-Y3RPD-

BEGIN GRADE
-Y3RPD- Sta.10+00.00 EL.913.34

PI = 11+00.00
EL = 914.35'
VC = 200'
K = 504

PROPOSED GRADE

(+)1.0100%

(+)1.4067%

ROADWAY EMBANKMENT
(EXISTING RAMP D HWY 311)

EXISTING GROUND

970 960 950 940 930 920 910 900

10+00 11+00 12+00 13+00 14+00 15+00

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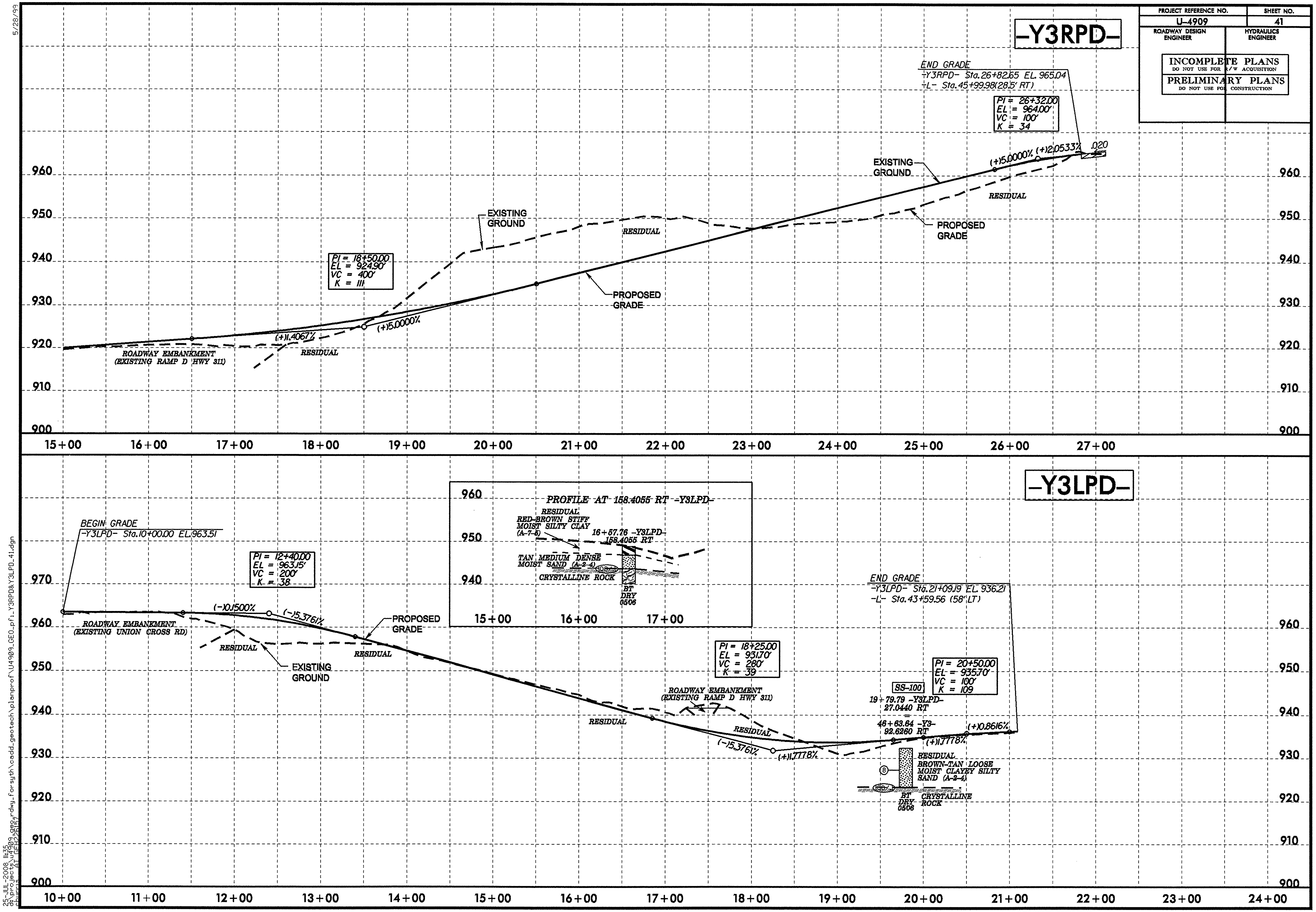
jburris AT DEH226157



PROJECT REFERENCE NO.
SHEET NO.
U-4909
41
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-Y3RPD-
END GRADE
-Y3RPD- Sta. 26+82.65 EL. 965.04
-L- Sta. 45+99.98 (28.5' RT)
PI = 26+32.00
EL = 964.00'
VC = 100'
K = 34
(+)5.0000%
(+)2.0533%
.020
EXISTING GROUND
RESIDUAL
PROPOSED GRADE
PI = 18+50.00
EL = 924.90'
VC = 400'
K = 111
(+)1.4067%
(+)5.0000%
ROADWAY EMBANKMENT
(EXISTING RAMP D HWY 311)
960
950
940
930
920
910
900
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00
-Y3LPD-
PROFILE AT 158.4055 RT -Y3LPD-
RED-BROWN STIFF MOIST SILTY CLAY (A-7-5)
16+57.76 -Y3LPD- 158.4055 RT
TAN MEDIUM DENSE MOIST SAND (A-2-4)
CRYSTALLINE ROCK
BT
DRY
05/06
BEGIN GRADE
-Y3LPD- Sta. 10+00.00 EL. 963.51
PI = 12+40.00
EL = 963.15'
VC = 200'
K = 38
(-)0.1500%
(-)5.3761%
ROADWAY EMBANKMENT
(EXISTING UNION CROSS RD)
EXISTING GROUND
PROPOSED GRADE
PI = 18+25.00
EL = 931.70'
VC = 280'
K = 39
ROADWAY EMBANKMENT
(EXISTING RAMP D HWY 311)
(+)1.7778%
END GRADE
-Y3LPD- Sta. 21+09.19 EL. 936.21
-L- Sta. 43+59.56 (58' LT)
PI = 20+50.00
EL = 935.70'
VC = 100'
K = 109
SS-100
19+79.79 -Y3LPD- 27.0440 RT
46+63.64 -Y3- 92.6260 RT
(+)0.8616%
BROWN-TAN LOOSE MOIST CLAYEY SILTY SAND (A-2-4)
CRYSTALLINE ROCK
970
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
5/28/99
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y4-

BEGIN GRADE
-Y4- Sta.11+00.00 EL. 947.62'

PI = 11+50.00
EL = 948.22'

(+)1.1916%

(+)0.7500%

PI = 13+91.00
EL = 950.02'
VC = 245'
K = 377'

(+)0.7500%

(+)1.4000%

ROADWAY EMBANKMENT
(EXISTING SR 1003)

PROPOSED GRADE

EXISTING GROUND

PI = 20+85.00
EL = 959.74'
VC = 250'
K = 1667

SS-92
SS-93

21+02.74 -Y4-
91.4460 RT
=
54+28.82 -L-
76.9983 LT

(+)1.4000%

(+)1.2500%

.034

.035

-Y4- STA. 22+95.91 =
-L- STA. 56+32.70

BEGIN GRADE
-Y4- Sta.23+49.27 EL. 965.41'
-L- Sta.56+66.48 (41.00' RT)

END GRADE
-Y4- Sta.22+41.66 EL. 961.70'
-L- Sta.55+96.76 (41.00' LT)

RESIDUAL
(PI=29)

B

TAN MEDIUM STIFF TO STIFF MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-6)

B

WHITE-TAN STIFF DRY CLAYEY SANDY SILT (A-4)

BT
DRY
0606

970
960
950
940
930

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

-Y4-

PI = 25+05.00
EL = 966.15'
VC = 310'
K = 106

(+)0.4764%

(-)2.4500%

PROPOSED GRADE

ROADWAY EMBANKMENT
(EXISTING SR 1003)

EXISTING GROUND

PI = 30+65.00
EL = 952.43'
VC = 115'
K = 121

PI = 31+50.00
EL = 949.54'

END GRADE
-Y4- Sta.32+00.00 EL.948.23

(-)2.4500%

(-)3.4000%

(-)2.6266%

970
960
950
940
930

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00

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dmurray

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y5-

END GRADE
-Y5- Sta.12+05.00 EL.974.52

BEGIN GRADE
-Y5- Sta.10+47.07 EL. 973.95=
-L- Sta.61+10.87 (41.0' RT)

PI = 10+90.00
EL = 973.33'
VC = 80'
K = 27

PI = 11+75.00
EL = 974.61'
VC = 60'
K = 33

.032 (-)1.4500% (+)1.5000% (-)0.3000%

ROADWAY EMBANKMENT (EXISTING SR 2884)

PROPOSED GRADE

EXISTING GROUND

980 970 960 950 940

10+00 11+00 12+00 13+00 14+00 15+00

-Y6-

BEGIN GRADE
-Y6- Sta.10+53.35 EL. 967.50'=
-L- Sta.74+15.10 (53.0' RT)

PI = 10+95.00
EL = 966.04'
VC = 80'
K = 12

PI = 12+07.00
EL = 954.84'
VC = 65'
K = 11

END GRADE
-Y6- Sta.12+40.00 EL.953.58'

.015 (-)3.5000%

PROPOSED GRADE

(-)10.0000%

(-)3.8150%

ROADWAY EMBANKMENT (EXISTING WOODWAY DR.)

EXISTING GROUND

980 970 960 950 940

10+00 11+00 12+00 13+00 14+00 15+00 16+00

-Y7-

END GRADE
-Y7- Sta.11+75.00 EL.960.68'

BEGIN GRADE
-Y7- Sta.10+41.12 EL. 961.72'=
-L- Sta.79+75.17 (41.0' RT)

PI = 11+05.00
EL = 959.80'
VC = 125'
K = 29

.011 (-)3.0060% (+)1.2520%

PROPOSED GRADE

ROADWAY EMBANKMENT (EXISTING WEATHERTON DR.)

EXISTING GROUND

970 960 950 940

10+00 11+00 12+00 13+00 14+00

-Y7A-

END GRADE
-Y7A- Sta.11+95.00 EL.968.58'

BEGIN GRADE
-Y7- Sta.10+43.58 EL. 969.12'=
-L- Sta.84+22.19 (41.0' RT)

PROPOSED GRADE

.02 (-)0.7050% (+)0.3500%

ROADWAY EMBANKMENT (EXISTING CHAMELIN RD.)

EXISTING GROUND

PI = 11+45.00
EL = 968.40'
VC = 100'
K = 95

970 960 950 940

10+00 11+00 12+00

-Y8-

SS-82
SS-83

15+32.55 -Y8-
80.3654 RT

90+16.23 -L-
113.4309 LT

RESIDUAL
RED-TAN-OLIVE STIFF TO HARD MOIST HIGHLY PLASTIC SILTY SANDY CLAY (A-7-6) (17) (PI=29)

OLIVE-TAN-WHITE MEDIUM DENSE DRY SILTY SAND (A-2-4) (15)

BT
DRY
0506

EXISTING GROUND

970 960 950 940

12+00 13+00 14+00 15+00 16+00

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chhicks AT DEH22857

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y9-

970
960
950
940

ROADWAY EMBANKMENT
(EXISTING SR 2693)

10+00 11+00 12+00 13+00 14+00 15+00 16+00

-Y10-

960
950
940
930
920

ROADWAY EMBANKMENT
(EXISTING SR 2798)

EXISTING GROUND

13+00 14+00 15+00 16+00

-Y11-

END GRADE
-Y11- Sta.12+00.00 EL960.30

BEGIN GRADE
-Y11- Sta.10+41.39 EL. 959.11=
-L- Sta.115+25.31 (41.0' RT)

PI = 11+20.00
EL = 958.32'
VC = 130'
K = 37

970
960
950
940
930
920

EXISTING GROUND

.004

(-)1.0000%

(+)2.4760%

ROADWAY EMBANKMENT
(EXISTING SR 2882)

EXISTING GROUND

10+00 11+00 12+00 13+00 14+00

-Y12-

970
960
950
940
930

ROADWAY EMBANKMENT
(EXISTING SR 2797 CLARKE DR.)

13+00 14+00 15+00

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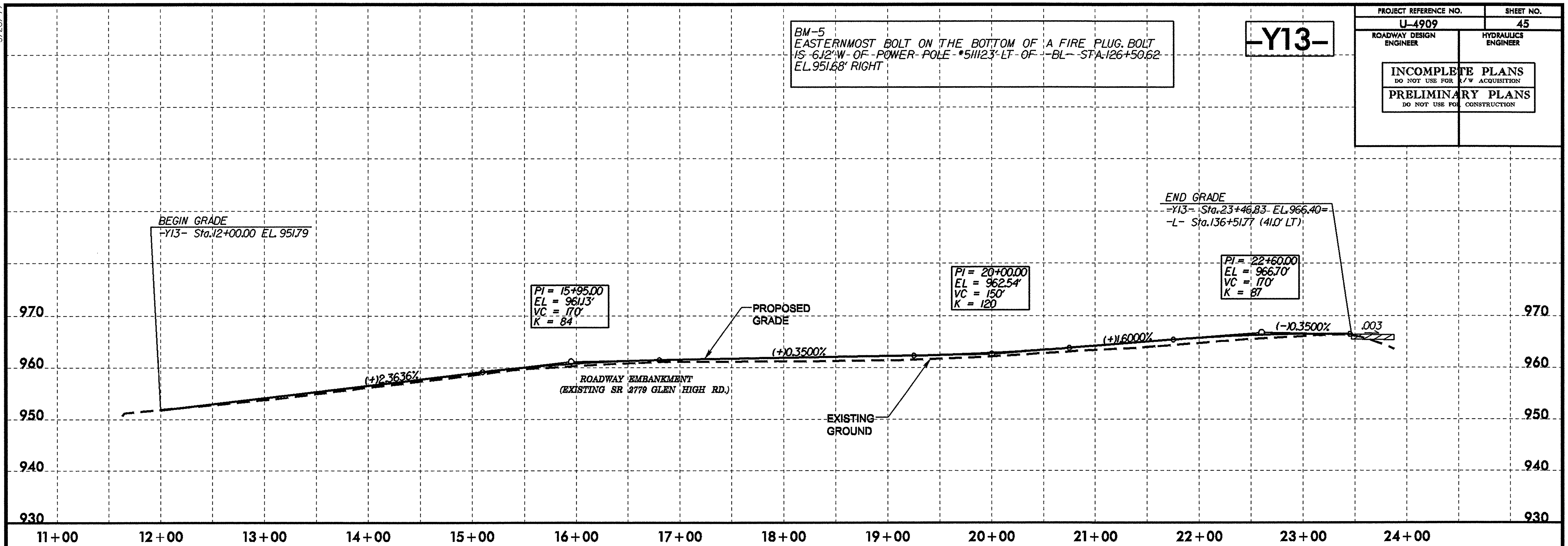
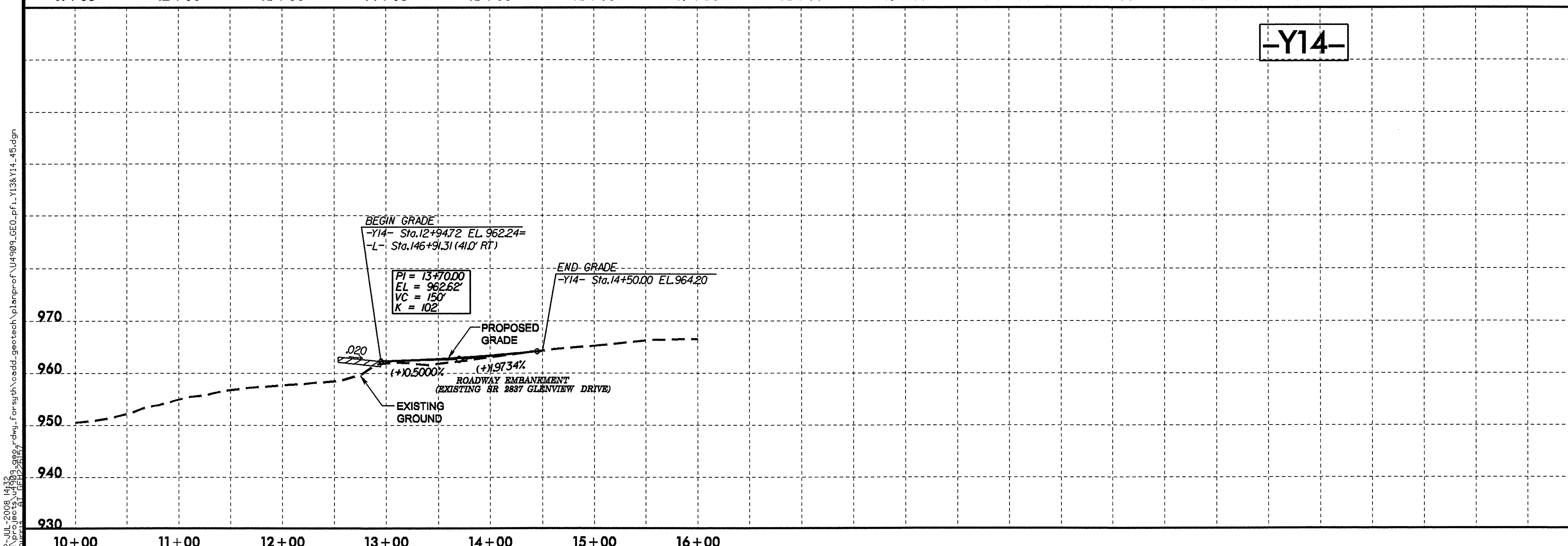
PROJECT REFERENCE NO.	SHEET NO.
U-4909	45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99





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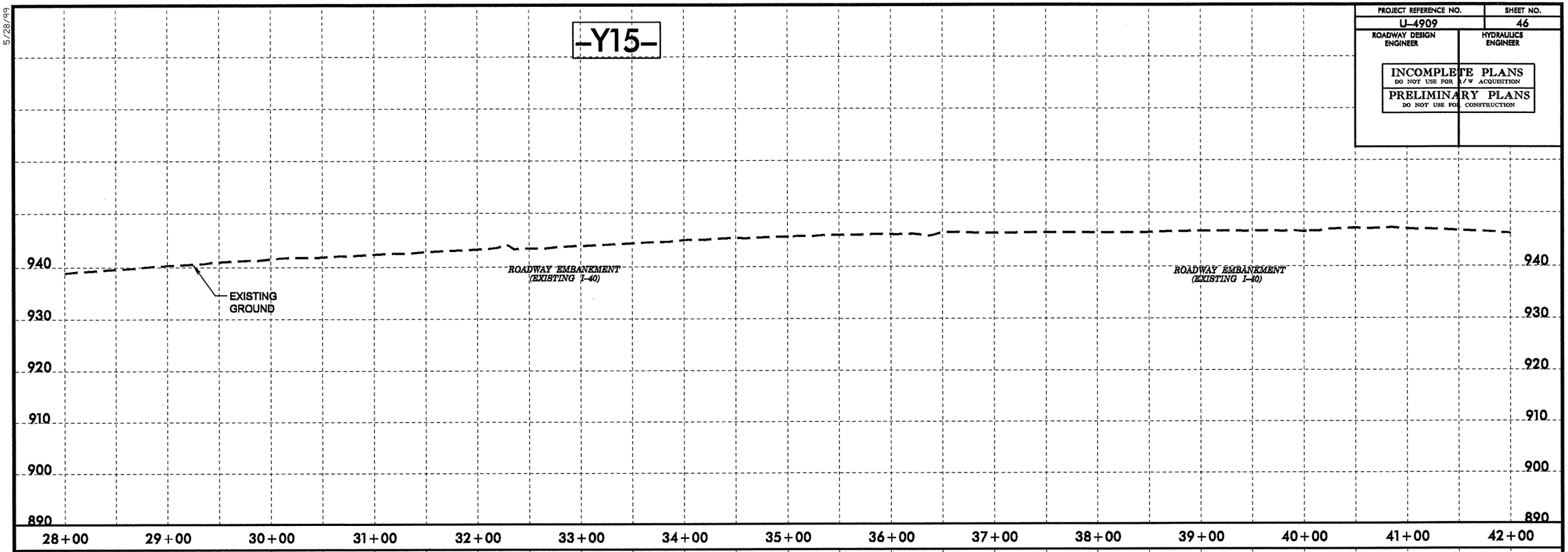
churris AT GFH22B157

5/28/99

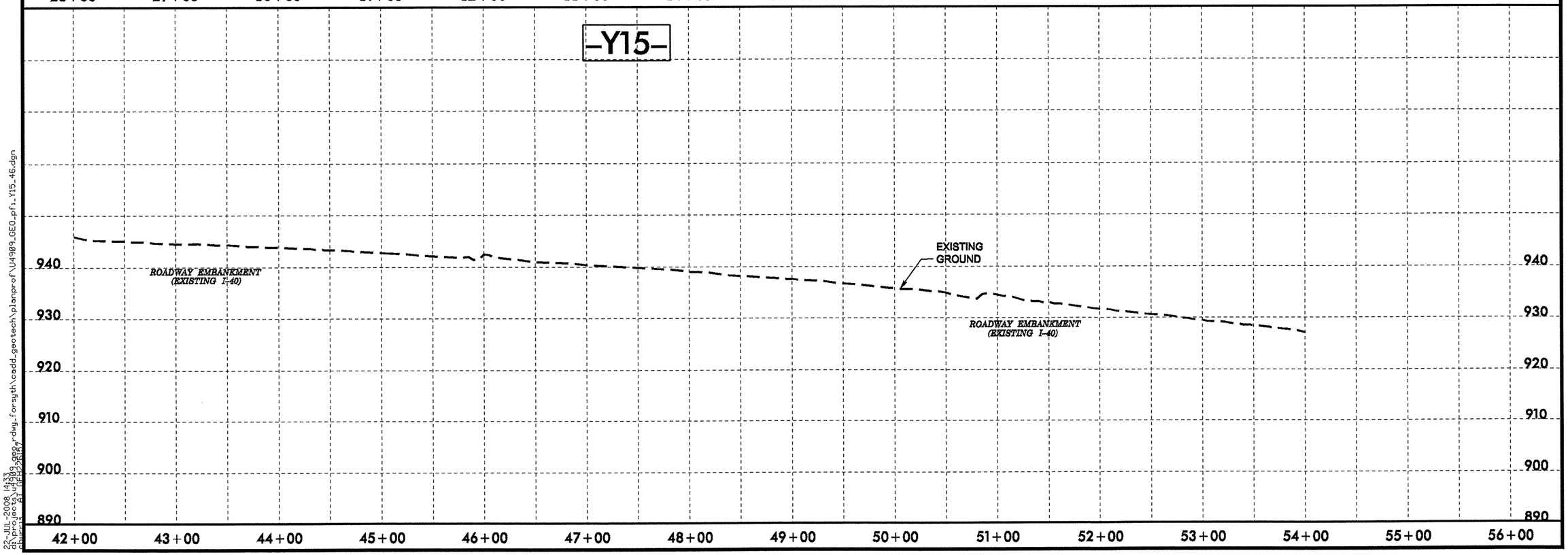
PROJECT REFERENCE NO.	SHEET NO.
U-4909	46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y15-



-Y15-



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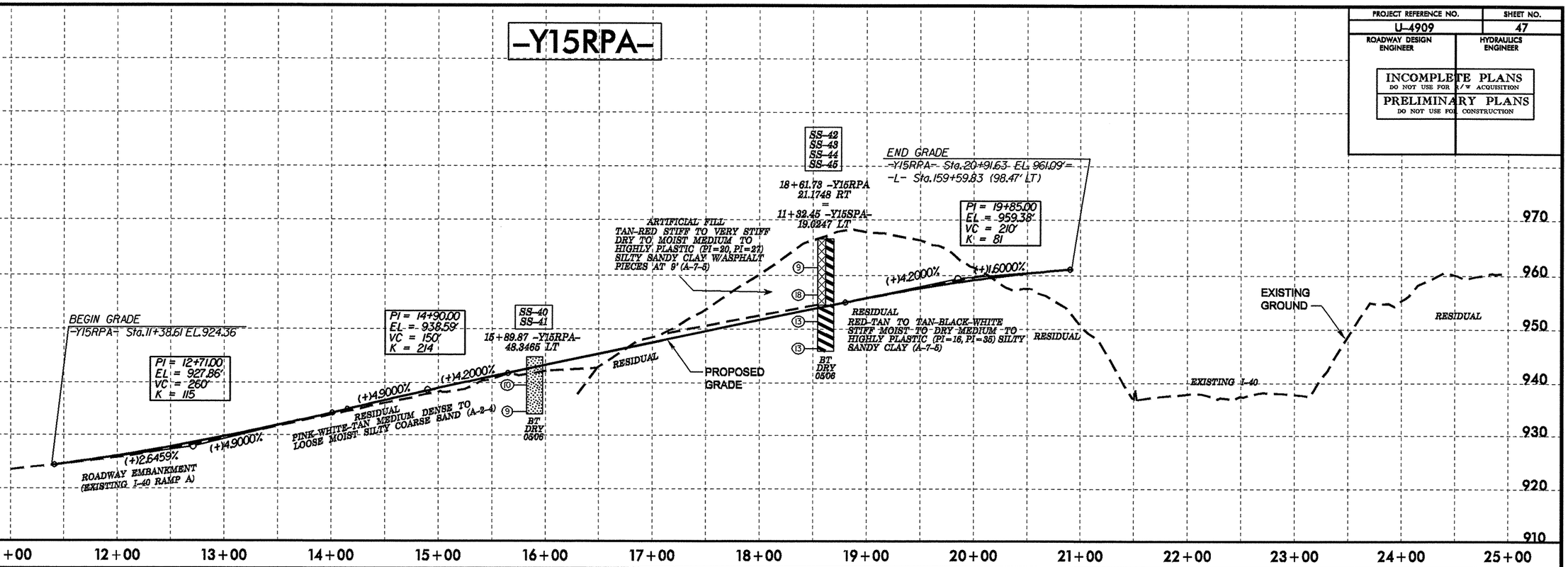
chrisl (FEATURE)

5/28/99

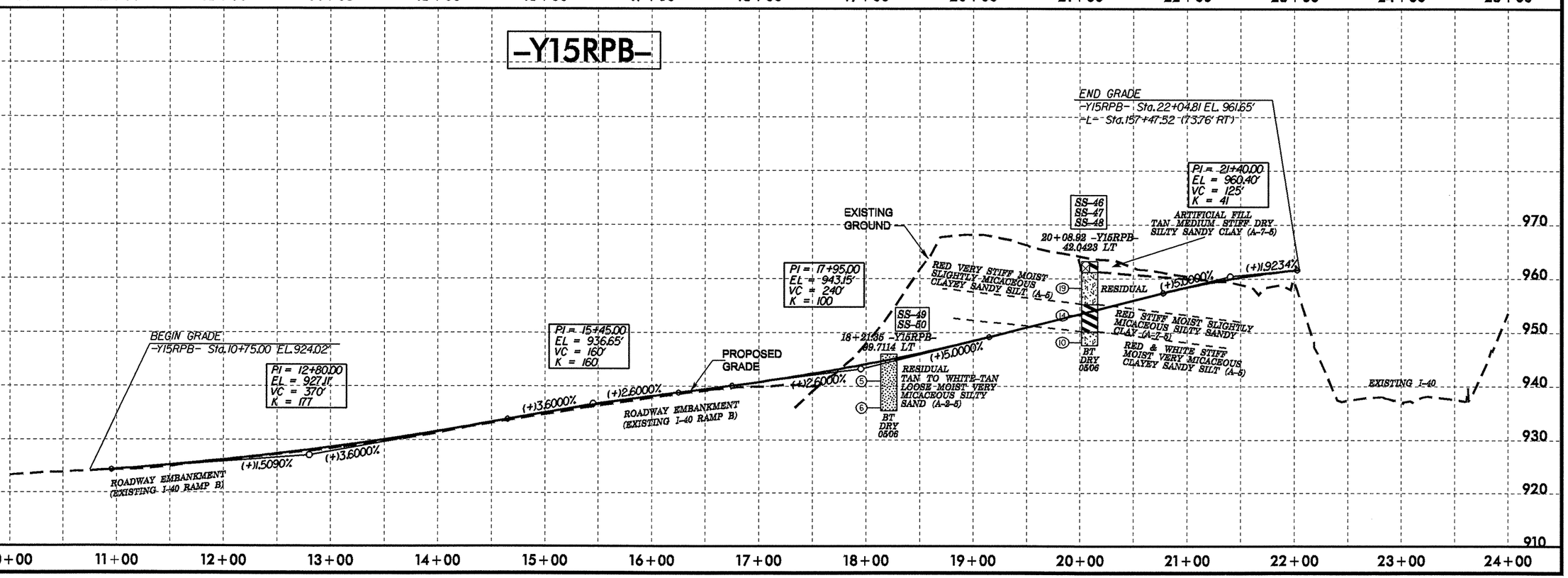
PROJECT REFERENCE NO.	SHEET NO.
U-4909	47
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y15RPA-



-Y15RPB-



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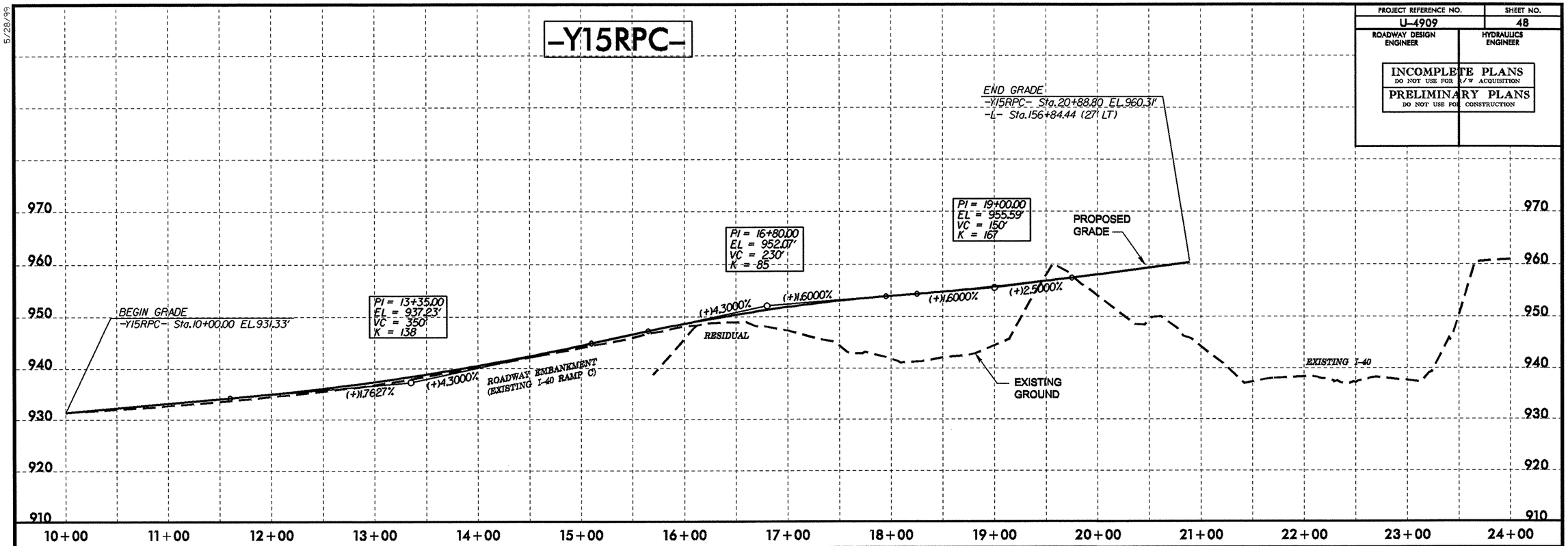
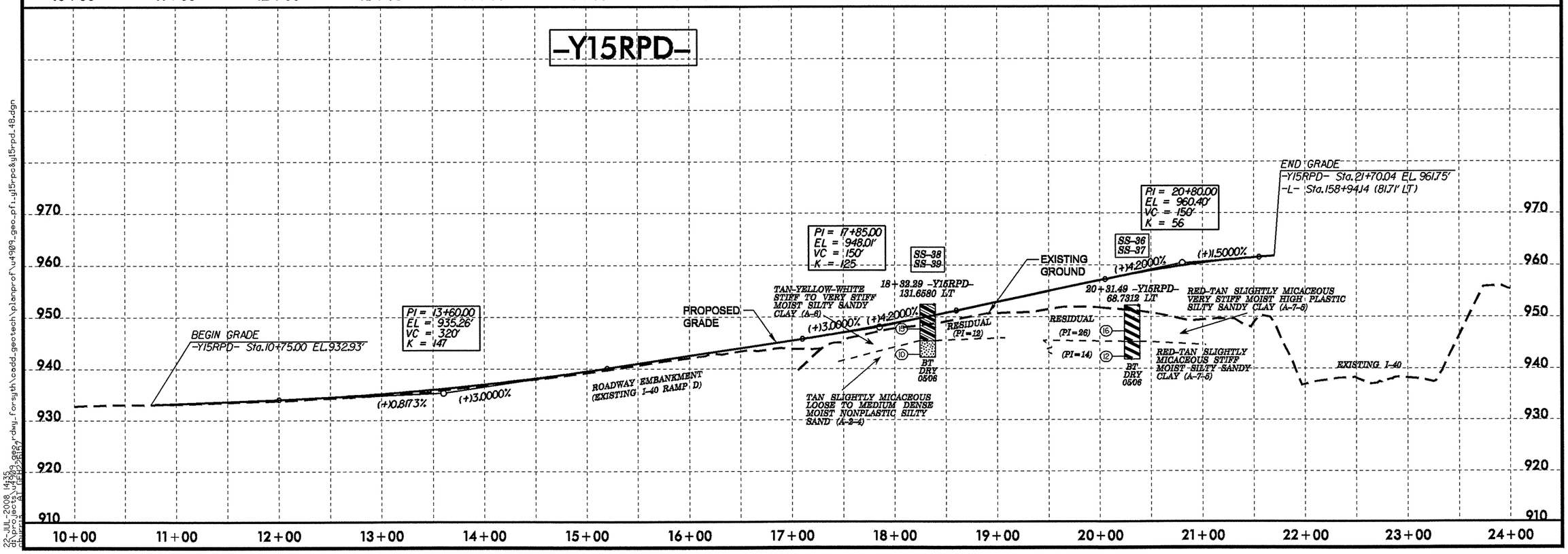
PROJECT REFERENCE NO.	SHEET NO.
U-4909	48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y15RPC-



-Y15RPD-



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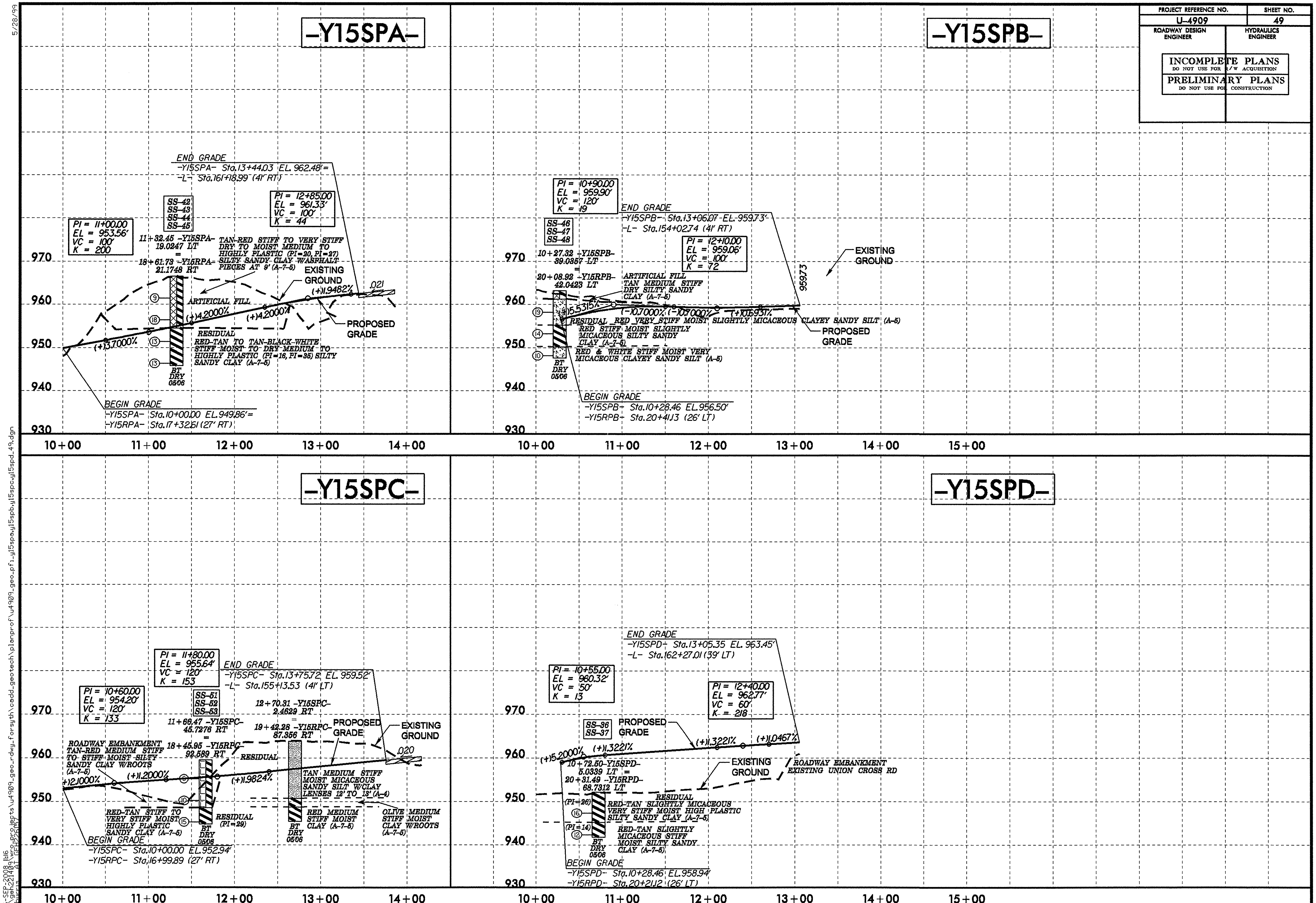
chirris AT DEH22617



PROJECT REFERENCE NO. U-4909
SHEET NO. 49
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
5/28/99
-Y15SPA-
END GRADE
-Y15SPA- Sta.13+44.03 EL. 962.48'=
-L- Sta.161+18.99 (41' RT)
PI = 11+00.00
EL = 953.56'
VC = 100'
K = 200
SS-42
SS-43
SS-44
SS-45
PI = 12+85.00
EL = 961.33'
VC = 100'
K = 44
11+32.45 -Y15SPA- 19.0247 LT
=
18+61.73 -Y15RPA- 21.1748 RT
TAN-RED STIFF TO VERY STIFF DRY TO MOIST MEDIUM TO HIGHLY PLASTIC (PI=20, PI=27) SILTY SANDY CLAY W/ASPHALT PIECES AT 9' (A-7-5)
EXISTING GROUND
ARTIFICIAL FILL
(+)4.2000%
(+)4.2000%
(+)1.9482%
.021
(+)3.7000%
RESIDUAL
RED-TAN TO TAN-BLACK-WHITE STIFF MOIST TO DRY MEDIUM TO HIGHLY PLASTIC (PI=16, PI=35) SILTY SANDY CLAY (A-7-5)
PROPOSED GRADE
BT DRY 05/06
BEGIN GRADE
-Y15SPA- Sta.10+00.00 EL.949.86'=
-Y15RPA- Sta.17+32.61 (27' RT)
-Y15SPB-
PI = 10+90.00
EL = 959.90'
VC = 120'
K = 19
END GRADE
-Y15SPB- Sta.13+06.07 EL.959.73'
-L- Sta.154+02.74 (41' RT)
SS-46
SS-47
SS-48
10+27.32 -Y15SPB- 39.0357 LT
=
20+08.92 -Y15RPB- 42.0423 LT
PI = 12+10.00
EL = 959.06'
VC = 100'
K = 72
EXISTING GROUND
959.73
ARTIFICIAL FILL
TAN MEDIUM STIFF DRY SILTY SANDY CLAY (A-7-5)
(+)5.5315%
(-)0.7000%
(-)0.7000%
(+)0.6931%
RESIDUAL RED VERY STIFF MOIST SLIGHTLY MICACEOUS CLAYEY SANDY SILT (A-5)
RED STIFF MOIST SLIGHTLY MICACEOUS SILTY SANDY CLAY (A-7-5)
RED & WHITE STIFF MOIST VERY MICACEOUS CLAYEY SANDY SILT (A-5)
PROPOSED GRADE
BT DRY 05/06
BEGIN GRADE
-Y15SPB- Sta.10+28.46 EL.956.50'
-Y15RPB- Sta.20+41.13 (26' LT)
-Y15SPC-
PI = 11+80.00
EL = 955.64'
VC = 120'
K = 153
END GRADE
-Y15SPC- Sta.13+75.72 EL. 959.52'
-L- Sta.155+13.53 (41' LT)
PI = 10+60.00
EL = 954.20'
VC = 120'
K = 133
SS-51
SS-52
SS-53
12+70.31 -Y15SPC- 2.4629 RT
=
19+42.28 -Y15RPC- 87.356 RT
11+66.47 -Y15SPC- 45.7276 RT
=
18+45.95 -Y15RPC- 92.589 RT
PROPOSED GRADE
EXISTING GROUND
.020
ROADWAY EMBANKMENT
TAN-RED MEDIUM STIFF TO STIFF MOIST SILTY SANDY CLAY W/ROOTS (A-7-5)
RESIDUAL
(+)2.1000%
(+)1.2000%
(+)1.9824%
TAN MEDIUM STIFF MOIST MICACEOUS SANDY SILT W/CLAY LENSES 12' TO 13' (A-4)
RED-TAN STIFF TO VERY STIFF MOIST HIGHLY PLASTIC SANDY CLAY (A-7-5)
RESIDUAL (PI=29)
RED MEDIUM STIFF MOIST CLAY (A-7-5)
OLIVE MEDIUM STIFF MOIST CLAY W/ROOTS (A-7-5)
BT DRY 05/06
BEGIN GRADE
-Y15SPC- Sta.10+00.00 EL.952.94'
-Y15RPC- Sta.16+99.89 (27' RT)
-Y15SPD-
END GRADE
-Y15SPD- Sta.13+05.35 EL. 963.45'
-L- Sta.162+27.01 (39' LT)
PI = 10+55.00
EL = 960.32'
VC = 50'
K = 13
PI = 12+40.00
EL = 962.77'
VC = 60'
K = 218
SS-36
SS-37
PROPOSED GRADE
(+)5.2000%
(+)1.3221%
(+)1.3221%
(+)1.0467%
10+72.50 -Y15SPD- 5.0339 LT =
20+31.49 -Y15RPD- 68.7312 LT
EXISTING GROUND
ROADWAY EMBANKMENT EXISTING UNION CROSS RD
RESIDUAL
RED-TAN SLIGHTLY MICACEOUS VERY STIFF MOIST HIGH PLASTIC SILTY SANDY CLAY (A-7-5)
RED-TAN SLIGHTLY MICACEOUS STIFF MOIST SILTY SANDY CLAY (A-7-5)
(PI=26)
(PI=14)
BT DRY 05/06
BEGIN GRADE
-Y15SPD- Sta.10+28.46 EL.958.94'
-Y15RPD- Sta.20+21.12 (26' LT)
970
960
950
940
930
10+00
11+00
12+00
13+00
14+00
15+00

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	50
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y16-

970
960
950
940

EXISTING GROUND

ROADWAY EMBANKMENT (EXISTING SR 2669)

12+00 13+00

-Y18-

970
960
950
940

EXISTING GROUND

ROADWAY EMBANKMENT (EXISTING SILVER CREEK TRAIL)

13+00 14+00 15+00 16+00

-Y17-

980
970
960
950
940

BEGIN GRADE
-Y17- Sta.10+30.00 EL. 958.80

PI = 12+60.00
EL = 967.15'
VC = 210'
K = 64

(+)3.6300%
(+)0.3500%

ROADWAY EMBANKMENT (EXISTING SR 2880)

PROPOSED GRADE

EXISTING GROUND

PI = 16+00.00
EL = 968.34'
VC = 150'
K = 67

(+)0.3500%
(+)2.6000%

RESIDUAL

PI = 19+70.00
EL = 977.96'
VC = 280'
K = 48

(+)2.6000%
(-)3.2036%

END GRADE
-Y17- Sta.21+58.82 EL.971.91=
-L- Sta.173+91.02 (53.0' LT)

.028

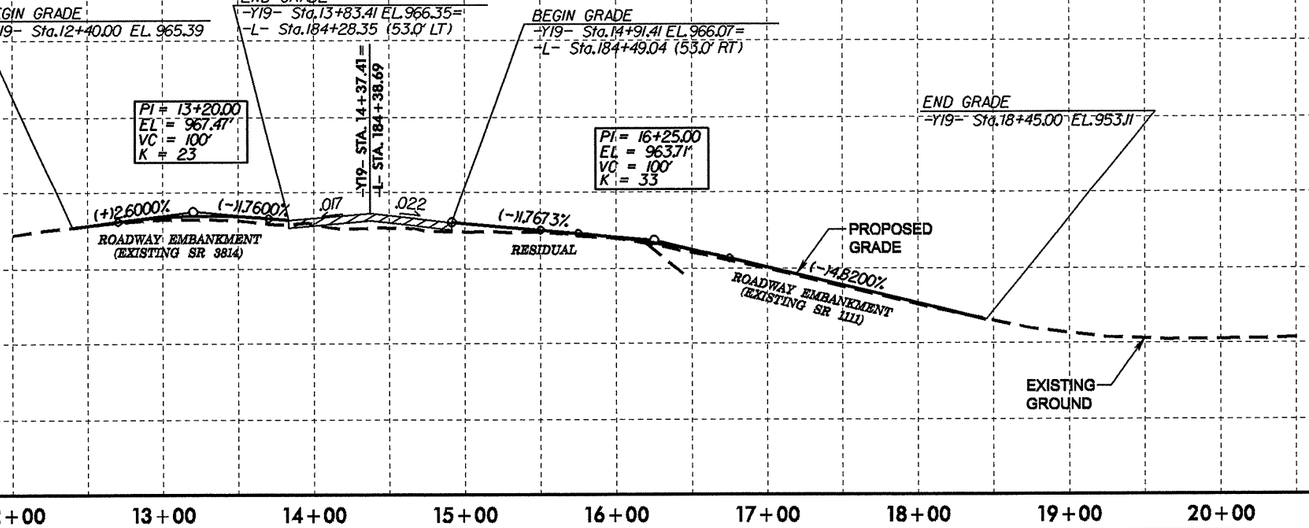
10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

5/28/99

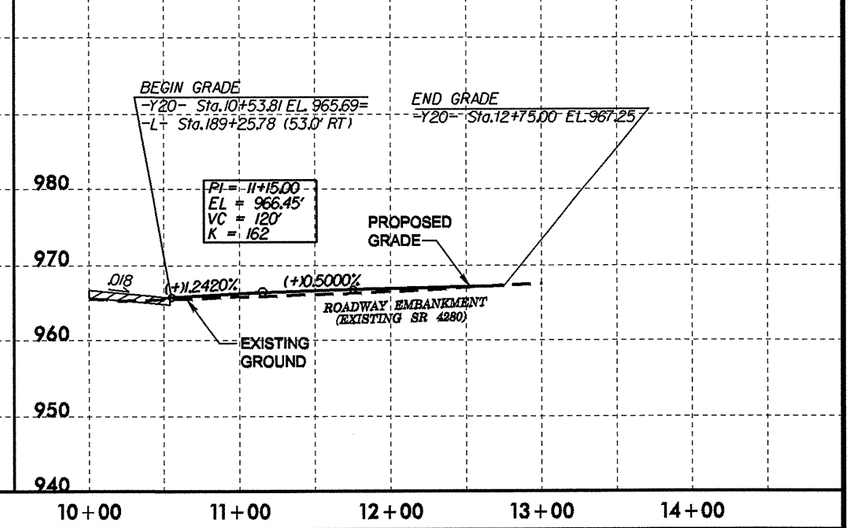
PROJECT REFERENCE NO.	SHEET NO.
U-4909	51
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

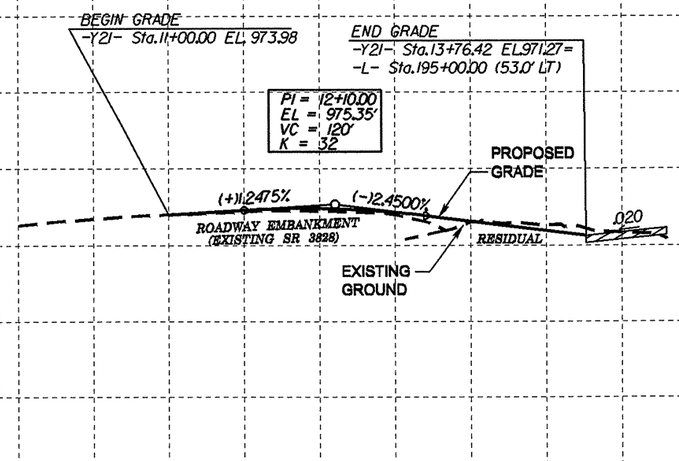
-Y19-



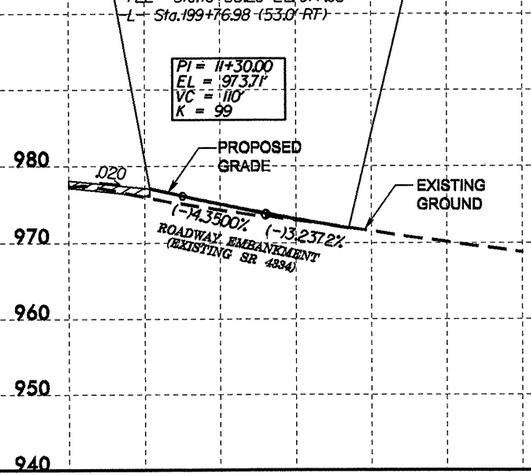
-Y20-



-Y21-



-Y22-



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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	52
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROFILE AT 31.0 LEFT OF -Y23-

-Y23-

SS-18
SS-19

22+19.98 -Y23-
31.0928 LT
=
206+25.67 -L-
85.1586 LT

RED MICA MEDIUM STIFF TO STIFF MOIST SILTY SANDY CLAY (A-7-5) ③

RED MICACEOUS STIFF MOIST CLAYEY SANDY SILT (A-5) ③

RESIDUAL

BT DRY 0606

990 980 970 960

21+00 22+00 23+00

BEGIN GRADE
-Y23- Sta.10+60.00 EL.973.28

PI = 11+55.00
EL = 974.39'
VC = 185'
K = 214

PI = 13+75.00
EL = 975.05'
VC = 250'
K = 278

PI = 17+80.00
EL = 979.91'
VC = 330'
K = 129

PI = 20+50.00
EL = 976.26'
VC = 150'
K = 143

END GRADE
-Y23- Sta.22+20.37 EL.975.75=
-L- Sta.205+97.77 (53.0' LT)

BEGIN GRADE
-Y23- Sta.23+21.73 EL.973.53=
-L- Sta.206+35.60 (41.0' RT)

-Y23- STA. 22+77.46 =
-L- STA. 206+18.74

(+)1.1653%
(+)0.3000%
(+)0.3000%
(+)1.2000%
(+)1.2000%
(-)1.3500%
(-)1.3500%
(-)0.3000%
(-)4.7500%

ROADWAY EMBANKMENT (EXISTING SR 2632)

RESIDUAL

EXISTING GROUND

.022

980 970 960 950 940

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

-Y23-

PI = 25+35.00
EL = 963.40'
VC = 425'
K = 96

PROPOSED GRADE

PI = 29+20.00
EL = 962.24'
VC = 280'
K = 86

END GRADE
-Y23- Sta.33+75.00 EL.947.04

PI = 32+00.00
EL = 952.30'
VC = 150'
K = 200

PI = 33+00.00
EL = 949.50'

(-)4.7500%
(-)0.3000%
(-)0.3000%
(-)13.5500%
(-)13.5500%
(-)13.2861%

ROADWAY EMBANKMENT (EXISTING SR 2632)

980 970 960 950 940 930

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00

22-JUL-2008 14:38
d:\projects\u4909_geo_rdwy_forsyth\cadd_geotech\planprof\U4909_GE0_pf1_Y23_52.dgn
dlmiller 22.0

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4909	53
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

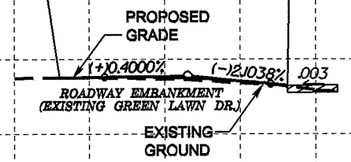
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y24-

END GRADE
-Y24- Sta.14+81.25 EL.986.35=
-L- Sta.214+51.18 (33.1' LT.)

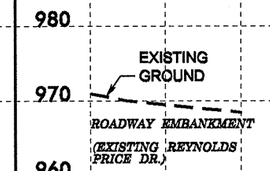
BEGIN GRADE
-Y24- Sta.13+30.00 EL.987.40

PI = 14+15.00
EL = 987.74'
VC = 110'
K = 44



13+00 14+00 15+00 16+00

-Y25-



10+00 11+00 12+00 13+00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC	
SS-13	48.5585 LT	211+77.59	3.80-5.30	A-7-5(18)	66	32	23.7	12.0	19.8	44.6	90	74	60	-	-	L
SS-14	48.5585 LT	211+77.59	8.80-10.30	A-7-5(9)	57	14	18.2	26.1	31.3	24.3	99	90	59	-	-	L
M-14	48.5585 LT	211+77.59	8.80-10.30				0.0	0.0	0.0	0.0		0	0	24.1	-	L
SS-15	48.5585 LT	211+77.59	13.80-15.30	A-5(3)	49	8	28.8	27.4	29.7	14.2	98	80	49	-	-	L
SS-16	64.4506 LT	208+83.32	4.10-5.60	A-7-6(13)	55	27	30.6	13.2	11.7	44.6	98	77	57	-	-	L
SS-17	64.4506 LT	208+83.32	9.10-10.60	A-7-5(8)	59	14	23.3	25.5	28.9	22.3	98	84	55	-	-	L
SS-18	65.1586 LT	206+25.67	4.00-5.50	A-7-5(6)	55	16	36.3	17.4	22.0	24.3	100	73	50	-	-	L
SS-19	65.1586 LT	206+25.67	9.00-10.50	A-5(1)	51	7	39.1	23.7	23.0	14.2	99	72	41	-	-	L
SS-20	43.3695 LT	200+80.83	3.80-5.30	A-7-5(24)	68	27	10.7	18.0	30.7	40.5	100	95	75	-	-	L
SS-21	43.3695 LT	200+80.83	8.80-10.30	A-7-5(9)	60	15	18.0	31.0	32.7	18.2	100	94	57	-	-	L
SS-22	21.2455 LT	196+28.58	4.10-5.60	A-7-5(13)	63	29	30.4	19.0	12.1	38.5	100	79	54	-	-	L
SS-23	21.2455 LT	196+28.58	9.10-10.60	A-2-4(0)	37	NP	52.1	28.8	13.0	6.1	99	64	24	-	-	L
SS-24	23.7720 LT	191+78.64	3.70-5.20	A-7-5(8)	55	20	34.0	17.2	18.3	30.4	98	73	52	-	-	L
SS-25	23.7720 LT	191+78.64	8.70-10.20	A-7-5(12)	67	19	19.7	26.7	25.2	28.4	100	92	59	-	-	L
SS-26	75.1294 LT	186+38.52	3.50-5.00	A-7-6(11)	57	29	37.8	10.7	9.1	42.4	97	69	51	-	-	L
SS-27	75.1294 LT	186+38.52	8.50-10.00	A-7-5(11)	66	30	39.2	12.9	7.5	40.4	98	68	49	-	-	L
SS-28	4.4484 RT	181+81.41	3.20-4.70	A-7-5(2)	46	13	40.8	22.6	16.4	20.2	100	70	41	-	-	L
SS-29	4.4484 RT	181+81.41	8.20-10.70	A-2-4(0)	35	NP	46.7	29.3	18.0	6.1	100	68	29	-	-	L
SS-30	21.3751 RT	177+01.24	3.70-5.20	A-7-5(27)	66	31	8.7	13.5	19.2	58.6	97	91	78	-	-	L
SS-31	21.3751 RT	177+01.24	8.70-10.20	A-5(0)	49	NP	28.3	33.9	21.6	16.2	99	89	43	-	-	L
SS-32	22.8166 LT	171+82.68	3.80-5.30	A-4(0)	38	NP	42.0	26.7	15.2	16.2	100	71	36	-	-	L
SS-33	22.8166 LT	171+82.68	8.80-10.30	A-5(0)	42	7	36.8	28.1	19.0	16.2	100	77	40	-	-	L
SS-34	32.6247 LT	166+78.75	4.00-5.50	A-7-5(45)	90	51	9.7	18.0	27.9	44.4	100	95	78	-	-	L
SS-35	32.6247 LT	166+78.75	9.00-10.50	A-7-5(11)	54	14	14.9	25.3	35.6	24.2	100	92	68	-	-	L
SS-36	68.7312 LT	20+31.49	3.90-5.40	A-7-5(26)	66	26	6.1	18.8	26.7	48.5	100	97	81	-	-	Y15RPD
SS-37	68.7312 LT	20+31.49	8.90-10.40	A-7-5(13)	60	14	10.9	26.1	30.7	32.3	100	95	70	-	-	Y15RPD
SS-38	131.6580 LT	18+32.29	3.70-5.20	A-6(1)	39	12	42.0	24.0	15.8	18.2	97	68	37	-	-	Y15RPD
SS-39	131.6580 LT	18+32.29	8.70-10.20	A-2-4(0)	30	NP	56.1	29.0	10.9	4.0	99	61	20	-	-	Y15RPD
SS-40	48.3465 LT	15+89.87	4.30-5.80	A-2-4(0)	39	NP	56.4	22.9	13.6	7.1	93	51	24	-	-	Y15RPA
SS-41	48.3465 LT	15+89.87	9.30-10.80	A-2-4(0)	34	6	52.2	21.7	18.0	8.1	94	56	28	-	-	Y15RPA
SS-42	21.1748 RT	18+61.73	4.10-5.60	A-7-5(8)	53	20	28.7	22.8	16.2	32.3	97	80	51	-	-	Y15RPA
SS-43	21.1748 RT	18+61.73	9.10-10.60	A-7-5(16)	67	27	21.4	21.8	12.3	44.4	100	87	60	-	-	Y15RPA
SS-44	21.1748 RT	18+61.73	14.10-15.60	A-7-5(12)	54	16	15.2	26.1	34.5	24.2	100	92	67	-	-	Y15RPA
SS-45	21.1748 RT	18+61.73	19.10-20.60	A-7-5(29)	78	35	12.5	18.6	14.3	54.5	100	94	72	-	-	Y15RPA
SS-46	42.0423 LT	20+08.92	4.00-5.50	A-5(2)	47	8	28.9	31.1	23.8	16.2	100	82	46	-	-	Y15RPB
SS-47	42.0423 LT	20+08.92	9.00-10.50	A-7-5(11)	63	21	24.0	23.2	18.4	34.3	98	82	56	-	-	Y15RPB
SS-48	42.0423 LT	20+08.92	14.00-15.30	A-5(1)	62	NP	20.8	38.0	23.0	18.2	100	93	47	-	-	Y15RPB
SS-49	99.7114 LT	18+21.35	4.10-5.60	A-2-5(0)	42	NP	34.1	39.0	18.8	8.1	100	85	33	-	-	Y15RPB
SS-50	99.7114 LT	18+21.35	9.10-10.60	A-2-5(0)	42	NP	38.7	39.7	15.6	6.1	100	79	28	-	-	Y15RPB
SS-51	92.589 RT	18+45.95	3.30-4.80	A-7-5(4)	49	15	32.1	27.3	14.3	26.3	98	79	45	-	-	Y15RPC
SS-52	92.589 RT	18+45.95	8.30-9.80	A-7-5(3)	45	14	35.4	23.4	12.9	28.3	97	74	44	-	-	Y15RPC
SS-53	92.589 RT	18+45.95	13.30-14.80	A-7-5(17)	61	29	24.8	14.9	7.7	52.5	99	83	61	-	-	Y15RPC
SS-55	6.0984 RT	149+33.99	4.00-5.50	A-7-5(39)	81	38	7.1	11.5	22.8	58.6	100	97	84	-	-	L
SS-56	6.0984 RT	149+33.99	9.00-10.50	A-7-5(23)	65	23	7.1	18.8	31.7	42.4	100	98	79	-	-	L
S-57	31.3304 RT	145+82.19	0.00-3.00	A-7-6(11)	49	24	28.1	18.0	13.5	40.4	97	79	55	-	-	L
SS-58	31.3304 RT	145+82.19	3.60-5.10	A-7-5(39)	79	41	8.7	11.5	13.1	66.7	100	95	82	-	-	L
SS-59	31.3304 RT	145+82.19	8.60-10.10	A-5(0)	52	4	38.8	26.9	20.2	14.1	99	71	41	-	-	L
SS-60	3.0746 RT	141+31.79	4.00-5.50	A-7-5(12)	60	22	29.3	17.2	19.2	34.3	100	78	58	-	-	L
SS-61	3.0746 RT	141+31.79	9.00-10.50	A-5(1)	52	10	42.0	22.6	23.2	12.1	95	64	38	-	-	L
SS-62	47.4232 LT	137+86.77	3.50-5.00	A-7-5(26)	69	29	12.1	15.5	24.2	48.2	100	93	77	-	-	L
SS-63	47.4232 LT	137+86.77	8.50-10.00	A-7-5(13)	54	20	19.7	23.5	26.6	30.2	100	86	64	-	-	L
SS-64	12.1592 RT	131+42.32	3.30-5.80	A-7-5(8)	54	17	35.4	14.3	18.2	32.2	100	73	54	-	-	L
SS-65	12.1592 RT	131+42.32	8.30-9.80	A-7-5(7)	49	12	17.3	32.4	30.3	20.1	100	91	60	-	-	L
SS-66	32.1563 RT	127+42.82	3.80-5.30	A-7-5(24)	67	26	14.5	11.7	23.6	50.3	100	91	77	-	-	L
SS-67	32.1563 RT	127+42.82	8.80-10.30	A-7-5(9)	58	13	21.3	23.7	26.8	28.1	100	88	61	-	-	L
SS-68	45.1306 RT	124+92.71	3.80-5.30	A-7-5(24)	70	31	16.5	15.7	21.6	46.2	100	90	71	-	-	L
SS-69	45.1306 RT	124+92.71	8.80-10.30	A-5(0)	42	6	38.8	29.9	17.2	14.1	97	69	36	-	-	L
SS-70	47.3460 LT	121+45.19	3.00-4.50	A-7-5(25)	65	29	15.3	10.7	19.8	54.3	100	90	76	-	-	L
SS-71	47.3460 LT	121+45.19	8.00-9.50	A-2-4(0)	36	NP	46.0	31.8	14.2	8.0	100	68	28	-	-	L
SS-72	62.5856 LT	118+91.82	3.70-5.20	A-7-5(11)	51	18	20.5	21.9	19.4	38.2	100	89	63	-	-	L
SS-73	62.5856 LT	118+91.82	8.70-10.20	A-2-5(0)	46	9	44.4	27.3	16.2	12.1	98	64	34	-	-	L
SS-74	0.8114 RT	114+38.5	3.70-5.20	A-7-6(4)	45	21	39.2	21.5	3.1	36.2	98	75	41	-	-	L
SS-75	0.8114 RT	114+38.5	8.70-10.20	A-5(0)	47	5	40.0	27.3	14.6	18.1	96	68	36	-	-	L
SS-76	13.2584 LT	105+96.94	3.70-5.20	A-5(1)	46	5	32.0	32.4	19.6	16.1	100	79	44	-	-	L
SS-77	13.2584 LT	105+96.94	8.70-10.20	A-2-4(0)	34	NP	50.1	30.8	11.2	8.0	99	64	24	-	-	L
SS-78	7.9787 LT	101+46.42	3.50-5.00	A-7-6(15)	59	30	28.1	14.3	5.3	52.3	98	79	58	-	-	L
SS-79	7.9787 LT	101+46.42	8.50-10.00	A-7-5(7)	66	16	27.5	23.8	12.3	36.4	98	81	51	-	-	L
M-80	3.4960 LT	97+45.54	3.00-9.50				0.0	0.0	0.0	0.0		0	0	17.5	-	L
SS-80	3.4960 LT	97+45.54	3.00-4.50	A-7-5(16)	61	30	29.9	12.9	8.7	48.5	99	78	59	-	-	L
SS-81	3.4960 LT	97+45.54	0.00-0.00	A-7-5(20)	67	21	8.1	23.2	30.3	38.4	100	96	76	-	-	L
SS-82	113.4309 LT	90+16.23	4.20-5.70	A-7-5(21)	68	29	22.6	13.3	15.6	48.5	100	83	67	-	-	L
SS-83	113.4309 LT	90+16.23	9.20-10.70	A-2-4(0)	33	NP	46.5	32.3	13.1	8.1	98	70	26	-	-	L
M-84	22.0987 RT	84+47.59	4.30-5.80				0.0	0.0	0.0	0.0		0	0	35	-	L
SS-84	22.0987 RT	84+47.59	4.30-5.80	A-7-5(14)	67	25	24.2	19.8	17.6	38.4	97	80	58	-	-	L
SS-85	10.3281 RT	75+46.98	4.10-5.60	A-7-5(3)	44	13	37.0	23.6	15.2	24.2	98	74	43	-	-	L
M-86	39.6904 RT	72+95.82	3.50-9.00				0.0	0.0	0.0	0.0		0	0	21.6	-	L
SS-86	39.6904 RT	72+95.82	3.50-5.00	A-5(0)	43	6	36.4	27.5	18.0	18.2	98	75	40	-	-	L
SS-87	39.6904 RT	72+95.82	8.50-10.00	A-5(1)	43	5	27.5	34.1	20.2	18.2	100	86	45	-	-	L
M-88	11.2973 RT	67+96.24	4.10-5.60				0.0	0.0	0.0	0.0		0	0	26.7	-	L
SS-88	11.2973 RT	67+96.24	4.10-5.60	A-7-5(11)	51	21	21.0	24.6	18.0	36.4	100	88	60	-	-	L
SS-89	11.2973 RT	67+96.24	9.10-10.60	A-2-4(0)	28	NP	52.8	26.2	10.9	10.1	94	59	23	-	-	L
SS-90	73.8366 LT	63+51.8	3.60-5.10	A-7-5(19)	64	27	22.6	14.9	13.9	48.5	100	84	66	-	-	L

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC	
SS-91	73.8366 LT	63+51.8	8.60-10.10	A-5(1)	43	6	36.4	27.5	24.0	12.1	100	75	43	-	-	L
SS-92	76.9983 LT	54+28.82	3.60-5.10	A-7-5(16)	60	29	23.2	15.8	14.5	46.5	92	76	59	-	-	L
SS-93	76.9983 LT	54+28.82	8.60-10.10	A-4(0)	39	6	33.5	29.1	25.3	12.1	97	75	42	-	-	L
M-94	25.0165 LT	51+45.73	3.60-5.10				0.0	0.0	0.0	0.0		0	0	20	-	L
SS-94	25.0165 LT	51+45.73	3.60-5.10	A-7-6(9)	49	22	28.9	22.2	14.5	34.3	100	82	53	-	-	L
SS-95	25.0165 LT	51+45.73	8.60-10.10	A-2-4(0)	30	NP	51.8	27.8	14.3	6.1	95	62	23	-	-	L
M-96	22.3694 LT	44+08.57	4.00-5.50				0.0	0.0	0.0	0.0		0	0	11.5	-	L
SS-96	22.3694 LT	44+08.57	4.00-5.50	A-7-6(10)	47	25	27.9	21.2	12.5	38.4	99	81	53	-	-	L
SS-97	22.3694 LT	44+08.57	9.00-10.50	A-5(0)	42	NP	39.2	26.1	26.7	8.1	98	71	39	-	-	L
SS-98	68.3069 RT	20+18.65	4.20-5.70	A-6(5)	39	18	30.5	21.2	13.9	34.3	96	77	49	-	-	Y3RPA
SS-99	68.3069 RT	20+18.65	14.20-15.70	A-7-5(47)	86	43	5.9	6.7	28.9	58.6	98	94	88	-	-	Y3RPA
SS-100	27.044 RT	19+79.79	4.00-5.50	A-2-4(0)	40	NP	42.2	26.9	20.8	10.1	98	69	34	-	-	Y3LPD
SS-101	63.3839 LT	32+12.26	3.80-5.30	A-2-5(0)	48	NP	24.6	47.9	19.4	8.1	97	88	32	-	-	L
SS-102	63.3839 LT	32+12.26	8.80-10.30	A-2-5(0)	54	NP	46.1	31.7	18.2	4.0	100	75	26	-	-	L
SS-103	105.2109 RT	10+69.61	0.00-0.00	A-7-6(9)	48	23	32.1	13.3	10.1	44.4	90	68	51	-	-	Y3LPB
SS-104	105.2109 RT	10+69.61	8.80-10.30	A-4(1)	40	6	35.6	19.0	27.3	18.2	93	67	46	-	-	Y3LPB
M-105	6.5362 RT	12+88.35	4.10-5.60				0.0	0.0	0.0	0.0		0	0	30.5	-	Y3LPB
SS-105	209.534 LT	33+47.94	3.70-5.20	A-2-5(0)	46	NP	49.7	29.3	17.0	4.0	97	68	24	-	-	L
SS-105A	6.5362 RT	12+88.35	4.10-5.60	A-7-5(37)	73	34	6.3	7.1	30.2	56.5	100	96	89	-	-	Y3LPB
M-106	6.5362 RT	12+88.35	9.10-10.60				0.0	0.0	0.0	0.0		0	0	28.5	-	Y3LPB
SS-106	209.534 LT	33+47.94	8.70-10.20	A-1-b(0)	36	NP	55.7	25.1	14.2	5.1	85	50	20	-	-	L
SS-106A	6.5362 RT	12+88.35	9.10-10.60	A-7-5(4)	54	12	38.9	17.5	27.4	16.1	98	67	47	-	-	Y3LPB
M-107	103.6971 RT	22+97.82	3.80-5.30				0.0	0.0	0.0	0.0		0	0	32.3	-	Y3RPC
SS-107	103.6971 RT	22+97.82	3.80-9.30	A-7-5(26)	66	33	13.5	14.5	19.6	52.4	99	91	74	-	-	Y3RPC
SS-108	103.6971 RT	22+97.82	8.80-10.30	A-4(0)	39	NP	36.0	32.2	25.8	6.0	94	73	36	-	-	Y3RPC
M-109	33.6751 RT	13+12.59	4.00-5.50				0.0	0.0	0.0	0.0		0	0	28.5	-	L
SS-109	33.6751 RT	13+12.59	4.00-5.50	A-7-5(23)	67	35	21.8	16.1	13.7	48.4	100	85	65	-	-	L
SS-110	33.6751 RT	13+12.59	9.00-10.50	A-7-5(4)	47	11	25.6	28.8	21.4	24.2	100	84	52	-	-	L
M-111	29.4077 RT	20+89.45	4.10-5.60				0.0	0.0	0.0	0.0		0	0	30.4	-	L
SS-111	29.4077 RT	20+89.45	4.10-5.60	A-7-5(14)	63	22	23.2	16.1	18.3	42.3	99	84	62	-	-	L
SS-112	29.4077 RT	20+89.45	9.10-10.60	A-5(2)	42	9	27.0	31.5	27.2	14.2	100	88	48	-	-	L
M-113	168.2742 RT	30+28.45	3.70-5.20				0.0	0.0	0.0	0.0		0	0	23.5	-	Y1
SS-113	168.2742 RT	30+28.45	3.70-5.20	A-7-5(8)	56	20	29.0	20.4	16.3	34.3	92	71	51	-	-	Y1
SS-114	168.2742 RT	30+28.45	8.70-10.20	A-5(1)	47	7	25.8	36.9	25.2	12.1	95	78	44	-	-	Y1
M-115	100.1827 RT	27+08.84	3.80-5.30				0.0	0.0	0.0	0.0		0	0	20.5	-	Y1
SS-115	100.1827 RT	27+08.84	3.80-5.30	A-6(5)	38	20	38.4	16.9	12.2	32.5	93	66	44	-	-	Y1
SS-116	51.8234 RT	22+86.35	4.10-5.60	A-7-5(2)	48	12	37.4	26.4	15.9	20.3	99	72	41	-	-	Y1
SS-117	51.8234 RT	22+86.35	9.10-10.60	A-2-5(0)	44	NP	46.6	28.5	17.8	7.1	97	64	30	-	-	Y1