

CONTRACT: ID: U-2579B

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

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-L-	478+00.00 to 692+32.98	5-19	32-42	94-158
-YI-	10+00.00 to 54+00.00	20,5,21	43-44	
-YILPA-	10+00.00 to 21+64.89	5	45	
-YILPD-	10+00.00 to 22+21.40	5	46	
-YIRPA-	10+00.00 to 30+89.92	6,5	47	
-YIRPD-	10+00.00 to 32+81.06	6,5	48	
-Y2-	10+00.00 to 29+75.00	22,7,23	49	--
-Y4EB-	26+80.00 to 143+00.00	24-27,16, 28-30	50-54	165-169
-Y4WB-	26+80.00 to 143+00.00	24-27,16, 28-30	55-59	159-164
-Y4CD-	10+00.00 to 95+97.99	14-19	60-65	
-Y4LPA-	10+00.00 to 24+20.62	16	66	181-186
-Y4LPB-	10+00.00 to 24+68.05	16	67	
-Y4LPD-	10+00.00 to 24+75.27	16	68	
-Y4RPA-	10+00.00 to 41+41.74	15,16,27	69-70	187-189
-Y4RPB-	10+00.00 to 32+80.81	15,16,28	71	
-Y4RPD-	10+00.00 to 86+04.51	15,16,27	72-77	
-Y4RPC-	10+00.00 to 40+03.40	17,16,28	78-79	
-Y4RPD-	10+00.00 to 33+19.67	17,16,27	80-81	
-Y5-	16+00.00 to 33+30.00	27,16	82	
-Y5A-	54+00.00 to 81+25.00	28,29,31	83-85	170-176
-YIDET-	11+64.89 to 48+21.20	20,5,21	86-87	
-Y5DET-	11+59.72 to 30+81.57	27,16	88	
-Y6-	10+12.91 to 38+21.23	31,29,28	89-91	177-180
-Y7-	10+00.00 to 13+54.72	20	92	190-193

SAMPLE DATA

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

ROADWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 34839.1.1 (U-2579B) F.A. PROJ. NA
 COUNTY FORSYTH
 PROJECT DESCRIPTION WINSTON-SALEM NORTHERN BELTWAY
(EASTERN SECTION) (FUTURE I-74) FROM US 158 TO
I-40 BUS /US 421

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET	TOTAL SHEETS
N.C.	U-2579B	1	193
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34839.1.1	NA	P.E.	
		RW & UTIL.	

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

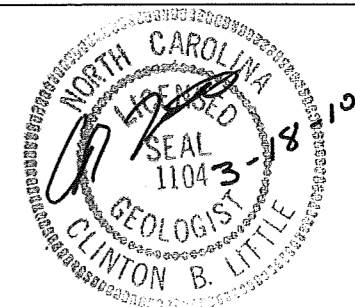
H.K. WISE

INVESTIGATED BY R.Q. CALLAWAY

CHECKED BY C.B. LITTLE

SUBMITTED BY C.B. LITTLE

DATE AUGUST 2008



DRAWN BY: J.K. McClure

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

NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

09/08/09

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbol

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579B	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34839.1.1	N/A	PE	

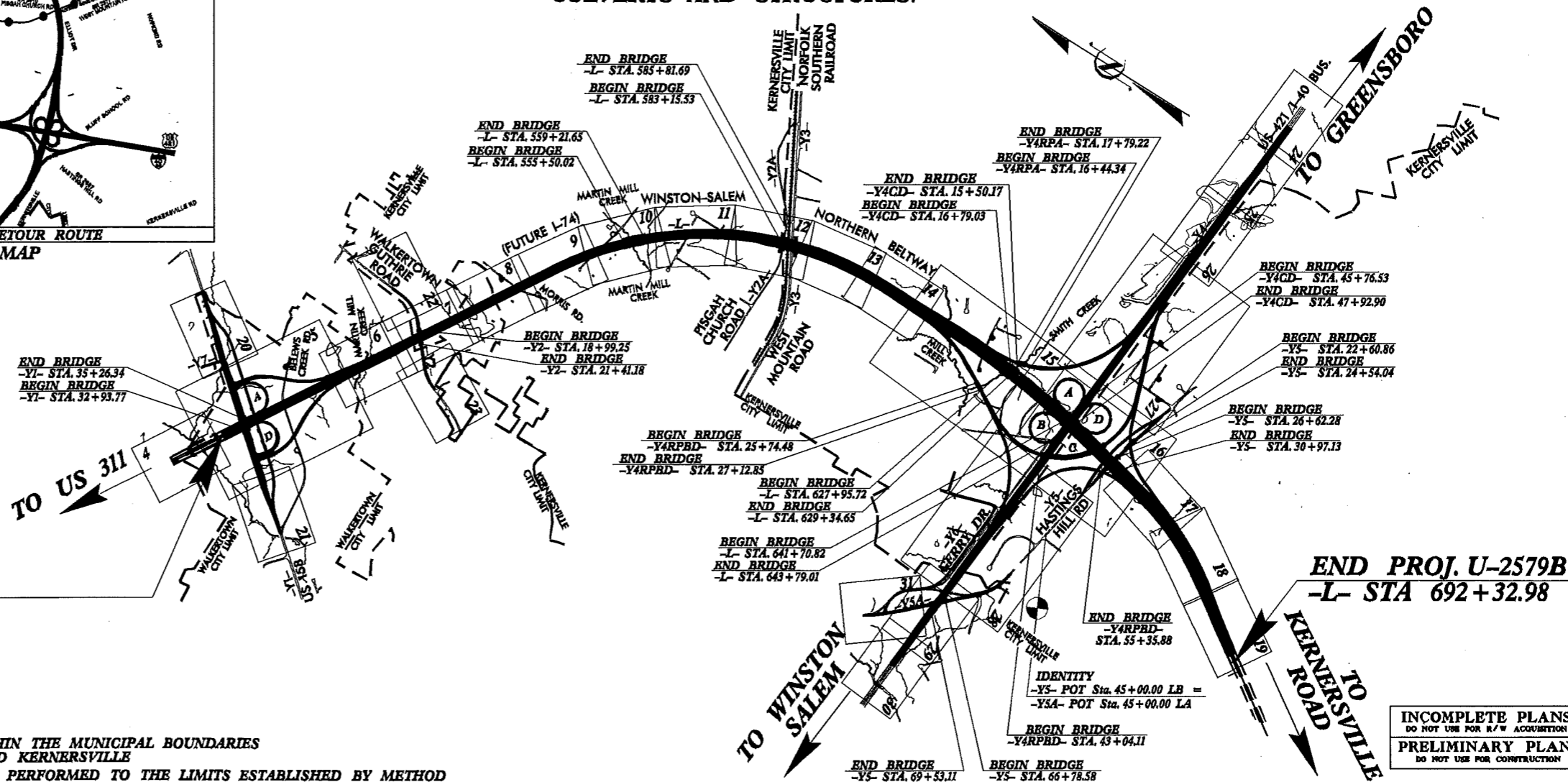
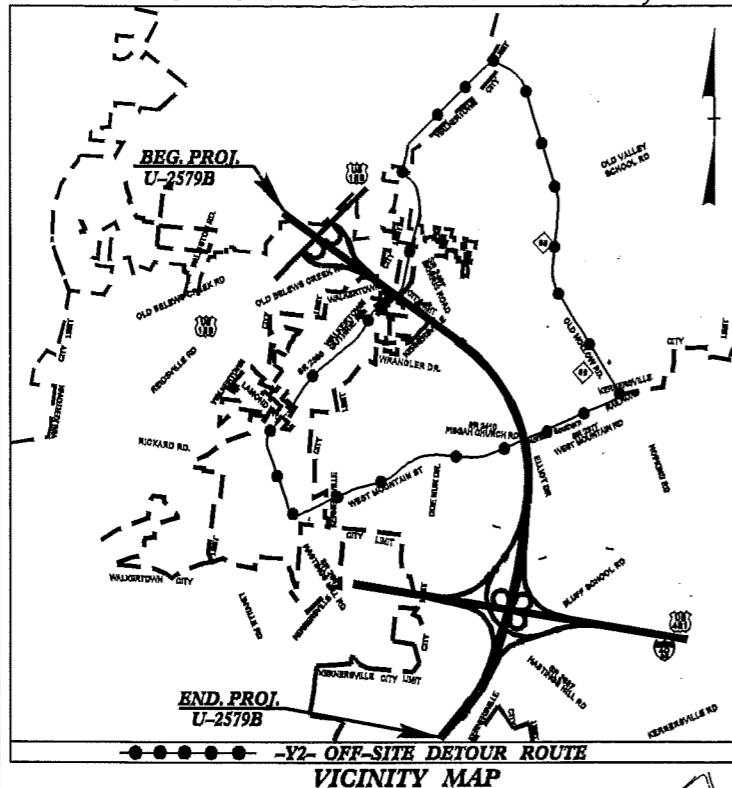
FORSYTH COUNTY

**LOCATION: WINSTON SALEM NORTHERN BELTWAY (EASTERN SECTION)
(FUTURE I-74) FROM US 158 TO I-40 BUS/US 421**

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

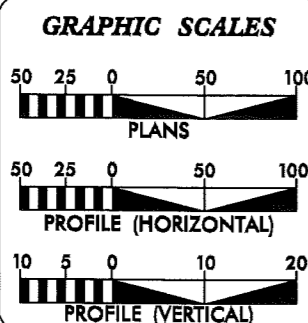


TIP PROJECT: U-2579B



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WALKERTOWN AND KERNERSVILLE
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD

CONTRACT:



DESIGN DATA

ADT 2010 =	53,560
ADT 2030 =	79,880
DHV =	10 %
D =	60 %
T =	18 % *
V =	70 MPH
* TTST 6 %	DUAL 12 %

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT U-2579B =	3.87 Miles.
LENGTH OF STRUCTURE PROJECT U-2579B =	0.19 Miles.
TOTAL LENGTH OF PROJECT U-2579B =	4.06 Miles.

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

2004 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 19, 2008

LETTING DATE:
SEPTEMBER 21, 2010

TONY HOUSER, PE
PROJECT ENGINEER

LEE ANN MOORE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____

ROADWAY DESIGN ENGINEER

SIGNATURE: _____

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

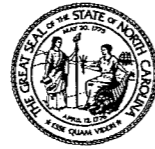
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
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 (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: <i>VERY STIFF, GRAY, SILTY CLAY, MOST WITH INTERBEDDED FINE SAND LAYERS, MEDIUM PLASTIC, A-7-6</i>	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 .	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 SPDM SAMPLER EQUAL TO OR LESS THAN 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 YIELD 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.	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 IN DR 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 SPDM SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 60 BLOWS. STRATA CORE RECOVERY (SCREC.) - 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.
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 SYMBOL [Grid of patterns for soil classification]	MINERALOGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE. COMPRESSIBILITY SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THAN 31 MODERATELY COMPRESSIBLE LIQUID LIMIT EQUAL TO 31-50 HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER THAN 50 PERCENTAGE OF MATERIAL ORGANIC MATERIAL GRANULAR SOILS SILT-CLAY SOILS OTHER MATERIAL TRACE OF ORGANIC MATTER 2-3% 3-5% TRACE 1-10% LITTLE ORGANIC MATTER 3-5% 5-12% LITTLE 10-20% MODERATELY ORGANIC 5-10% 12-20% SOME 20-35% HIGHLY ORGANIC >10% >20% HIGHLY 35% AND ABOVE	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. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> 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. <i>IF TESTED, YIELDS SPT N VALUES > 100 BPF</i> 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. <i>IF TESTED, YIELDS SPT N VALUES < 100 BPF</i> 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.	GROUND WATER WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS 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 DIP & DIP DIRECTION OF ROCK STRUCTURES TEST BORING WITH CORE TEST BORING W/ CORE SPT N-VALUE SPT REFUSAL AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD
CONSISTENCY OR DENSENESS PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²) GENERALLY GRANULAR (NON-COHESIVE) VERY LOOSE, LOOSE, MEDIUM DENSE, DENSE, VERY DENSE N/A GENERALLY SILT-CLAY MATERIAL (COHESIVE) VERY SOFT, SOFT, MEDIUM STIFF, STIFF, VERY STIFF, HARD <2, 2 TO 4, 4 TO 8, 8 TO 15, 15 TO 30, >30 <0.25, 0.25 TO 0.50, 0.5 TO 1.0, 1 TO 2, 2 TO 4, >4	TEXTURE OR GRAIN SIZE U.S. STD. SIEVE SIZE OPENING (MM) 4, 10, 40, 60, 200, 270 4.75, 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	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 HL - 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 W - UNIT WEIGHT W _u - DRY UNIT WEIGHT SAMPLE ABBREVIATIONS S - BULK SS - SPLIT SPDM ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO	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 PIECES 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 FINGER NAIL.
SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION LL - LIQUID LIMIT - SATURATED - (SAT.) USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PL - PLASTIC LIMIT - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE DM - OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SL - SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PROJECT DRILL UNITS: MOBILE B-____, BK-51, CME-45C, CME-550, PORTABLE HOIST ADVANCING TOOLS: CLAY BITS, 6" CONTINUOUS FLIGHT AUGER, 8" HOLLOW AUGERS, HARD FACED FINGER BITS, TUNG-CARBIDE INSERTS, CASING w/ ADVANCER, TRICONE STEEL TEETH, TRICONE TUNG-CARB., CORE BIT HAMMER TYPE: AUTOMATIC, MANUAL CORE SIZE: B, N, H HAND TOOLS: POST HOLE DIGGER, HAND AUGER, SOUNDING ROD, VANE SHEAR TEST	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.	
PLASTICITY 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.			NOTES: STRATIGRAPHY SHOWN ON THE PROFILES IS FROM BORING TO BORING. THE ROCK LINE ON CROSS-SECTIONS IS CUT AT THE SECTION. SOIL STRATIGRAPHY ON CROSS-SECTIONS IS FROM THE BORING. BENCH MARK: _____ ELEVATION: _____ FT.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

STATE PROJECT: 34839.1.1 (U-2579B)
FEDERAL PROJECT: N.A.
COUNTY: FORSYTH
DESCRIPTION: WINSTON SALEM NORTHERN BELTWAY (EASTERN SECTION)
(FUTURE I-74) FROM US 158 TO I-40 BUS/US 421

SUBJECT: GEOTECHNICAL REPORT – Inventory

PROJECT DESCRIPTION

The U-2579B project covers the eastern section of the Winston Salem Beltway, (about 20% of the total circumference). The two largest elements of this section are: 1.) an interchange between the future I-74 and the existing bus I-40, and 2.) approximately 4 miles of 6 lane interstate new construction. Besides these elements, a smaller interchange, numerous bridges, and widening of BusI-40 with associated retaining walls, etcetera, is included.

The -L- line appears to be on more fill than cut, but the profile is constrained by a railroad crossing and the grade separation with -Y4-, (Bus I-40). Most of the soil is low plasticity soil, A-2, with far lesser amounts of A-7 clayey soil, mostly from the surface. In places A-5 or A-4 appear as a transition layer.

The field investigation was conducted from July 7, 2007 to November 2007, using a CME-550 drill machine with an automatic hammer. Standard Penetration Tests, (SPT), were performed through hollow stem augers at selected locations. Additional borings that test proposed retaining wall foundations were completed and are posted on the plans and profiles. Representative soil samples were collected and forwarded to the Materials and Tests Unit laboratory for soil quality analysis, moisture content and ASTM classification. All available drill-holes are plotted on the plan view and also appear projected into the profiles. Additional borings that test proposed retaining wall foundations were completed and are posted on the plans and profiles.

The following alignments, totaling 24.92 miles, were investigated.

Alignment	Station	to	Station	Length Feet
-L-	478+00.00		692+32.98	21,432.98
-SRR-	10+00.00		57+26.59	4,726.59
-Y1-	10+00.00		54+00.00	4,400.
-Y1DET-	10+00.00		49+80.00	3,980.
-Y1LPA-	10+00.00		22+03.90	1,203.9
-Y1LPD-	10+00.00		22+06.41	1206.41
-Y1RPA-	10+00.00		22+60.41	1260.41
-Y1RPD-	10+00.00		33+20.22	2320.22
-Y2-	11+81.19		29+75.00	1794.
-Y2A-	10+00.00		25+99.82	1599.82
-Y3-	10+00.00		42+00.00	3200.
-Y4-	10+00.00		150+22.89	14022.89
-Y4CD-	10+00.00		95+97.99	8597.99
-Y4EB-	10+00.00		150+22.89	14022.89
-Y4LPA-	10+00.00		24+20.62	1420.62
-Y4LPB-	10+00.00		24+68.05	1468.05
-Y4LPD-	10+00.00		24+75.27	1475.27
-Y4RPA-	10+00.00		41+41.74	3141.74
-Y4RPB-	10+00.00		32+80.81	2280.81
-Y4RPBD-	10+00.00		86+04.51	7604.51
-Y4RPC-	10+00.00		40+03.40	3003.4
-Y4RPD-	10+00.00		33+19.67	2319.67
-Y4WB-	10+00.00		150+22.89	14022.89
-Y5A-	54+00.00		81+25.00	2725.
-Y5DET-	10+00.00		32+32.54	1232.54
-Y5-	16+00.00		45+00.00	2900.
-Y6-	10+00.00		38+31.89	2831.89
-Y7-	10+00.00		13+93.72	393.72
-Y8-	10+00.00		20+02.70	1002.7

24.92 miles, or 131,590.9 feet.

ITEMS OF SPECIAL GEOTECHNICAL INTEREST

1.) Retaining Walls 1 – 3 on Y-4:

Drilling on the highway shoulder found soft embankment and alluvial soil below these walls, with the water table at or above the planned base of the wall. These walls are currently under review.

2.) Groundwater:

The 24 hr water level was found above grade in some borings for -L-, -Y1LPA- and -Y1LPD- and for -Y1RPA- and -Y1RPD-. The locations are posted on a table in the Physiography and Geology section below.

3.) All-weather spring fed seeps or streams:

There are numerous streams, seeps and water crossings within the boundaries of this project. The locations are posted on a table in the Physiography and Geology section below.

4.) Wet soil.

Wet soil is anticipated adjacent to streams, adjacent to the existing embankments of -Y-4-, and in the cut sections of -Y1LPA-, Y1LPD-, -Y1RPA- and -Y1RPD- where the water table is above planned grade.

5.) Rock within 10' of grade, or above grade.

Rock was found within 10' below grade, or above grade on the project. The locations are posted on a table in the Physiography and Geology section below.

PHYSIOGRAPHY AND GEOLOGY

Physiography

The project is in the Piedmont Physiographic Province, between the Coastal Plain and the Blue Ridge Provinces. From the Blue Ridge Front to the Fall Line, the Piedmont physiographic province is characterized as a peneplane. This surface has been uplifted and is now being incised by the re-energized streams. The ridge tops are the remnants of the original planar surface that is continuous across the piedmont. The intervening valley floors' elevations show a lot more variation. The elevation extremes for -L- appear below. The ridge top elevations cluster around 940 foot elevation. Valley floor elevations are more erratic. Experience suggests that in the residual soil terrain of the piedmont, rock is more likely to be in the valleys than the ridge tops.

Elevation	Position	Station		Elevation	Position	Station
945	Ridge top	490+50		825	Valley Floor	616+00
870	Valley Floor	506+00		865	Tributary	623+00
940	Ridge top	516+50		820	Valley Floor	628+00
875	Valley Floor	527+50		935	Ridge top	652+00
940	Ridge top	535+00		840	Valley Floor	667+00
850	Valley Floor	558+00		910	Ridge top	677+00
950	Ridge top	587+00				

An inspection of the table above will find 100' of elevation difference in a half mile of lateral distance. Most of the ridges and valleys have a northeast – southwest trend, reflecting the “grain” of the underlying metamorphic rock. Kemer’s Mill Creek valley, crossed by -L- at station 615+00, is an expression of this northeast – southwest topographic trend. Smith Creek Valley, crossed at -L- 627+00, runs counter to the dominant fabric with a west – northwest trend. The -L- alignment runs

northwest – southeast from the beginning, (nearly perpendicular to the structural trend) to about -L- 549+00 where it turns to a north – south trend. The other main alignment, -Y4- (I-40) is easterly-westerly, all the way. Where the alignment is parallel to the geologic trend, (NE-SW) subsurface variability can be expected to be lessened. Where the trend of the alignment is normal to the trend of the geology, subsurface variability should be at a maximum.

Geology

Throughout North Carolina the geologic provinces run northeast – southwest and are divided on the basis of metamorphic grade or dominant rock type. According to the 1985 Geologic Map of North America, this project is entirely within the Milton Belt. The Winston-Salem Geologic quadrangle map does not delineate the Milton Belt, and places Winston Salem within the Charlotte Belt. In either case it is mapped as micaceous schist and gneiss. The Sauratown Mountains Anticlinorium is to the geologic belt to northwest, and the granitic rock of the Charlotte belt is to the southeast.

Soil Properties

The first subdivision in the classification of soil is naming it as residual, embankment fill, or alluvial soil. After that the AASHTO classification is partly based on grain size, but is also an attempt to predict the soil behavior as a construction material.

Residual soil is a product of in-place chemical destruction of the original rock. Chemical weathering usually reduces rock strength making it more susceptible to erosion, transport, and removal by natural physical processes. The residual soil thickness is influenced by original rock type and mechanical erosion. For example, the preliminary boring for the U.S.158 bridge over -L- at the -L- 482, elevation 910' found 70' of residual soil over rock. The borings at -L- 532+00, elevation 920', found rock within 20 feet of the surface. The dominant soil type encountered on the project was low plasticity A-2 micaceous sandy soil, the expected soil derived from weathering the gneiss and schist of this geologic province. Eventually, weathering processes produce the red A-7 cap clay that appears on the ridge tops.

Alluvial Soil: Soil grains that have been transported by a natural process, water or wind and deposited away from their original location forms alluvial soil. This process of transport and deposition leaves visible layering in the soil defined by a physical characteristic such as color, grain size, density, or sorting. Alluvial soil was found in this project only associated with floodplain areas. Generally it was sand, tending toward A-1 to A-2-4, the clays having been winnowed out.

Fill, Roadway Embankment, Artificial Fill Soil: Construction may require addition or excavation of soil to bring the natural ground surface to the desired elevation. When soil is transported to a new site and compacted it is fill soil. If it is handled under the standards of the NCDOT, it becomes Roadway Embankment. If some other entity is responsible for the fill placement, the fill is classed as Artificial Fill. On this project, particularly -Y4-, new travel lanes will tie-in to existing roadway embankment material, then extend over residual soil.

Rock Properties

This investigation is concerned with the depth to rock and the areal extent of rock at or above grade. Rock samples were not collected or analyzed in this investigation. Typically rock from this region is strongly foliated micaceous schist and gneiss.

All cross sections that contain a boring terminated on rock above grade, are included as part of this report. The depth to rock indicated by auger refusal is variable in cross section and profile.

Rock was found less than 10' below grade, or above grade in the following locations, extracted from an examination of the profile.

Alignment	Station	to	Station	Location
-L-	531+00		540+00	
-L-	649+00			Single point
-L-	670+00		682+50	
-Y1RPA-	22+50			Single point
-Y4-	29+50			Single point
-Y4-	39+00			Single point
-Y4-	49+00		52+00	Left Side
-Y4-	55+00		57+00	Left Side
-Y4-	61+00			Left Side
-Y4-	82+00		84+50	Left Side
-Y4-	80+50		84+50	Right Side
-Y4CD-	53+75			Single point
-Y4CD-	75+00			Single point
-Y4CD-	79+50		86+50	Left and Right
-Y4LPA-	17+00.00		21+00	Left and Right
-Y4LPD-	18+00.00		21+50	Left and Right
-Y4RPBD-	85+50			Single point
-Y4RPC-	23+00			Single point
-Y4RPD-	22+50		24+00	Below grade
-Y5A-	72+50		79+00	CL mostly
-Y6-	10+00		13+00	At grade

Groundwater Properties

Water was found less than 10' below grade, or above grade in the following locations

Alignment	Station	to	Station	Location
-L-	490+00			Single point
-L-	516+50			Single point
-L-	670+00			Single point
-L-	538+00		548+00	Above Grade
-L-	682+50		683+50	Below Grade
-Y1-	33+00			Bridge Abutment
-Y1LPA-	12+50		15+50	Above Grade

-Y1LPD-	13+50			Only Boring
-Y1RPA-	22+50			Single Point
-Y1LPD-	24+00			Only 1 Measured
-Y4WB-	40+00		70+00	In Embankment ¹

All-weather spring fed seeps or streams:

The stations in the table below record the location of springs seeps or streams, some which may not have year round flow.

Line	Station	to	Station	Size of stream: eg: 1 st order ² .
-L-	501+49	to		2 nd order
-L-	506+26			2 nd order
-L-	508+58	to	510+75	2 nd order
-L-	522+90			2 nd order
-L-	526+78			2 nd order
-L-	527+98			2 nd order and lake on left.
-L-	556+94		557+00	3 rd order stream Crossing (river?) Bridge
-L-	559+85	to	559+97	3 rd order stream Crossing (river?) Bridge
-L-	569+65	to	572+66	2 nd order stream under CL
-L-	572+66	to	574+00	Existing Culvert
-L-	604+00	to	606+00	2 nd order stream under leftside fill
-L-	615+66	to	615+97	4 th order stream Crossing (river?)
-L-	628+46		628+63	3 rd order stream Crossing (river?)
-L-	636+32			2 nd order
-L-	637+39			2 nd order
-L-	638+24	to	639+40	2 nd order diagonal crossing
-L-	663+27			2 nd order
-L-	667+05	to	667+10	3 rd order last -L-
-Y1DET-	17+13			1 st order
-Y1DET-	19+50			1 st order
-Y1DET-	26+20			1 st order
-Y1DET-	40+36			1 st order
-Y1DET-	40+58			1 st order last -Y1Det-
-Y1-	22+69			2 nd order
-Y1-	28+02			1 st order
-Y1-	41+65			2 nd order

¹ Water in I-40 embankment was found during investigation for retaining wall.

² A stream without tributaries is first order. Two first order streams converge to make a second order stream. A third order stream requires two second order streams as tributaries.

-Y1-	54+52			3 rd order trpl bx culvert last -Y1-
-Y1LPA-	16+00	to	17+00	1 st order crosses cut
-Y1LPA-	17+00	to	2+00	1 st order crosses fill to end of Loop
-Y1RPA-	11+50			1 st order crosses fill
-Y1RPD-	18+00			1 st order crosses fill
-Y1RPD-	11+00			1 st order crosses fill
-Y4RPBD	16+29	to	16+86	3 rd order stream
-Y4RPBD	26+45	to	26+56	3 rd or 4 th order stream
-Y4RPBD	81+76			1 st order stream in culvert
-Y4RPB	25+49			2 nd order stream in 30" rcp
-Y4RPB	27+26			1 st order stream in 18" rcp
-Y4LPB-	12+62	to	13+13	pond
-Y4LPB-	23+60			1 st order stream in 24" rcp
Y4RMPC	31+00			2 nd order stream just below pond.
Y4RMPC	33+30			1 st order stream in 24" rcp
Y4RMPC	36+09			1 st order stream in 18" rcp
Y4RMPD	10+00			1 st order crosses fill
Y4RMPD	20+98			1 st order crosses fill
Y4LPD	10+00			Pond 100' to left under fill.
Y4LPD	20+00			Pond 100' to left under fill.(same one)
Y4LPA	10+00	to	13+76	First order creek under fill on rt, then crosses.
Y4RMPA	16+96	to	17+30	3 rd order creek
Y4RMPA	37+27			2 nd order creek in 30" RCP
Y4CD	19+25	to	19+36	3 rd order creek
Y4CD	33+13	to	13+28	3 rd order creek
Y4CD	40+67			1 st order creek
Y4CD	45+19			1 st order creek under fill
Y4CD	48+15			Pond 100' left, under fill
Y4CD	69+63	to	71+27	1 st order creek under fill
Y4CD	71+27	to	71+34	3 rd order stream, (under fill?)
Y5	None			
Y6	None			
Y8	None			
Y5A	59+72			1 st order stream in 24" rcp
Y5DET	done			
Y4	32+83	to	33+84	1 st order in 24" rcp, diagonal rt to left.
Y4	40+00	to	46+01	1 st order, under right side fill
Y4	45+00	to	46+29	Triple 8'x9' box, diagonal left to right.
Y4	46+29	to	55+00	Fill indicated over 3 rd order stream on rt. Side.

Y4	64+51			1 st order stream in 30" rcp
Y4	73+09			1 st order stream in 30" rcp
Y4	94+46			1 st order stream in 24" rcp
Y4	104+80			1 st order stream in 30" rcp
Y4	107+49			1 st order stream in 24" rcp
Y4	109+41			1 st order stream in 18" rcp
Y4	131+40			1 st order stream in 24" rcp

GEOTECHNICAL DESCRIPTIVE ANALYSIS

The project is broken into segments that are discussed in the following sections, so that it may be more easily digested. The segments are as follows:

Segment 1: The -L- alignment from -L- 478+00 to the end of the project at -L- 692+32, including Y alignments, stream crossings and bridges, except Y-4.

Segment 2: The interchange between -Y4-, (I-40) and (-L-) including ramps, loops and access roads.

Segment 3: -Y4-, (I-40) from -Y4-26+80 to -Y4-143+00, separate from interchange.

Segment 1: The -L- alignment from -L- 478+00 to the end of the project at -L- 692+32, including Y alignments, stream crossings and bridges, except Y-4.

Physical Description

This segment is 21,432' long, all new alignment, with the first 7600' mostly in cut, up to 40' thick, then 11,700' on fill, up to 70' thick, then 2200' mostly on cut up to 40' thick. Rock is encountered in some of the cut sections, as noted in the table below. There are numerous stream crossings.

-L-

This segment is mapped in plan on sheets 4 through 19, 20 and 21 and profile sheets 32 through 44. Cross sections were printed for areas of shallow rock. The -L- alignment begins at station -L-478+00, elevation 882 climbs to elevation 922 at station 510+00, and then descends to elevation 884 at station -L-549+00. From there, the road climbs back to elevation 982 at station 584+34, then drops to elevation 871' at station 621+00. A long climb, including the bridge over I-40 tops out at elevation 924.31 at station 647+00, where the grade drops down to elevation 855, station 675+00. From there, the grade climbs to the end of the project at elevation 891, and station 692+32.98.

Cuts and Fills

Alignment	Station	to	Station	Note
-L-	479+00		499+50	Cut, maximum 50' thick
-L-	499+50		513+25	Fill, 20 to 50' thick
-L-	513+25		520+00	Cut, one hill top.
-L-	520+00		530+00	Fill 20' to 30' thick
-L-	530+00		554+00	Cut 40' thick, about half rock

-L-	554+00		646+50	Fill 60' to 70' thick
-L-	646+50		657+50	Cut, 15' mostly
-L-	657+50		670+50	Fill 30'
-L-	670+50		685+50	Cut 50' thick, 25% rock
-L-	685+50		690+00	Fill

Geology

This area is not only covered by the state geologic map, but was also included in the 1° x 2° quadrangle mapping. The mapping shows that the alignment is on Cambrian age metamorphic rocks of the Charlotte belt, northwest of a Pennsylvanian age granite body that intrudes the metamorphic rock.

Soil

Most of this project has residual soil at the surface, and most of the proposed excavation involves residual soil. The distribution of soil type for the 164 samples from -L- is as follows:

alignment	AASHTO class	Number / total	percent	
-L-	A-1-b	4	2.4%	Coarse Sand
-L-	A-2-4	32	19.5%	Sand
-L-	A-2-5	29	17.7%	Silty Sand
-L-	A-2-6	2	1.2%	Silty Sand with Clay
-L-	A-2-7	2	1.2%	Silty Clayey Sand
-L-	A-4	14	8.5%	Silt
-L-	A-5	32	19.5%	Silt with high LL
-L-	A-6	12	7.3%	Clayey Silt
-L-	A-7-5	27	16.5%	Clay
-L-	A-7-6	10	6.1%	Clay
		164	99.5%	

The relatively low plasticity of the clay yielded a small group of the A-2-6 and the A-2-7 samples. Even in the AASHTO classifications that require a minimum of 36% combined silt clay fraction, the relatively low PI pushed a lot samples into the A-4 or A-5 classification. No settlement issues are anticipated from the residual soil beneath the embankments. The alluvial soil that was encountered adjacent to stream crossings was thin, less than 10' thick, and either loose wet sand or very stiff clay.

Rock

Rock was found sporadically on this project. At -L- 490+20 a boring was carried to 60' depth and did not encounter rock. The soil samples indicate that soil grain size increasing with depth; clay at the surface, then silt, then sand. From -L-531 to -L- 543 rock is encountered in every boring, but depth to rock and elevation of rock both vary wildly. A similar occurrence was found from -L-670, to -L-686. It is sometimes tempting to assume continuity between borings, as if the layers of the earth were like an onion. This is not the case around Winston Salem.

Groundwater

Static water levels measured in several areas indicate that groundwater will be encountered during construction of this segment.

alignment	Station	Grade Elevation	SWT ³ Elevation	
-L-	490+20	896	903	
-Y1-	32+85	885	885	= -L-482+00
-Y1LPA-	13+40	888	900	
-Y1LPA-	15+00	892	900	
-Y1RMPA	22+50	900	908	
-Y1LPD-	13+75	886	896	
-Y1RMPD-	24+00	892	900	
-L-	538+00	893	896	
-L-	540+00	891	893	
-L-	543+00	888	888	
-L-	545+50	887	889	Artesian pressure

In the cut from 532+50 to 538 the borings stopped above grade in rock. Water measurements were not taken. Water may exist at or above grade. From -L- 546+00 to the end of the cut at -L-553+00, no measurement was taken but water may be present.

All-Weather Spring-Fed Seeps or Streams:

The location of the water features is recorded in a table within the Physiography and Geology section above. Comments are made here regarding some particular topics.

Pond at -L- 527+00: A pond and small wetland will be covered by a roadway embankment. A 10' thickness of low plasticity silty sandy clay sediment should not pose any problems to construction.

Martin Mill Creek at -L- 557+83: The east and west branches of Martin Mill branch come together within a 500 foot wide flood plain with up to 10' of alluvial soil cover. PI and soil type are variable, but most of the feature will be traversed by bridge.

Kemer's Mill Creek -L-616+00: The drilling found a 7 foot thick alluvial mantle, on rock at this crossing. The alluvial soil is sandy and non plastic and should pose no challenge to construction.

Smith Creek -L-628+50: The alignment crosses a 400' wide floodplain with a 7 to 10 foot thick mantle of wet sandy soil. This is the other major creek of the project and shows a bridge crossing but the design is not finished. The soil should not be a problem.

Segment 2: The interchange between -Y4-, (I-40) and (-L-) including ramps, loops and access roads, but not the -L- or -Y4- alignments.

Physical Description

This segment of the job is the connecting roads and structures of the new interchange between existing interstate I-40, and planned interstate I-74. Plan sheets 15, 16, 24, 25, 26, 27, 28, and profile sheets 60 through 81 cover the segment. Alignments include -Y4CD-, -Y4LPA-, -Y4LPB-

³ SWT: Static Water Table

, -Y4LPD-, -Y4RPA-, -Y4RPB-, -Y4RPBD-, -Y4RPC-, and, -Y4RPD-. The general function of these alignments follows.

-Y4CD- (Y4 Connector Distributor), with two northbound lanes, and no southbound lanes, runs parallel to -L- adjacent to the N. bound left side, and facilitates traffic ingress and egress by the various -Y4- alignments from N. bound -L- to E. and W. bound I-40.

At station -Y4CD- 10+00, Y4CD merges into N bound -L-.

At station -Y4CD -26+00, -Y4RMPA-merges into -Y4CD-, (W. bound I-40 to N. bound -L-).

At station -Y4CD - 45+00, traffic exits to -Y4 LPA-. (N bound -L- to W. bound I-40).

At station -Y4CD- 46+00, traffic enters -Y4CD- from -Y4LPD-, (E. bound I-40 to N. bound -L-).

At station -Y4CD- 71+00, traffic exits to -Y4RPD-, (N. bound -L- to E. bound I-40).

At station -Y4CD- 90+00, traffic bound for I-40 exits -L-.

Cuts and Fills

Alignment	Station	to	Station	Note
-Y4CD-	10+00		51+00	Fill: up to 65' thick
-Y4CD-	51+00		62+00	Cut: up to 20' thick
-Y4CD-	62+00		74+00	Fill: up to 30' thick
-Y4CD-	74+00		90+25	Cut: up to 55' partially in rock
-Y4CD-	90+25		95+00	Fill: up to 25' thick
-Y4CD-	95+00		96+00 (end)	Cut: up to 10' thick
-Y4LPA-	10+00		17+00	Fill: up to 50' thick
-Y4LPA-	17+00		21+50	Cut: rock at grade
-Y4LPB-	10+00		17+75	Fill: up to 55' thick
-Y4LPB-	17+75		22+00	Cut: up to 11' thick
-Y4LPD-	10+00		13+00	Fill: up to 55' thick
-Y4LPD-	14+50		18+00	Fill: up to 15' thick
-Y4LPD-	18+00		21+50	Cut: up to 13' thick
-Y4RMPA-	10+00		27+00	Fill: up to 55' thick
-Y4RMPA-	27+00		41+00 (end)	Final Grade within 10' of Ground Line.
-Y4RMPB-	10+00		15+50	Fill: tapers from 43' to 0
-Y4RMPB-	15+50		17+75	Cut: within 10' of grade
-Y4RMPB-	17+75		29+00	Fill: 0 to 40' to 0, some over existing fill
-Y4RMPB-	29+00		32+50	Final grade within 5' of Ground Line.
-Y4RPBD-	10+00		35+00	Fill: 20' to 60' to 20' to 60' to ≤ 10'
-Y4RPBD-	35+00		38+00	Fill: Less than 10' thick
-Y4RPBD-	38+00		41+00	Fill: 10' thick
-Y4RPBD-	41+00		45+50	Fill: Over I-40 10' to 45' to 25' (thick)
-Y4RPBD-	45+50		55+00	Fill: 25' thick to 50' thick to 10' thick
-Y4RPBD-	43+00		55+00	Bridge?
-Y4RPBD-	55+00		63+00	Fill: 10' thick to 40' thick to 0

-Y4RPBD-	63+00		68+00	Cut: 0 to 10' to 0
-Y4RPBD-	68+00		77+50	Fill: 0 to 10 to 0
-Y4RPBD-	77+50		84+00	Fill: 0 to 15' (over alluvium) to 0
-Y4RPBD-	84+00		86+00	At grade: joins existing I-40.
-Y4RPC-	10+00		12+00	Fill: 18' to 0
-Y4RPC-	12+00		15+00	Cut: 0 to 25
-Y4RPC-	15+00		25+00	Cut: 25' ± throughout
-Y4RPC-	25+00		29+50	Cut: 25' to 0
-Y4RPC-	29+50		35+50	Fill: 0 to 20 to 15 to 20 to 0
-Y4RPC-	35+50		40+00	At grade: joins existing I-40.
-Y4RPD-	10+00		21+50	Fill: 28+00 to 0 (gaining 75' elev.)
-Y4RPD-	21+50		25+50	Cut: less than 8'
-Y4RPD-	25+50		30+00	Fill: 0 to 35 to 0
-Y4RPD-	30+00		33+50	Cut: 10' (joins -Y4RPBD- at end)

Geology

Except for stream crossings, this segment is on residual soil, developed by weathering of Charlotte Belt gneiss and schist.

Soil

Most of this segment will be built on embankment fill over residual soil. No areas of unsuitably soft or wet soil were found in the borings. Most of the residual soil in the cut sections is silt or sand. PI values are typically less than 20 and commonly NP. No settlement issues are anticipated from the residual soil beneath the embankments.

Rock

Quasi continuous bodies of rock in areas to be excavated are shown in the table below:

Alignment	Station	to	Station	Note
-Y4CD-	79+50		84+50	Above grade, in cut
-Y4LPA-	16+50		21+00	Above grade, in cut

All-Weather Spring-Fed Seeps or Streams:

The location of the water features was recorded in a table within the Physiography and Geology section above. Comments are made here regarding some particular topics. Alluvium in flood plain is less than 10' thick and sandy.

-Y4RPBD-16+00	17+25	Kemer's Mill Creek	Crosses at old dam site. 6' deep channel in FP ⁴
-Y4RPBD-17+25	21+00	Kemer's Mill Creek	300' wide FP, 8' deep channel
-Y4RPBD-25+74	27+12	Smith Creek	Bridge
-Y4CD- 32+49	34+19	Smith Creek	Bridge
-Y4RMPA-16+44	17+79	Smith Creek	Bridge

Segment 3. : -Y4-, (I-40) from -Y4-26+80 to -Y4-143+00, separate from interchange.

⁴ FP = Flood Plain, with presumed alluvial soil.

Physical Description

-Y4- is existing I-40. The work includes widening of the Eastbound and Westbound sides, and the addition of 1 or 2 lanes at the entrance or exit of new ramps connecting to -L-. The widening is generally symmetrical relative to the I-40 median. Obviously, if the existing roadway required cut, the new work will be in cut, and existing embankments will require widening with fill. The right side of of existing -Y4WB- is being eroded in several places by the bordering stream. The plans do not detail how the embankment will be pushed out an additional 22'.

Cuts and Fills

-Y4WB-				
Station	to	Station	Note	Note: Includes paved shoulder.
27+00		32+00	Cut	New shldr on left, 10' with cut on right
32+00		33+00	On fill.	New shldr on left, 10' with fill on right
33+00		38+50	Cut	New shldr left, 10' with cut on right
38+50		40+00	On fill.	New shldr left, taper to 22' on fill at right
40+00		53+00	On fill.	New shldr on left, 22' on fill at right
53+00		56+00	On fill.	New shldr on left, taper to 36' on fill at right
56+00		68+50	On fill.	New shldr on left, 36' on fill at right
69+00		69+00	On fill.	New shldr on left, 16' on fill at right (typo?)
69+50		72+00	On fill.	New shldr on left, taper to 49' on right, (1 Y4 lane + 2 Y4RPA lanes, plus shoulder.
72+00		77+00	On fill.	New shldr left, 1 lane+taper to 12' paved shldr at right
77+00		86+50	Cut rt.	New shldr left, 1 lane plus paved shoulder: 24'
86+50		88+00	On fill.	New shldr left 1 lane plus paved shldr: 24'. merge Y4LPA- 2 lanes squeeze to 1 plus shoulder
88+00		93+00	On fill.	New shldr on left, 36' right side (2 lane plus shldr)
93+00		94+00	On fill.	New shldr on left, 12' right side, 1 lane on rt side for Y4LPB
94+00		95+50	On fill.	New shldr on left, 1 new lane on right, Y4LPB widens to 2 lane plus 2 paved shoulders.
95+50		104+00	On cut	New shldr on left 25' on right, 1 lane+paved shoulder
104+00		110+50	On fill	New shldr on left 25' on right, 1 lane+paved shoulder Y4RPB merging from right.
111+00		118+50	On Cut	New shldr on lt 25' on rt, 1 lane+ paved shldr. 2 Y4RPB lanes to 1 and merge w/ Y4
118+50		121+00	On fill	New shldr on left, 2 new lanes on rt + shldr
121+00		126+00	On Cut	New shldr on left, rt tapers to 1 new lane.
126+00		137+00	On Cut	New shldr on left, new lane + shldr on Rt.
137+00		153+00	On Fill	New shldr on left, new lane on right tapers to nothing, undercut for new paved shoulder.
-Y4EB-				
Station	to	Station	Note	Note: Includes paved shoulder.
27+00		31+50	Cut	New shldr at right, New paved shldr on left tapers to new lane on left + 10' paved shldr plus 6:1 slope
31+50		33+50	Cut.	New Shldr at rt new lane plus paved shldr, left

33+50		35+50	Fill	New Shldr at rt new lane plus paved shldr, left
35+50		39+00	Cut	New Shldr at rt new lane plus paved shldr, left
39+00		45+00	On fill.	New Shldr at rt new lane plus paved shldr, left
45+00		46+50	On fill.	New Shldr at rt new lane tapers to 19.5' + paved shldr,
46+50		48+00	On fill.	New Shldr at rt new lane tapers to 24' + paved shldr,
48+00		52+50	On cut.	New Shldr at rt new two new lanes + paved shldr, on left
52+50		55+00	On fill.	New Shldr at rt new two new lanes + paved shldr, on left
55+00		60+50	On Cut.	New Shldr at rt new two new lanes + paved shldr, on left
61+00		63+00	On fill	-Y4RPBD- 2 lanes separates to the left, on fill
63+00		66+00	On fill.	Y4EB: 2 existing lanes, new shoulders on left and right
66+00		75+00	On fill.	Y4EB: undercut for left and right shlders
75+00		85+50	On cut.	Y4EB: undercut for left and right shlders
85+50		89+00	On fill.	Y4LPD, 2 lanes, merges to 1, then with Y4EB 2 lanes
89+00		92+00	On fill	Y4EB, 3 lanes 2 shoulders fill on fill.
92+00		100+50	On Cut	Y4EB, 3 lanes 2 shoulders fill on fill.
100+50		104+00	On Cut	Shldr rt and left, 34d lane tapers out, leaving 2.
104+00		108+00	On fill	Y4RPC approaches Y4, each 2 lanes
108+00		114+00	On Cut	Y4RPC merges to 1 lane then attaches to Y4 = 3 lanes
114+00		116+00	On Cut	Y4EB narrows to two lanes, two shoulders
116+00		117+00	On Cut	Y4EB 2 lanes, 2 shoulders
117+00		120+00	On Fill	Shoulders upgraded
120+00		135+00	On Cut	Shoulders upgraded
135+00		143+00	On Fill	Shoulders upgraded

Geology

This segment, like the rest of the project, is within the Charlotte Belt metamorphic terrain. The metamorphic "grain" runs northeast, southwest, with the direction of maximum variability at 90 degrees to that.

Soil

A summary table of the soil follows below. There is really not much difference between the eastbound and westbound sides, so they were not separated. The soil refers to what is below the -Y4- roadway fill.

Alignment	Station	to	Station	Note
-Y4-	27+00		40+00	Residual soil: silty sand.
-Y4-	40+00		48+00	Alluvium (5' A-7 over A-2-4) over residual soil.
-Y4-	48+00		49+50	Rock, EB side, Alluvium, WB side
-Y4-	49+50		65+50	Rock EB side, Alluvium, WB side
-Y4-				

The -Y4- alignment was part of the earliest sections of I-40 in North Carolina, and was built in the late 1950's or early 1960's. In areas of alluvial soil, any settlement is long over. Though areas of erosion from water sheeting off the pavement and down embankment slopes were seen,

no embankment failures related to subgrade failures were identified. The alluvial soil may be a construction issue.

No settlement issues are anticipated from the residual soil beneath the embankments.

Rock

Because on this segment's construction is widening, existing cut slopes are pushed back. Rock is only anticipated in the limited areas that already have rock exposures. The sections with significant exposures of predicted rock are listed in the table, below.

Alignment	Station	to	Station	Note
-Y4EB-	48+50		52+00	Above grade, in cut
-Y4EB-	55+00		57+50	Above grade, in cut

Because it is Winston Salem, there will be other rock exposed during construction.

All-Weather Spring-Fed Seeps or Streams:

The location of the water features was recorded in a table within the Physiography and Geology section above. Comments are made here regarding some particular topics.

- Y4WB- 40+00 to -Y4WB-46+00: persistent stream on right side of alignment, portrayed as covered by the new embankment. Evidence of erosion of the toe of this slope was noticed.
- Y4WB- 50+00 to -Y4WB-55+00: 3rd order stream portrayed as covered by the new embankment. Evidence of the erosion of the toe of this slope was noticed.
- Y4WB- 55+00 to -Y4WB-66+00: 3rd order stream portrayed as intermittently covered by the new embankment. Evidence of erosion of the toe of this slope was noticed.
- Y4WB- 40+00 to -Y4WB-66+00: The road is on embankment, with the fill slope dropping to the edge of an unnamed stream, until -Y4WB-46+50, where Smith Creek comes under the road, and occupies a position adjacent to the toe of the fill slope. For this entire interval, a series of fish hatchery ponds, held back by 5' earthen dams or berms, have been constructed with water level elevations 9 feet above the stream elevation.
- Y4WB- 40+00 to -Y4WB-66+00: The stream is pinned against the roadway embankment in an unnatural location. It is my interpretation that the stream was moved to the present location prior to fish hatchery construction, with a dike on each side built of excavation spoil.

Respectfully Submitted

Roger Q Callaway, L.G.

8/17/99

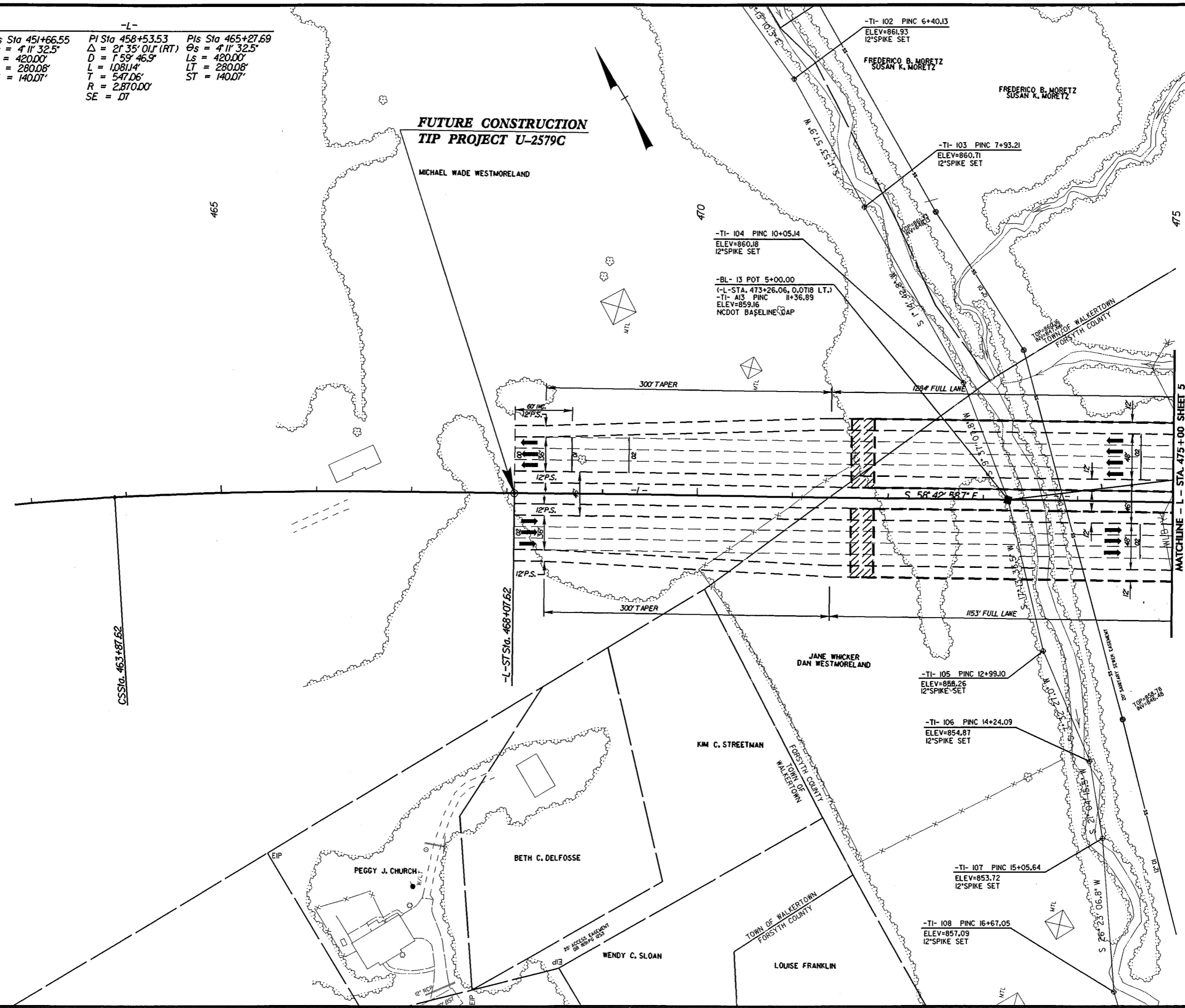
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REVISIONS

-L-

PIs Sta 451+66.55	PI Sta 458+53.53	PIs Sta 465+27.69
$\theta_s = 4' 11'' 32.5''$	$\Delta = 2' 35'' 01'' (RT)$	$\theta_s = 4' 11'' 32.5''$
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	$R = 2,870.00'$	
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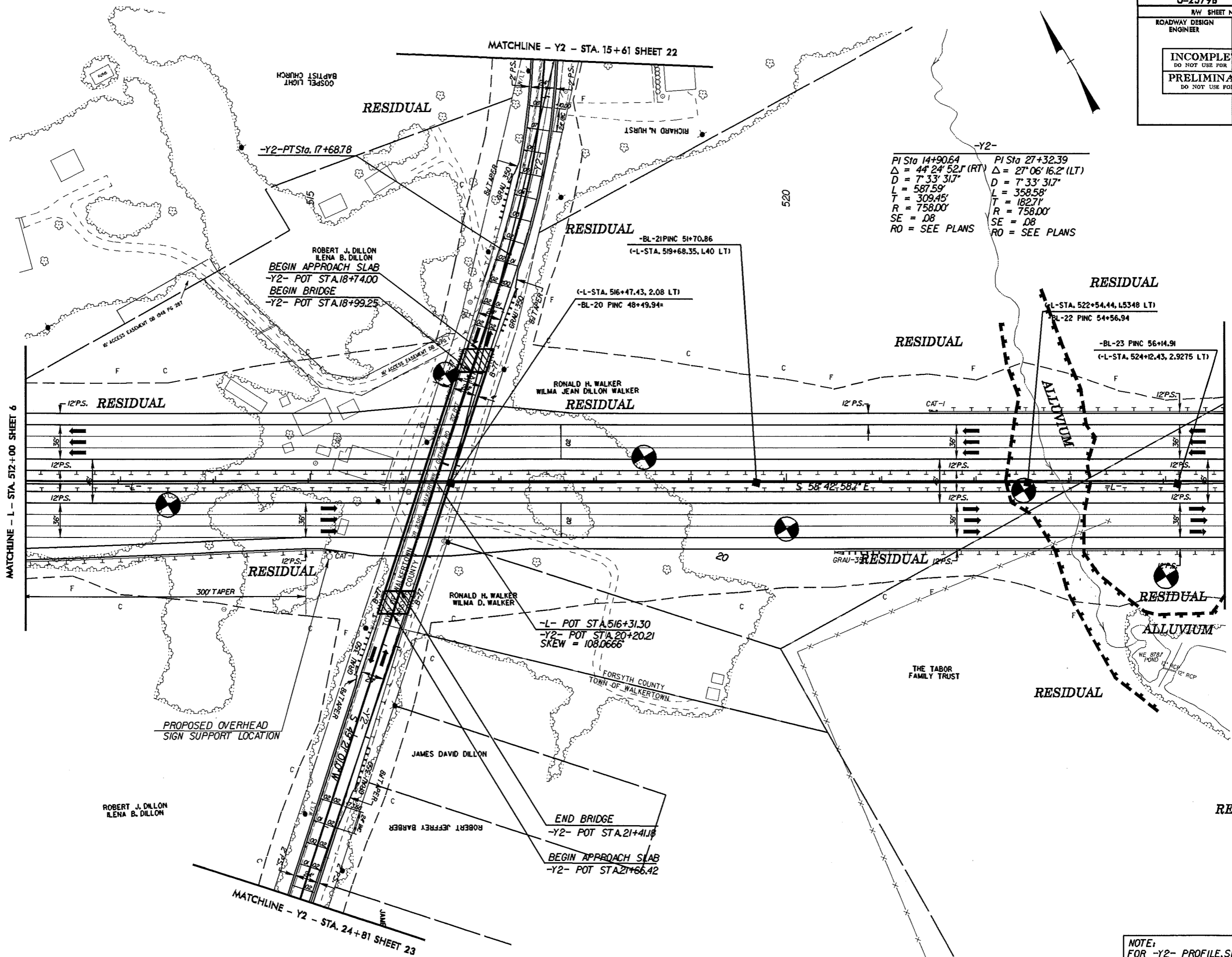
**FUTURE CONSTRUCTION
TIP PROJECT U-2579C**



PROJECT REFERENCE NO. U-2579B	SHEET NO. 4
RDW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NOTE :
FOR -L- PROFILE, SEE SHEET 32

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	7
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



NOTE:
 FOR -Y2- PROFILE, SEE SHEET 49
 FOR -L- PROFILE, SEE SHEET 33 - 34

REVISIONS

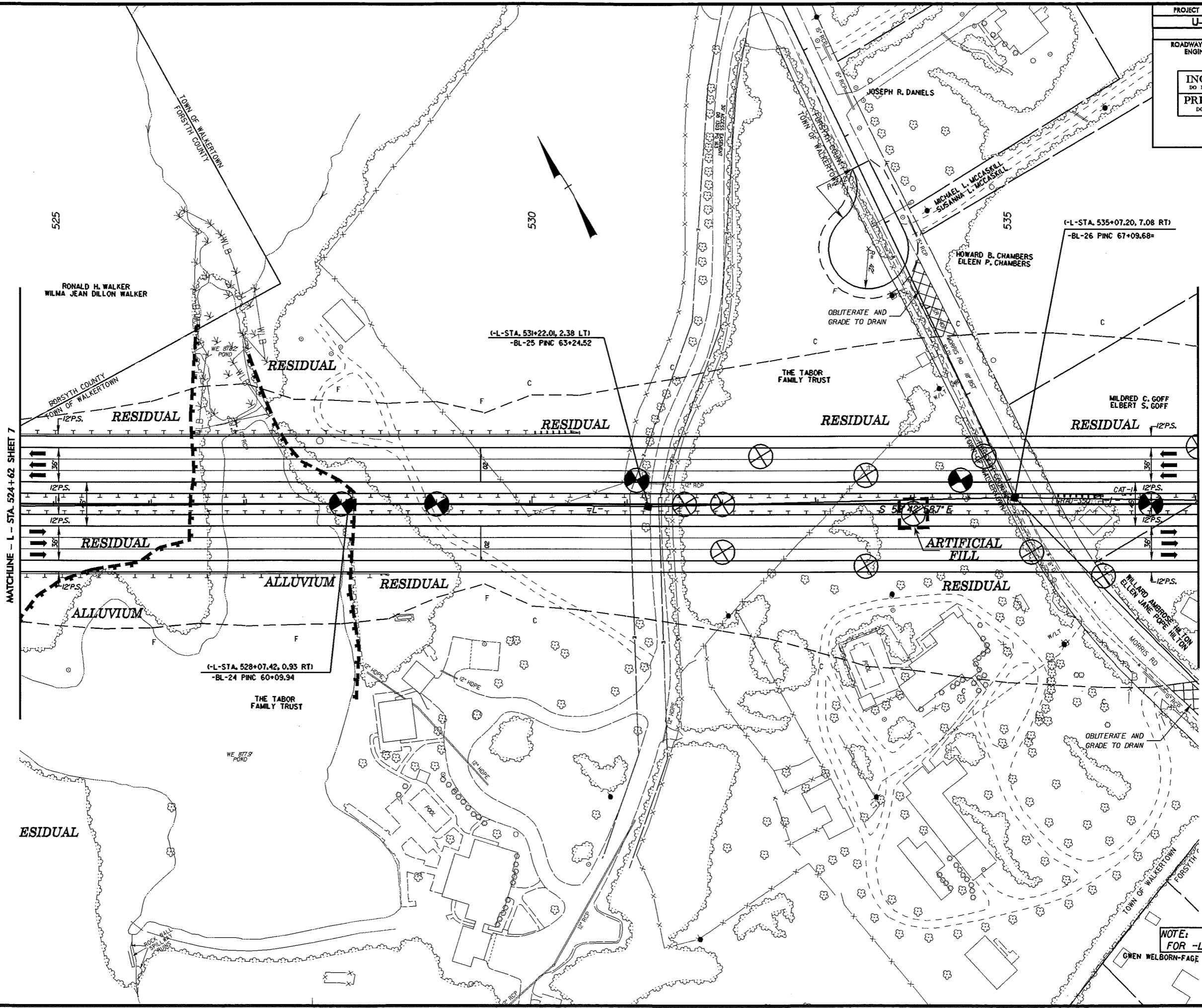
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 8/17/99

REVISIONS

PROJECT REFERENCE NO. U-2579B	SHEET NO. 8
RAW SHEET NO.	
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



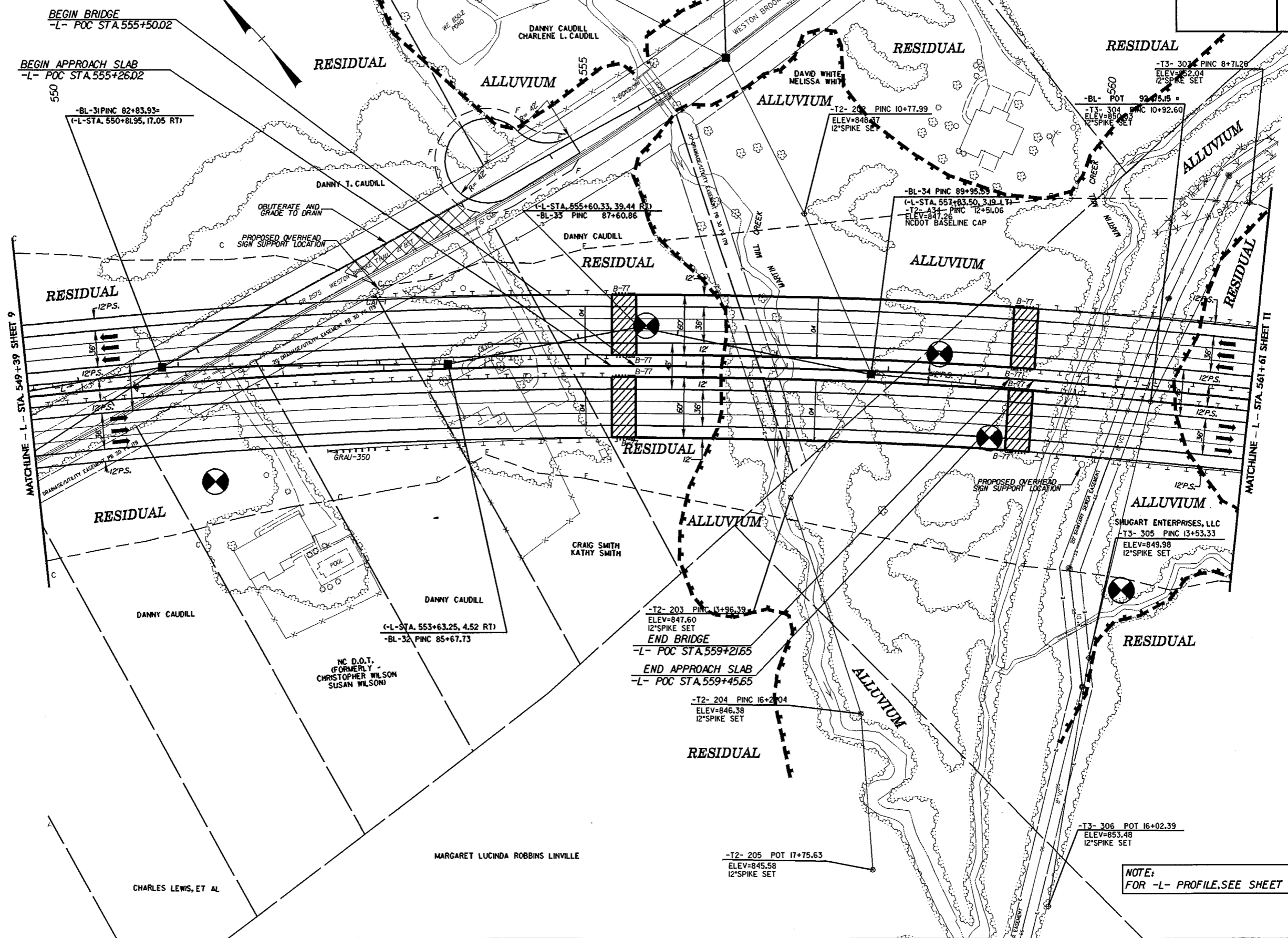
NOTE:
 FOR -L- PROFILE, SEE SHEET 34

8/17/99

25 JUL 2008 14:36 \\s:\projects\12579B\GEO\inv_010_sht10.dgn

-L-
 PIs Sta 543+50.33 PI Sta 576+22.74 PIs Sta 603+37.20
 Os = 1' 11" 52.2" Δ = 58' 09" 46.4" (RT) Os = 1' 11" 52.2"
 Ls = 240.00' D = 0' 59" 53.5" Ls = 240.00'
 LT = 160.00' L = 5,826.87' LT = 160.00'
 ST = 80.00' T = 3,192.41' ST = 80.00'
 R = 5,740.00'
 SE = D4

PROJECT REFERENCE NO. U-2579B	SHEET NO. 10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



NOTE:
FOR -L- PROFILE, SEE SHEET 35

8/17/99

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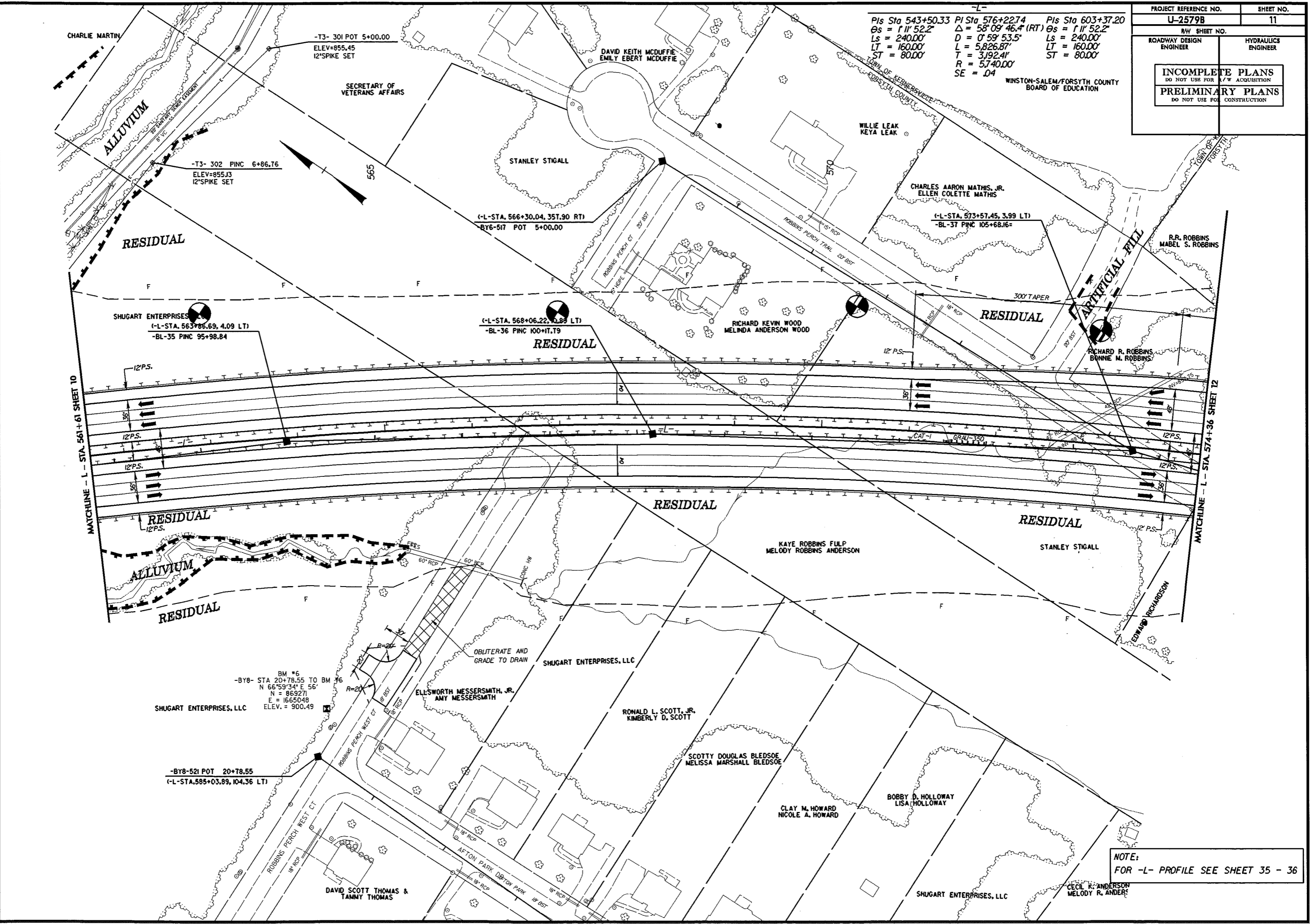
REVISIONS

-L-

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$\theta_s = 111^\circ 52.2'$	$\Delta = 58^\circ 09' 46.4" (RT)$	$\theta_s = 111^\circ 52.2'$
$L_s = 240.00'$	$D = 0^\circ 59' 53.5"$	$L_s = 240.00'$
$LT = 160.00'$	$L = 5,826.87'$	$LT = 160.00'$
$ST = 80.00'$	$T = 3,924.1'$	$ST = 80.00'$
	$R = 5,740.00'$	
	$SE = .04$	

PROJECT REFERENCE NO. U-2579B	SHEET NO. 11
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

WINSTON-SALEM/FORSYTH COUNTY BOARD OF EDUCATION

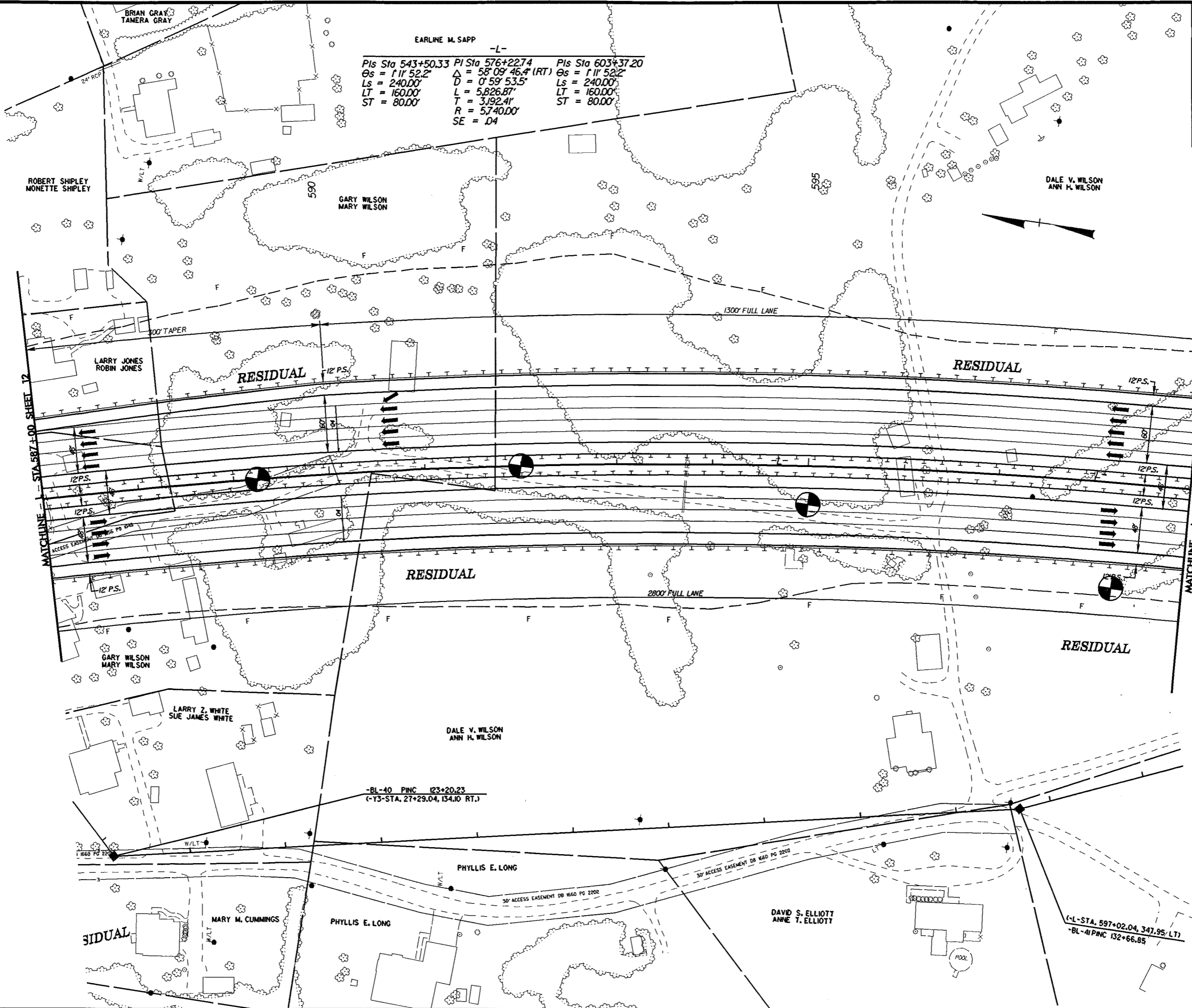


NOTE:
FOR -L- PROFILE SEE SHEET 35 - 36

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

EARLINE M. SAPP -L-

Pls Sta 543+50.33	PI Sta 576+22.74	Pls Sta 603+37.20
$\theta_s = 111^\circ 52.2'$	$\Delta = 58^\circ 09' 46.4" (RT)$	$\theta_s = 111^\circ 52.2'$
$L_s = 240.00'$	$D = 0^\circ 59' 53.5"$	$L_s = 240.00'$
$LT = 160.00'$	$L = 5,826.87'$	$LT = 160.00'$
$ST = 80.00'$	$T = 3,192.41'$	$ST = 80.00'$
	$R = 5,740.00'$	
	$SE = 04$	



MATCHLINE - L - STA. 587+00 SHEET 12

MATCHLINE - L - STA. 599+00 SHEET 14

-BL-40 P/NC 123+20.23
(-Y3-STA. 27+29.04, 134.10 RT.)

(-L-STA. 597+02.04, 347.95/ LT)
-BL-41 P/NC 132+66.85

FOR -L- PROFILE, SEE SHEET 37

REVISIONS

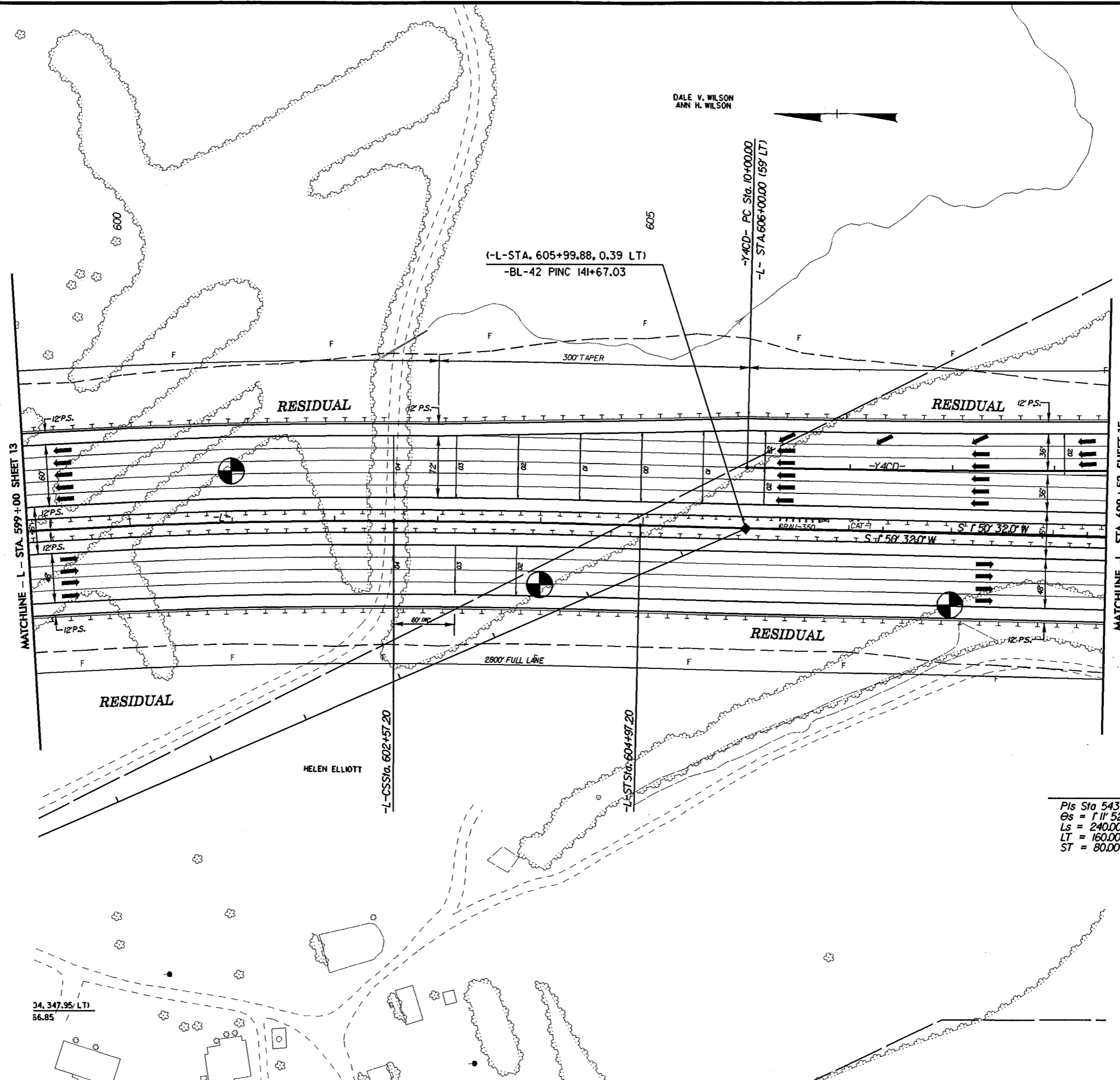
29 JUL 2008 14:52
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PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

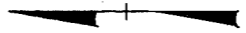
8/17/99

REVISIONS

29 JUL 2008 14:43
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 24.347.95(LT)
 66.85



DALE V. WILSON
ANN H. WILSON



-L-

PI Sta 543+50.33	PI Sta 576+22.74	PI Sta 603+37.20
$\theta_s = 11^\circ 52.2'$	$\Delta = 58^\circ 09' 46.4''$ (RT)	$\theta_s = 11^\circ 52.2'$
$L_s = 240.00'$	$D = 0^\circ 59' 53.5''$	$L_s = 240.00'$
$LT = 160.00'$	$L = 5,826.87'$	$LT = 160.00'$
$ST = 80.00'$	$T = 3,192.41'$	$ST = 80.00'$
	$R = 5,740.00'$	
	$SE = 0.04$	

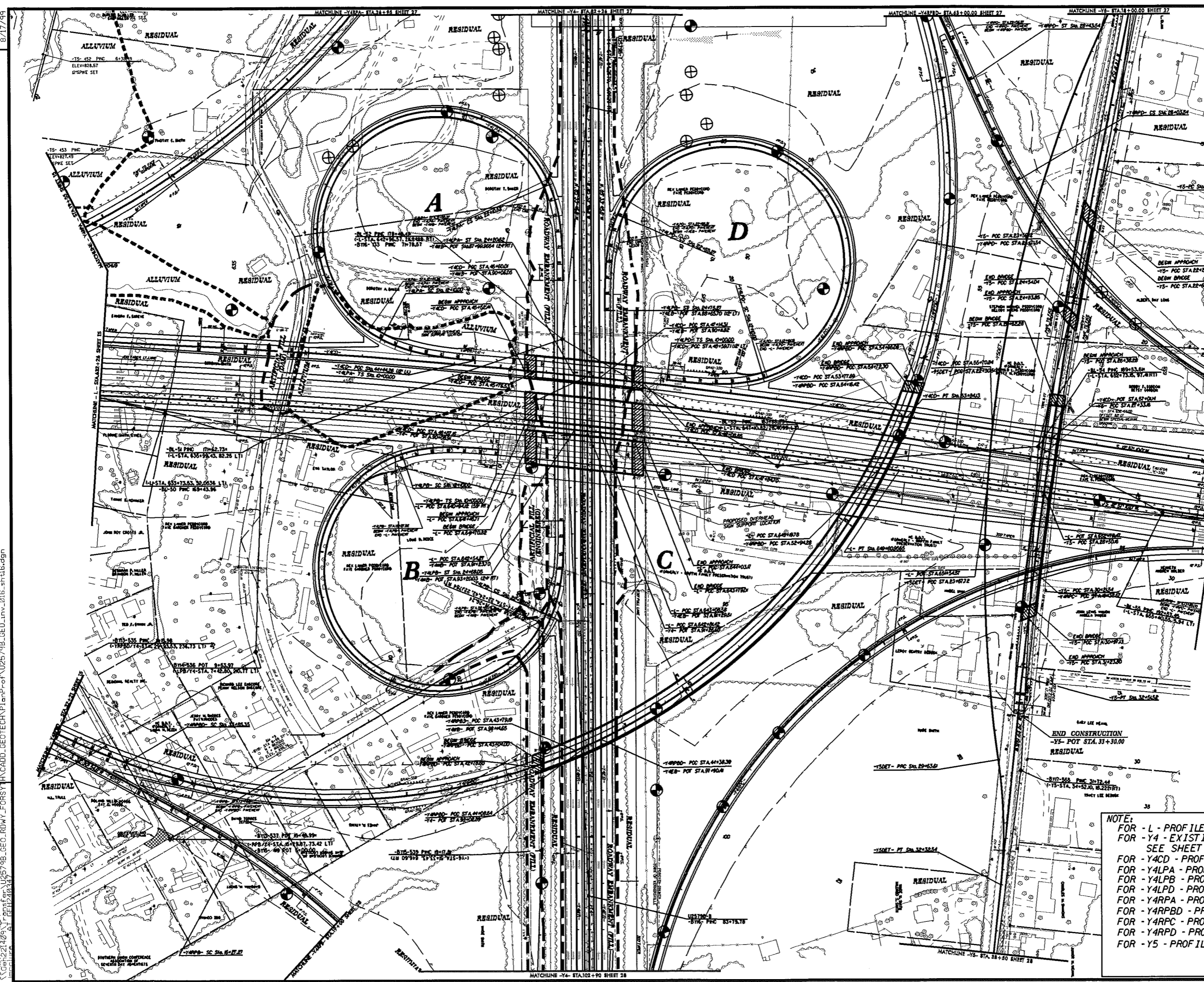
-Y4CD-

PI Sta 13+57.81
$\Delta = 3^\circ 24' 57.0''$ (LT)
$D = 0^\circ 28' 38.9''$
$L = 715.41'$
$T = 357.81'$
$R = 12,000.00'$

NOTE:
 FOR -L- PROFILE, SEE SHEET 36 - 37
 FOR -Y4CD- PROFILE, SEE SHEET 54
 FOR -Y4RPB- PROFILE, SEE SHEET 65

03-MAY-2016 14:34
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 8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	16
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Y4PA		
Pc Sta 81400.00	Pc Sta 81400.00	Pc Sta 81400.00
Ls = 200.00	D = 2.0000	Ls = 200.00
Lt = 140.00	A = 1.0000	Lt = 140.00
St = 710.00	SE = .06	St = 710.00

Y4PB		
Pc Sta 81400.00	Pc Sta 81400.00	Pc Sta 81400.00
Ls = 200.00	D = 2.0000	Ls = 200.00
Lt = 140.00	A = 1.0000	Lt = 140.00
St = 710.00	SE = .06	St = 710.00

Y4PC		
Pc Sta 81400.00	Pc Sta 81400.00	Pc Sta 81400.00
Ls = 200.00	D = 2.0000	Ls = 200.00
Lt = 140.00	A = 1.0000	Lt = 140.00
St = 710.00	SE = .06	St = 710.00

Y4PD		
Pc Sta 81400.00	Pc Sta 81400.00	Pc Sta 81400.00
Ls = 200.00	D = 2.0000	Ls = 200.00
Lt = 140.00	A = 1.0000	Lt = 140.00
St = 710.00	SE = .06	St = 710.00

Y4PE		
Pc Sta 81400.00	Pc Sta 81400.00	Pc Sta 81400.00
Ls = 200.00	D = 2.0000	Ls = 200.00
Lt = 140.00	A = 1.0000	Lt = 140.00
St = 710.00	SE = .06	St = 710.00

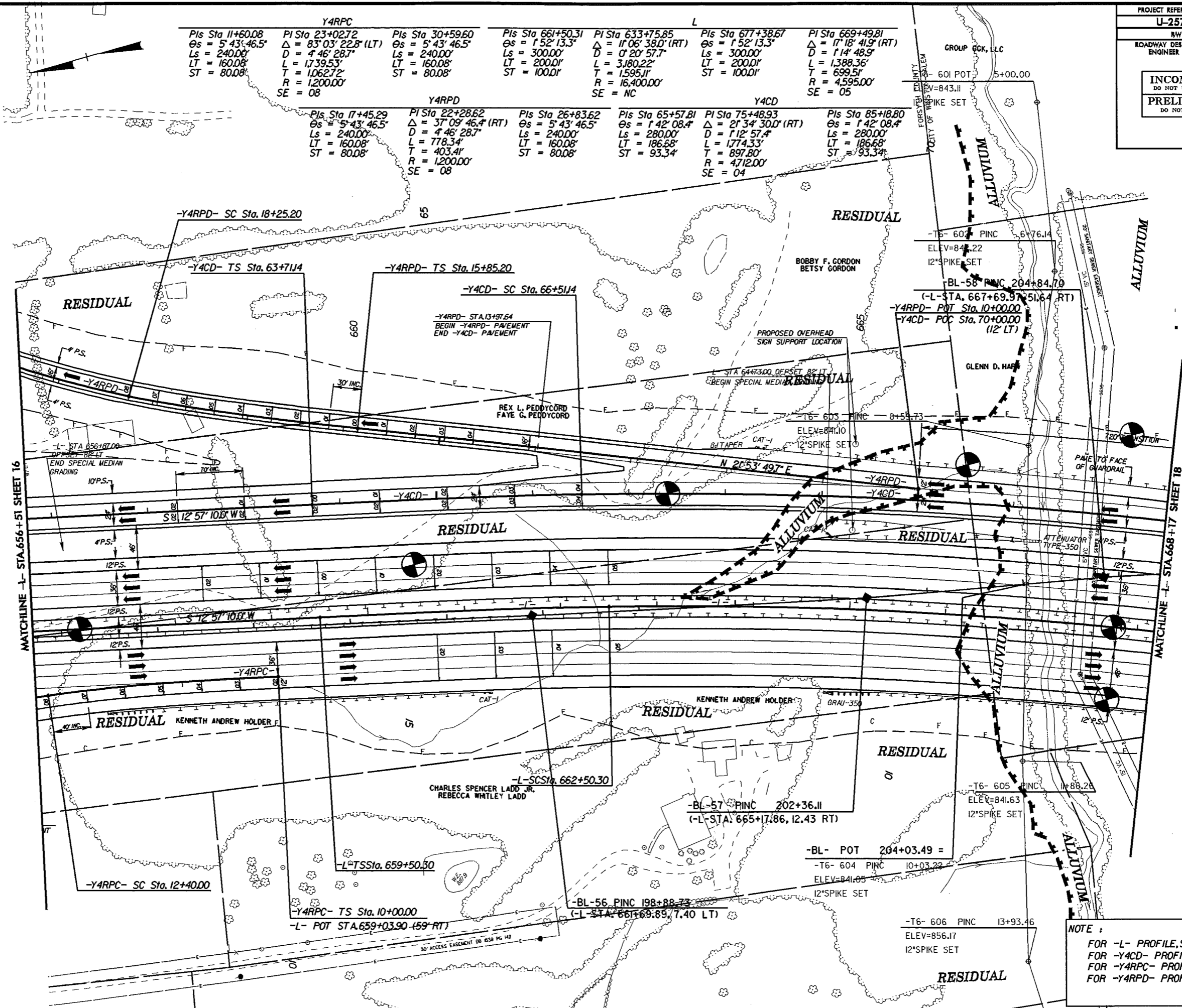
TRAFFIC DIAGRAM	
2010 ADT	4720
2030 ADT	6160
DHV = 10%	32600
DIR = 60%	43800
TTST = 12%	5360
DUAL = 6%	7280
53560	24660
79880	36980
-L- BELTLINE	6600
	4940
	11800
	5420
DHV = 10%	21300
DIR = 60%	27300
TTST = 6%	
DUAL = 5%	
-Y4- (US 421/40 BUS.)	

NOTE:
 FOR -L- PROFILE, SEE SHEET 38 - 39
 FOR -Y4- EXISTING GROUND PROFILE, SEE SHEET 50,51
 FOR -Y4CD- PROFILE, SEE SHEET 55-56
 FOR -Y4LPA- PROFILE, SEE SHEET 59
 FOR -Y4LPB- PROFILE, SEE SHEET 60
 FOR -Y4LPD- PROFILE, SEE SHEET 61
 FOR -Y4RPA- PROFILE, SEE SHEET 62-63
 FOR -Y4RPB- PROFILE, SEE SHEET 66 - 69
 FOR -Y4RPC- PROFILE, SEE SHEET 71-72
 FOR -Y4RPD- PROFILE, SEE SHEET 73-74
 FOR -Y5- PROFILE, SEE SHEET 77

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	17
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Y4RPC		Y4RPD		Y4CD		Y4RCD					
PIs Sta 11+60.08 Os = 5' 43' 46.5" Ls = 240.00' LT = 160.08' ST = 80.08'	PI Sta 23+02.72 Δ = 83' 03' 22.8' (LT) D = 4' 46' 28.7" L = 1739.53' T = 1062.72' R = 1200.00' SE = 08	PIs Sta 30+59.60 Os = 5' 43' 46.5" Ls = 240.00' LT = 160.08' ST = 80.08'	PIs Sta 17+45.29 Os = 5' 43' 46.5" Ls = 240.00' LT = 160.08' ST = 80.08'	PIs Sta 22+28.62 Δ = 37' 09' 46.4' (RT) D = 4' 46' 28.7" L = 778.34' T = 403.41' R = 1200.00' SE = 08	PIs Sta 26+83.62 Os = 5' 43' 46.5" Ls = 240.00' LT = 160.08' ST = 80.08'	PIs Sta 661+50.31 Os = 1' 52' 13.3" Ls = 300.00' LT = 200.01' ST = 100.01'	PIs Sta 633+75.85 Δ = 11' 06' 38.0' (RT) D = 0' 20' 57.7" L = 3180.22' T = 1595.11' R = 16400.00' SE = NC	PIs Sta 677+38.67 Os = 1' 52' 13.3" Ls = 300.00' LT = 200.01' ST = 100.01'	PIs Sta 75+48.93 Δ = 21' 34' 30.0' (RT) D = 1' 12' 57.4" L = 1774.33' T = 897.80' R = 4712.00' SE = 04	PIs Sta 669+49.81 Δ = 17' 18' 41.9' (RT) D = 1' 14' 48.9" L = 1388.36' T = 699.51' R = 4595.00' SE = 05	PIs Sta 85+18.80 Os = 1' 42' 08.4" Ls = 280.00' LT = 186.68' ST = 93.34'



NOTE:
 FOR -L- PROFILE, SEE SHEET 39, 40
 FOR -Y4CD- PROFILE, SEE SHEET 56-57
 FOR -Y4RPC- PROFILE, SEE SHEET 71-72
 FOR -Y4RPD- PROFILE, SEE SHEET 73-74

REVISIONS

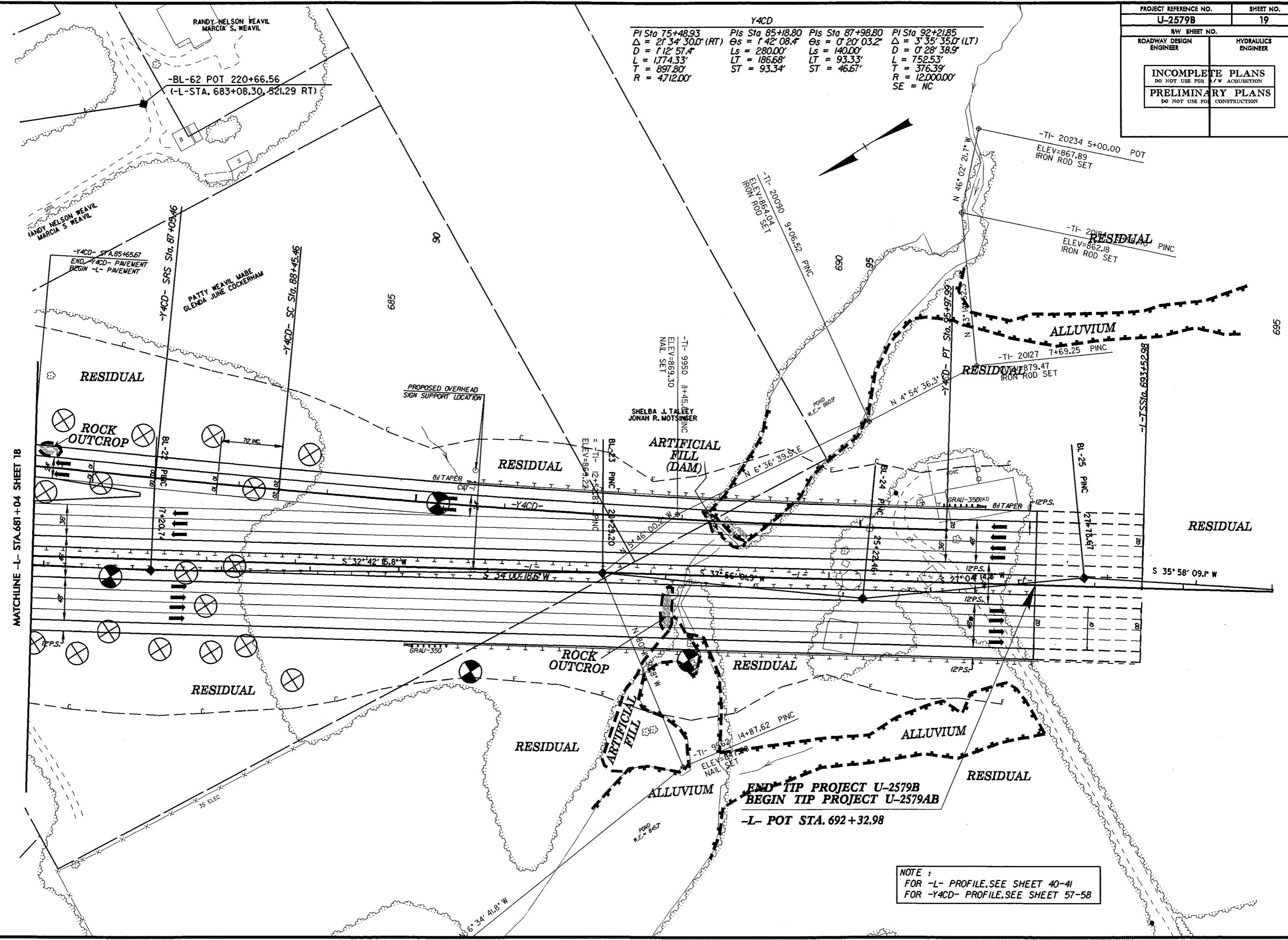
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8/17/99
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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	19
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Y4CD

PI Sta 75+48.93 Δ = 2° 34' 30.0" (RT) D = 112' 57.4" L = 1774.33' T = 897.80' R = 4712.00'	PIs Sta 85+18.80 Θs = 1° 42' 08.4" Ls = 280.00' LT = 186.68' ST = 93.34'	PIs Sta 87+98.80 Θs = 0° 20' 03.2" Ls = 140.00' LT = 93.33' ST = 46.67'	PI Sta 92+21.85 Δ = 3° 35' 35.0" (LT) D = 0° 28' 38.9" L = 752.53' T = 376.39' R = 12,000.00' SE = NC
---	--	---	---



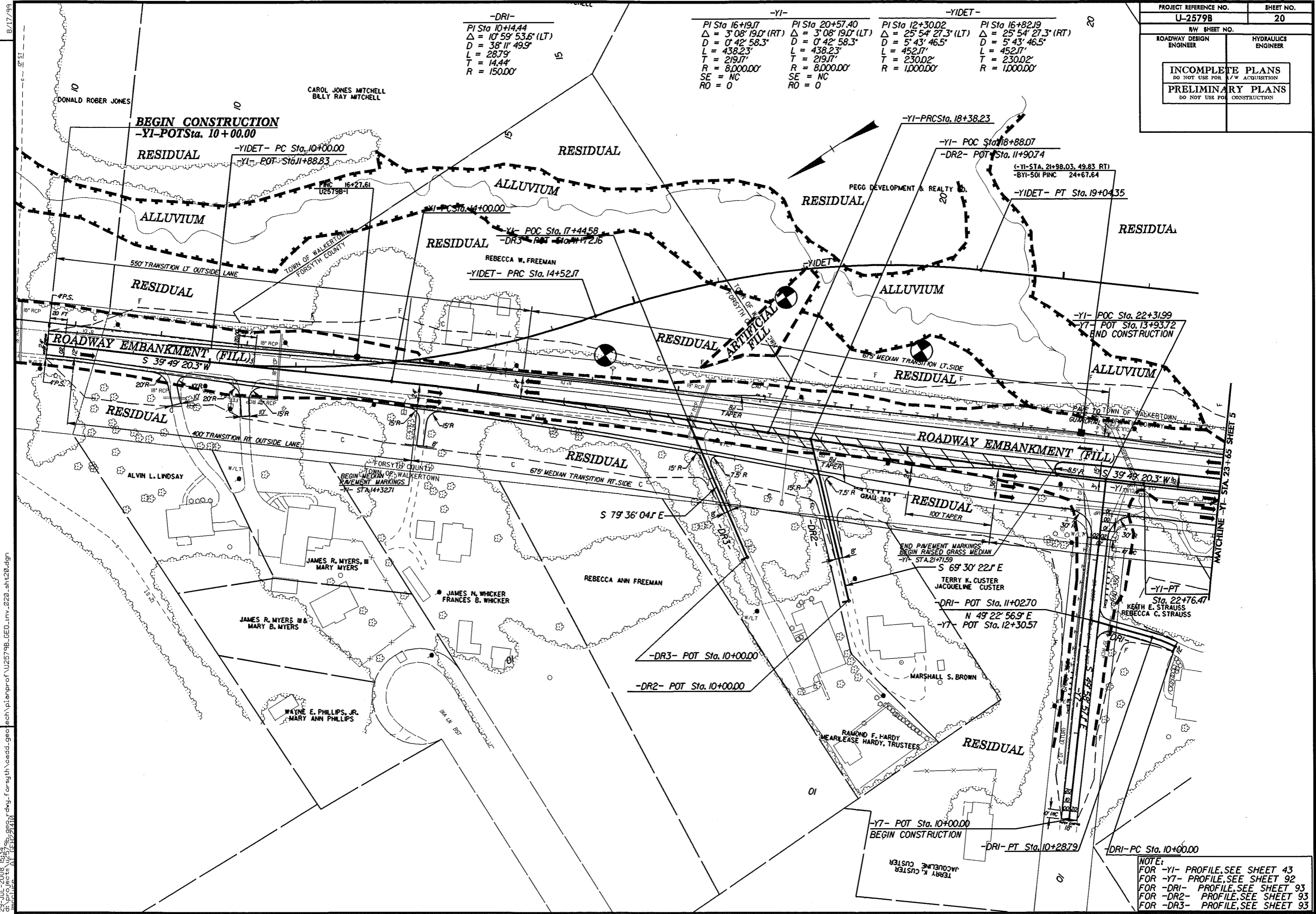
MATCHLINE -L- STA 681+04 SHEET 18

END TIP PROJECT U-2579B
BEGIN TIP PROJECT U-2579AB
 -L- POT STA. 692+32.98

NOTE :
 FOR -L- PROFILE, SEE SHEET 40-41
 FOR -Y4CD- PROFILE, SEE SHEET 57-58

REVISIONS

PROJECT REFERENCE NO. U-2579B	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-DRI-	-YI-	-YIDET-
PI Sta 10+14.44 Δ = 10° 59' 53.6" (LT) D = 38' 11" 49.9" L = 28.79' T = 14.44' R = 150.00'	PI Sta 20+57.40 Δ = 3° 08' 19.0" (RT) D = 0' 42' 58.3" L = 438.23' T = 219.17' R = 8,000.00' SE = NC RO = 0	PI Sta 12+30.02 Δ = 25° 54' 27.3" (LT) D = 5' 43' 46.5" L = 452.17' T = 230.02' R = 1,000.00'

NOTE:
FOR -YI- PROFILE, SEE SHEET 43
FOR -Y7- PROFILE, SEE SHEET 92
FOR -DRI- PROFILE, SEE SHEET 93
FOR -DR2- PROFILE, SEE SHEET 93
FOR -DR3- PROFILE, SEE SHEET 93

REVISIONS

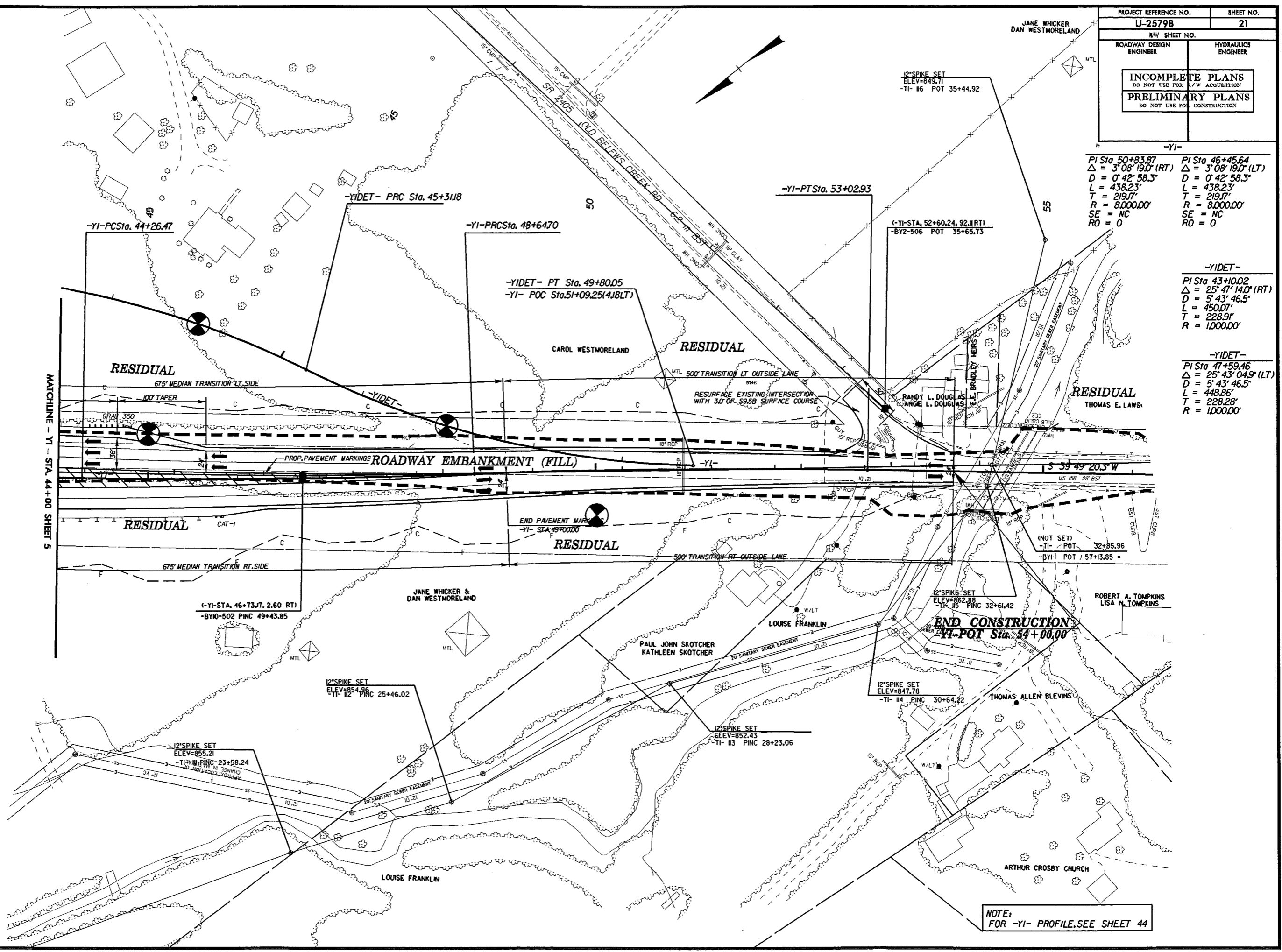
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REVISIONS

PROJECT REFERENCE NO. U-2579B	SHEET NO. 21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-YI-	-YI-
PI Sta 50+83.87	PI Sta 46+45.64
$\Delta = 3' 08' 19.0''$ (RT)	$\Delta = 3' 08' 19.0''$ (LT)
$D = 0' 42' 58.3''$	$D = 0' 42' 58.3''$
$L = 438.23'$	$L = 438.23'$
$T = 219.17'$	$T = 219.17'$
$R = 8,000.00'$	$R = 8,000.00'$
SE = NC	SE = NC
RO = 0	RO = 0

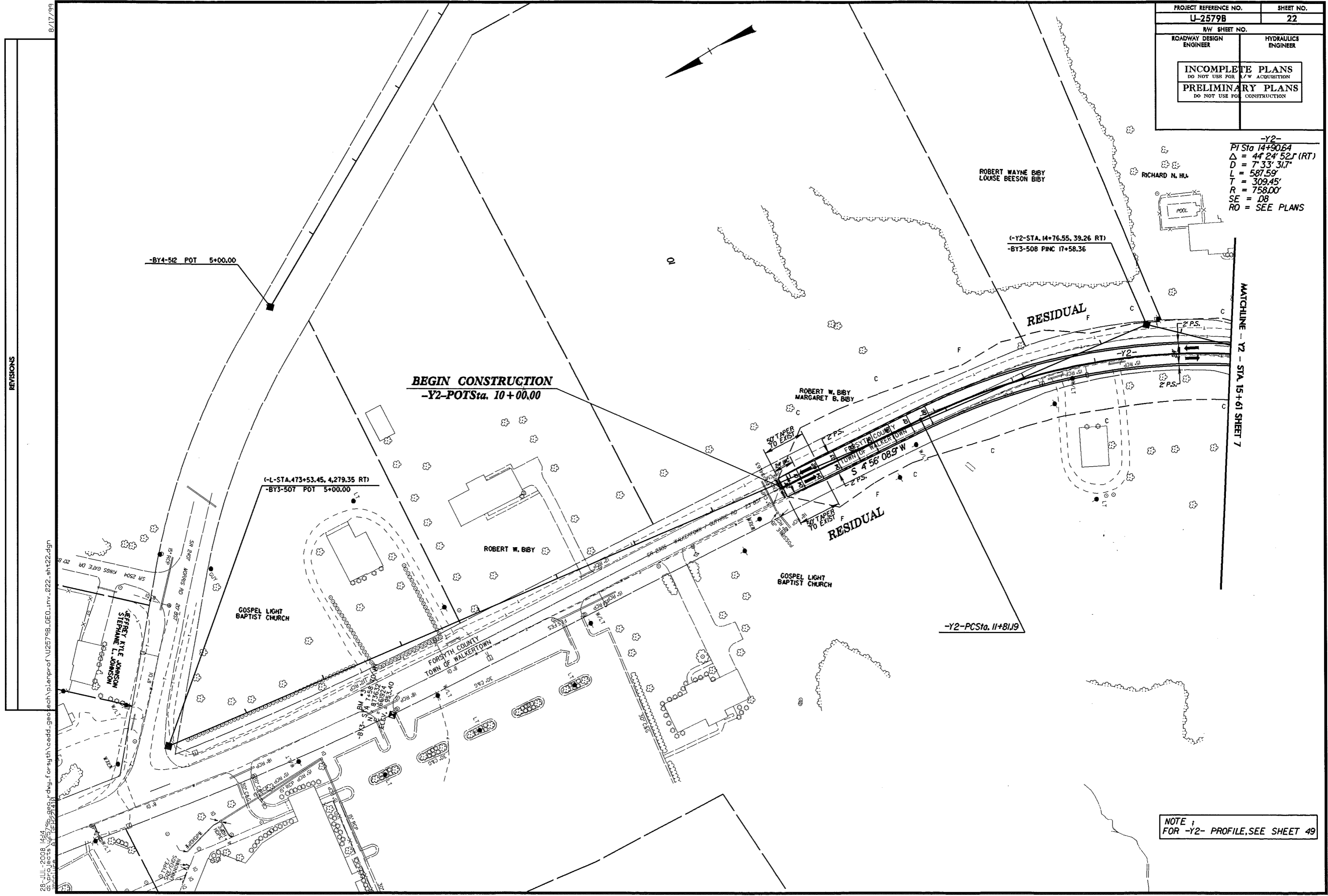
-YIDET-
PI Sta 43+10.02
$\Delta = 25' 47' 14.0''$ (RT)
$D = 5' 43' 46.5''$
$L = 450.07'$
$T = 228.91'$
$R = 1,000.00'$

-YIDET-
PI Sta 47+59.46
$\Delta = 25' 47' 04.9''$ (LT)
$D = 5' 43' 46.5''$
$L = 448.86'$
$T = 228.28'$
$R = 1,000.00'$

NOTE:
FOR -YI- PROFILE, SEE SHEET 44

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		22	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-Y2-
 PI Sta 14+90.64
 $\Delta = 44' 24' 52.1" (RT)$
 $D = 7' 33' 31.7"$
 $L = 587.59'$
 $T = 309.45'$
 $R = 758.00'$
 $SE = D8$
 $RO = SEE PLANS$



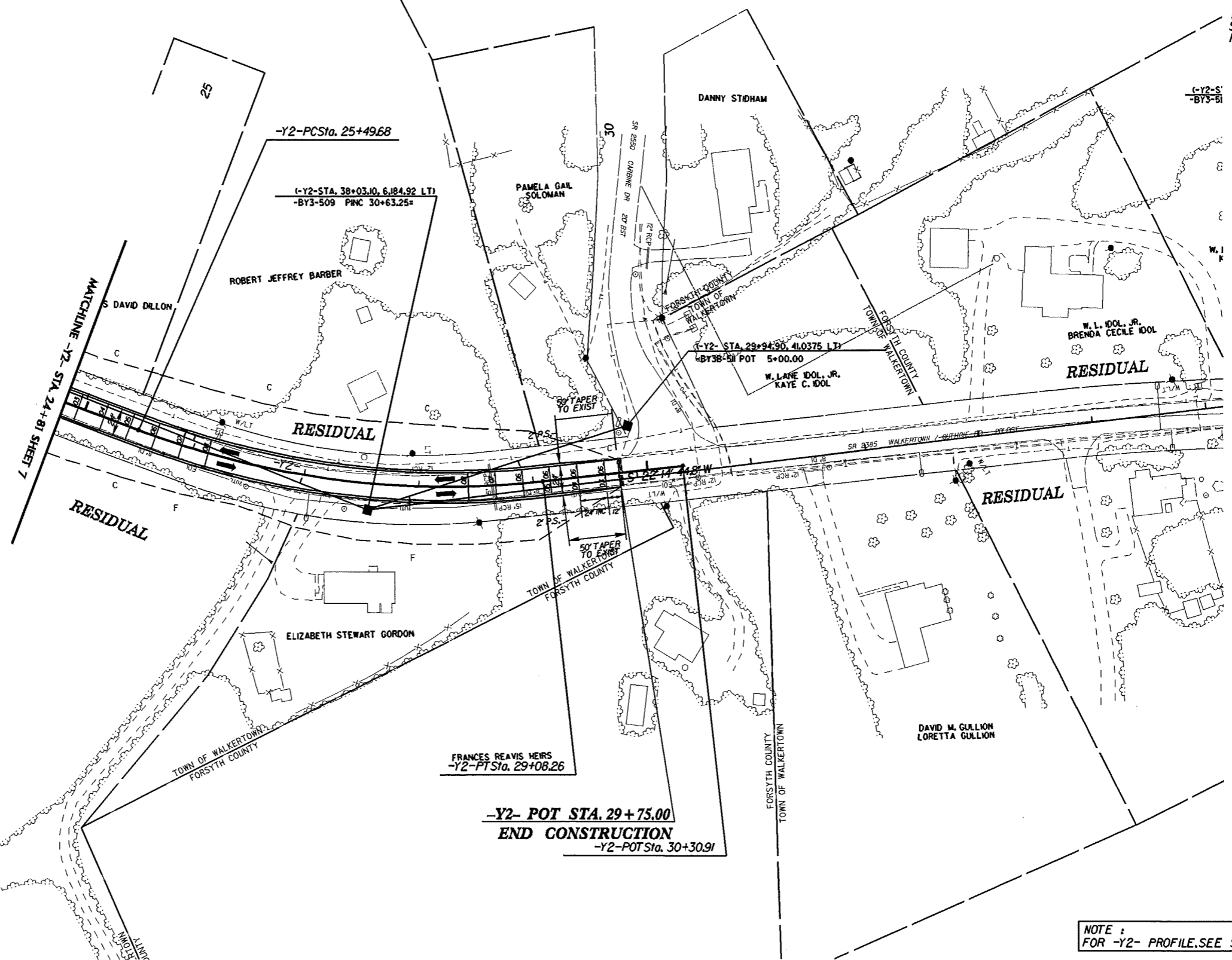
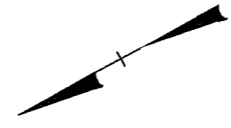
REVISIONS

28 JUL 2008 14:14 p... for-syth\cedd-geo\proj\prj\U2579B_GED Inv_022.sht22.dgn

NOTE:
 FOR -Y2- PROFILE, SEE SHEET 49

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-Y2-
 PI Sta 27+32.39
 $\Delta = 27^{\circ}06'16.2"$ (LT)
 $D = 7^{\circ}33'31.7"$
 $L = 358.58'$
 $T = 182.71'$
 $R = 758.00'$
 $SE = .08$
 $RO = \text{SEE PLANS}$



FRANCES REAVIS HEIRS
 -Y2-PT Sta. 29+08.26

-Y2- POT STA. 29+75.00
END CONSTRUCTION
 -Y2-POT Sta. 30+30.91

NOTE :
 FOR -Y2- PROFILE SEE SHEET 49

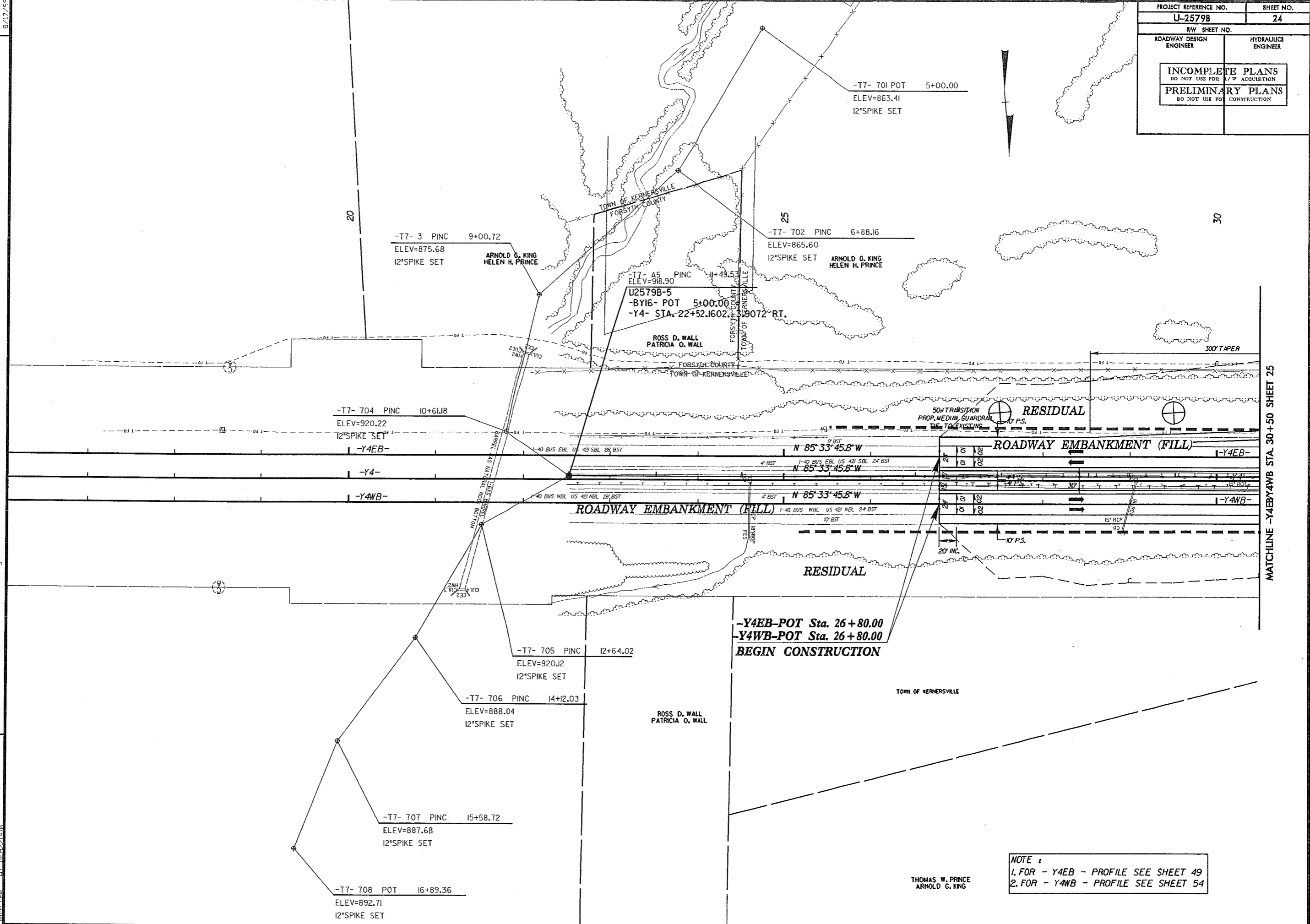
REVISIONS

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 8/17/99

PROJECT REFERENCE NO. U-2579B	SHEET NO. 24
RWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

REVISIONS

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-Y4EB-POT Sta. 26+80.00
-Y4WB-POT Sta. 26+80.00
BEGIN CONSTRUCTION

NOTE :
 1. FOR - Y4EB - PROFILE SEE SHEET 49
 2. FOR - Y4WB - PROFILE SEE SHEET 54

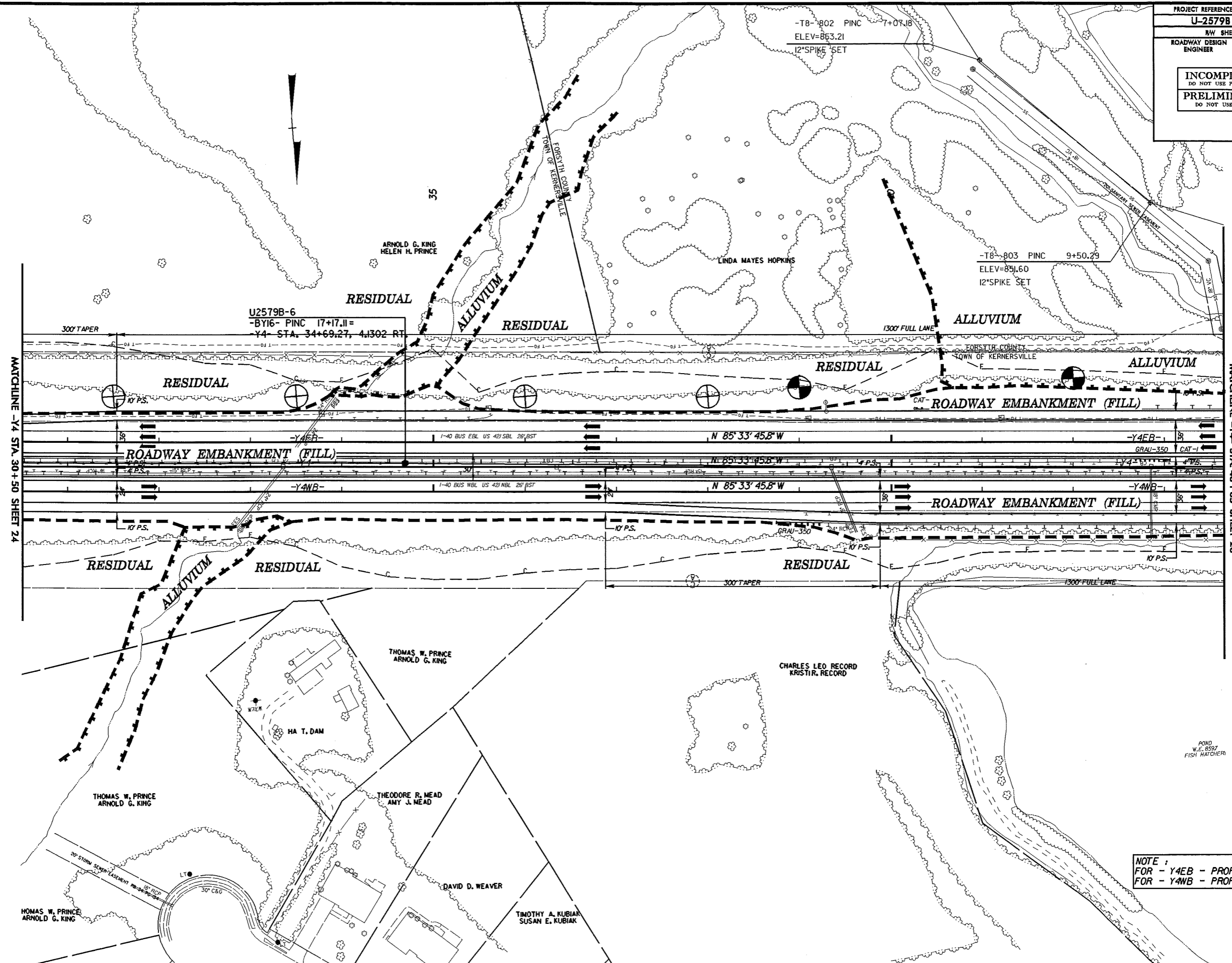
THOMAS W. PRINCE
 ARNOLD G. KING

MATCHLINE -Y4EBY4WB STA. 30+50 SHEET 25

8/17/99

29-JUL-2008 15:42
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U2579B-6

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		25	
RAW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

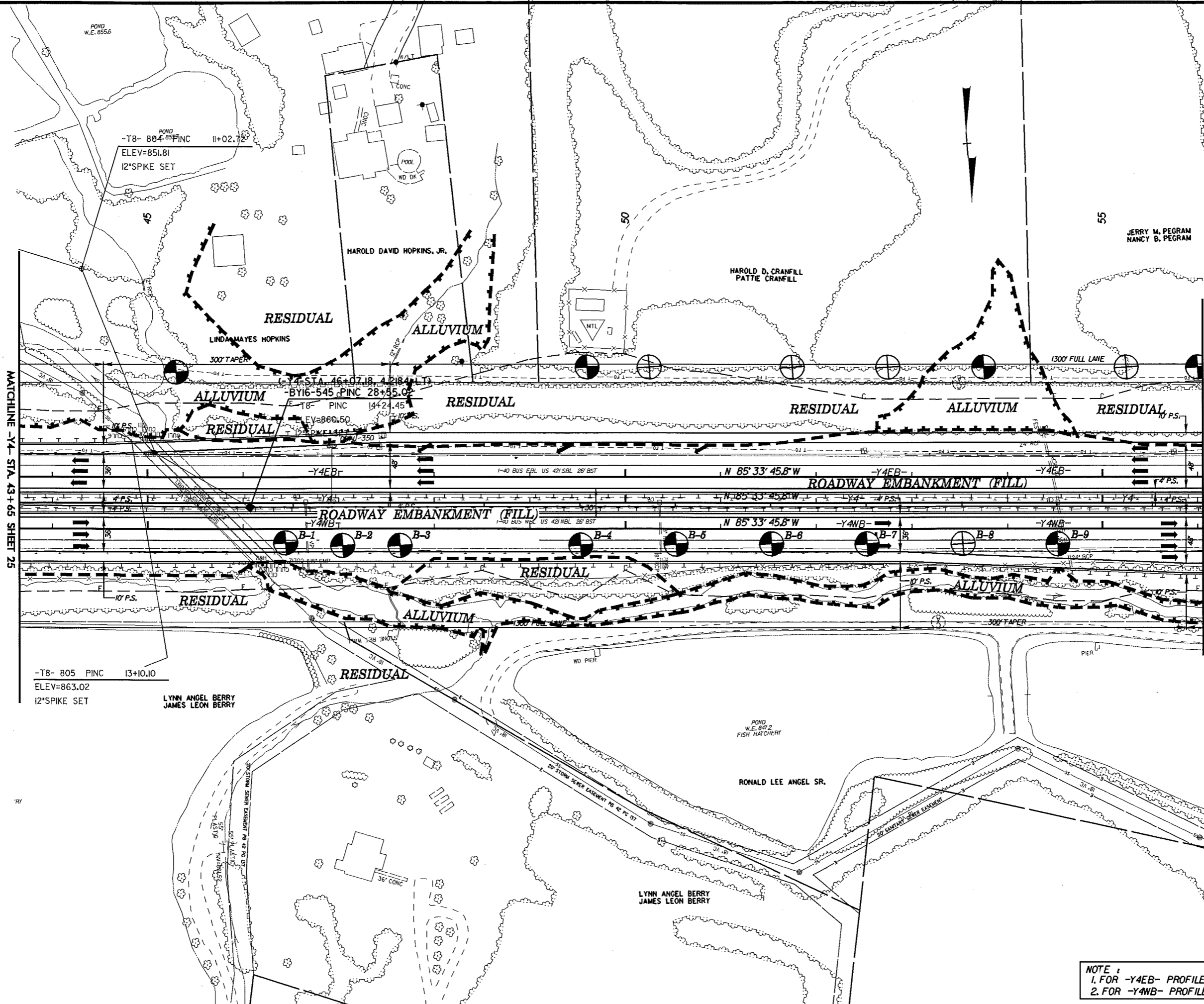


REVISIONS

NOTE:
FOR -Y4EB- PROFILE SEE SHEET 49
FOR -Y4NB- PROFILE SEE SHEET 54

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

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10-FEB-2010 13:25
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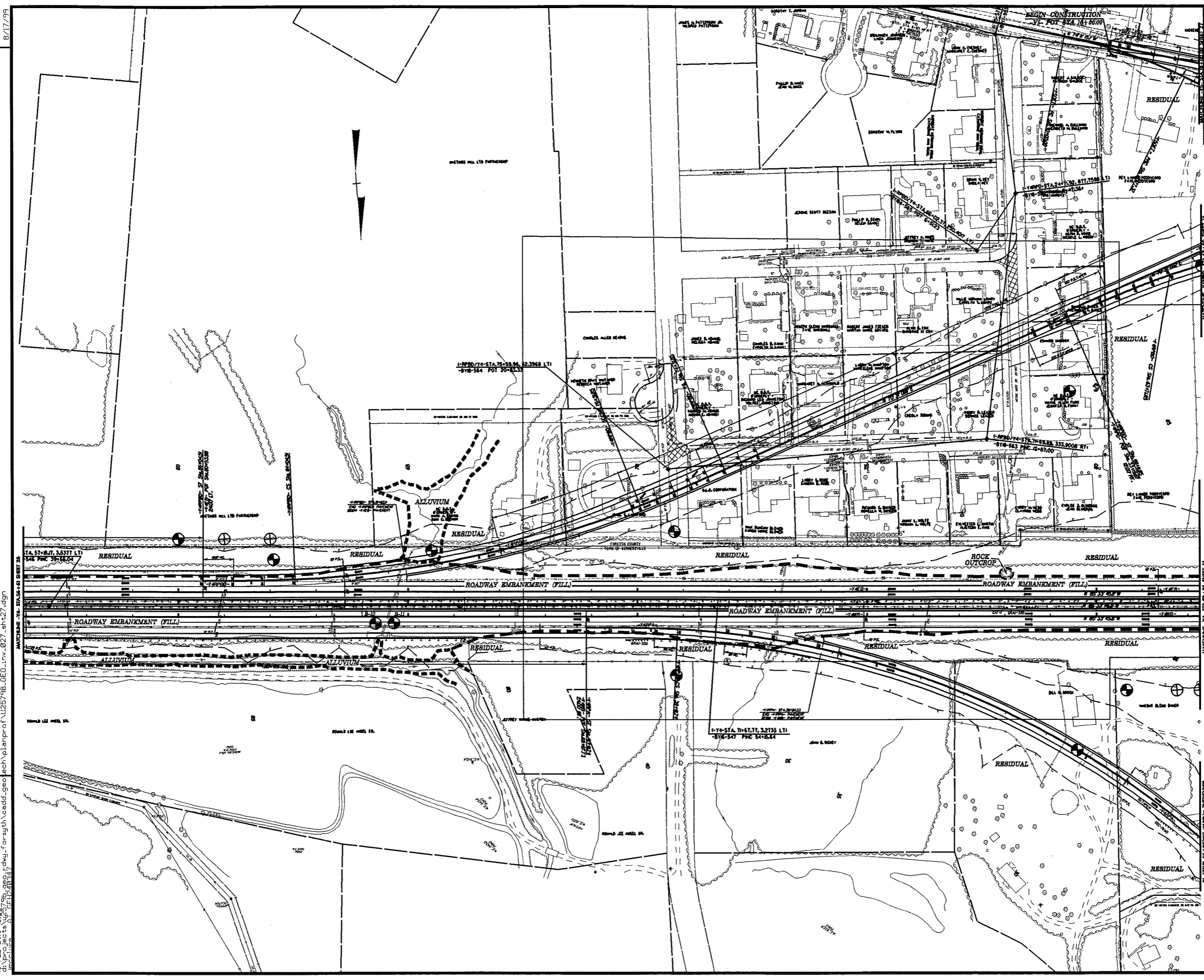


NOTE :
1. FOR -Y4EB- PROFILE SEE SHEET 49 & 50
2. FOR -Y4WB- PROFILE SEE SHEET 55

8/17/99

0-FEB-2010 13:56
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MATCHLINE -X- STA 44+43.50 SHEET 26
MATCHLINE -X- STA 82+25.00 SHEET 28

REVISIONS



PROJECT REFERENCE NO. U-2579B	SHEET NO. 27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

YARDP2		
PI Stn 33+05.42	PI Stn 33+52.42	PI Stn 34+12.00
Gr = 2.5% SLO	Gr = 0.5% SLO (RT)	Gr = 1.0% SLO
LE = 100.00'	LE = 100.00'	LE = 100.00'
ST = 8.66'	ST = 8.66'	ST = 8.66'
SE = 0.05'	SE = 0.05'	SE = 0.05'

YARDP3		
PI Stn 35+05.00	PI Stn 35+52.00	PI Stn 36+12.00
Gr = 2.5% SLO	Gr = 0.5% SLO (RT)	Gr = 1.0% SLO
LE = 100.00'	LE = 100.00'	LE = 100.00'
ST = 8.66'	ST = 8.66'	ST = 8.66'
SE = 0.05'	SE = 0.05'	SE = 0.05'

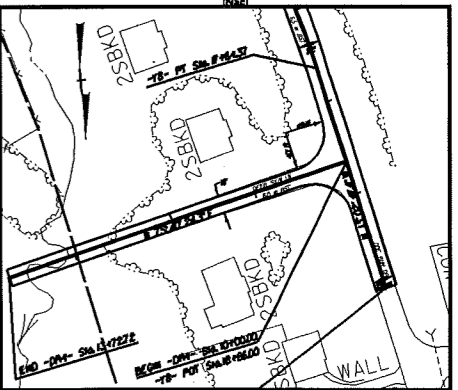
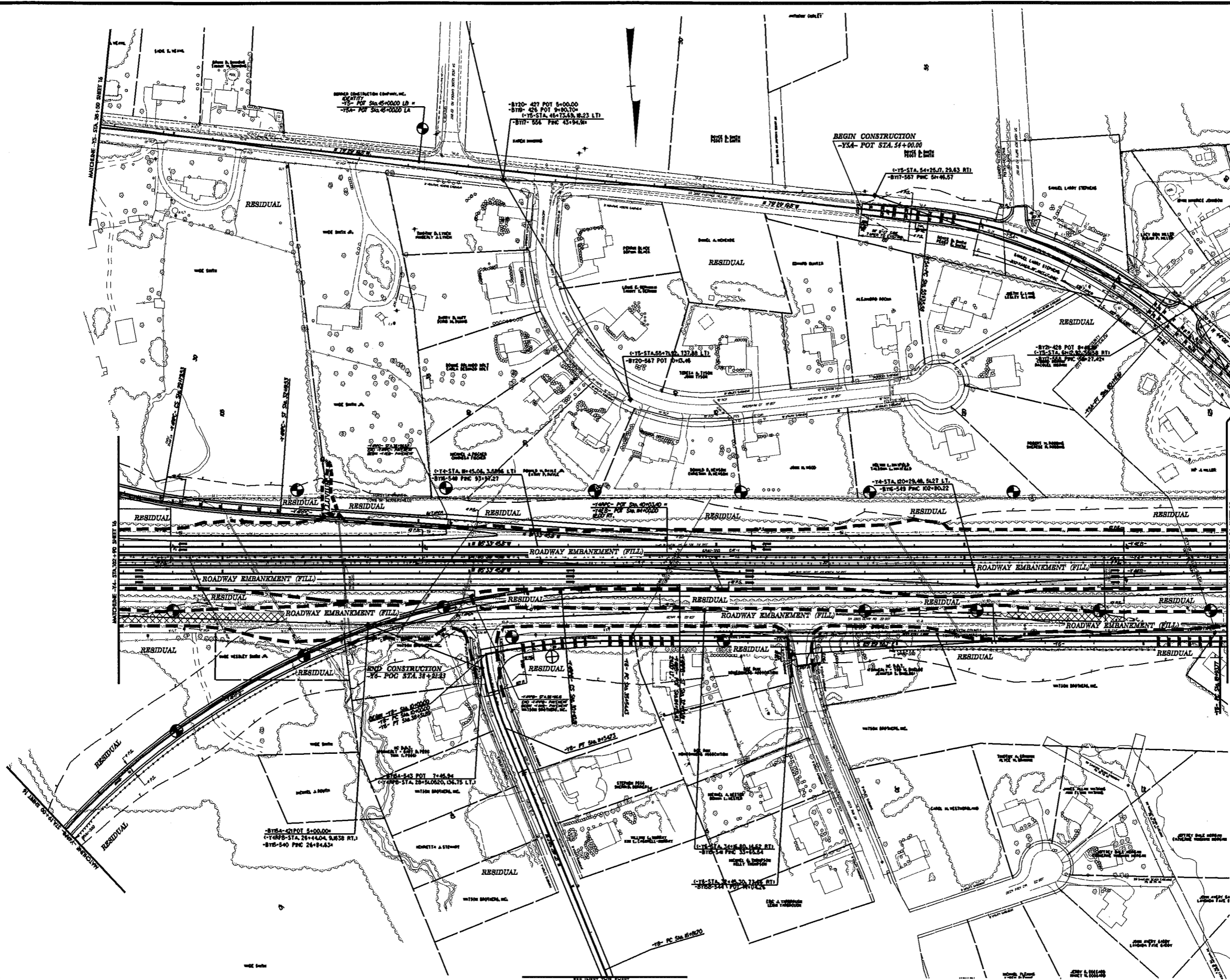
YARDP4		
PI Stn 37+11.33	PI Stn 37+58.33	PI Stn 38+08.00
Gr = 2.5% SLO	Gr = 0.5% SLO (RT)	Gr = 1.0% SLO
LE = 100.00'	LE = 100.00'	LE = 100.00'
ST = 8.66'	ST = 8.66'	ST = 8.66'
SE = 0.05'	SE = 0.05'	SE = 0.05'

YARDP5		
PI Stn 39+04.00	PI Stn 39+51.00	PI Stn 40+00.00
Gr = 2.5% SLO	Gr = 0.5% SLO (RT)	Gr = 1.0% SLO
LE = 100.00'	LE = 100.00'	LE = 100.00'
ST = 8.66'	ST = 8.66'	ST = 8.66'
SE = 0.05'	SE = 0.05'	SE = 0.05'

NOTE 1 - SEE PROFILE SHEET 40-51
 FOR -YARD- PROFILE SEE SHEET 45 & 58
 FOR -YARD- PROFILE SEE SHEET 63
 FOR -YARD- PROFILE SEE SHEET 69-70
 FOR -YARD- PROFILE SEE SHEET 74

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		28	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Y&C		Y&C		Y&C	
PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00
LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00
ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00
Y&C		Y&C		Y&C	
PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00
LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00
ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00
Y&C		Y&C		Y&C	
PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00	PC STA 5+00.00	PI STA 5+00.00
LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00	LC = 50.00
ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00	ST = 0.00



NOTE:
 FOR Y&C- PROFILE SEE SHEET 28-29
 FOR Y&C- PROFILE SEE SHEET 28-30
 FOR Y&C- PROFILE SEE SHEET 28-31
 FOR Y&C- PROFILE SEE SHEET 28-32

25 JUL -2008 16:00
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 8/17/99

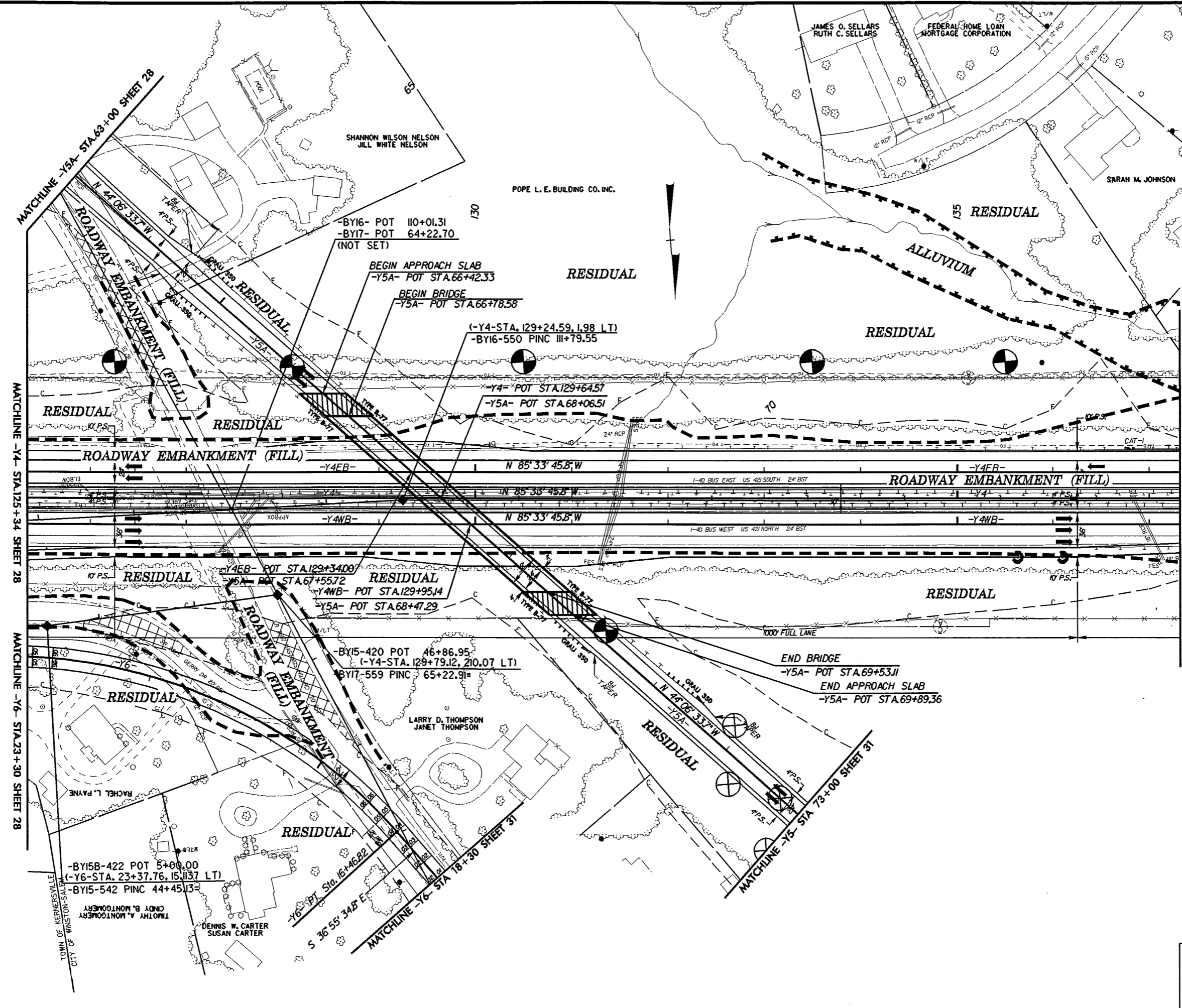
PROJECT REFERENCE NO. U-2579B	SHEET NO. 29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Y6
 PI Sta 21+34.27
 $\Delta = 48^{\circ} 34' 21.9" (LT)$
 $D = 10^{\circ} 44' 58.8"$
 $L = 451.85'$
 $T = 240.51'$
 $R = 533.00'$
 $SE = 0.06$
 $R0 = \text{SEE PLANS}$

8/17/99

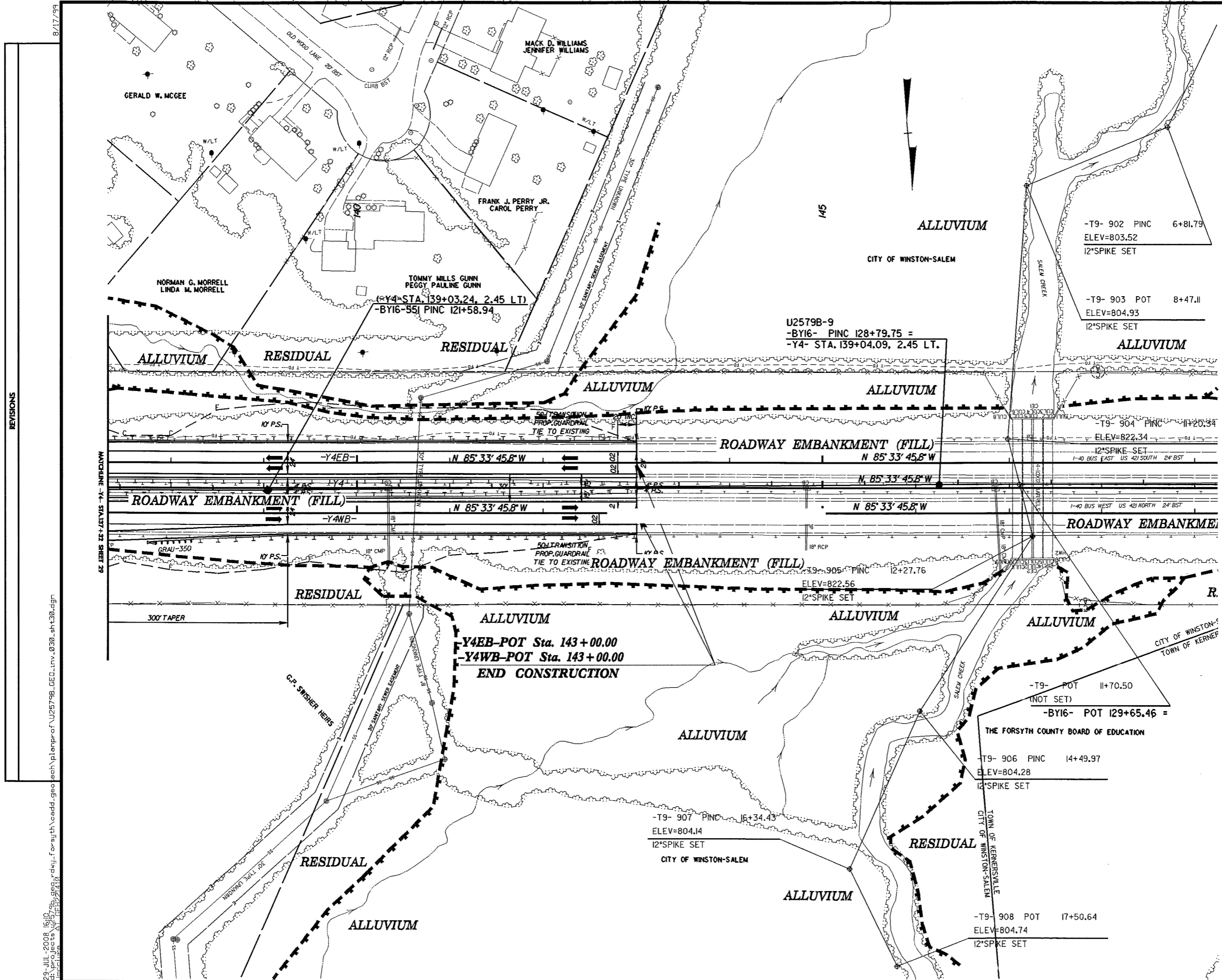
REVISIONS

29 JUL 2006 15:05
 25 c:\p1\proj\2579b\p1\proj\2579b\GEO\inv_029_sht29.dgn
 10:00:00 AM



NOTE :
 FOR -Y4EB- PROFILE, SEE SHEET 52-53
 FOR -Y4WB- PROFILE, SEE SHEET 57-58
 FOR -Y5- PROFILE, SEE SHEET 76-77
 FOR -Y6- PROFILE, SEE SHEET 89-91

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	30
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS

8/17/99
29 JUL 2008 15:19
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U:\2579B\GEO\inv_030_ah330.dgn

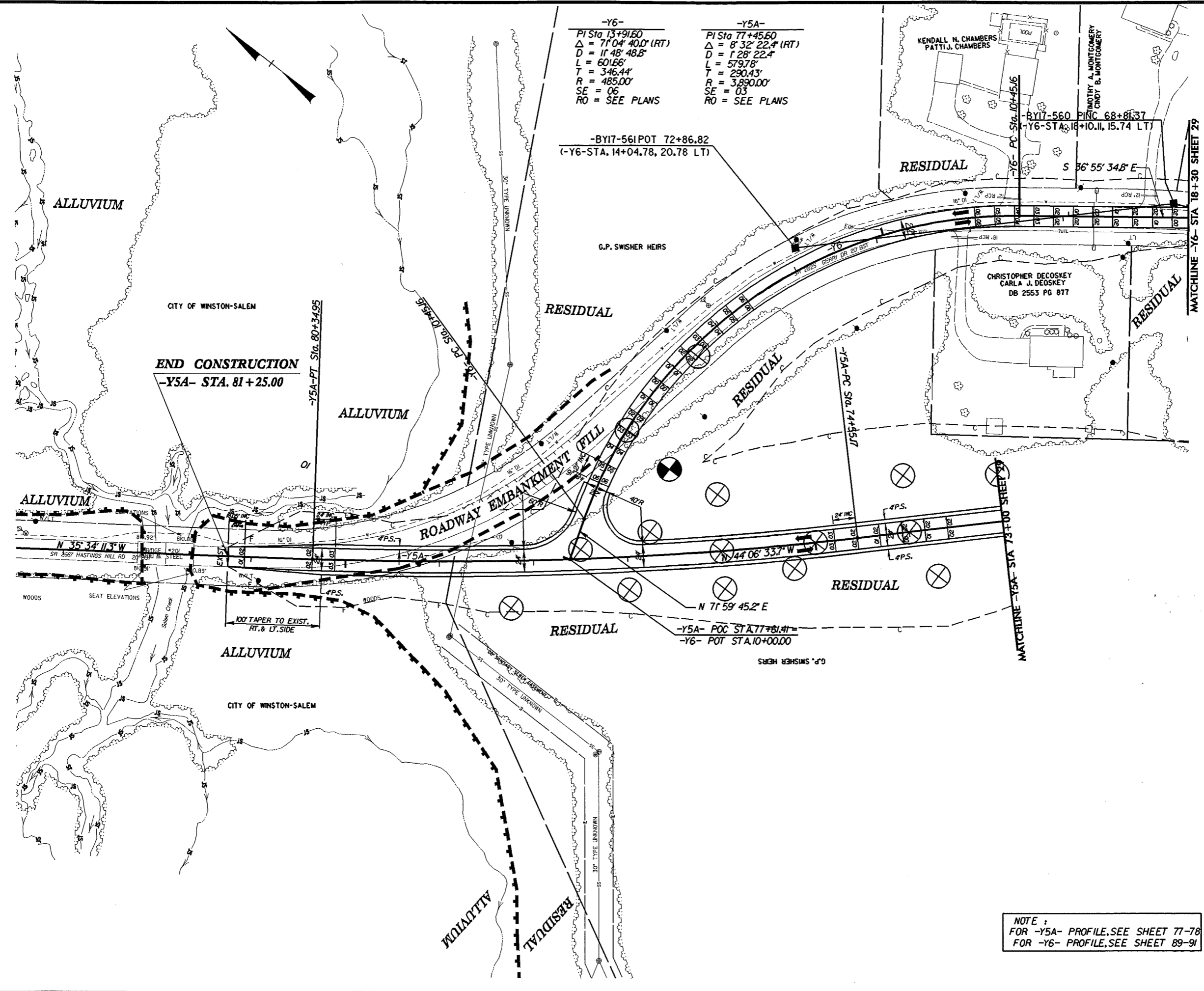
NOTE:
1. FOR -Y4EB- PROFILE, SEE SHEET 53
2. FOR -Y4WB- PROFILE, SEE SHEET 58

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

8/17/99

REVISIONS

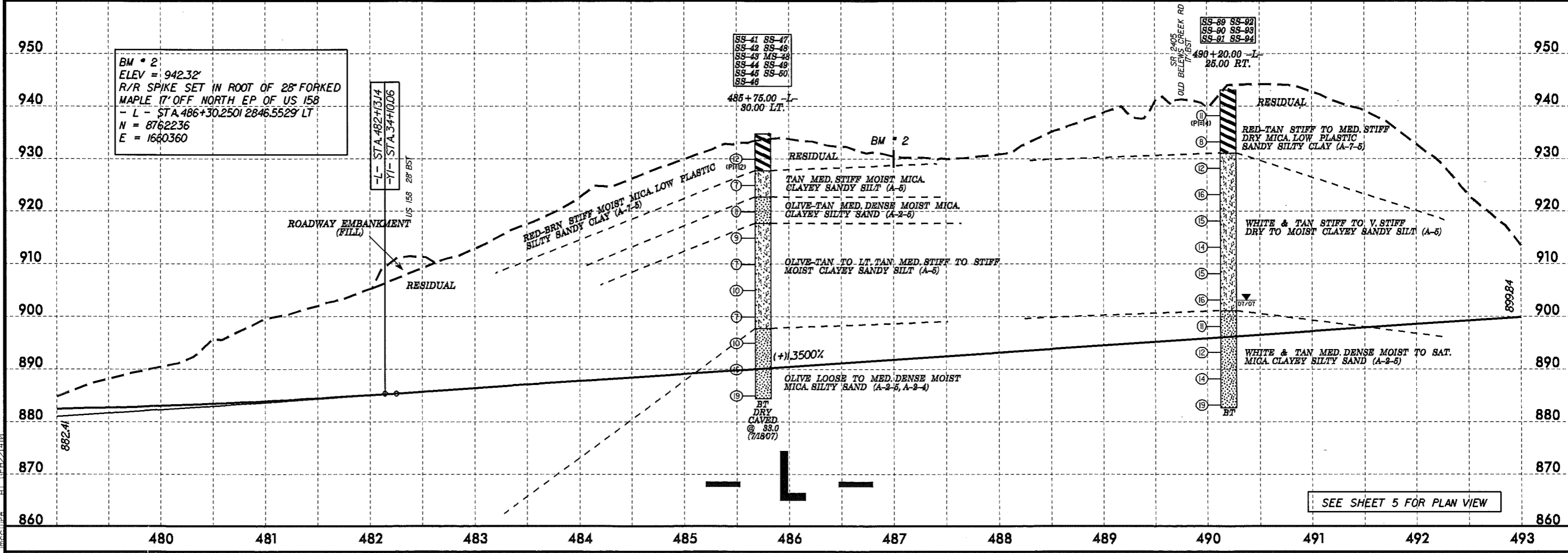
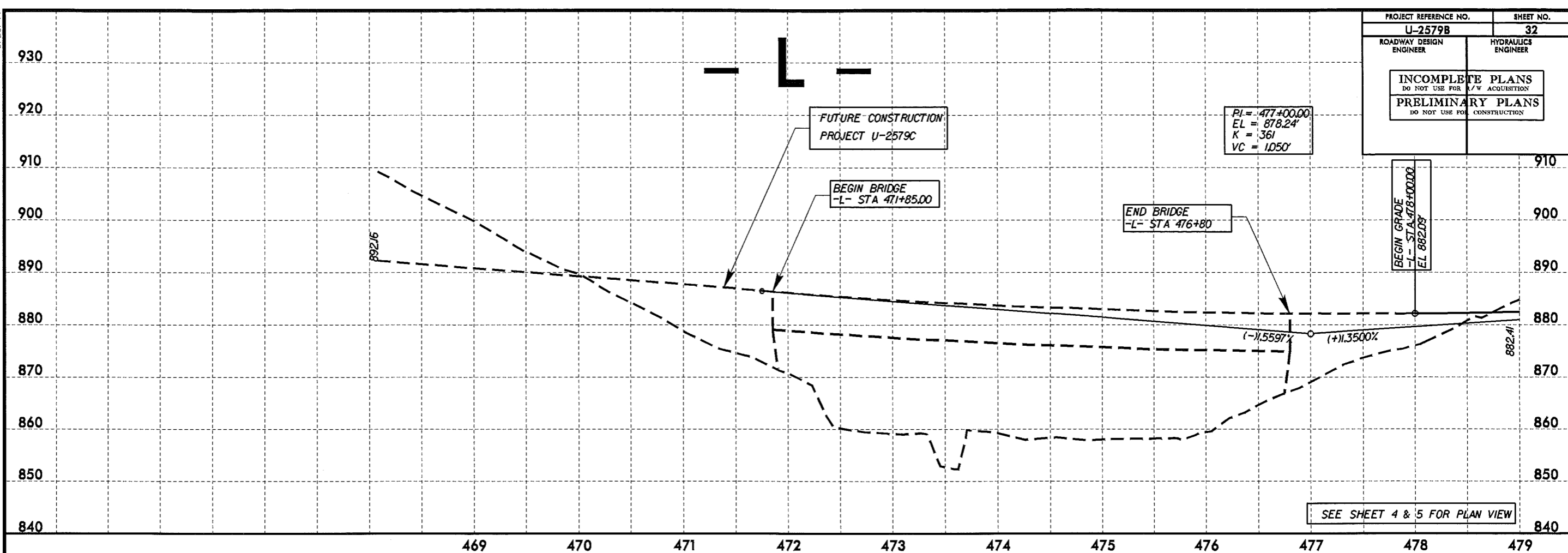
29 JUL 2008 15:16 C:\projects\2579B\2579B_GEO_INV_031.sht31.dgn



NOTE :
 FOR -Y5A- PROFILE, SEE SHEET 77-78
 FOR -Y6- PROFILE, SEE SHEET 89-91

5/28/99
 24-199-2008 0956
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 11/11/07

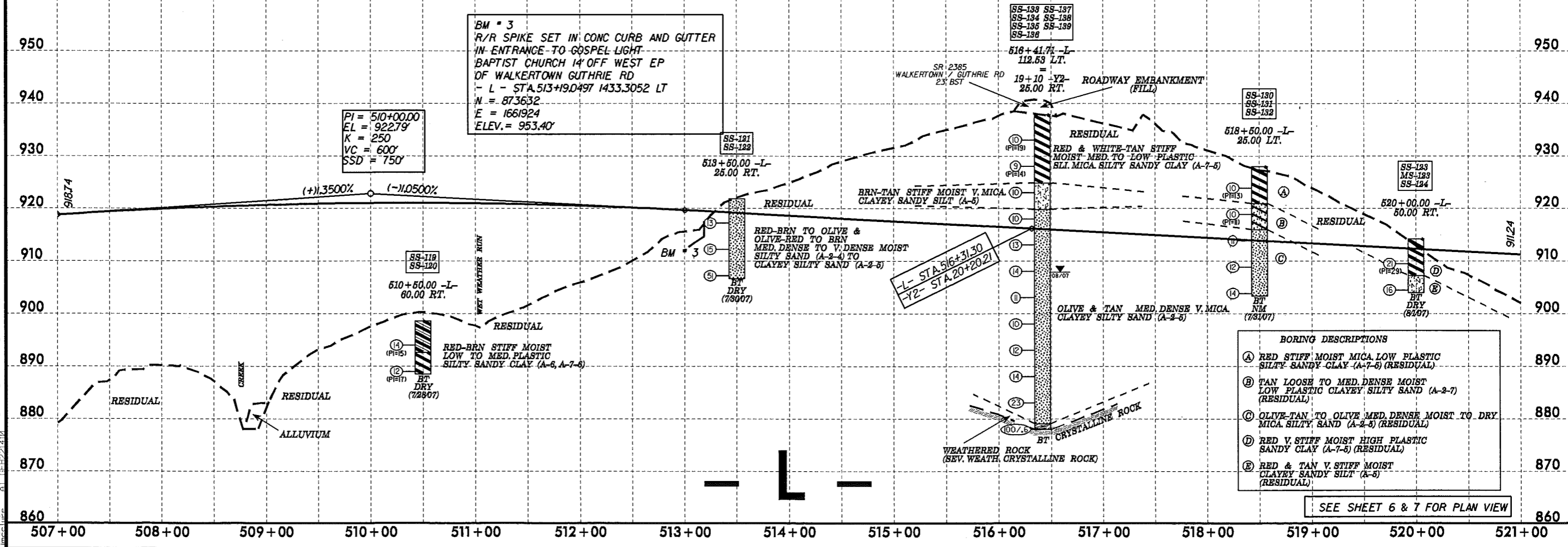
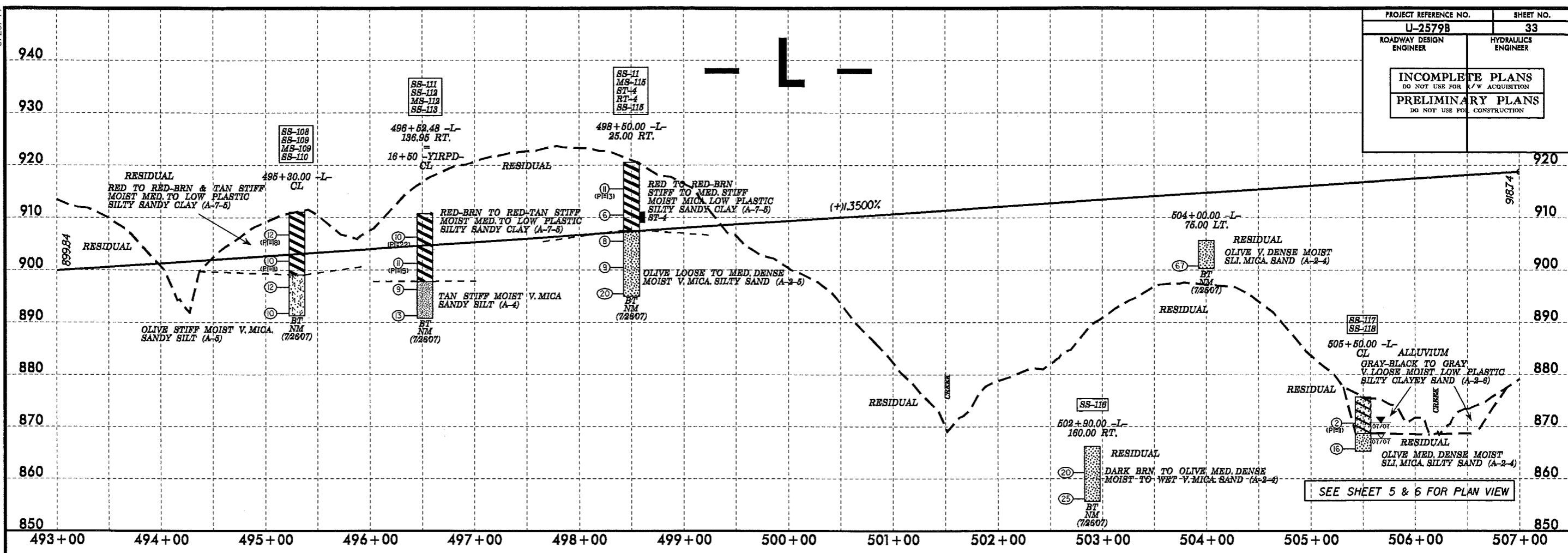
PROJECT REFERENCE NO. U-2579B	SHEET NO. 32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



5/28/99

30-MAY-2008 08:04:35 geo_rdwj_ for_south_cadd_gestech\plmprof\2579b_geo_pf_1.pflshk33.dgn

PROJECT REFERENCE NO. U-2579B	SHEET NO. 33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



BM # 3
R/R SPIKE SET IN CONC CURB AND GUTTER
IN ENTRANCE TO GOSPEL LIGHT
BAPTIST CHURCH 14' OFF WEST EP
OF WALKERTOWN GUTHRIE RD
- L - STA. 513+19.0497 1433.3052 LT
N. = 873632
E = 1661924
ELEV. = 953.40'

PI = 510+00.00
EL = 922.79
K = 250
VC = 600'
SSD = 750'

- BORING DESCRIPTIONS**
- (A) RED STIFF MOIST MICA LOW PLASTIC SILTY SANDY CLAY (A-7-5) (RESIDUAL)
 - (B) TAN LOOSE TO MED DENSE MOIST LOW PLASTIC CLAYEY SILTY SAND (A-2-7) (RESIDUAL)
 - (C) OLIVE-TAN TO OLIVE MED DENSE MOIST TO DRY MICA SILTY SAND (A-2-5) (RESIDUAL)
 - (D) RED V. STIFF MOIST HIGH PLASTIC SANDY CLAY (A-7-5) (RESIDUAL)
 - (E) RED & TAN V. STIFF MOIST CLAYEY SANDY SILT (A-5) (RESIDUAL)

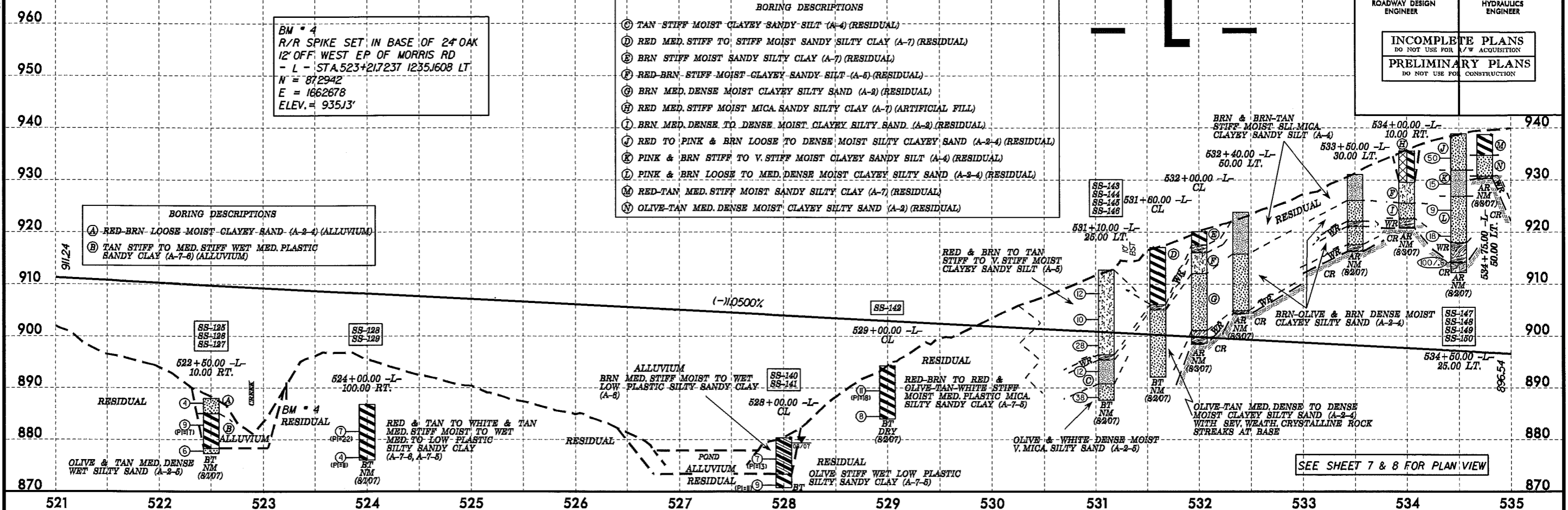
5/28/95

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		34	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

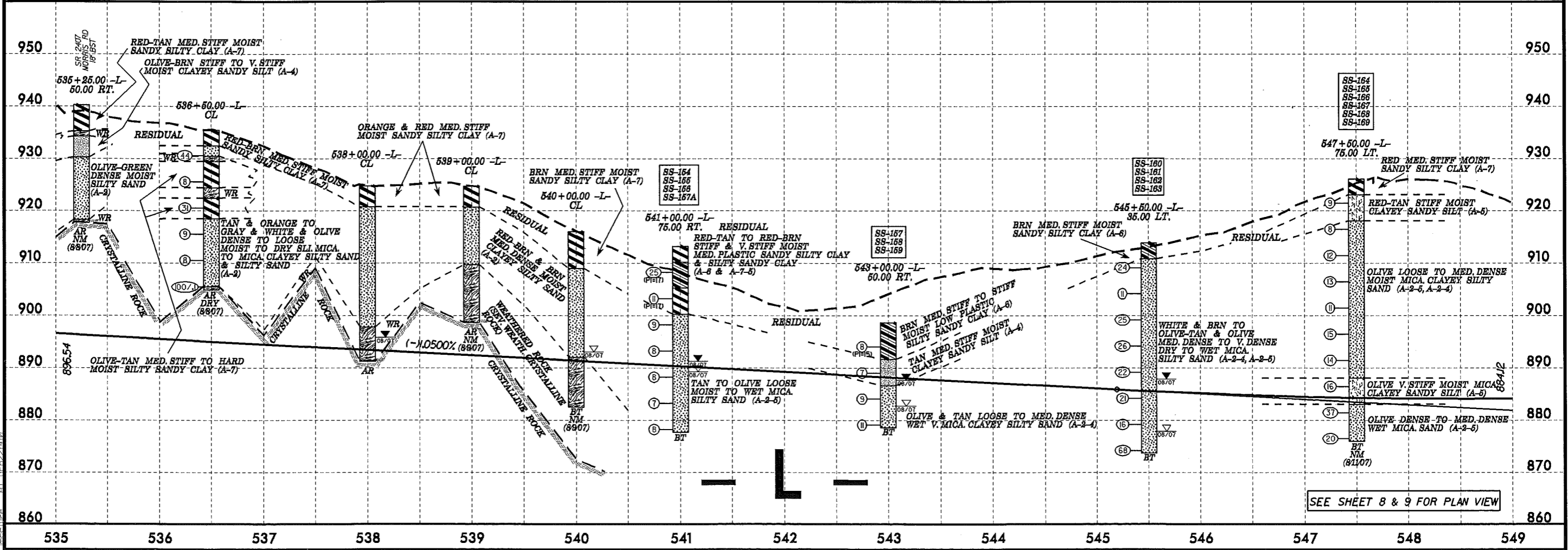
- BORING DESCRIPTIONS**
- (C) TAN STIFF MOIST CLAYEY SANDY SILT (A-4) (RESIDUAL)
 - (D) RED MED. STIFF TO STIFF MOIST SANDY SILTY CLAY (A-7) (RESIDUAL)
 - (E) BRN STIFF MOIST SANDY SILTY CLAY (A-7) (RESIDUAL)
 - (F) RED-BRN STIFF MOIST CLAYEY SANDY SILT (A-5) (RESIDUAL)
 - (G) BRN MED. DENSE MOIST CLAYEY SILTY SAND (A-2) (RESIDUAL)
 - (H) RED MED. STIFF MOIST MICA SANDY SILTY CLAY (A-7) (ARTIFICIAL FILL)
 - (I) BRN MED. DENSE TO DENSE MOIST CLAYEY SILTY SAND (A-2) (RESIDUAL)
 - (J) RED TO PINK & BRN LOOSE TO DENSE MOIST SILTY CLAYEY SAND (A-2-4) (RESIDUAL)
 - (K) PINK & BRN STIFF TO V. STIFF MOIST CLAYEY SANDY SILT (A-4) (RESIDUAL)
 - (L) PINK & BRN LOOSE TO MED. DENSE MOIST CLAYEY SILTY SAND (A-2-4) (RESIDUAL)
 - (M) RED-TAN MED. STIFF MOIST SANDY SILTY CLAY (A-7) (RESIDUAL)
 - (N) OLIVE-TAN MED. DENSE MOIST CLAYEY SILTY SAND (A-2) (RESIDUAL)

- BORING DESCRIPTIONS**
- (A) RED-BRN LOOSE MOIST CLAYEY SAND (A-2-4) (ALLUVIUM)
 - (B) TAN STIFF TO MED. STIFF WET MED. PLASTIC SANDY CLAY (A-7-8) (ALLUVIUM)

BM # 4
R/R SPIKE SET IN BASE OF 2" OAK
12' OFF WEST EP OF MORRIS RD
- L - STA. 523+21.7237 1235.1608 LT
N = 872942
E = 1662678
ELEV. = 935.13'



SEE SHEET 7 & 8 FOR PLAN VIEW



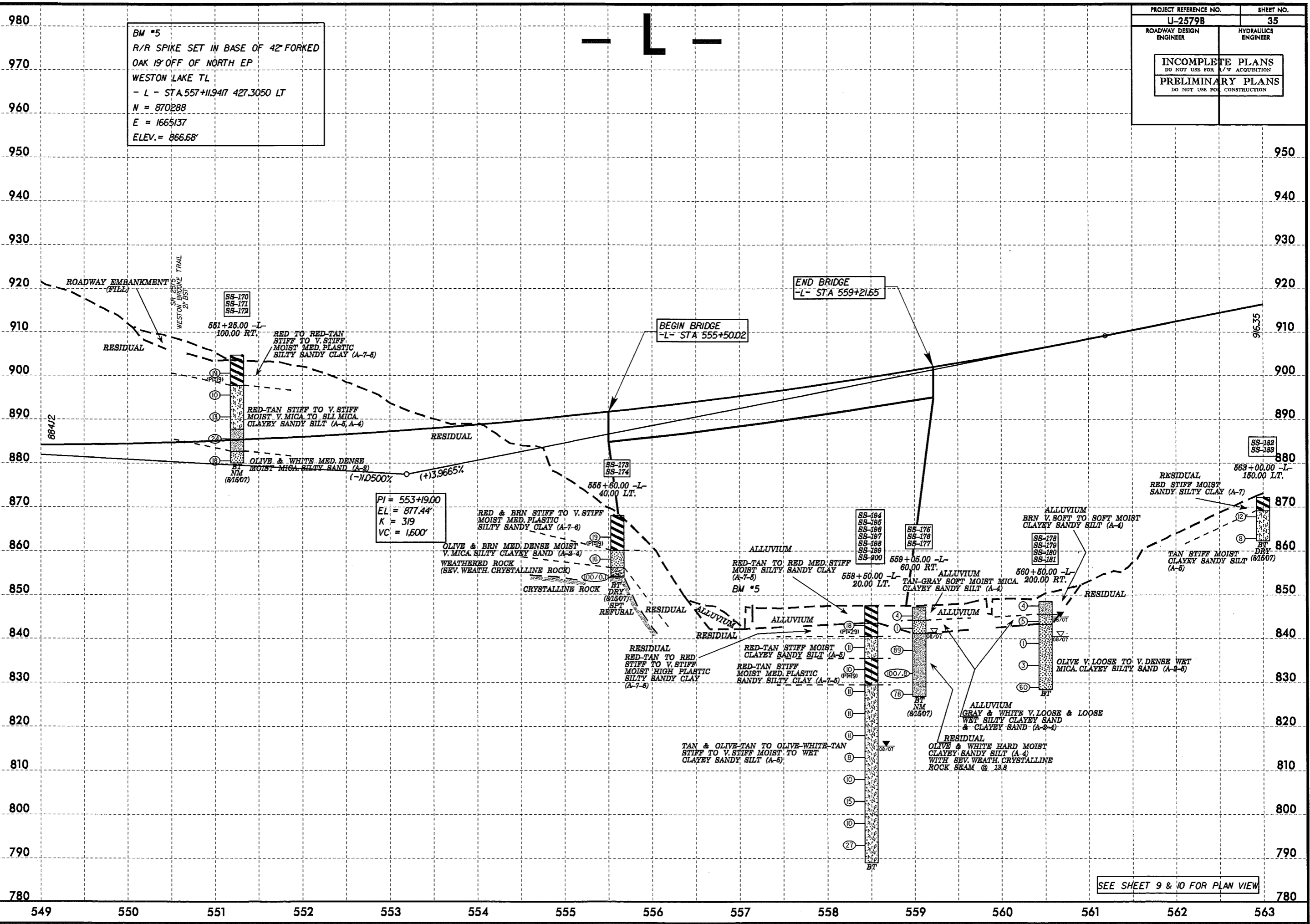
SEE SHEET 8 & 9 FOR PLAN VIEW

24-APR-2008 10:00
34:projects\2579b\2579b_0E0_of1_L.plt\sh34.dgn

5/14/99
 24-APR-2008 10:05
 24\APR\2008\10:05
 24\APR\2008\10:05\24-APR-2008 10:05.dgn

PROJECT REFERENCE NO. U-2579B	SHEET NO. 35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM *5
 R/R SPIKE SET IN BASE OF 42" FORKED
 OAK 19' OFF OF NORTH EP
 WESTON LAKE TL
 - L - STA.557+11.947 427.3050 LT
 N = 870288
 E = 1665137
 ELEV. = 866.68'

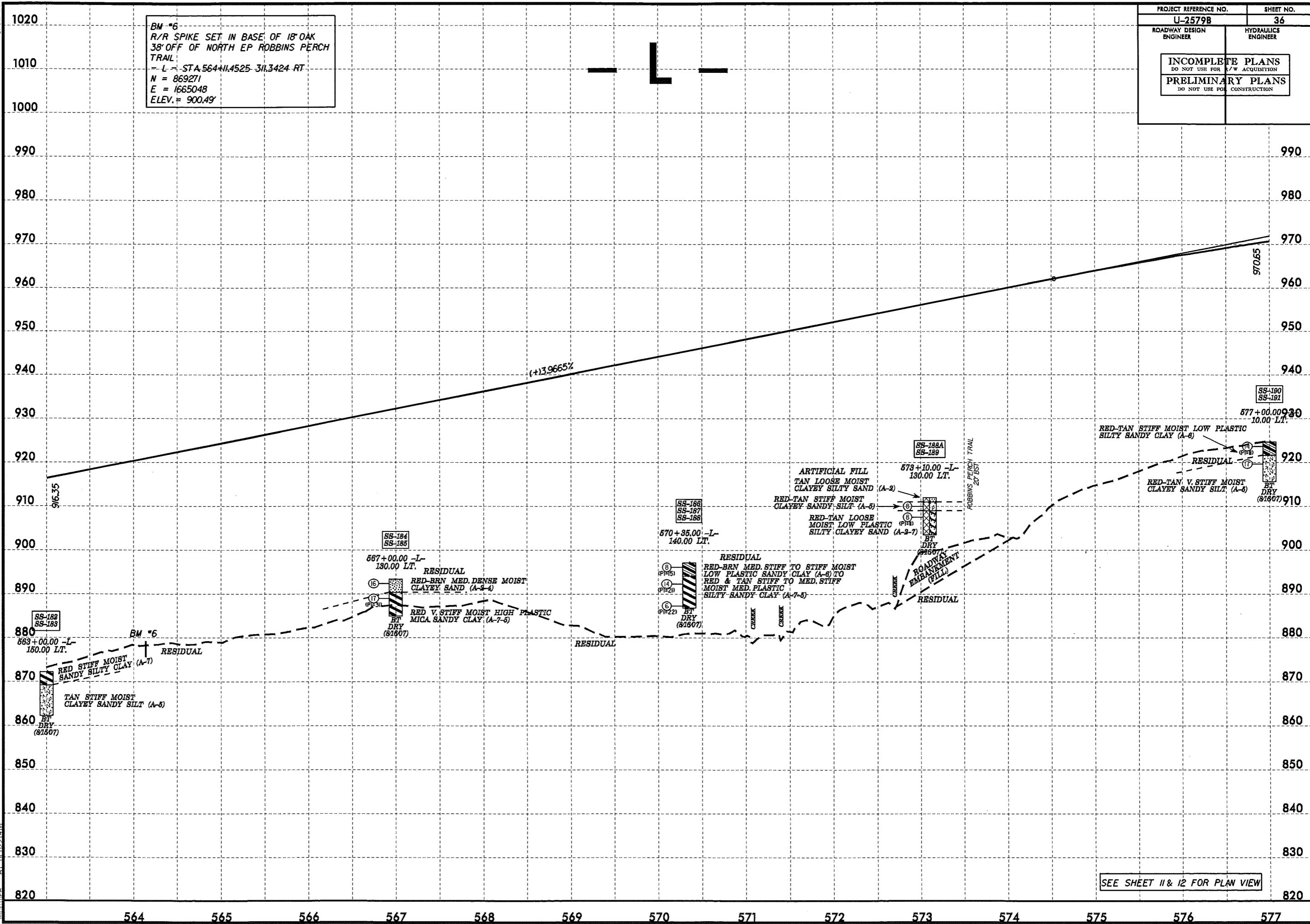


SEE SHEET 9 & 10 FOR PLAN VIEW

5/14/99
 24-APP-2008 (0907)
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 11/11/08 11:00 AM
 11/11/08 11:00 AM

PROJECT REFERENCE NO. U-2579B	SHEET NO. 36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM *6
 R/R SPIKE SET IN BASE OF 18" OAK
 38' OFF OF NORTH EP ROBBINS PERCH
 TRAIL
 - L - STA. 564+11.4525-311.3424 RT
 N = 869271
 E = 1665048
 ELEV. = 900.49'

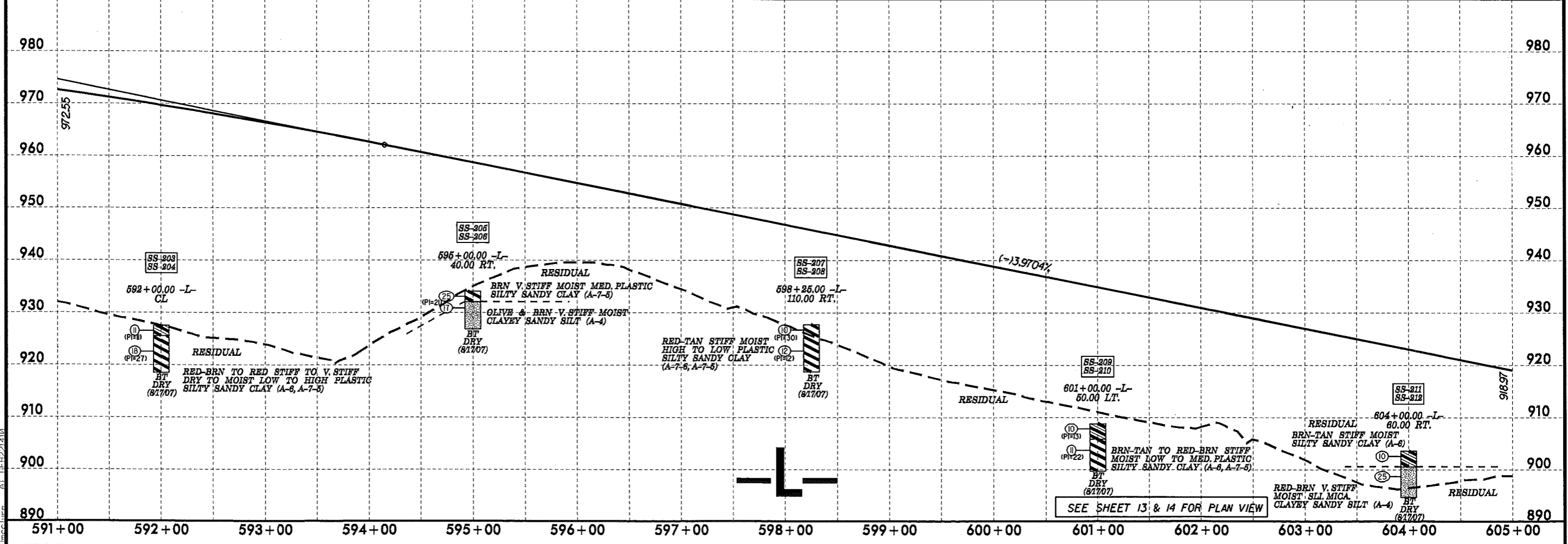
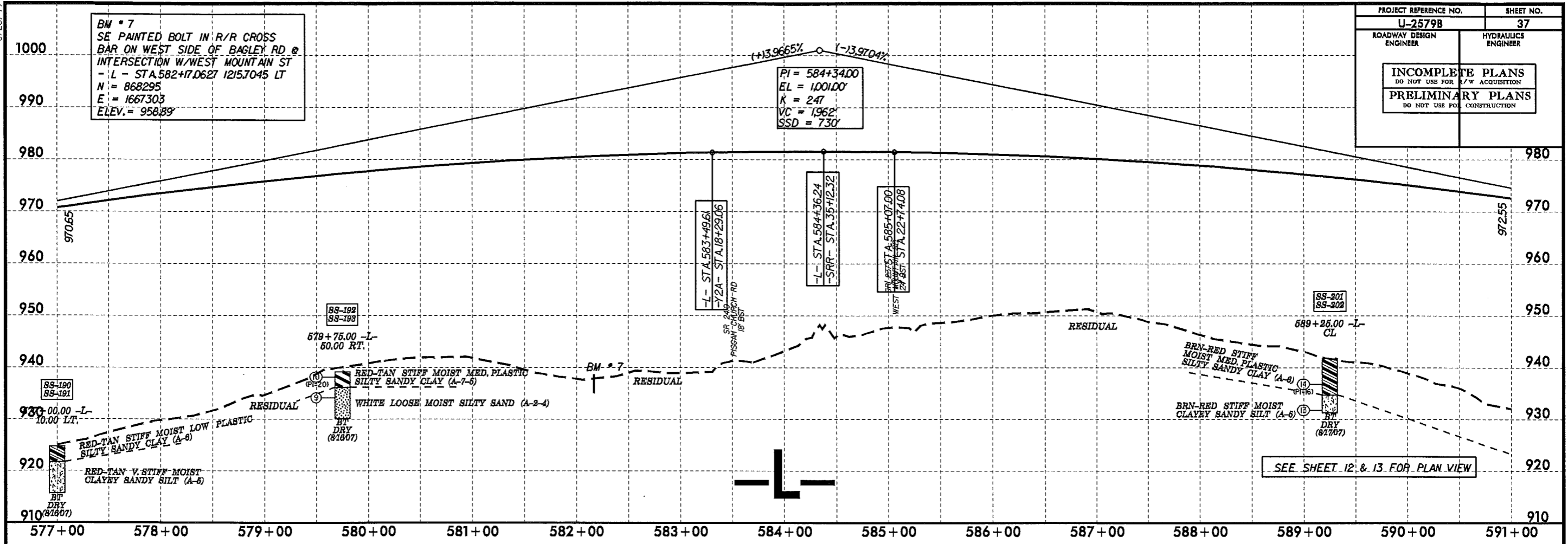


SEE SHEET 11 & 12 FOR PLAN VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM * 7
SE PAINTED BOLT IN R/R CROSS
BAR ON WEST SIDE OF BAGLEY RD @
INTERSECTION W/WEST MOUNTAIN ST
- L - STA. 582+7.0627 1215.7045 LT
N = 868295
E = 1667303
ELEV. = 958.89'

PI = 584+34.00
EL = 1001.00'
K = 247
VC = 1,962'
SSD = 730'



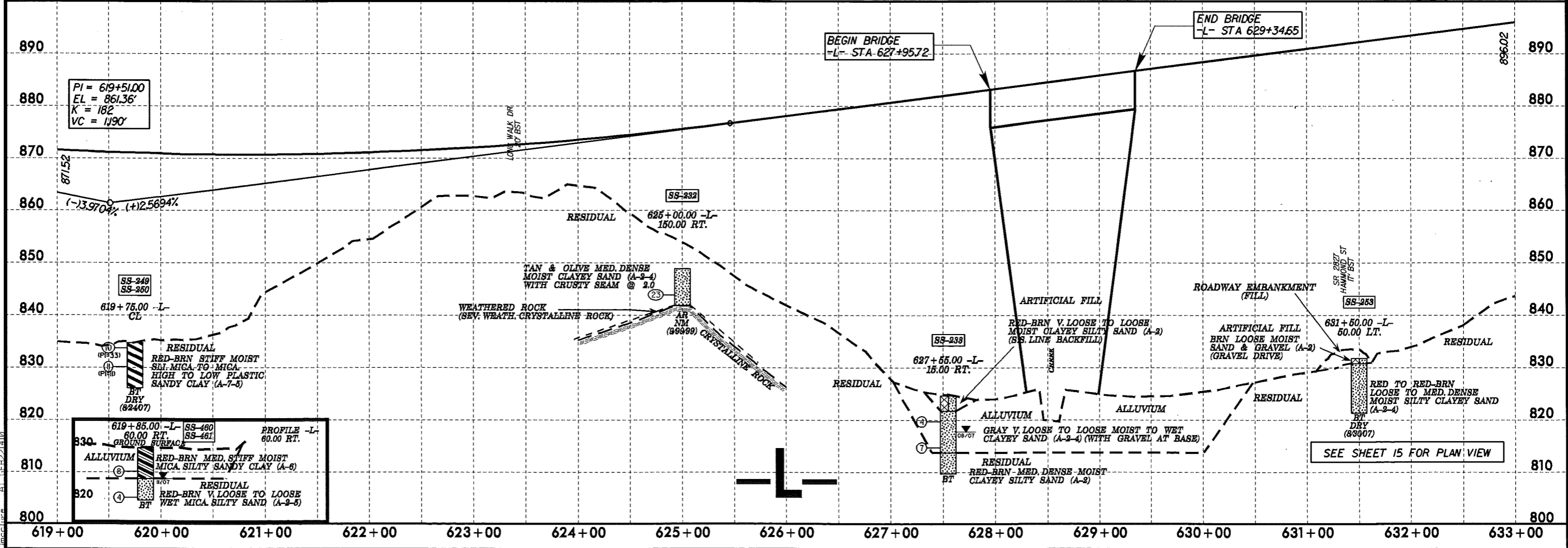
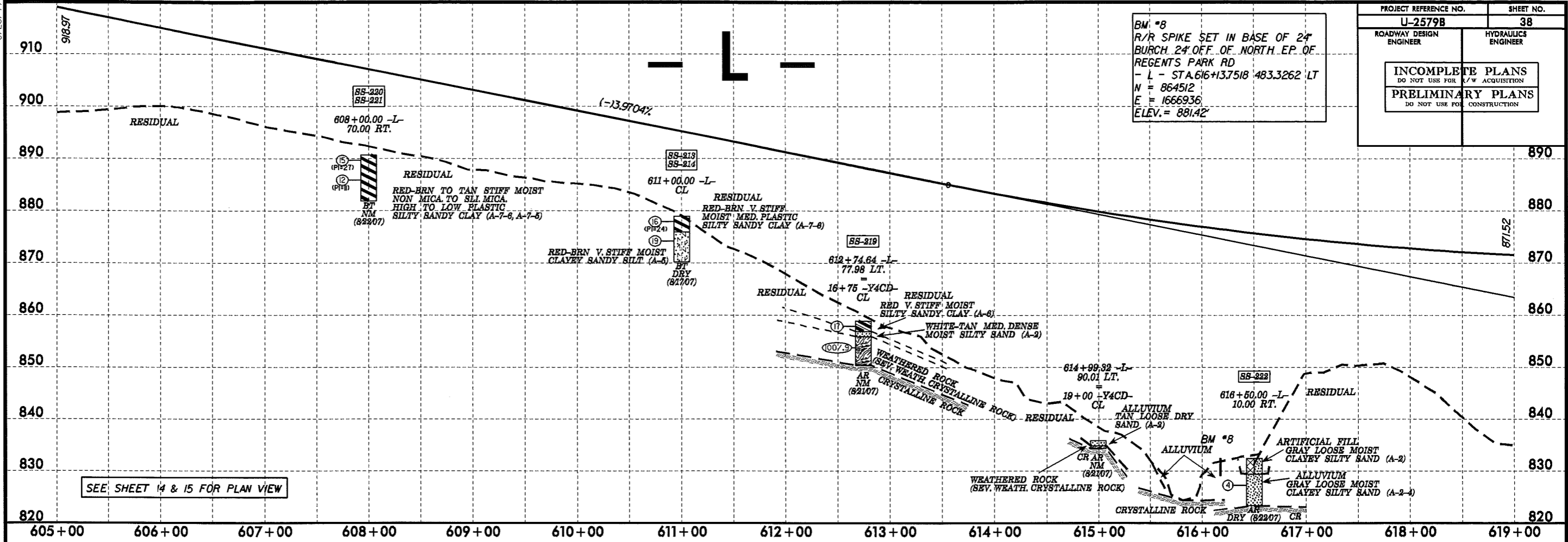
5/28/99
30-MAY-2008 08:28
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5/28/99

28-Jul-2008 15:27:03
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PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		38	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS		DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS		DO NOT USE FOR CONSTRUCTION	

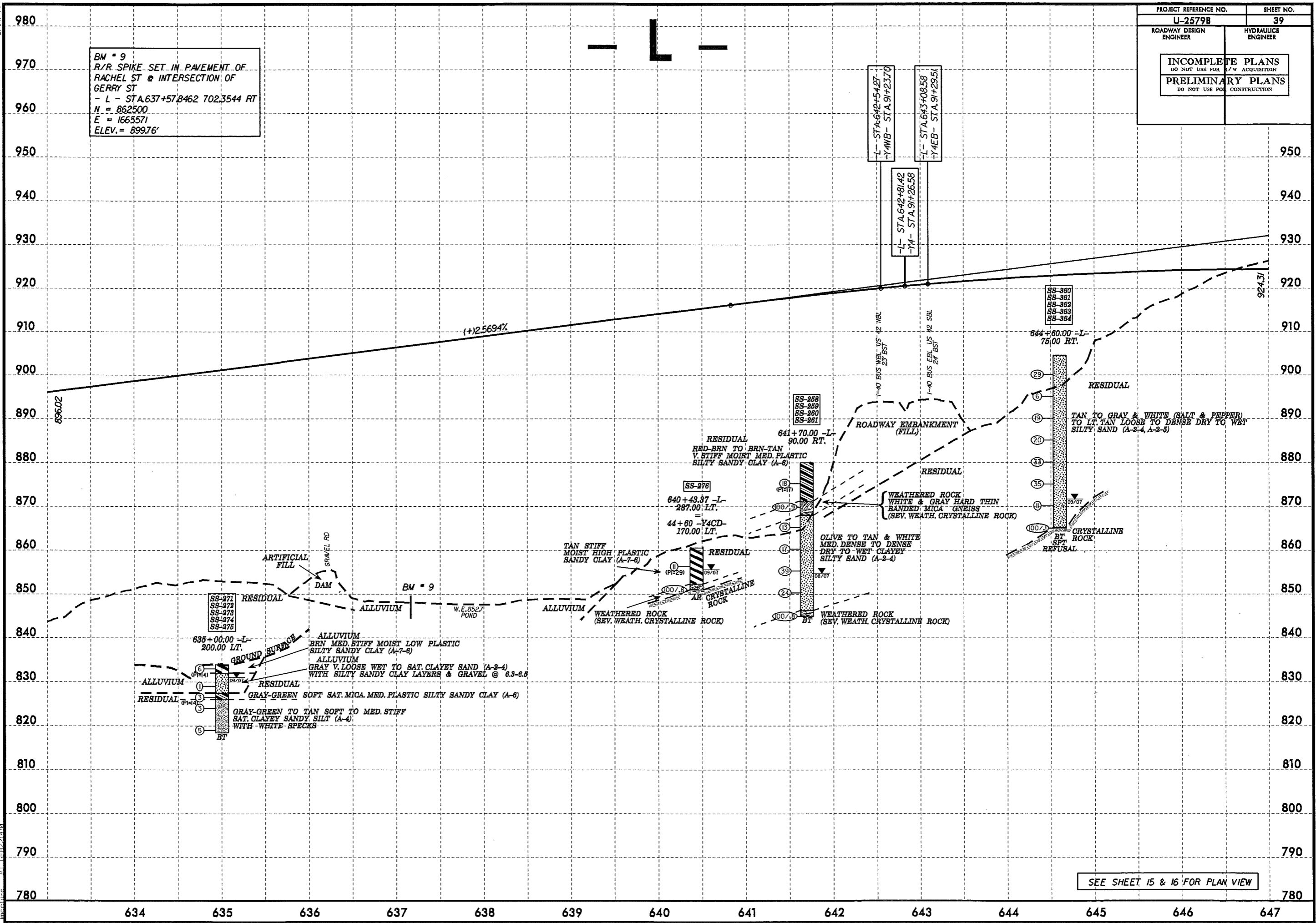
BM #8
R/R SPIKE SET IN BASE OF 24"
BURCH 24" OFF OF NORTH EP OF
REGENTS PARK RD
- L - STA. 616+13.7518 483.3262 LT
N = 864512
E = 1666936
ELEV. = 881.42'



5/14/99
 CH:\MAY_2008_08502\dwg\p01\planproj\U25798.GEO.p01.L_PFLSHT39.dgn
 CH:\MAY_2008_08502\dwg\p01\planproj\U25798.GEO.p01.L_PFLSHT39.dgn

PROJECT REFERENCE NO. U-25798	SHEET NO. 39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM * 9
 R/R SPIKE SET IN PAVEMENT OF
 RACHEL ST @ INTERSECTION OF
 GERRY ST
 - L - STA.637+57.8462 702.3544 RT
 N = 862500
 E = 1665571
 ELEV. = 899.76'

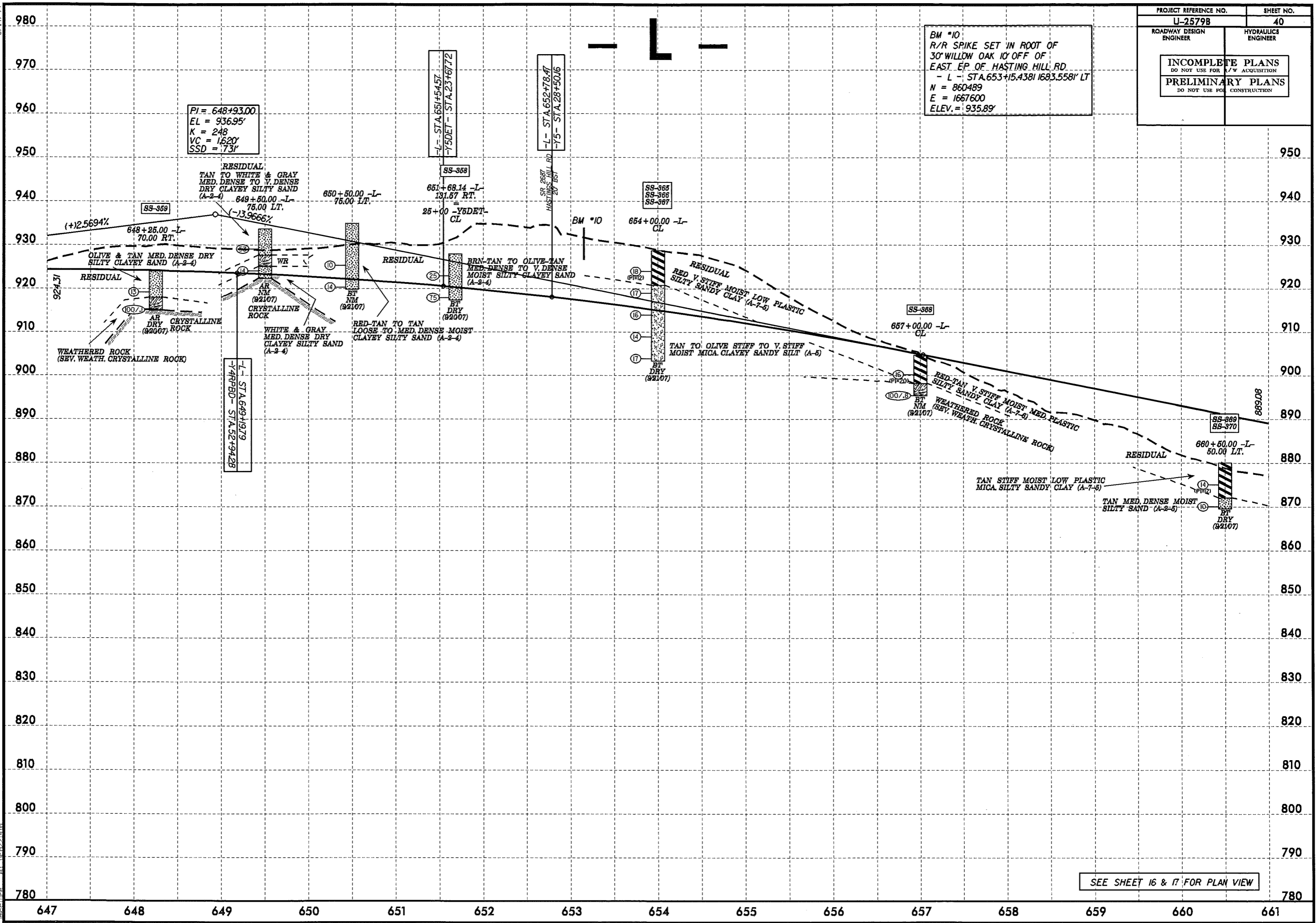


SEE SHEET 15 & 16 FOR PLAN VIEW

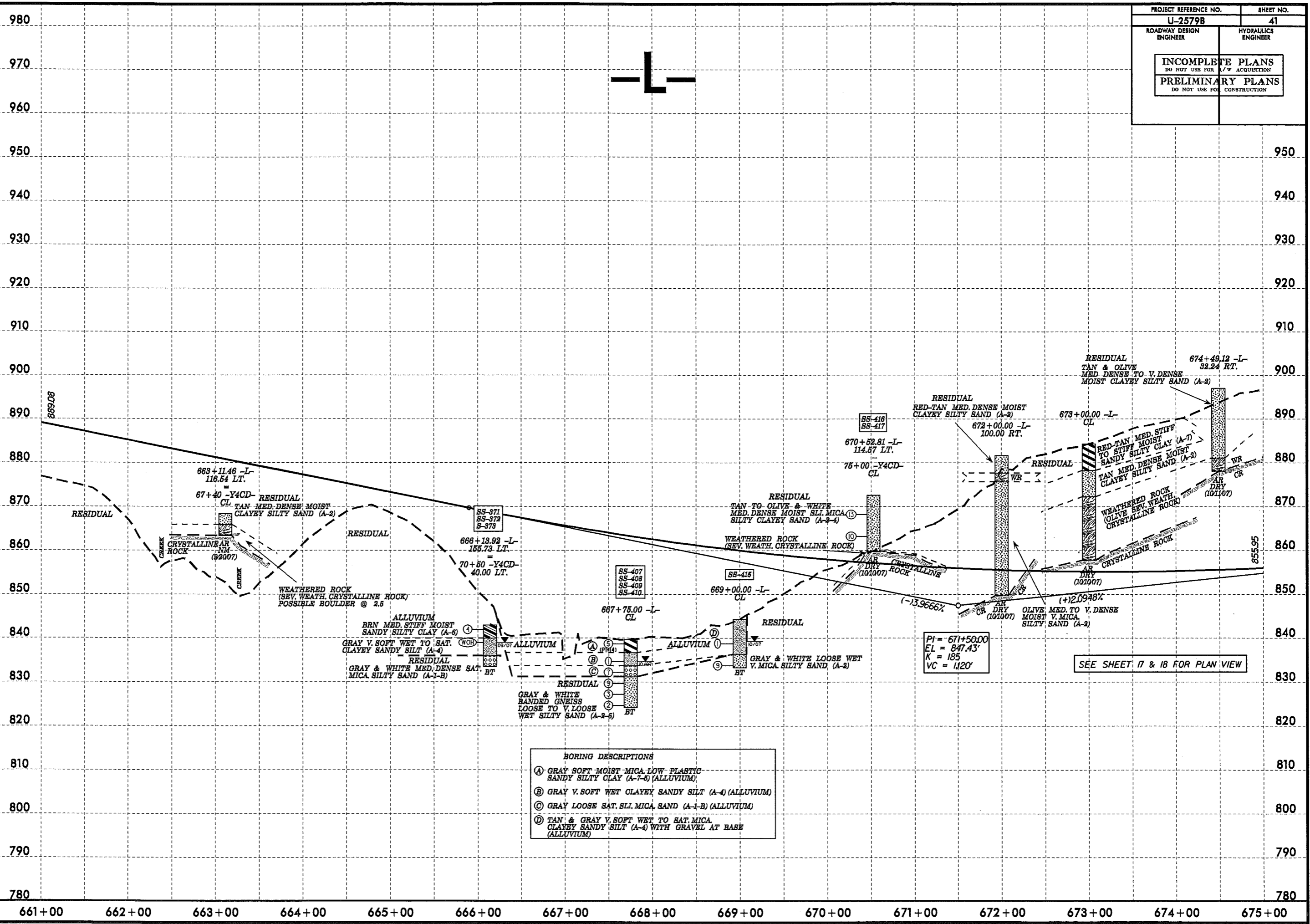
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PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		40	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

BM #10
 R/R SPIKE SET IN ROOT OF
 30' WILLOW OAK 10' OFF OF
 EAST EP. OF HASTING HILL RD.
 - L - STA. 653+15.4381 1693.5581' LT
 N = 860489
 E = 1667600
 ELEV. = 935.89'



SEE SHEET 16 & 17 FOR PLAN VIEW



BORING DESCRIPTIONS

- Ⓐ GRAY SOFT MOIST MICA LOW PLASTIC SANDY SILTY CLAY (A-7-8) (ALLUVIUM)
- Ⓑ GRAY V. SOFT WET CLAYEY SANDY SILT (A-4) (ALLUVIUM)
- Ⓒ GRAY LOOSE SAT. SLI. MICA SAND (A-1-B) (ALLUVIUM)
- Ⓓ TAN & GRAY V. SOFT WET TO SAT MICA CLAYEY SANDY SILT (A-4) WITH GRAVEL AT BASE (ALLUVIUM)

SEE SHEET 17 & 18 FOR PLAN VIEW

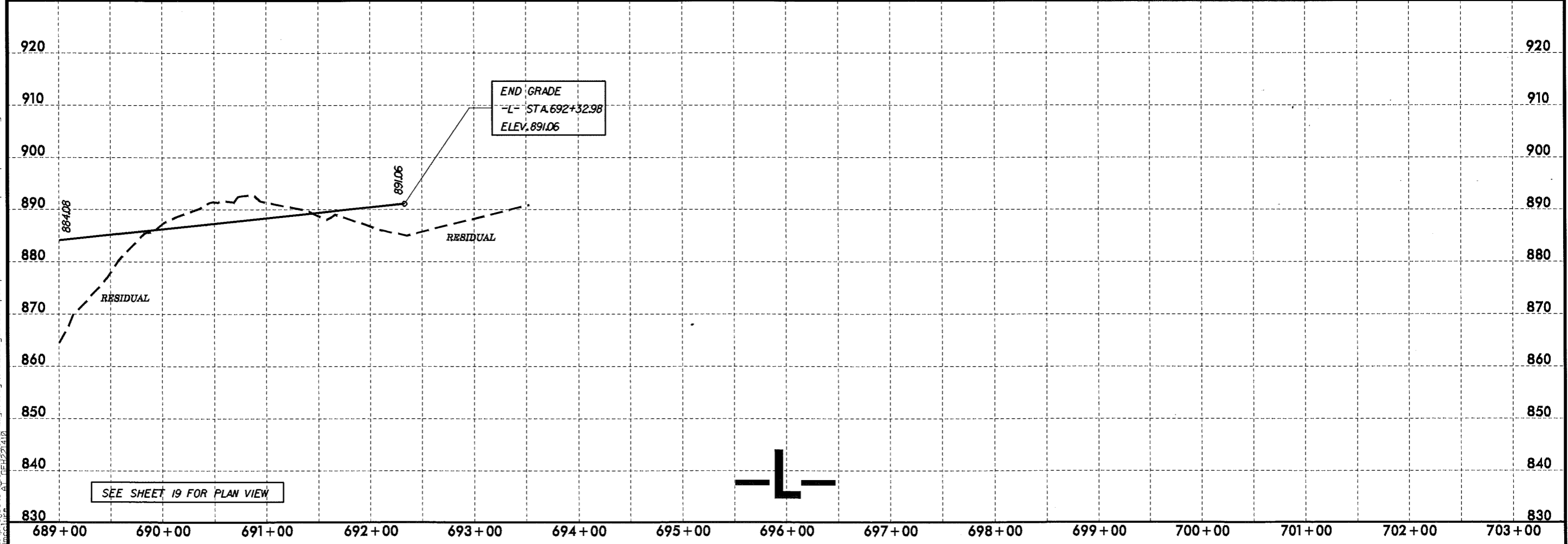
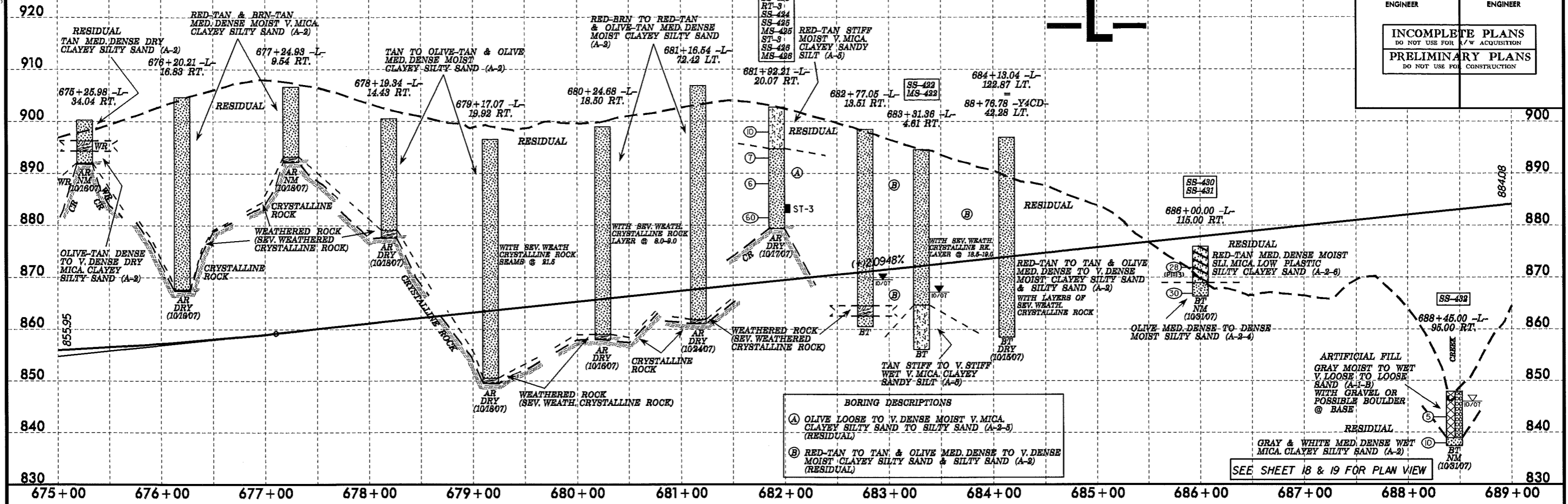
PI = 671+50.00
EL = 847.43'
K = 185
VC = 1420'

5/14/99

 30 MAY 2008 08:14
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 f:\proj\2579B\2579B_GEO.DWG
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 f:\proj\2579B\2579B_GEO.DWG

5/28/99

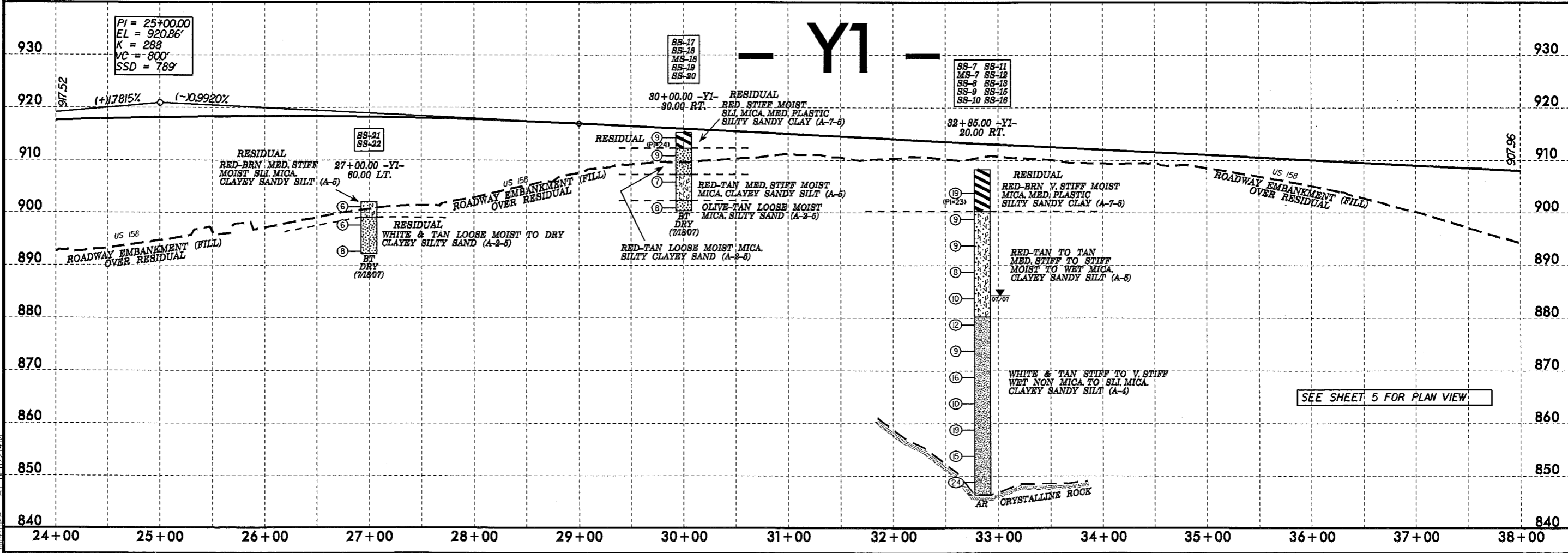
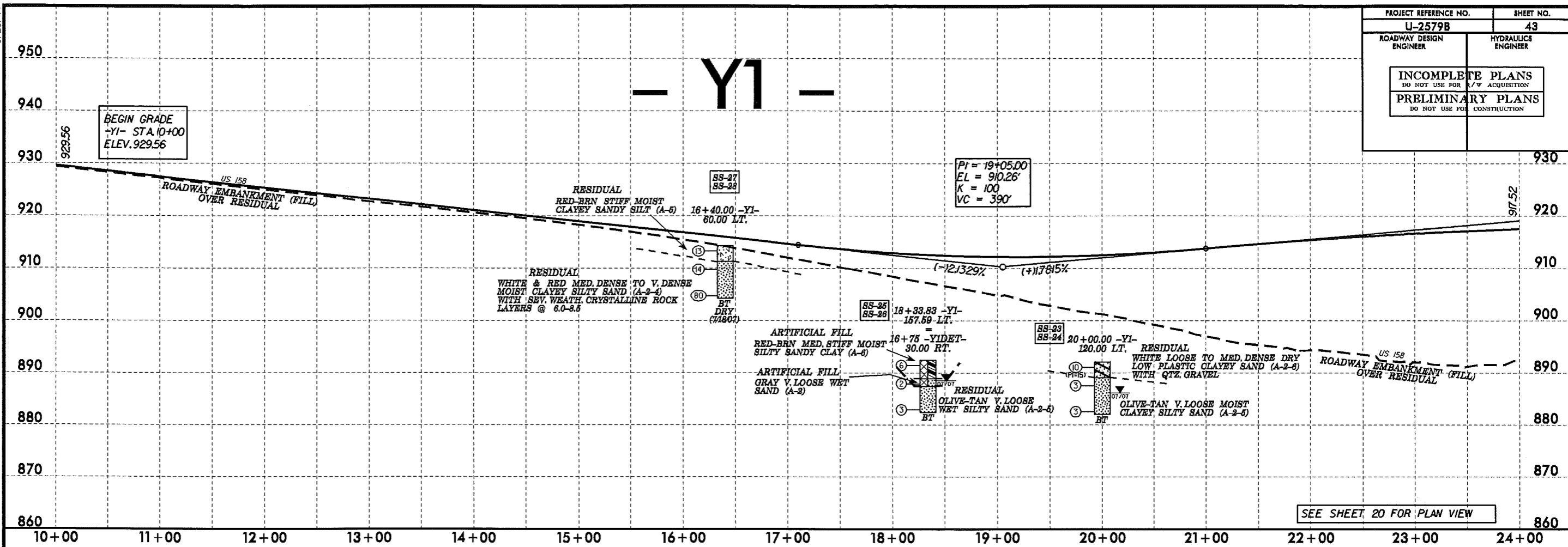
PROJECT REFERENCE NO. U-25798	SHEET NO. 42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



28-JUL-2008 09:55:33 at:\projects\25798\25798.dwg - For\ygh\cadd\geotech\planproj\U25798_050.pfl...pflsh42.dgn

5/28/99

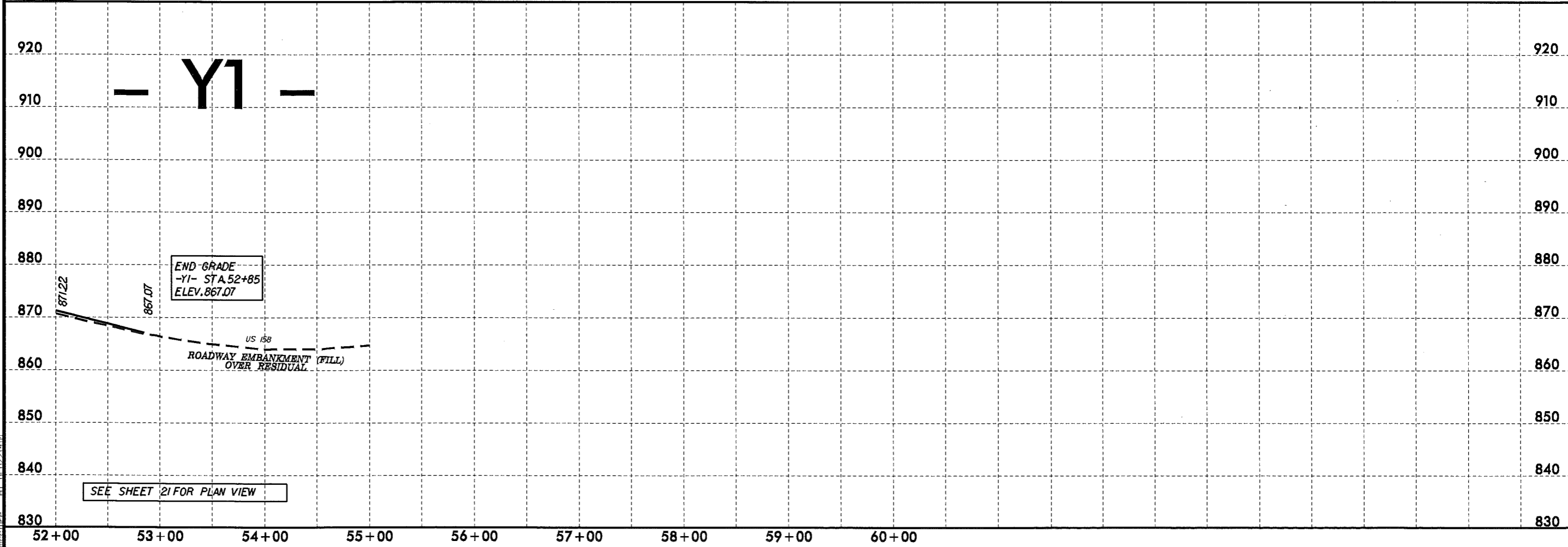
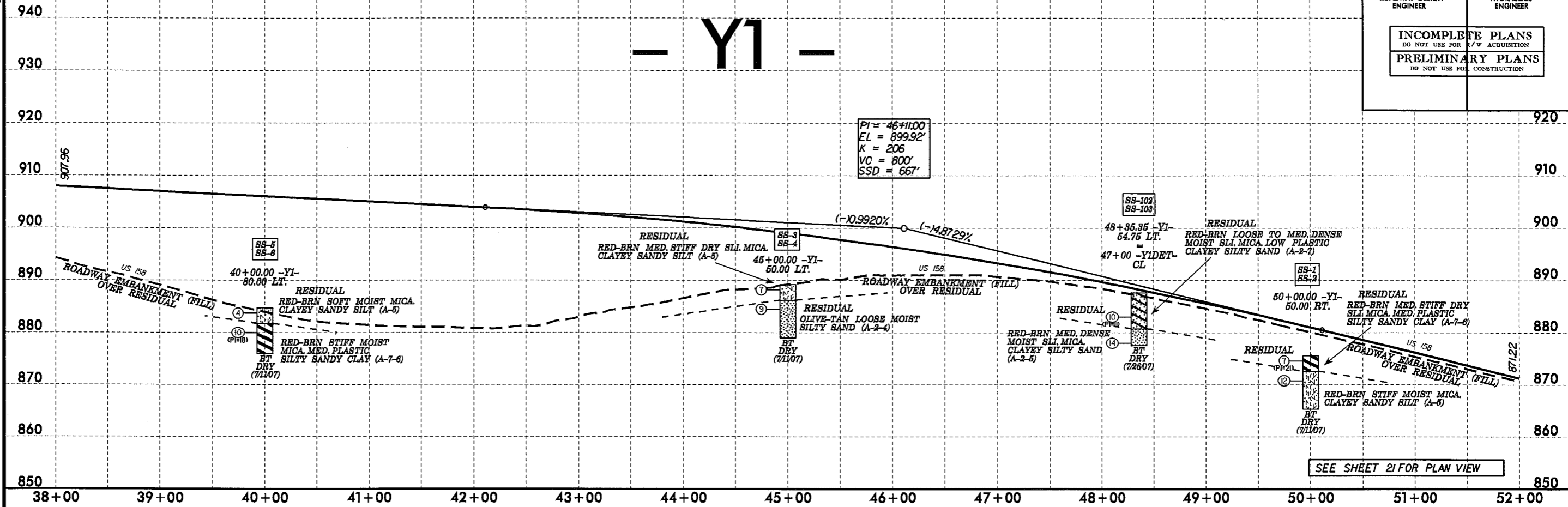
PROJECT REFERENCE NO. U-2579B	SHEET NO. 43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



25-APR-2008 11:28
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5/28/99

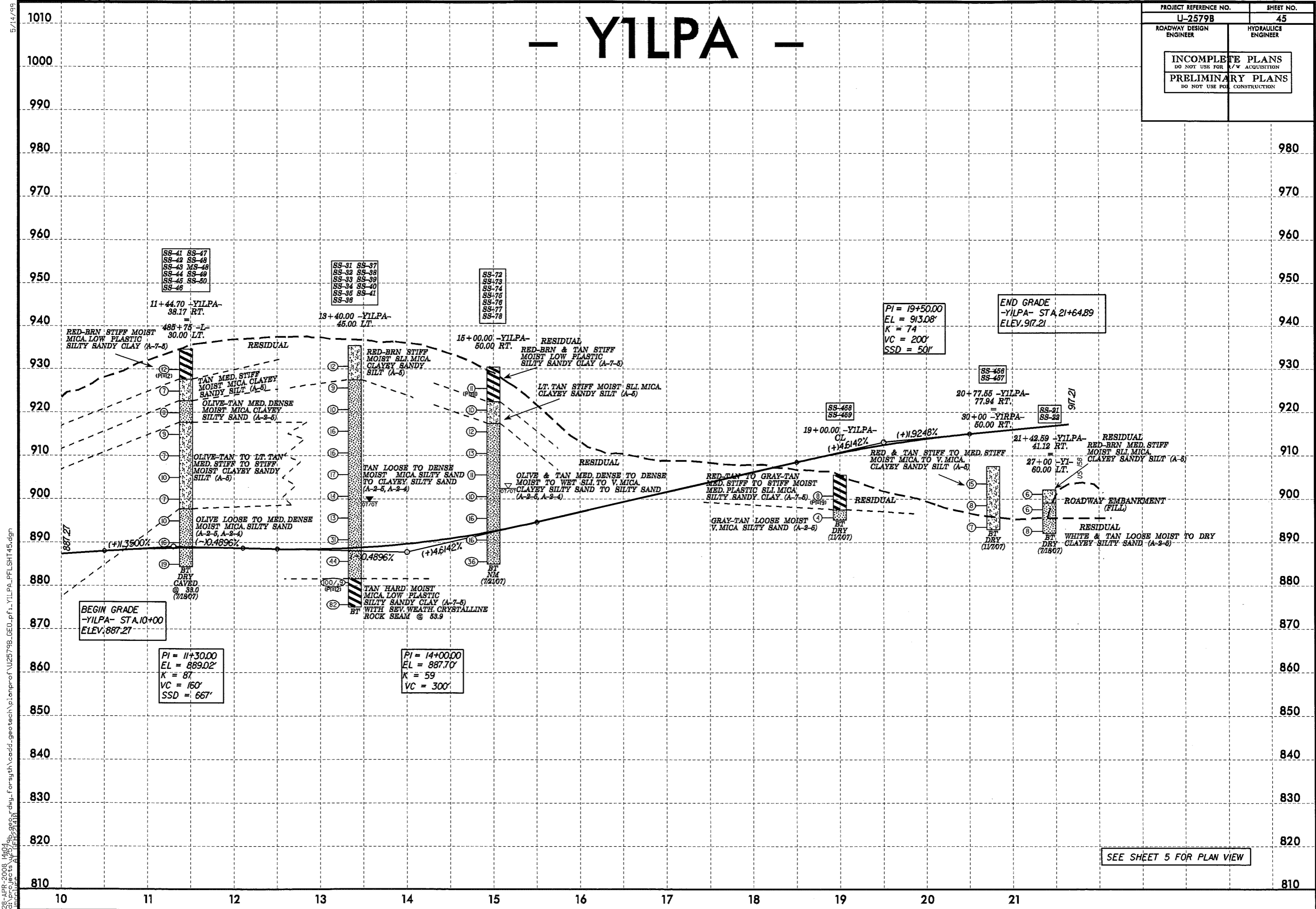
PROJECT REFERENCE NO. U-2579B	SHEET NO. 44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



25-APR-2008 11:28
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- YILPA -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

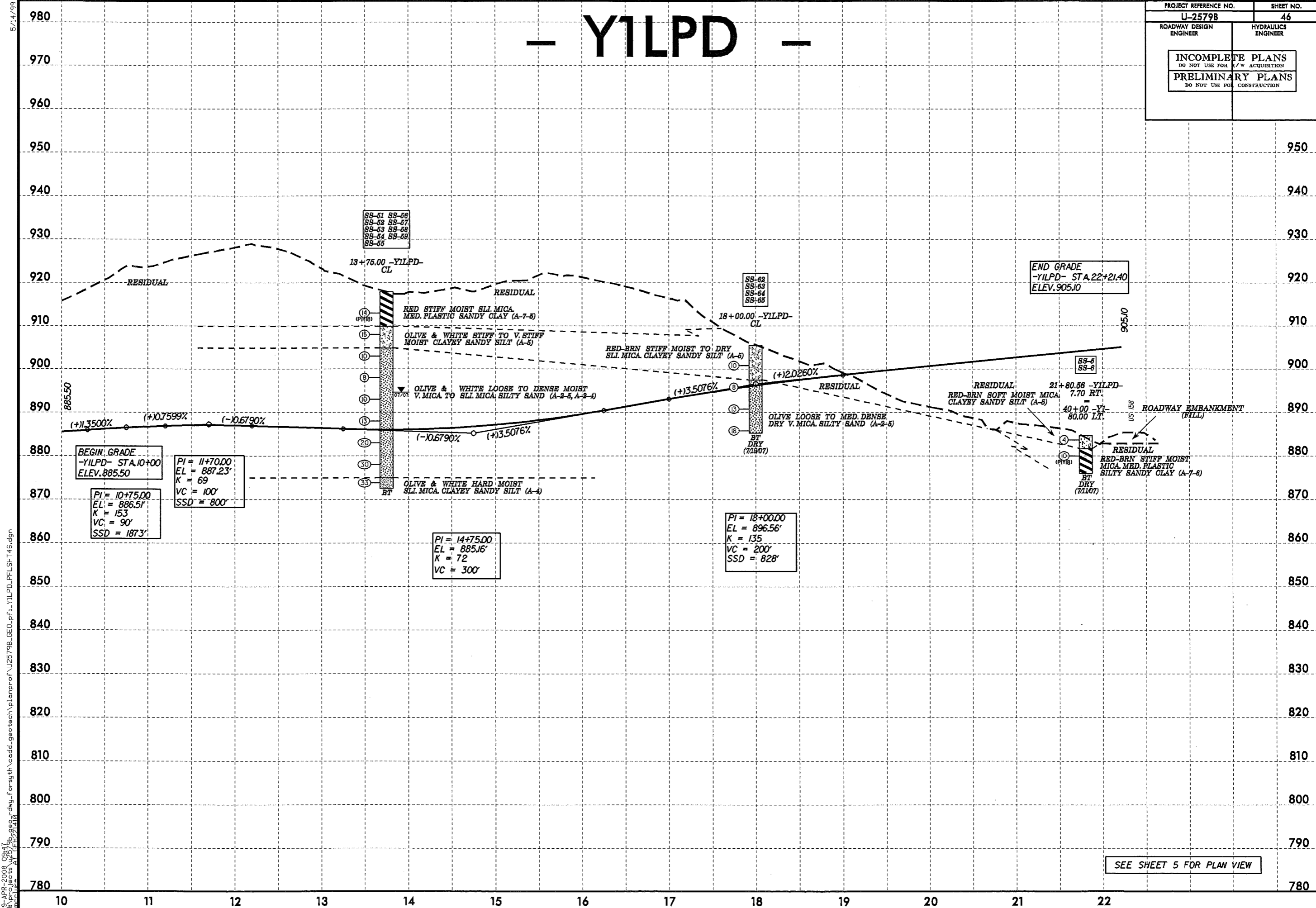


SEE SHEET 5 FOR PLAN VIEW

5/14/95
 28-APR-2008 14:04
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- YILPD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



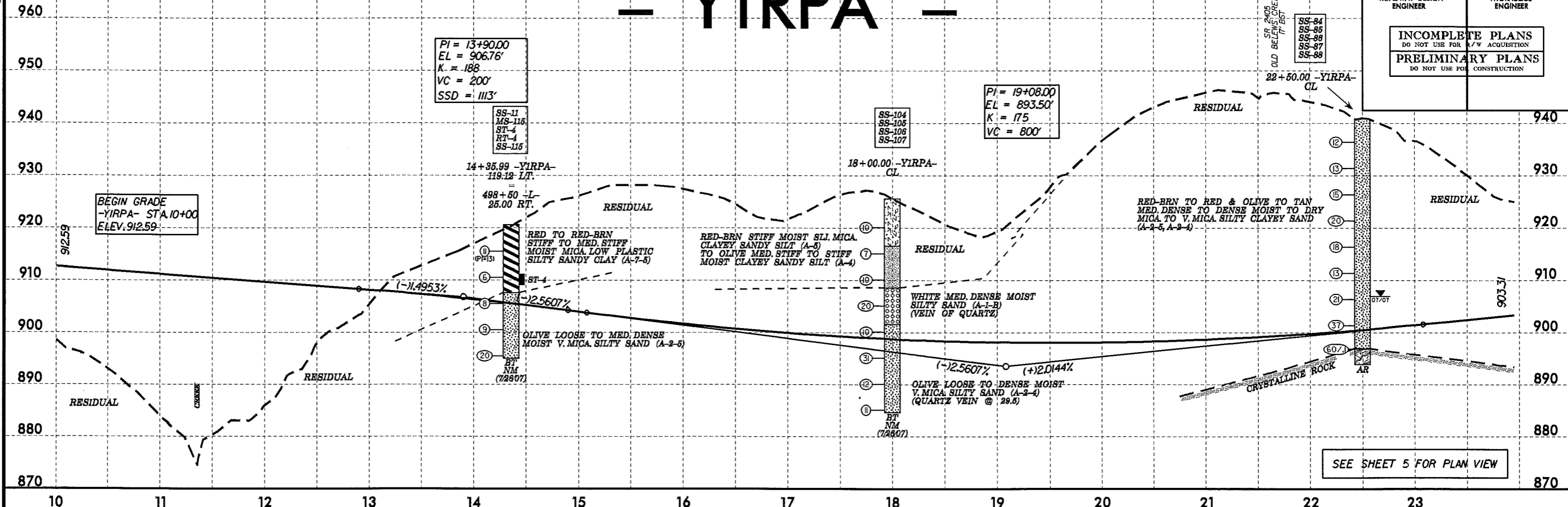
SEE SHEET 5 FOR PLAN VIEW

5/14/99
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5/28/99

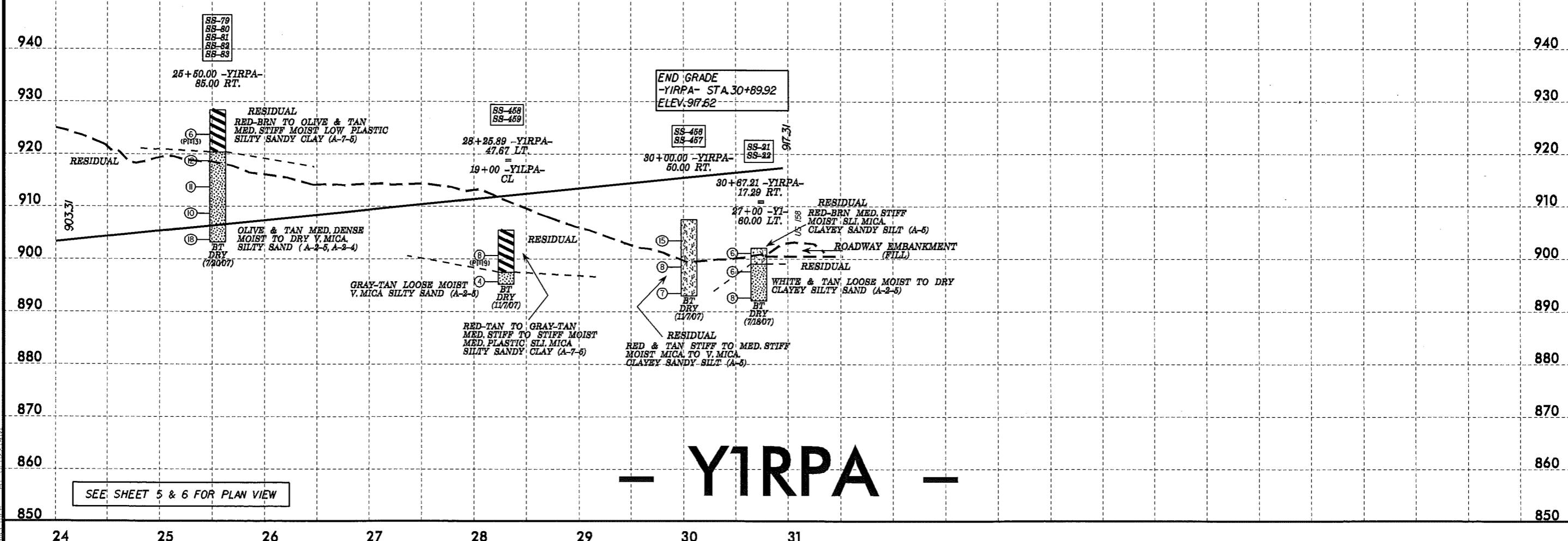
- YIRPA -

PROJECT REFERENCE NO. U-2579B		SHEET NO. 47	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



29-APR-2008 14:03:31 p:\projects\2579b\9908_r.dwg - forsyth\cadd_gis\tech\plan\proj\U2579b_0E0_p1_YIRPA.plt\sh47.dgn

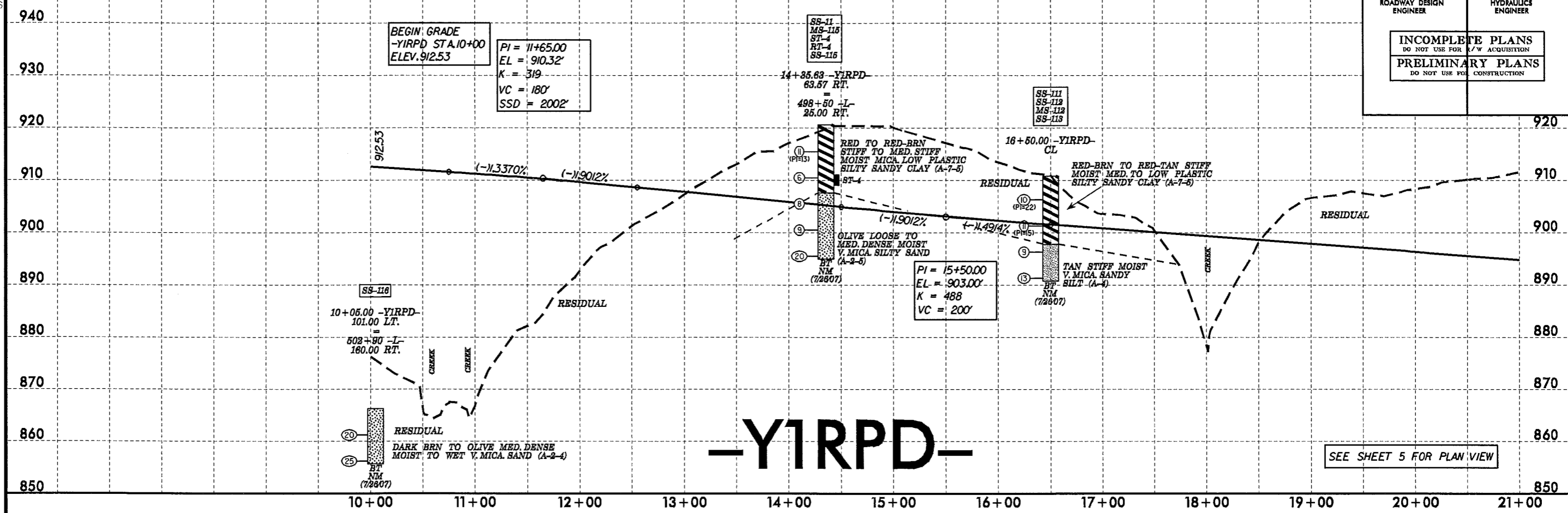
- YIRPA -



SEE SHEET 5 & 6 FOR PLAN VIEW

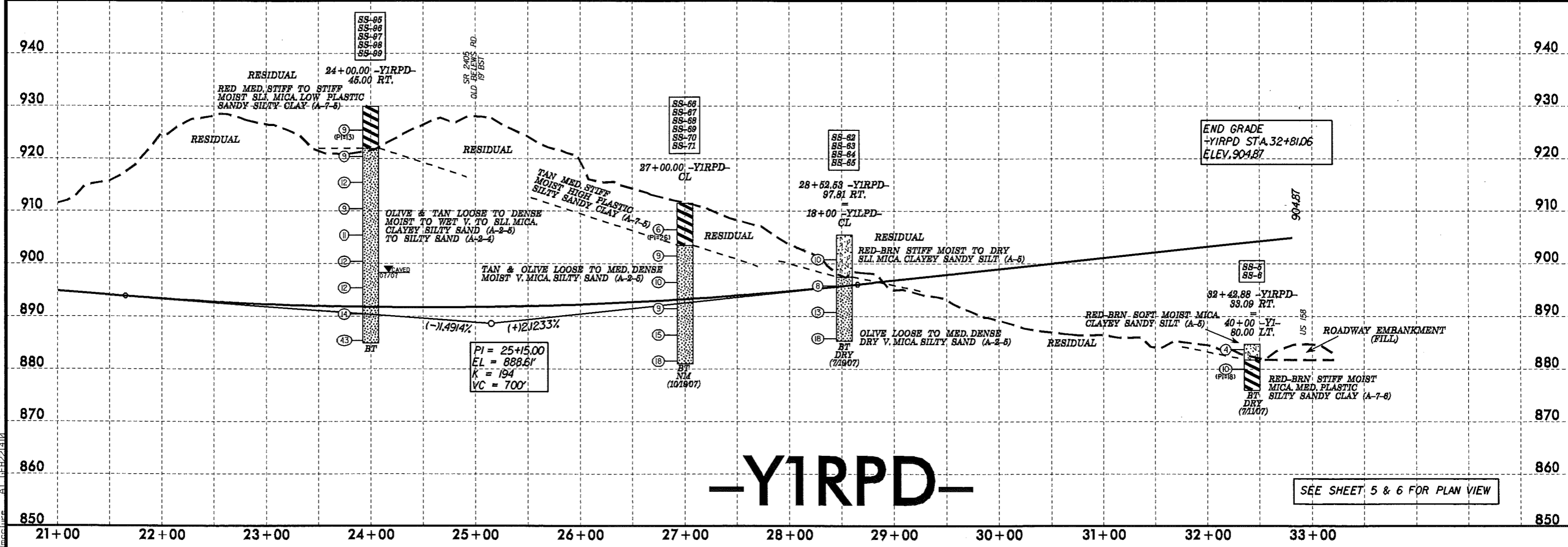
5/28/99

PROJECT REFERENCE NO. U-2579B	SHEET NO. 48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-YIRPD-

SEE SHEET 5 FOR PLAN VIEW

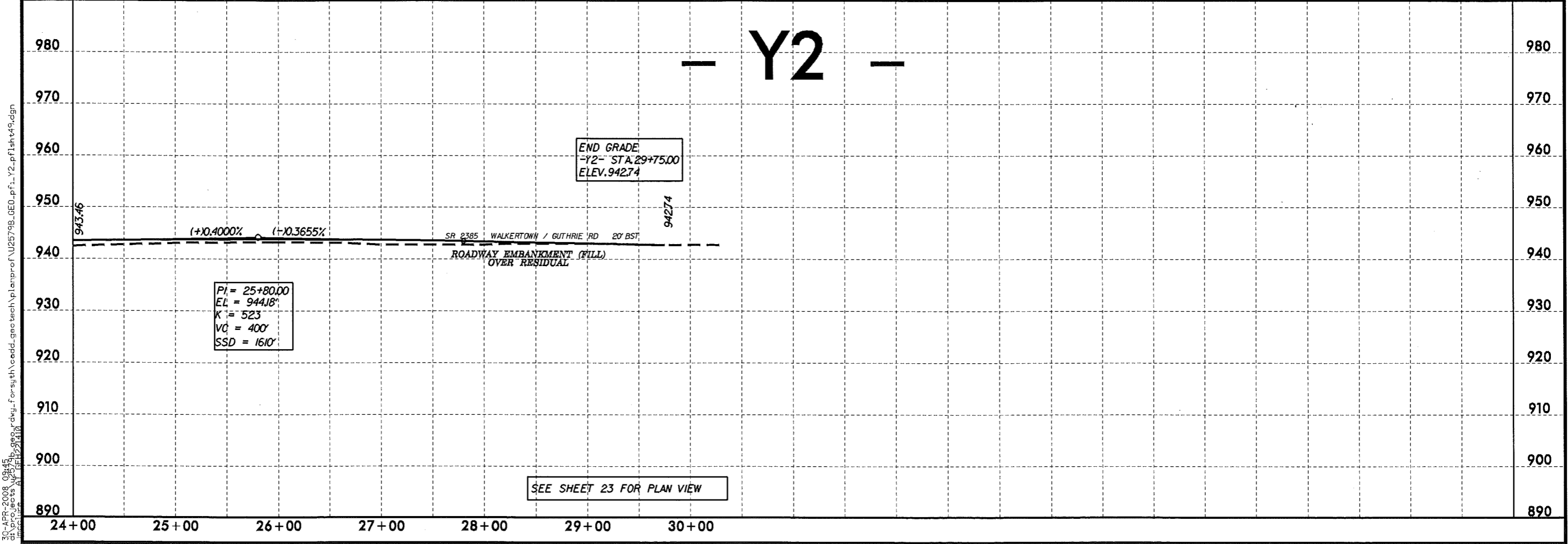
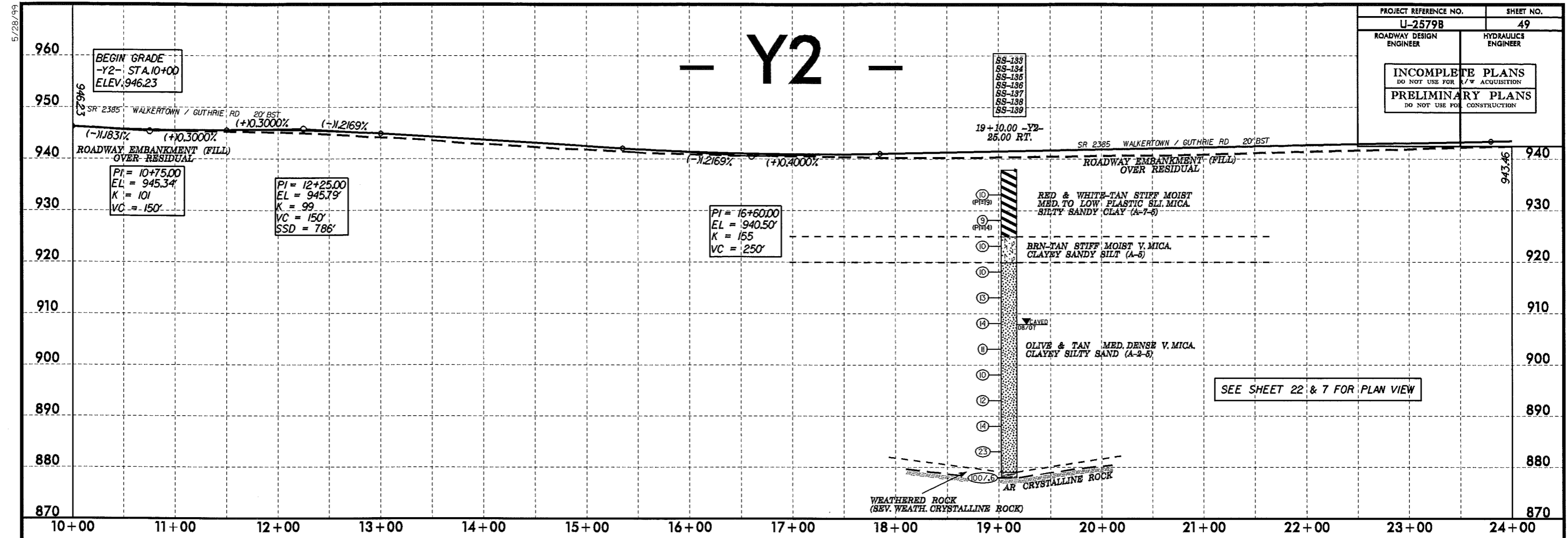


-YIRPD-

SEE SHEET 5 & 6 FOR PLAN VIEW

30-MAY-2008 08:21 bb_gce_r.dwg... for yirpd... U2579B_060.pfl... YIRPD.pflsh+48.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	49
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

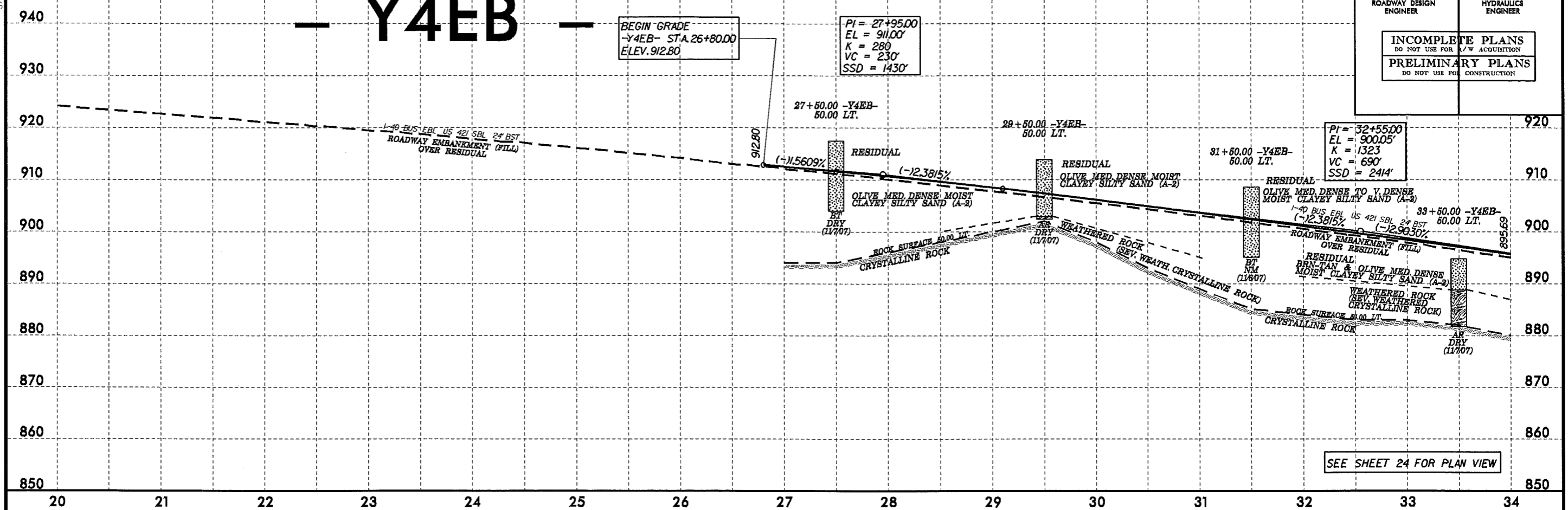


5/28/99
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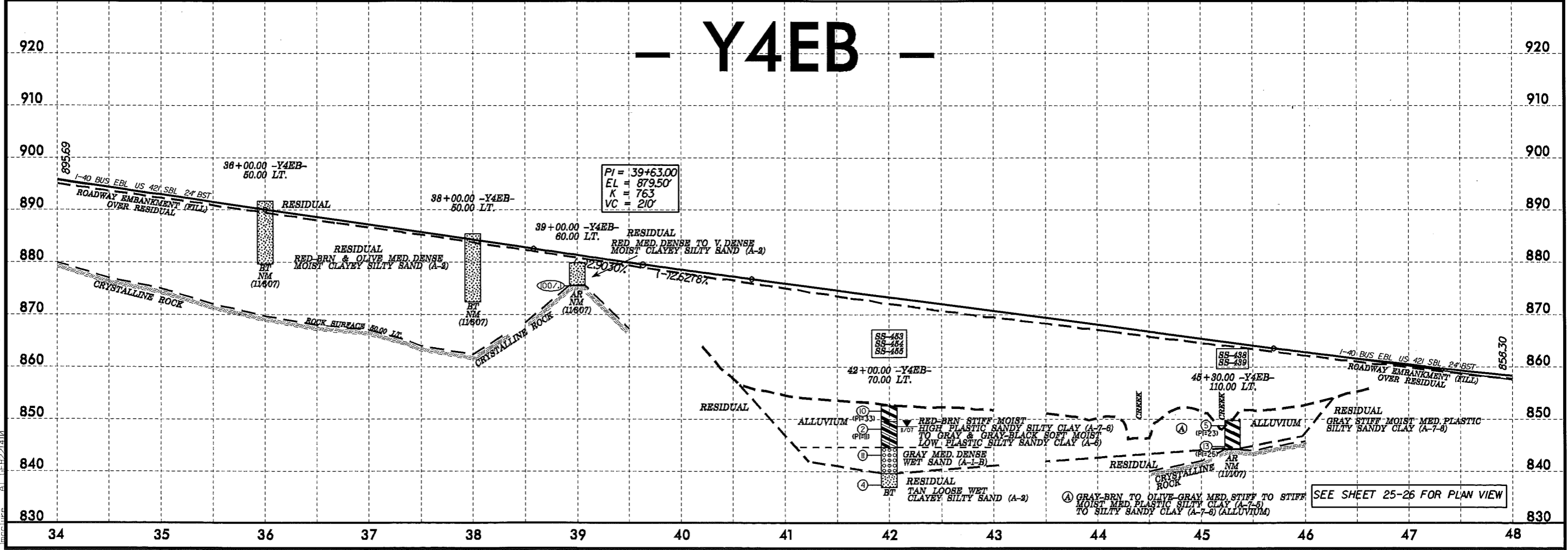
5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		50	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- Y4EB -



- Y4EB -



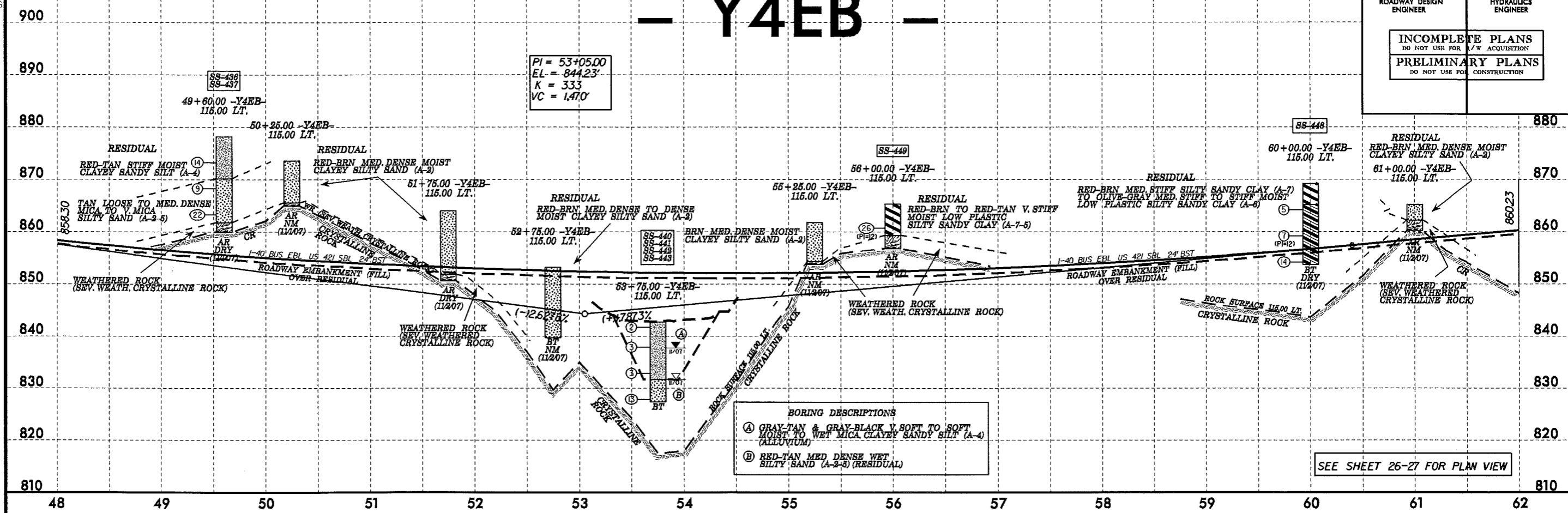
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5/26/99

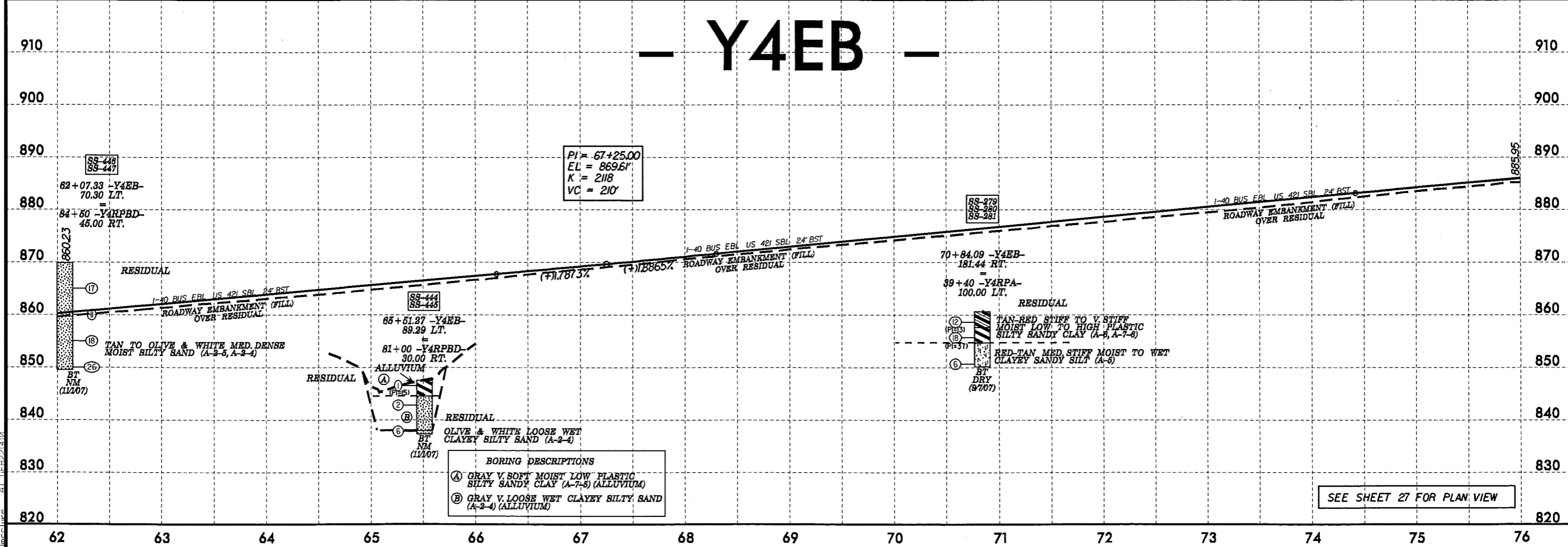
98-Jul-2008 11:49:29 95-geo_rdyw...for\syth\cadd\geo\tech\plan\proj\U25795-geo-f1-y4eb-p1-sh51.dgn

PROJECT REFERENCE NO. U-2579B	SHEET NO. 51
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- Y4EB -

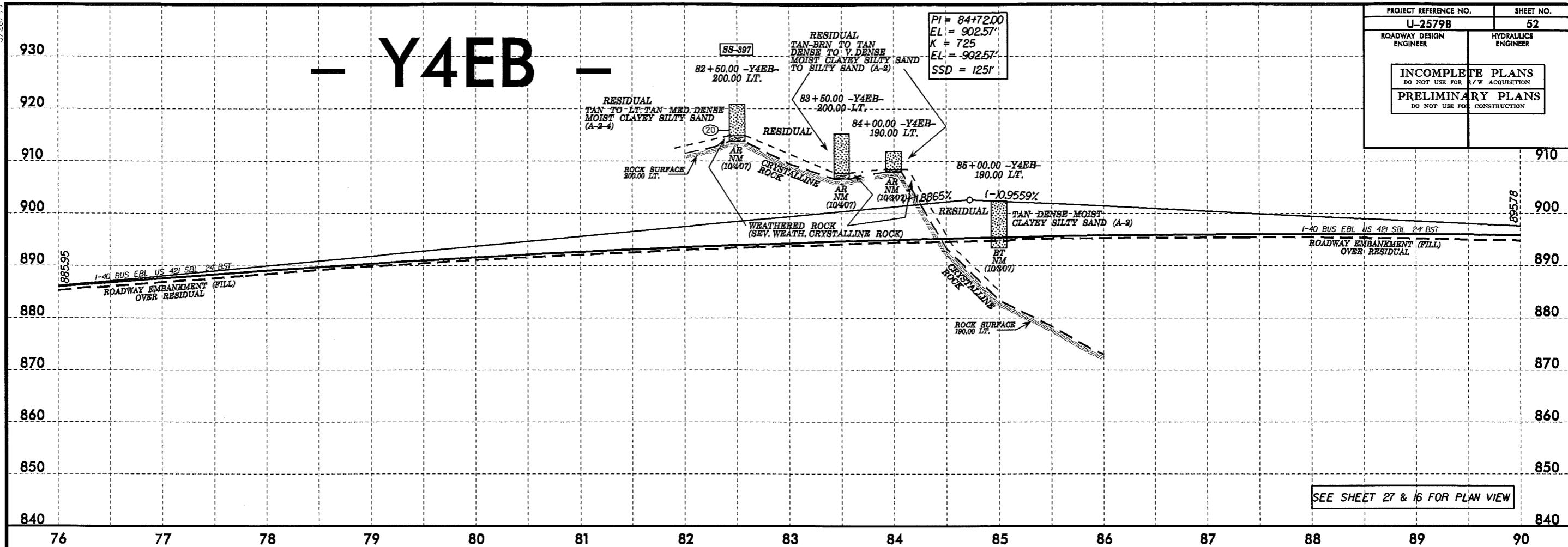


- Y4EB -

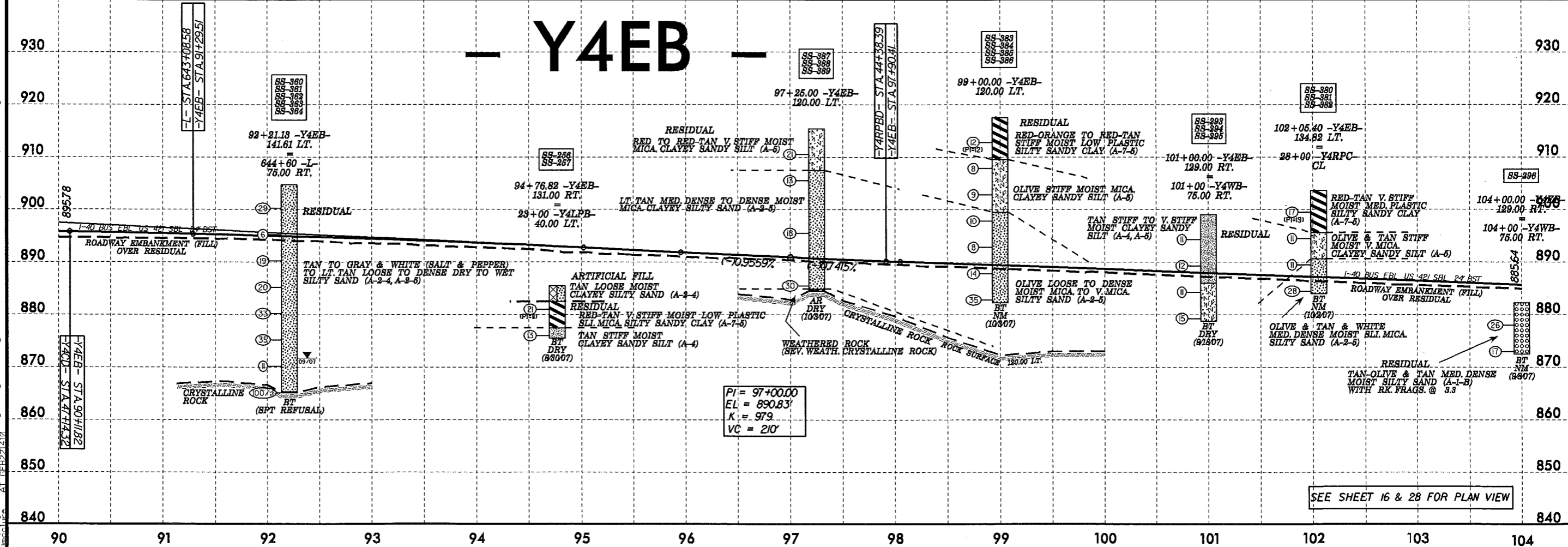


5/28/99
 08-JUL-2008 11:52 AM
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PROJECT REFERENCE NO. U-2579B	SHEET NO. 52
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 27 & 16 FOR PLAN VIEW



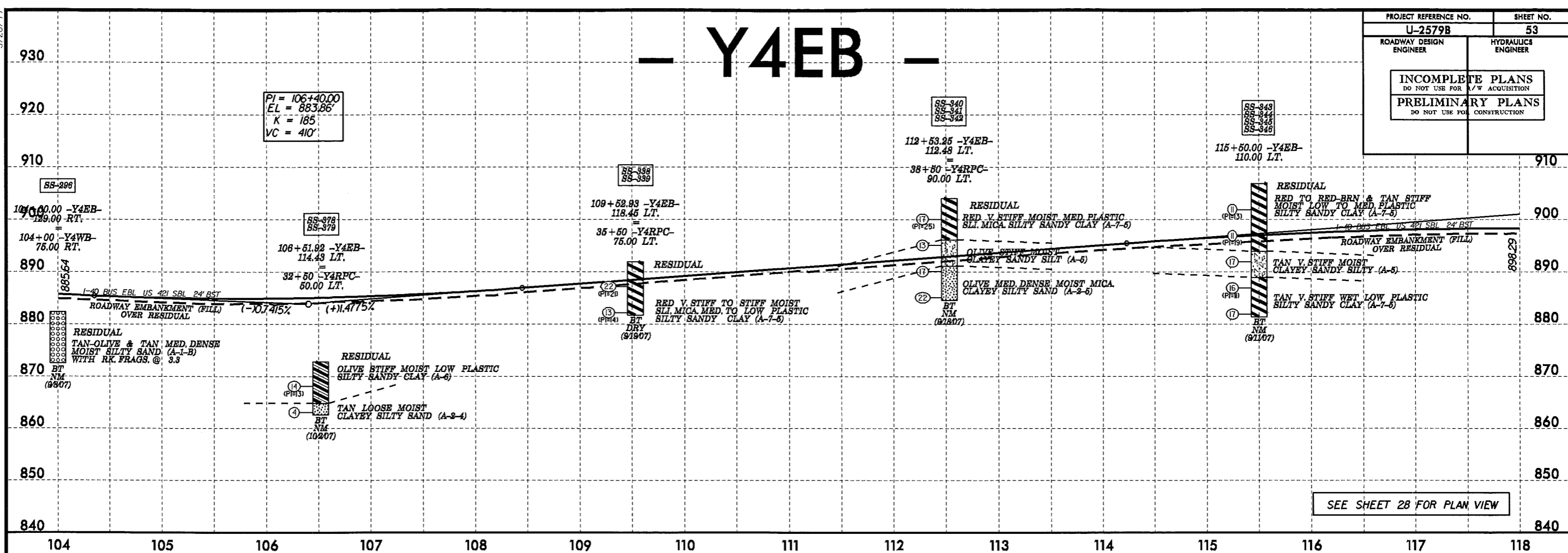
SEE SHEET 16 & 28 FOR PLAN VIEW

5/28/99

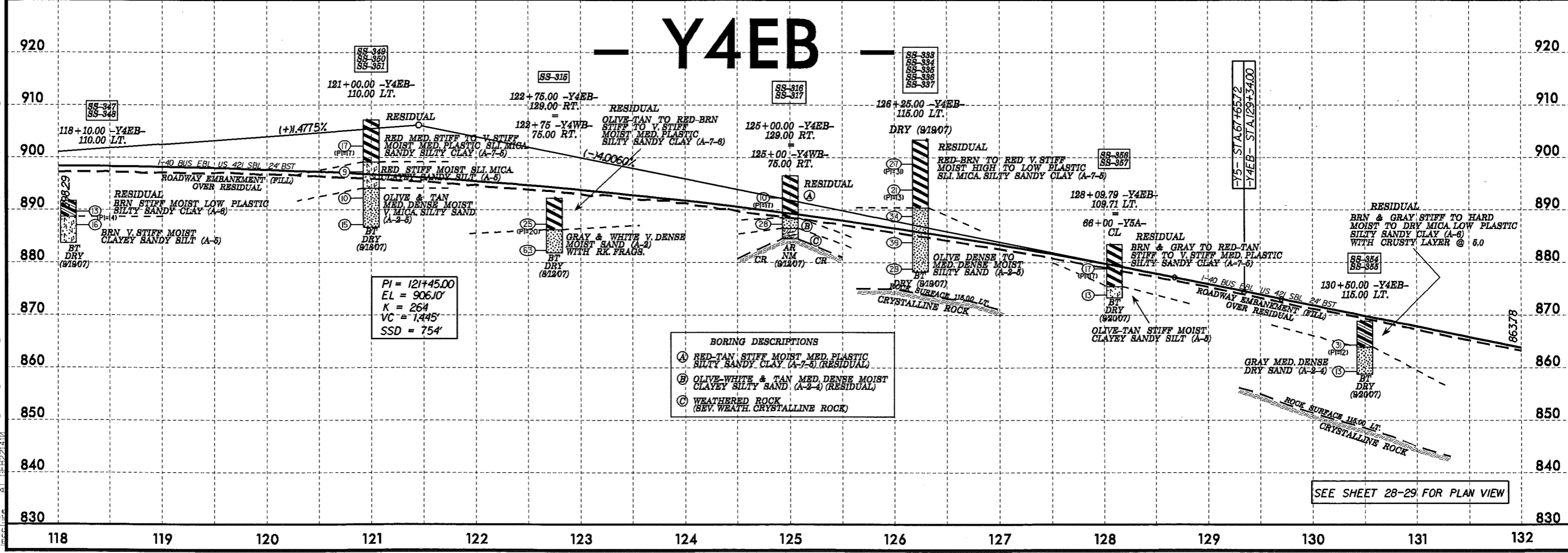
08-JUL-2008 11:55:29 b:\projects\12579b\geotech\Plan\Prof\U2579b_GEO.prf\Y4EB.pflshk53.dgn

- Y4EB -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 53
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



- Y4EB -

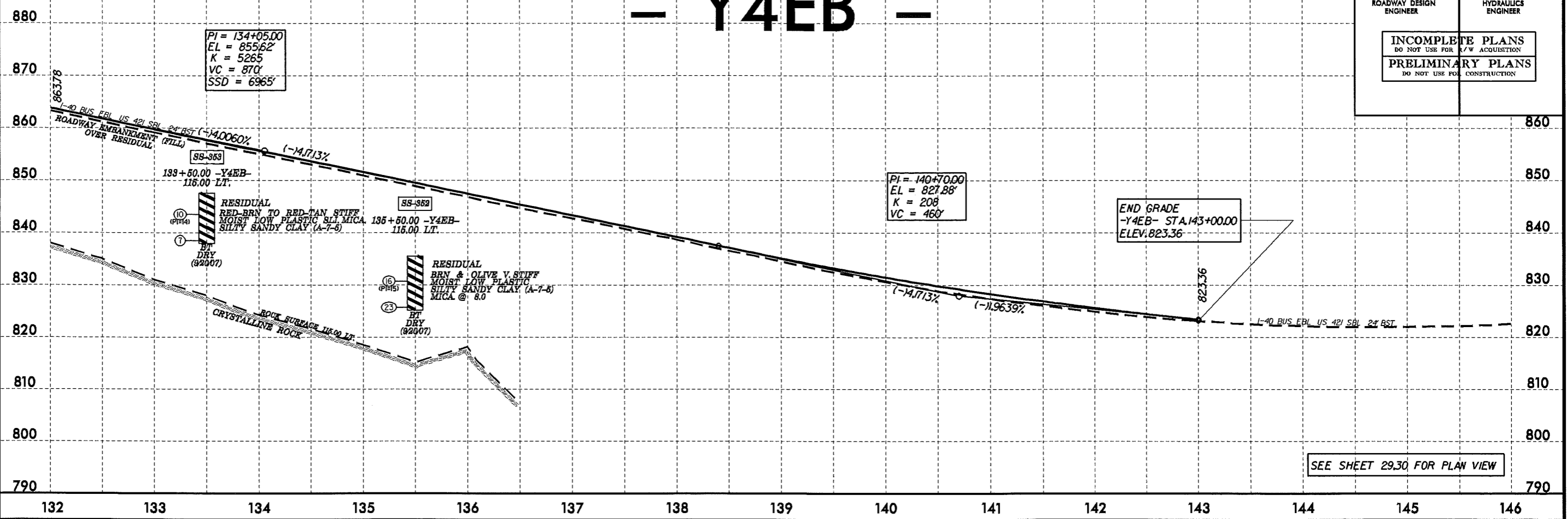


- BORING DESCRIPTIONS**
- Ⓐ RED-TAN STIFF MOIST MED PLASTIC SILTY SANDY CLAY (A-7-5) (RESIDUAL)
 - Ⓑ OLIVE-WHITE & TAN MED. DENSE MOIST CLAYEY SILTY SAND (A-2-4) (RESIDUAL)
 - Ⓒ WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

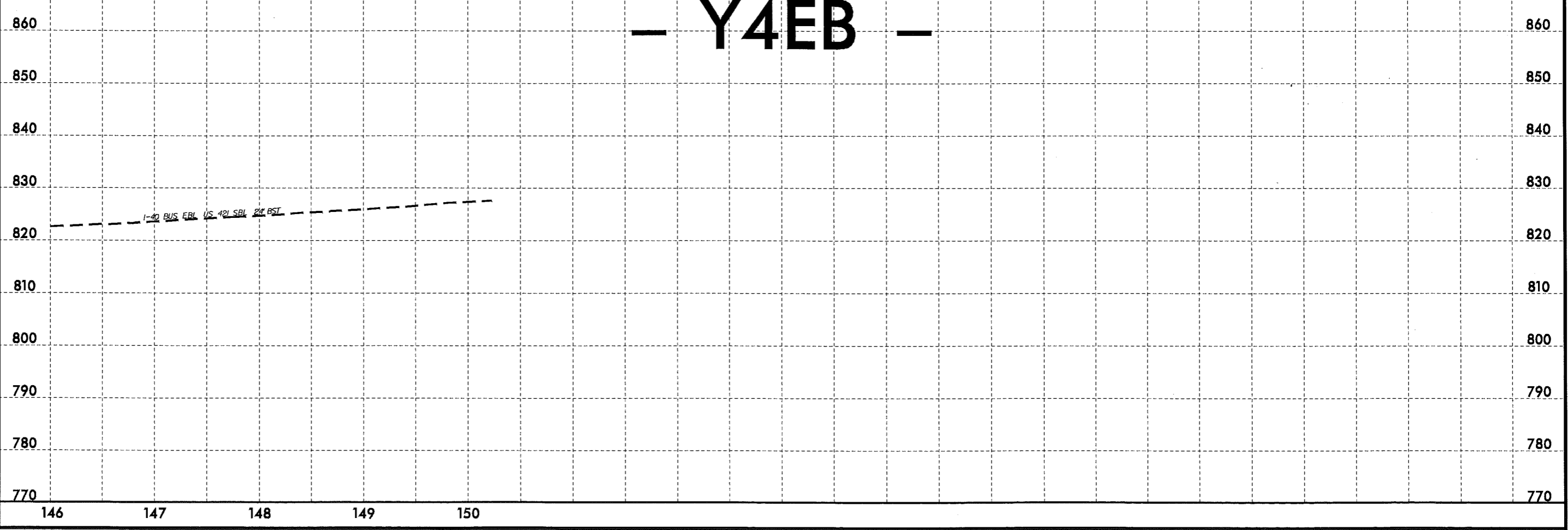
5/28/99

- Y4EB -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 54
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



- Y4EB -

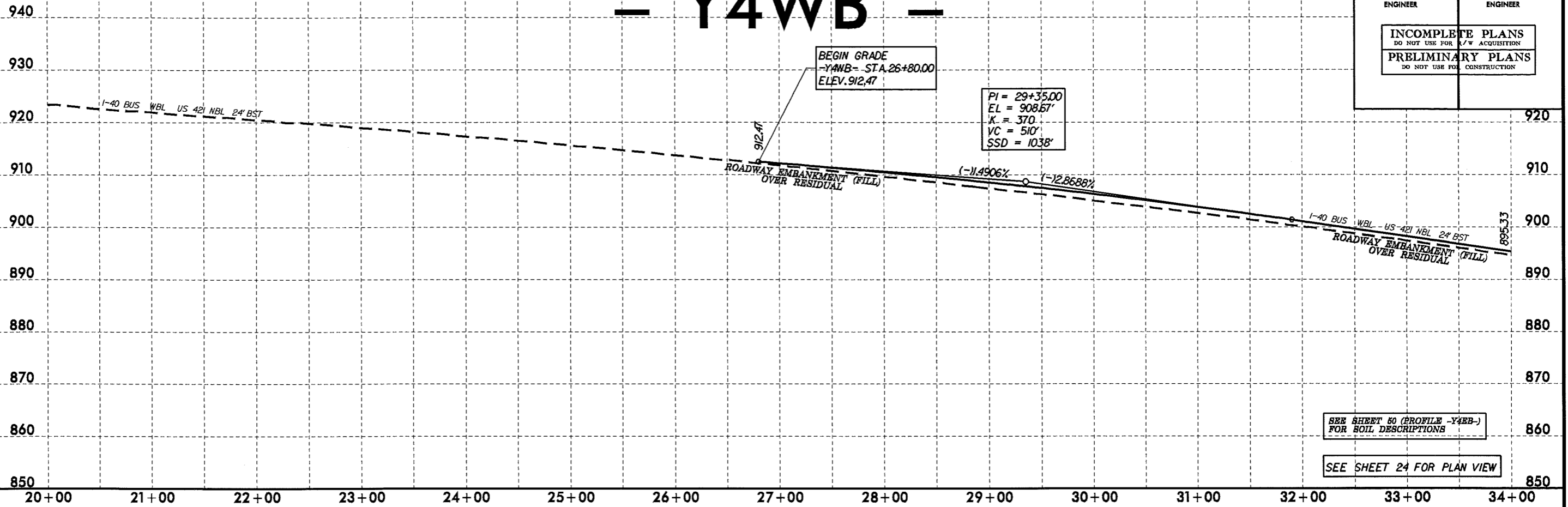


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5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		55	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

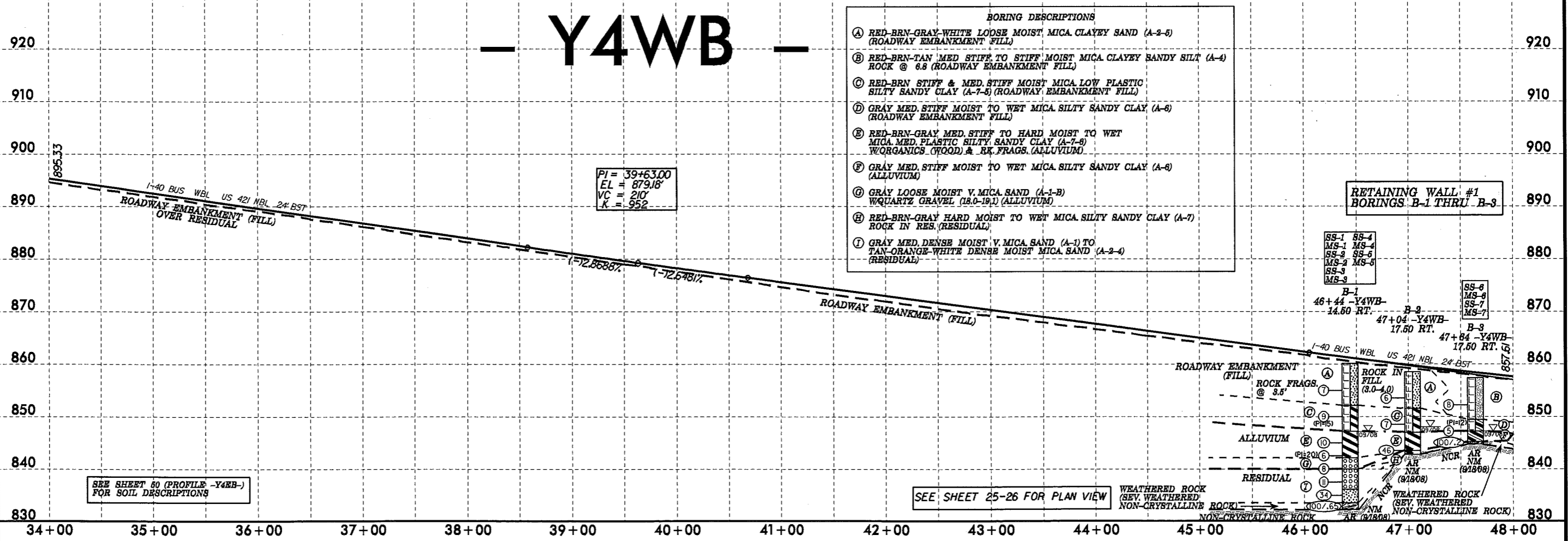
- Y4WB -



SEE SHEET 50 (PROFILE -Y4EB-) FOR SOIL DESCRIPTIONS

SEE SHEET 24 FOR PLAN VIEW

- Y4WB -

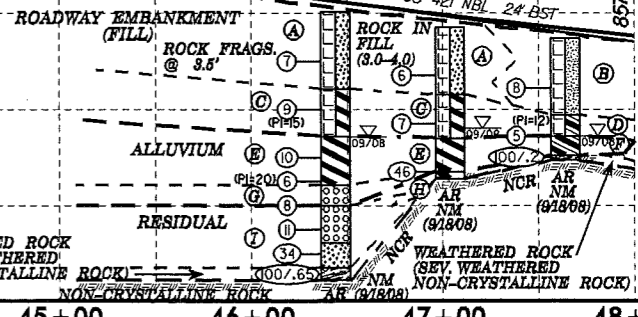


- BORING DESCRIPTIONS**
- Ⓐ RED-BRN-GRAY-WHITE LOOSE MOIST MICA CLAYEY SAND (A-2-5) (ROADWAY EMBANKMENT FILL)
 - Ⓑ RED-BRN-TAN MED STIFF TO STIFF MOIST MICA CLAYEY SANDY SILT (A-4) ROCK @ 6.8 (ROADWAY EMBANKMENT FILL)
 - Ⓒ RED-BRN STIFF & MED STIFF MOIST MICA LOW PLASTIC SILTY SANDY CLAY (A-7-5) (ROADWAY EMBANKMENT FILL)
 - Ⓓ GRAY MED STIFF MOIST TO WET MICA SILTY SANDY CLAY (A-6) (ROADWAY EMBANKMENT FILL)
 - Ⓔ RED-BRN-GRAY MED STIFF TO HARD MOIST TO WET MICA MED PLASTIC SILTY SANDY CLAY (A-7-6) W/Organics (WOOD) & RK FRAGS. (ALLUVIUM)
 - Ⓕ GRAY MED STIFF MOIST TO WET MICA SILTY SANDY CLAY (A-6) (ALLUVIUM)
 - Ⓖ GRAY LOOSE MOIST V. MICA SAND (A-1-B) W/QUARTZ GRAVEL (18.0-19.1) (ALLUVIUM)
 - Ⓗ RED-BRN-GRAY HARD MOIST TO WET MICA SILTY SANDY CLAY (A-7) ROCK IN RES. (RESIDUAL)
 - Ⓘ GRAY MED DENSE MOIST V. MICA SAND (A-1) TO TAN-ORANGE-WHITE DENSE MOIST MICA SAND (A-2-4) (RESIDUAL)

RETAINING WALL #1 BORINGS B-1 THRU B-3

- SS-1 SS-4
- MS-1 MS-4
- SS-2 SS-5
- MS-2 MS-5
- SS-3
- MS-3

- B-1 46+44 -Y4WB- 14.50 RT.
- B-2 47+04 -Y4WB- 17.50 RT.
- B-3 47+84 -Y4WB- 17.60 RT.



SEE SHEET 50 (PROFILE -Y4EB-) FOR SOIL DESCRIPTIONS

SEE SHEET 25-26 FOR PLAN VIEW

WEATHERED ROCK (SEV. WEATHERED NON-CRYSTALLINE ROCK) AR (9/1808)

I:\FEB-2010_07\3579b\99b\99b_rdw\forst\th\cadd\geotech\planprof\U2579B_0E0_pf1_Y4WB_pf1.sht.rev55.dgn

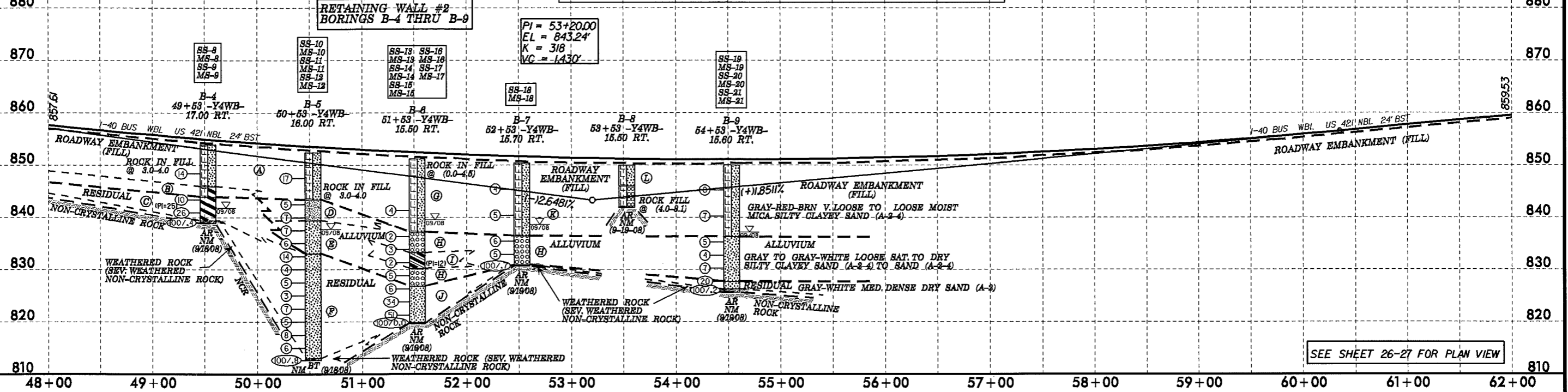
5/28/99
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PROJECT REFERENCE NO. U-2579B		SHEET NO. 56	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- Y4WB -

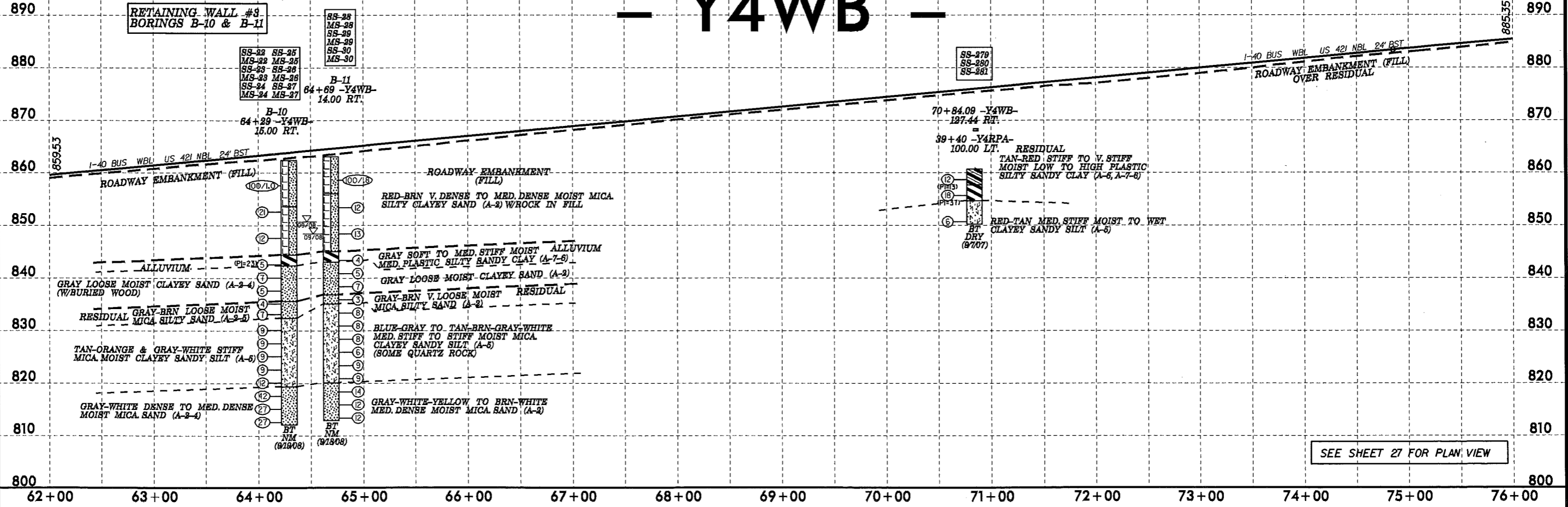
- BORING DESCRIPTIONS**
- (A) TAN-ORANGE-GRAY LOOSE TO MED. DENSE MOIST MICA SILTY CLAYEY SAND (A-2-4) (ROADWAY EMBANKMENT FILL)
 - (B) TAN-ORANGE STIFF MOIST MICA MED. PLASTIC SANDY CLAY (A-7-8) ROCK IN FILL (ROADWAY EMBANKMENT FILL)
 - (C) TAN-ORANGE-GRAY-WHITE V. STIFF MOIST MED. PLASTIC SANDY CLAY (A-7-6) (RESIDUAL)
 - (D) GRAY MED. STIFF MOIST MICA CLAYEY SANDY SILT (A-4) (ALLUVIUM)
 - (E) TAN-ORANGE-GRAY-WHITE LOOSE MOIST TO WET CLAYEY SAND (A-2-4) (ALLUVIUM)
 - (F) GRAY-TAN-ORANGE LOOSE TO MED. DENSE MOIST SAND (A-2-4) (RESIDUAL)

- BORING DESCRIPTIONS**
- (G) TAN-ORANGE-GRAY TO RED BRN. LOOSE MOIST MICA SILTY CLAYEY SAND (A-2-4) (ROADWAY EMBANKMENT FILL)
 - (H) GRAY V. LOOSE & LOOSE MOIST TO SATURATED SAND (A-1-B) (ALLUVIUM)
 - (I) GRAY SOFT MOIST SILTY SANDY CLAY (A-6) (ALLUVIUM)
 - (J) TAN-ORANGE-BRN TO TAN-ORANGE-GRAY-WHITE LOOSE TO VERY DENSE MOIST MICA SAND (A-2-6) & SILTY SAND (A-2-4) (RESIDUAL)
 - (K) RED-BRN LOOSE MOIST MICA CLAYEY SILTY SAND (A-2-5) & SILTY CLAYEY SAND (A-2-4) (ROADWAY EMBANKMENT FILL)
 - (L) RED-BRN LOOSE MICA MOIST CLAYEY SILTY SAND (A-2) (ROADWAY EMBANKMENT FILL)



- Y4WB -

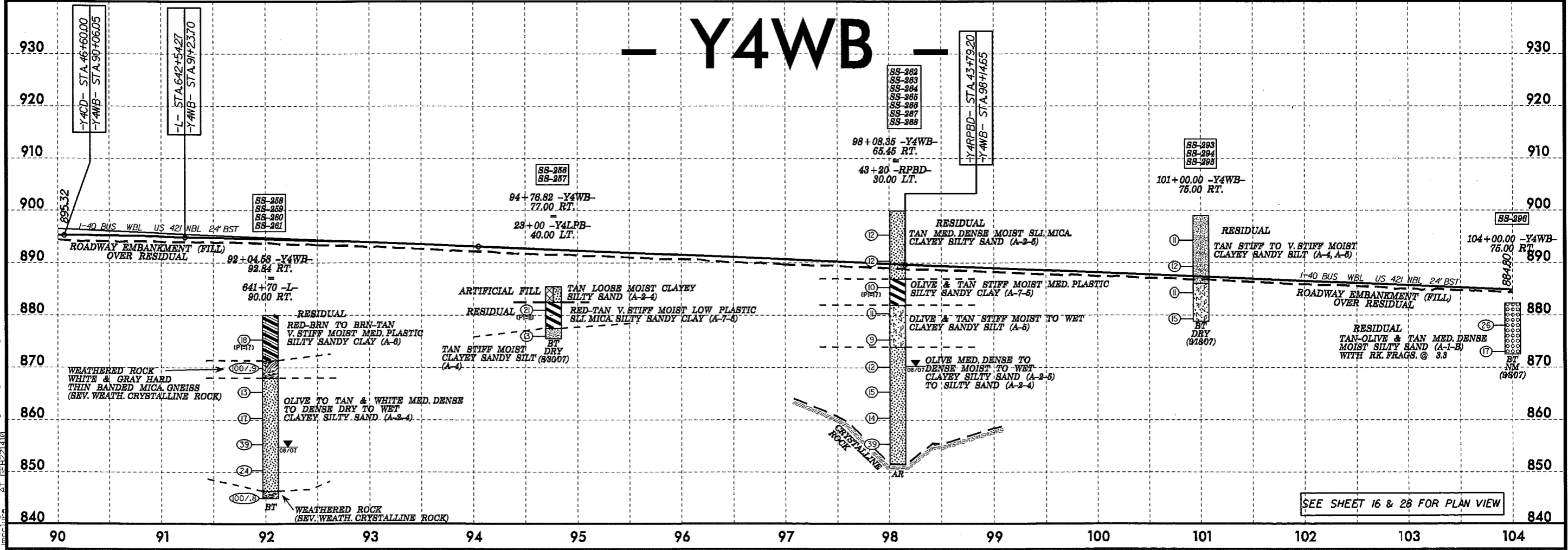
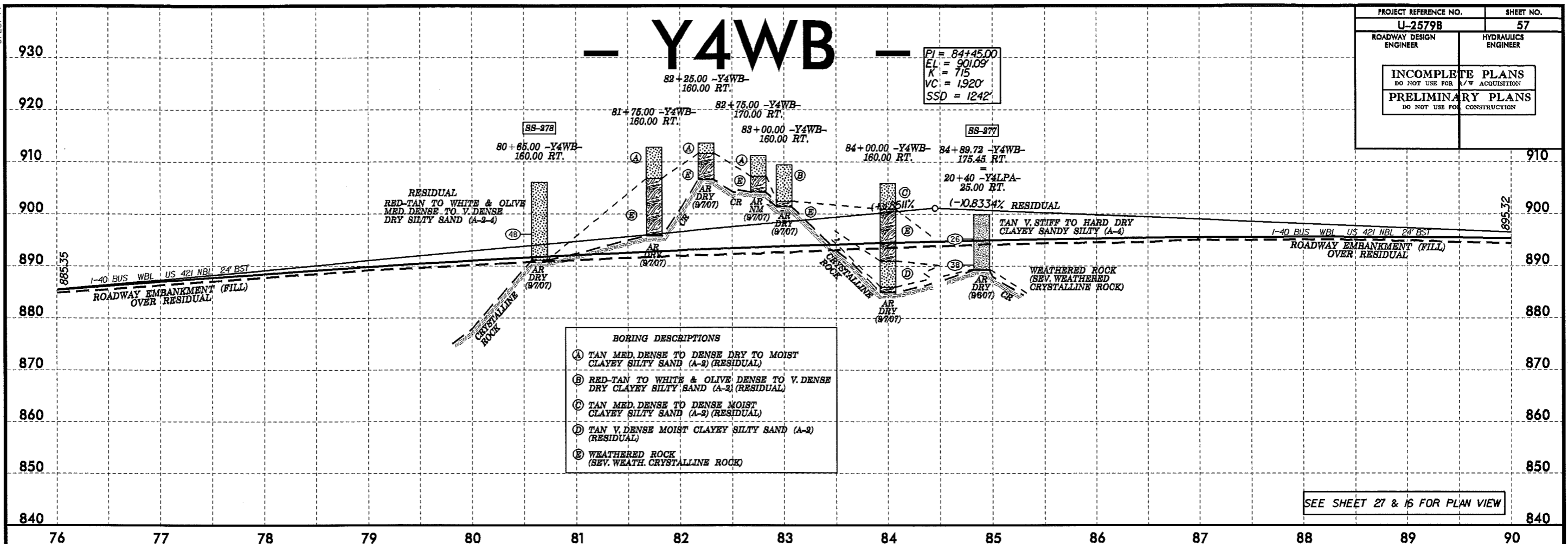
**RETAINING WALL #3
BORINGS B-10 & B-11**



5/28/99

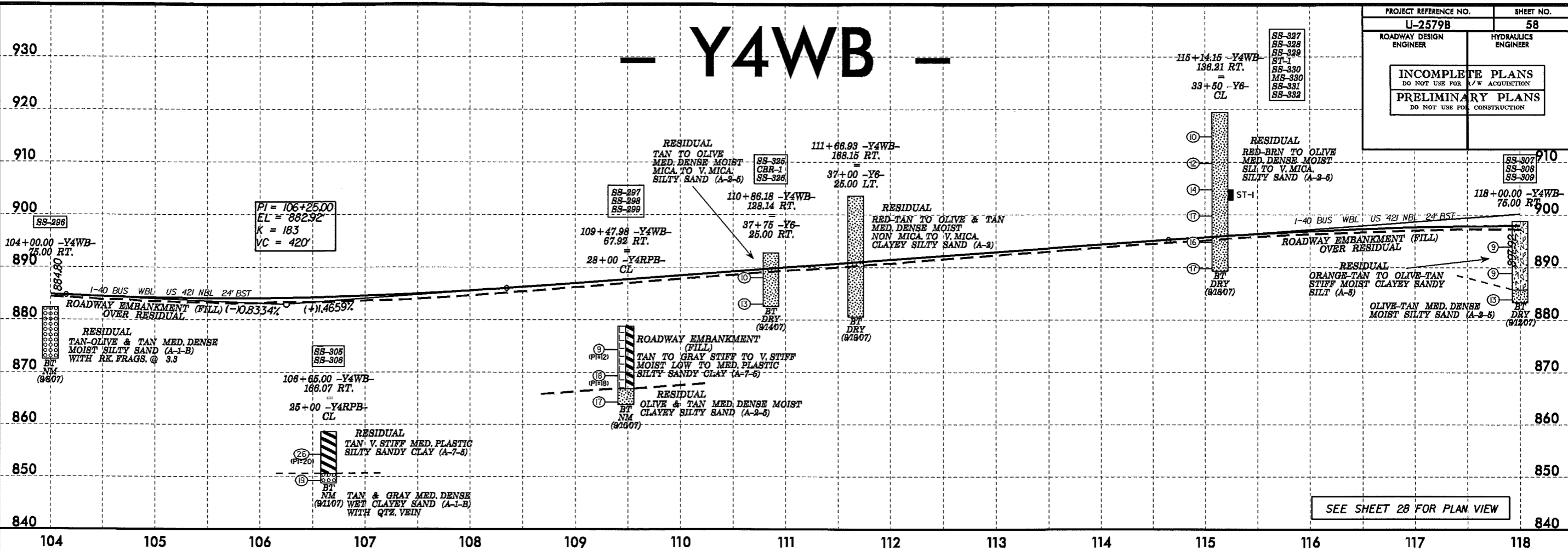
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PROJECT REFERENCE NO. U-2579B	SHEET NO. 57
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

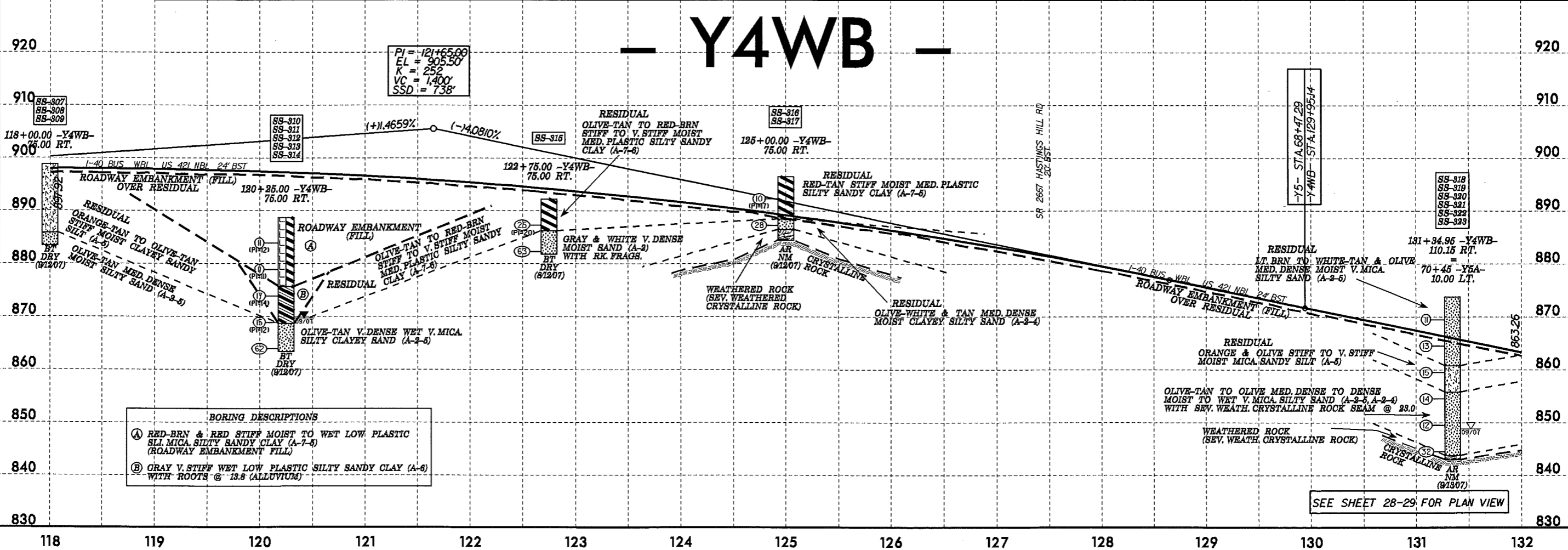


PROJECT REFERENCE NO. U-2579B	SHEET NO. 58
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- Y4WB -



- Y4WB -

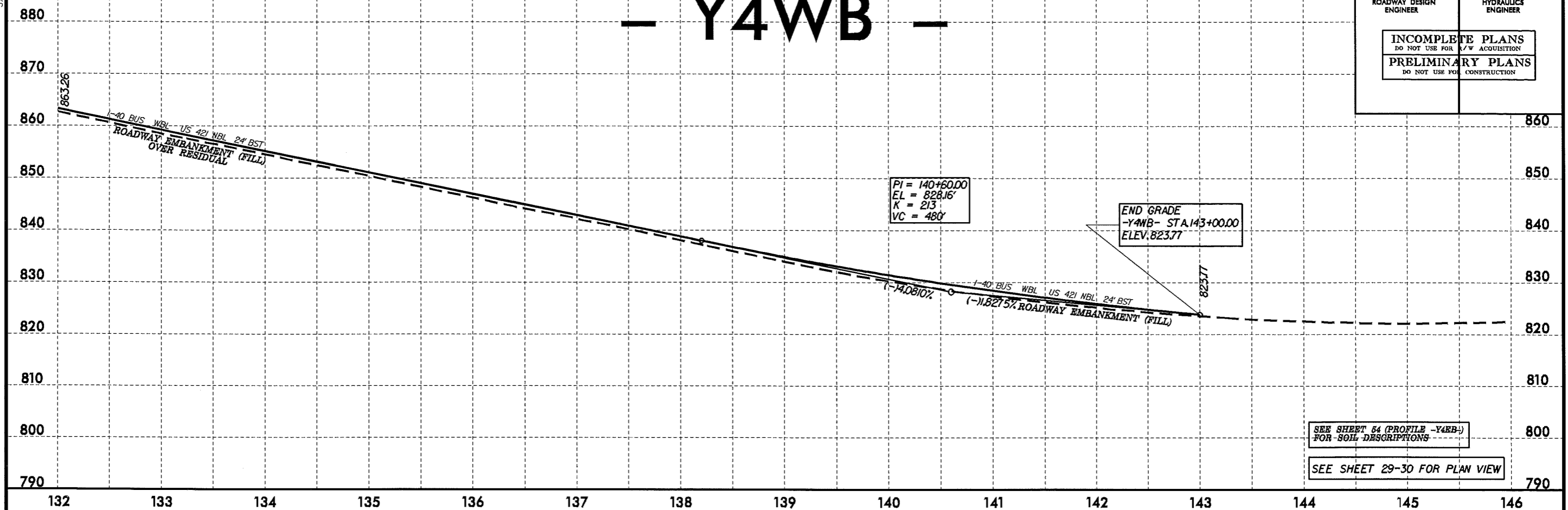


5/28/99
 18 JUL 2008 14:53
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5/28/99

PROJECT REFERENCE NO. U-2579B	SHEET NO. 59
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

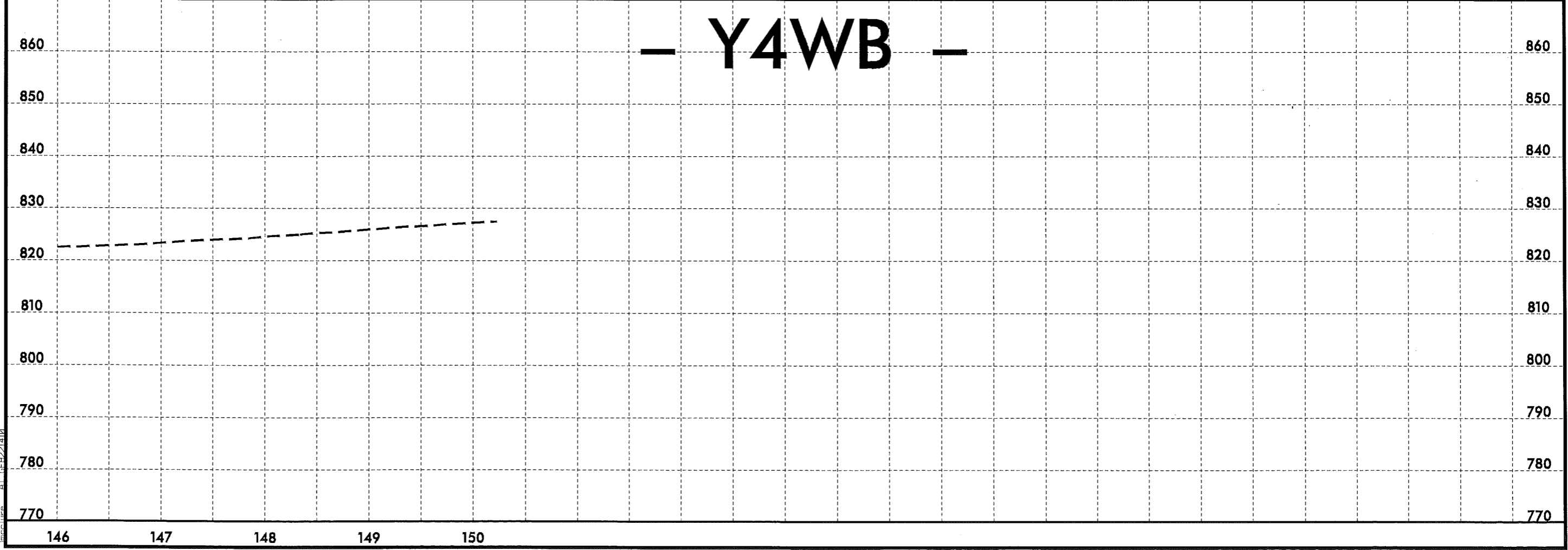
- Y4WB -



SEE SHEET 54 (PROFILE -Y4EB-) FOR SOIL DESCRIPTIONS

SEE SHEET 29-30 FOR PLAN VIEW

- Y4WB -



I:\JUL-2008\145679b_gco_rdyw_for_synth_codd_geotech\plan\prof\U2579b_GEO_pfl_Y4WB_pflsh459.dgn

- Y4CD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 60
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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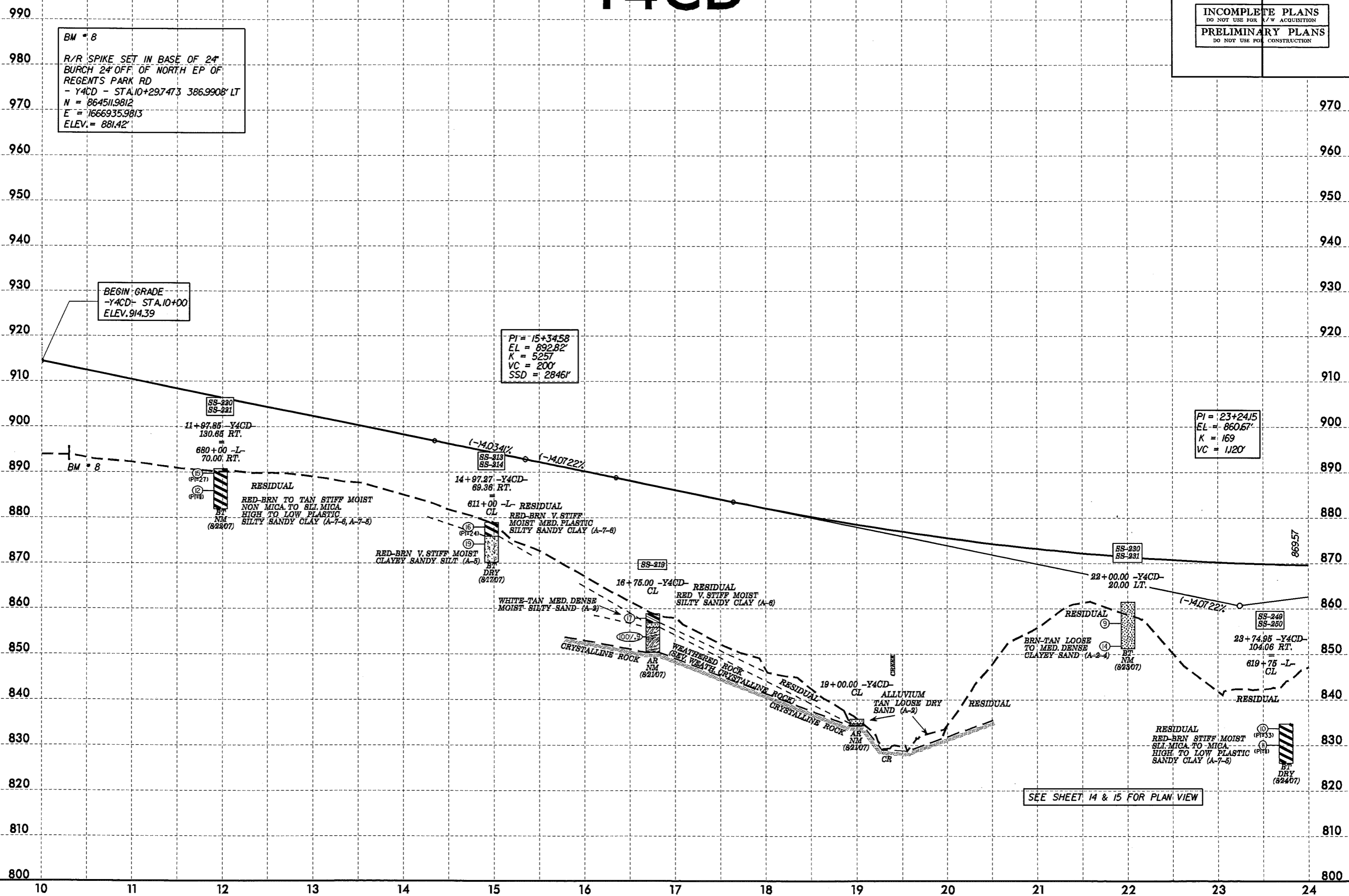
BM * 8
 R/R SPIKE SET IN BASE OF 24"
 BURCH 24' OFF OF NORTH EP OF
 REGENTS PARK RD
 - Y4CD - STA. 10+29.7473 386.9908' LT
 N = 864511.9812
 E = 1666935.9813
 ELEV. = 881.42'

BEGIN GRADE
 -Y4CD- STA. 10+00
 ELEV. 914.39

PI = 15+34.58
 EL = 892.82'
 K = 5257
 VC = 200'
 SSD = 2846'

PI = 23+24.15
 EL = 860.67'
 K = 169
 VC = 1120'

5/14/99
 02-MAY-2008 10:07
 C:\projects\2579b\2579b.dwg
 02-MAY-2008 10:07
 C:\projects\2579b\2579b.dwg
 02-MAY-2008 10:07
 C:\projects\2579b\2579b.dwg

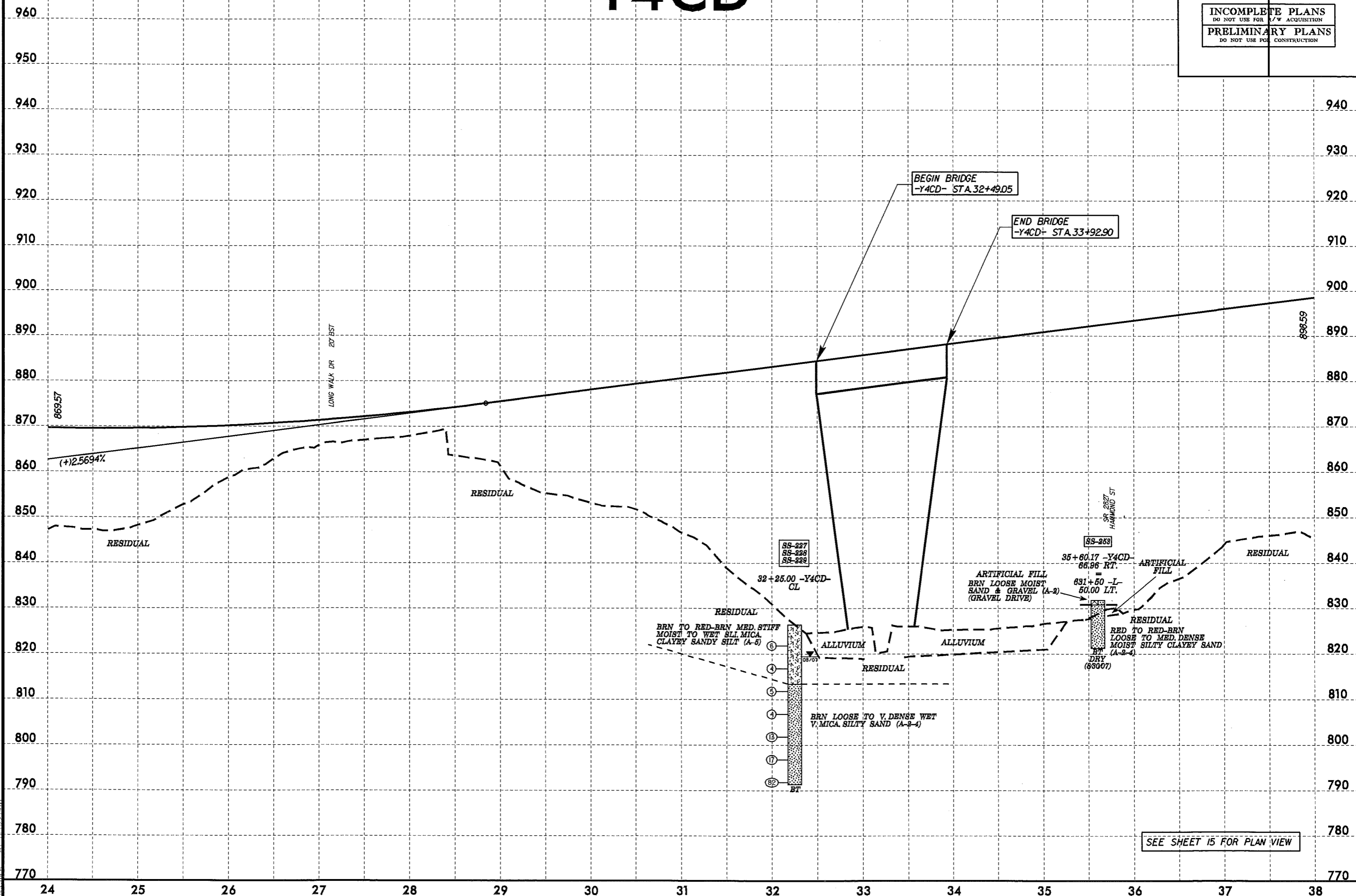


SEE SHEET 14 & 15 FOR PLAN VIEW

- Y4CD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 61
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

5/14/99
02-MAY-2008 09:57
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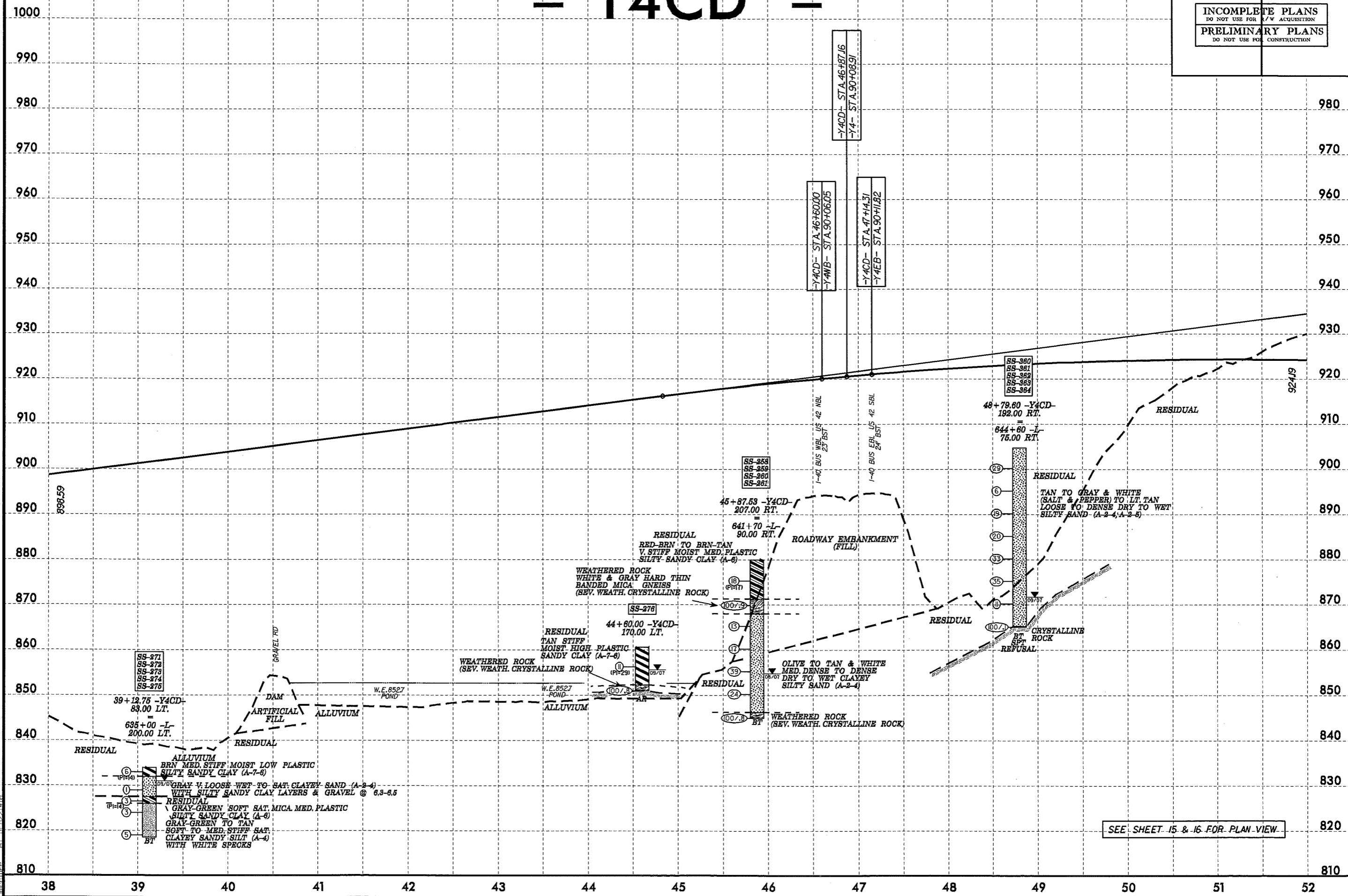


SEE SHEET 15 FOR PLAN VIEW

5/14/99
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- Y4CD -

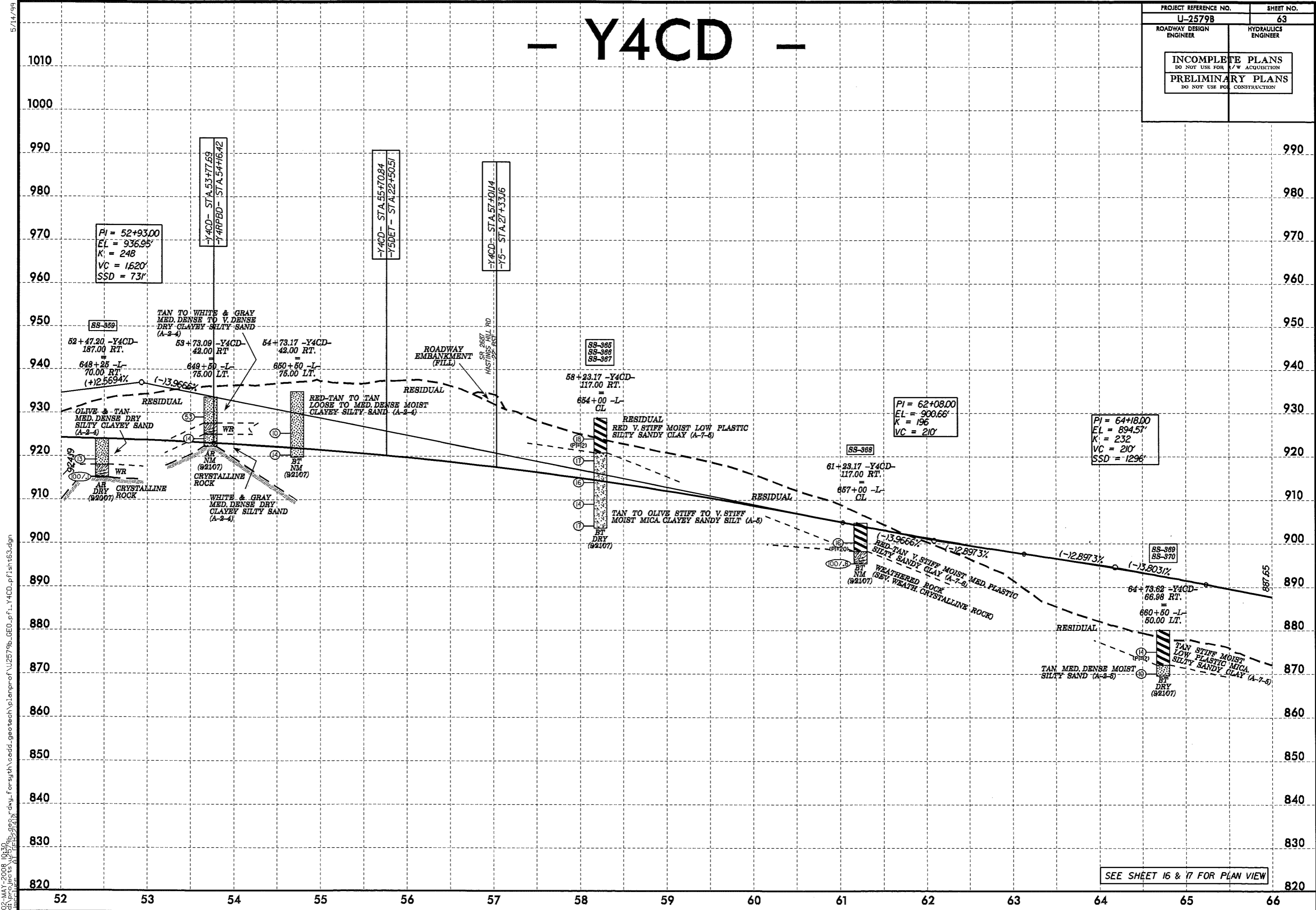
PROJECT REFERENCE NO. U-2579B	SHEET NO. 62
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 15 & 16 FOR PLAN VIEW

- Y4CD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 63
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

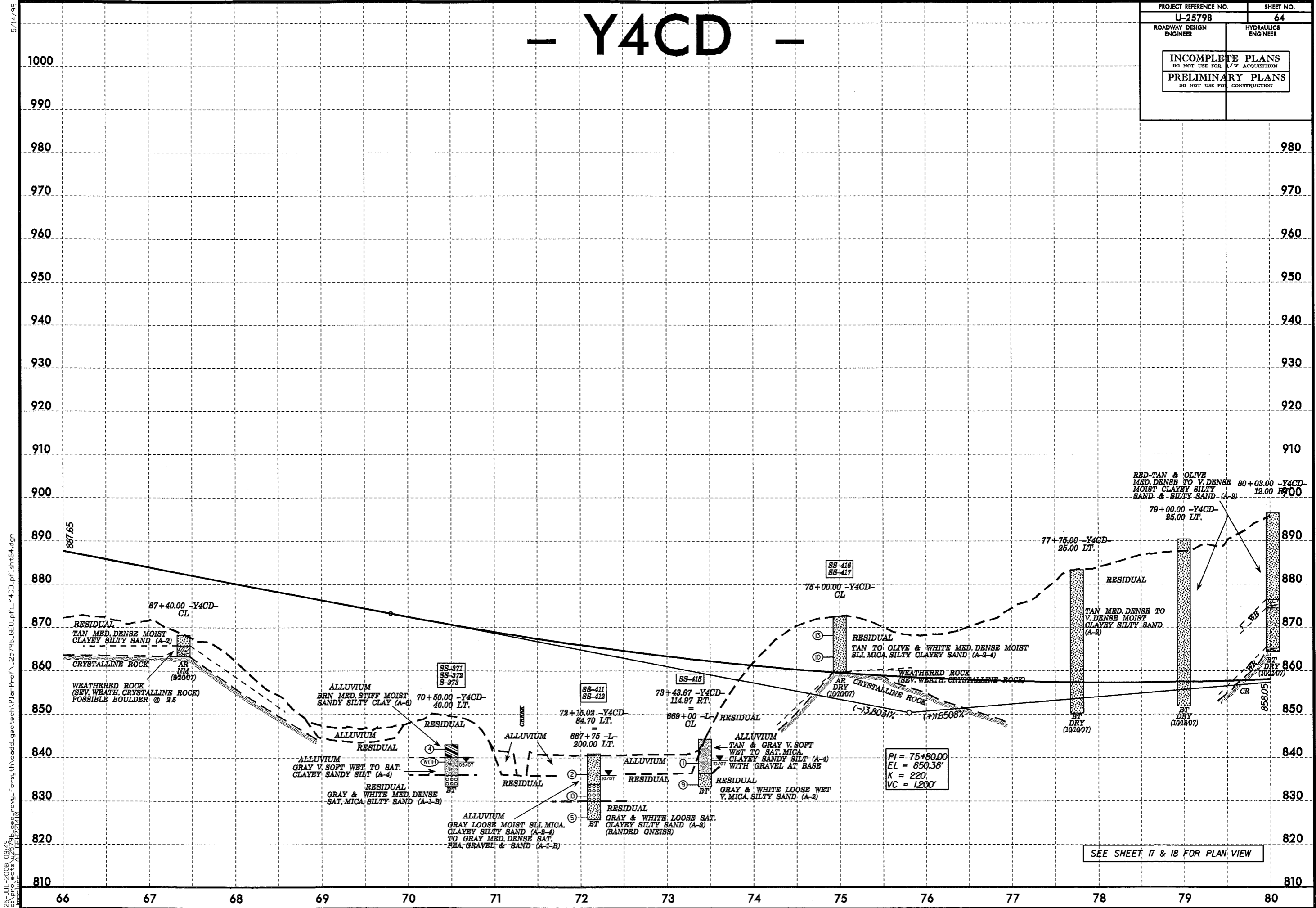


02-MAY-2008 10:30
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SEE SHEET 16 & 17 FOR PLAN VIEW

- Y4CD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 64
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR A/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



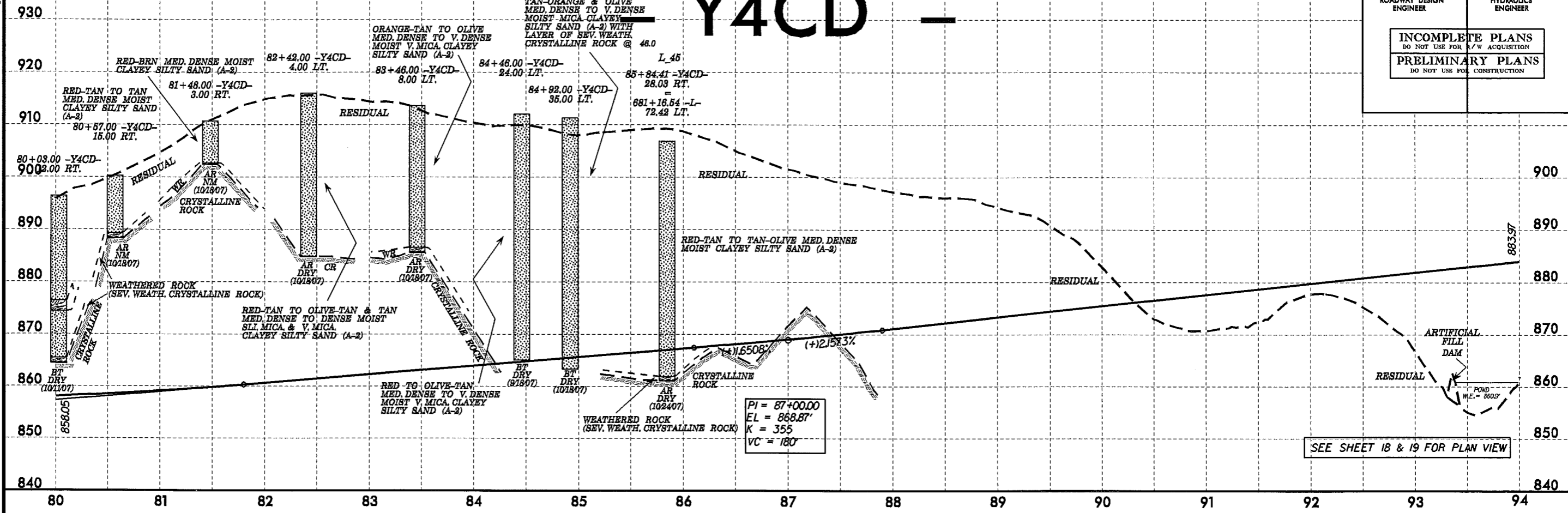
SEE SHEET 77 & 78 FOR PLAN VIEW

5/14/99
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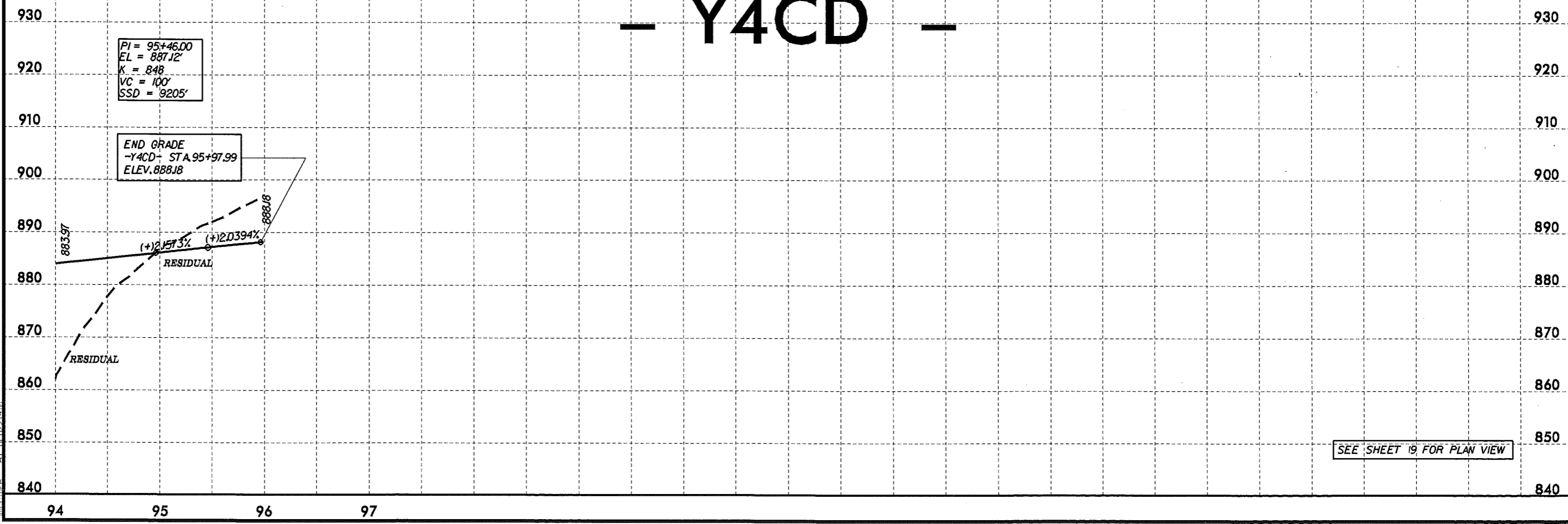
5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-2579B		65	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Y4CD



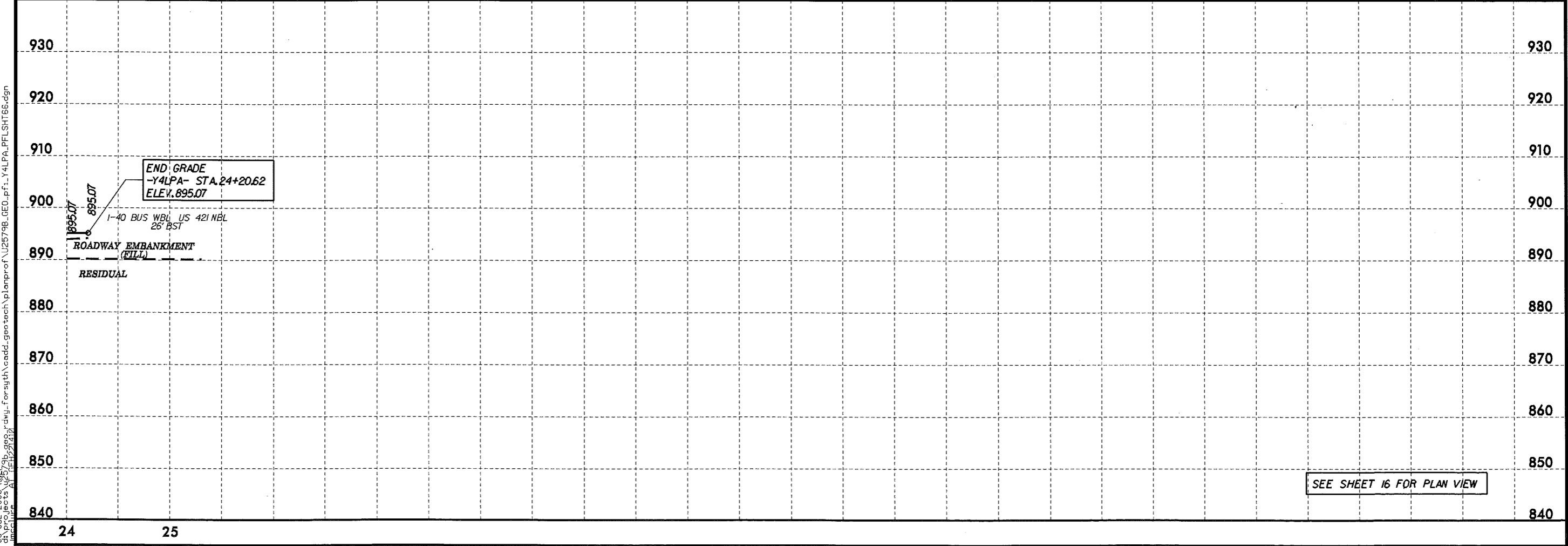
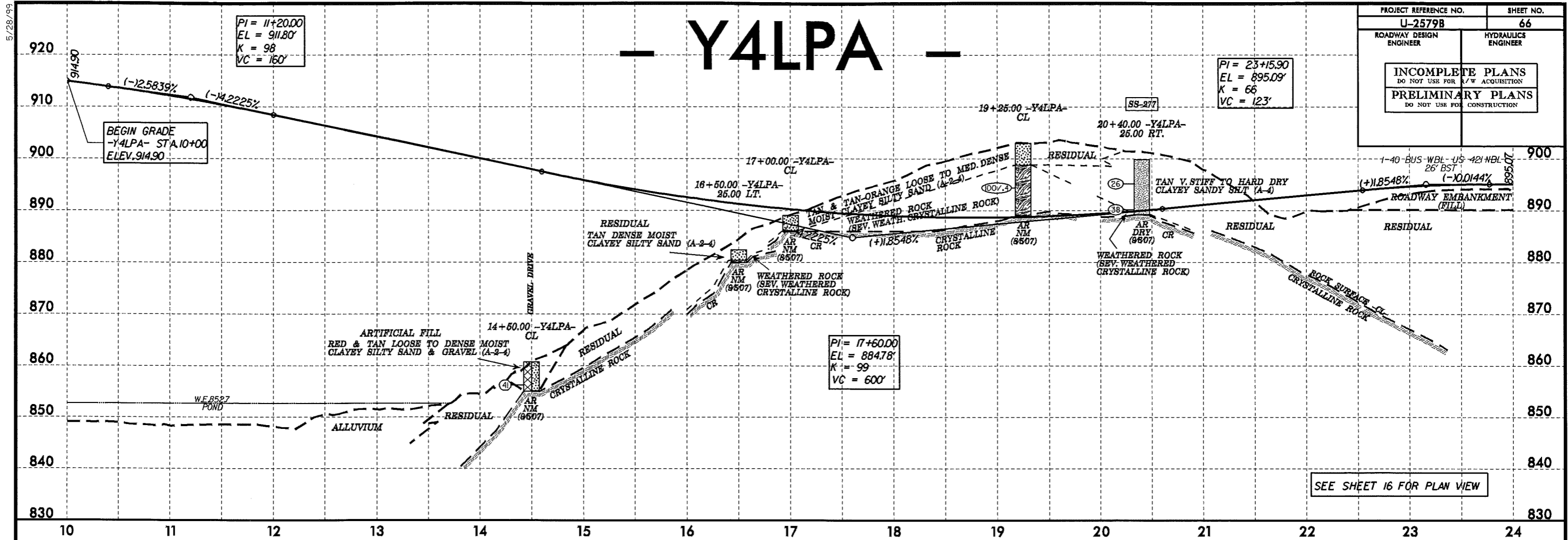
- Y4CD -



C2-MAY-2008 11:37
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- Y4LPA -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 66
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

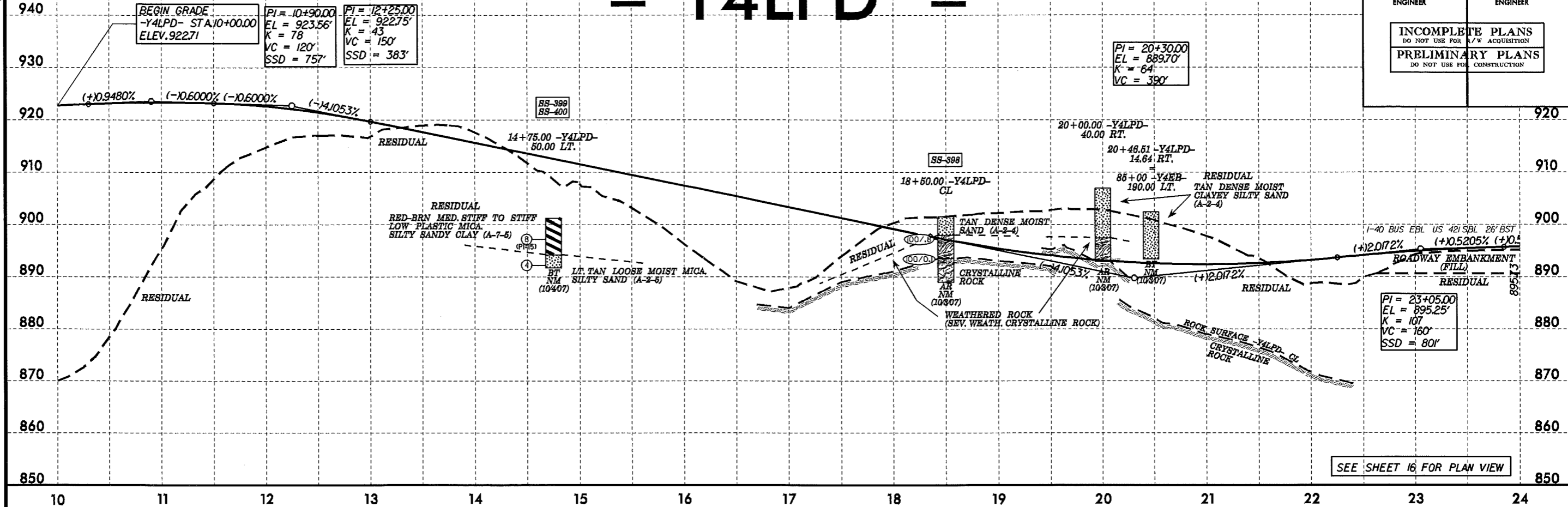


5/28/99
08-JUL-2008 15:27:29
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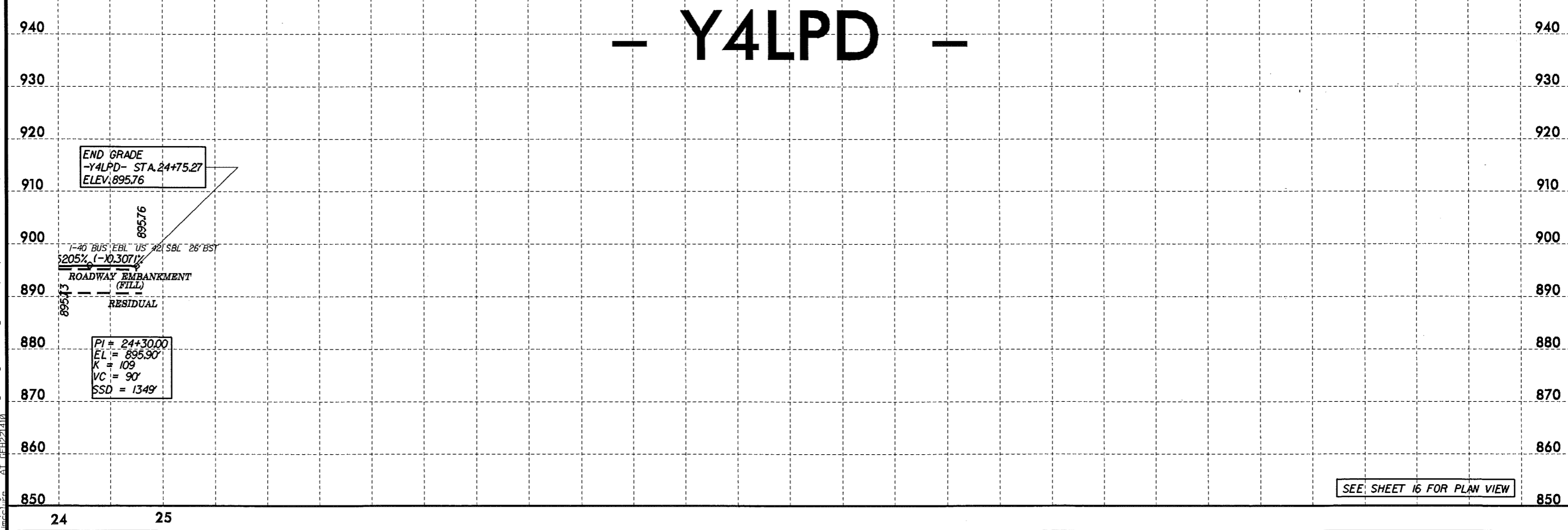
5/28/99

- Y4LPD -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 68
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



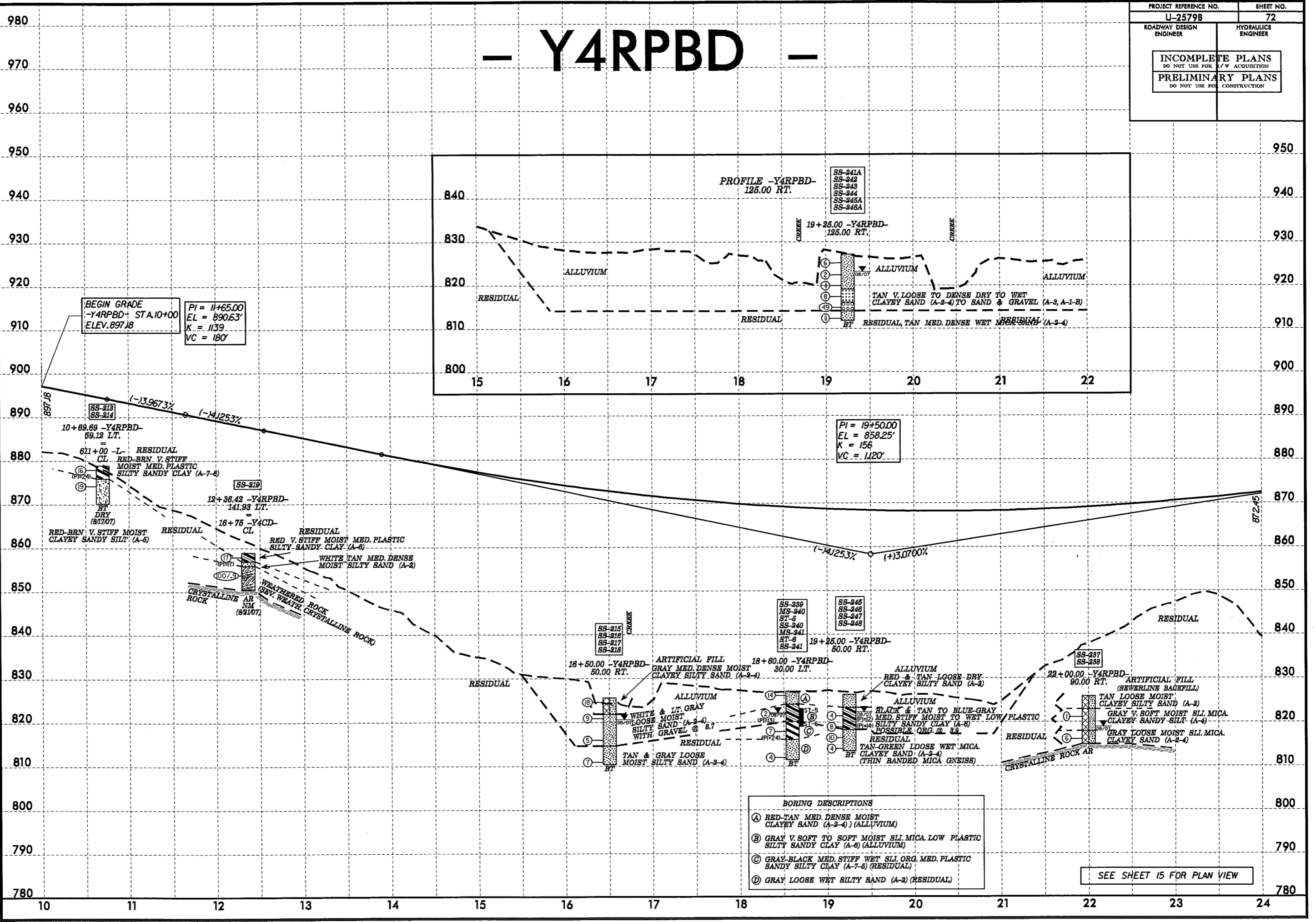
- Y4LPD -



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5/14/99
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 mcd

- Y4RPBD -



BEGIN GRADE
 -Y4RPBD- STA.10+00
 ELEV. 897.18
 PI = 11+65.00
 EL = 890.63'
 K = 1139
 VC = 180'

SS-241A
 SS-242
 SS-243
 SS-244
 SS-246A
 SS-246A

PI = 19+50.00
 EL = 858.25'
 K = 156
 VC = 1120'

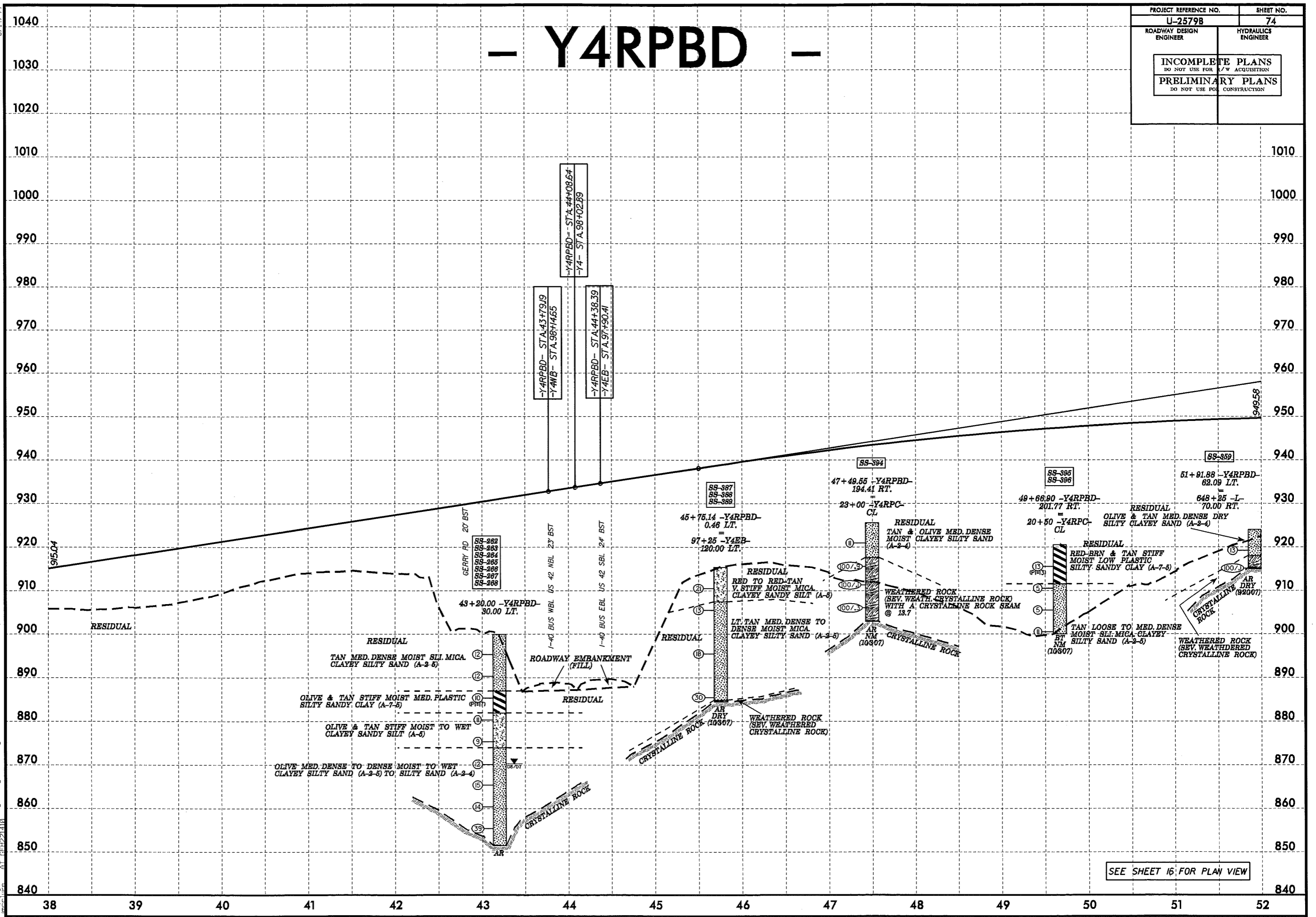
- BORING DESCRIPTIONS**
- (A) RED-TAN MED. DENSE MOIST CLAYEY SAND (A-2-4) (ALLUVIUM)
 - (B) GRAY V. SOFT TO SOFT MOIST SLT. MICA LOW PLASTIC SILTY SANDY CLAY (A-6) (ALLUVIUM)
 - (C) GRAY-BLACK MED. STIFF WET SLT. ORG. MED. PLASTIC SANDY SILTY CLAY (A-7-6) (RESIDUAL)
 - (D) GRAY LOOSE WET SILTY SAND (A-2) (RESIDUAL)

SEE SHEET 15 FOR PLAN VIEW

5/14/09
 25-JUL-2008 13:48 9b_999_rdwj_forrsjth\cedd.geotech\p1\m\pof\U2579B_GEO.pf1_Y4RPBD_PFLSHT74.dgn
 10
 110

- Y4RPBD -

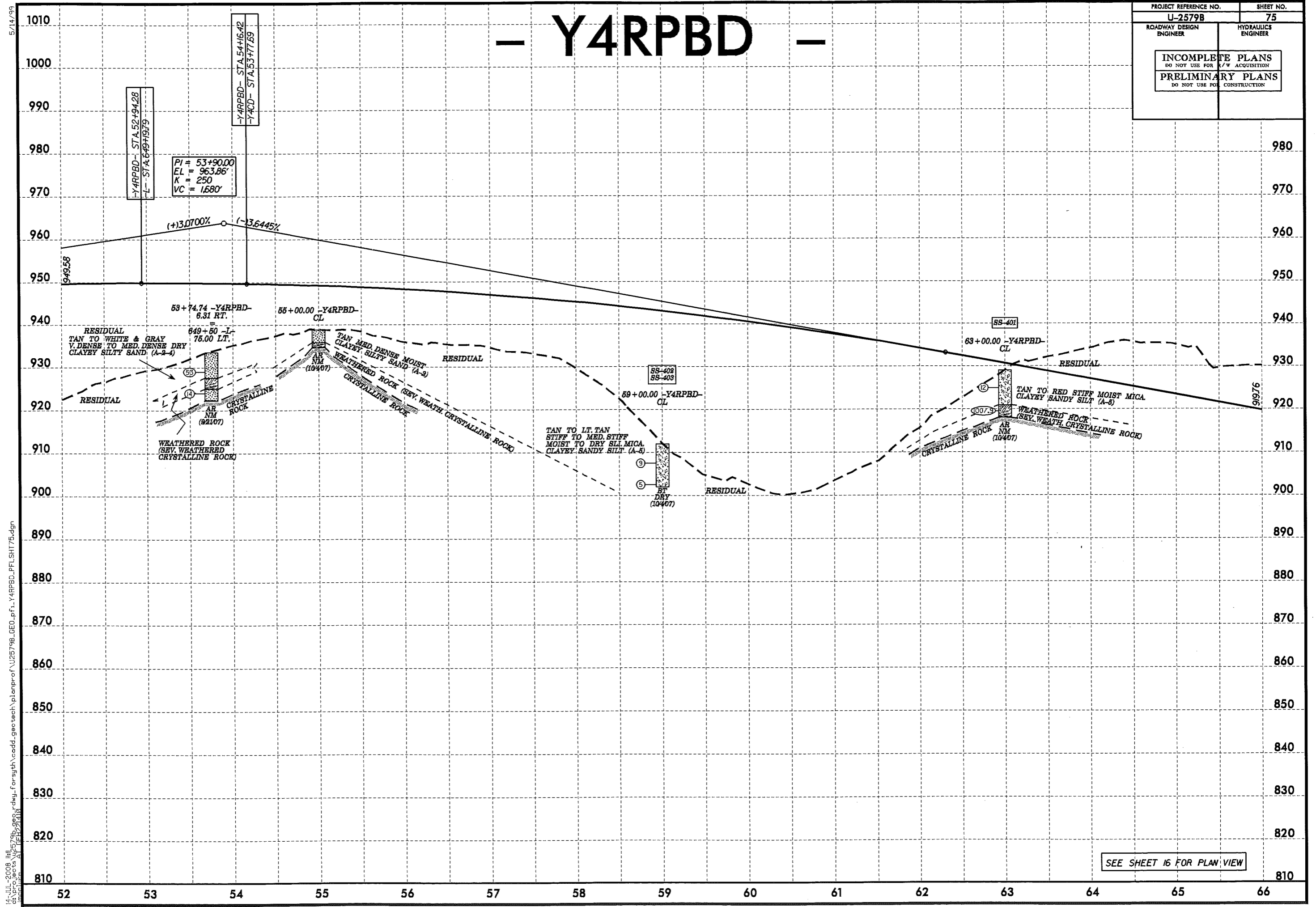
PROJECT REFERENCE NO. U-2579B	SHEET NO. 74
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 16 FOR PLAN VIEW

PROJECT REFERENCE NO. U-2579B	SHEET NO. 75
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- Y4RPBD -



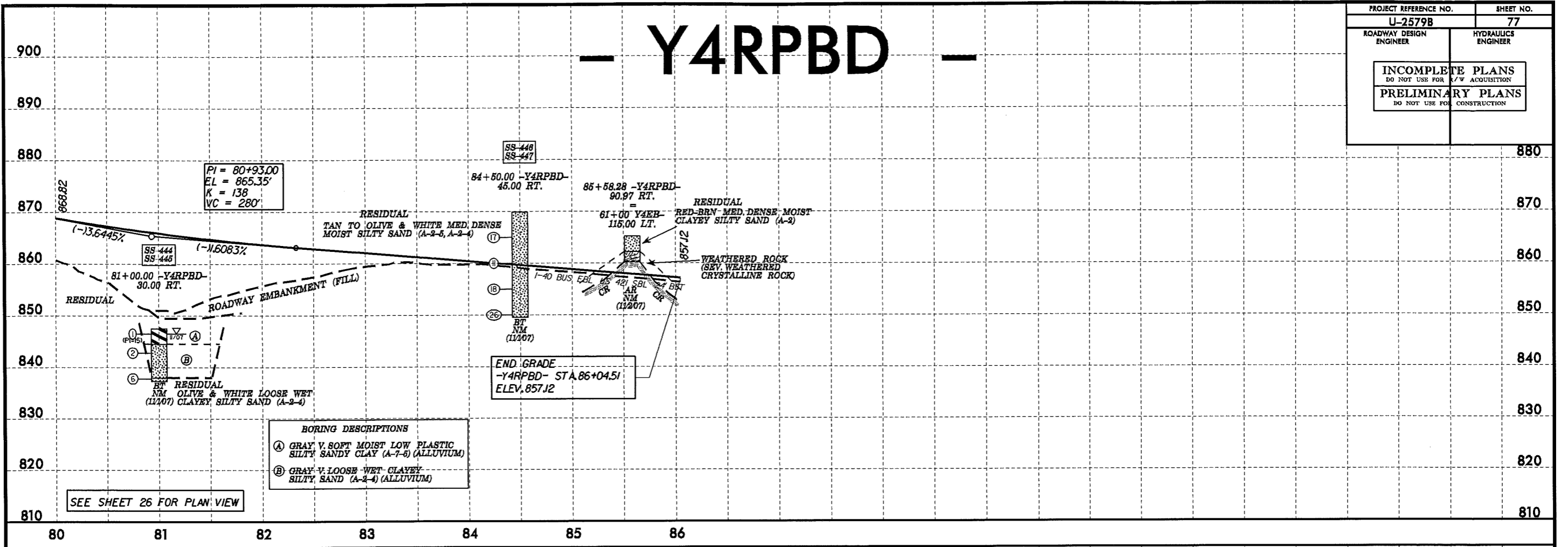
SEE SHEET 16 FOR PLAN VIEW

5/14/99
 14-JUL-2008 11:11:57
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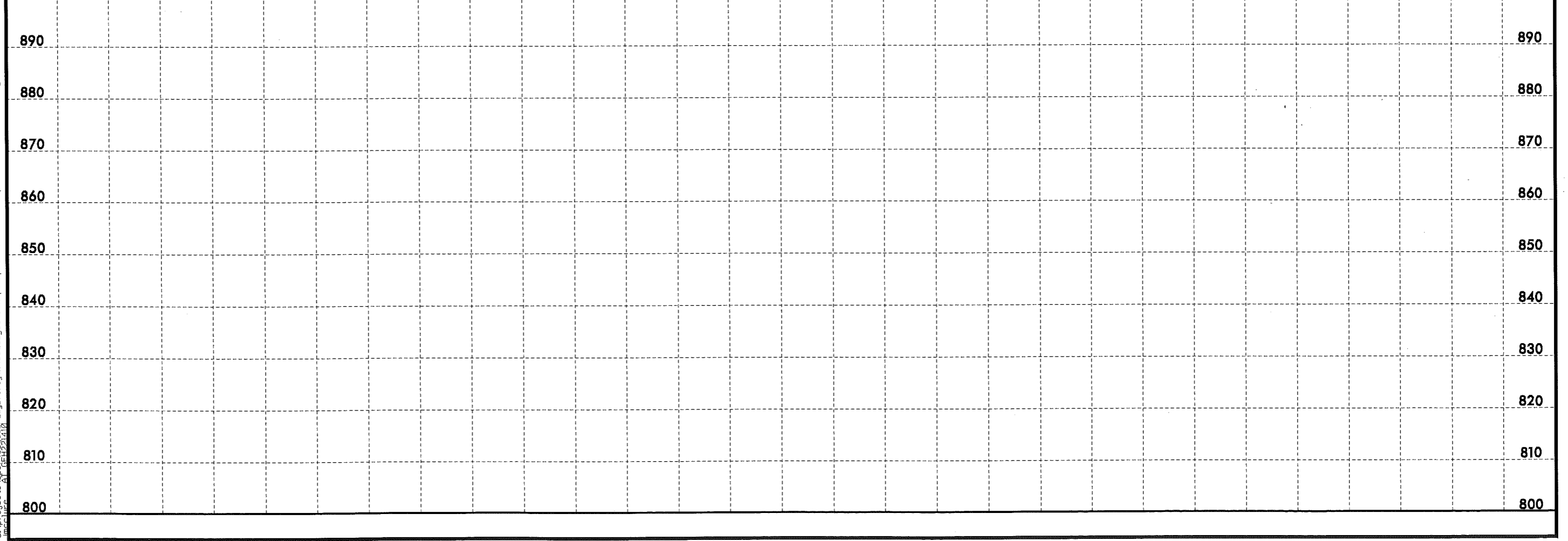
5/28/99

- Y4RPBD -

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	77
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

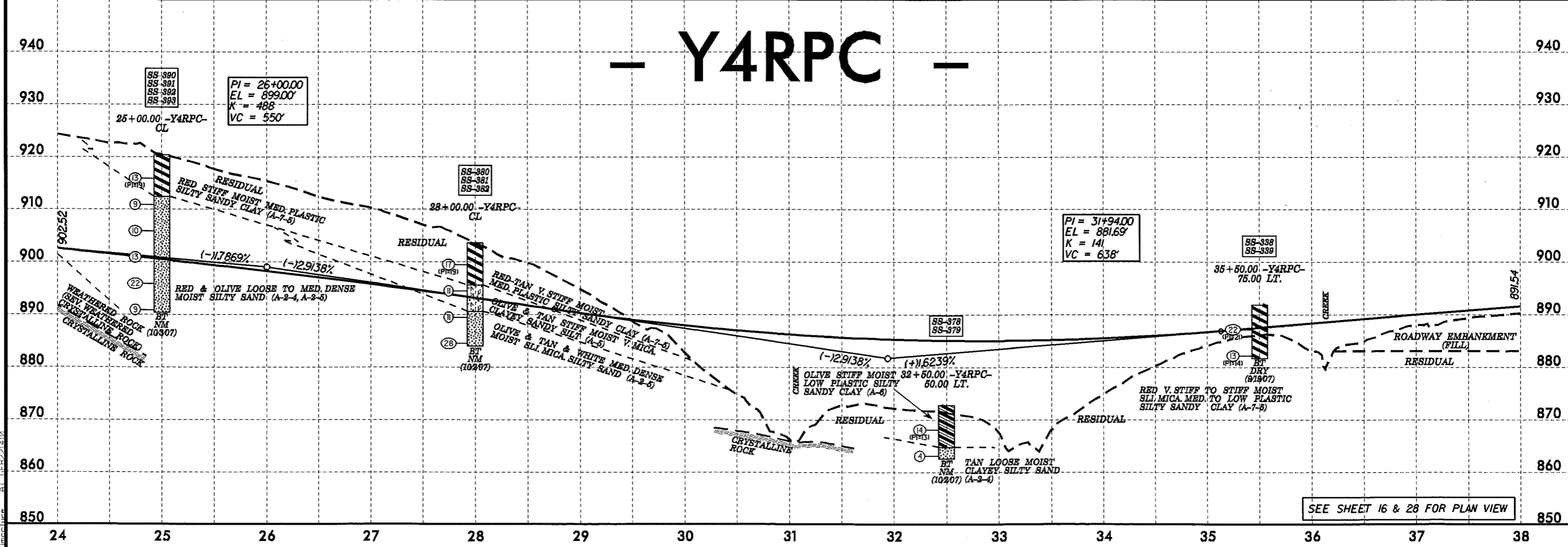
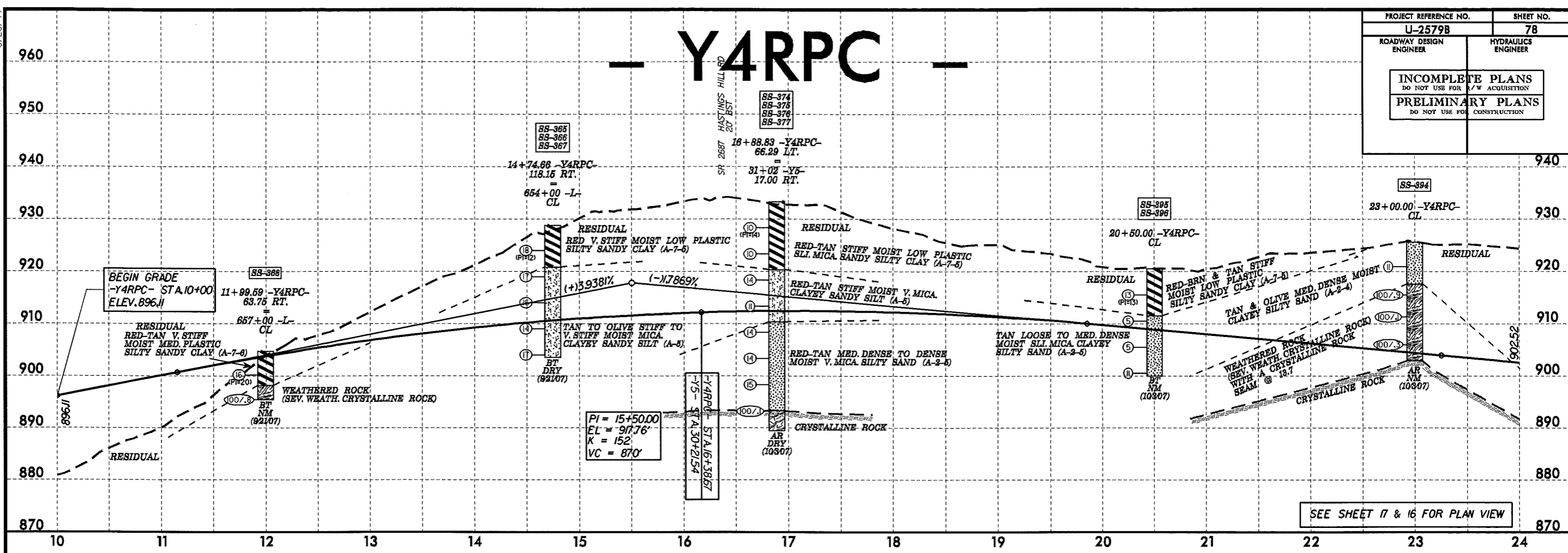


14-JUL-2006 11:17 AM C:\projects\U2579B\14-JUL-2006 11:17 AM C:\projects\U2579B_GEO.p1 - Y4RPBD_PFL SHT 77.dgn



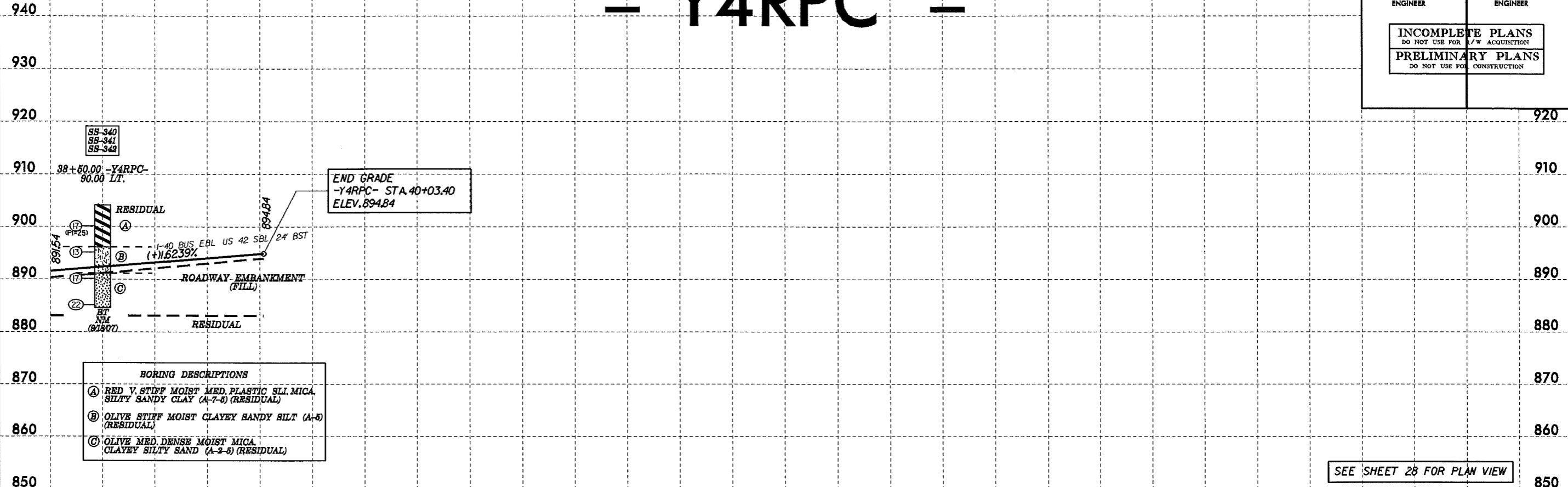
5/28/99
 30-JUL-2008 11:25 AM C:\WORK\PROJECTS\102579B\GEO\GEO\TECH\PLAN\PROF\U2579B_GEO_PFL_Y4RPC_PFL_SHT178.dgn
 102579B_GEO_PFL_Y4RPC_PFL_SHT178.dwg
 102579B_GEO_PFL_Y4RPC_PFL_SHT178.dwg

PROJECT REFERENCE NO. U-2579B	SHEET NO. 78
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



- Y4RPC -

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	79
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

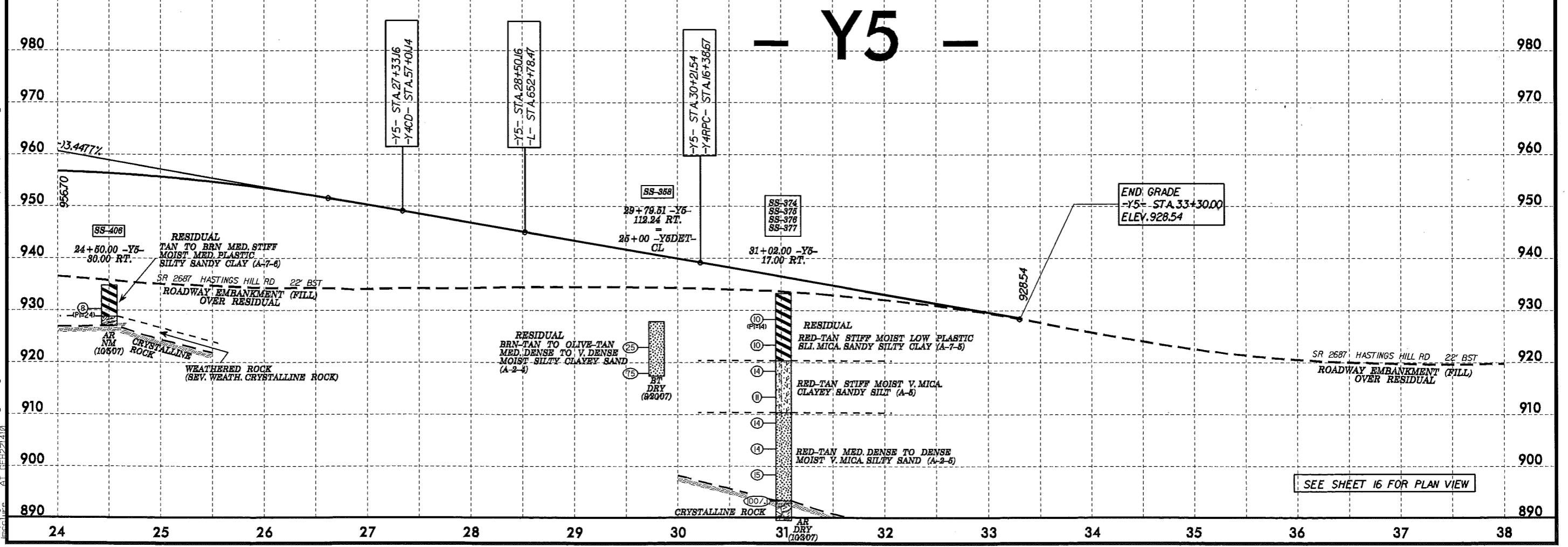
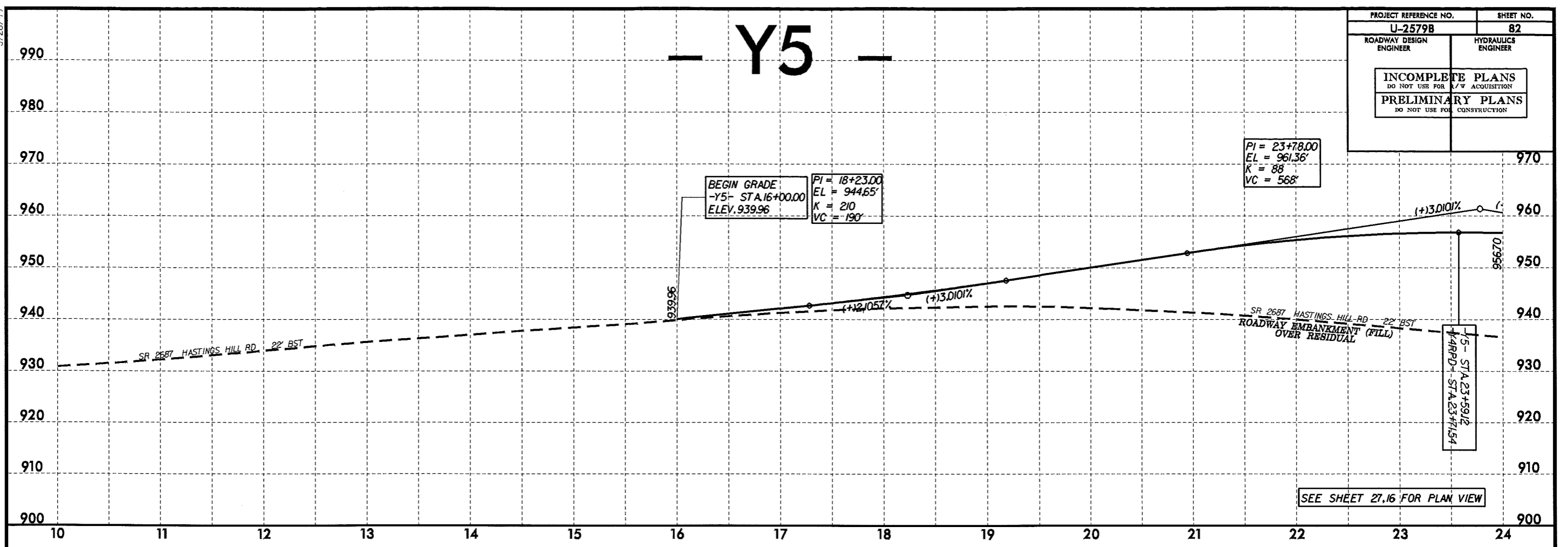


5/28/99

30-JUL-2008 11:25 AM C:\projects\Y4RPC\plan\prof\U2579B_GEO.pf.L_Y4RPC_PFL SH179.dgn

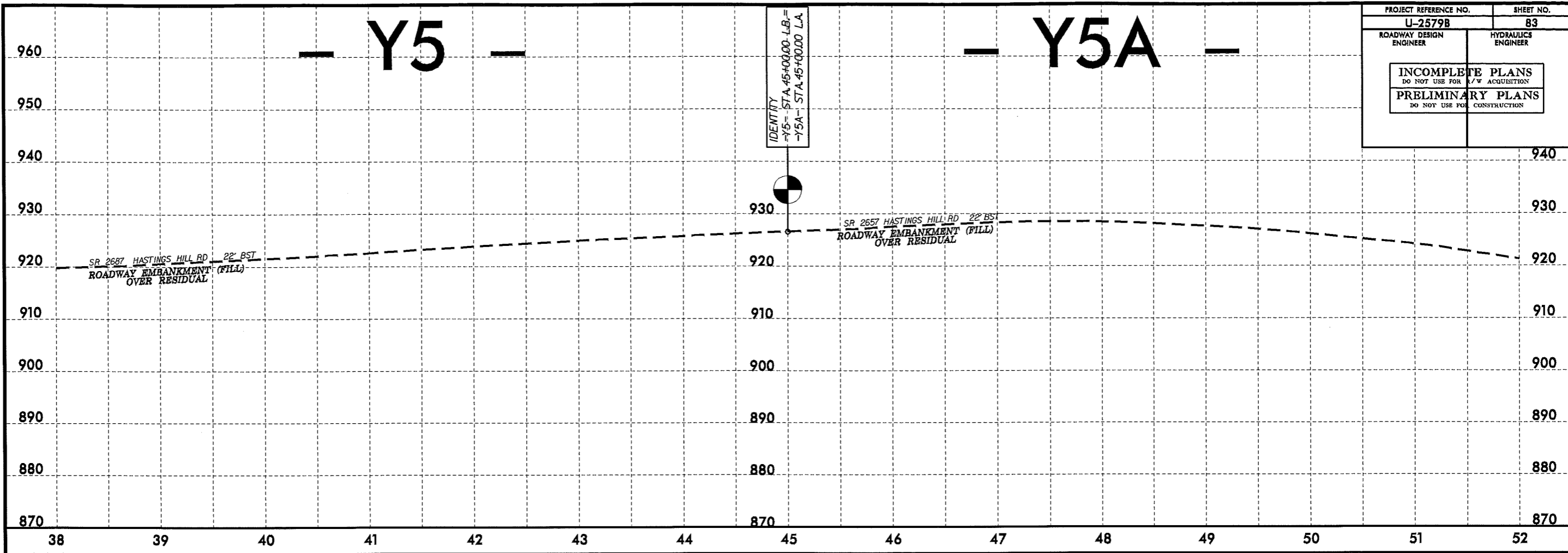
5/28/99
 30-JUL-2008 11:35
 C:\projects\112599\112599.dwg
 for\syth\CADD\GEO\TECH\P1amProf\U2579b_GEO_pf.L_Y5_pf1sh82.dgn
 11/27/2008 11:35

PROJECT REFERENCE NO. U-2579B	SHEET NO. 82
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

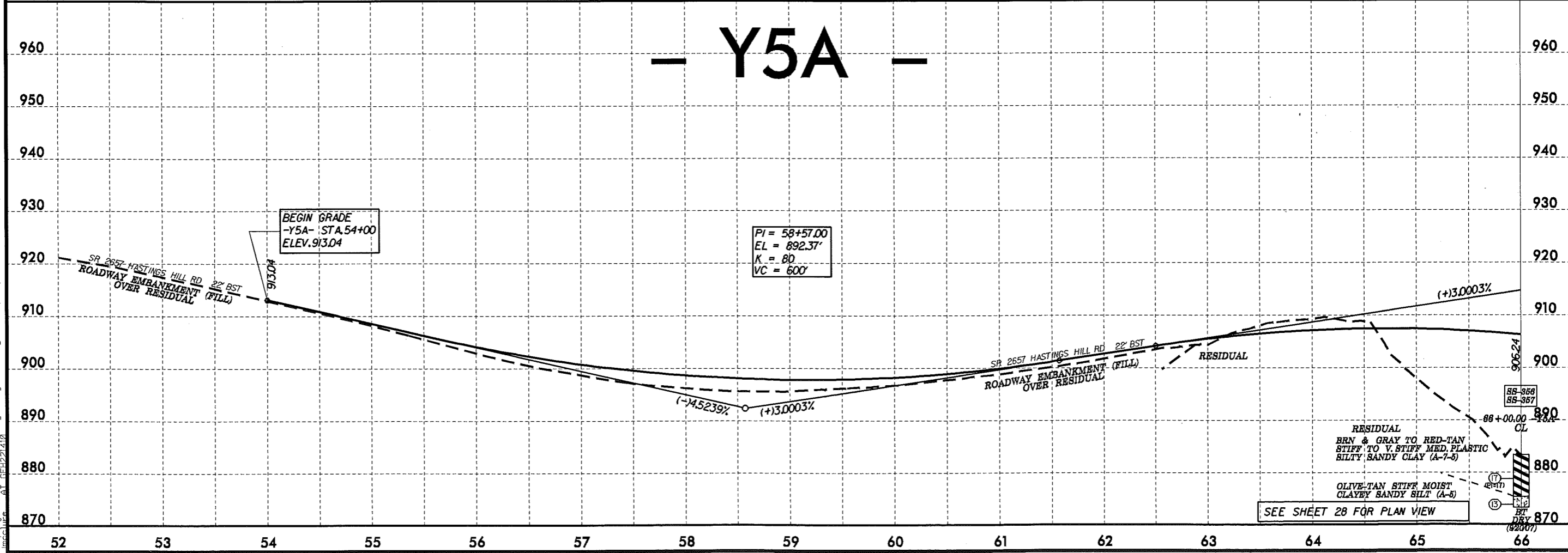


5/28/99

PROJECT REFERENCE NO. U-2579B	SHEET NO. 83
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

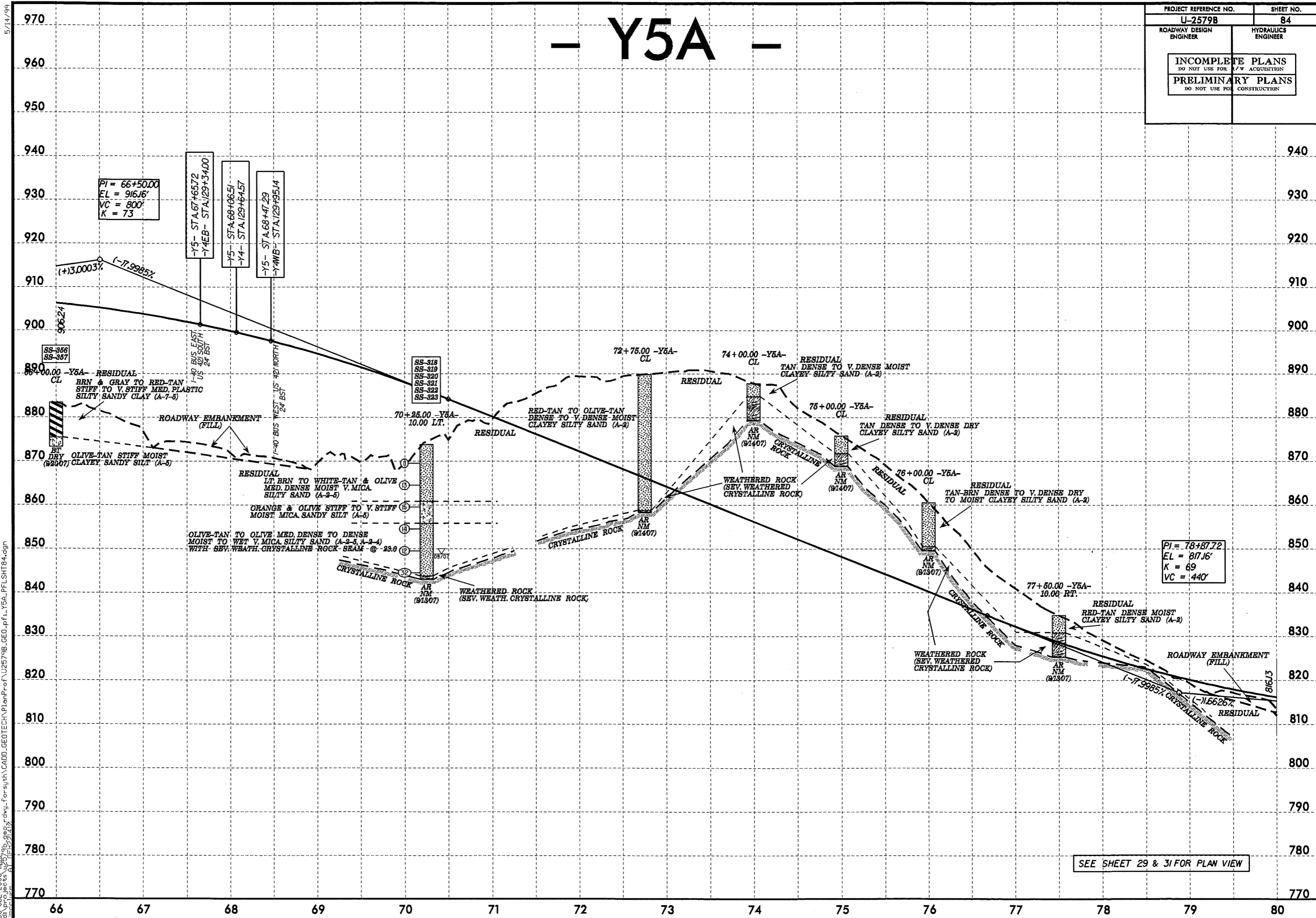


21-JUL-2006 15:35
D:\Projects\U-2579B\Geo\p1\proj\for\syth\cadd\geo\tech\p1\proj\U-2579B_GEO.p1_Y5_PFLSHT83.dgn



- Y5A -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 84
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<div style="border: 1px solid black; padding: 2px; margin: 2px;">INCOMPLETE PLANS DO NOT USE FOR ACQUISITION</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</div>	

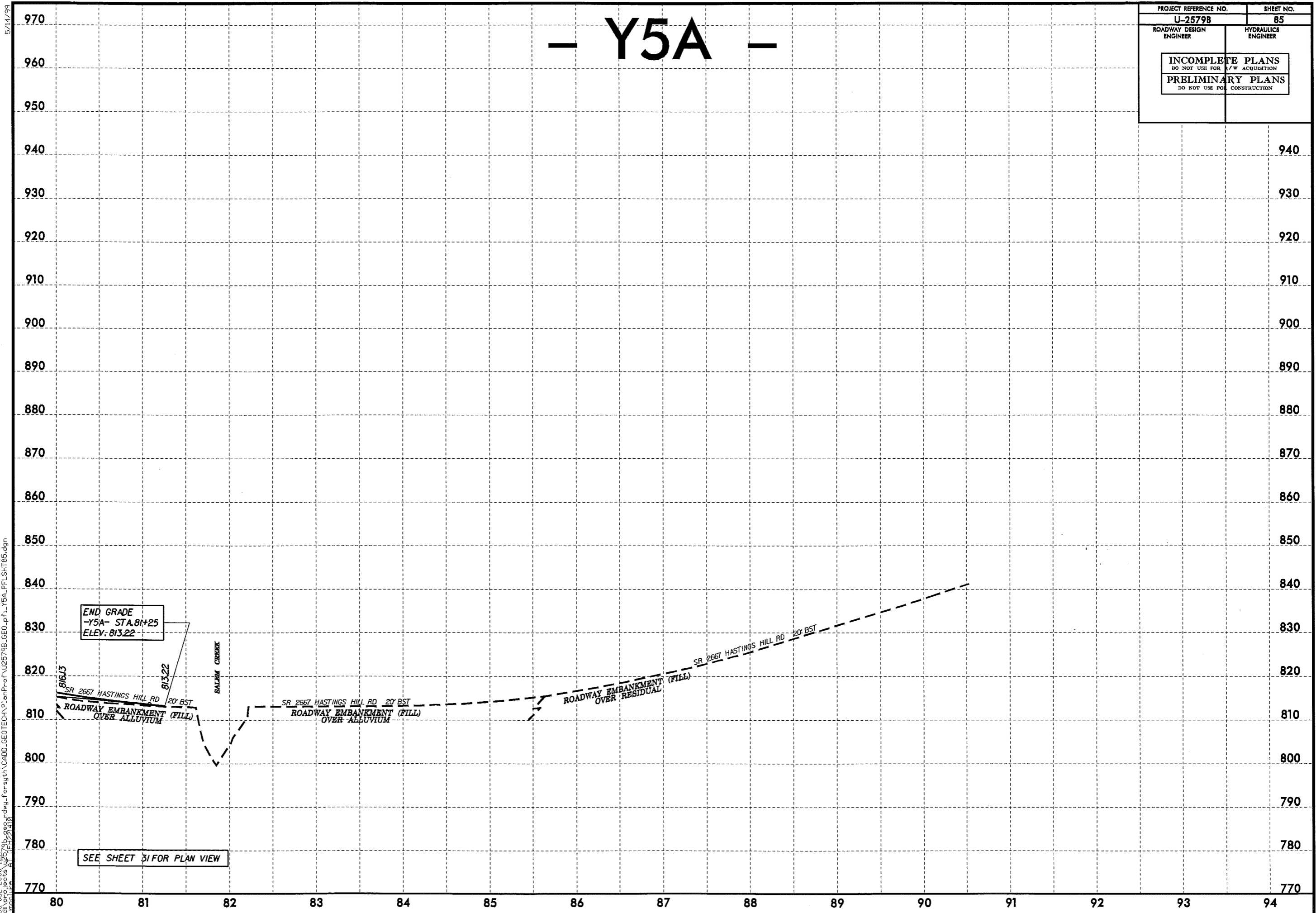


SEE SHEET 29 & 31 FOR PLAN VIEW

5/14/99
30-JUL-2008 11:35 AM
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f:\projects\U2579B\GEO\GEO\p1\Y5A_PFLSHT84.dgn

- Y5A -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 85
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

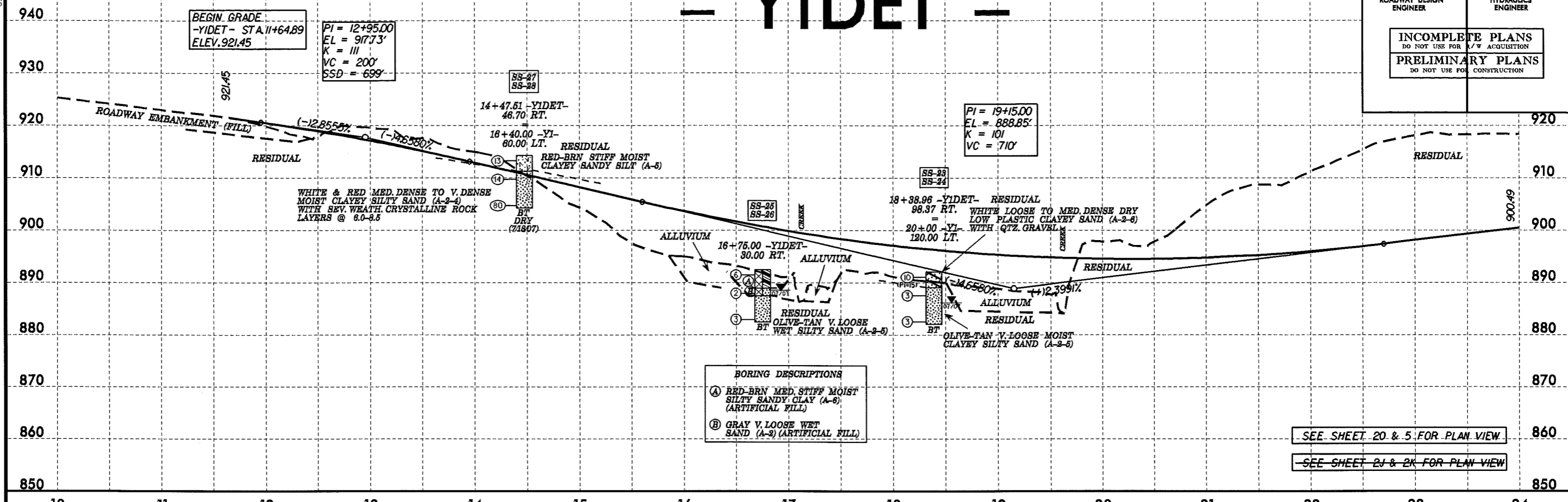


5/14/99
30-JUL-2008 11:37 AM
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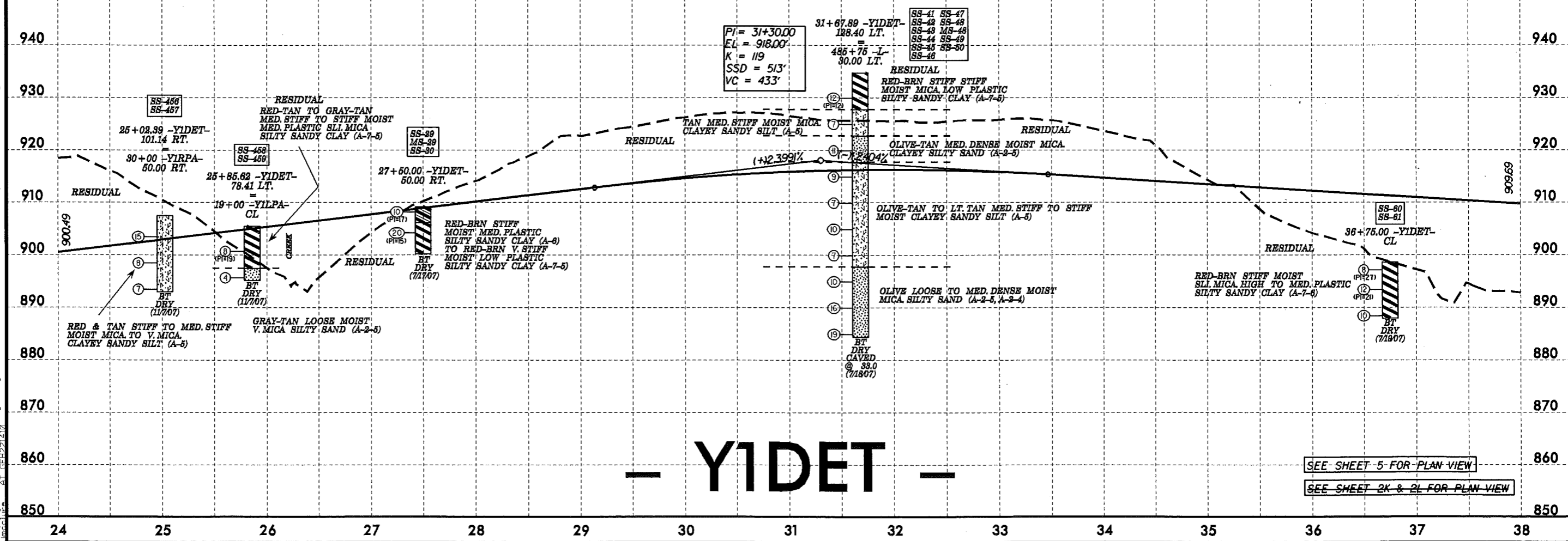
5/28/99
 30-JUL-2008 11:41:57 AM
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 for\sjeth\CADD\GEO\TECH\Plan\Prct\U25798_GEO_epl.YIDET_PFL_SHT86.dgn

PROJECT REFERENCE NO. U-2579B	SHEET NO. 86
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

- YIDET -



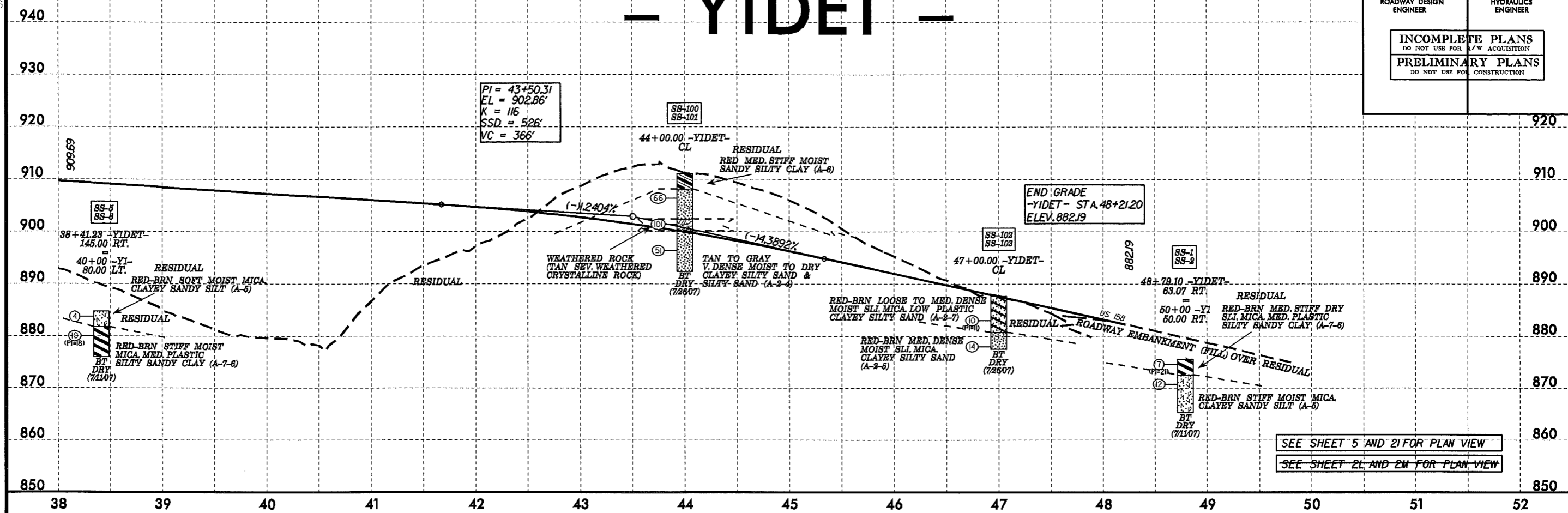
- YIDET -



5/28/99

- YIDET -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 87
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



- YIDET -

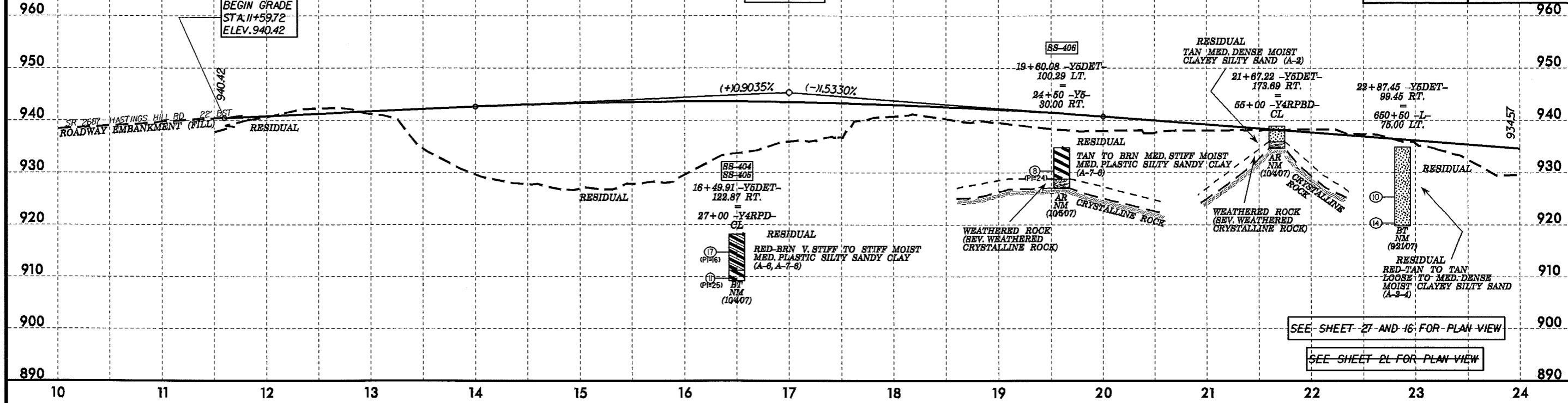
30-JUL-2008 11:42 AM
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C:\projects\2579B\2579B.dwg
f:\projects\2579B\2579B.dwg

5/28/09

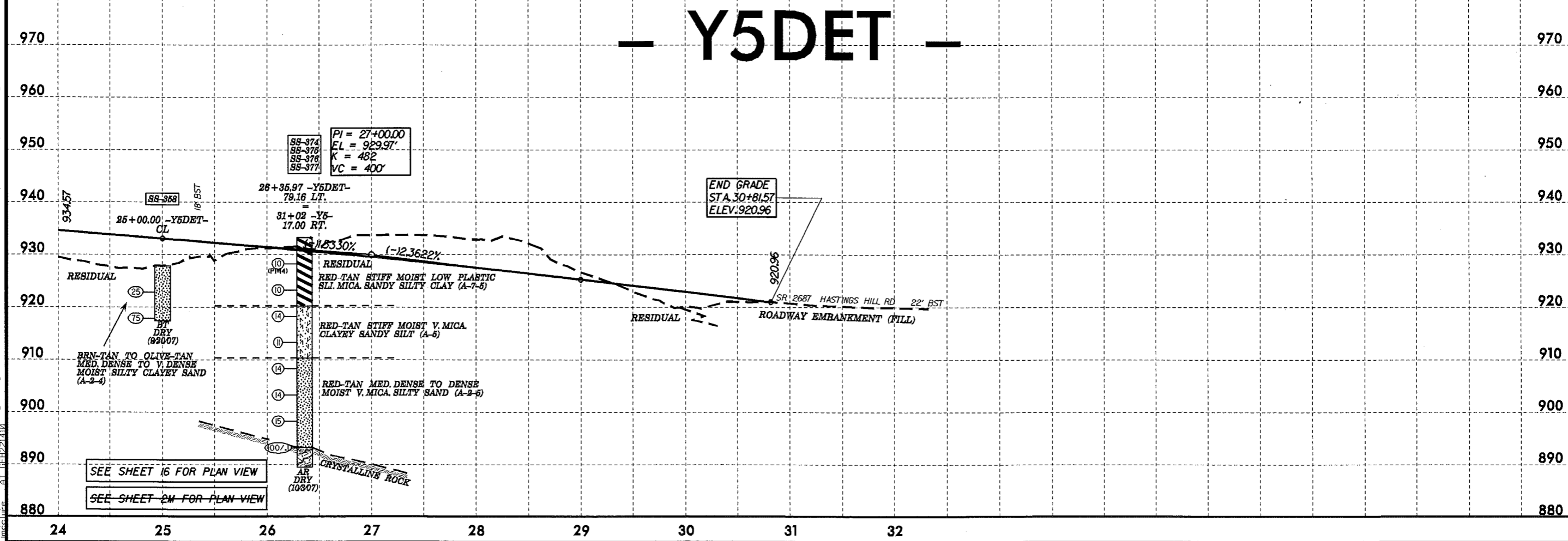
30-JUL-2008 11:45:39 g:\p09_rdwj\for_suth\CADD\GEOTECH\Plan\Prof\U2579b_GEO.pfl.Y5DET.pfl.sht88.dgn

- Y5DET -

PROJECT REFERENCE NO. U-2579B	SHEET NO. 88
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

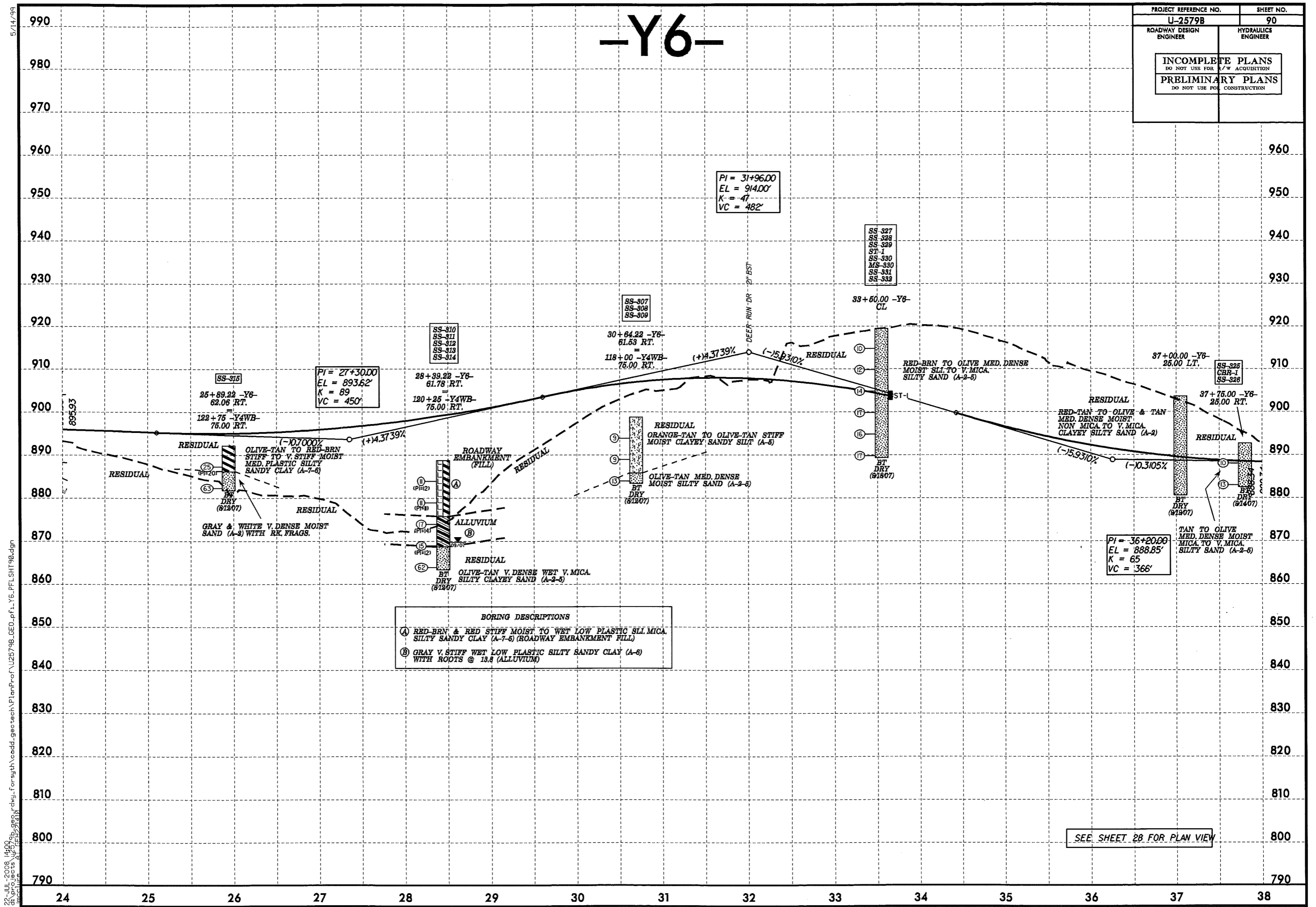


- Y5DET -



-Y6-

PROJECT REFERENCE NO. U-2579B	SHEET NO. 90
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR A/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



BORING DESCRIPTIONS	
(A)	RED-BRN & RED STIFF MOIST TO WET LOW PLASTIC SILT. MICA SILTY SANDY CLAY (A-7-5) (ROADWAY EMBANKMENT FILL)
(B)	GRAY V. STIFF WET LOW PLASTIC SILTY SANDY CLAY (A-6) WITH ROOTS @ 13.8 (ALLUVIUM)

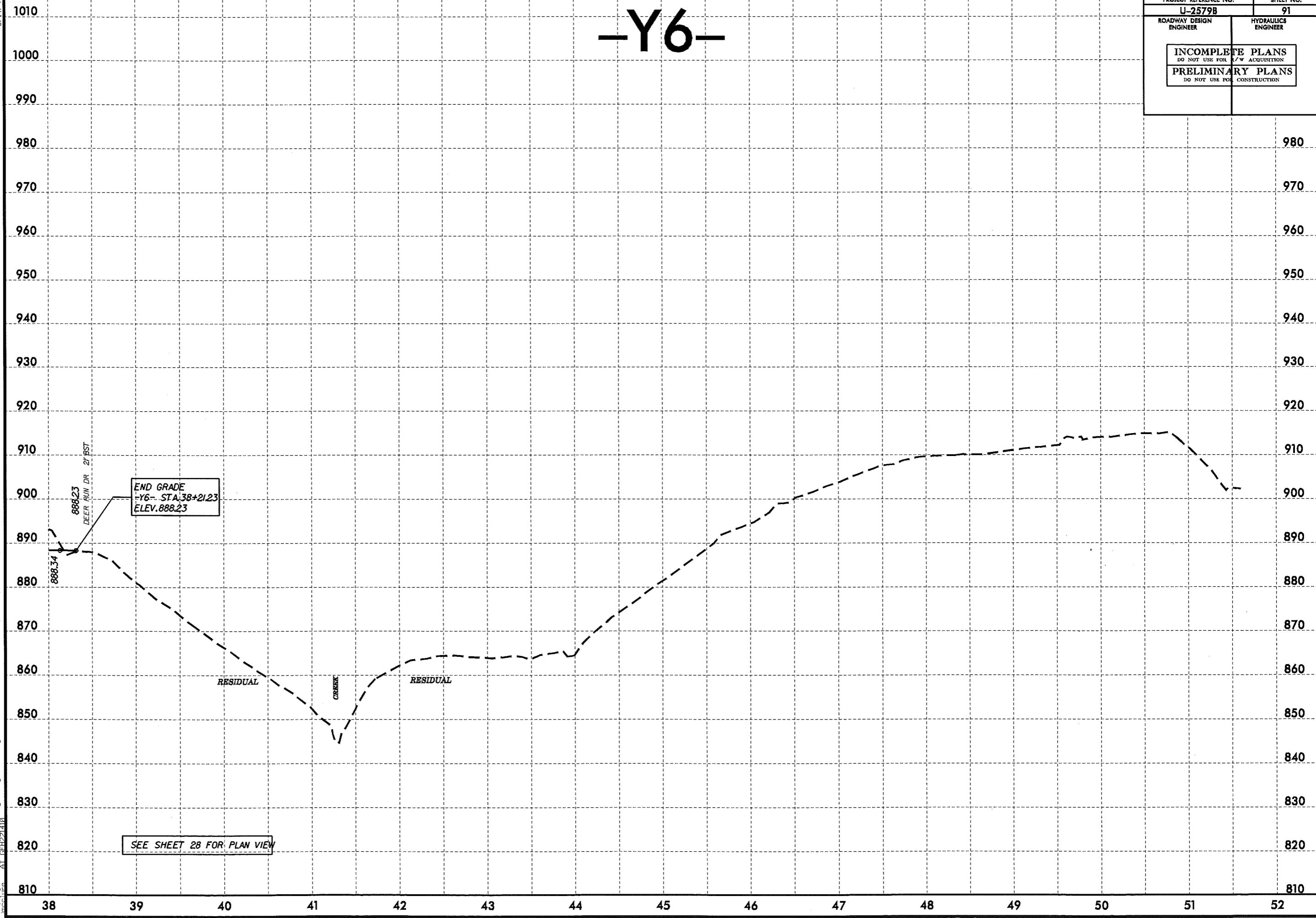
SEE SHEET 28 FOR PLAN VIEW

5/14/99
 22-JUL-2008 14:00:09
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 2579B.dwg
 2579B.dwg
 2579B.dwg

5/14/99
22-Jul-2008 14:02:45 g:\p\rdw\for\syth\cadd\goaddd\p\anPr\U2579b_GED.pfl.Y6-pfl\ht91.dgn
DATE TIME

-Y6-

PROJECT REFERENCE NO. U-2579B	SHEET NO. 91
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



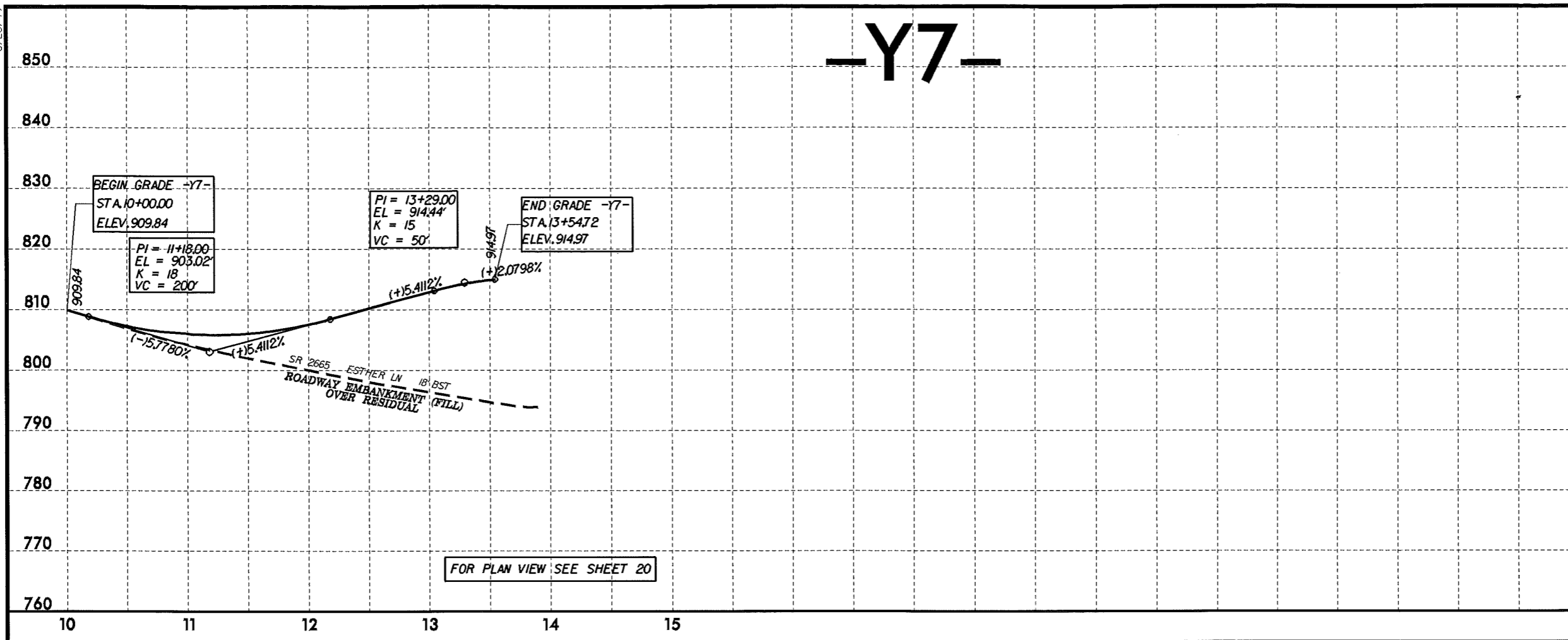
980
970
960
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940
930
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880
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850
840
830
820
810

38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

5/28/99

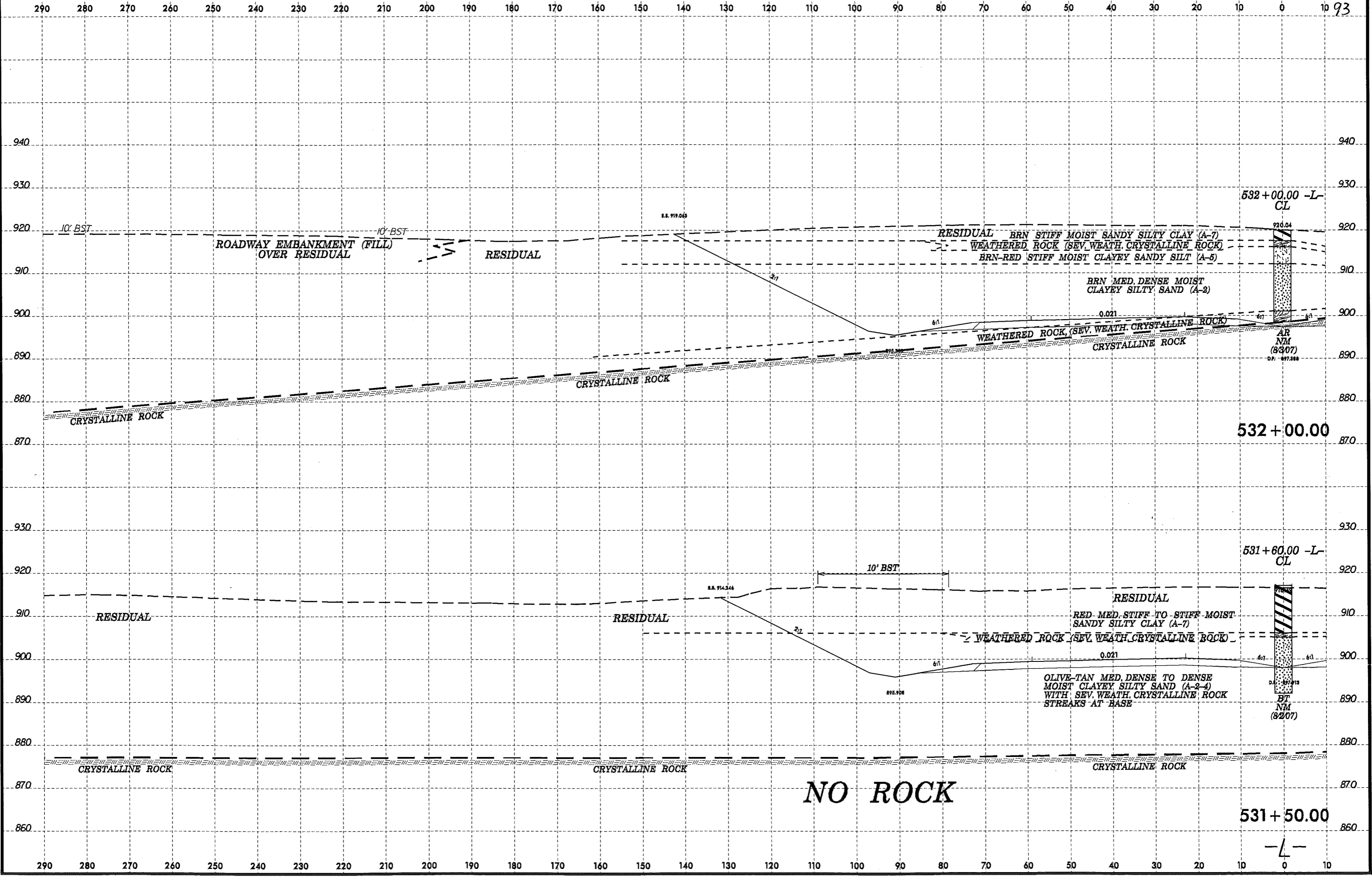
-Y7-

PROJECT REFERENCE NO. U-2579B	SHEET NO. 92
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



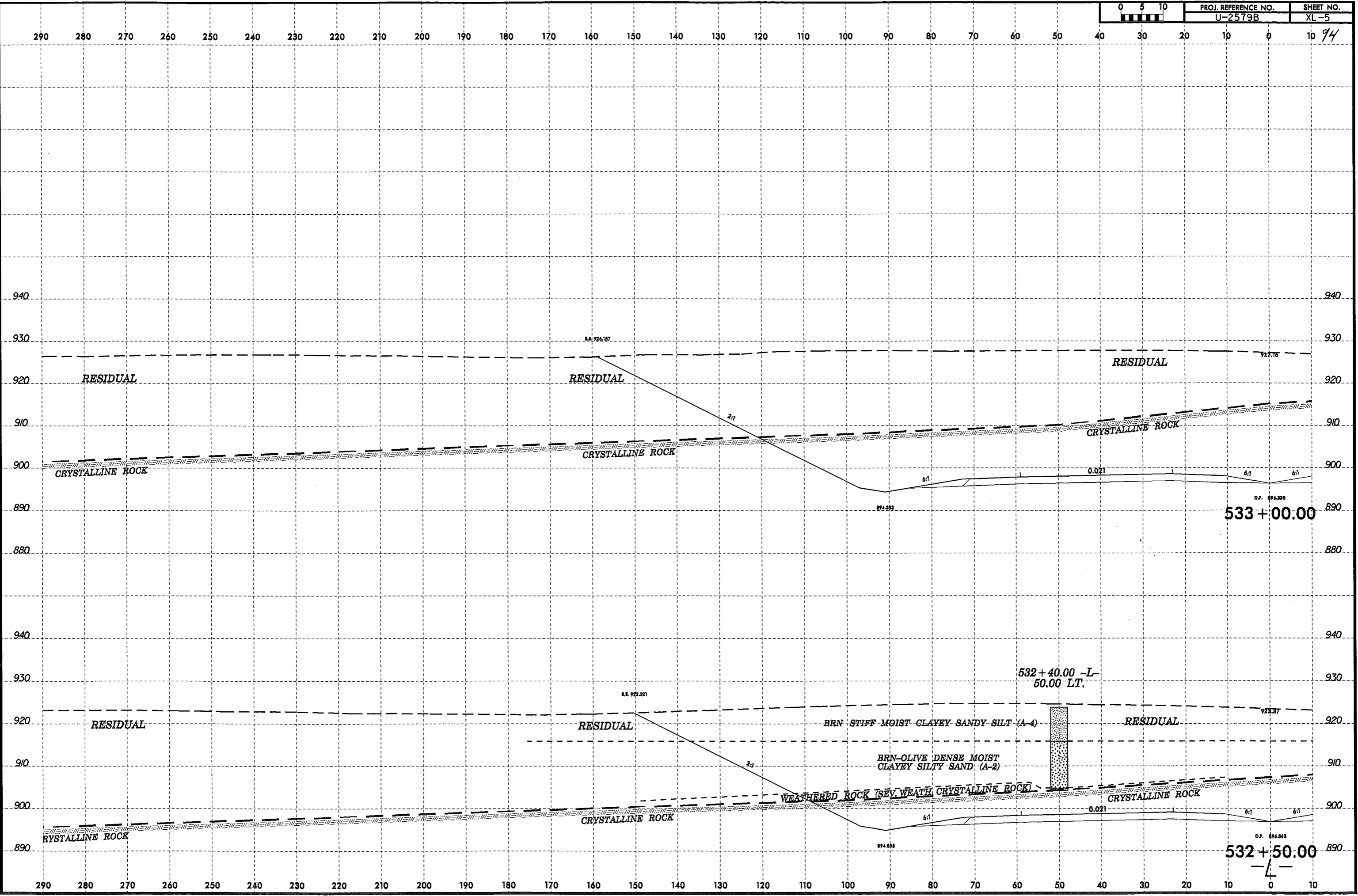
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8/23/99
03-JUL-2008 09:46
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inoclu_e AT GEH221410



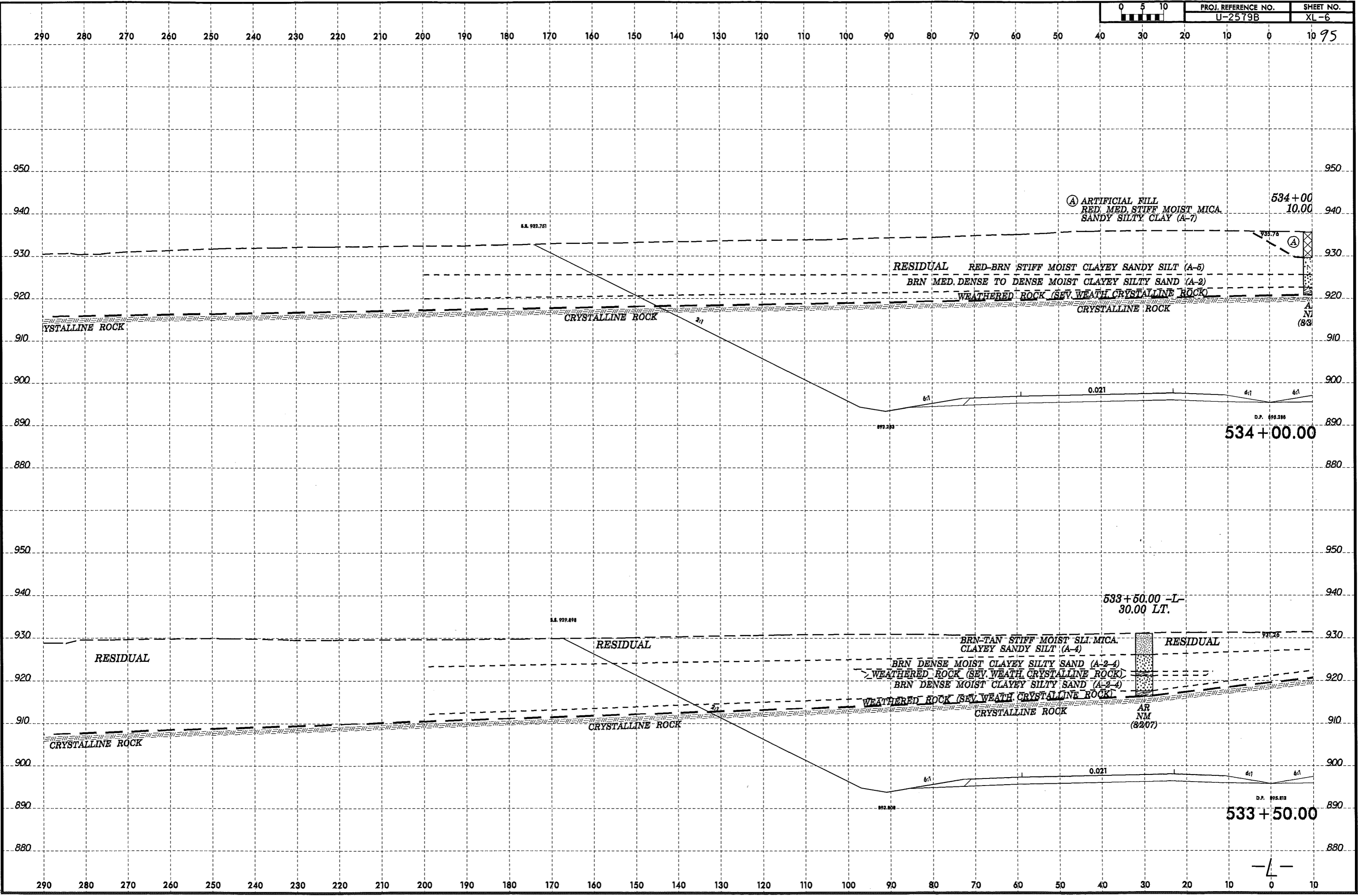
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03-JUL-2008 09:46
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PROJECT: U2579B_GEO
SHEET: A1_GER221110

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XL-5

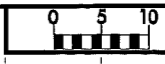


8/23/99
03-JUL-2008 09:46
D:\Projects\U2579B_GEO_ROWY_FORSYTH\CADD_GEO\TECH\asc\U2579b_geo_xsl_11left.dgn
imc\clure AT GEH221410

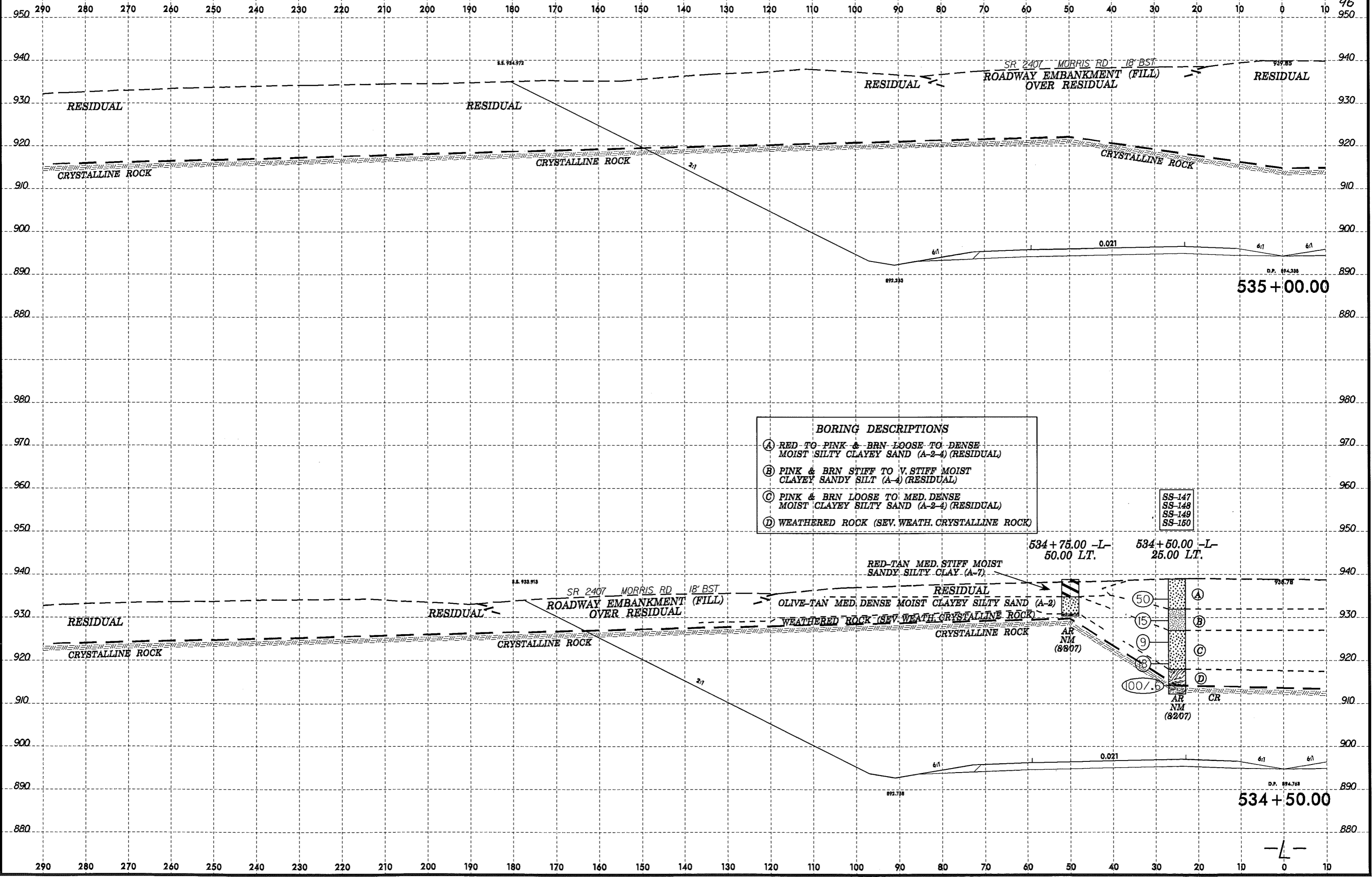
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XL-6



8/23/99

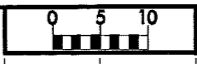


PROJ. REFERENCE NO.	SHEET NO.
U-2579B	XL-7
	96



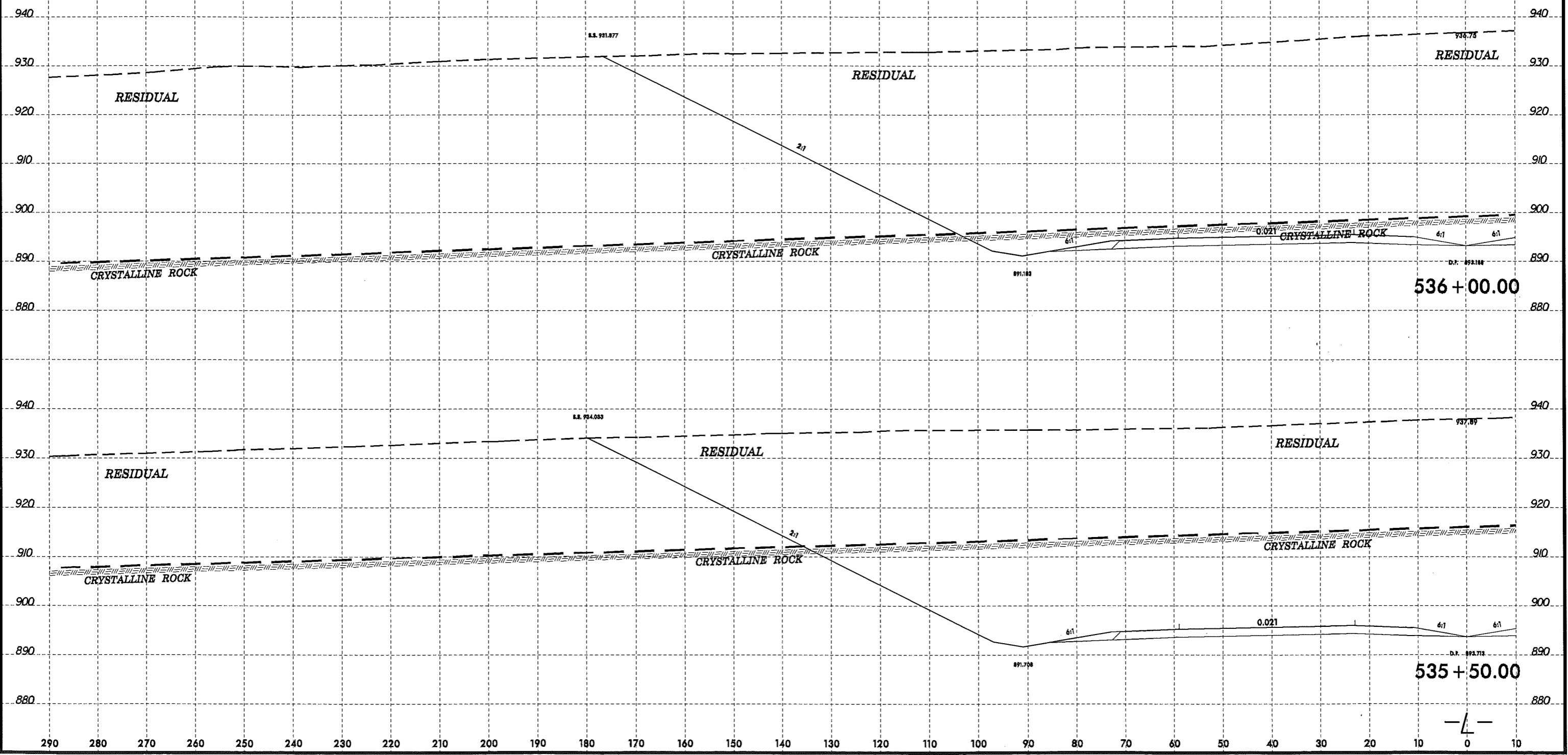
03-JUL-2008 09:46
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inclosure AT GEN22110

8/23/98



PROJ. REFERENCE NO.	SHEET NO.
U-2579B	XL-8

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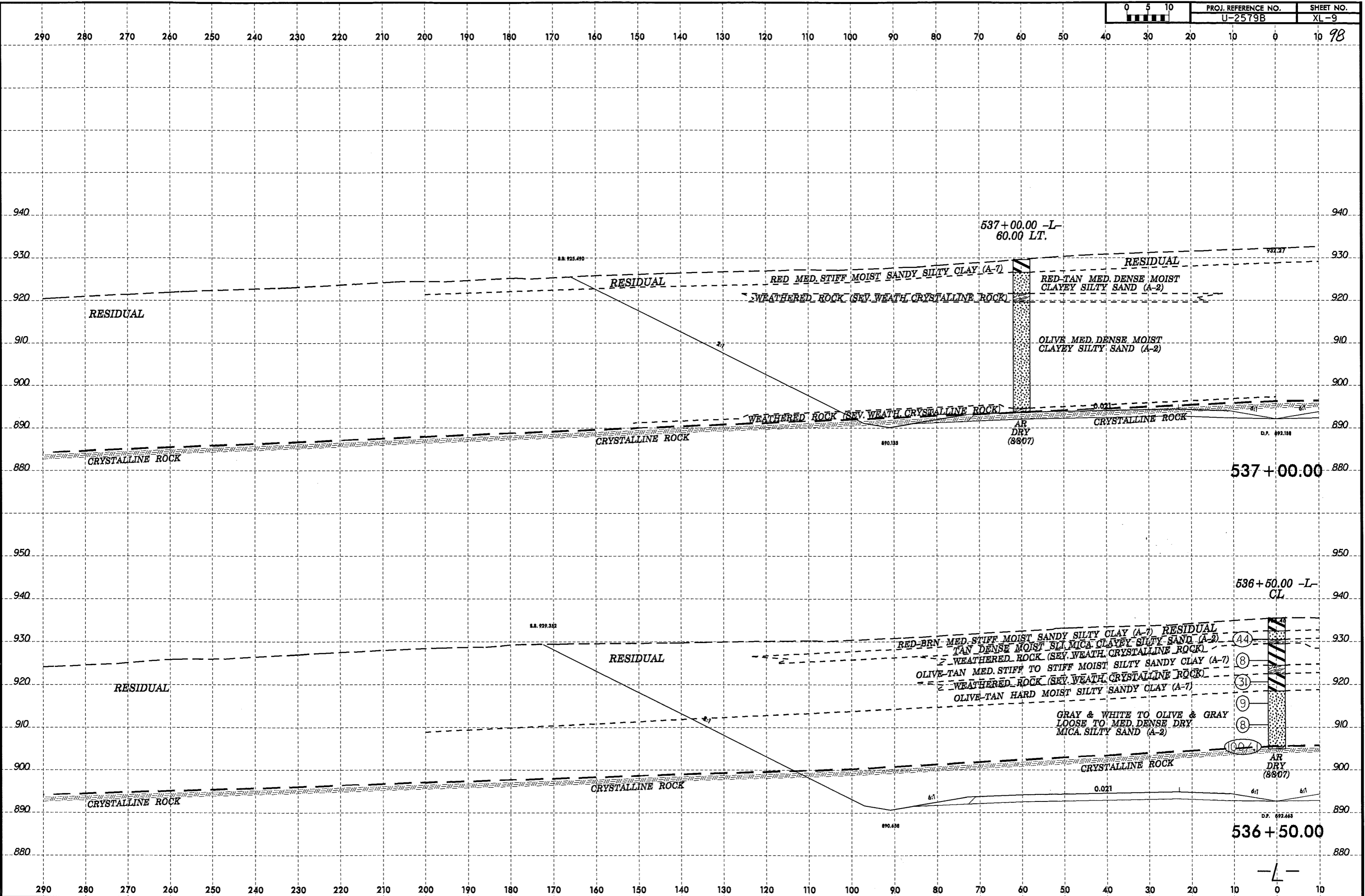


03-JUL-2008 09:46
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-L-

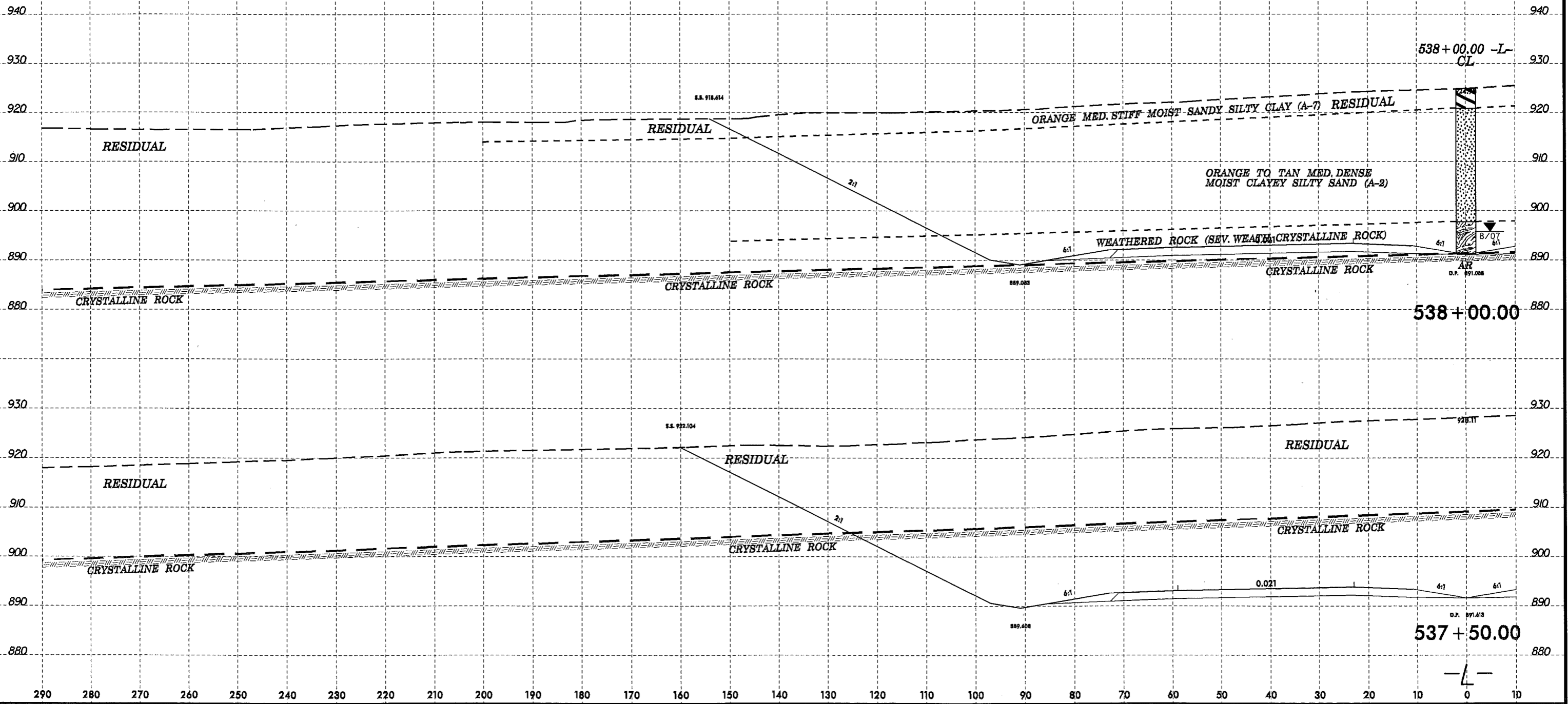
8/23/99



03-JUL-2008 09:46
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imcc@urc

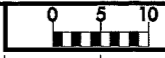
8/23/99

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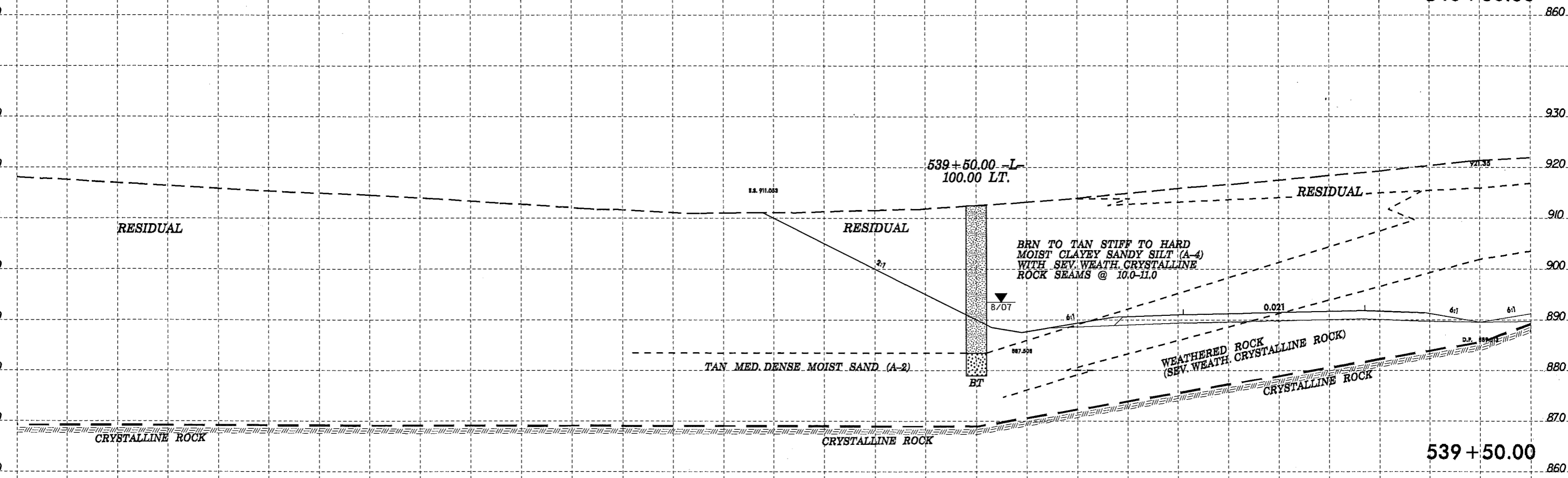
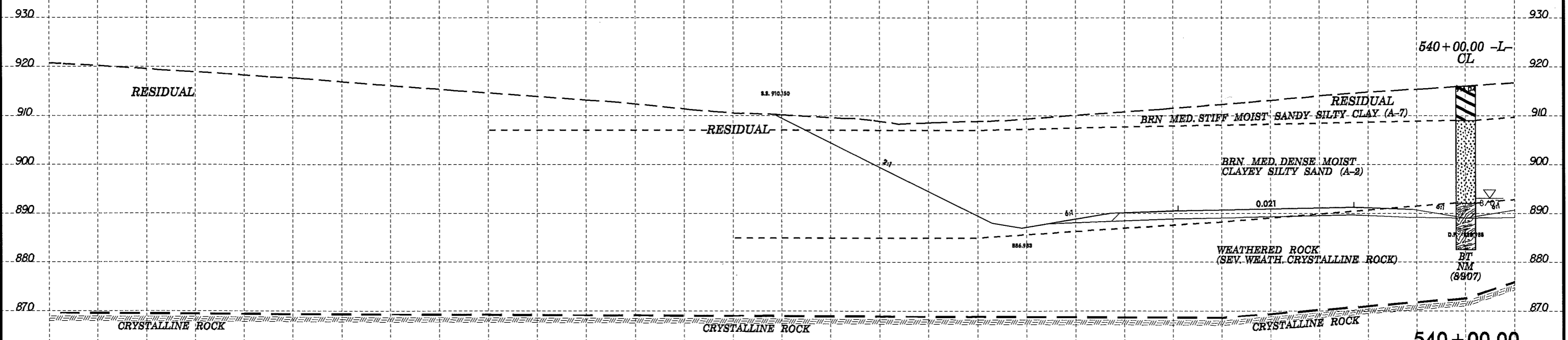
03-JUL-2008 09:47
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 in: U2579B\GEO\ROWY_FORSYTH\ADDD_GEO\TECH\pac\U2579b_geo_xsl\1_1.dgn

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
U-2579B	XL-12

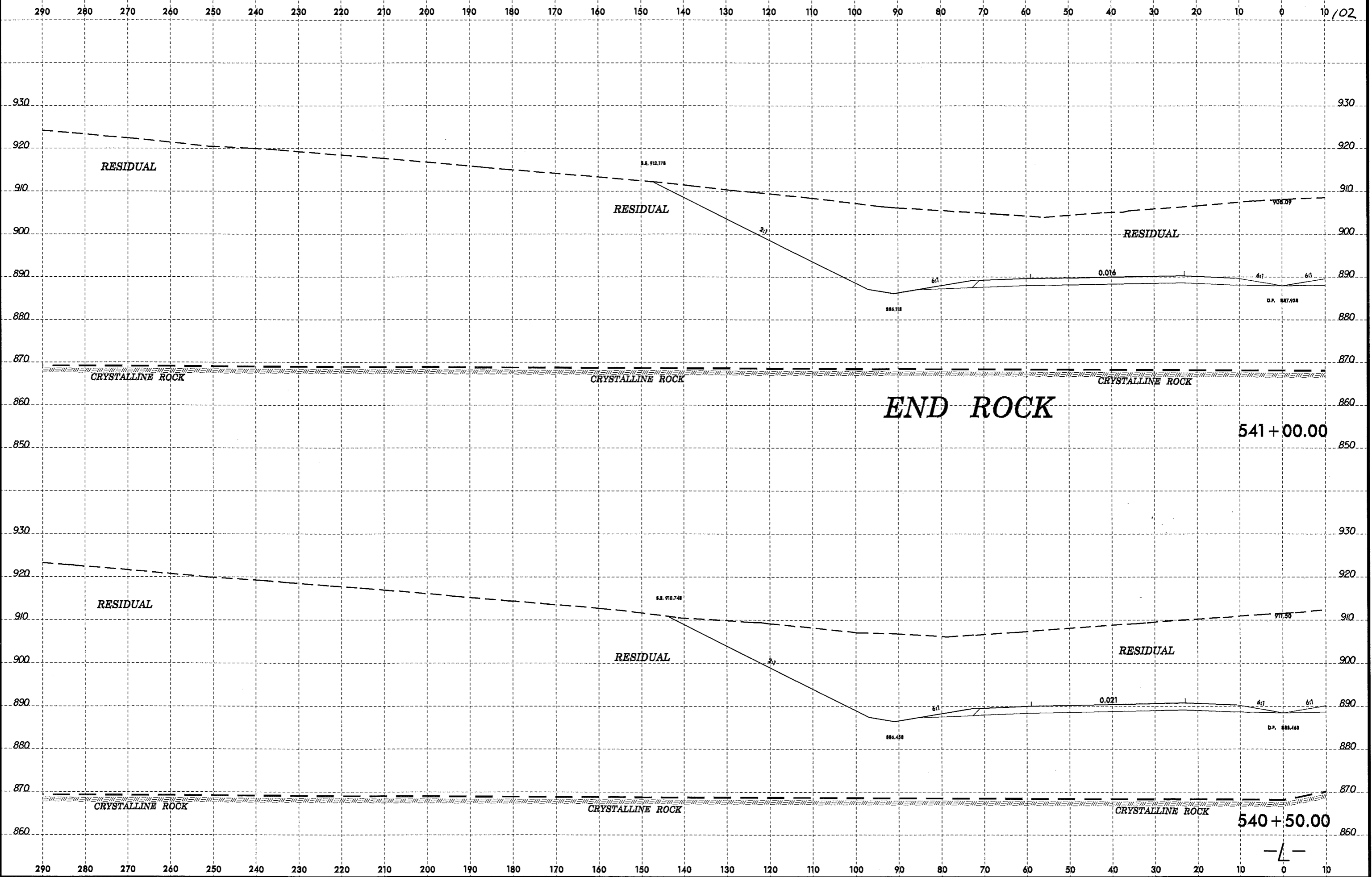
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290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

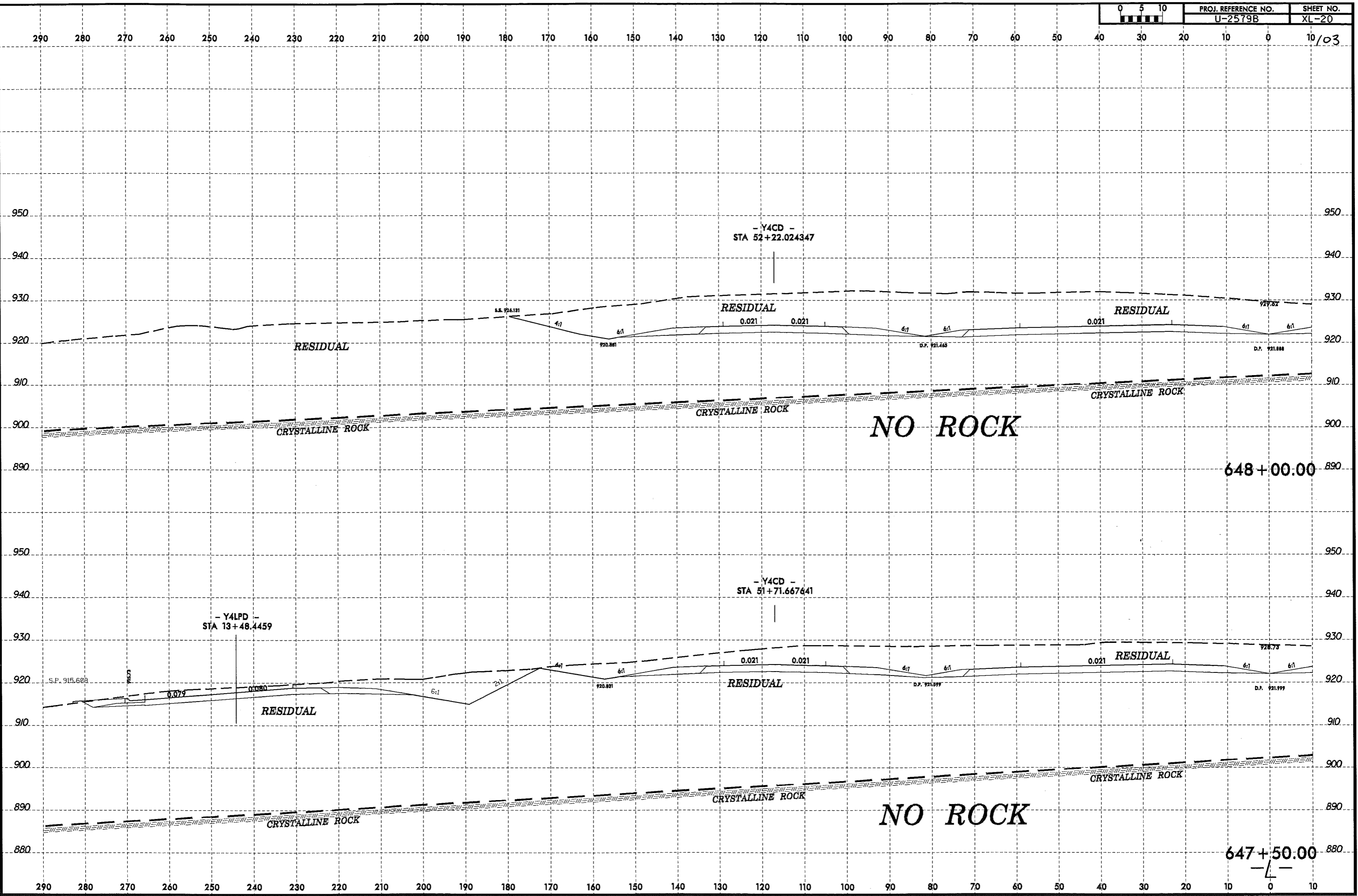
03-JUL-2008 09:47
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includure AT 06/22/10

8/23/99

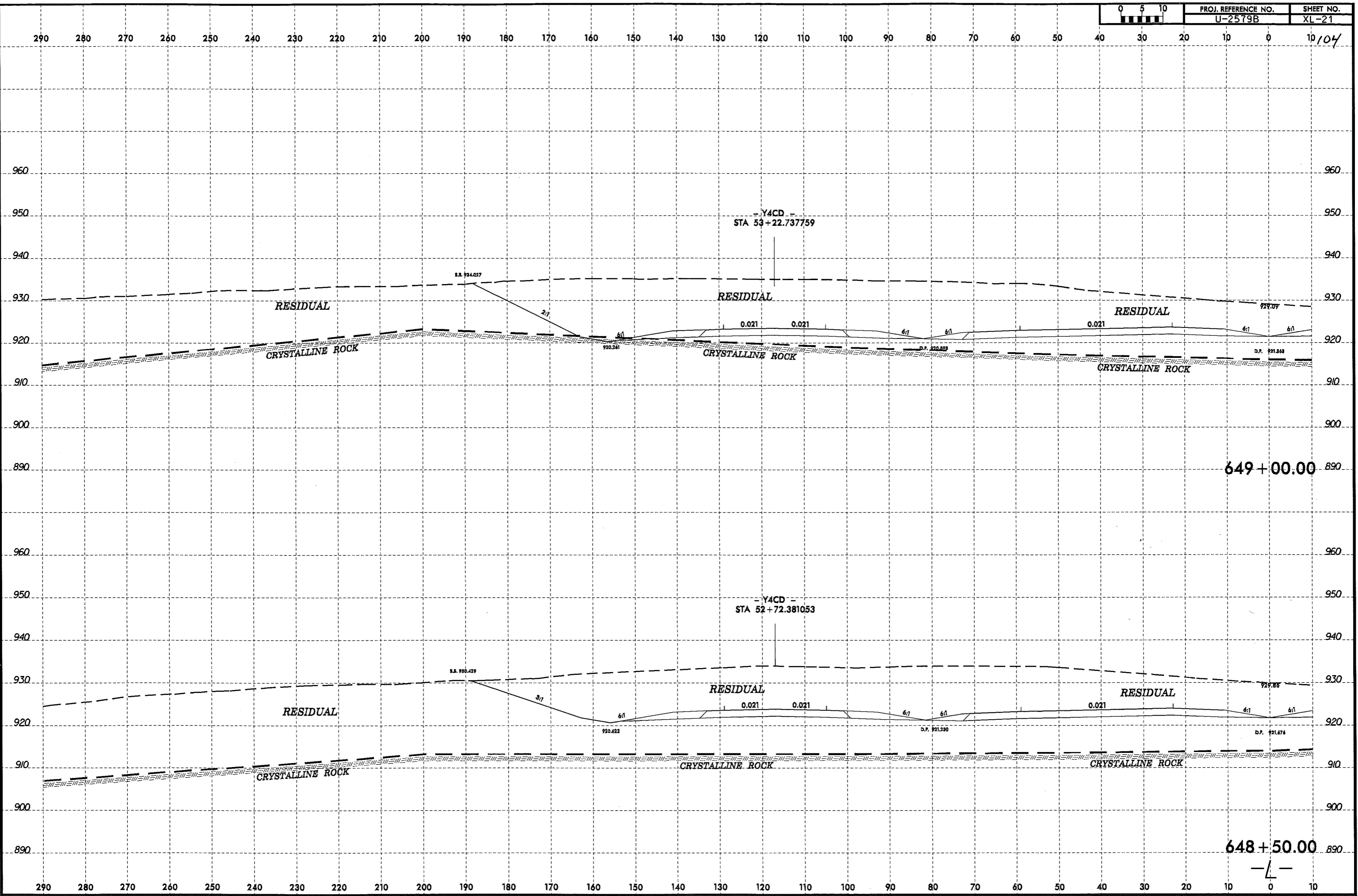


03-JUL-2008 09:47
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in:clure AT 08/23/99

8/23/99
03-JUL-2008 09:48
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Inclure AT 08/22/2010

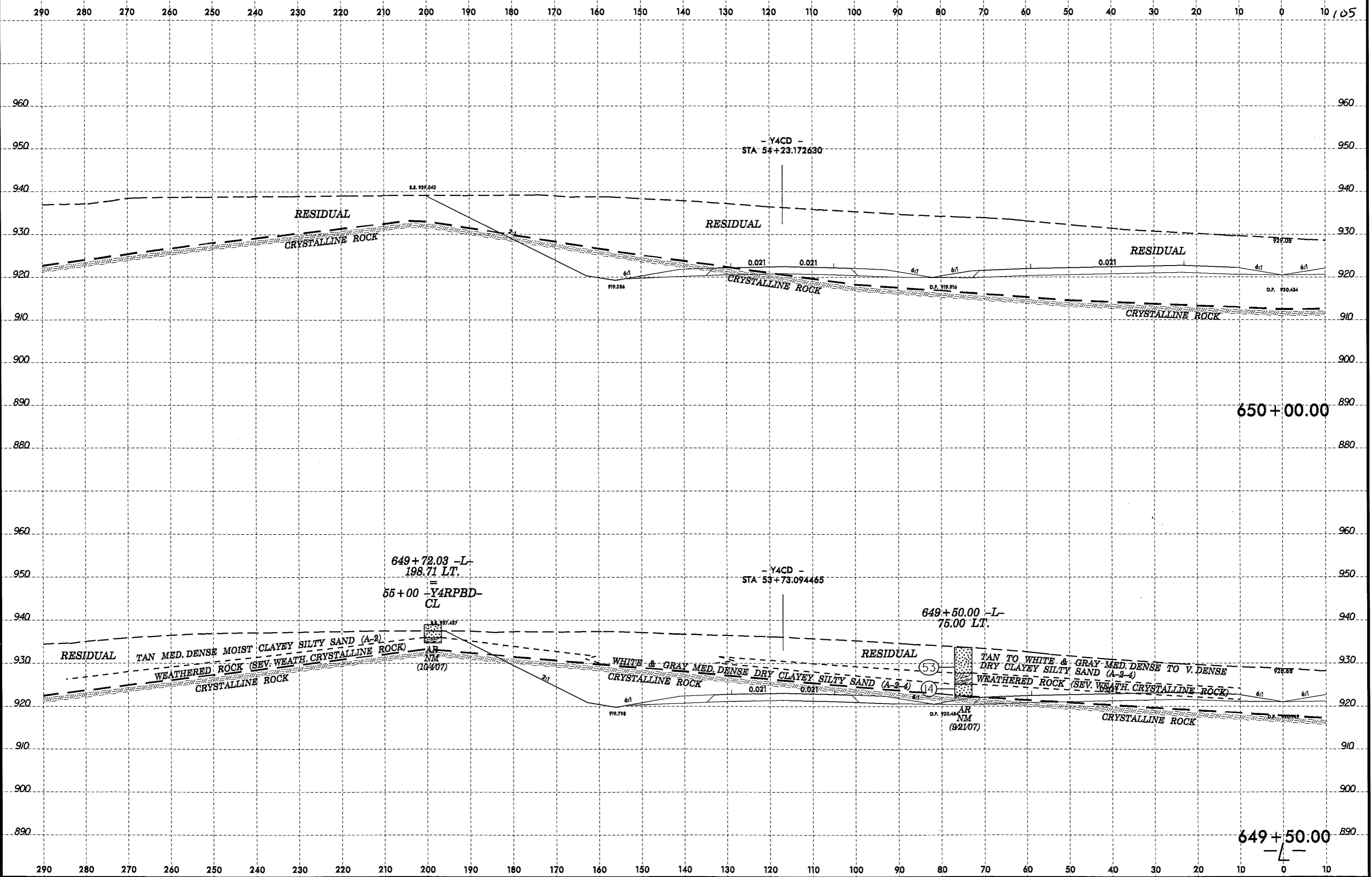


8/23/99



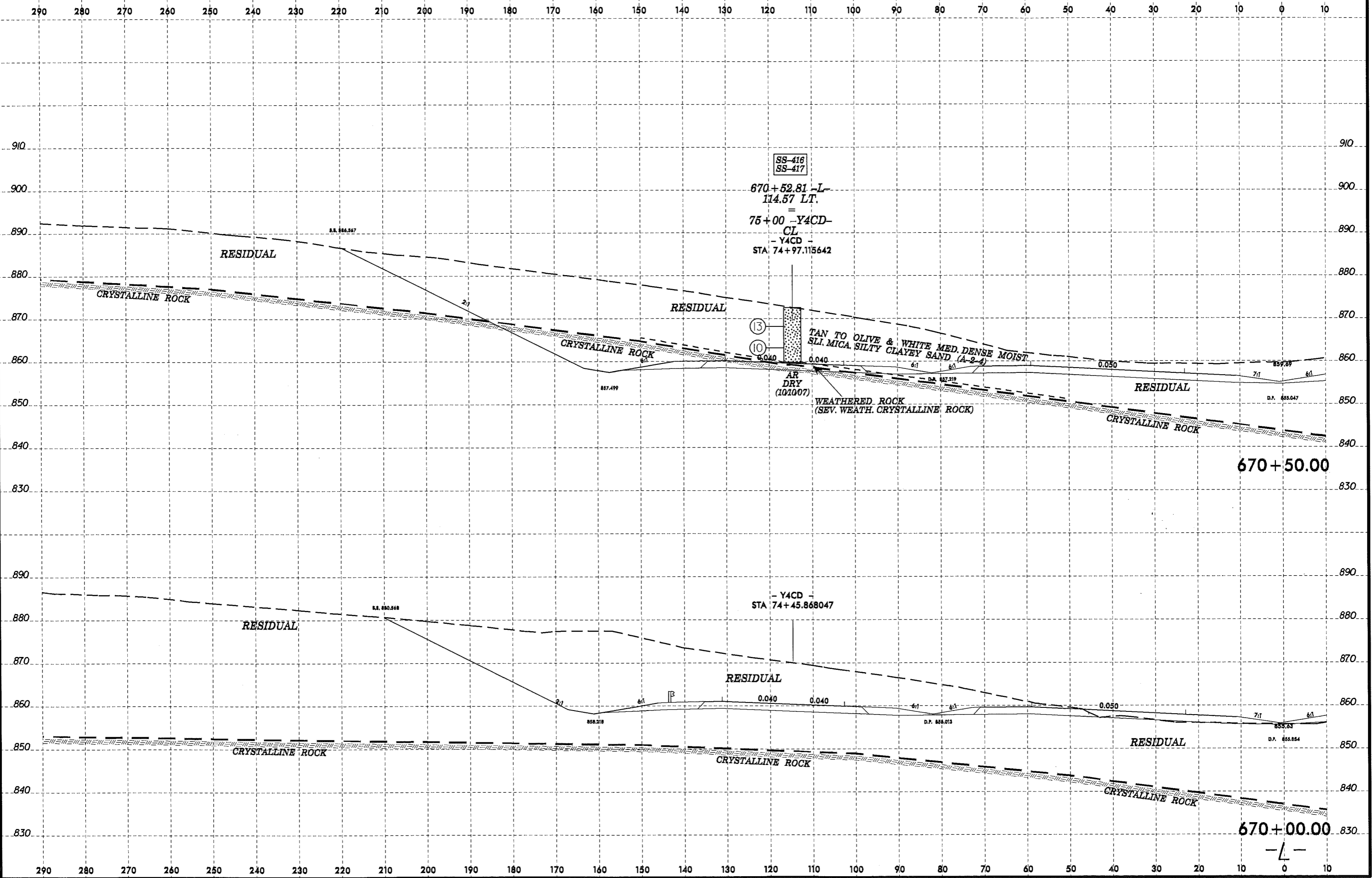
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include AT GER21410

8/23/99



03-JUL-2008 09:48 D:\Projects\U2579B_GEO_ROWY_FORSYTH\CADD_GEO\TECH\XSC\U2579B_GEO_XS.L1.L1.dgn

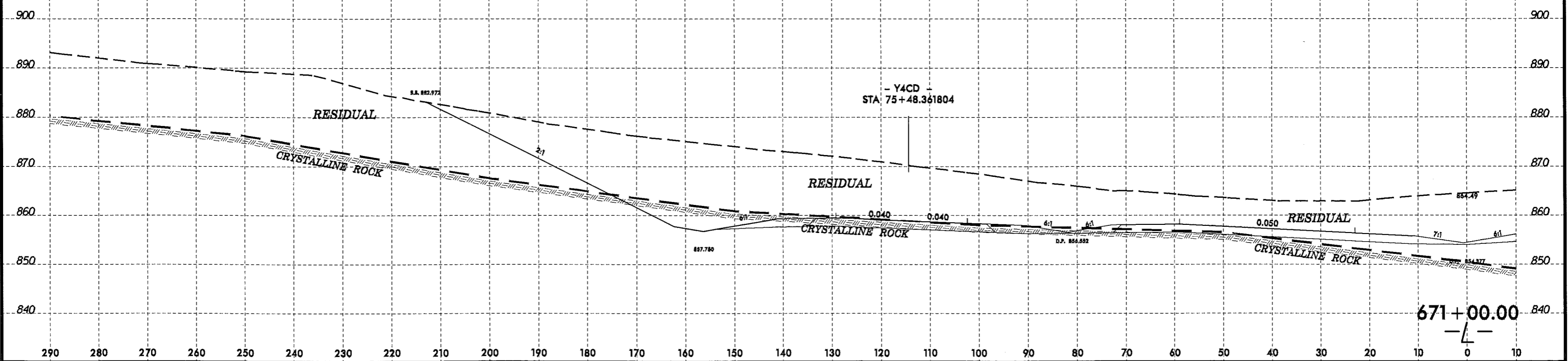
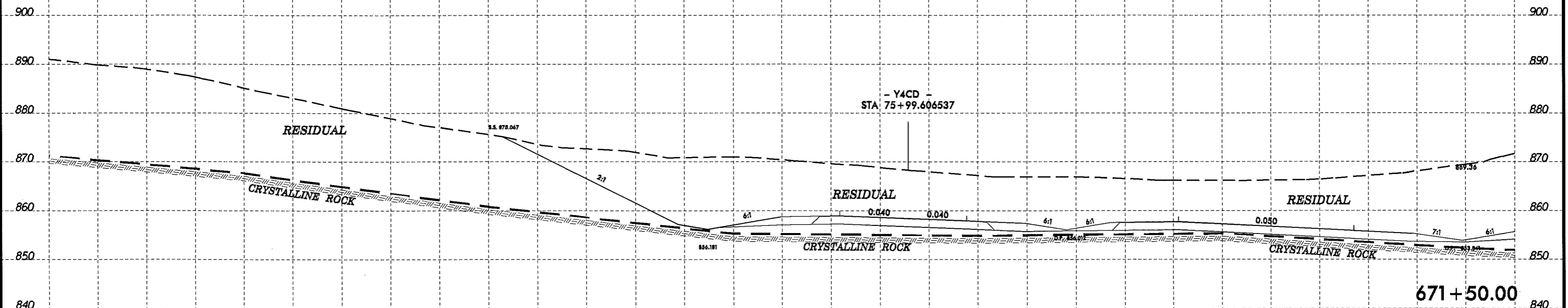
8/23/99



03-MAY-2010 13:26 \\gep221409\1\proj\2579b_GEO_RDWY_FORSYTH\CADD_GEO\TECH\ss\U2579b_GEO_xsl\left.dgn

8/23/99

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 / b 7



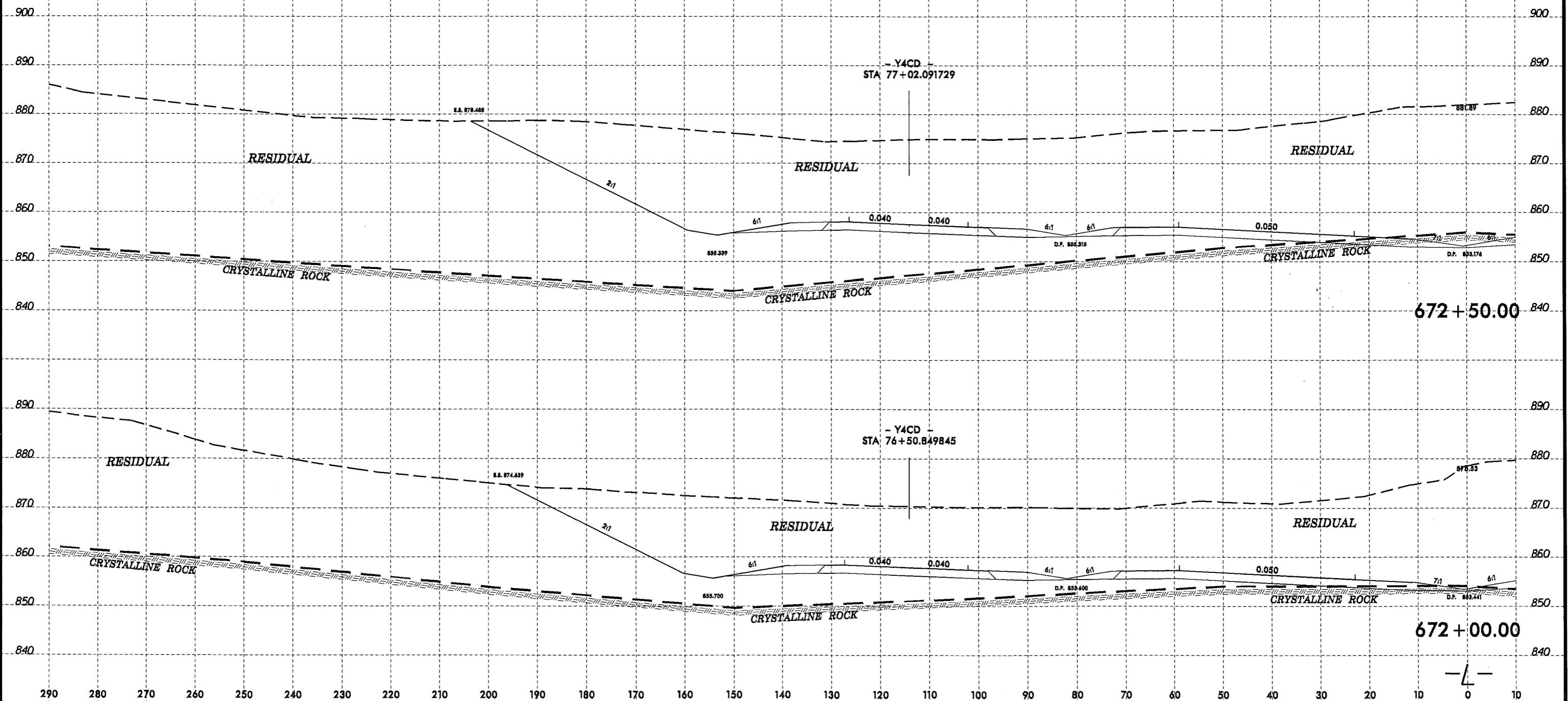
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 imc@tce

8/23/99



PROJ. REFERENCE NO. U-2579B SHEET NO. XL-33

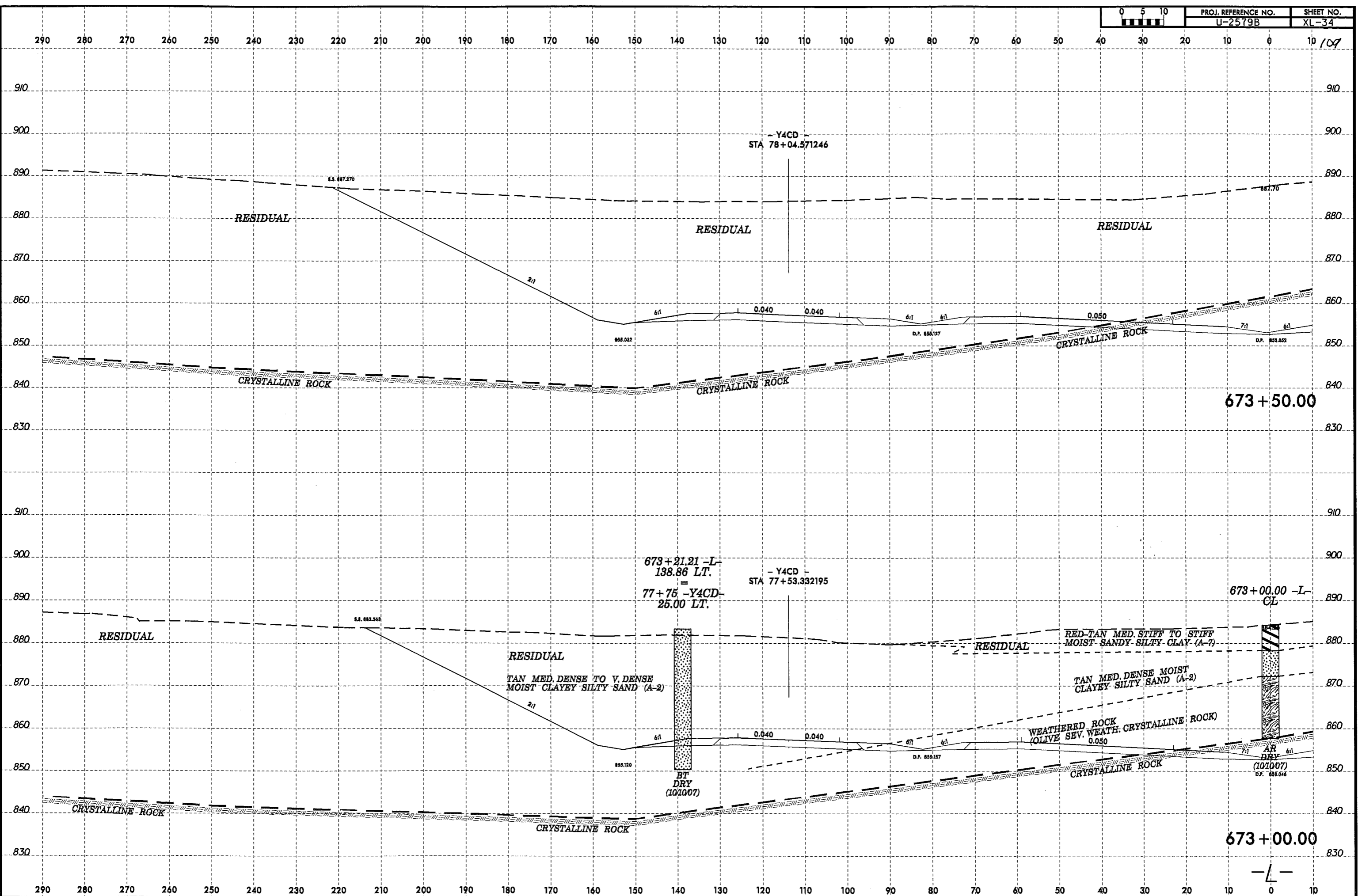
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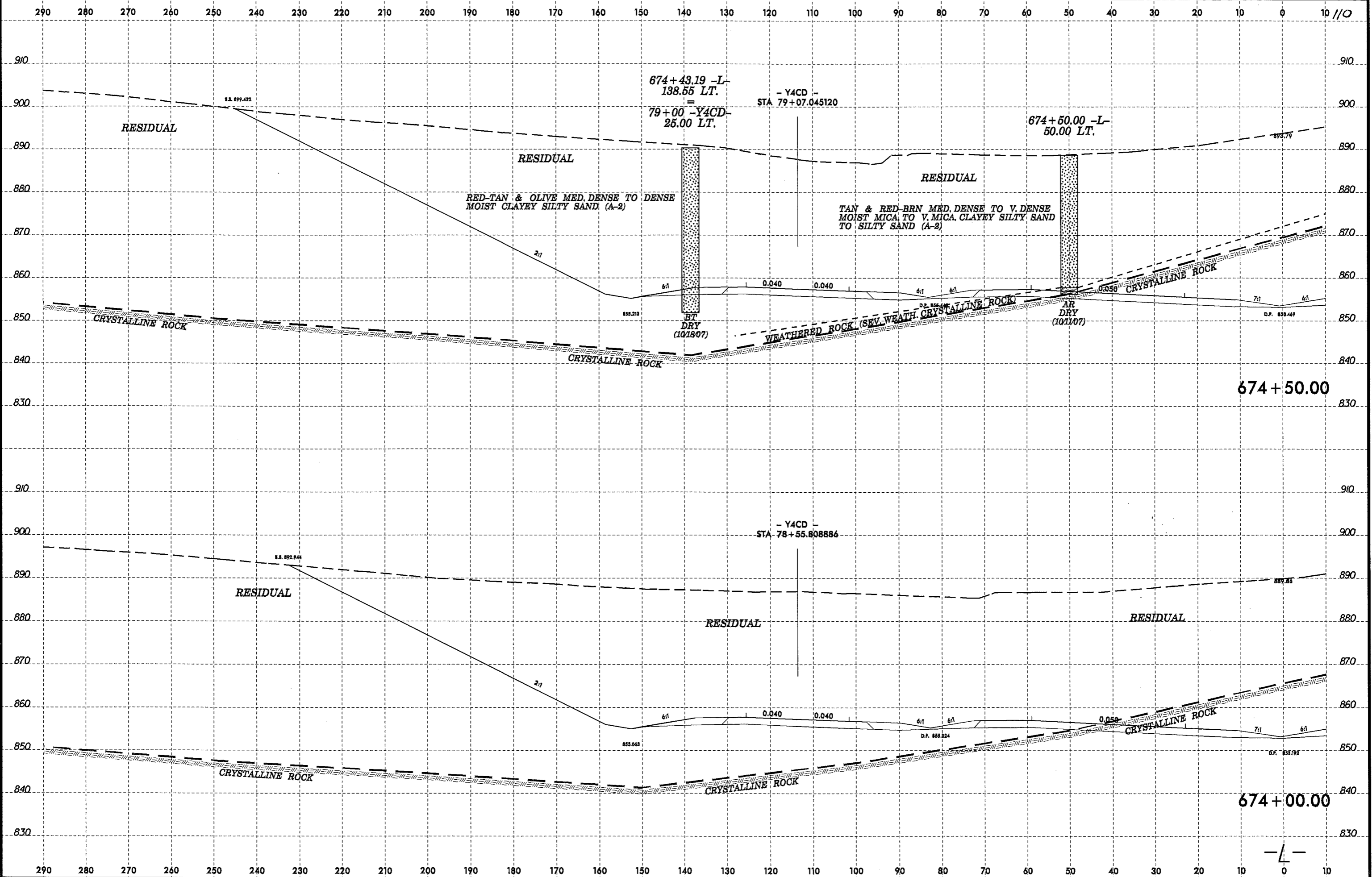
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-4-

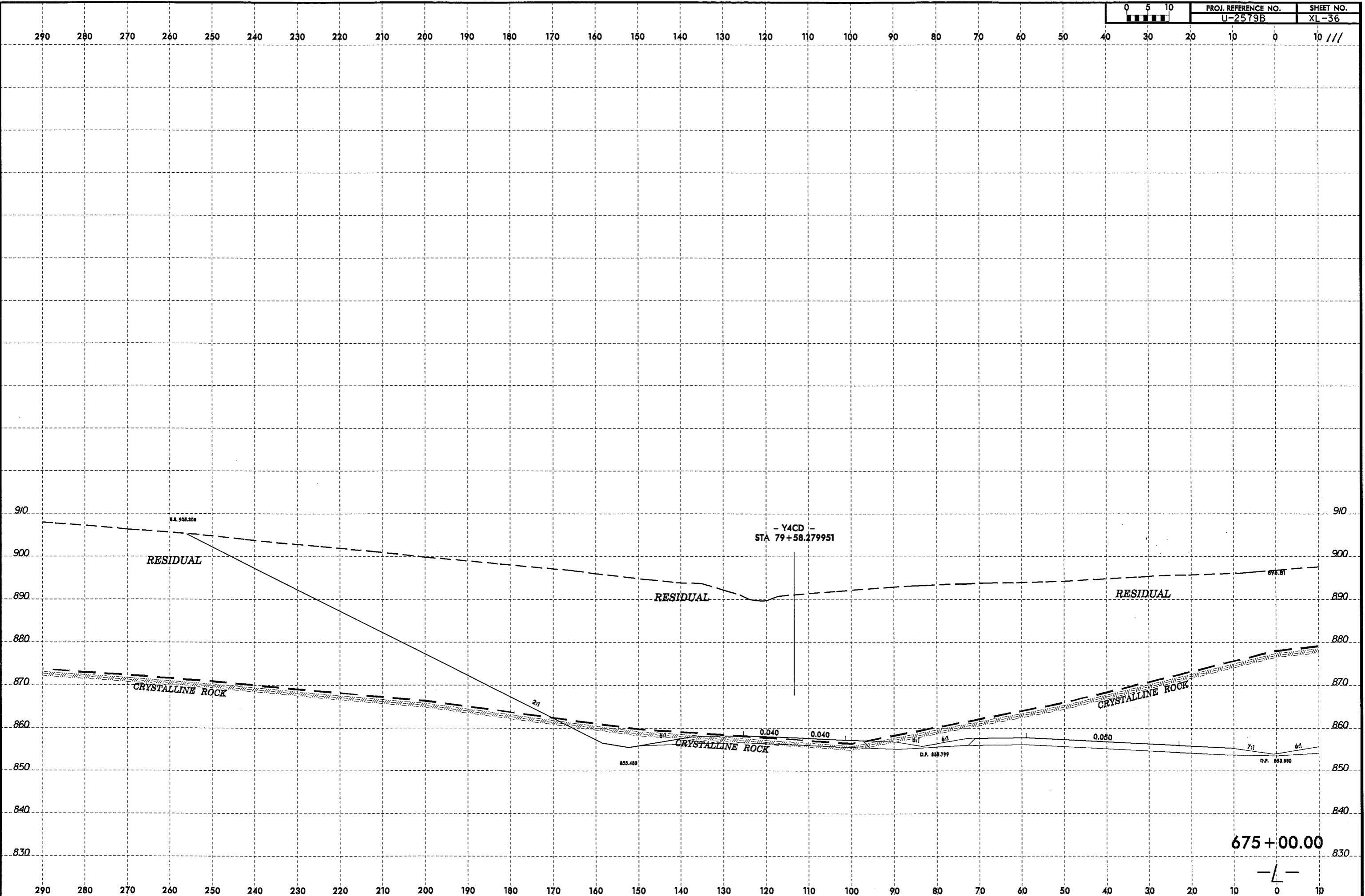
8/23/99
03-JUL-2008 09:49
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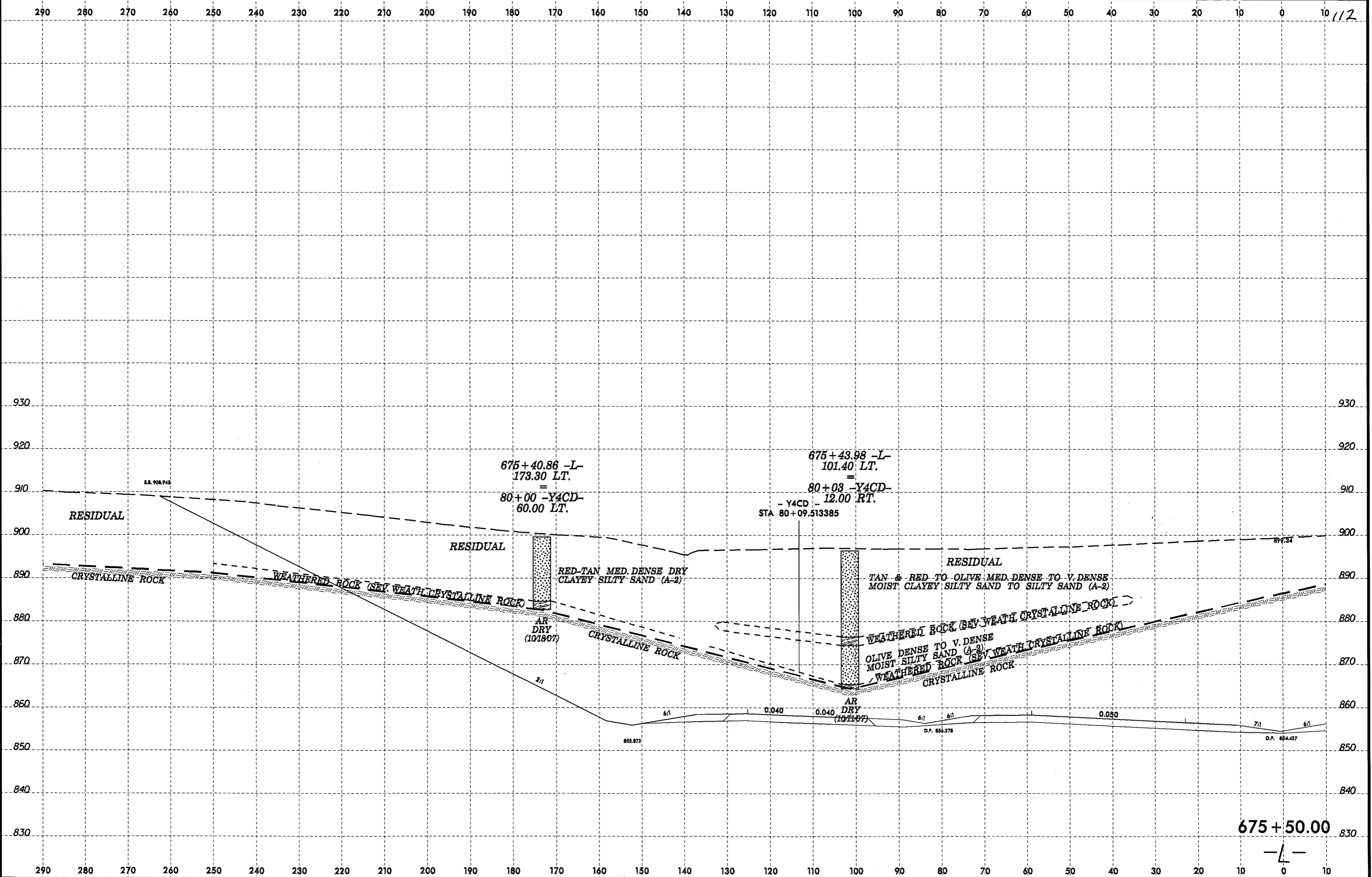
8/23/99
03-JUL-2008 09:49
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imc@ure AT BEH22410



03-JUL-2008 09:49
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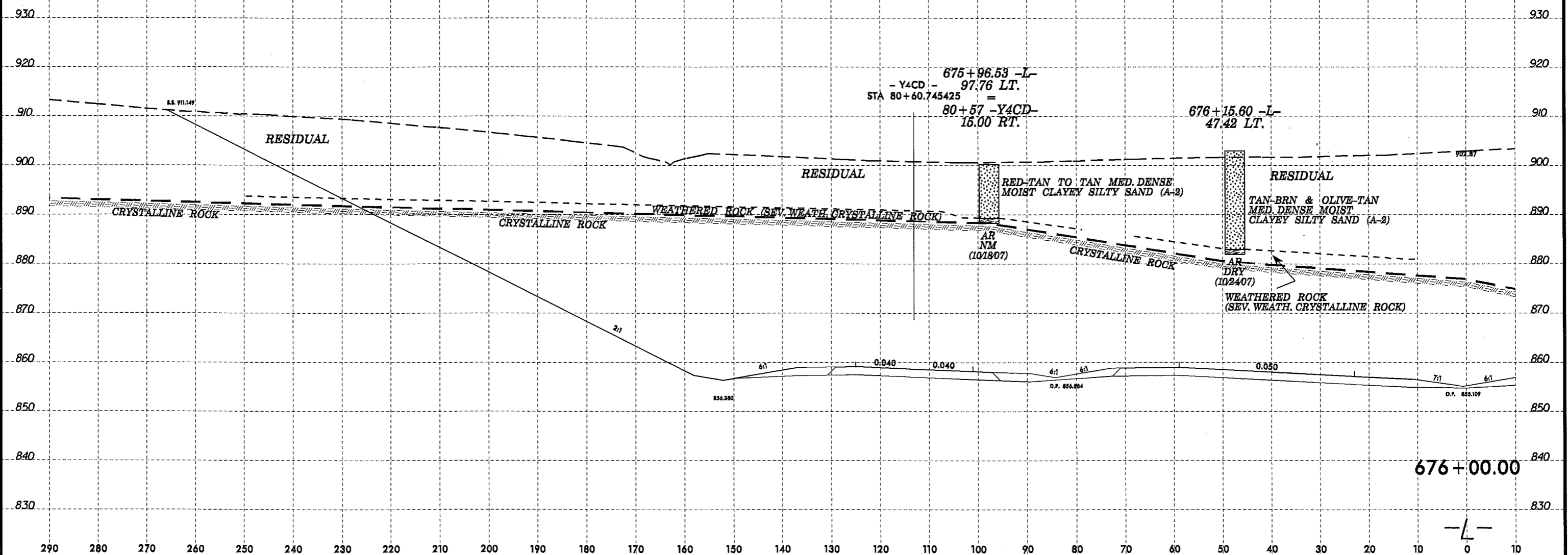


8/23/99
03-JUL-2008 09:49
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Inception



8/23/99

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 //3



03-JUL-2008 09:50
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 imcc19e AL 08/22/10

676+00.00

-L-

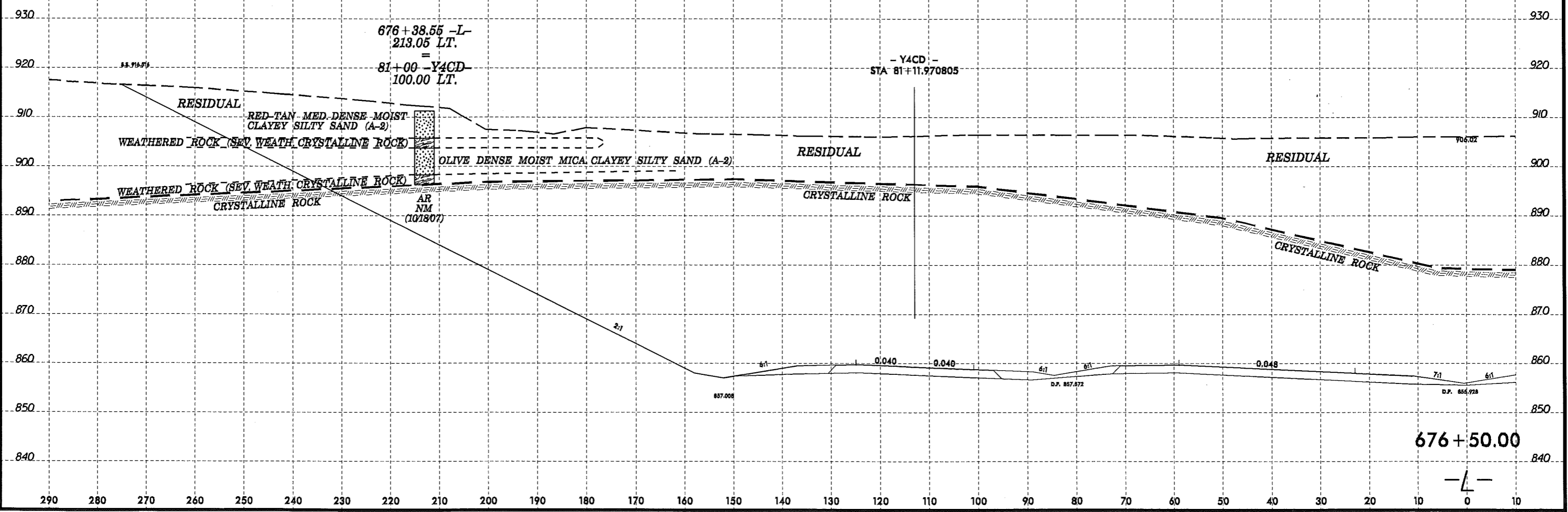
03-JUL-2008 09:50
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imc:lpw
PLT:08/22/10



PROJ. REFERENCE NO.
U-2579B

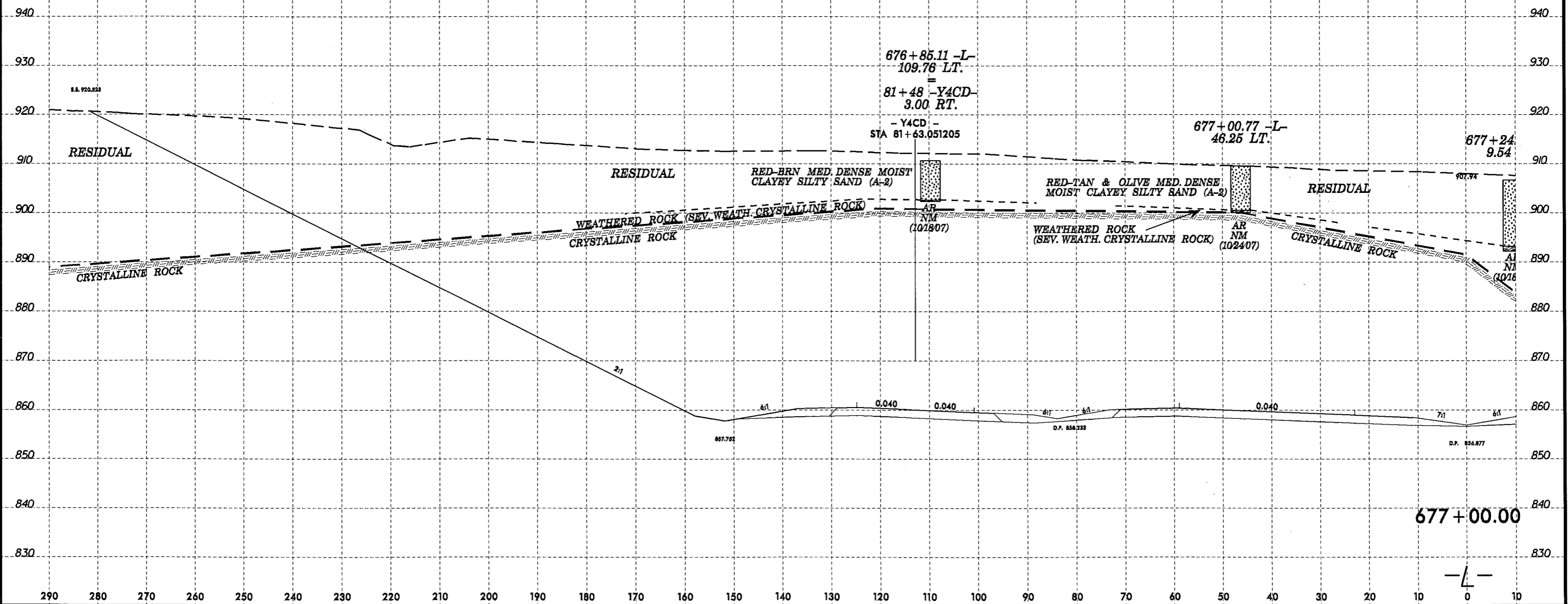
SHEET NO.
XL-39

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10/14

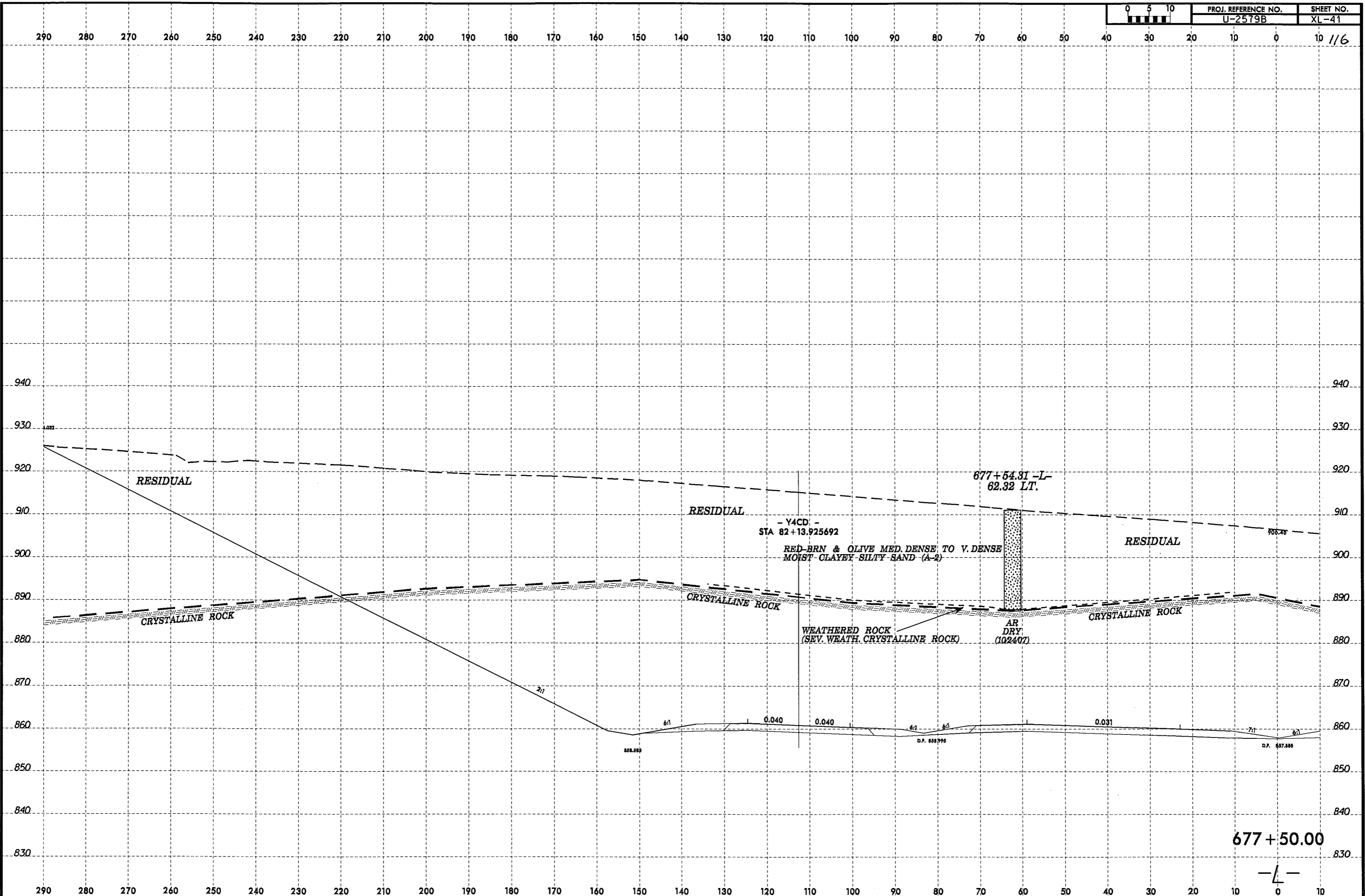


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imcc@urc

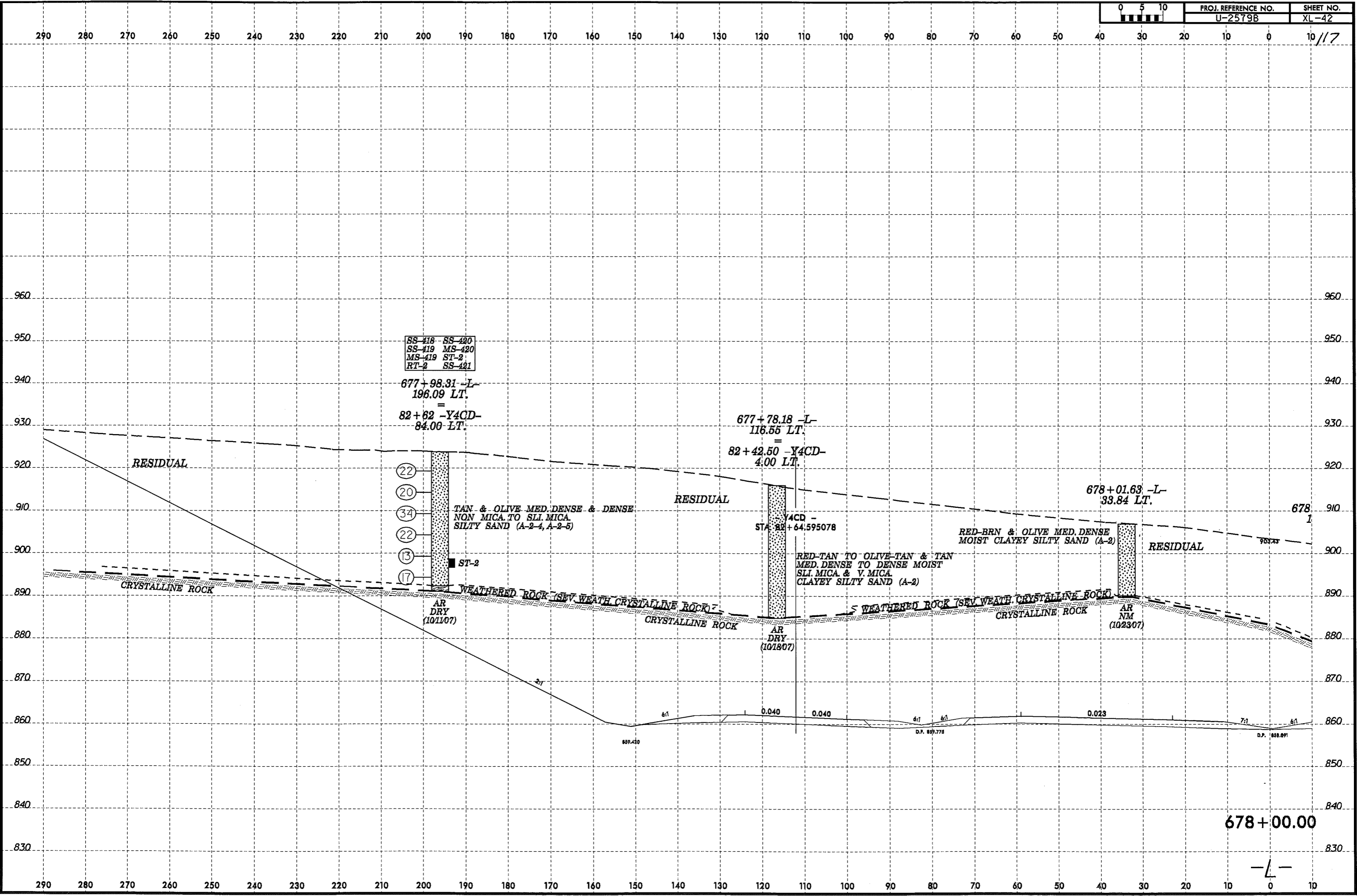
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03-JUL-2008 09:50
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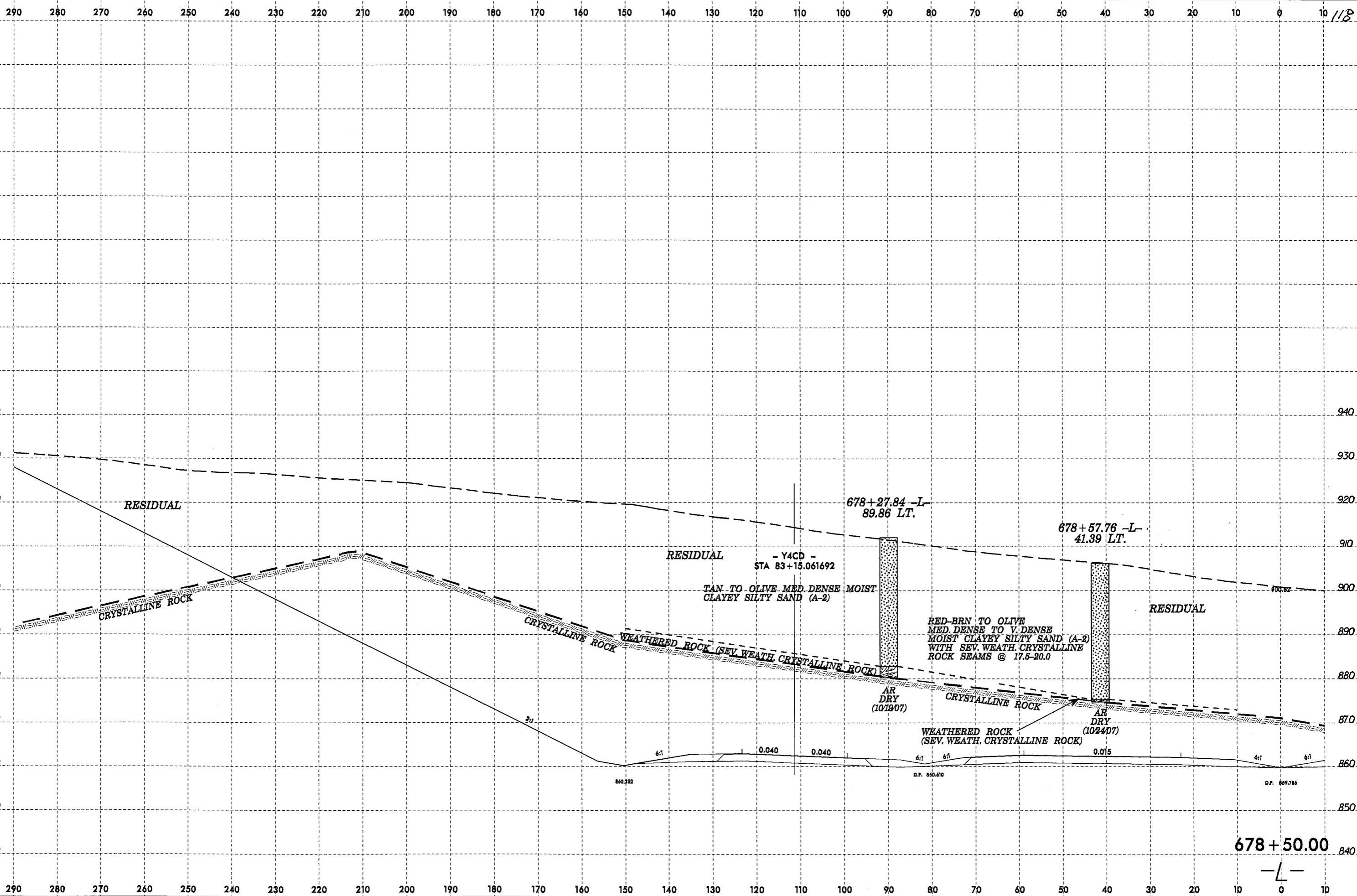
8/23/99
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Inclure AT GEH221410



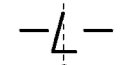
678+00.00

-L-

03-JUL-2008 09:50
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imc@urp AT 06/24/10

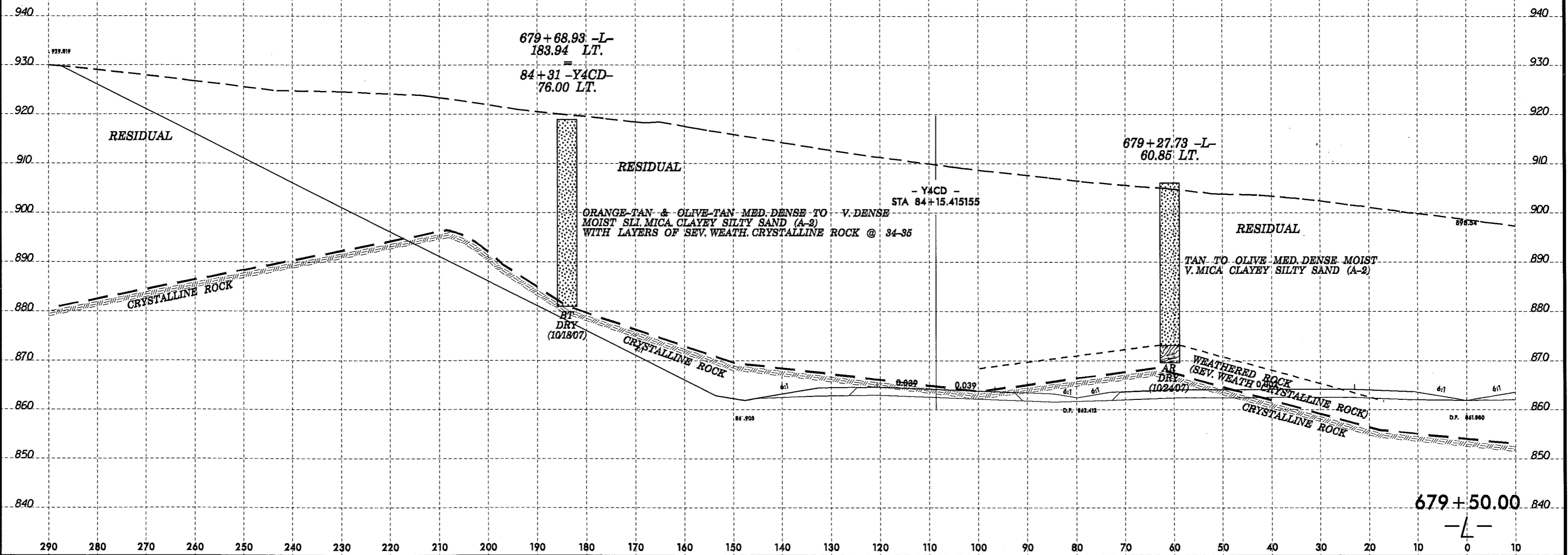


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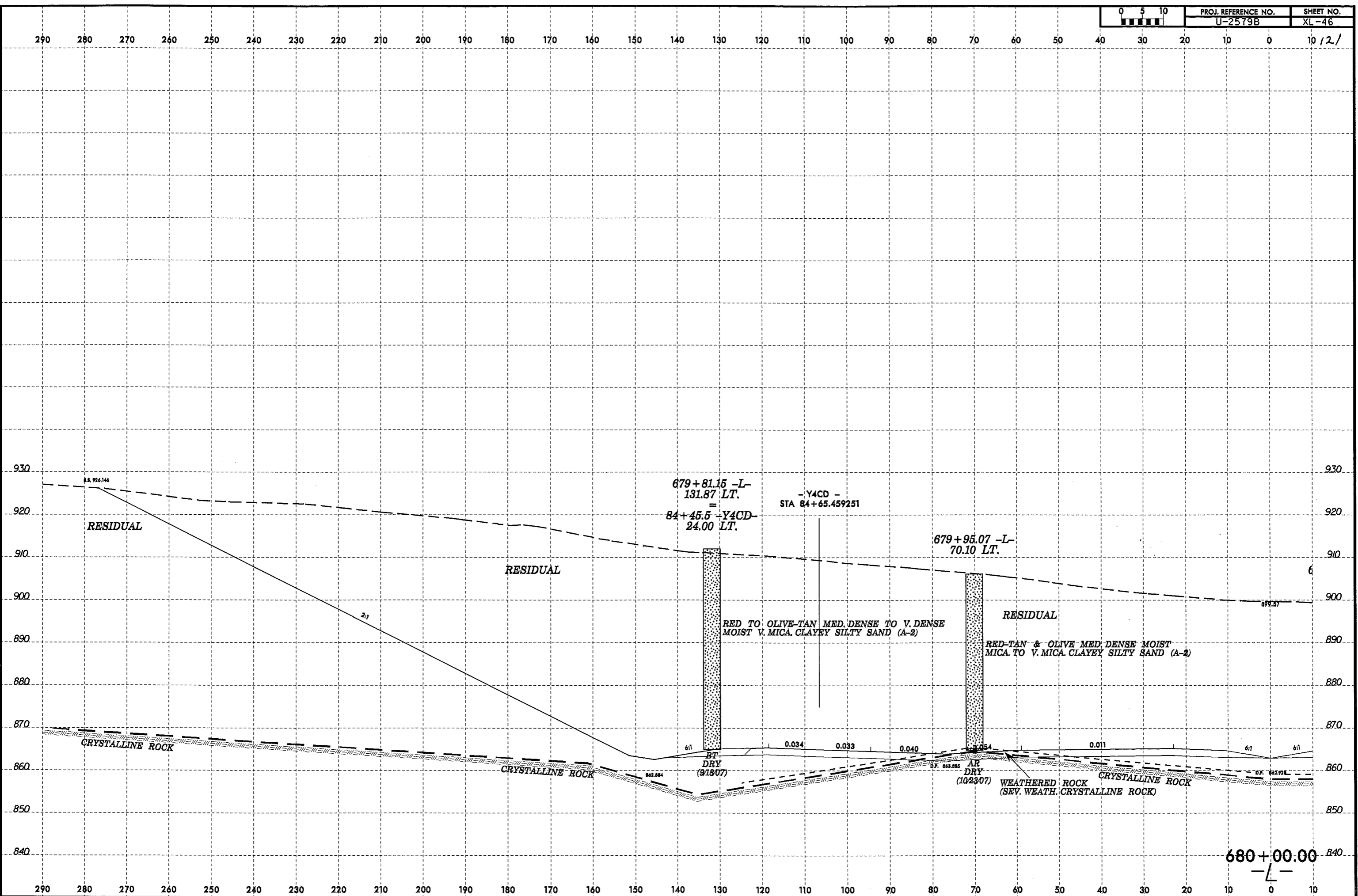


8/23/99
03-JUL-2008 09:50
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imcslr AL 06/22/10

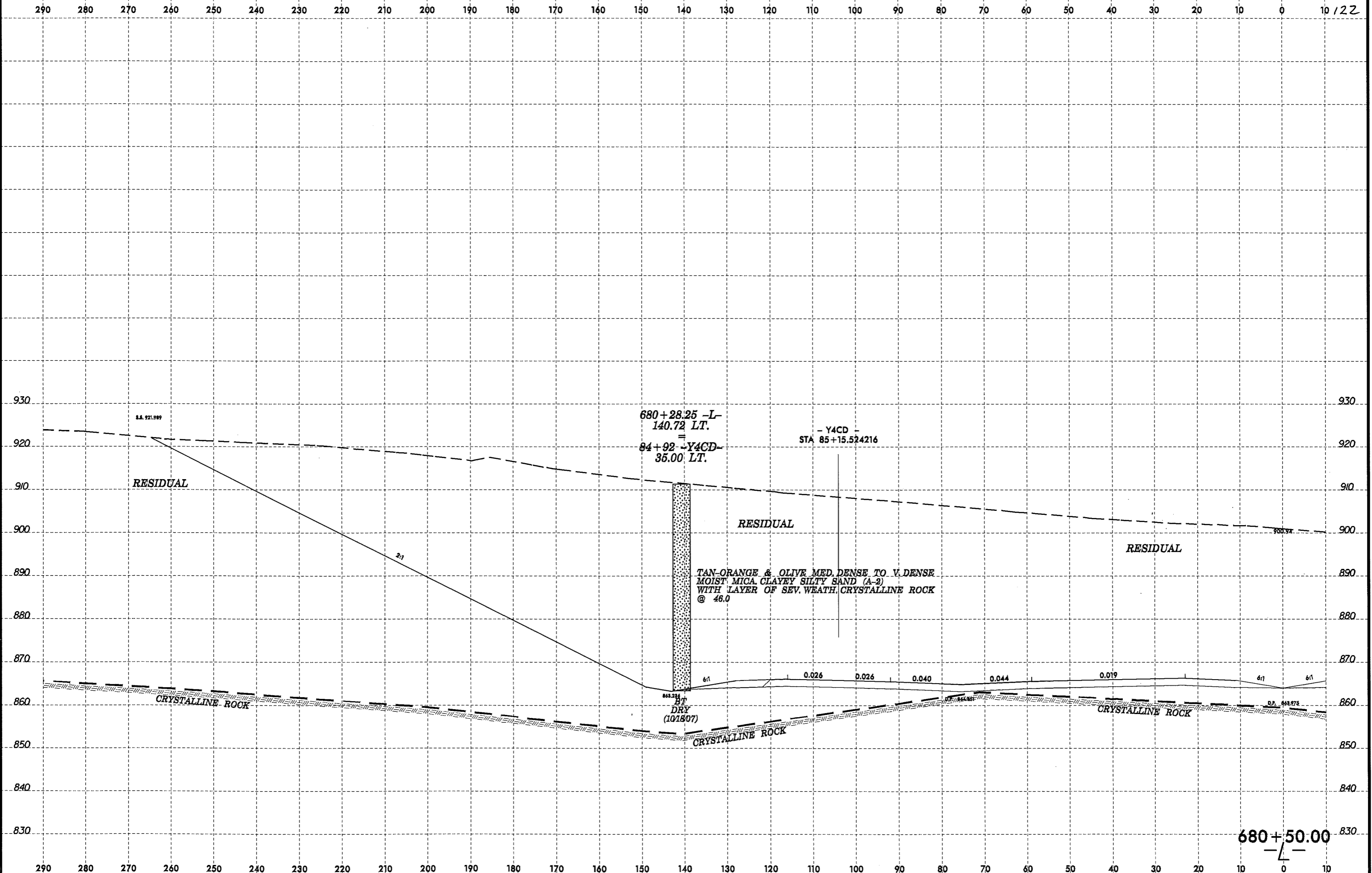
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10/20



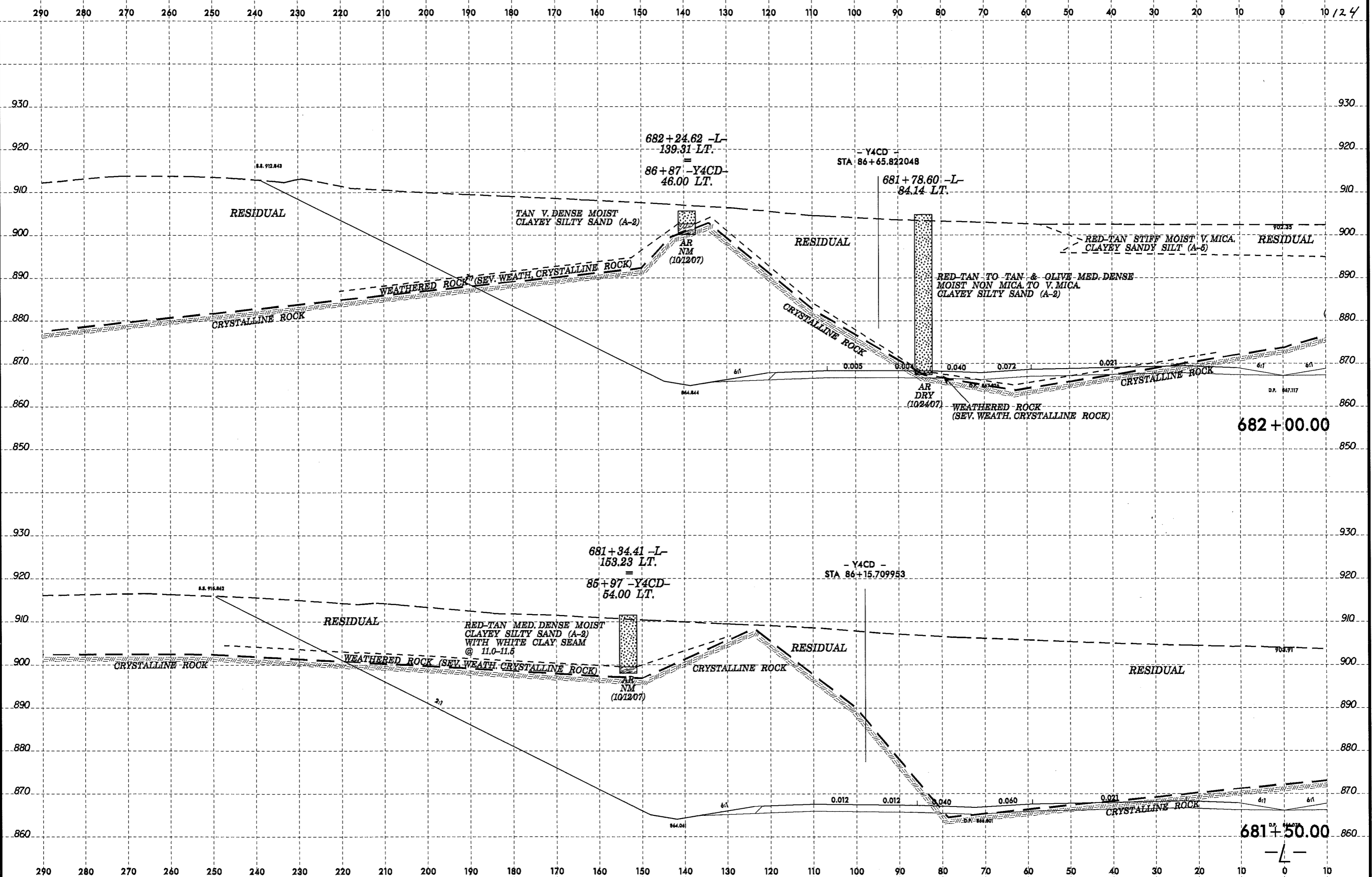
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imcc@pwr.com



8/23/99
03-JUL-2008 09:50
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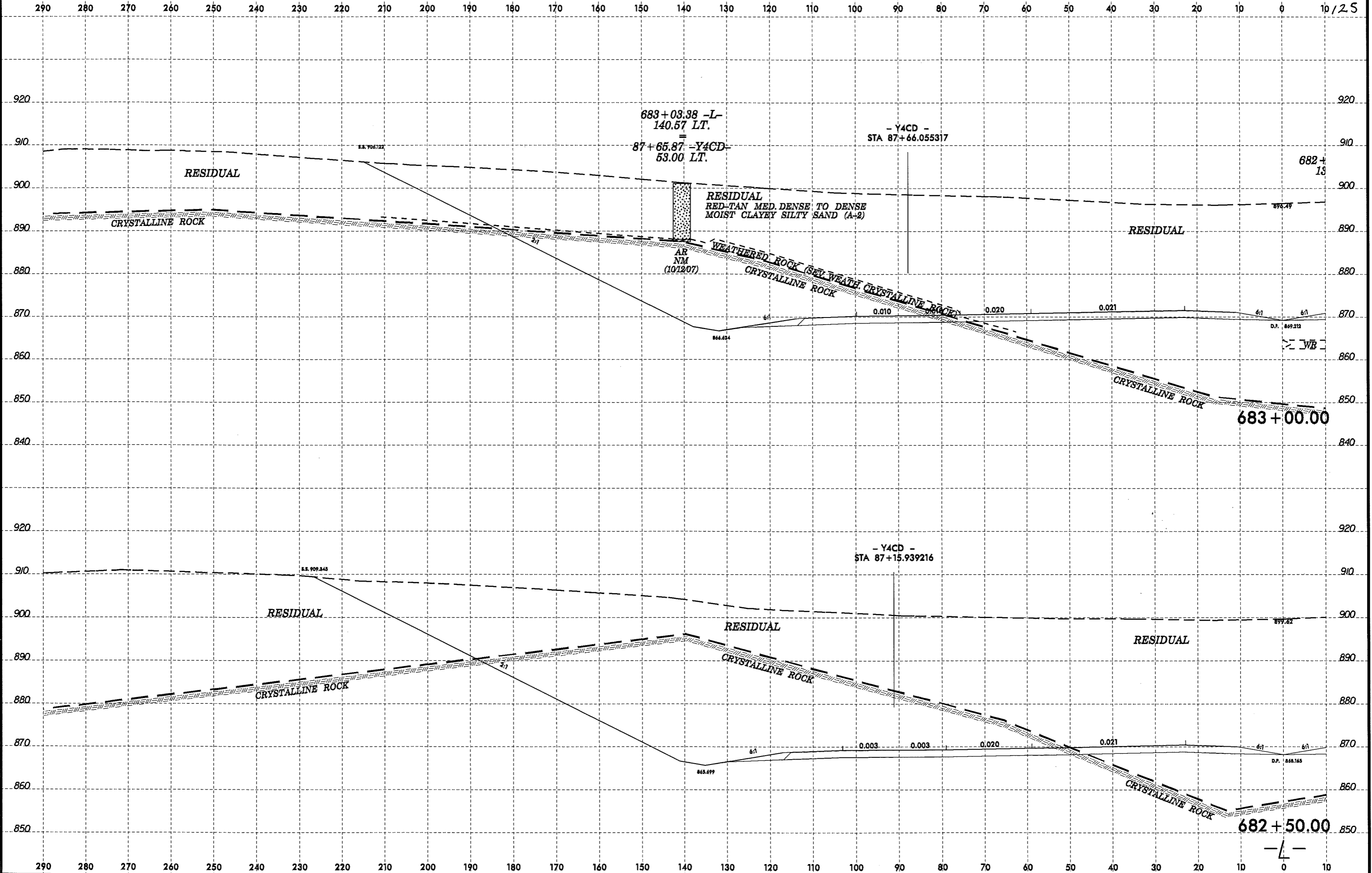


8/23/99



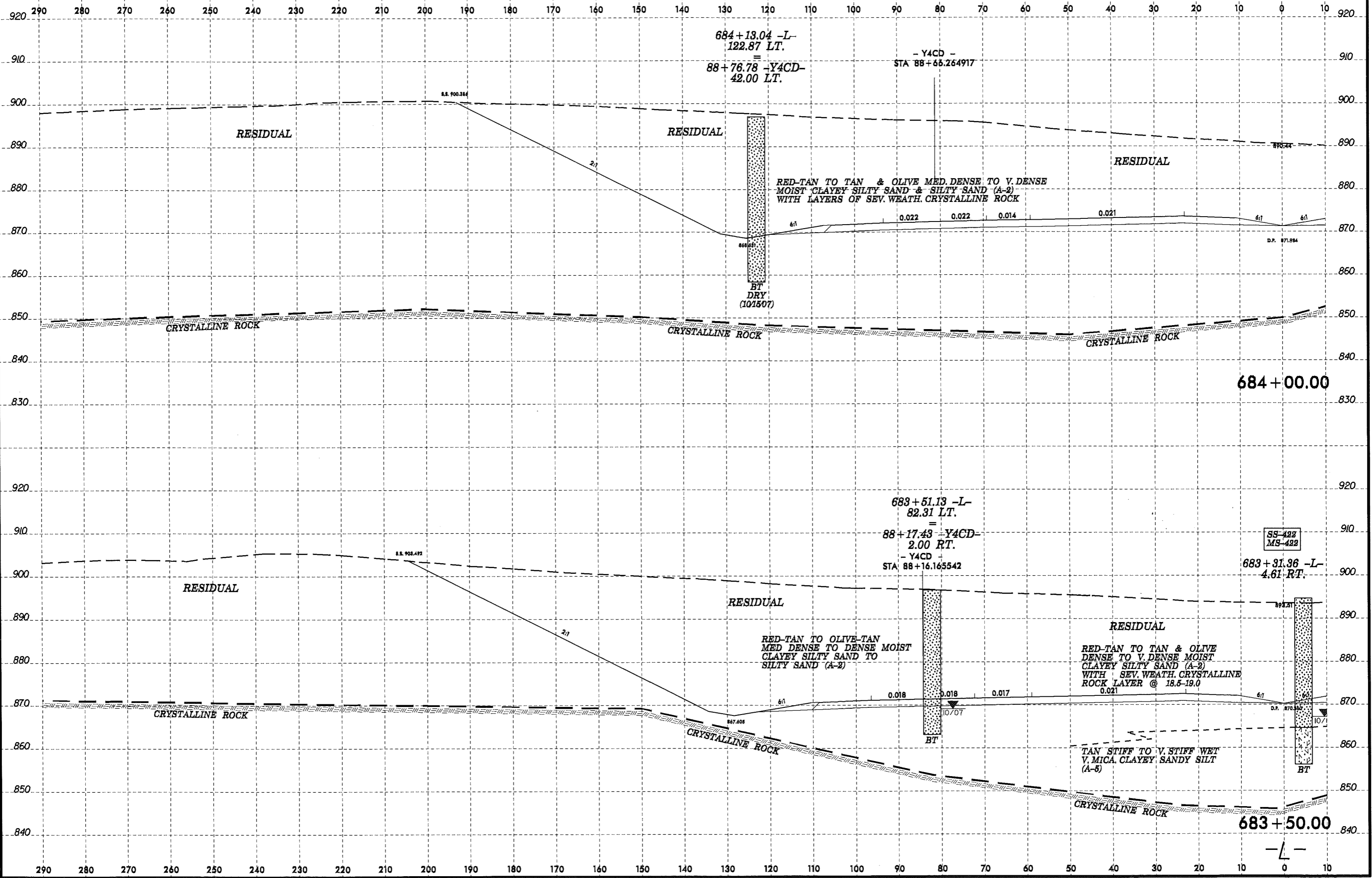
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8/23/99



03-JUL-2008 09:51
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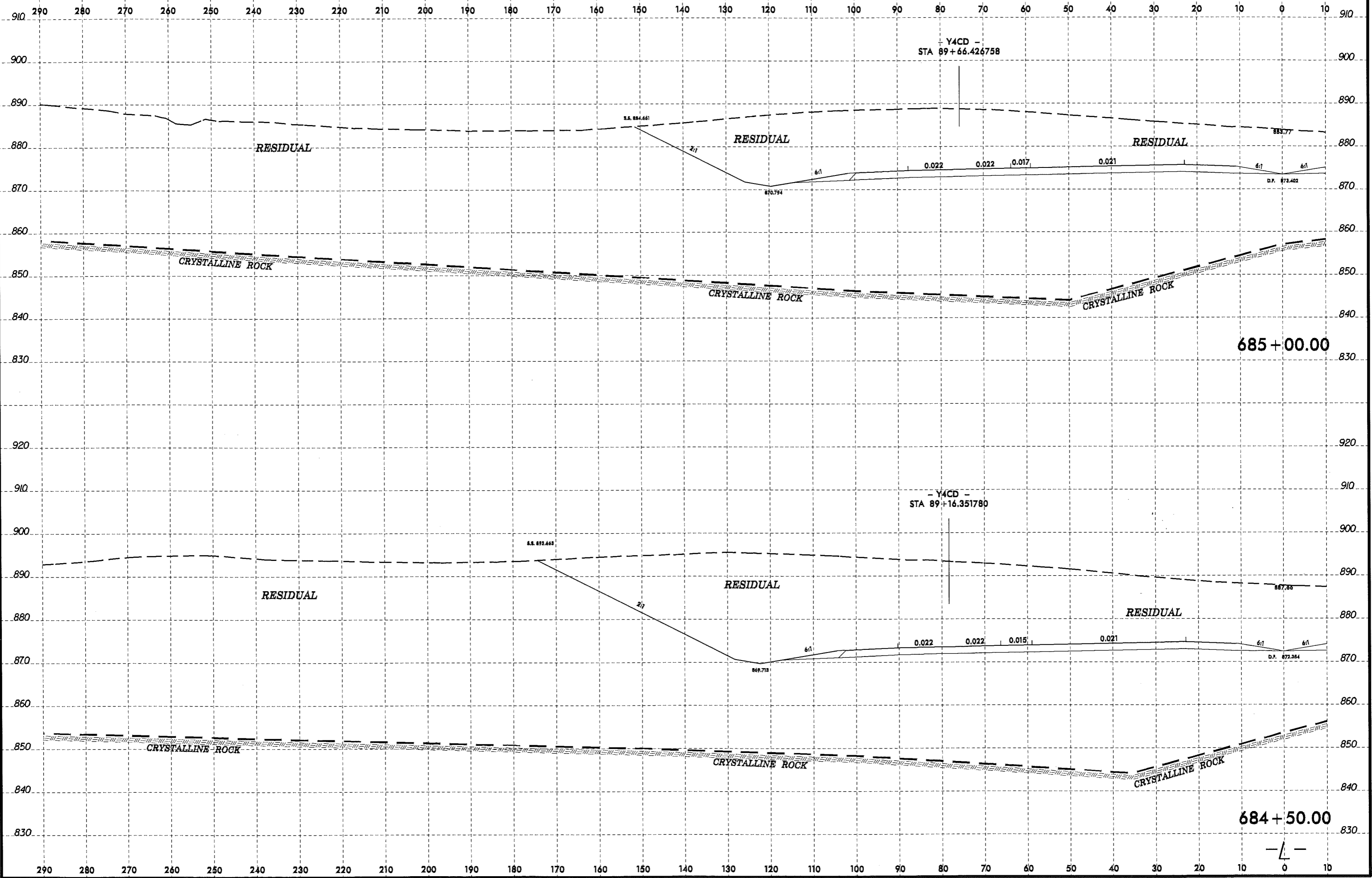
8/23/99



03-MAY-2010 13:21 \\Geph221409\1\825101\U2579B_GEO\RDWY_FORSYTH\CADD_GEO\TECH\XAC\U2579B_GEO_xsl\1\left.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XL-52



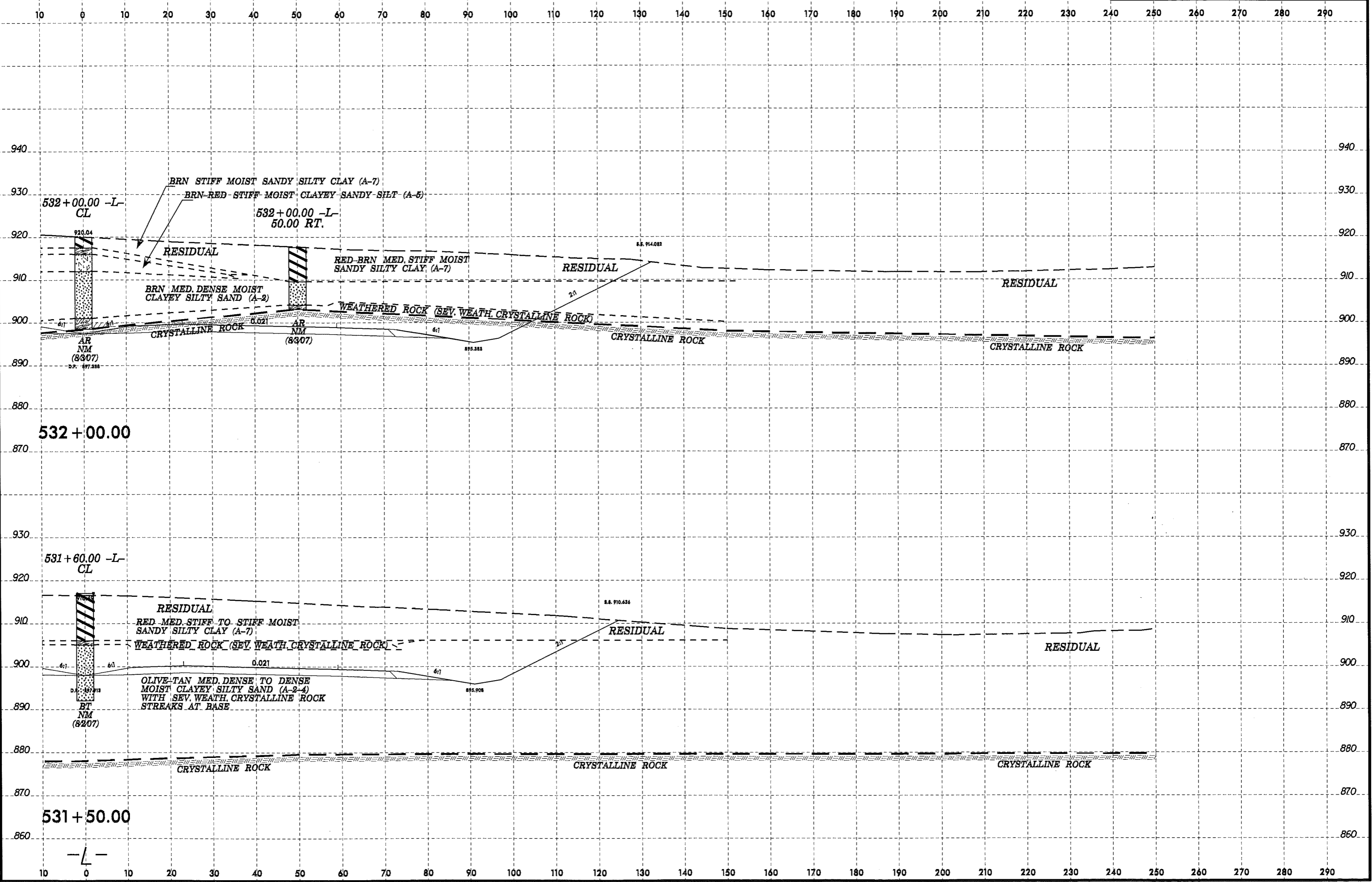
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685 + 00.00

684 + 50.00



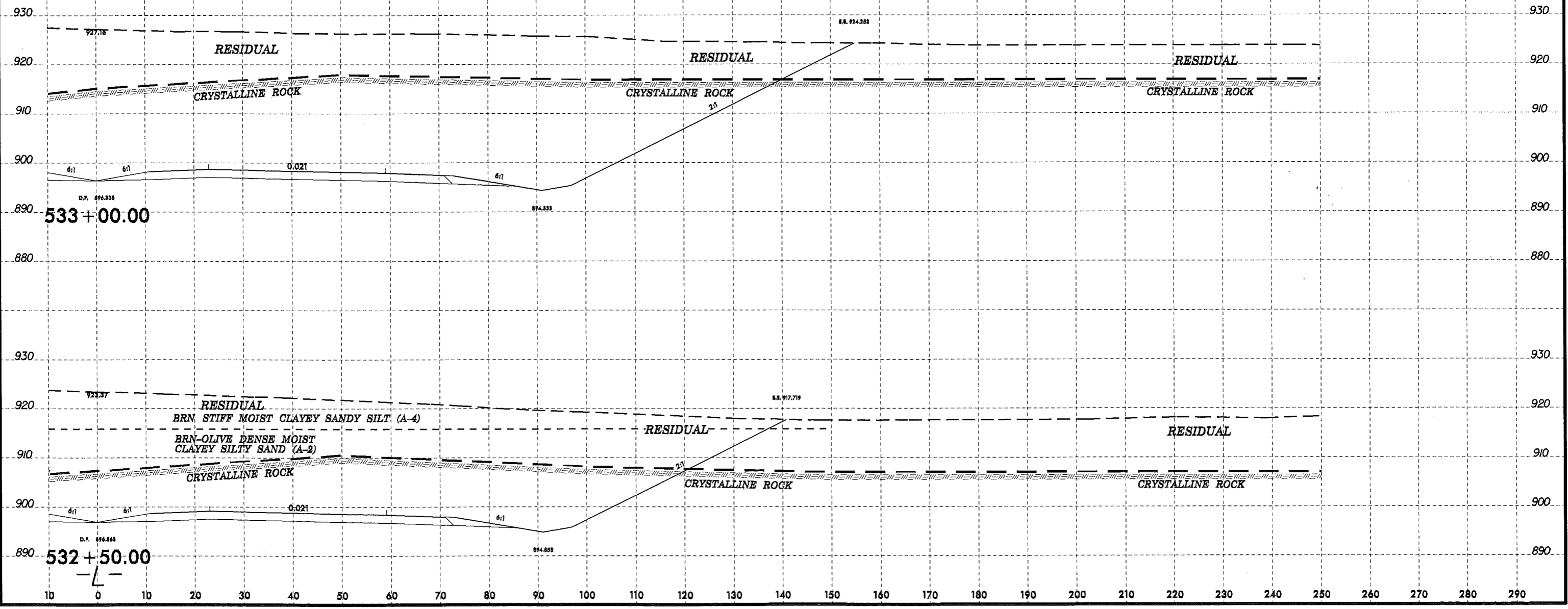
8/23/99



03-MAY-2010 13:30
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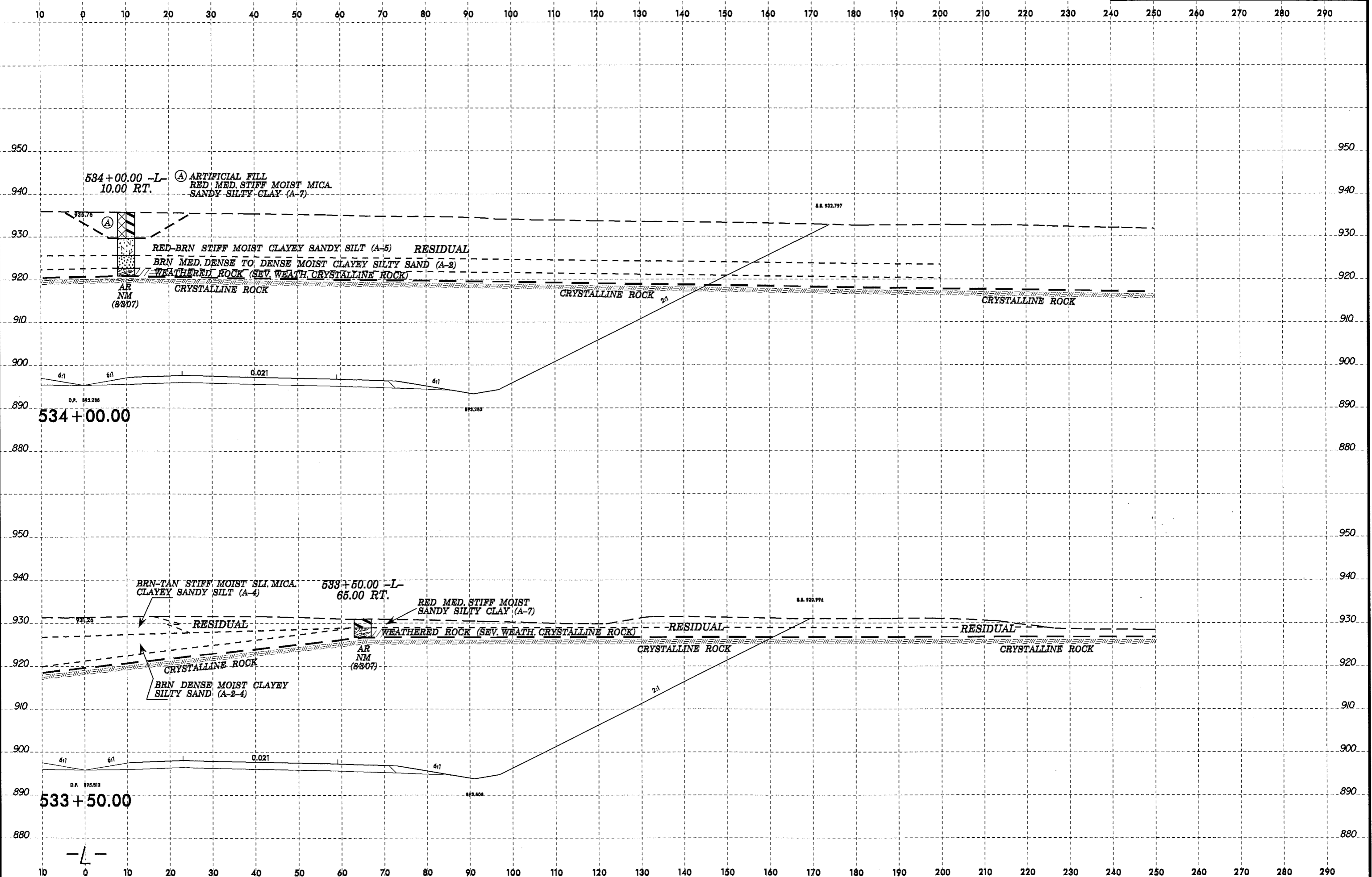
8/23/99

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290



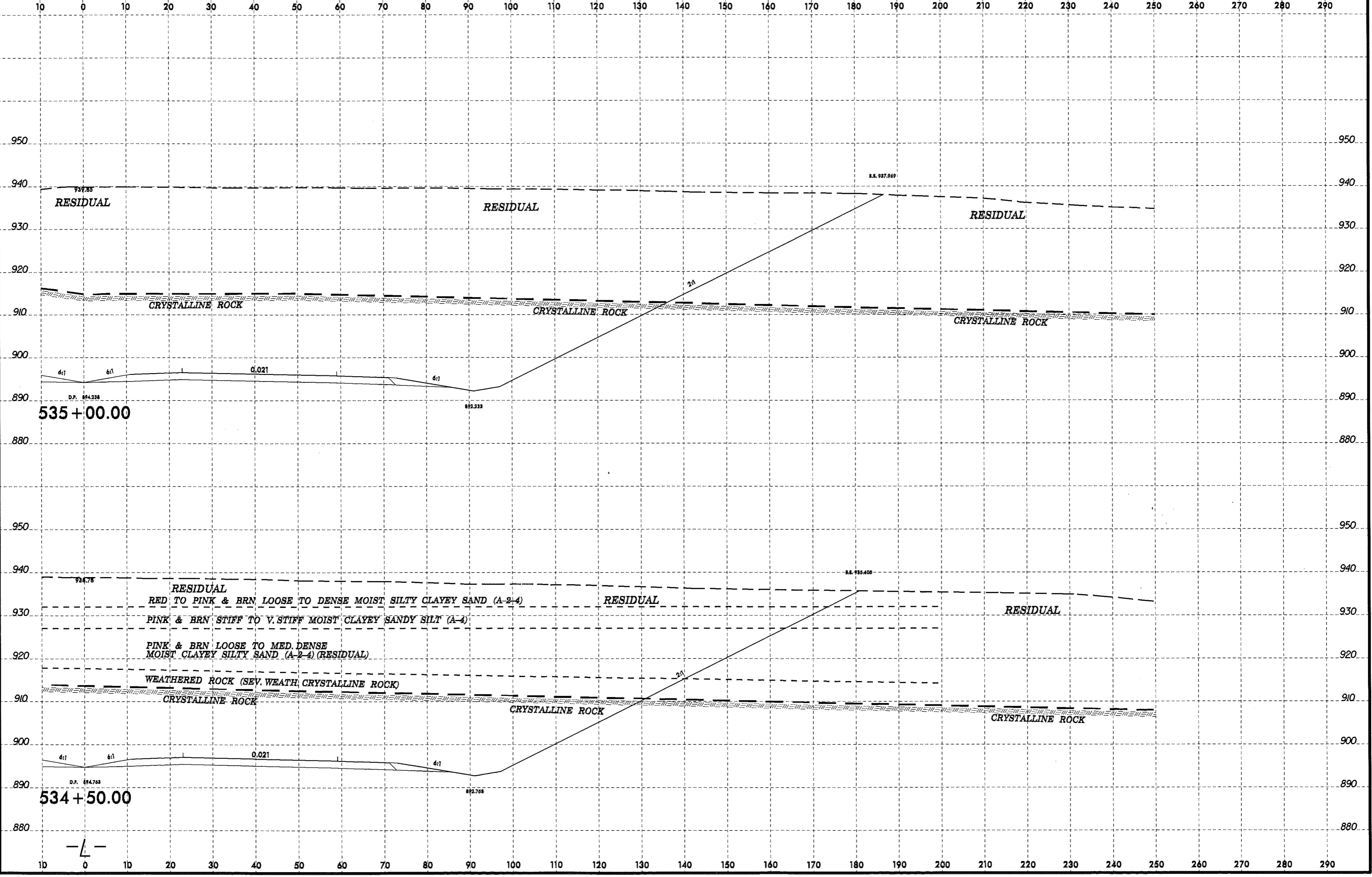
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8/23/99



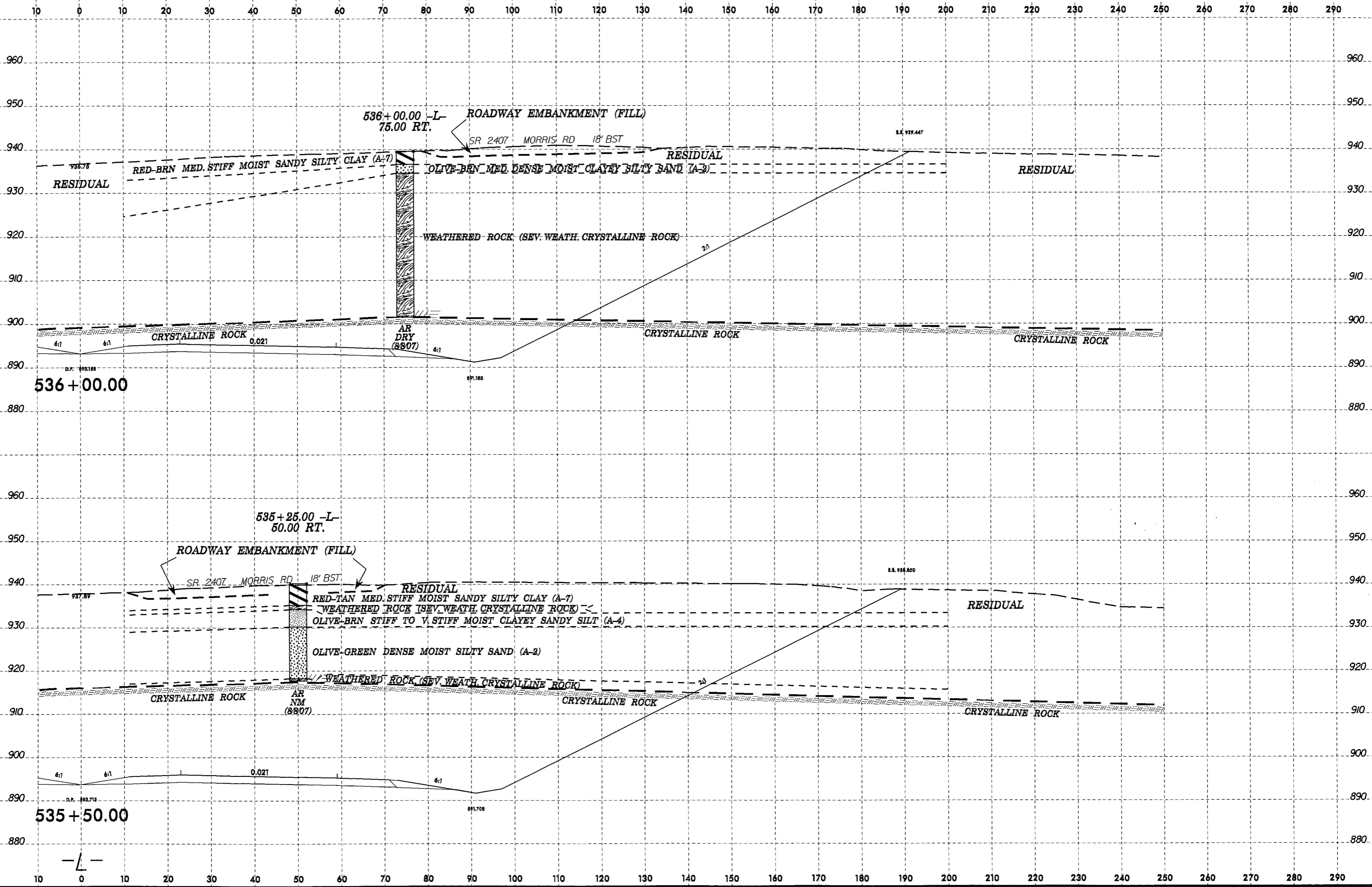
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8/23/99



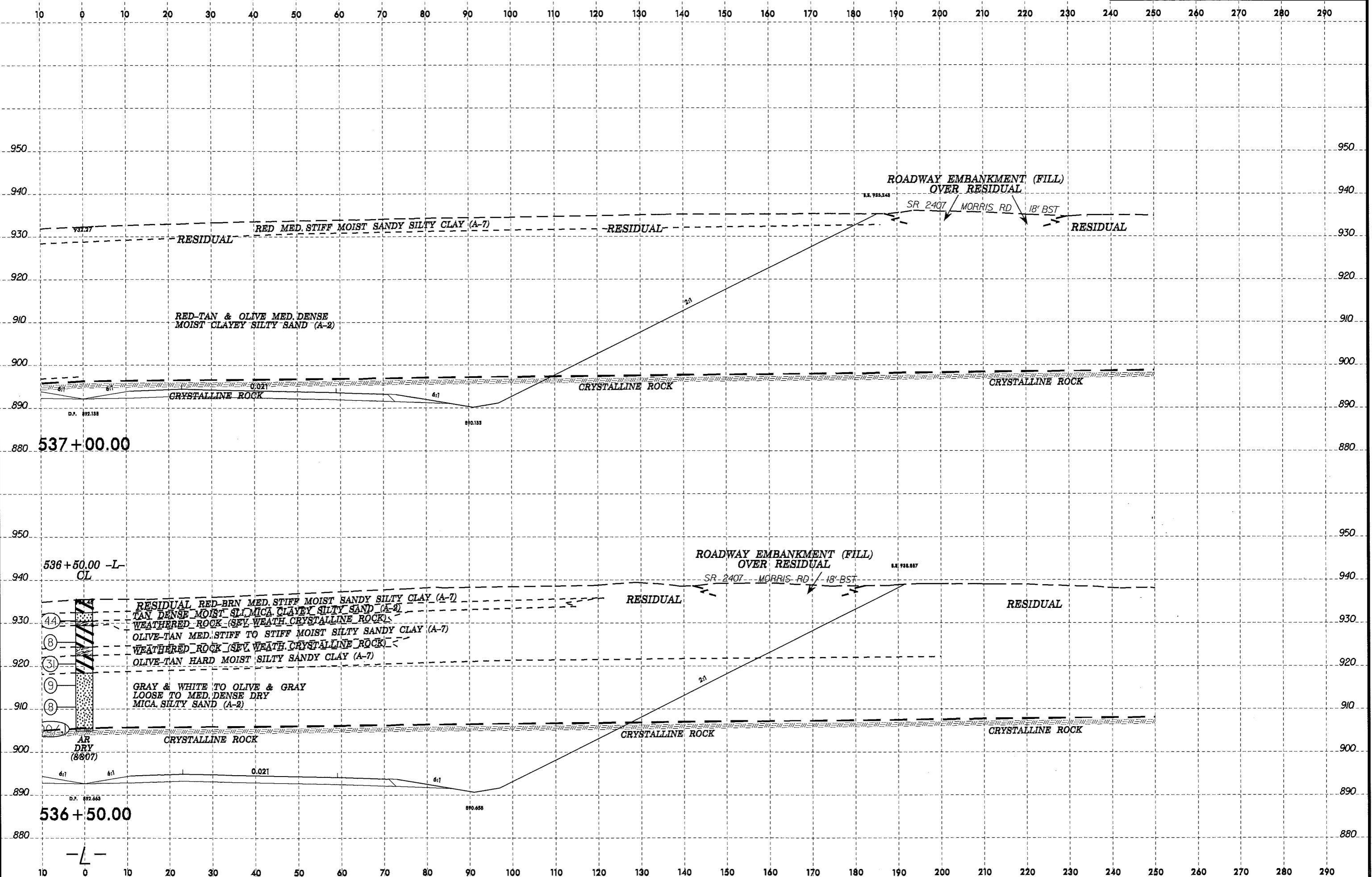
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 meclun@s

8/23/99



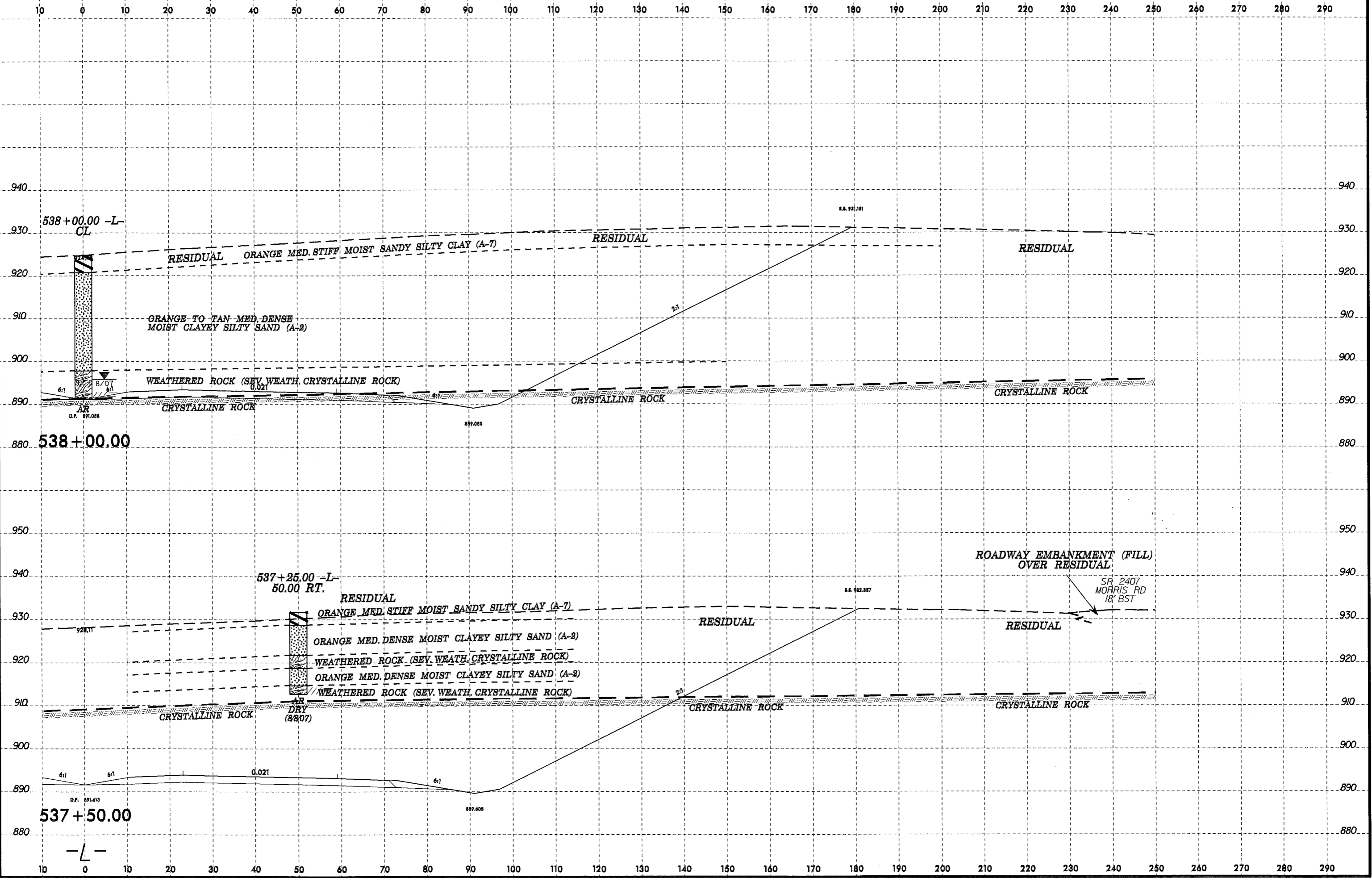
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8/23/99



03-MAY-2010 14:08
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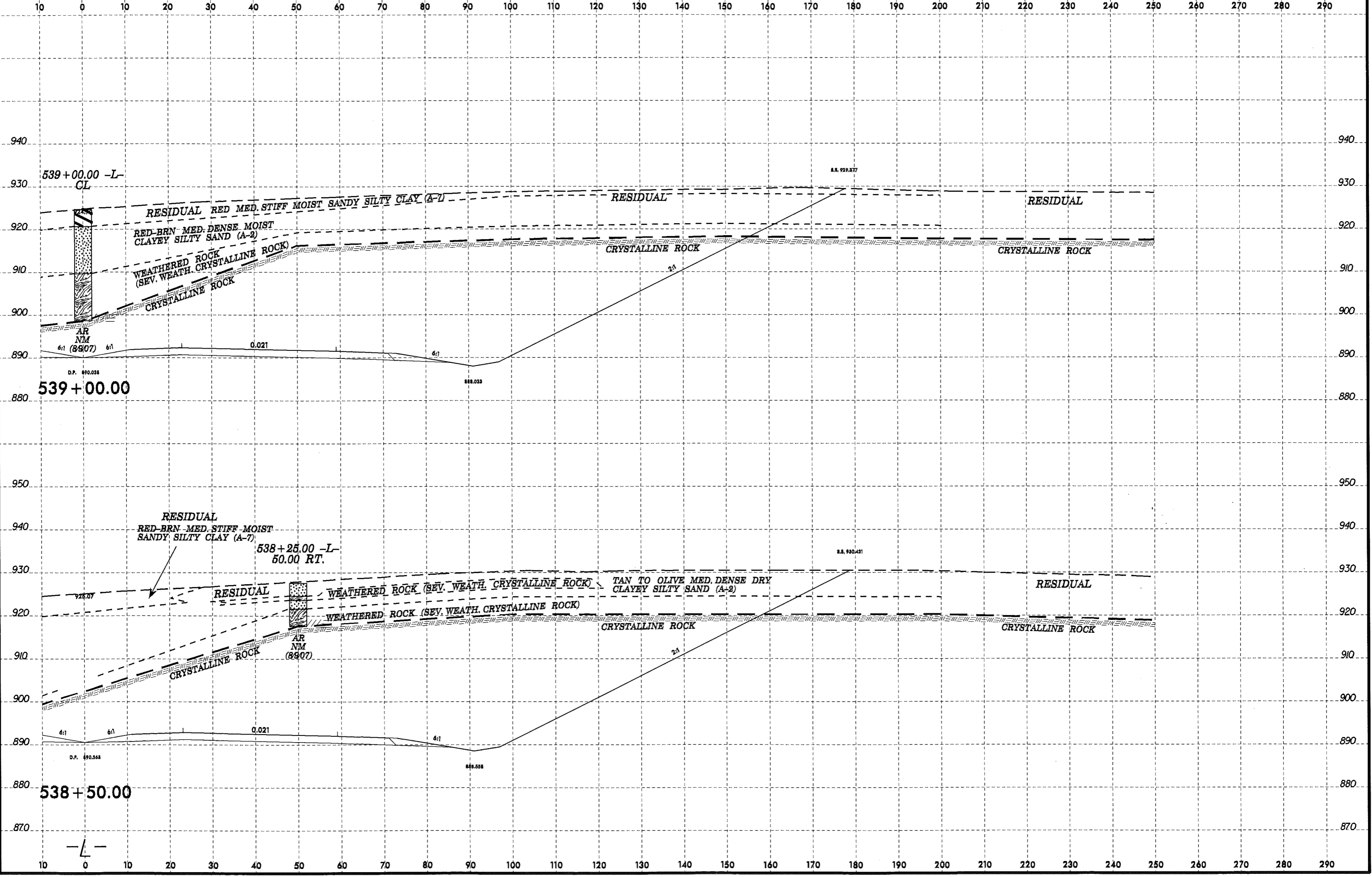
8/23/99



03-MAY-2010 14:10
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 mclure 21 8/23/99

8/23/99

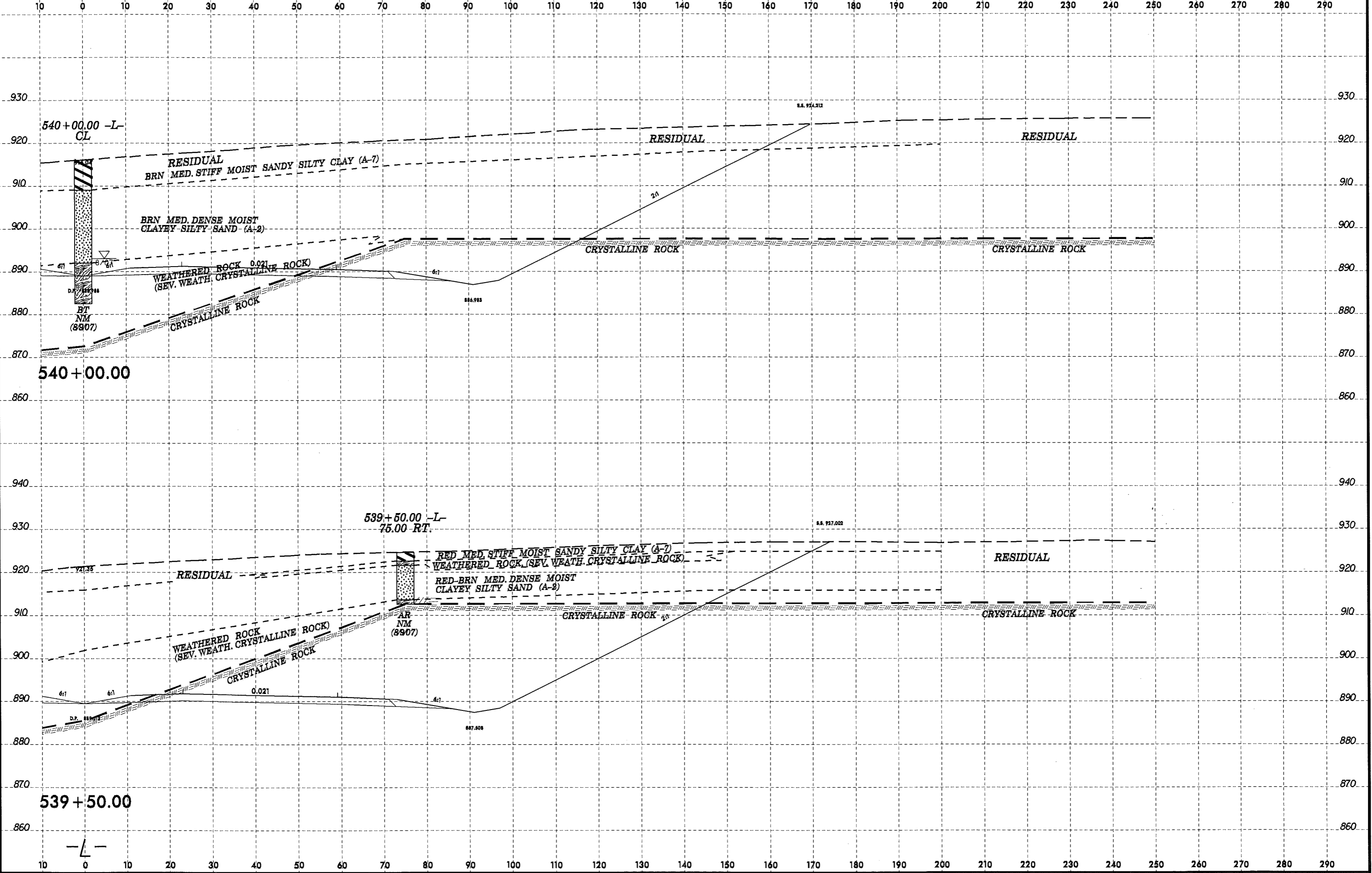
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	U-2579B	XR-11



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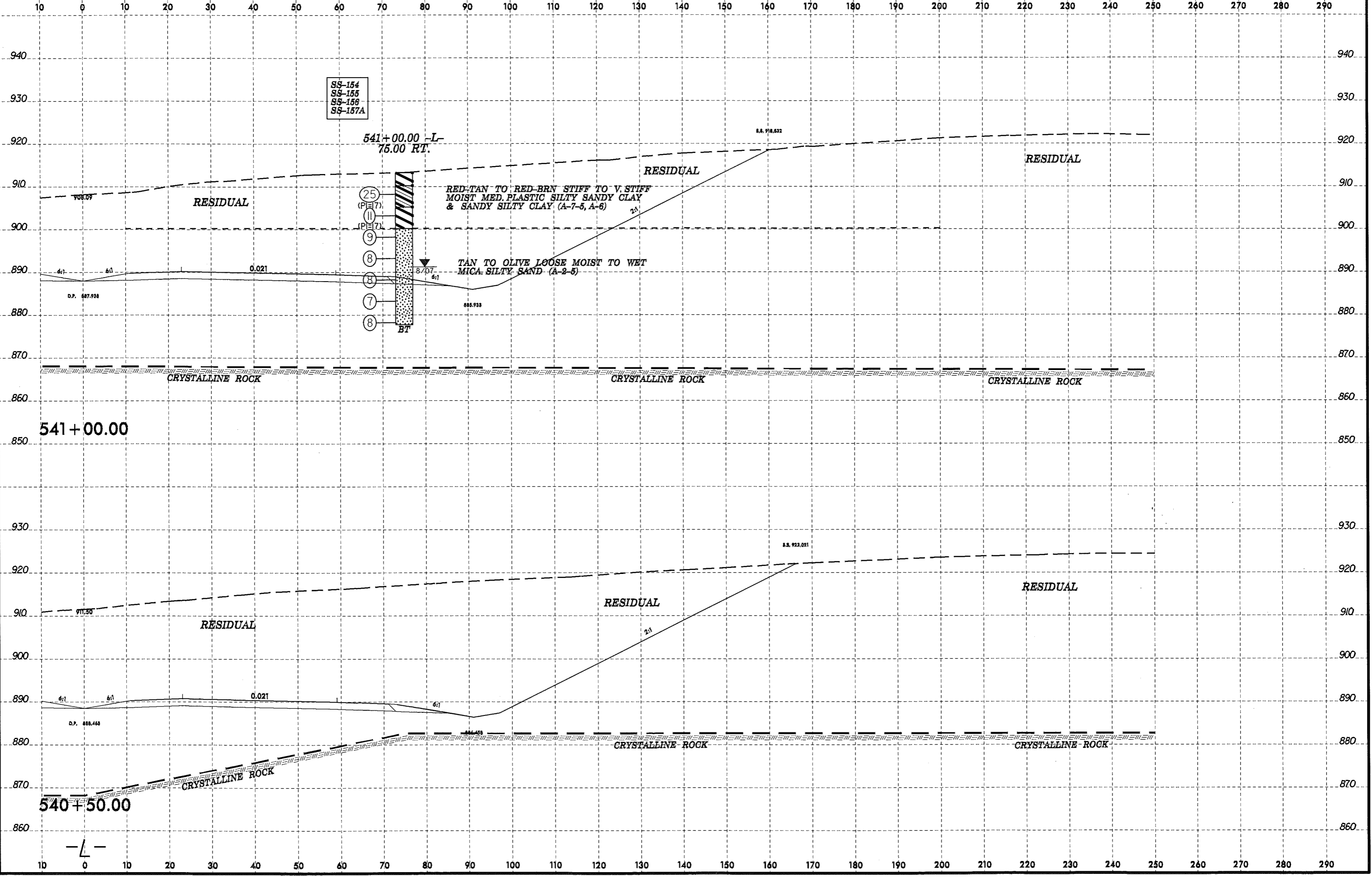
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XR-12



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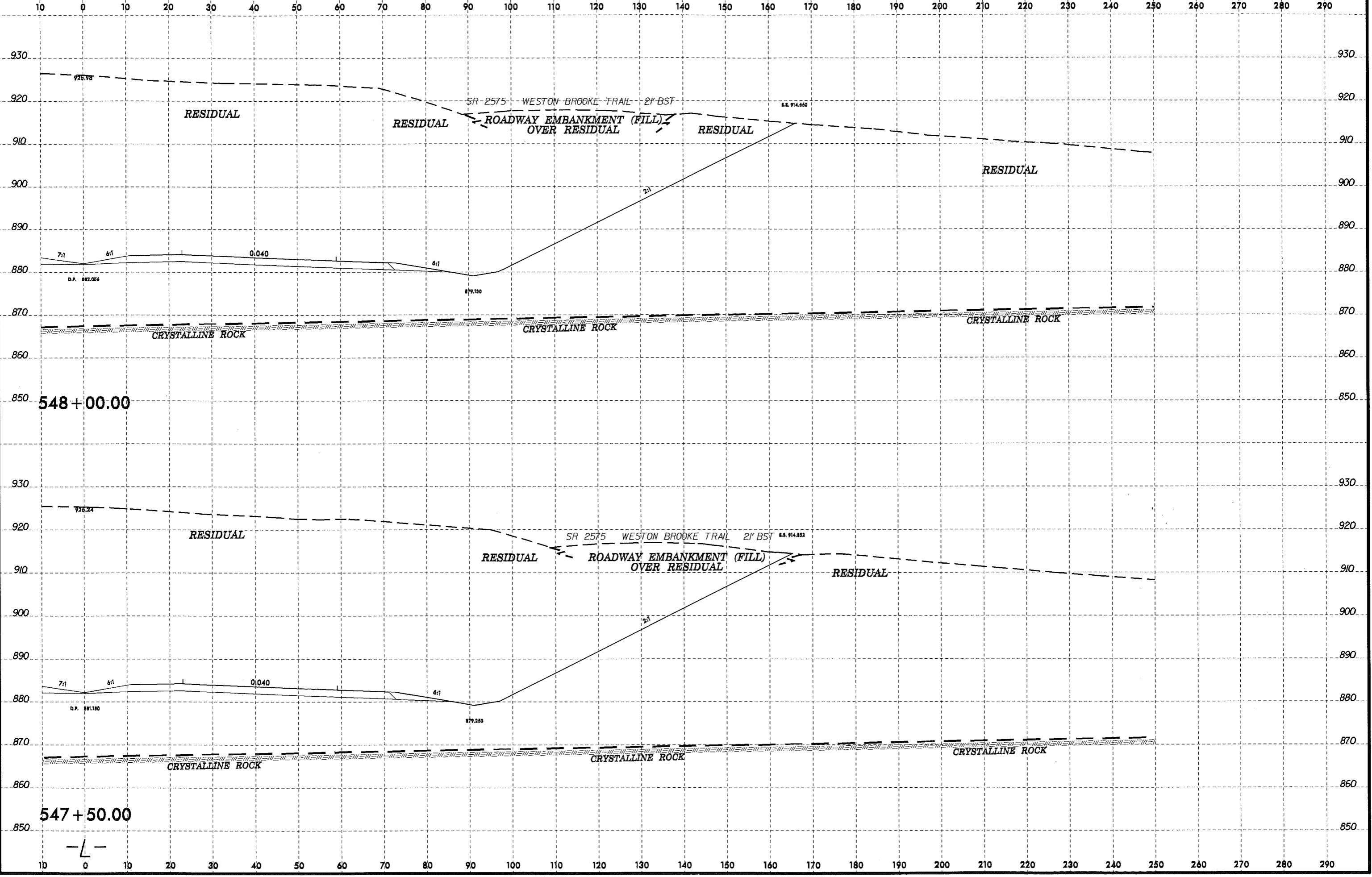
8/23/99



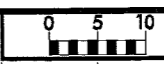
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8/23/99

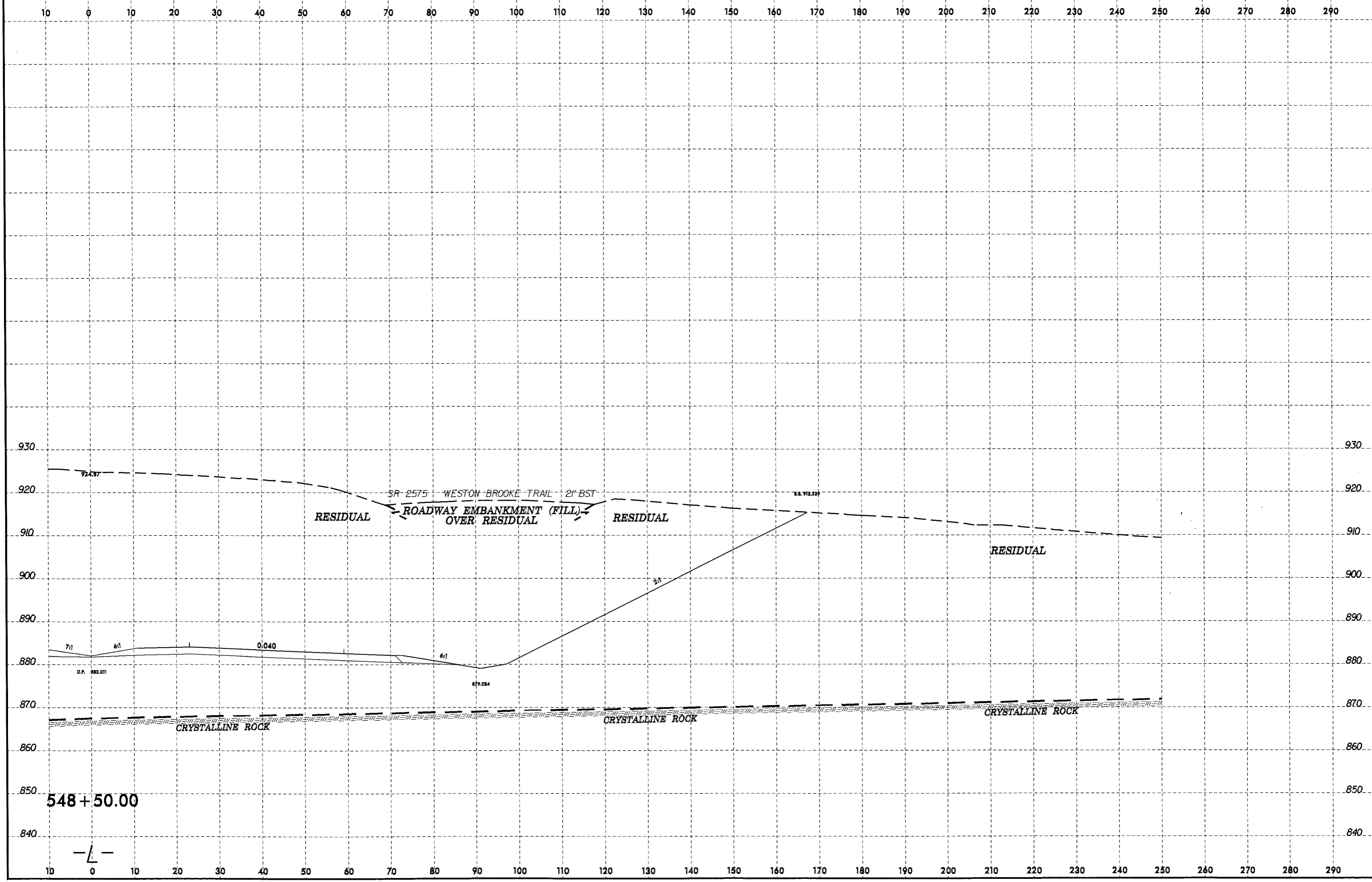
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	U-2579B	XR-14

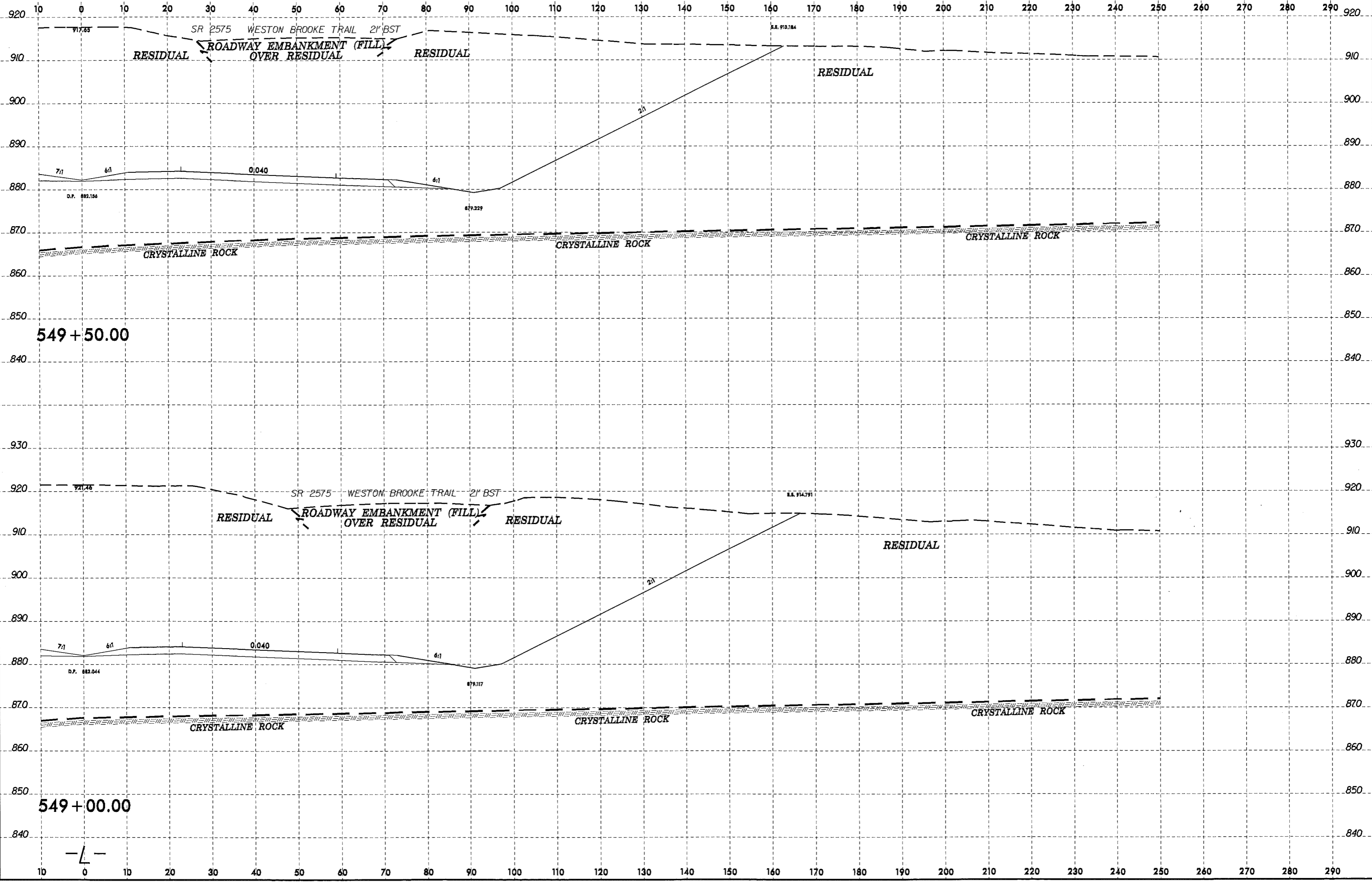


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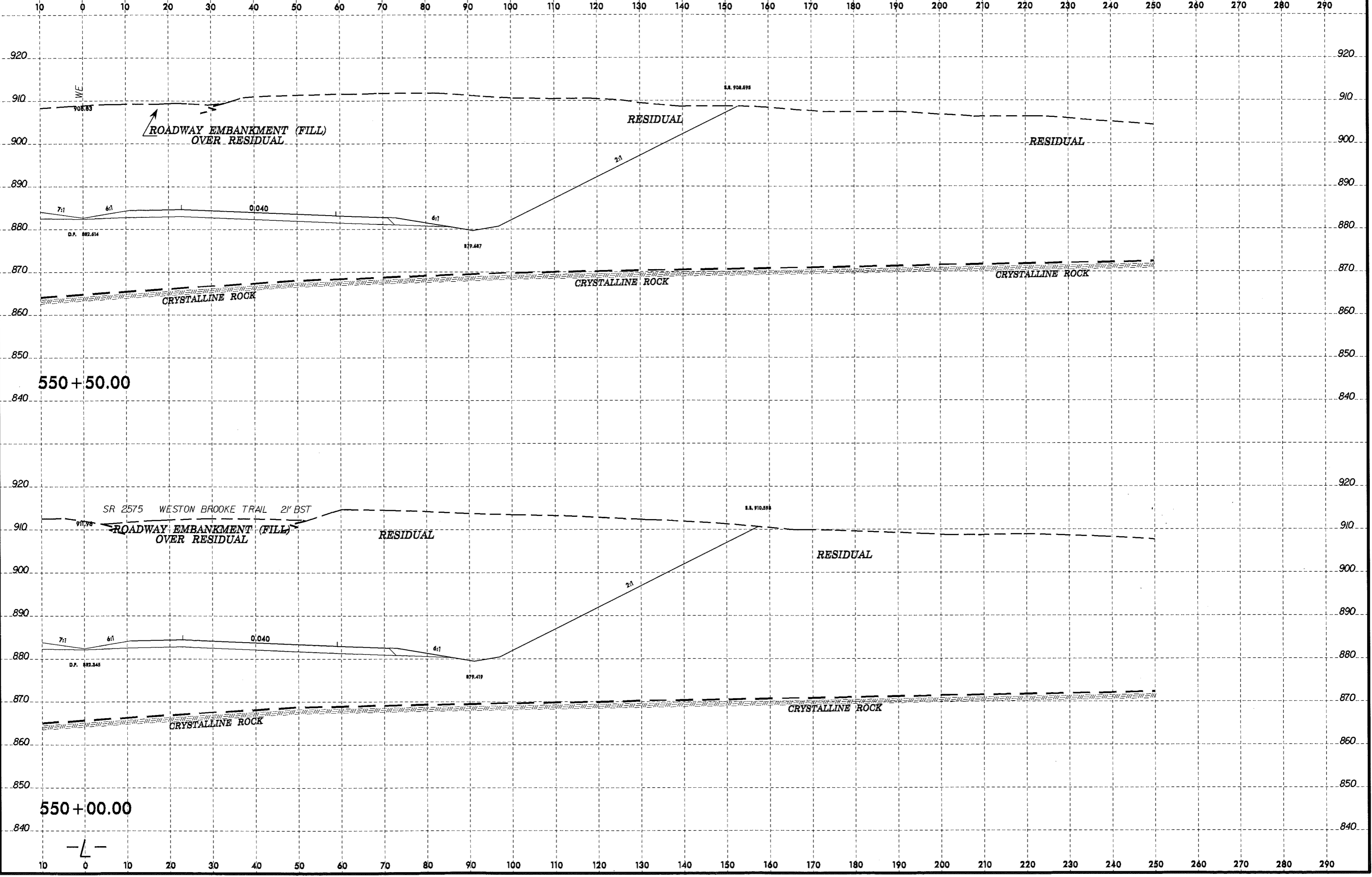
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U-2579B	XR-15



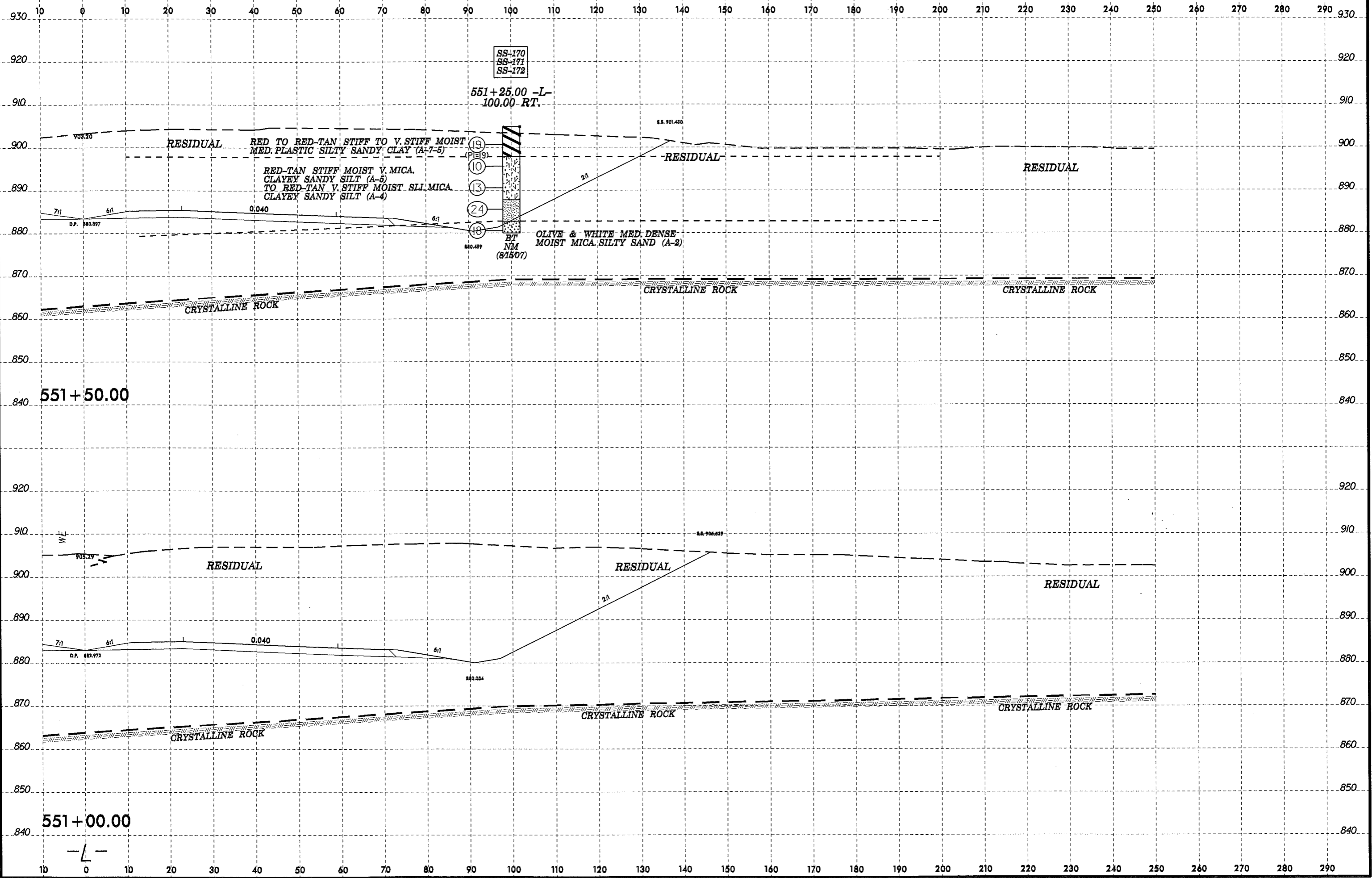


8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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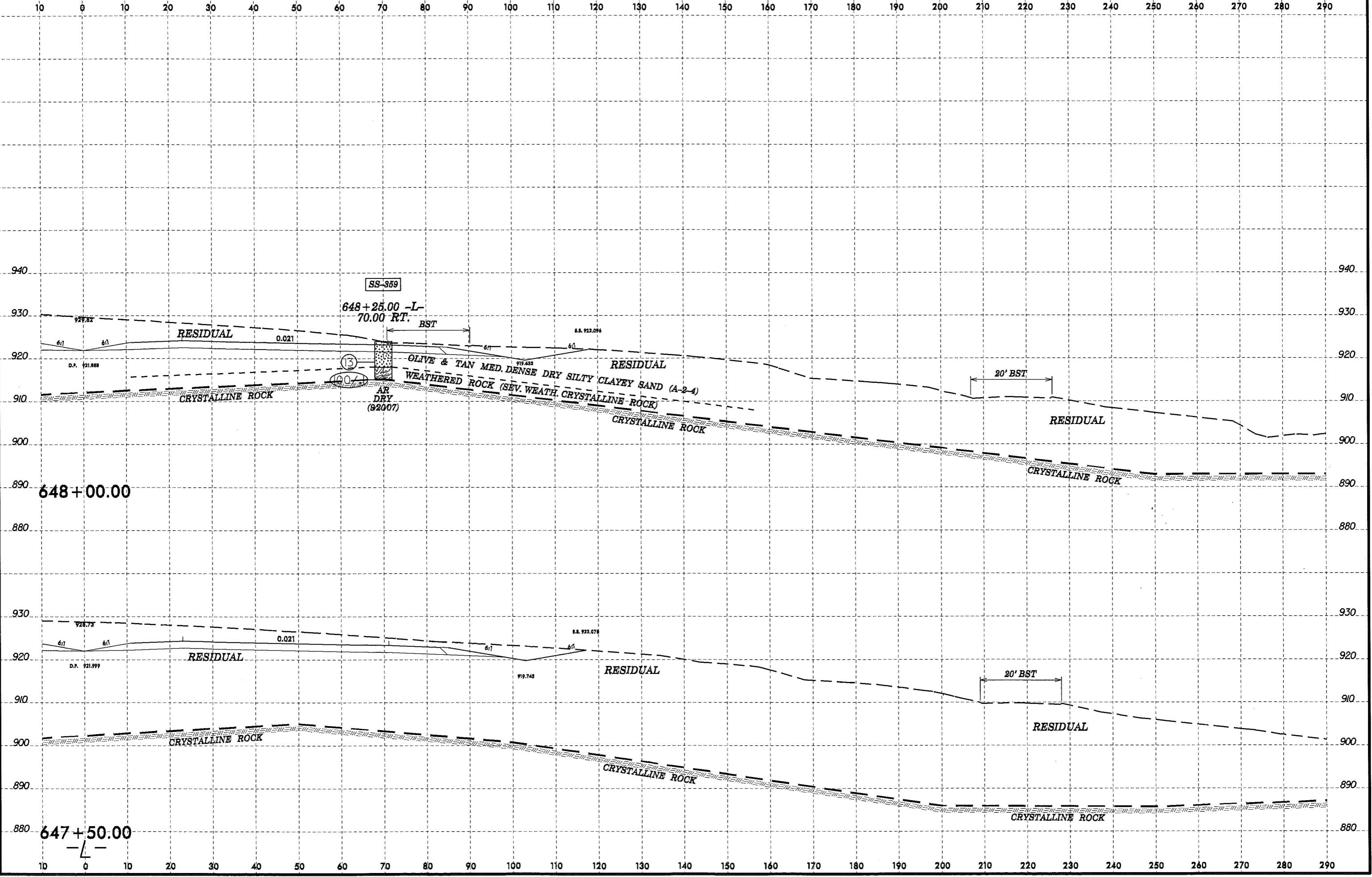


03-MAY-2010 14:22
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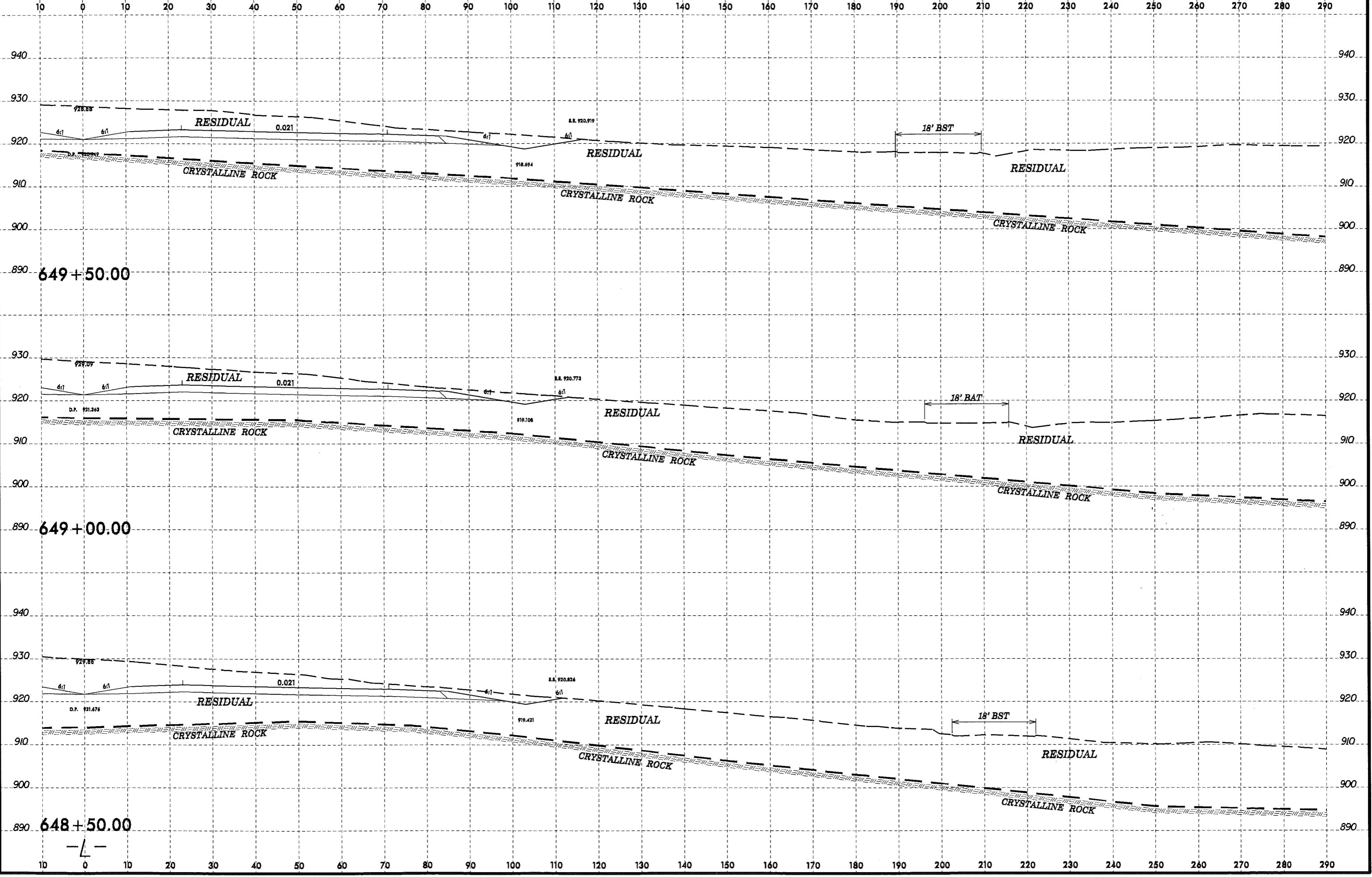
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inclosure AT 8/23/99

8/23/99



03-MAY-2000 14:26 \\geot\22140\1\proj\1\2579B_GEO_RDWY_FORSYTH\CADD_GEO\TECH\SSC\U2579B_GEO_xsl\L_RIGHT.dgn

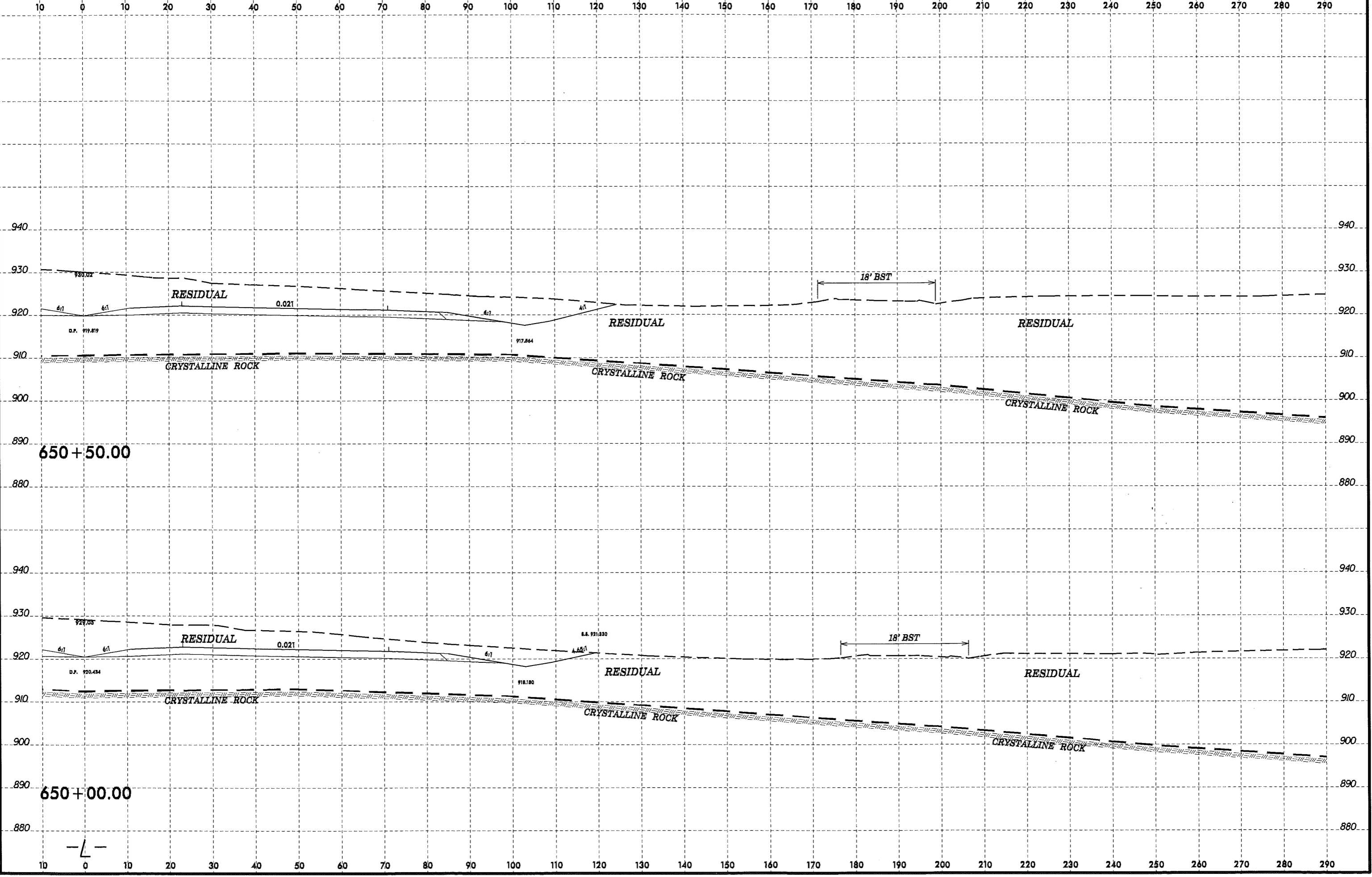
8/23/99



03-MAY-2010 14:27
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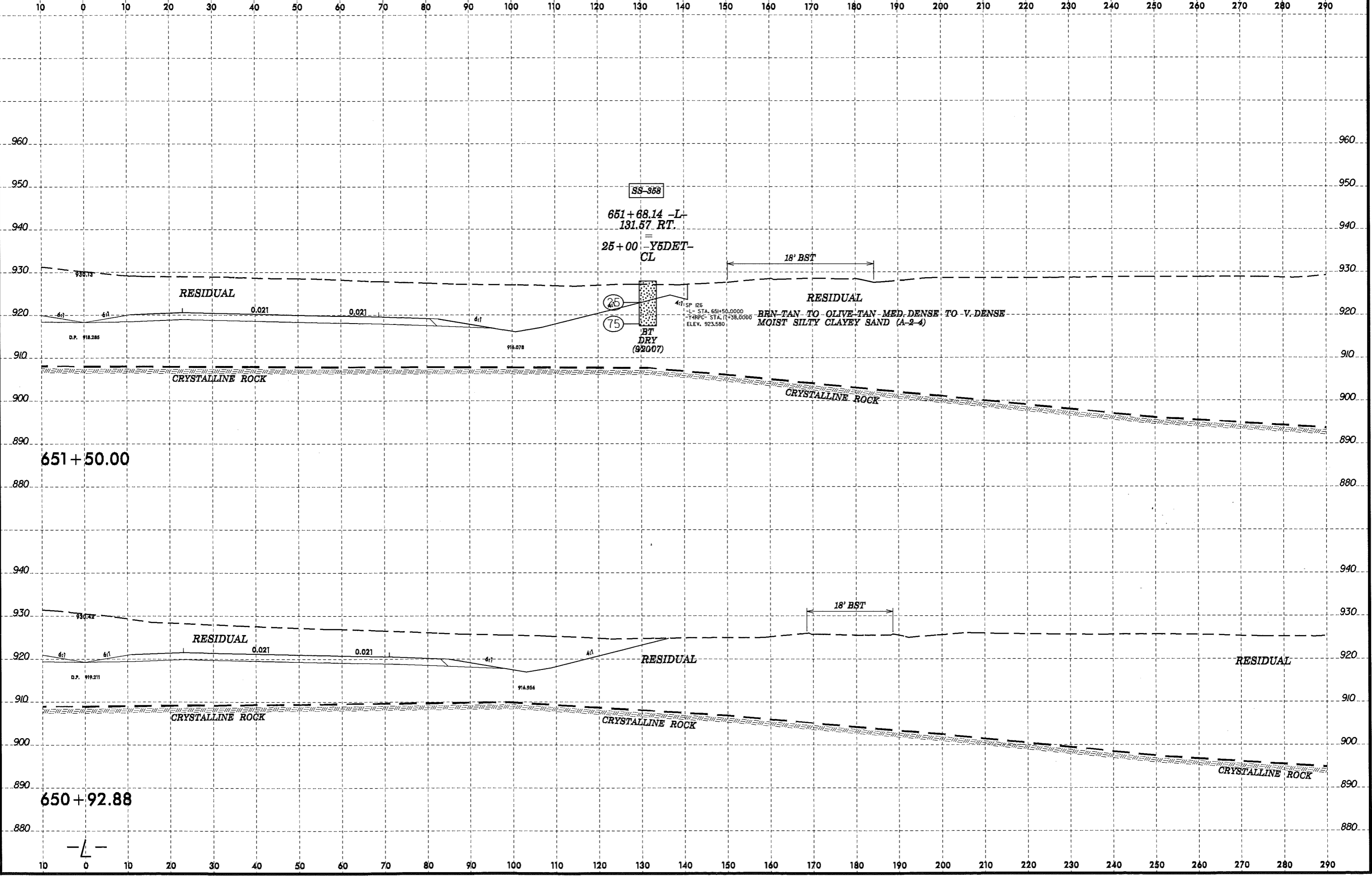
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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8/23/99



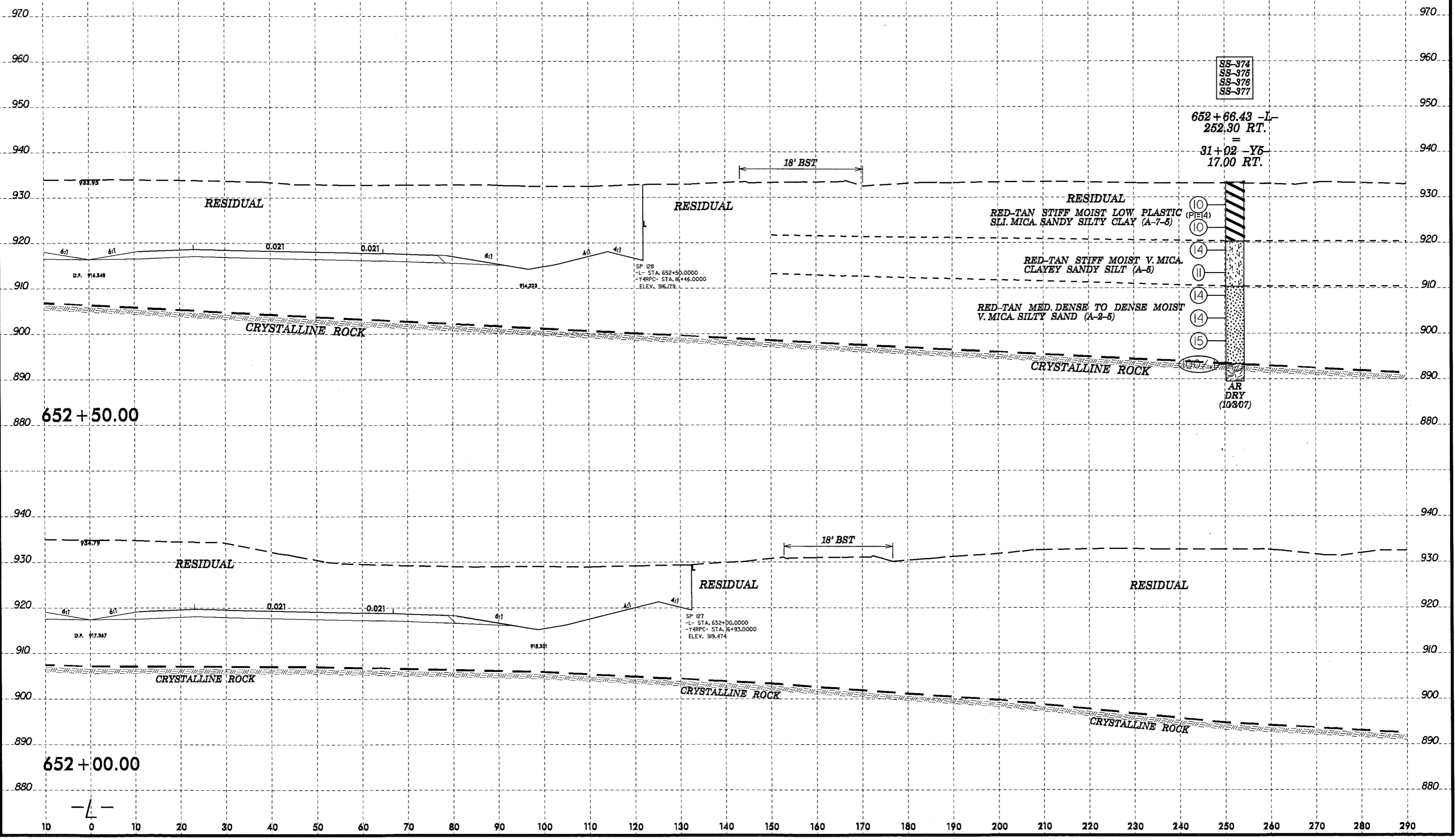
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8/23/99



PROJ. REFERENCE NO.	SHEET NO.
U-2579B	XR-23

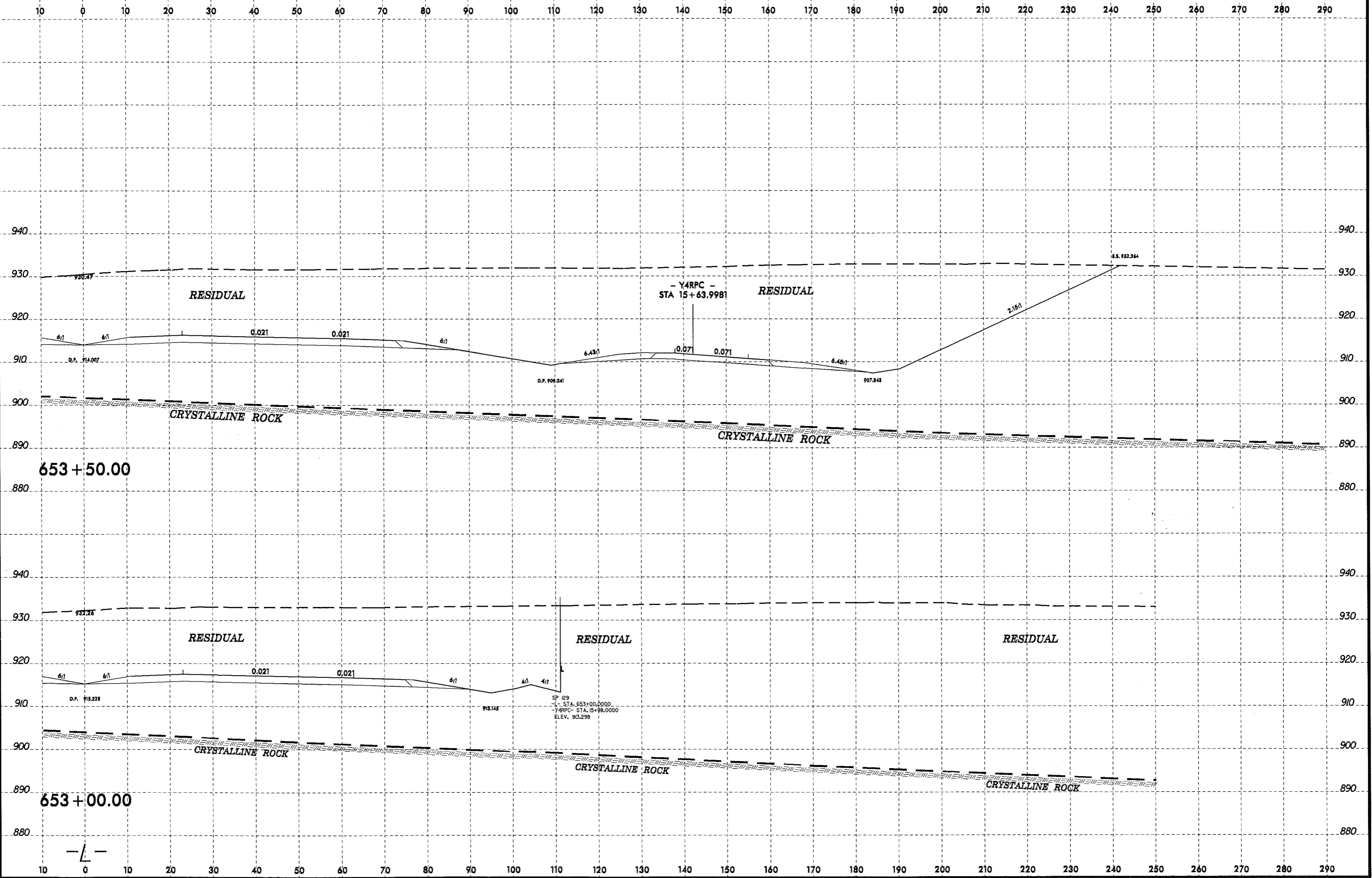
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03-MAY-2010 14:32
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8/23/99

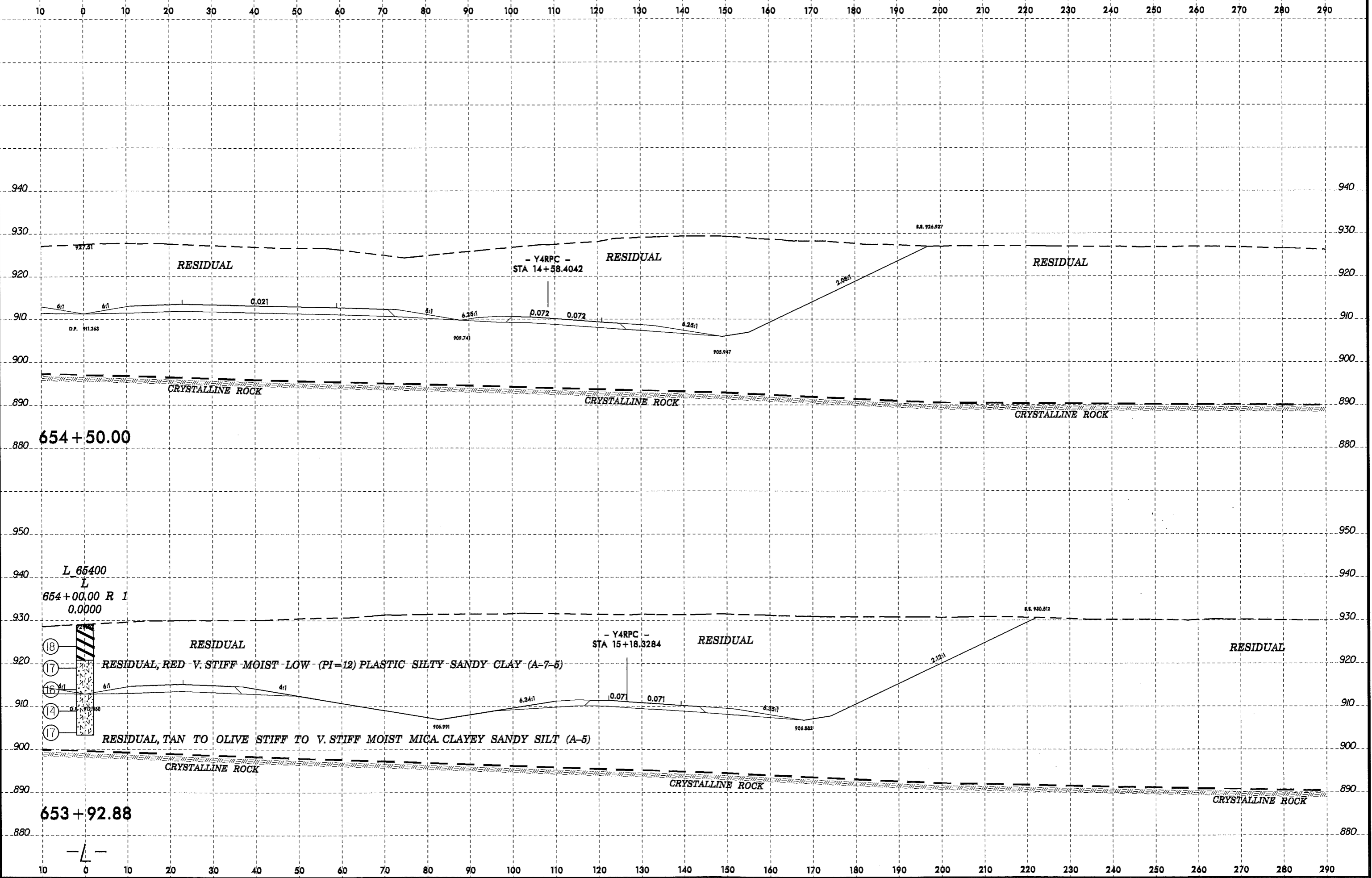
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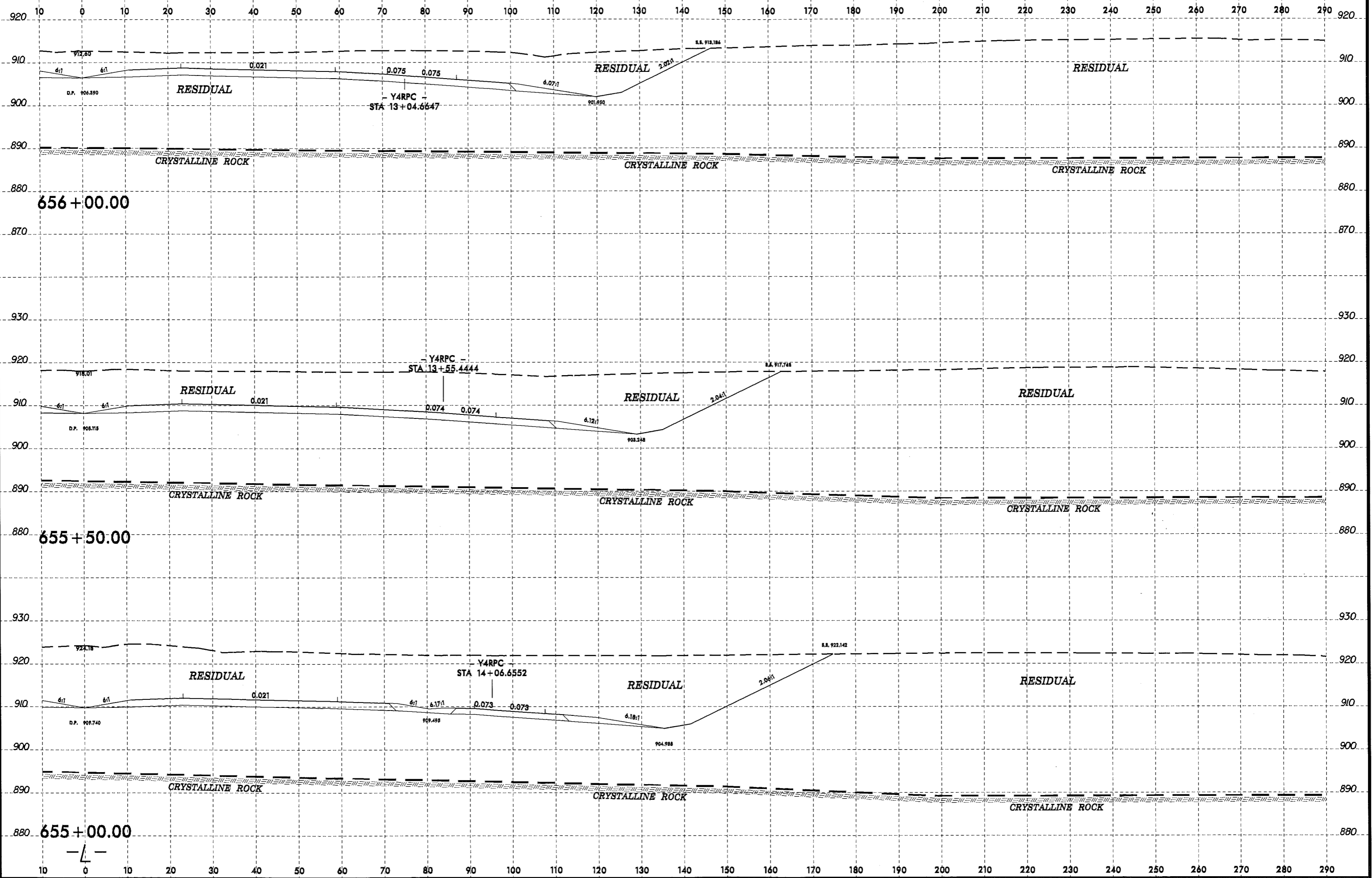
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XR-25



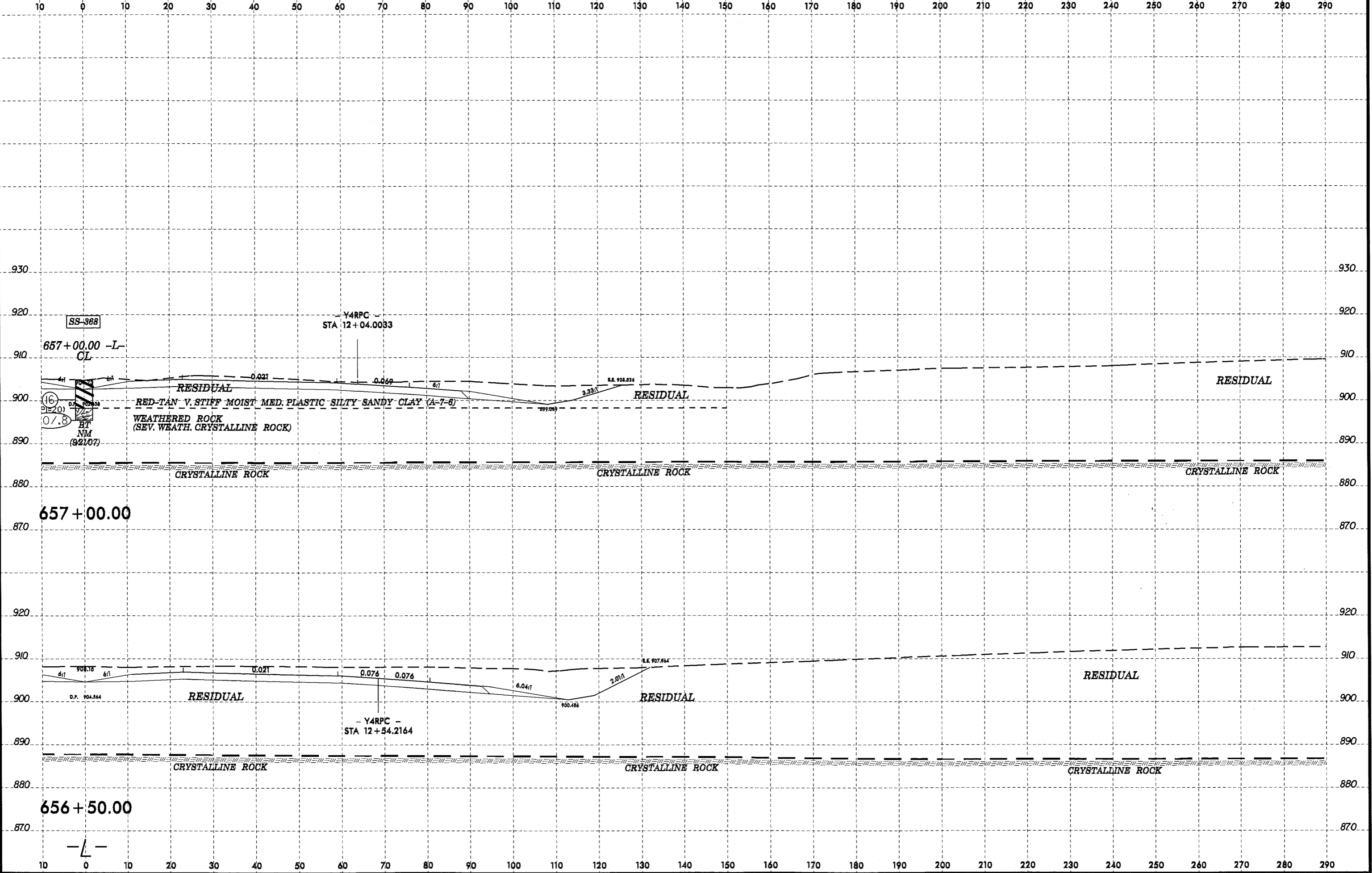
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8/23/99

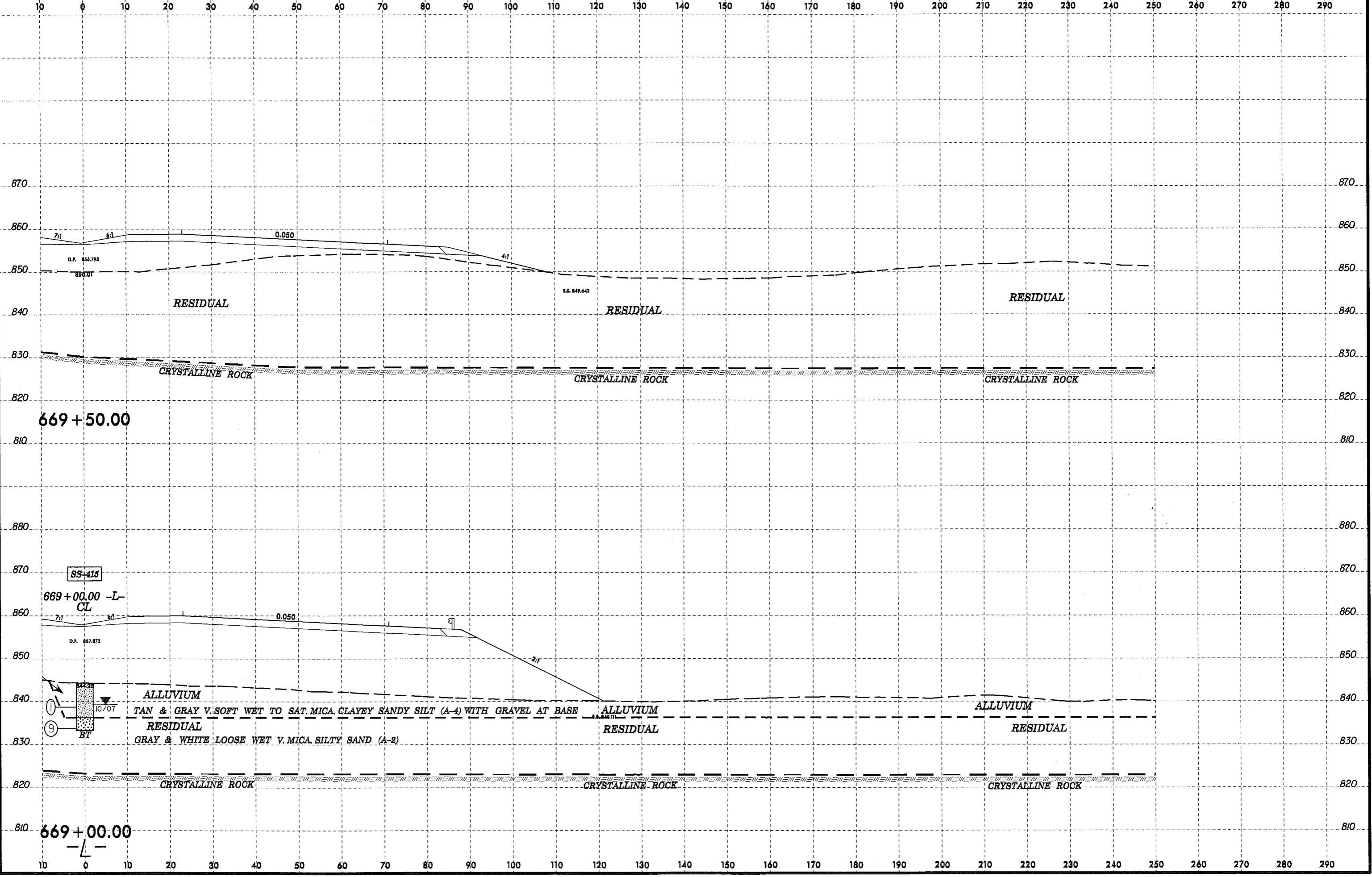


03-MAY-2010 14:36
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8/23/99
03-MAY-2010 14:38
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AT: BERTHOLD347



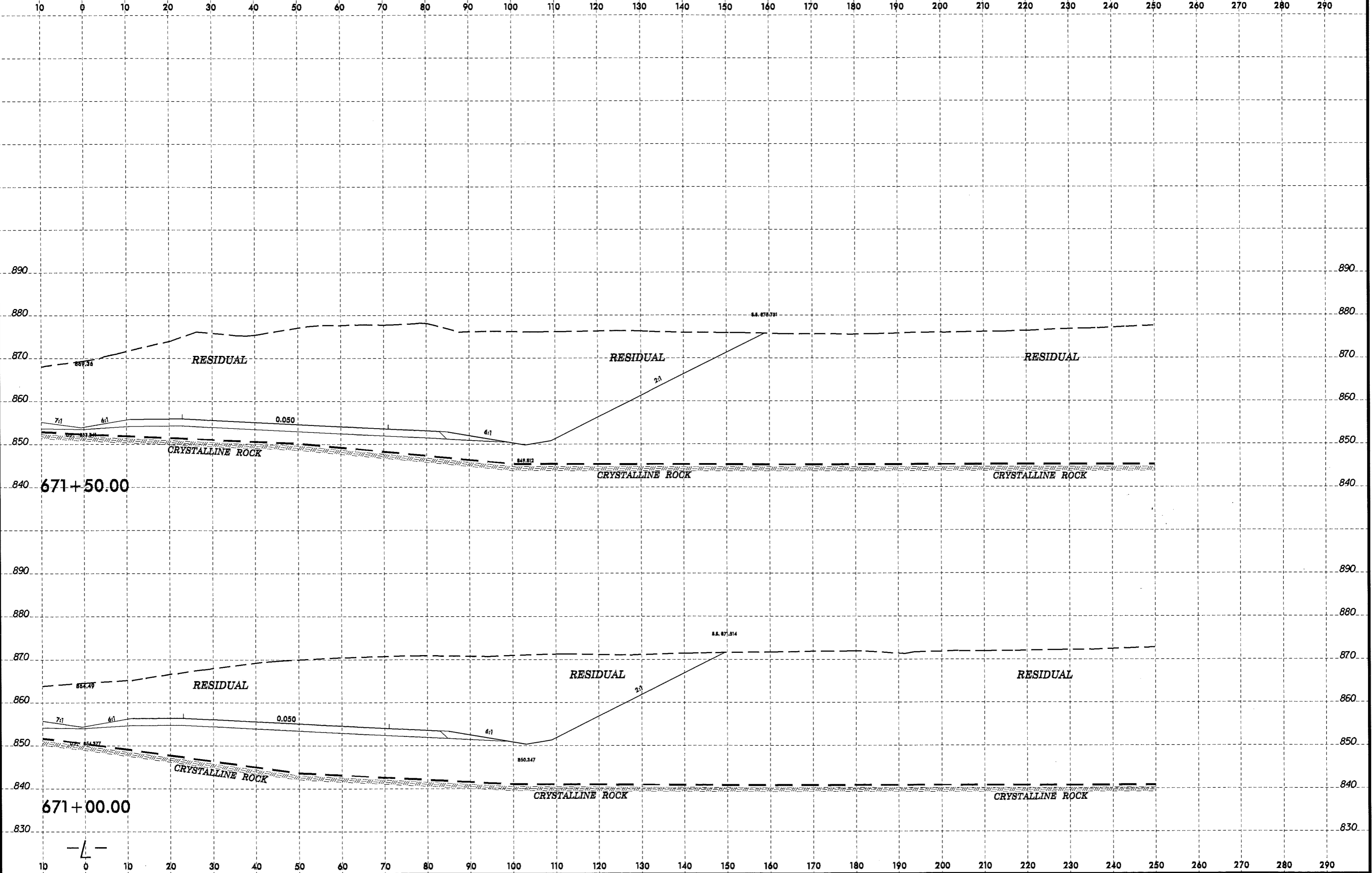
8/23/99



03-MAY-2010 14:40
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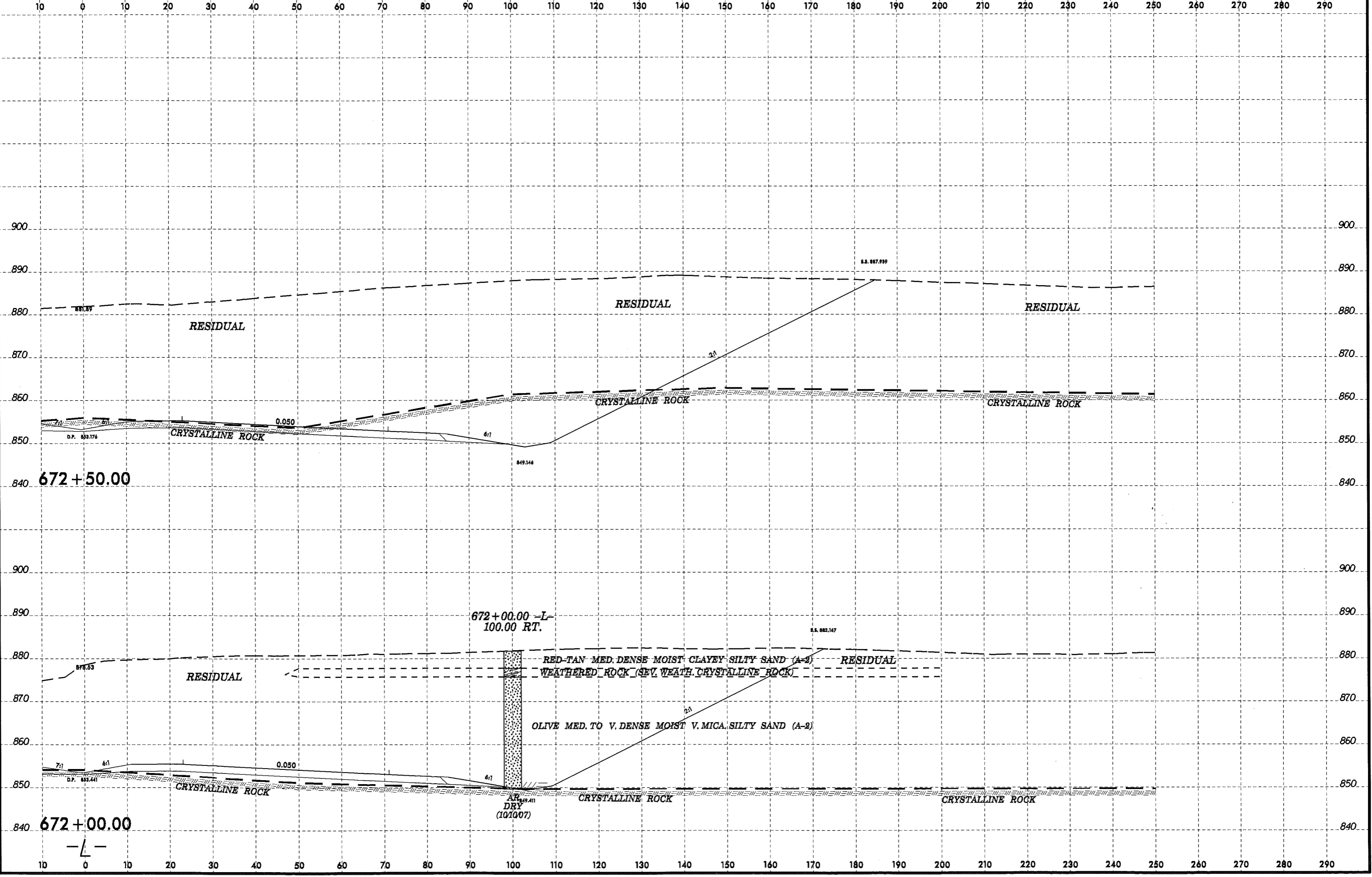
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inclosure AT 08/24/03

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XR-30



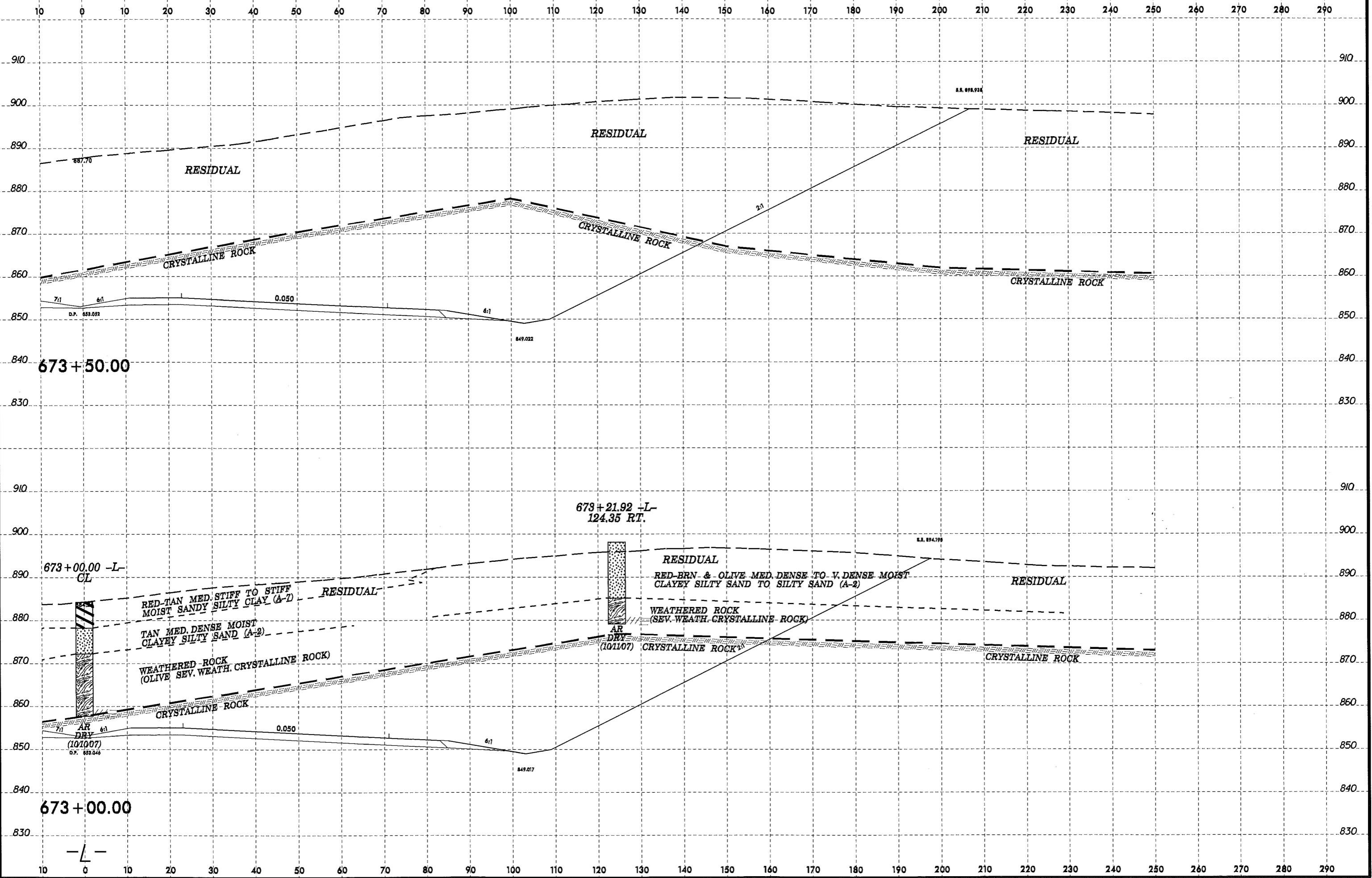
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XR-31



03-MAY-2010 14:46
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 221409
 2579B.dwg
 2579B.dwg

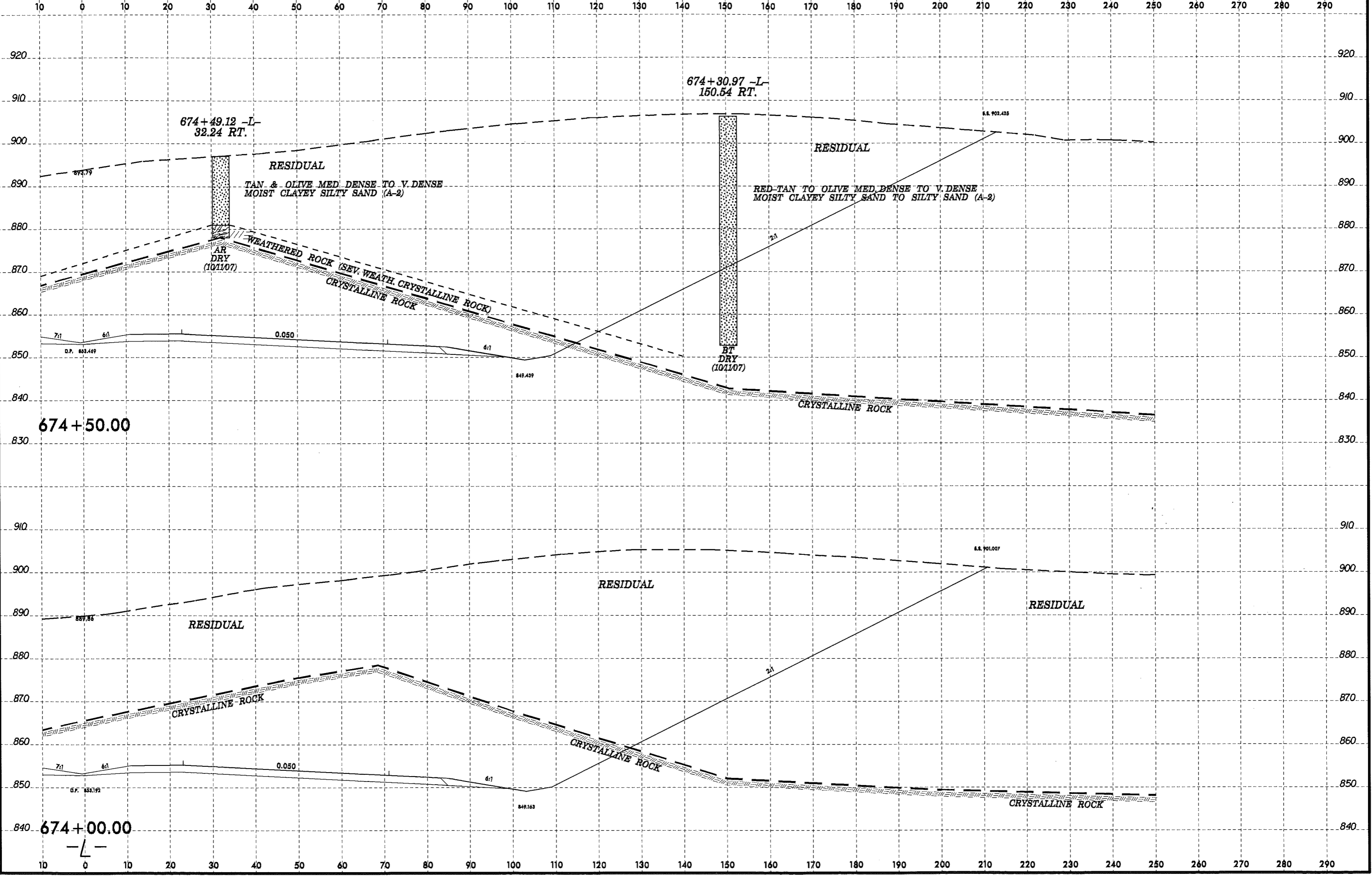
8/23/99



03-MAY-2010 05:16
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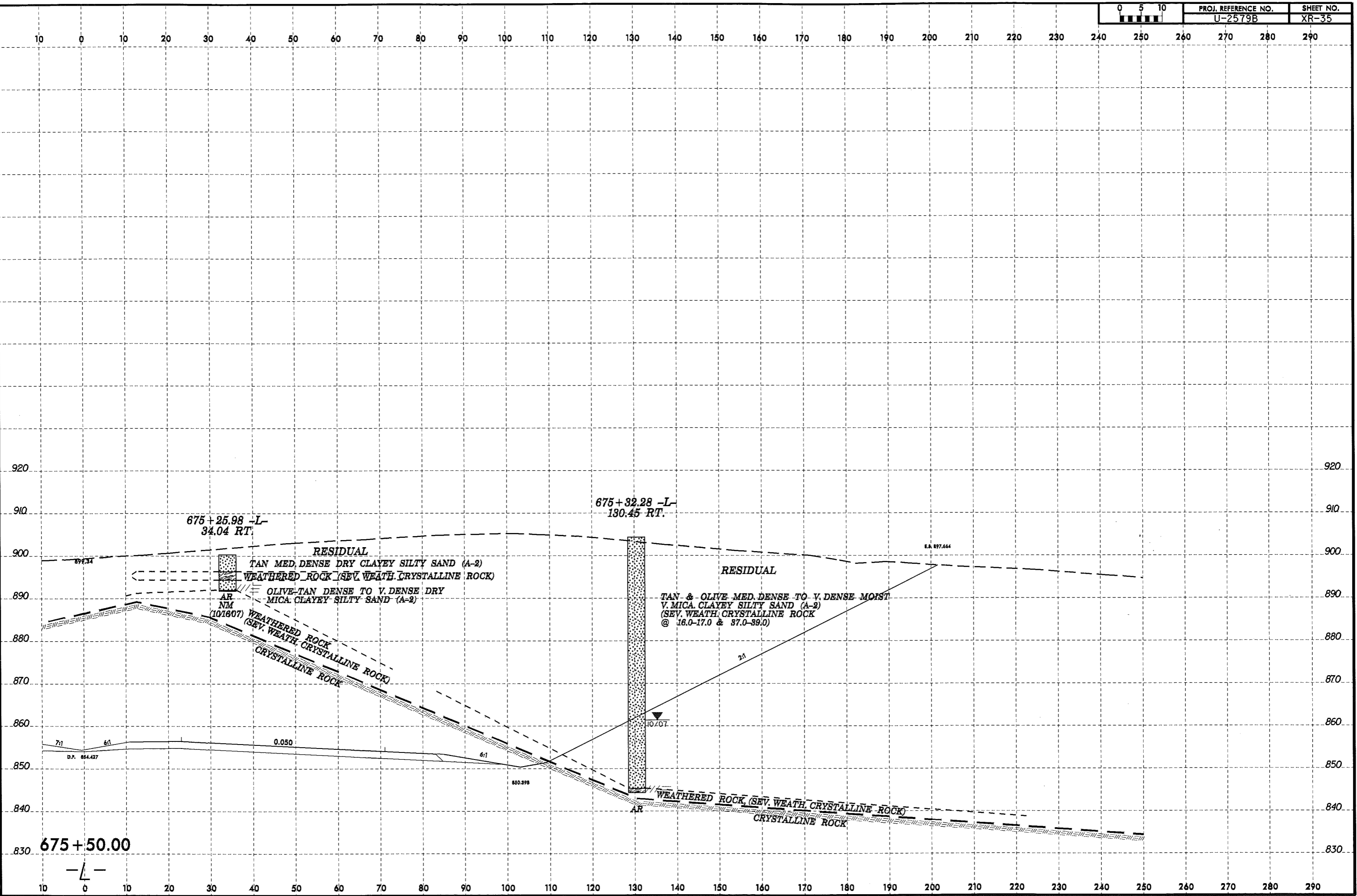
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	XR-33

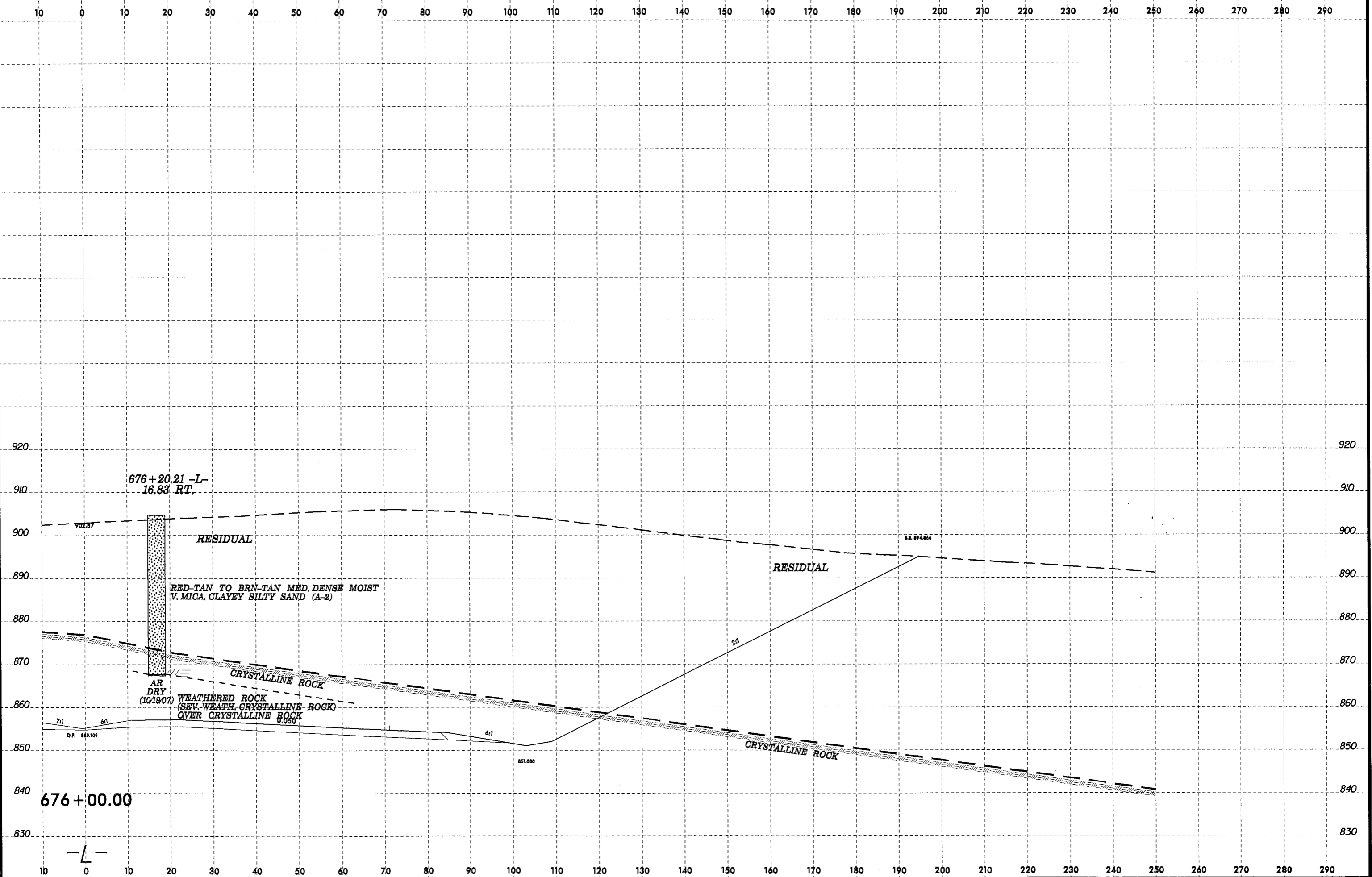


03-MAY-2010 08:17
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8/23/99
03-MAY-2010 15:20
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03-MAY-2010 15:21:11 \\gen221499\1\PROJECTS\2579B_GEO\RDWY_FORSYTH\CADD_GEO\TECH\XSEC\U2579B_GEO.XSL\RIGHT.dgn
include AT:BEL240347



676+20.21 -L-
16.83 RT.

RESIDUAL

RED-TAN TO BRN-TAN MED. DENSE MOIST
V. MICA. CLAYEY SILTY SAND (A-2)

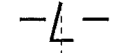
CRYSTALLINE ROCK

AR DRY (10/19/07)
WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)
OVER CRYSTALLINE ROCK

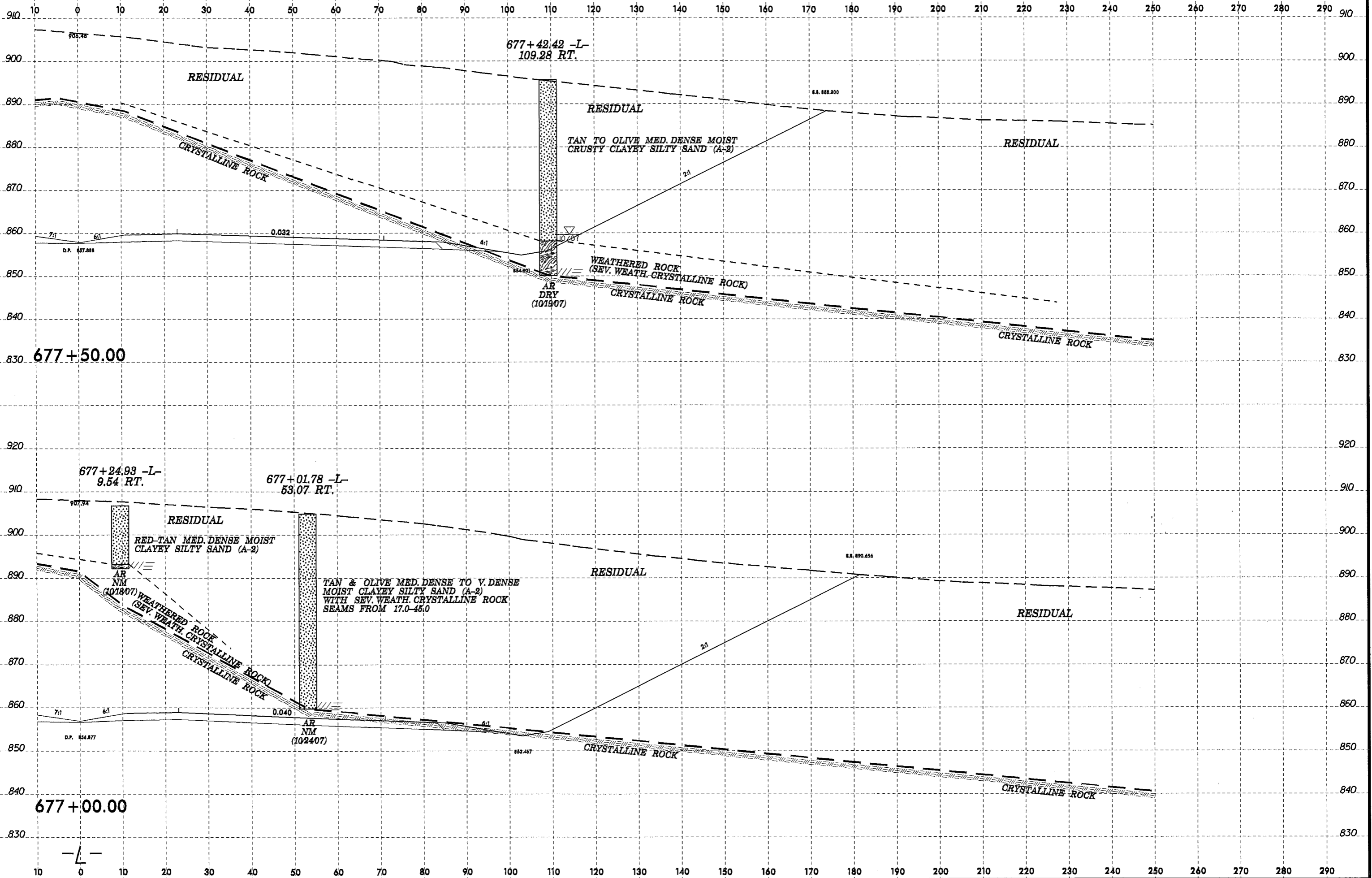
RESIDUAL

CRYSTALLINE ROCK

676+00.00

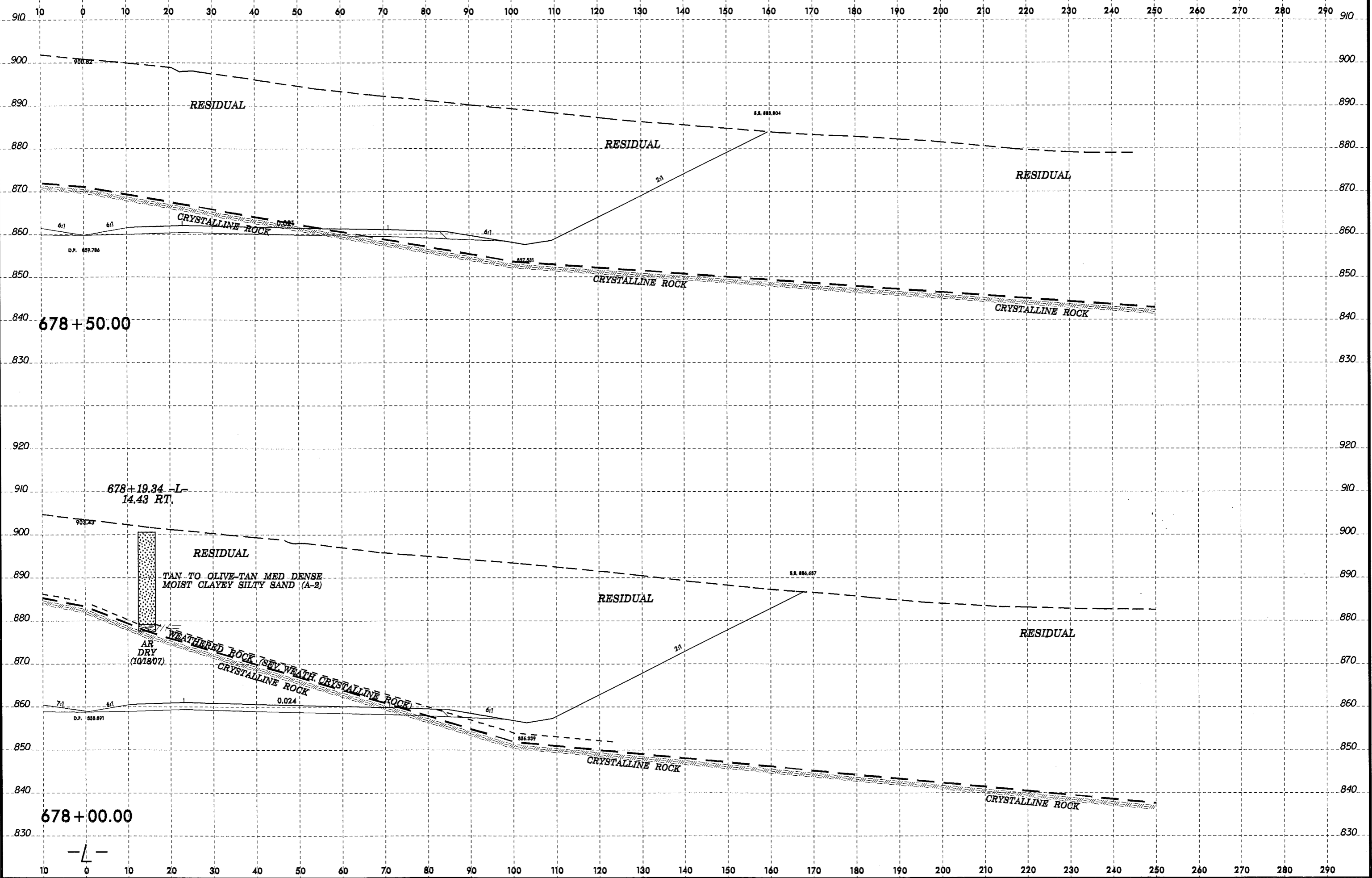


6/23/99



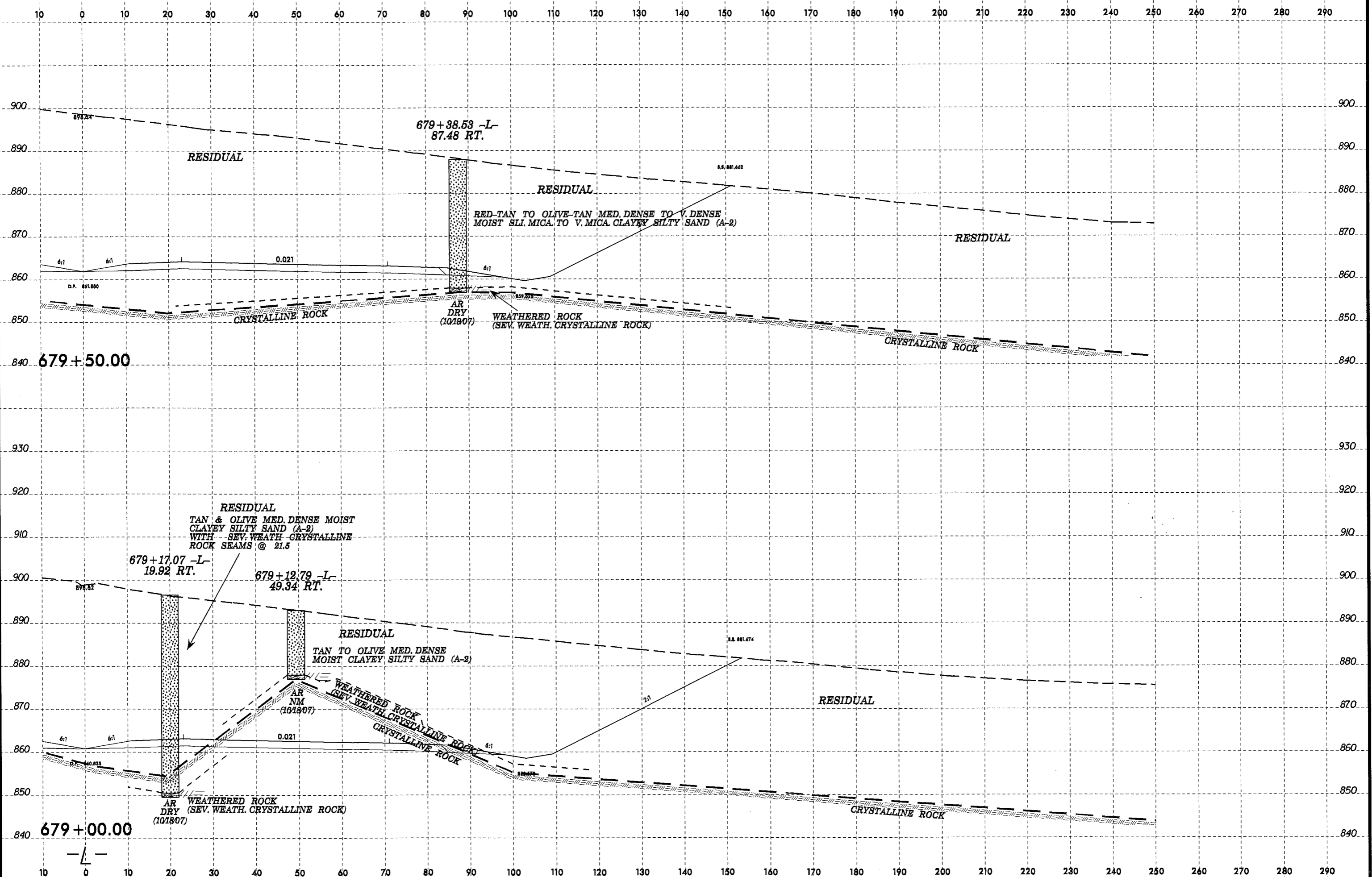
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8/23/99



03-MAY-2010 15:25 \\geop221409\T\2003\GEO\RDWY_FDRSYTH\CADD_GEO\TECH\asc\U2579b_GEO_xai_L_RIGHT.dgn

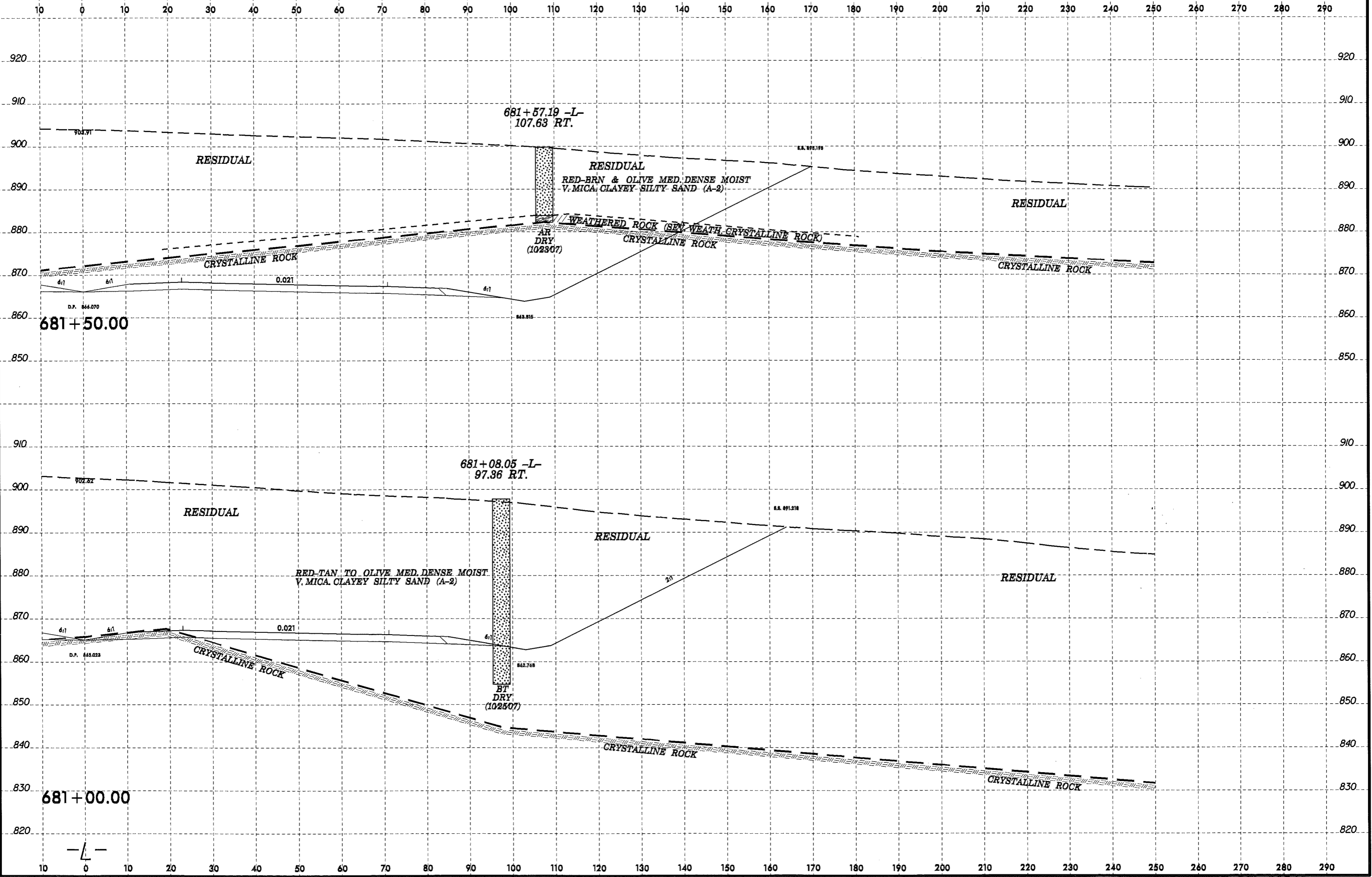
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8/23/99

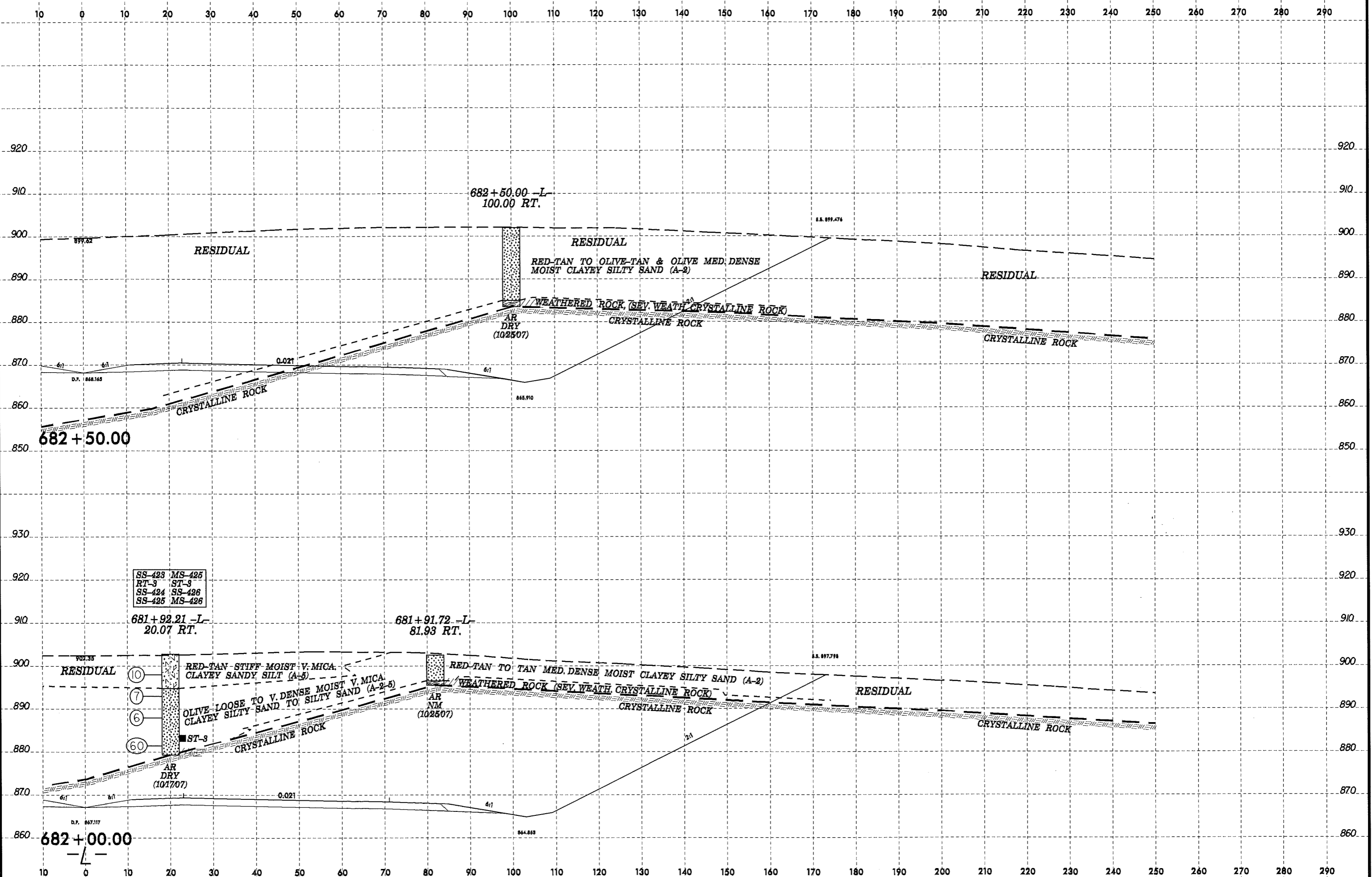


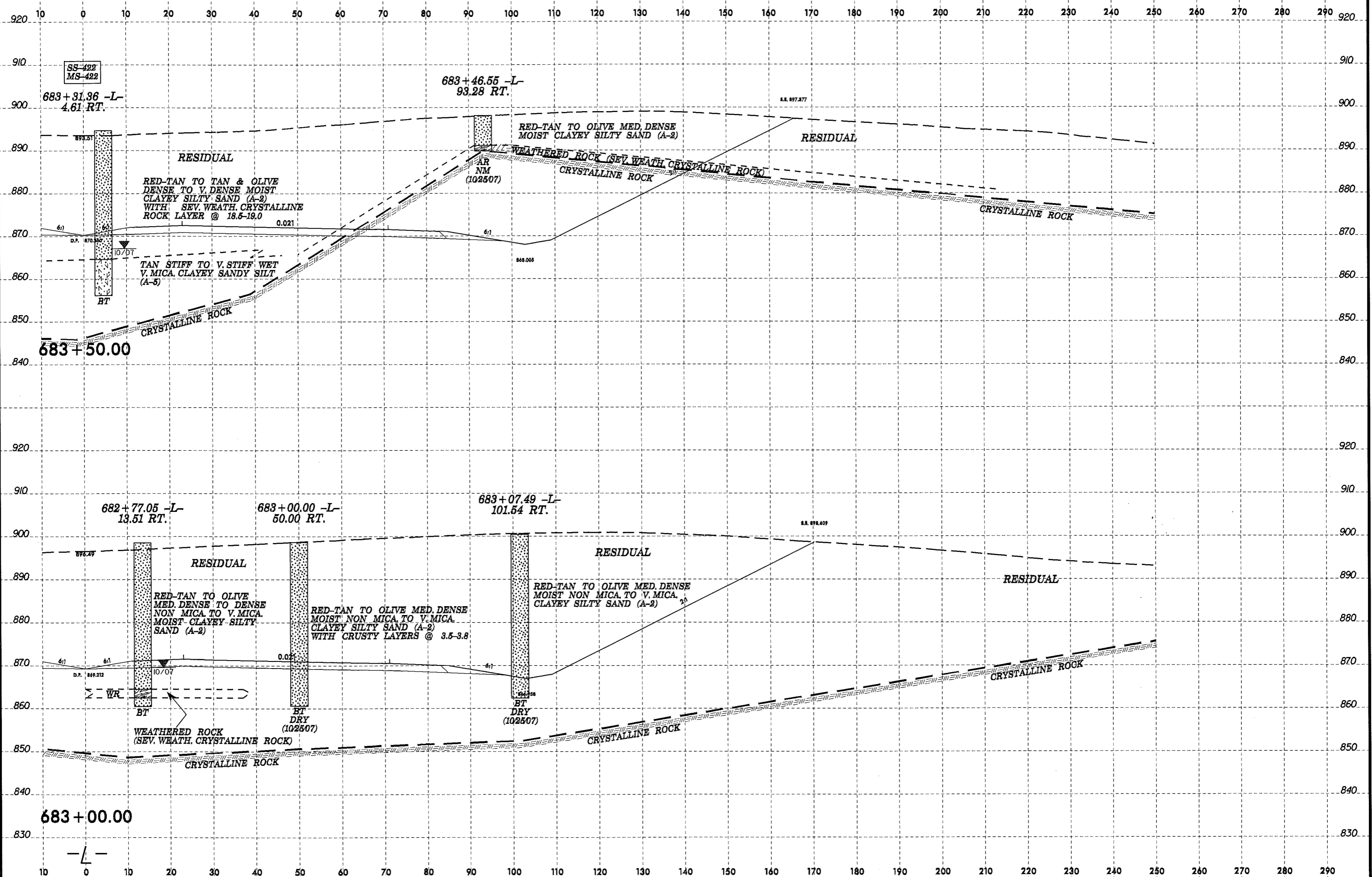
PROJ. REFERENCE NO. U-2579B SHEET NO. XR-42



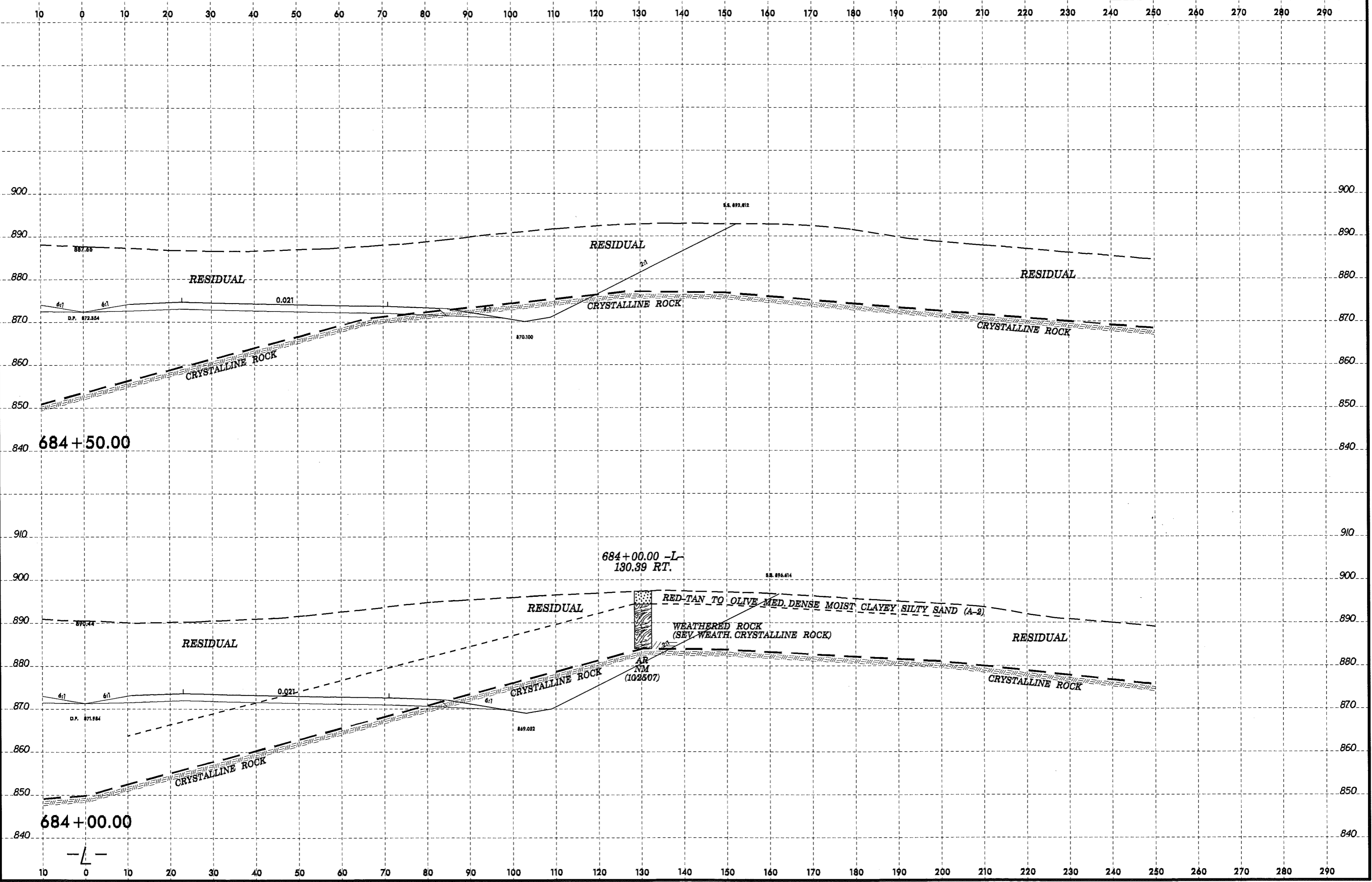
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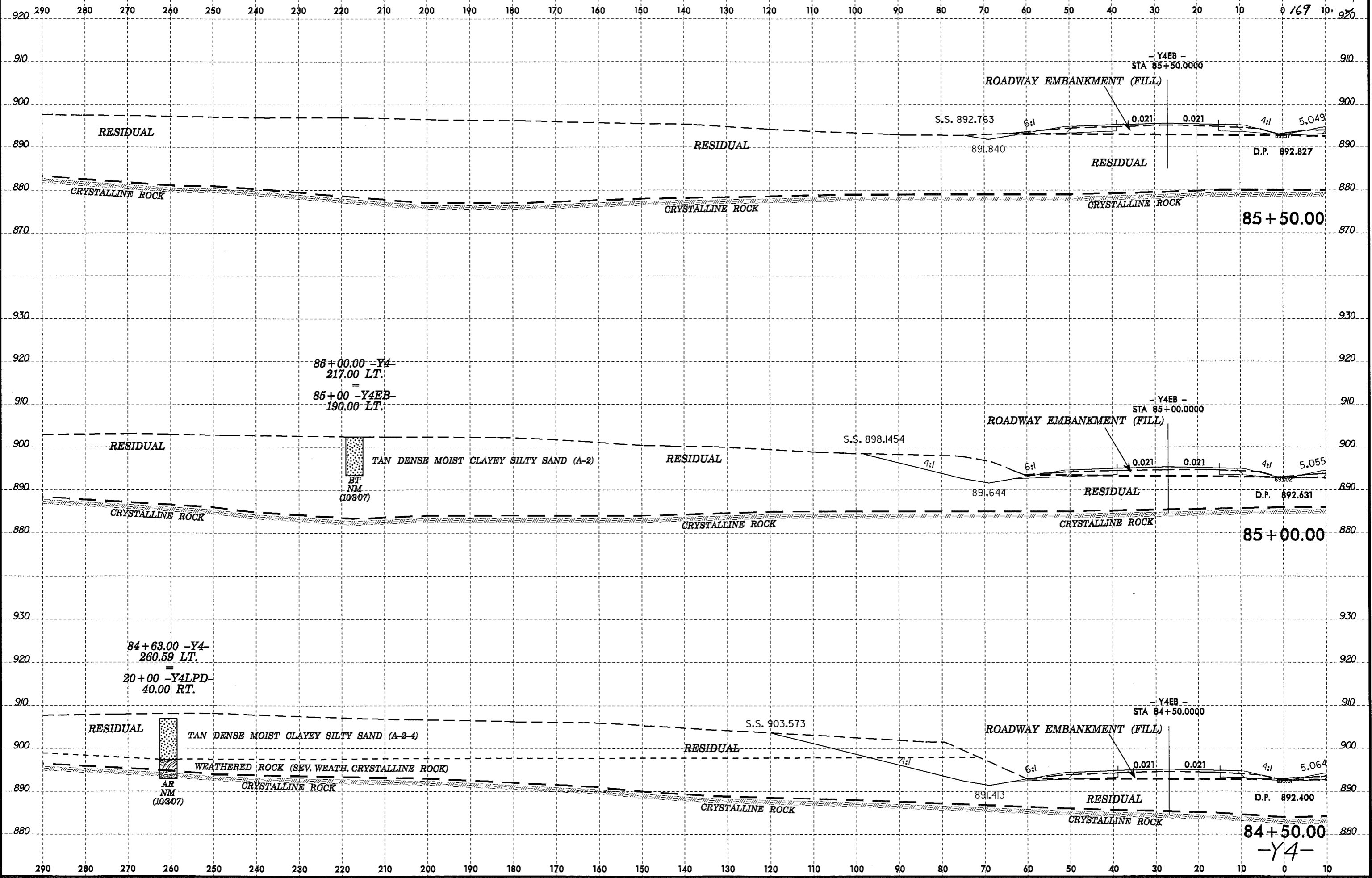




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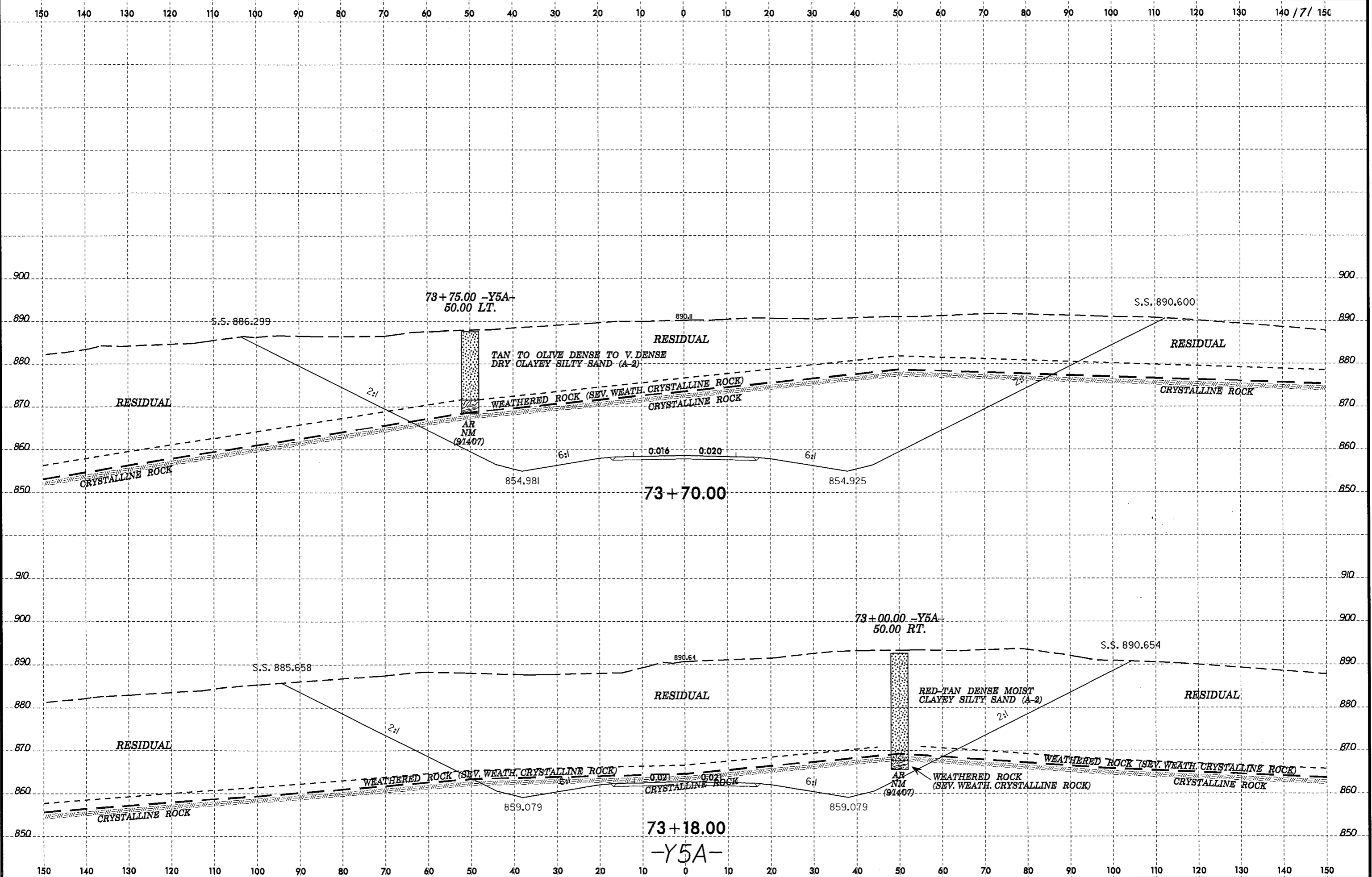


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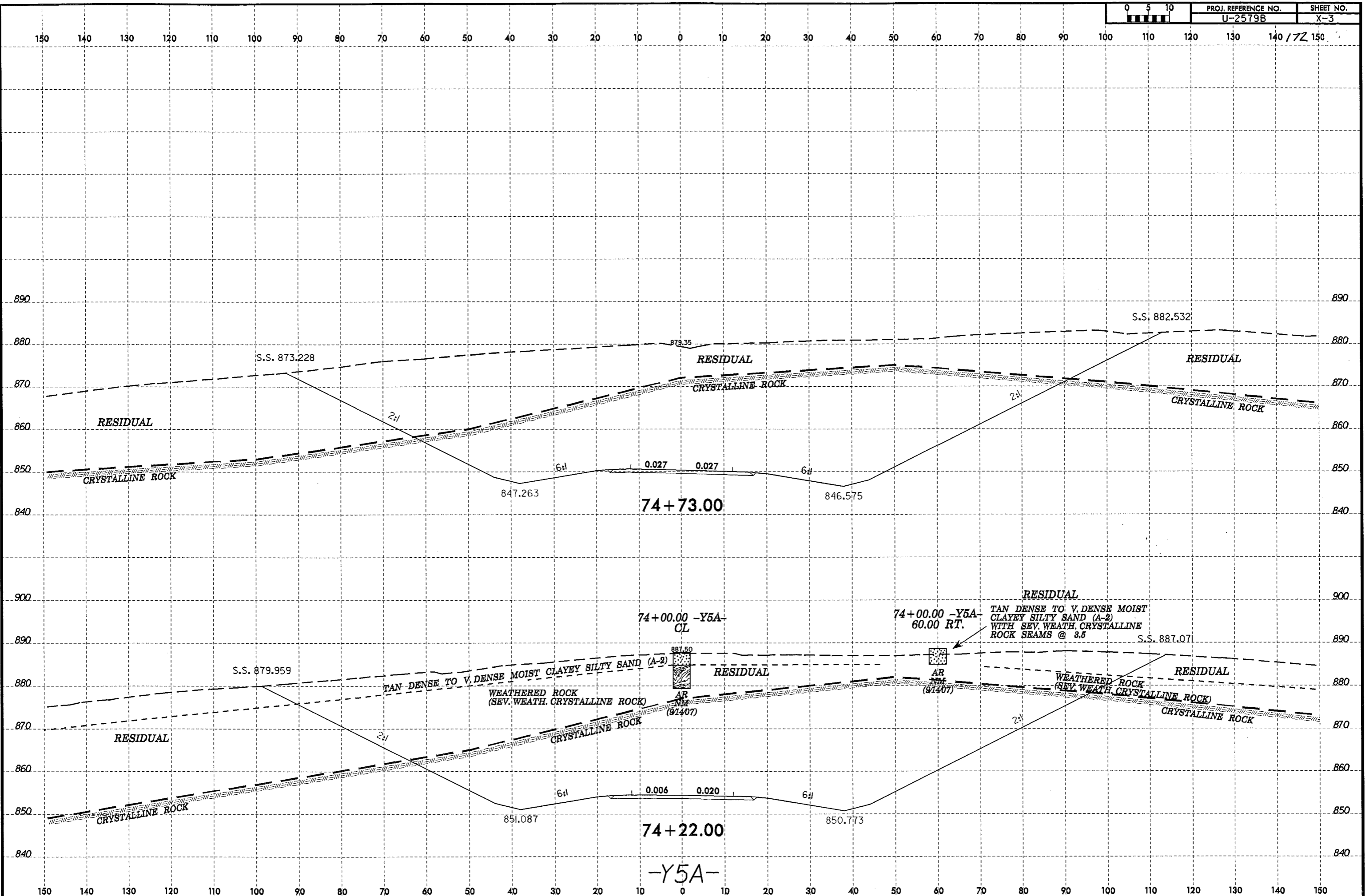


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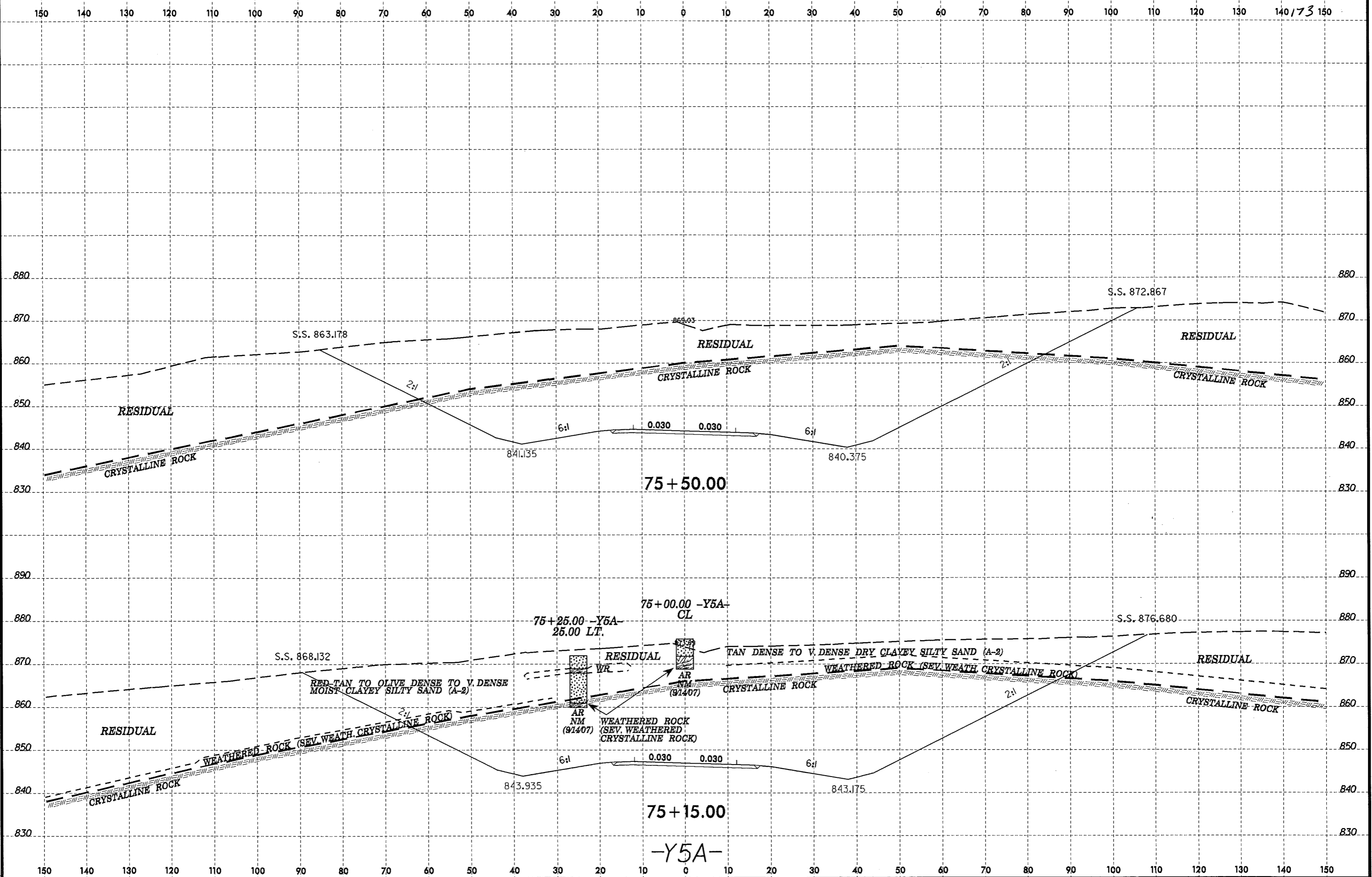
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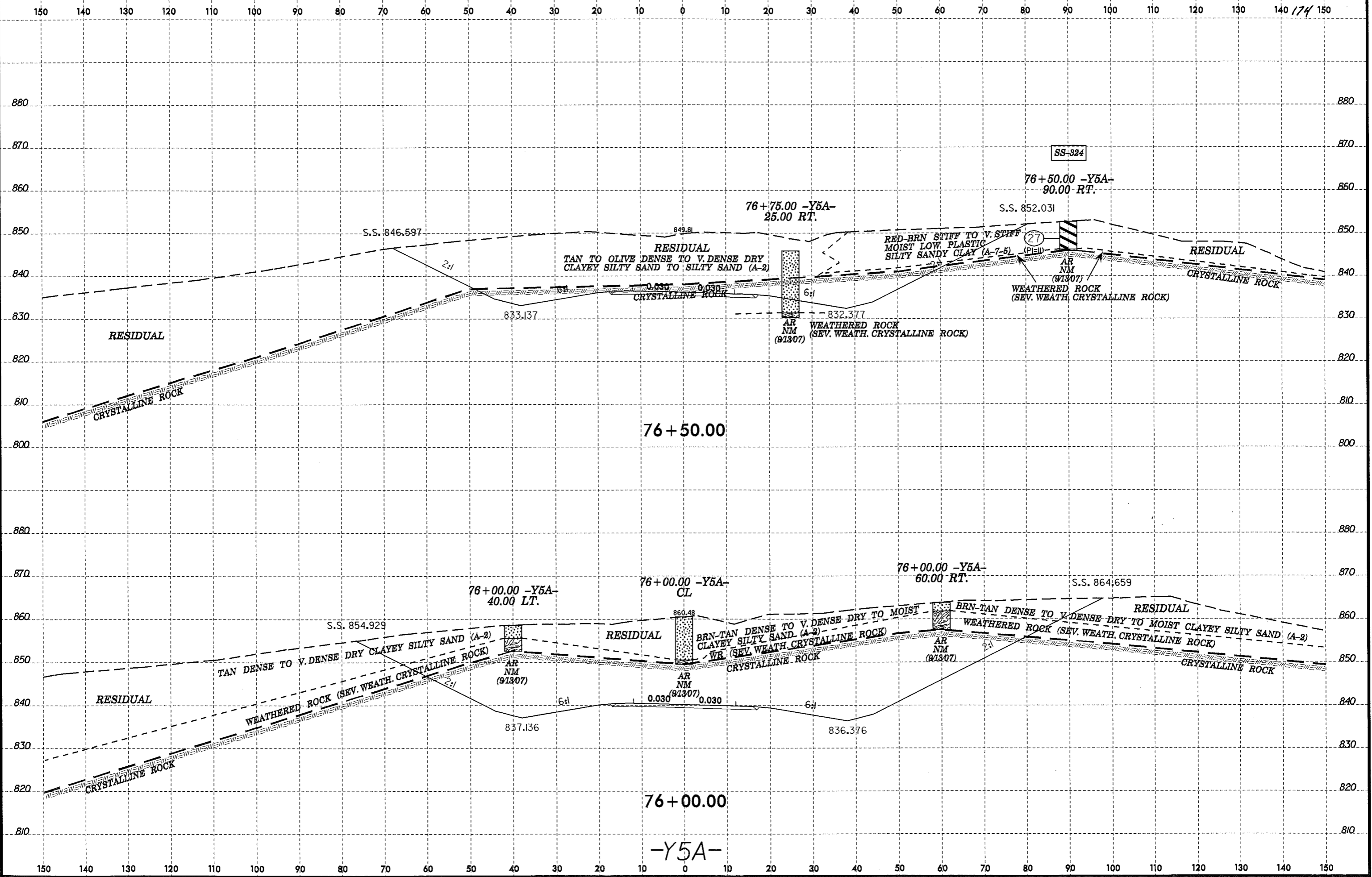
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8/23/99
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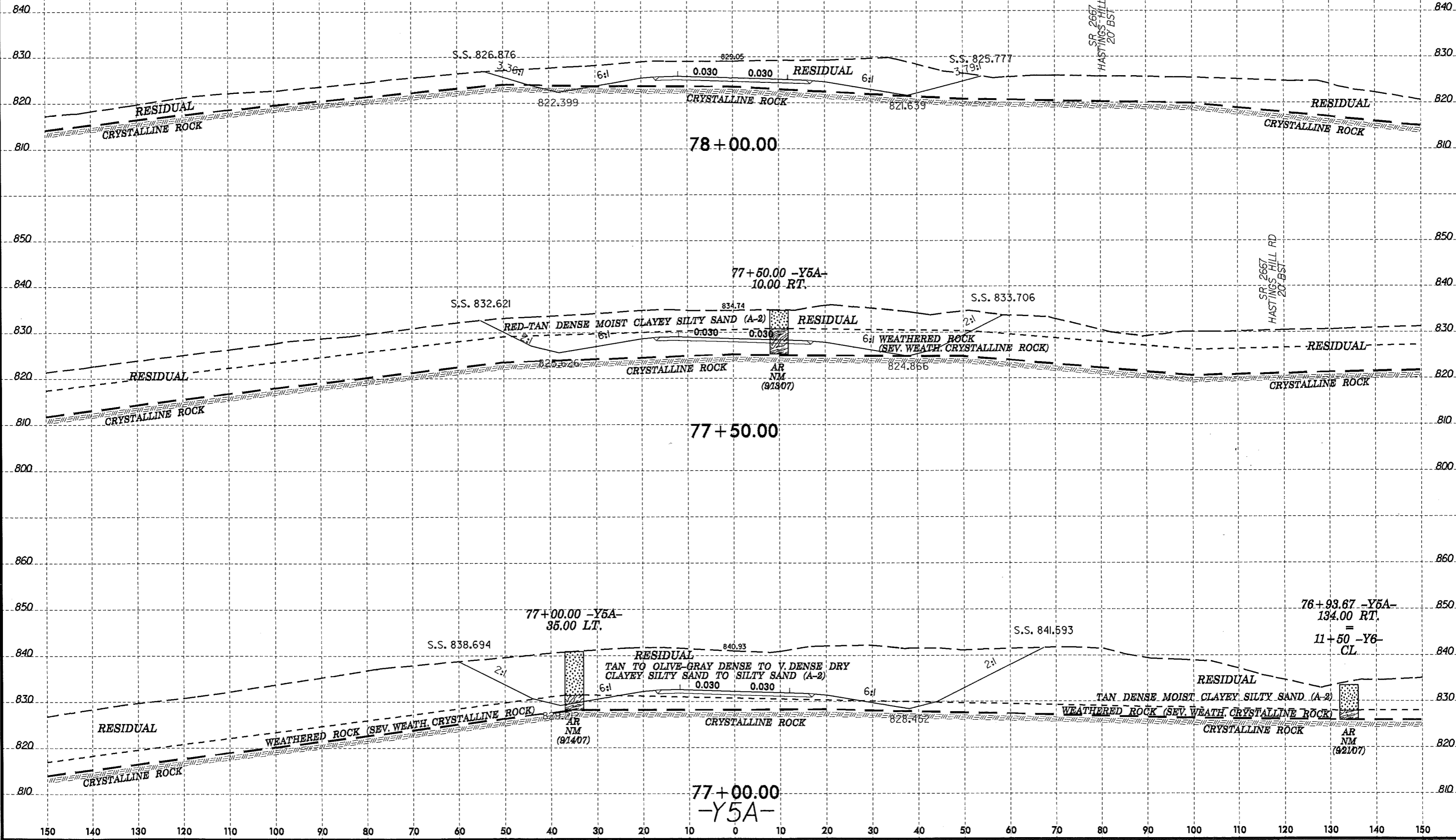
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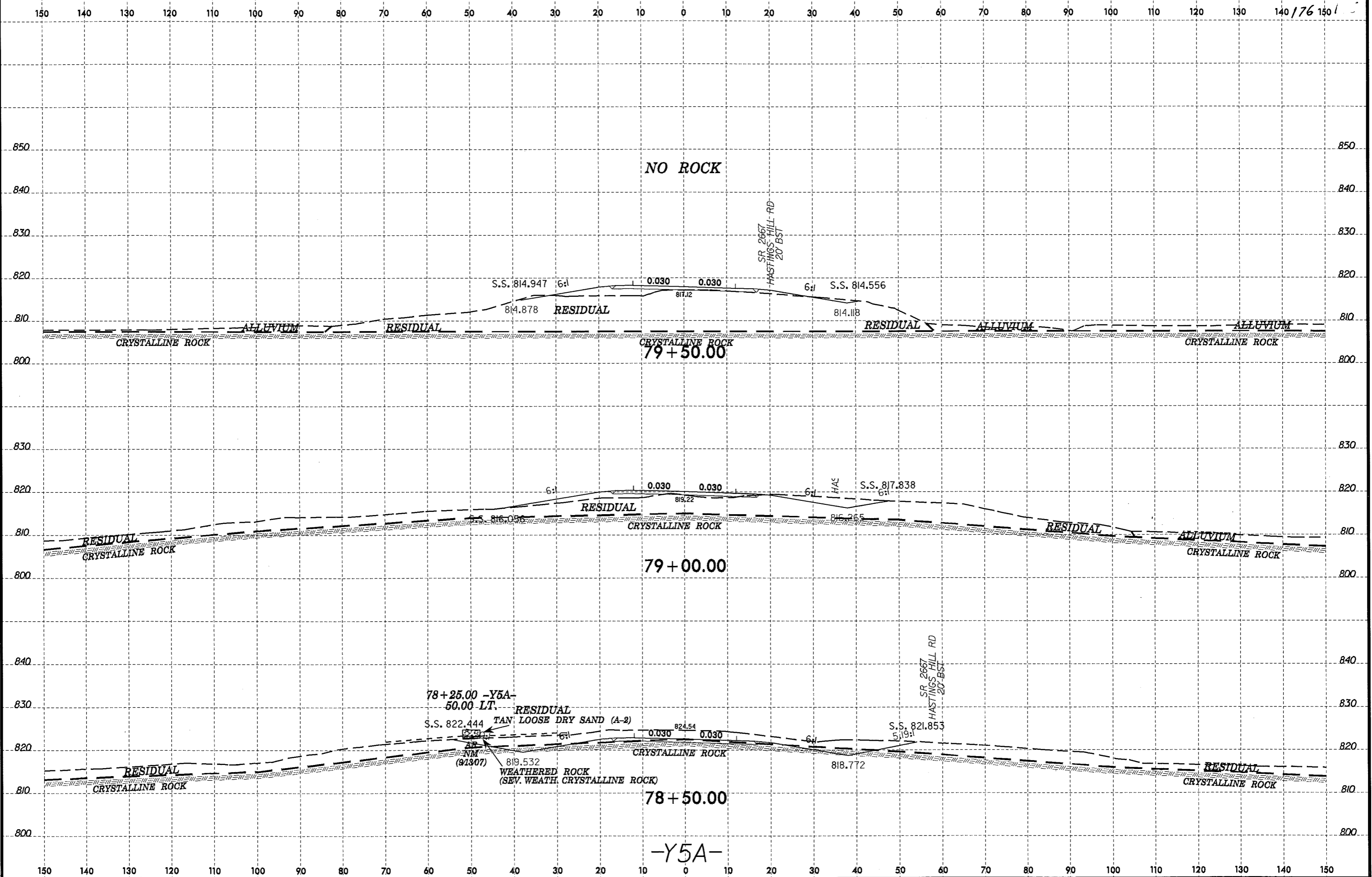
8/23/99

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Inchpnture AT GEH221410



NO ROCK

79+50.00

79+00.00

78+50.00

-Y5A-

78+25.00 -Y5A-
50.00 LT.

S.S. 822.444 TAN LOOSE DRY SAND (A-2)

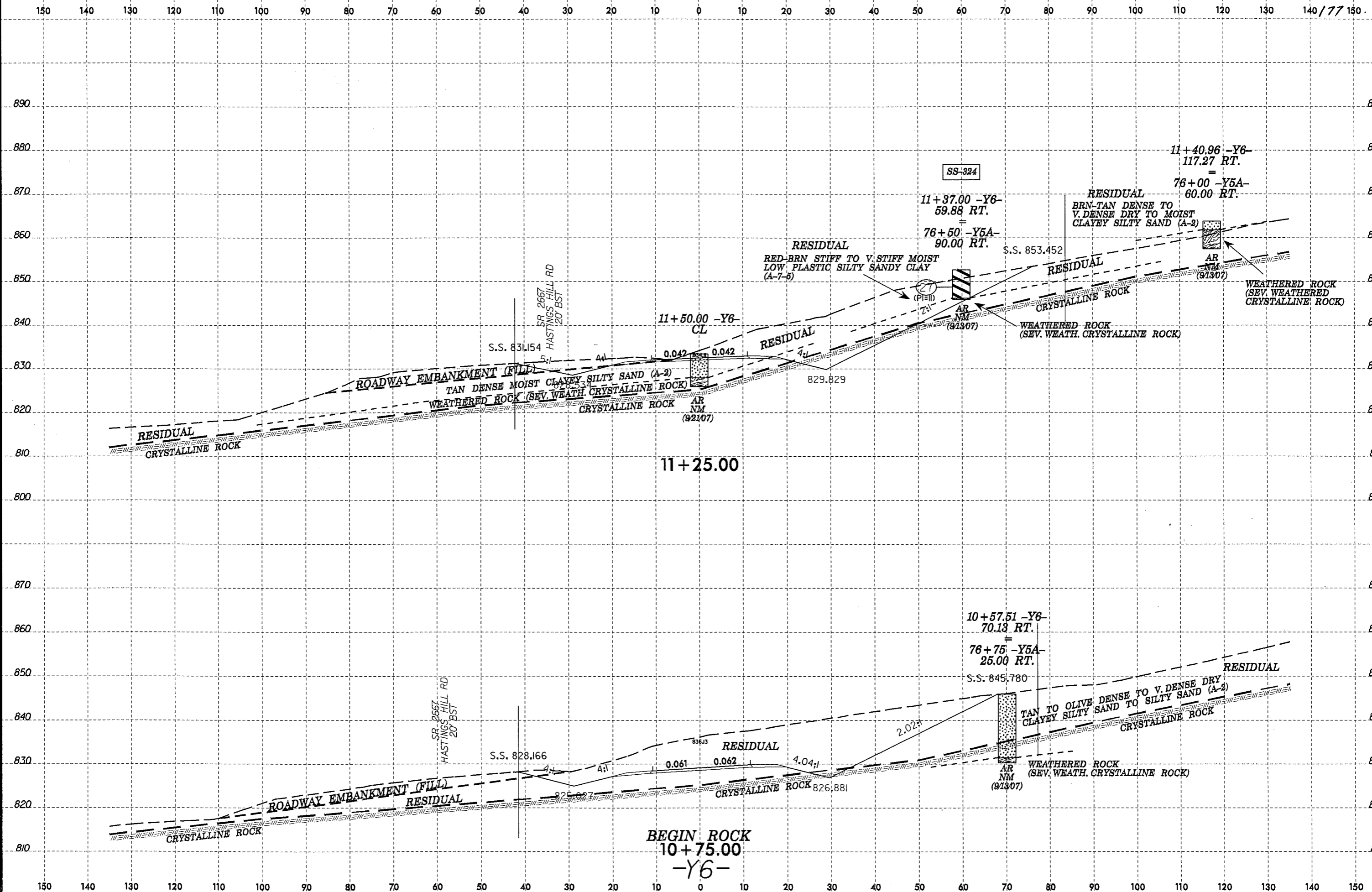
819.532 WEATHERED ROCK
(SEV. WEATH. CRYSTALLINE ROCK)

(91307)

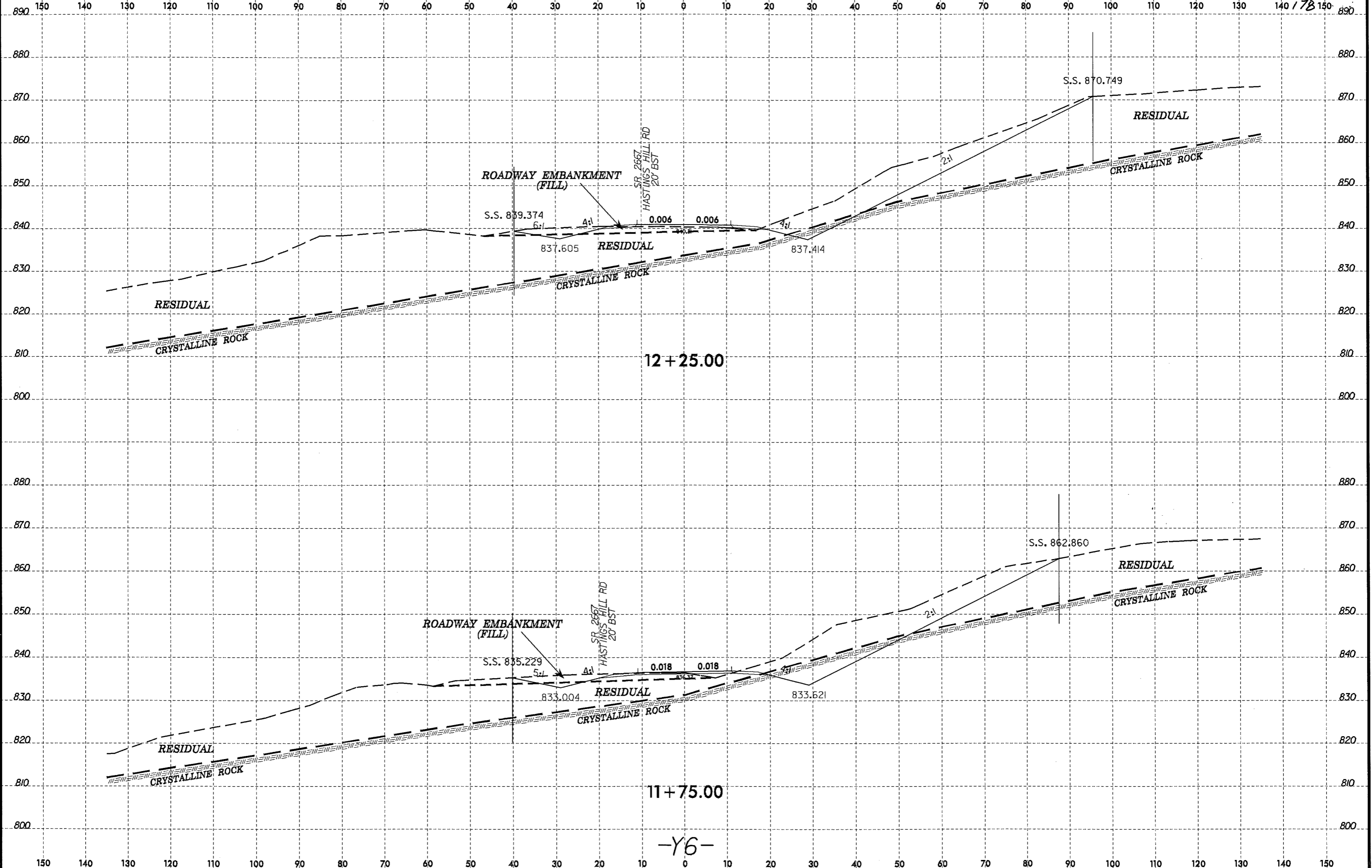
SR 2667
HASTINGS HILL RD
20' BST

SR 2667
HASTINGS HILL RD
20' BST

8/23/99
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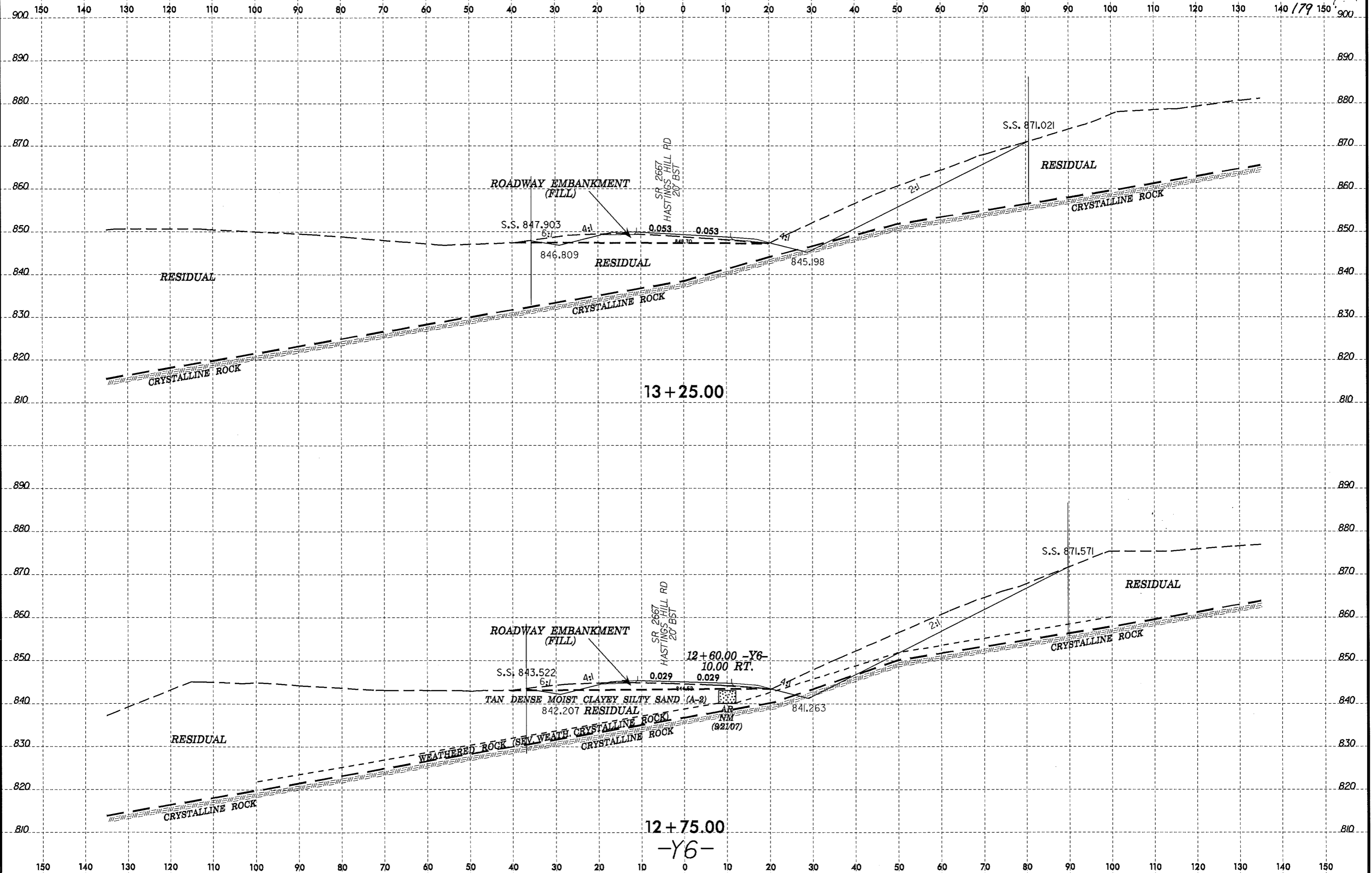


8/23/99



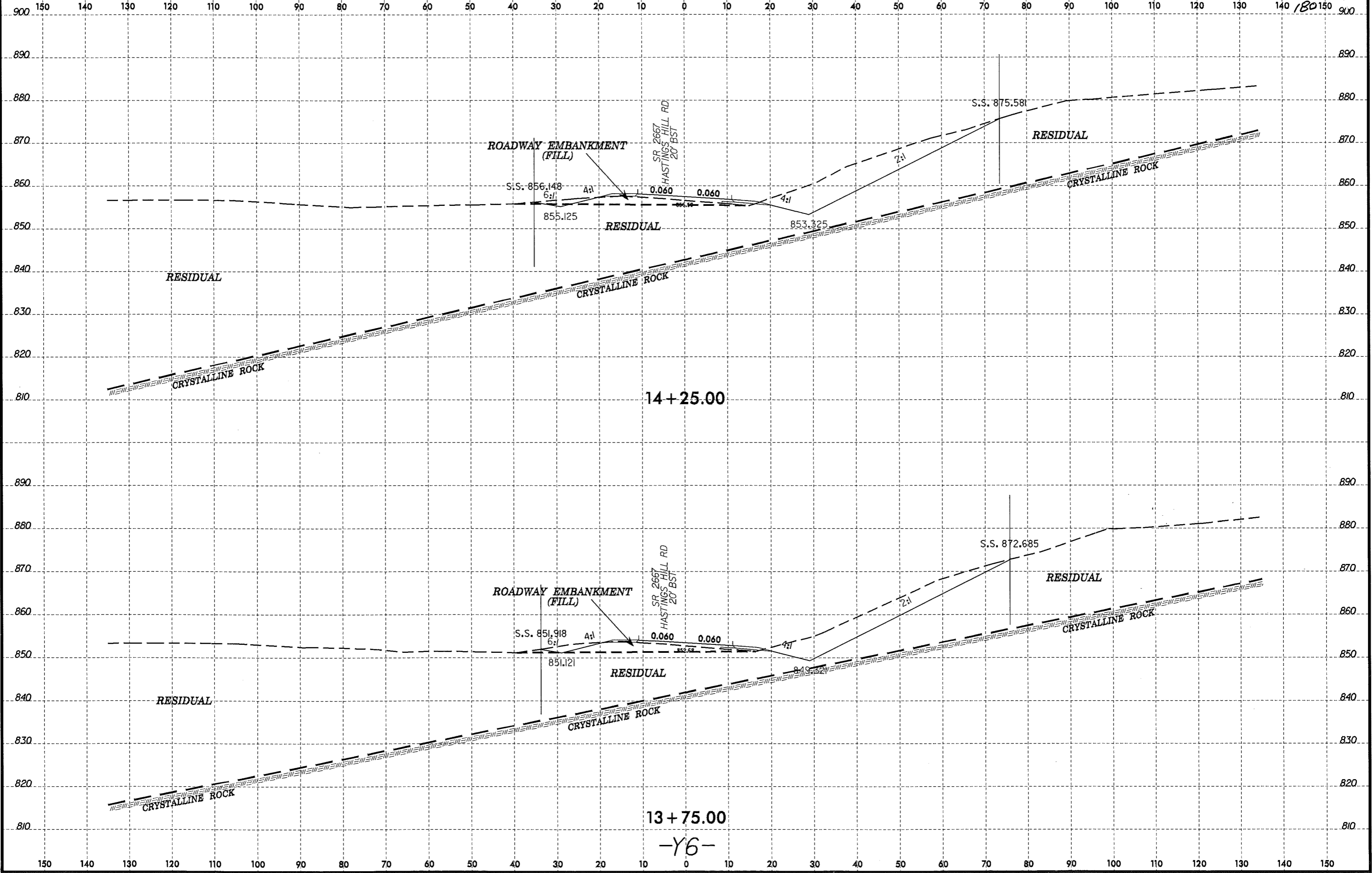
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8/23/99



23-JUN-2008 08:41
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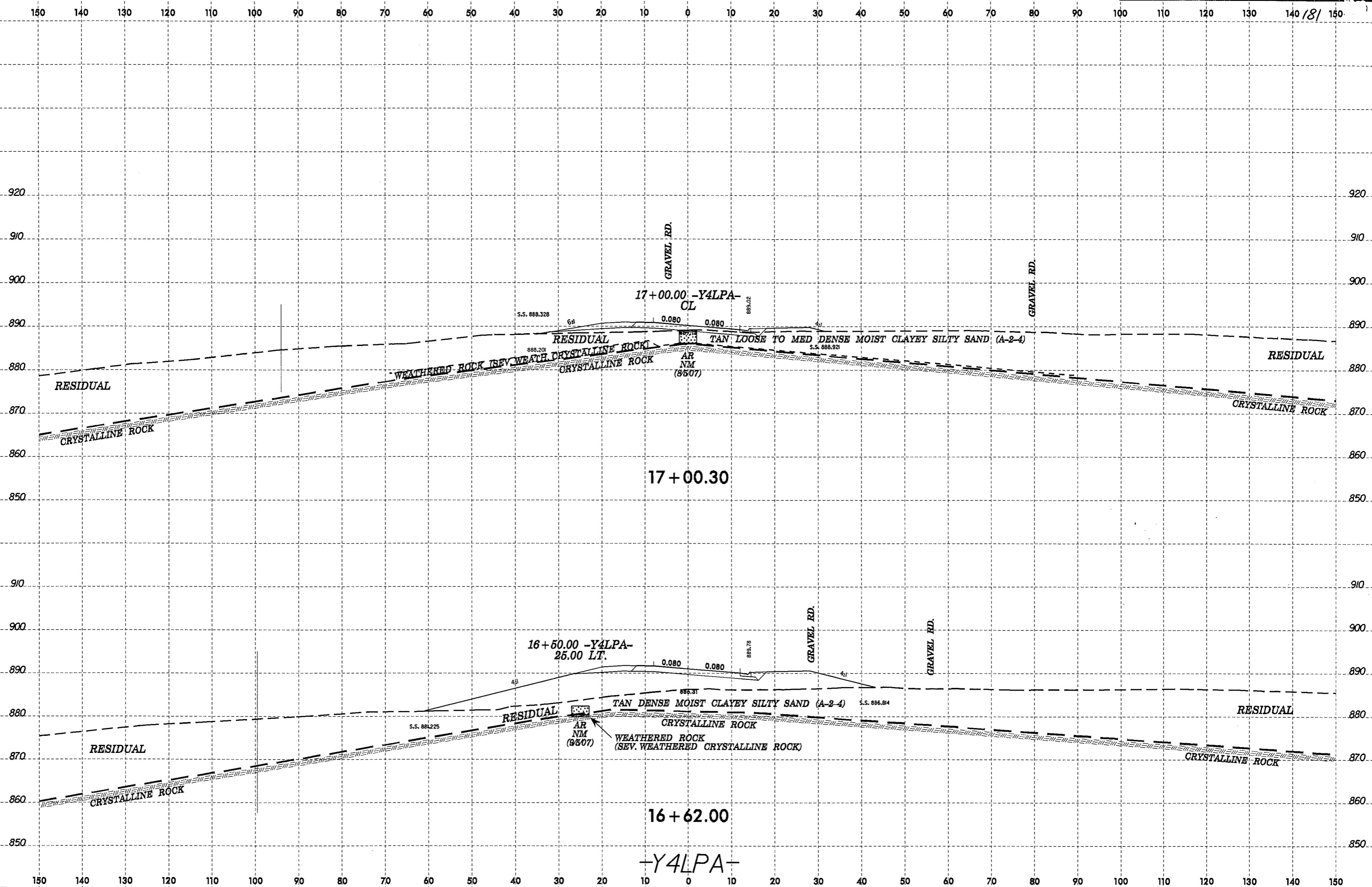
8/23/99



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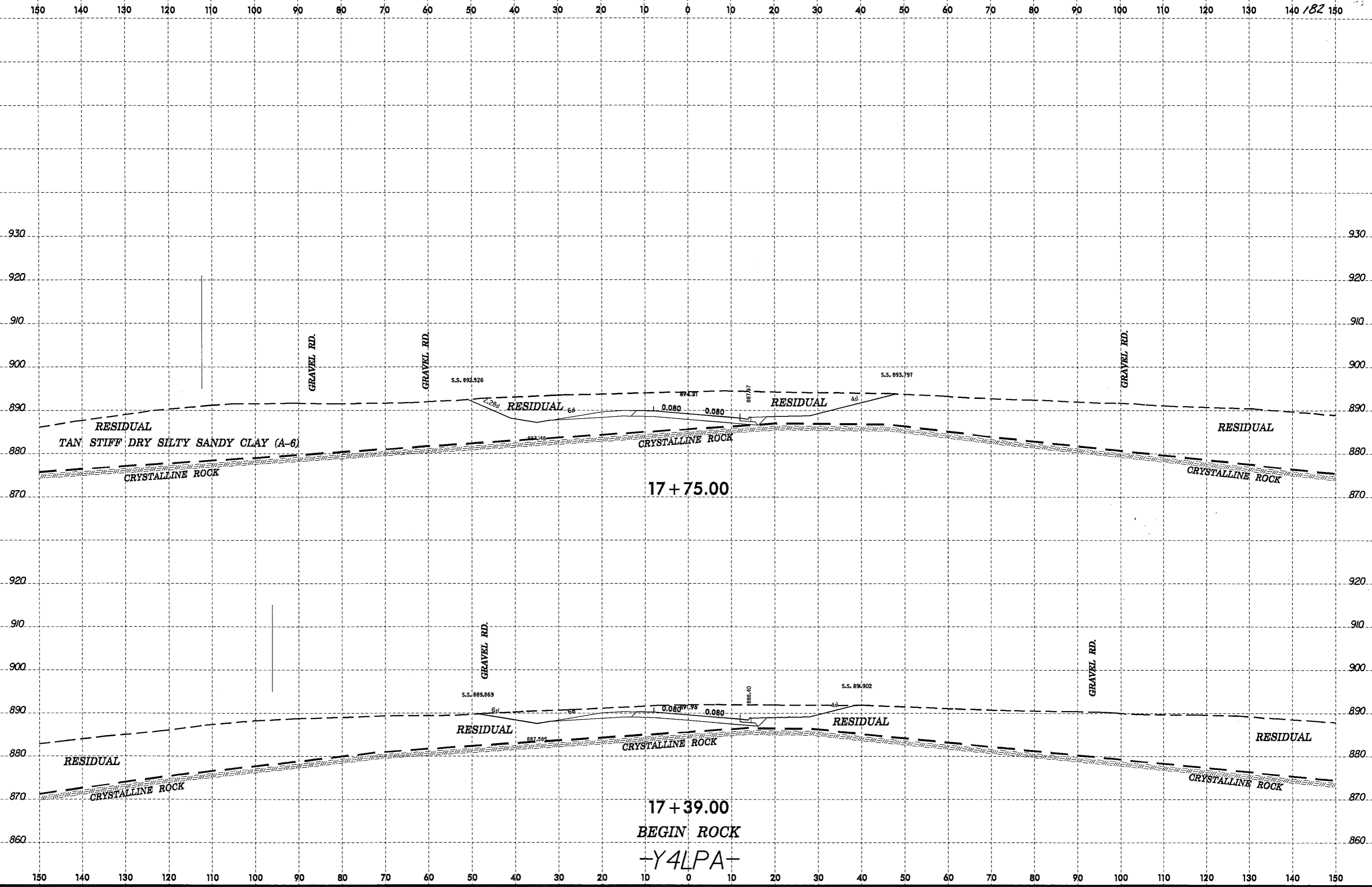
13+75.00
-Y6-

8/23/99



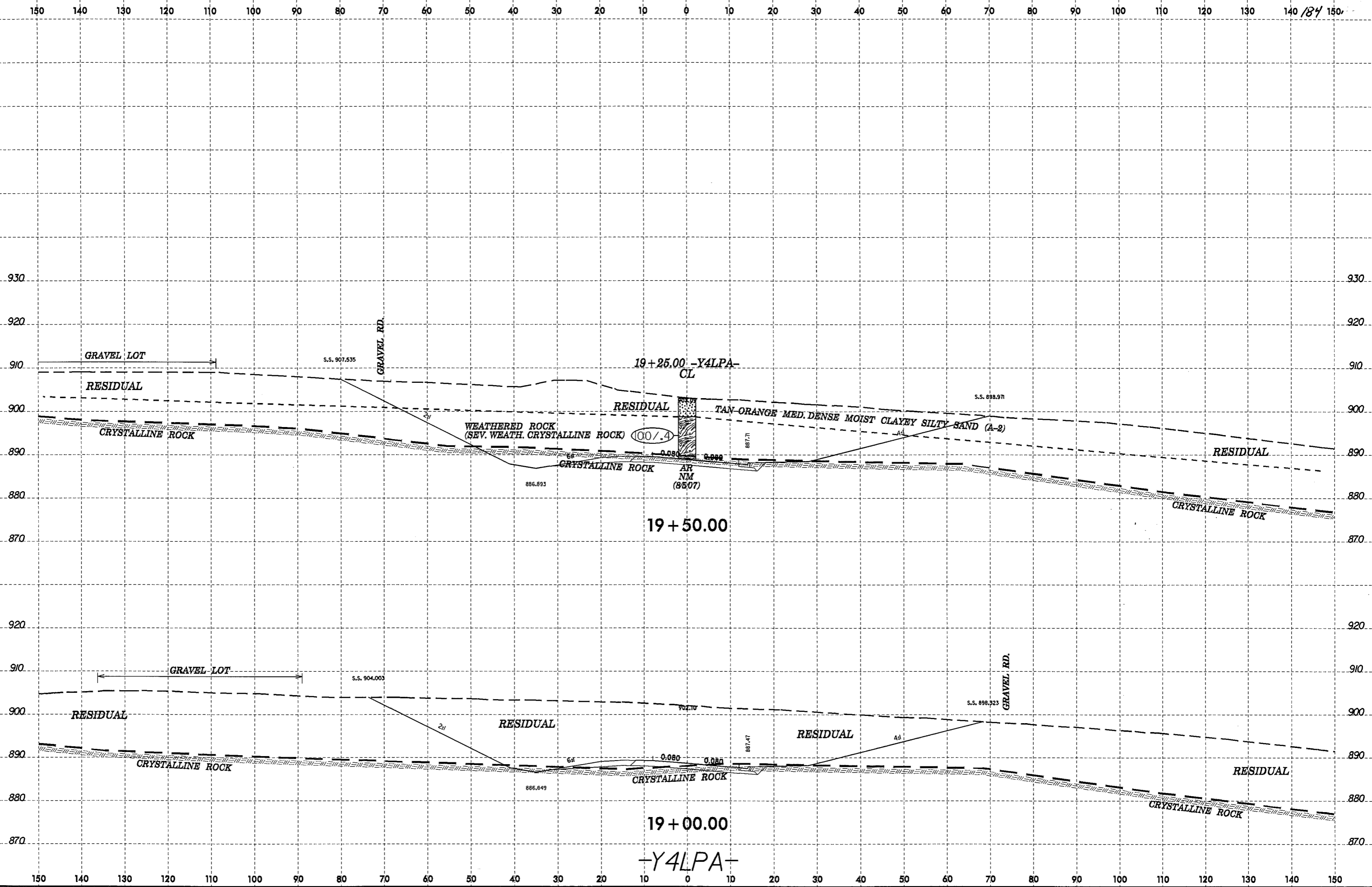
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 imc@lucifer.com

8/23/99



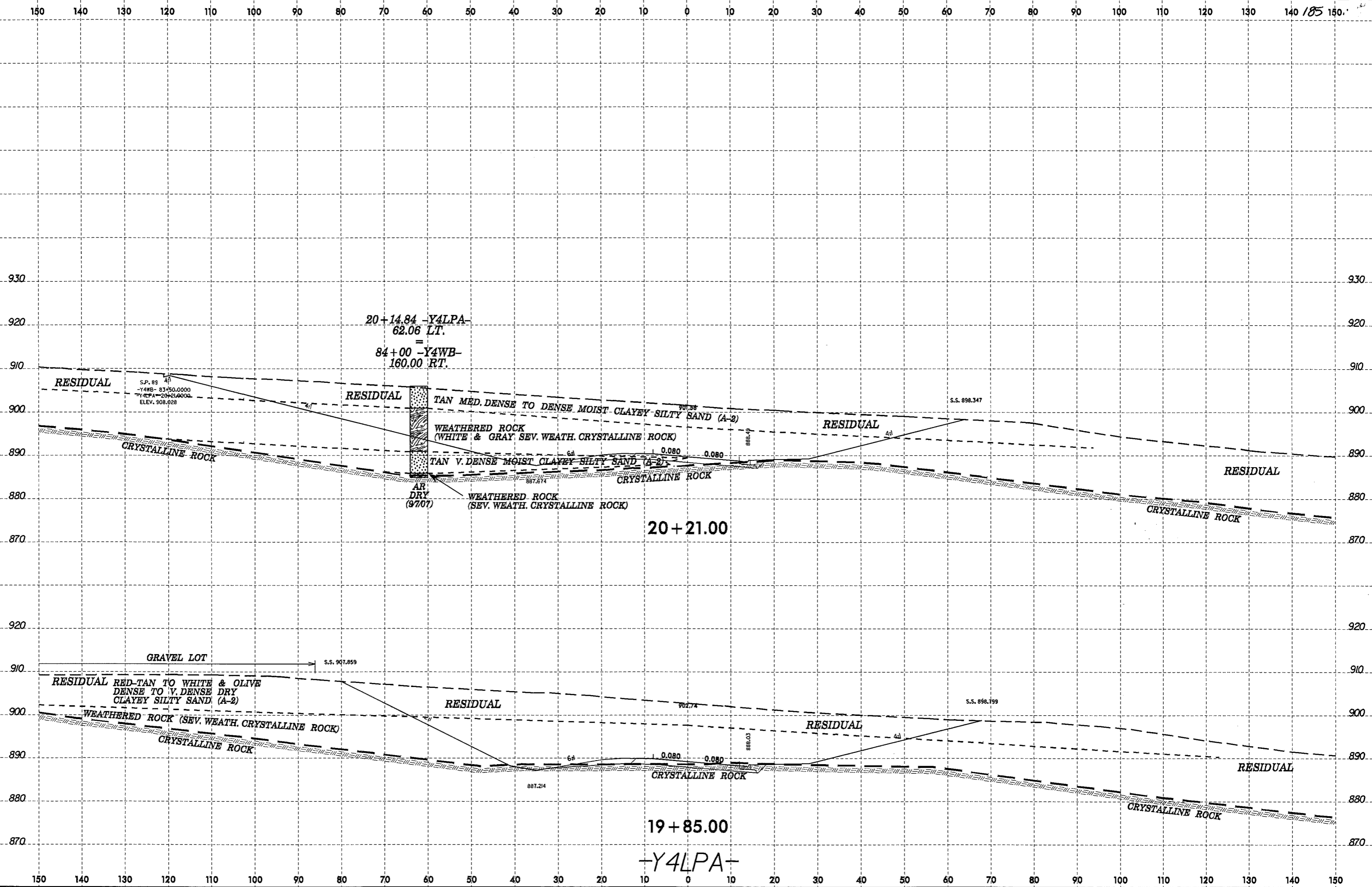
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8/23/99



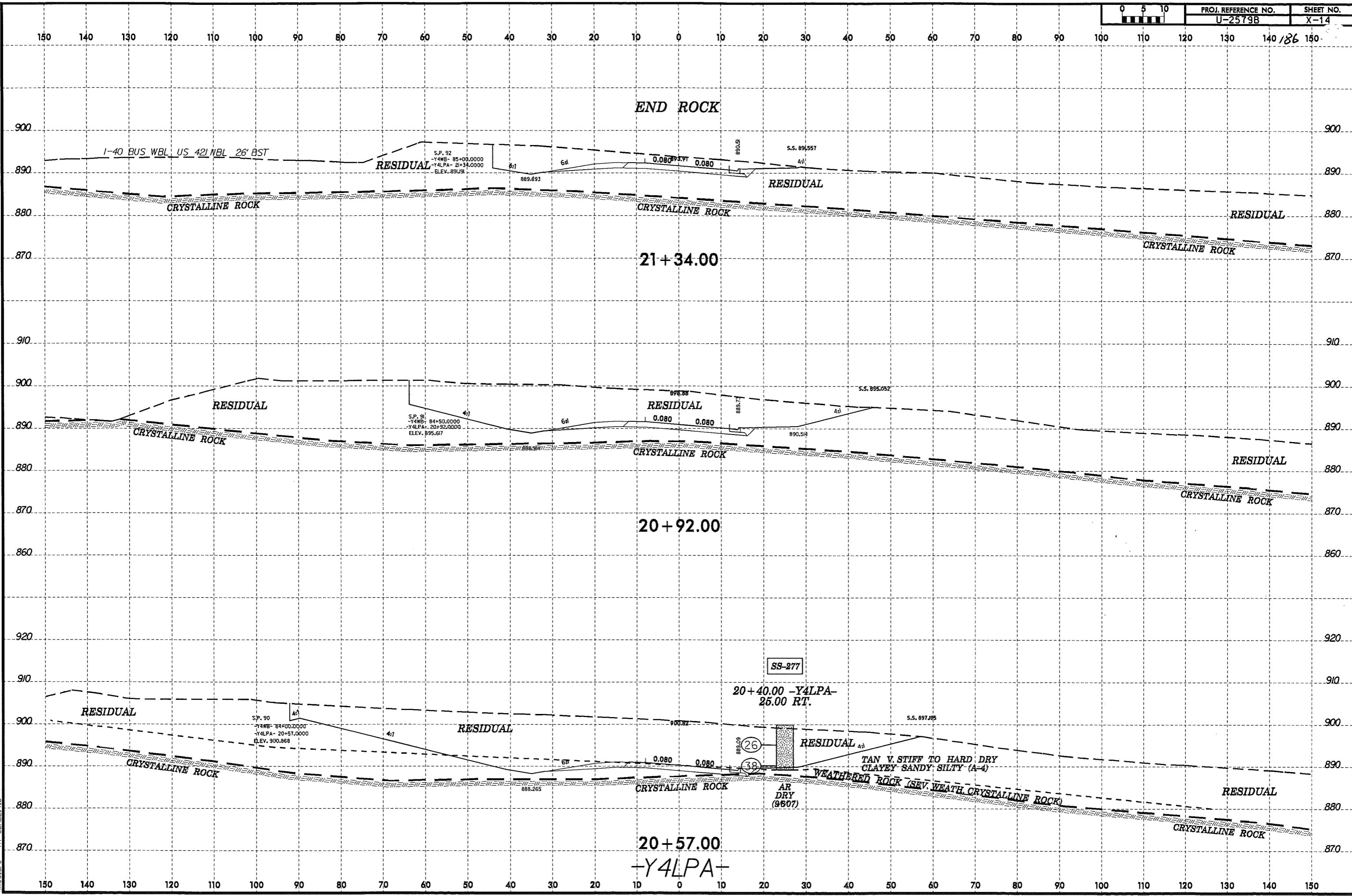
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8/23/99

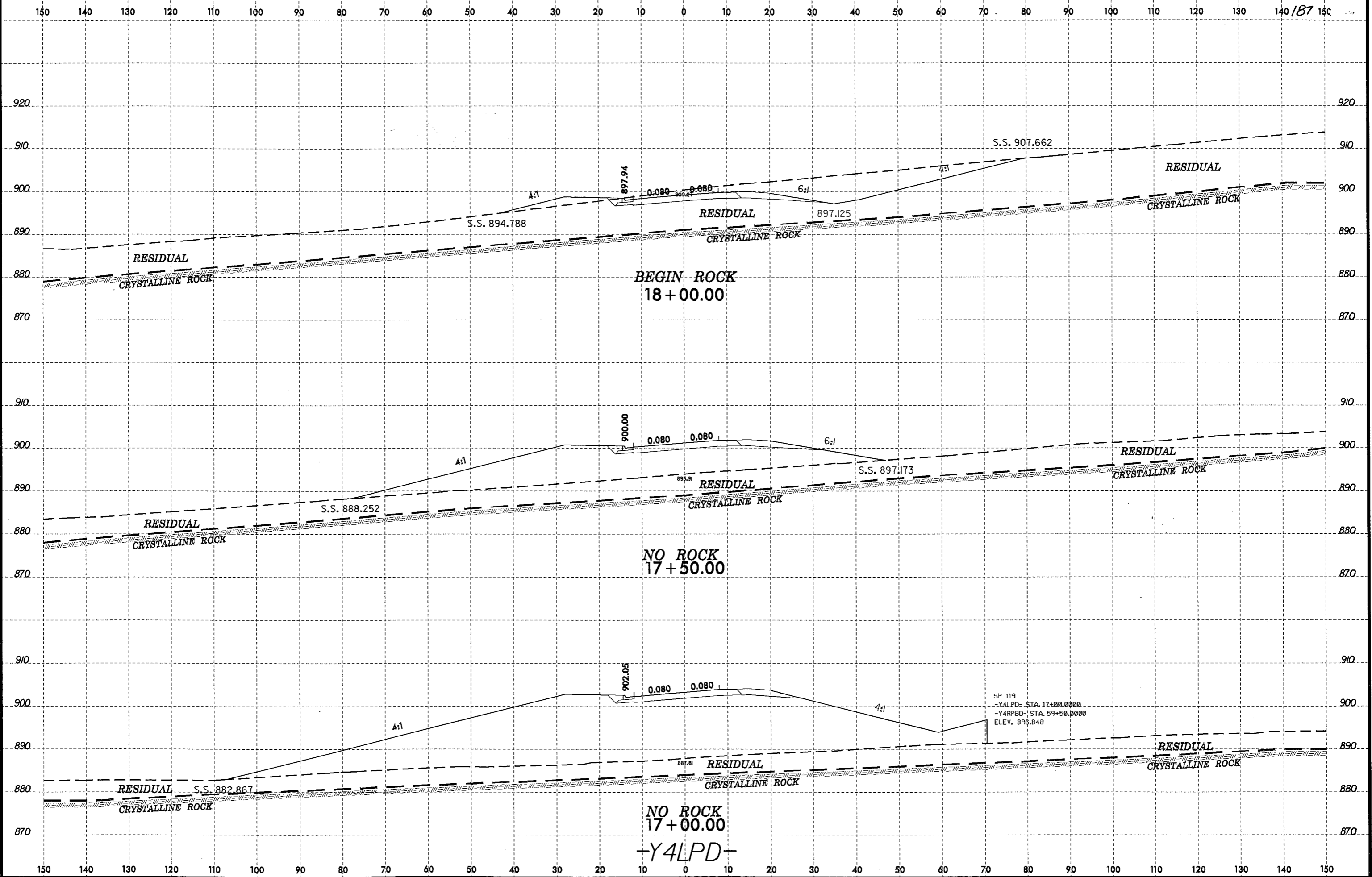


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8/23/99
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 imc@urc.com

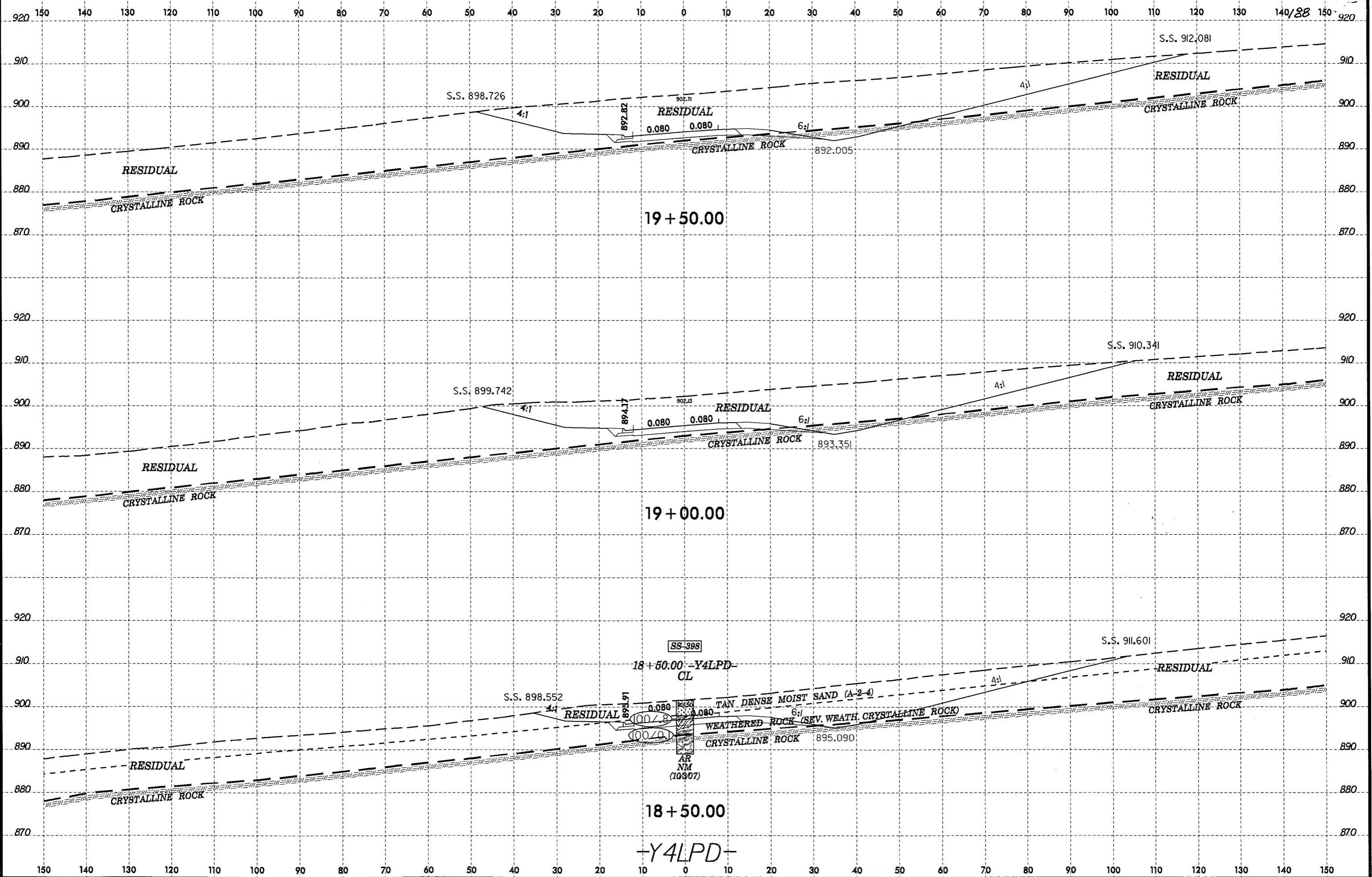


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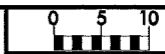
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8/23/98



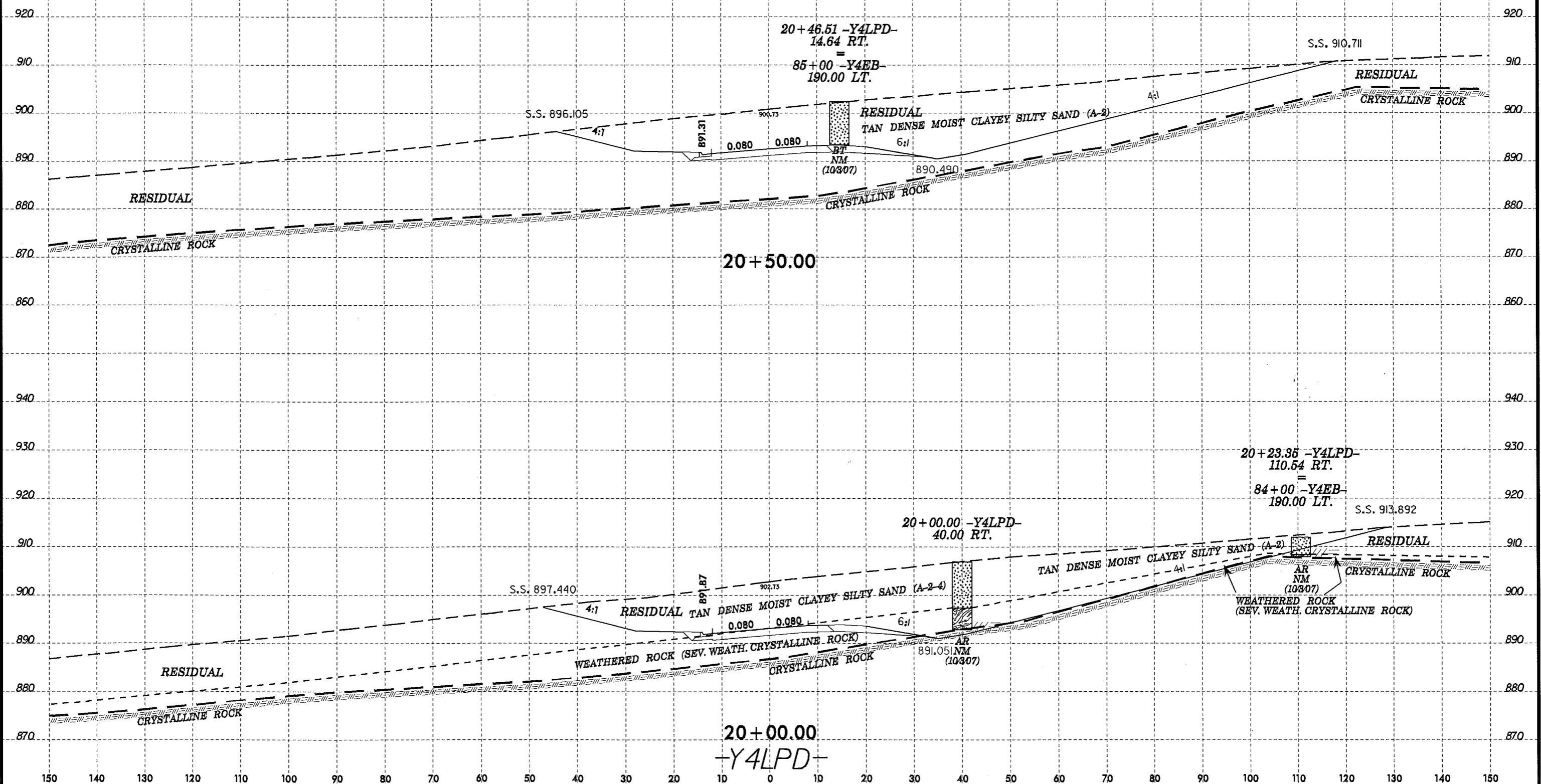
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PROJ. REFERENCE NO. U-2579B SHEET NO. X-4

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SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS, L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-1 to SS-71 and MS-7 to MS-71.

SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS, L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-72 to SS-141 and MS-109 to MS-123.

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
SS-142	CL	529+00	3.80-5.30	A-7.5(14)	55	18	19.3	15.0	17.0	48.7	100	87	69	-	-	L
SS-143	25 LT	531+10	3.60-5.10	A-5(4)	41	8	16.0	27.6	28.0	28.4	99	91	61	-	-	L
SS-144	25 LT	531+10	13.60-15.10	A-5(2)	43	6	22.5	27.2	30.0	20.3	91	79	50	-	-	L
SS-145	25 LT	531+10	18.60-20.10	A-4(0)	33	5	23.7	32.3	25.8	18.3	97	85	48	-	-	L
SS-146	25 LT	531+10	23.60-25.10	A-2.5(0)	45	NP	35.1	34.9	21.9	8.1	98	79	35	-	-	L
SS-147	50 LT	534+50	3.70-5.20	A-2.4(0)	34	5	42.6	26.6	14.6	16.2	88	62	30	-	-	L
SS-148	50 LT	534+50	8.70-10.20	A-4(0)	32	5	35.3	26.6	17.8	20.3	95	73	39	-	-	L
SS-149	50 LT	534+50	13.70-15.20	A-2.4(0)	36	3	43.2	27.0	17.6	12.2	93	65	31	-	-	L
SS-150	25 LT	534+50	18.70-20.20	A-2.4(0)	34	6	33.6	31.6	22.7	12.1	79	61	32	-	-	L
SS-154	75 RT	541+00	4.00-5.50	A-6(6)	40	17	27.1	23.1	13.4	36.4	98	82	52	-	-	L
SS-155	75 RT	541+00	9.00-10.50	A-7.5(6)	61	17	30.6	25.3	21.9	22.3	99	84	48	-	-	L
SS-156	75 RT	541+00	14.00-15.50	A-2.5(0)	43	4	33.4	40.1	18.4	8.1	99	80	32	-	-	L
SS-157A	75 RT	541+00	24.00-25.50	A-2.5(0)	44	NP	30.0	48.4	19.6	2.0	98	83	29	-	-	L
SS-157	50 RT	543+00	3.60-5.10	A-6(5)	38	15	34.8	17.0	19.8	28.3	100	75	51	-	-	L
SS-158	50 RT	543+00	8.60-10.10	A-4(0)	29	7	38.3	24.1	17.4	20.2	97	71	39	-	-	L
SS-159	50 RT	543+00	13.60-15.10	A-2.4(0)	31	4	38.5	34.0	17.4	10.1	97	74	30	-	-	L
SS-160	35 LT	545+50	3.70-5.20	A-2.4(0)	27	2	45.5	31.4	15.0	8.1	100	71	27	-	-	L
SS-161	35 RT	545+50	8.70-10.20	A-2.4(0)	30	NP	40.5	34.8	16.6	8.1	96	73	29	-	-	L
SS-162	35LT	545+50	23.70-25.20	A-2.4(0)	38	NP	47.6	34.0	16.4	2.0	93	62	22	-	-	L
SS-163	35 LT	545+50	33.70-35.20	A-2.5(0)	46	NP	27.7	45.1	23.1	4.0	98	85	32	-	-	L
SS-164	75LT	547+50	3.60-5.10	A-5(1)	45	6	26.7	37.2	13.9	22.2	99	84	44	-	-	L
SS-165	75 LT	547+50	8.60-10.10	A-2.5(0)	45	NP	32.4	45.5	10.0	12.1	100	81	30	-	-	L
SS-166	75 LT	547+50	18.60-20.10	A-2.5(0)	42	NP	68.1	17.2	6.6	8.1	99	72	16	-	-	L
SS-167	75 LT	547+50	28.60-30.10	A-2.4(0)	37	NP	31.7	49.7	8.4	10.1	98	83	24	-	-	L
SS-168	75 LT	547+50	38.60-40.10	A-5(0)	46	NP	34.2	37.8	15.9	12.1	99	81	36	-	-	L
SS-169	75 LT	547+50	48.60-50.10	A-2.5(0)	41	NP	42.7	41.3	8.0	8.1	97	73	21	-	-	L
SS-170	100 RT	551+25	3.20-4.70	A-7.5(11)	62	19	19.0	29.4	15.1	36.5	100	88	58	-	-	L
SS-171	100 RT	551+25	8.20-9.70	A-5(0)	55	7	22.9	46.1	12.8	18.2	99	88	39	-	-	L
SS-172	100 RT	551+25	18.20-19.70	A-4(0)	40	1	19.8	40.6	25.4	14.2	100	89	48	-	-	L
SS-173	40 LT	555+60	4.00-5.50	A-7.6(6)	48	19	23.9	34.2	11.6	30.3	98	84	47	-	-	L
SS-174	40 LT	555+60	9.00-10.50	A-2.4(0)	35	NP	29.3	47.9	10.6	12.1	97	83	29	-	-	L
SS-175	60 RT	559+05	1.00-2.50	A-4(3)	33	8	17.4	29.1	23.2	30.3	98	89	57	-	-	L
SS-176	60 RT	559+05	3.80-5.30	A-2.4(0)	28	9	39.0	30.3	10.4	20.2	96	71	33	-	-	L
SS-177	60 RT	559+05	18.80-20.30	A-4(0)	22	NP	25.7	45.3	18.9	10.1	95	83	36	-	-	L
SS-178	200 RT	560+50	0.00-1.50	A-4(0)	31	6	21.4	37.8	16.5	24.3	98	87	46	-	-	L
SS-179	200 RT	560+50	3.50-5.00	A-2.4(0)	27	3	47.7	33.8	4.3	14.2	76	52	17	-	-	L
SS-180	200 RT	560+50	8.50-10.00	A-2.5(0)	55	NP	31.7	44.7	13.4	10.1	90	74	27	-	-	L
SS-181	200 RT	560+50	13.50-15.00	A-2.5(0)	44	NP	33.8	47.9	10.2	8.1	100	84	24	-	-	L
SS-182	150 LT	563+00	3.40-4.90	A-5(2)	47	10	28.7	31.3	15.7	24.3	95	77	44	-	-	L
SS-183	150 LT	563+00	8.40-9.90	A-5(0)	46	NP	30.9	35.6	13.2	20.2	97	79	39	-	-	L
SS-184	130 LT	567+00	3.40-4.90	A-2.4(0)	21	3	41.7	29.9	6.2	22.2	92	67	29	-	-	L
SS-185	130 LT	567+00	8.40-4.90	A-7.5(23)	78	31	18.2	18.0	9.2	54.6	98	86	66	-	-	L
SS-186	140 LT	570+35	0.00-1.50	A-6(4)	36	15	29.7	23.3	8.6	38.4	94	76	47	-	-	L
SS-187	140 LT	570+35	3.80-5.30	A-7.5(11)	51	21	24.7	17.4	9.4	48.5	97	82	59	-	-	L
SS-188	140 LT	570+35	8.80-10.30	A-7.5(10)	54	22	27.5	19.4	10.6	42.5	97	78	55	-	-	L
SS-188A	130 LT	573+10	1.00-2.50	A-5(2)	46	7	28.7	28.5	14.5	28.3	97	78	46	-	-	L
SS-189	130 LT	573+10	3.50-5.00	A-2.7(0)	49	11	42.3	23.7	15.9	18.2	94	66	35	-	-	L
SS-190	10 LT	577+00	0.00-1.50	A-6(2)	34	11	34.4	21.0	20.3	24.3	98	75	46	-	-	L
SS-191	10 LT	577+00	4.00-5.50	A-5(4)	48	9	20.4	35.0	26.4	18.2	100	90	53	-	-	L
SS-192	50 RT	579+75	0.00-1.50	A-7.5(13)	57	20	16.6	23.5	21.5	38.4	100	90	64	-	-	L
SS-193	50 RT	579+75	4.00-5.50	A-2.4(0)	40	3	37.2	36.6	22.1	4.0	97	72	31	-	-	L
SS-194	20 LT	558+50	3.50-5.00	A-7.5(22)	62	29	16.6	16.6	26.4	40.4	100	88	71	-	-	EB2-B
SS-195	20 LT	558+50	8.50-10.00	A-5(4)	48	8	29.5	21.6	30.6	18.2	96	75	54	-	-	EB2B
SS-196	20 LT	558+50	13.50-15.00	A-7.5(13)	56	19	22.2	15.6	33.9	28.3	99	84	66	-	-	EB2B
SS-197	20 LT	558+50	23.50-25.00	A-5(2)	43	8	25.9	34.4	29.6	10.1	99	82	48	-	-	EB2B
SS-198	20 LT	558+50	33.50-35.00	A-5(0)	43	4	22.2	44.9	26.8	6.1	100	88	42	-	-	EB2B
SS-199	20 LT	558+50	43.50-45.00	A-5(1)	43	6	24.5	38.8	28.6	8.1	99	86	44	-	-	EB2B
SS-200	20 LT	558+50	53.50-55.50	A-5(1)	45	6	24.5	39.6	29.8	6.1	100	86	43	-	-	EB2B
SS-201	CL	589+25	3.90-5.40	A-6(5)	35	16	25.7	24.1	17.9	32.4	99	83	52	-	-	L
SS-202	CL	589+25	8.90-10.40	A-5(3)	45	10	29.1	27.7	29.0	14.2	100	80	48	-	-	L
SS-203	CL	592+00	0.00-1.50	A-6(0)	27	11	41.1	23.3	11.4	24.3	98	73	37	-	-	L
SS-204	CL	592+00	4.00-5.50	A-7.5(23)	69	27	14.4	13.1	13.9	58.6	100	90	74	-	-	L
SS-205	40 RT	595+00	0.00-1.50	A-7.5(9)	51	21	16.0	32.0	15.7	36.4	95	88	53	-	-	L
SS-206	40 RT	595+00	2.20-3.70	A-4(0)	32	3	21.4	48.1	14.3	16.2	100	90	36	-	-	L
SS-207	110 RT	598+25	0.00-1.50	A-7.6(18)	59	30	23.3	14.4	17.9	44.5	97	82	63	-	-	L
SS-208	110 RT	598+25	4.00-5.50	A-7.5(4)	58	12	33.0	24.9	21.9	20.2	98	75	45	-	-	L
SS-209	50 LT	601+00	0.00-1.50	A-6(4)	38	13	29.1	22.0	22.5	26.3	95	77	49	-	-	L
SS-210	50 LT	601+00	4.10-5.60	A-7.5(13)	58	22	16.8	27.1	17.7	38.4	99	89	60	-	-	L
SS-211	60 RT	604+00	0.00-1.50	A-6(2)	30	12	34.4	23.5	17.9	24.3	95	76	43	-	-	L
SS-212	60 RT	604+00	3.90-5.40	A-4(0)	38	7	29.1	31.3	17.3	22.2	88	72	39	-	-	L
SS-213	CL	611+00	0.00-1.50	A-7.6(10)	46	24	22.0	24.5	15.1	38.4	97	84	55	-	-	L
SS-214	CL	611+00	3.70-5.20	A-5(0)	46	6	27.7	35.8	16.3	20.2	99	82	41	-	-	L
SS-215	50 RT	16+50	0.00-1.50	A-2.4(0)	28	5	41.7	28.9	15.3	14.2	94	70	31	-	-	Y4RPBD
SS-216	50 RT	16+50	3.70-5.20	A-2.4(0)	25	NP	57.7	27.1	7.1	8.1	95	59	16	-	-	Y4RPBD

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC	Line or Boring ID
							C.SAND	F.SAND	SILT	CLAY	10	40	200			
SS-217	50 RT	16+50	8.70-10.20	A-2.4(0)	22	NP	49.1	32.5	10.3	8.1	93	66	20	-	-	Y4RPBD
SS-218	50 RT	16+50	13.70-15.20	A-2.4(0)	30	NP	42.7	37.0	16.3	4.0	98	74	26	-	-	Y4RPBD
SS-219	CL	16+75	0.00-1.50	A-6(7)	40	17	25.1	22.5	13.3	39.1	99	83	55	-	-	Y4CD
SS-220	70 RT	608+00	0.00-1.50	A-7.6(16)	56	27	18.9	21.6	18.2	41.2	99	90	62	-	-	L
SS-221	70 RT	608+00	3.80-5.30	A-7.5(3)	44	11	19.5	39.3	23.0	18.2	100	92	46	-	-	L
SS-222	10 RT	616+50	4.10-5.60	A-2.4(0)	24	NP	28.8	41.8	14.9	14.4	98	84	32	-	-	L
SS-223	CL	16+50	0.00-1.50	A-6(1)	31	11	34.6	28.0	14.7	22.7	100	81	40	-	-	Y4RPA
SS-224	CL															

SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS., L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-286 to SS-359.

SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS., L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-360 to SS-428.

SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS., L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-429 to SS-461, CBR#1, RT-2 to RT-4, ST-1 to ST-5, ST-6#1, ST-6#2&3, RETAINING WALL 1 (B-1 to B-2), RETAINING WALL 2 (B-4 to B-6), and SS-1 to SS-15.

SOIL TEST RESULTS

Table with columns: SAMPLE NO., OFFSET, STATION, DEPTH INTERVAL, AASHTO CLASS., L.L., P.I., % BY WEIGHT (C.SAND, F.SAND, SILT, CLAY), % PASSING (SIEVES) (10, 40, 200), % MOISTURE, % ORGANIC, Line or Boring ID. Rows include samples SS-16 to SS-21, RETAINING WALL 3 (B-10), and SS-22 to SS-30.