

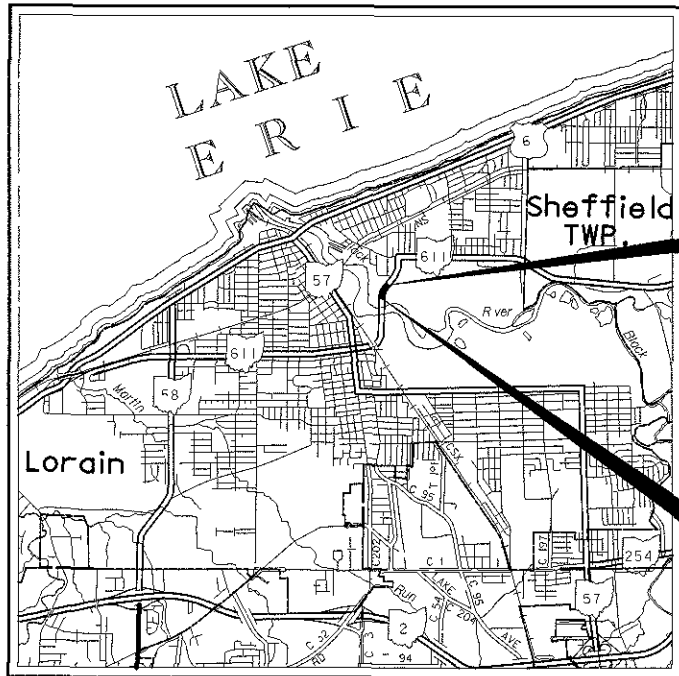
STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

PROJECT DESCRIPTION

RECONSTRUCTION OF THE FORWARD APPROACH EMBANKMENT SLOPES OF BRIDGE LOR-611-0358 TO IMPROVE SLOPE STABILITY WIDEN AND RESURFACE FORWARD APPROACH PAVEMENT AND NEW PAVEMENT MARKINGS. THE PROJECT LENGTH IS 0.15 MILE.

# LOR-611-3.91

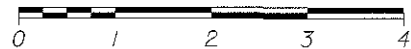
## CITY OF LORAIN LORAIN COUNTY



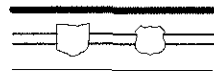
LOCATION MAP

LATITUDE N 41°27'27" LONGITUDE W 82°09'37"

SCALE IN MILES



PORTION TO BE IMPROVED  
STATE & FEDERAL ROUTES  
OTHER ROADS.



DESIGN DESIGNATION

CURRENT ADT (2001)	15,320
DESIGN YEAR ADT (2021)	16,190
DESIGN HOURLY VOLUME (2021)	1619
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	2.5%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION - URBAN PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NO.
LANE WIDTH		33
HORIZONTAL CLEARANCE		2

INDEX OF SHEETS:

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1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

**UNDERGROUND UTILITIES**  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
CALL 1-800-362-2764 (TOLL FREE)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

PREPARED AND RECOMMENDED BY  
**RICHLAND ENGINEERING LIMITED**  
29 NORTH PARK STREET  
MANSFIELD OHIO 44902  
PHONE: (419) 524-0074 FAX: (419) 524-1812

ENGINEERS SEAL



SIGNED *Dean A. Palmer*  
DATE 8-28-01

STANDARD CONSTRUCTION DRAWINGS

SUPPLEMENTAL SPECIFICATIONS

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS							
BP-1.1	7/28/00	CB-21	7/20/01	TC-41.20	1/19/01	MT 35 10	4/20/01	806	9/09/97	932	10/02/96
BP-2.2	7/28/00	CB-3.2	7/20/01	TC-42.20	4/20/01			814	6/02/98		
BP-3.1	7/28/00			TC-52.10	4/20/01			830	10/21/98		
BP-5.1	7/28/00	DM-1.1	7/20/01	TC-52.20	4/20/01	MT-95 31M	4/25/94				
		DM-4.2	7/20/01	TC-73.10	1/19/01	MT-95 32M	4/25/94	842	1/06/99		
GR-1.1M	10/21/97	DM-4.3	4/29/99			MT-95 41M	4/25/94	870	3/27/01		
GR-1.2M	1/03/96	DM-4.4	4/29/99					877	4/13/99		
GR-1.3M	11/30/94					MT-101 60M	4/25/94	899	10/21/98		
GR-2.1M	4/14/98	MH-1.1	7/20/01			MT-105 10M	4/25/94				
GR-4.1M	11/30/94	MH-1.2	7/20/01			MT-105 11M	4/25/94	905	4/01/98		
GR-4.2M	10/21/97							906	5/05/98		
						MT-110 30M	3/01/96	907	10/21/98		
LA-1.1	7/28/00							908	11/07/00		
RM-1.1	4/29/99										
RM-4.2M	10/21/97										

100223 8AG\* DCN 8/17/01 RB,SAM,CEO,JDY,RC

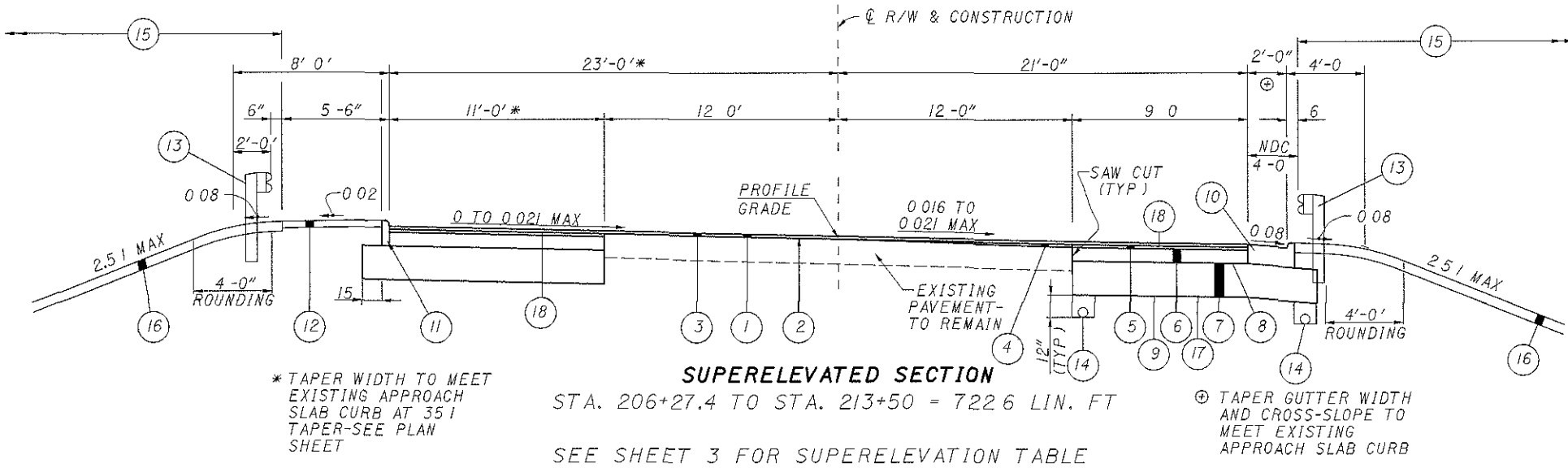
FEDERAL PROJECT NO

PID NO  
23457

CONSTRUCTION PROJECT NO

RAILROAD INVOLVEMENT  
NONE

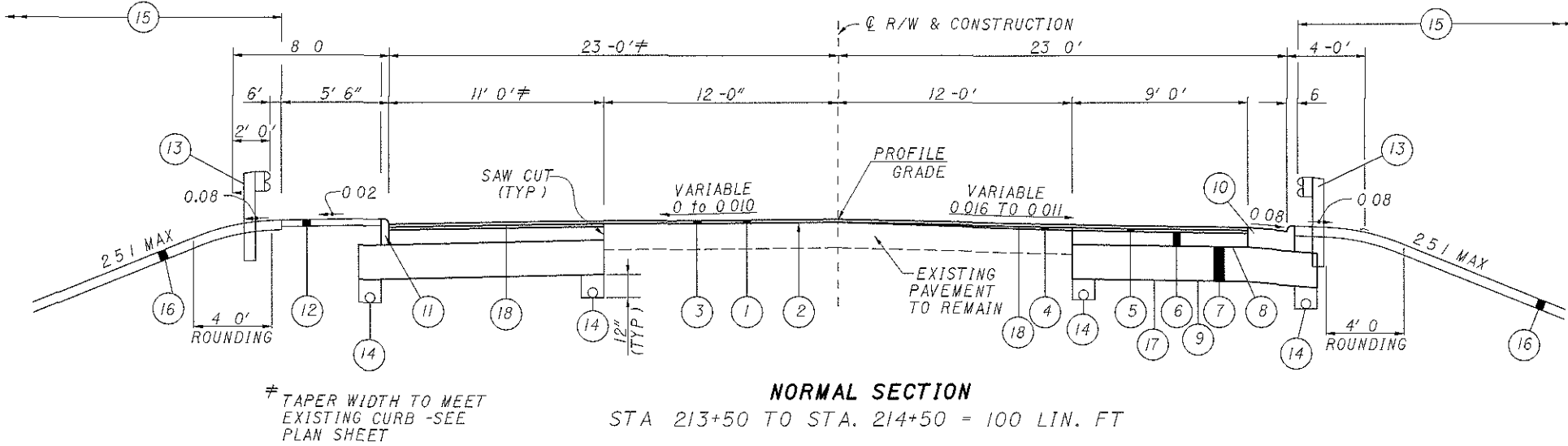
LOR-611-3.91



\* TAPER WIDTH TO MEET EXISTING APPROACH SLAB CURB AT 35:1 TAPER-SEE PLAN SHEET

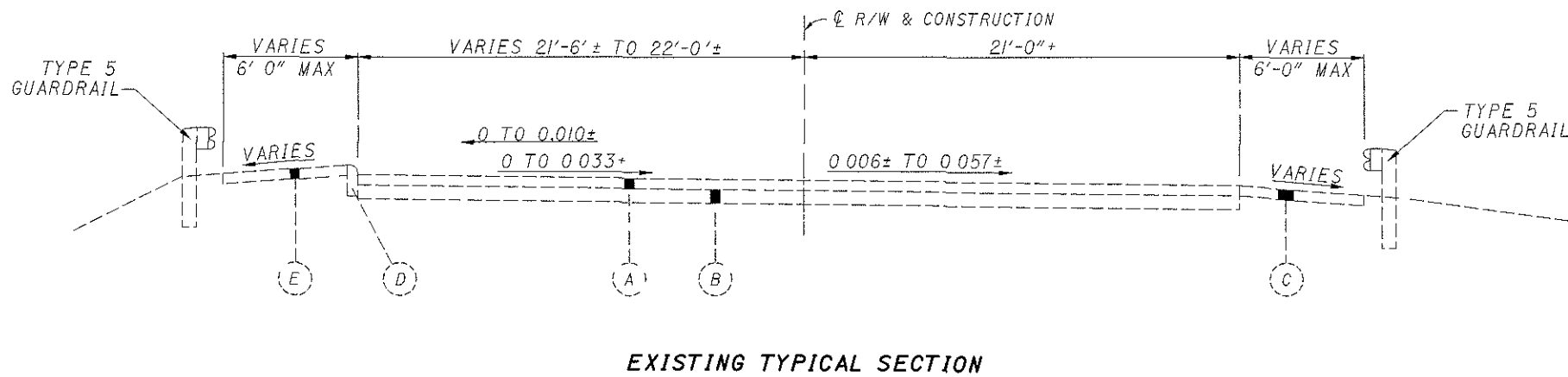
**SUPERELEVATED SECTION**  
 STA. 206+27.4 TO STA. 213+50 = 722.6 LIN. FT  
 SEE SHEET 3 FOR SUPERELEVATION TABLE

⊕ TAPER GUTTER WIDTH AND CROSS-SLOPE TO MEET EXISTING APPROACH SLAB CURB

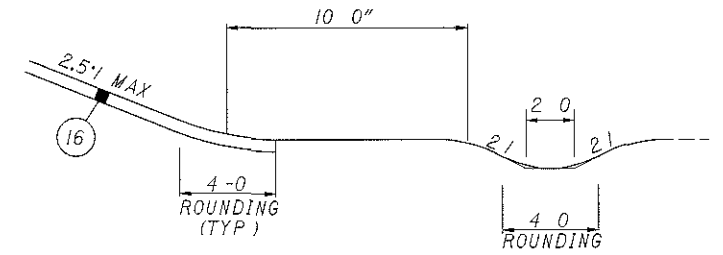


≠ TAPER WIDTH TO MEET EXISTING CURB -SEE PLAN SHEET

**NORMAL SECTION**  
 STA. 213+50 TO STA. 214+50 = 100 LIN. FT



**EXISTING TYPICAL SECTION**



**FILL SLOPE AND DITCH DETAIL**

**EXISTING LEGEND**

- (A) 11" ASPHALT CONCRETE
- (B) 8" WATERBOUND MACADAM BASE
- (C) 6" BITUMINOUS PAVED BERM
- (D) CONCRETE OR ASPHALT CURB
- (E) 4" CONCRETE OR ASPHALT WALK

**PROPOSED ITEM LEGEND**

- (1) 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28
- (2) 407 TACK COAT (SEE GENERAL NOTE)
- (3) 254 PAVEMENT PLANING, BITUMINOUS, VARIABLE THICKNESS (0" TO 2" MAX)
- (4) 448 0" MIN ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-28
- (5) 448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
- (6) 301 8" BITUMINOUS AGGREGATE BASE, PG64-22
- (7) 304 24" AGGREGATE BASE
- (8) 408 BITUMINOUS PRIME COAT (APPLIED AT THE RATE OF 0.4 GAL/SQYD)
- (9) 203 SUBGRADE COMPACTION AND PROOF ROLLING
- (10) 830 COMBINATION CURB AND GUTTER, TYPE 2, T = 11"
- (11) 830 CURB, TYPE 6
- (12) 608 4' CONCRETE WALK
- (13) 606 GUARDRAIL, TYPE 5
- (14) 605 6" SHALLOW PIPE UNDERDRAIN
- (15) 870 SEEDING AND MULCHING (SEE GENERAL NOTE)
- (16) 653 6' TOPSOIL FURNISHED AND PLACED
- (17) SPECIAL GEOTEXTILE FABRIC, TYPE D (SEE GENERAL NOTE)
- (18) 407 TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)

### SUPERELEVATION TABLE

LEFT SIDE							CENTERLINE CONTROL		RIGHT SIDE						
EDGE ELEVATION (FACE CURB)	ELEVATION CORRECTION	OFFSET FT.	CROSS SLOPE	ELEVATION	ELEVATION CORRECTION	OFFSET FT.	STATION	PROFILE GRADE	OFFSET FT.	ELEVATION CORRECTION	ELEVATION	CROSS SLOPE	OFFSET FT.	ELEVATION CORRECTION	EDGE ELEVATION (EDGE GUTTER)
650.80±	+0.13	22±	+0.006	650.74+	+0.07	12	206+27.4	650.67±	12	-0.06	650.61+	-0.005	21	0.11	650.56+
649.96	+0.18	22.65	+0.008	649.88	+0.10	12	206+50	649.78	12	0.10	649.68	-0.008	21	-0.17	649.61
649.04	+0.25	23	+0.011	648.92	+0.13	12	206+75	648.79	12	0.13	648.66	-0.011	21	0.24	648.55
648.09	+0.32	23	+0.014	647.94	+0.17	12	207+00	647.77	12	0.17	647.60	-0.014	21	0.30	647.47
647.19	+0.39	23	+0.017	647.00	+0.20	12	207+25	646.80	12	0.20	646.60	-0.017	21	0.36	646.44
646.40	+0.44	23	+0.019	646.19	+0.23	12	207+50	645.96	12	0.23	645.73	-0.019	21	0.42	645.54
645.75	+0.48	23	+0.021	645.52	+0.25	12	207+75	645.27	12	0.25	645.02	-0.021	21	-0.44	644.83
645.10	+0.48	23	+0.021	644.87	+0.25	12	208+00	644.62	12	-0.25	644.37	0.021	21	-0.44	644.18
644.36	+0.48	23	+0.021	644.13	+0.25	12	208+25	643.88	12	-0.25	643.63	0.021	21	-0.44	643.44
643.51	+0.48	23	+0.021	643.28	+0.25	12	208+50	643.03	12	0.25	642.78	-0.021	21	0.44	642.59
642.58	+0.48	23	+0.021	642.35	+0.25	12	208+75	642.10	12	-0.25	641.85	-0.021	21	0.44	641.66
641.65	+0.48	23	+0.021	641.42	+0.25	12	209+00	641.17	12	0.25	640.92	-0.021	21	0.44	640.73
640.71	+0.48	23	+0.021	640.48	+0.25	12	209+25	640.23	12	0.25	639.98	-0.021	21	0.44	639.79
639.74	+0.48	23	+0.021	639.51	+0.25	12	209+50	639.26	12	-0.25	639.01	-0.021	21	-0.44	638.82
638.74	+0.48	23	+0.021	638.51	+0.25	12	209+75	638.26	12	0.25	638.01	-0.021	21	0.44	637.82
637.73	+0.48	23	+0.021	637.50	+0.25	12	210+00	637.25	12	-0.25	637.00	0.021	21	-0.44	636.81
636.72	+0.48	23	+0.021	636.49	+0.25	12	210+25	636.24	12	-0.25	635.99	-0.021	21	0.44	635.80
635.72	+0.48	23	+0.021	635.49	+0.25	12	210+50	635.24	12	0.25	634.99	-0.021	21	0.44	634.80
634.72	+0.48	23	+0.021	634.49	+0.25	12	210+75	634.24	12	0.25	633.99	-0.021	21	-0.44	633.80
633.76	+0.48	23	+0.021	633.53	+0.25	12	211+00	633.28	12	-0.25	633.03	0.021	21	-0.44	632.84
632.80	+0.48	23	+0.021	632.57	+0.25	12	211+25	632.32	12	-0.25	632.07	-0.021	21	0.44	631.88
631.82	+0.48	23	+0.021	631.59	+0.25	12	211+50	631.34	12	-0.25	631.09	0.021	21	-0.44	630.90
630.80	+0.48	23	+0.021	630.57	+0.25	12	211+75	630.32	12	0.25	630.07	-0.021	21	0.44	629.88
629.74	+0.46	23	+0.020	629.52	+0.24	12	212+00	629.28	12	-0.24	629.04	0.020	21	-0.42	628.86
628.64	+0.40	23	+0.017	628.44	+0.20	12	212+25	628.24	12	-0.20	628.04	-0.017	21	0.36	627.88
627.94	+0.35	23	+0.015	627.77	+0.18	12	212+40.31	627.59	12	-0.19	627.40	-0.016	21	0.34	627.25 P.T.
627.50	+0.32	23	+0.014	627.35	+0.17	12	212+50	627.18	12	-0.19	626.99	-0.016	21	0.34	626.84
626.35	+0.24	23	+0.010	626.23	+0.12	12	212+75	626.11	12	0.19	625.92	-0.016	21	-0.34	625.77
625.19	+0.16	23	+0.007	625.11	+0.08	12	213+00	625.03	12	-0.19	624.84	0.016	21	0.34	624.69
624.04	+0.07	23	+0.003	624.01	+0.04	12	213+25	623.97	12	0.19	623.78	-0.016	21	-0.34	623.63
622.95	0	23	0	622.95	0	12	213+50	622.95	12	-0.19	622.76	0.016	21	-0.34	622.61
621.89	-0.07	23	-0.003	621.92	0.04	12	213+75	621.96	12	0.19	621.77	-0.016	21	-0.34	621.62
620.82	0.16	23	-0.007	620.90	-0.08	12	214+00	620.98	12	-0.19	620.79	0.016	21	-0.34	620.64
619.82	0.20	23	-0.009	619.91	-0.11	12	214+25	620.02	12	-0.17	619.85	-0.014	21	-0.29	619.73
618.89+	-0.21	22±	0.010	618.98+	-0.12+	12	214+50	619.10±	12	-0.13+	618.97+	-0.011	21	-0.24+	618.86+

SUPERELEVATION TABLE

LOR-611-3.91

**ROUNDING**

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS

ELECTRIC OHIO EDISON CO (DISTRIBUTION)  
6326 LAKE AVENUE  
ELYRIA, OHIO 44035  
(440) 324-0207

OHIO EDISON CO (TRANSMISSION)  
76 SOUTH MAIN STREET  
AKRON, OHIO 44308  
(330) 384-5180

TELEPHONE CENTURY TELEPHONE  
1230 WEST 19th STREET  
LORAIN, OHIO 44052  
(440) 244 8475

CABLE TV ADELPHIA CABLE  
1801 ELYRIA AVENUE  
LORAIN, OH 44052  
(440) 245 1353

THERE ARE NO KNOWN UNDERGROUND UTILITIES ON THIS PROJECT

**CONTINGENCY QUANTITIES**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED AS DIRECTED BY THE ENGINEER UNLESS AUTHORIZED BY THE ENGINEER THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT

**ELEVATION DATUM**

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM

**CONSTRUCTION LIMITS**

THE CONSTRUCTION LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE CONSTRUCTION LIMITS

**CONVERSION OF STANDARD CONSTRUCTION DRAWINGS**

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE

**CLEARING AND GRUBBING**

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING

**ITEM 203 - PROOF ROLLING**

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED THE CONNECTION SHALL BE MADE USING A W BEAM RAIL SPLICE AS SHOWN IN AASHTO M 180 PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS

**ITEM 870. SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDING AREAS

870, SEEDING AND MULCHING	20,203 SQ YD
870, SOIL ANALYSIS TEST	2 EACH
870, COMMERCIAL FERTILIZER	274 TON
870, AGRICULTURAL LIME	842 TON
870, WATER	55 M GAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT OF WAY LINES QUANTITY CALCULATIONS FOR ITEM 870, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS AND QUANTITIES ARE CARRIED ON THE CROSS SECTIONS

THE CLASS 3C CROWN VETCH MIXTURE SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1

**TEMPORARY SOIL EROSION AND SEDIMENT CONTROL**

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE PLACED BY THE CONTRACTOR WITH THE ENGINEER'S CONCURRENCE FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

877, TEMPORARY SEEDING AND MULCHING	4050 SQ YD
877, TEMPORARY PERIMETER FILTER FABRIC FENCE	2000 LIN FT
877, TEMPORARY DITCH CHECK FILTER FABRIC FENCE	60 LIN FT
877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	210 LIN FT
877 TEMPORARY SLOPE DRAINS	80 LIN FT
877, TEMPORARY DIKES	1600 CU YD
877, SEDIMENT REMOVAL	40 CU YD
601, ROCK CHANNEL PROTECTION TYPE C WITH FILTER	80 CU YD
870, COMMERCIAL FERTILIZER	0.18 TON
870, REPAIR SEEDING AND MULCHING	1010 SQ YD
870, WATER	11 M GAL

**EROSION CONTROL**

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ITEM 670 THE ENGINEER SHALL CHECK AND NON PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION IN ADDITION THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04

**BENCHING OF FOUNDATION SLOPES**

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09 NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09

100223 8ACN DGN 8/13/01 CAR,JDY

**ENVIRONMENTAL CONSIDERATIONS**

THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SHOULD BE UTILIZED DURING ALL PROJECT PHASES THEREFORE, THE SPECIFICATIONS, SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL AND STANDARD DRAWINGS WILL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION THE CONTRACTOR WILL BE REQUIRED TO FOLLOW THESE PRACTICES AS PART OF THE CONTRACT PLANS

INSTALLATION OF SLOPE DRAINS, PERIMETER FILTER FABRIC FENCE, AND DITCH CHECKS SHALL BE CONCURRENT WITH CLEARING AND GRUBBING AND/OR GRADING OPERATIONS

ALL REASONABLE ATTEMPTS SHOULD BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND

AREAS TO REMAIN DORMANT FOR MORE THAN 45 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH TEMPORARY SEEDING AND MULCHING EROSION CONTROL MATTING OR OTHER APPROPRIATE EROSION CONTROL MEASURES

THE PROJECT IS LOCATED WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE INDIANA BROWN BAT, A FEDERALLY ENDANGERED SPECIES THE SUMMER ROOSTING AND BROOD REARING HABITAT OF THIS SPECIES IS IN LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES TREE REMOVAL WILL ONLY BE DONE PRIOR TO APRIL 15TH OR AFTER SEPTEMBER 15TH WHEN THIS SPECIES IS NOT USING SUCH HABITAT

**ITEM 407, TACK COAT AND ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE**

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF

- 407, TACK COAT 0.10 GAL PER SQ YD
- 407, TACK COAT FOR INTERMEDIATE COURSE 0.05 GAL PER SQ YD

**ITEM SPECIAL - GEOTEXTILE FABRIC, TYPE D**

GEOTEXTILE FABRIC TYPE D AS PER 71209 SHALL BE PLACED ON THE FINISHED SUBGRADE SURFACE TO THE LIMITS OF THE 304 AGGREGATE BASE COURSE THE PIPE UNDERDRAINS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF THE GEOTEXTILE FABRIC

**ITEM 604 MONUMENTS**

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO 34

GENERAL NOTES

LOR-611-3.91



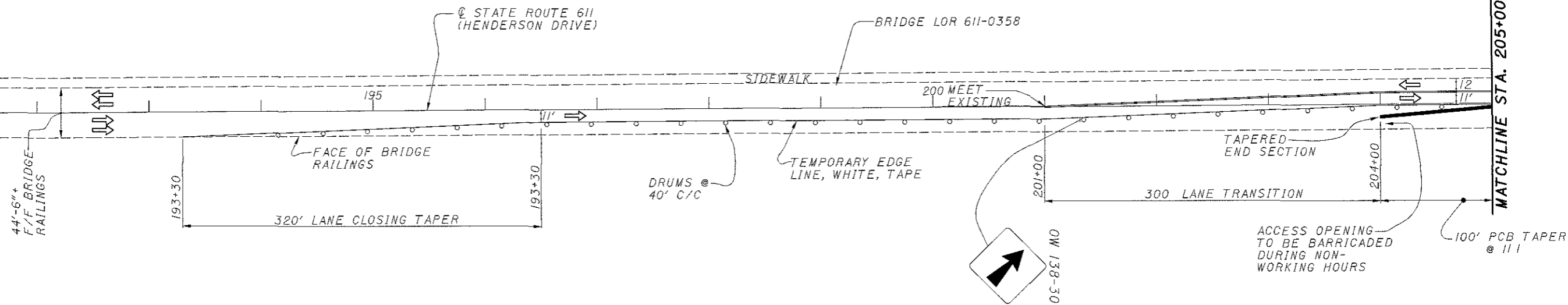






100223 8A MPBIDGN 8/13/01 JDY

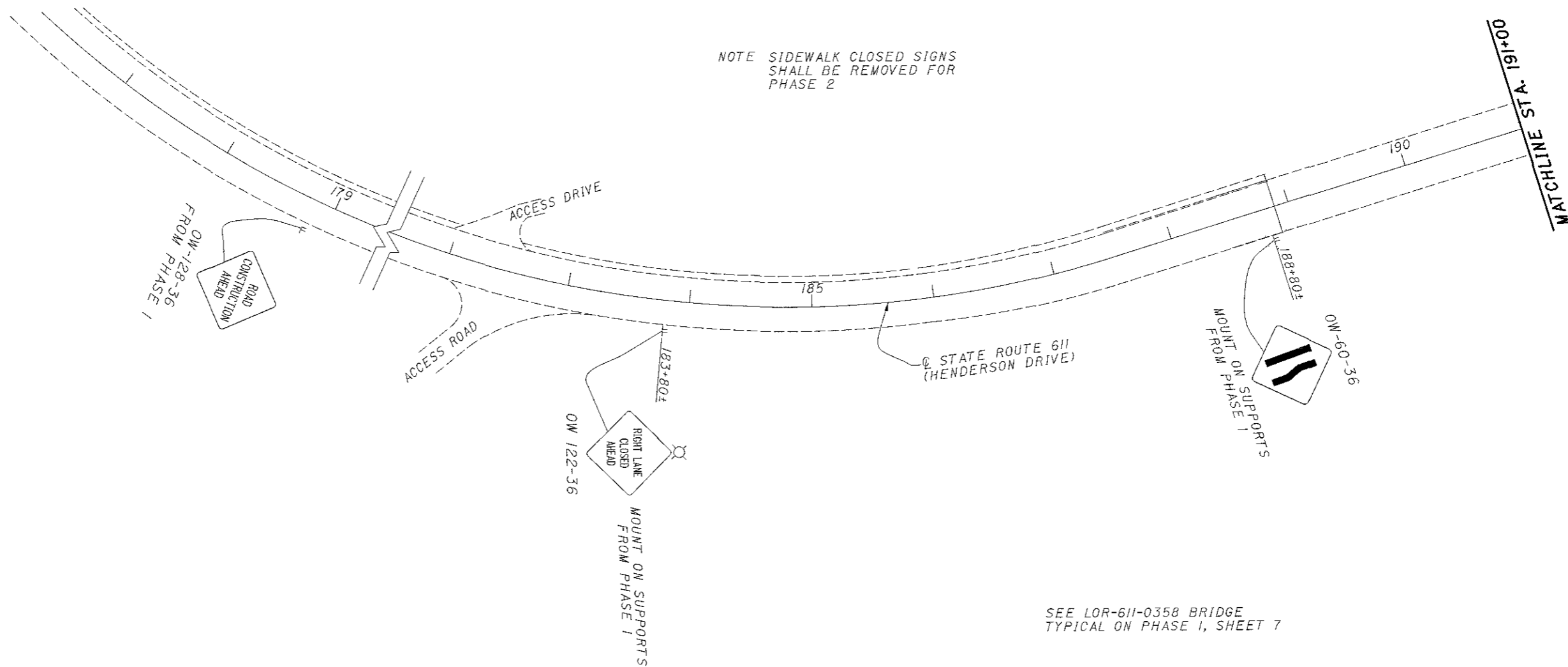
MATCHLINE STA. 191+00



SEE STANDARD DRAWING MT-95 31M & MT 95 41M FOR ADDITIONAL NOTES AND DETAILS

SEE LOR-611-0358 BRIDGE TYPICAL ON PHASE 1, SHEET 7

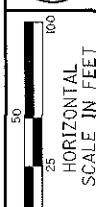
NOTE SIDEWALK CLOSED SIGNS SHALL BE REMOVED FOR PHASE 2



CALCULATED	PDG 6/01	CHECKED	T/M 8/01
0 50 100		HORIZONTAL SCALE IN FEET	

MAINTENANCE OF TRAFFIC PLAN PHASE 2

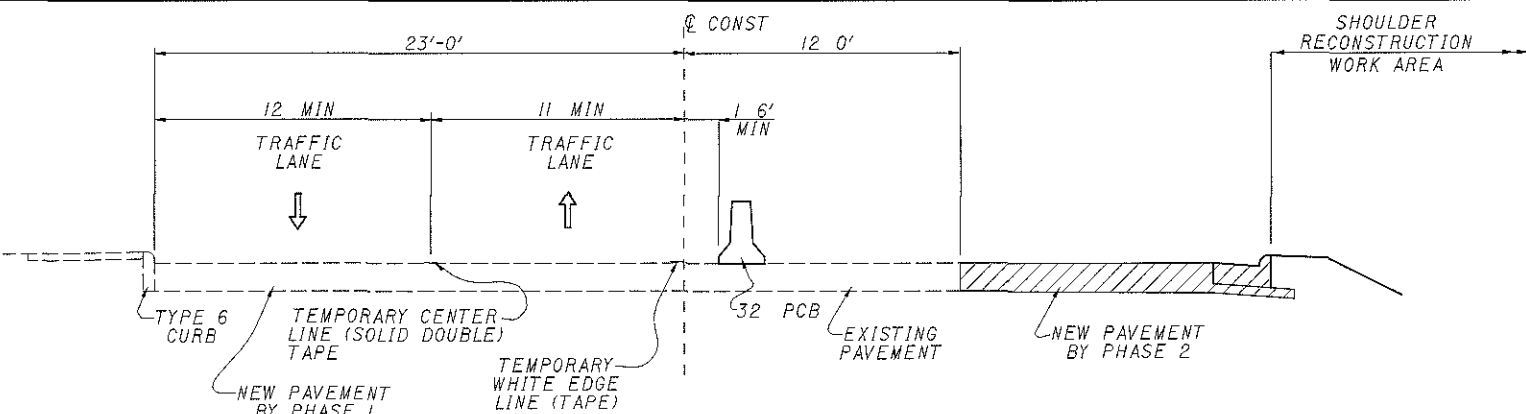
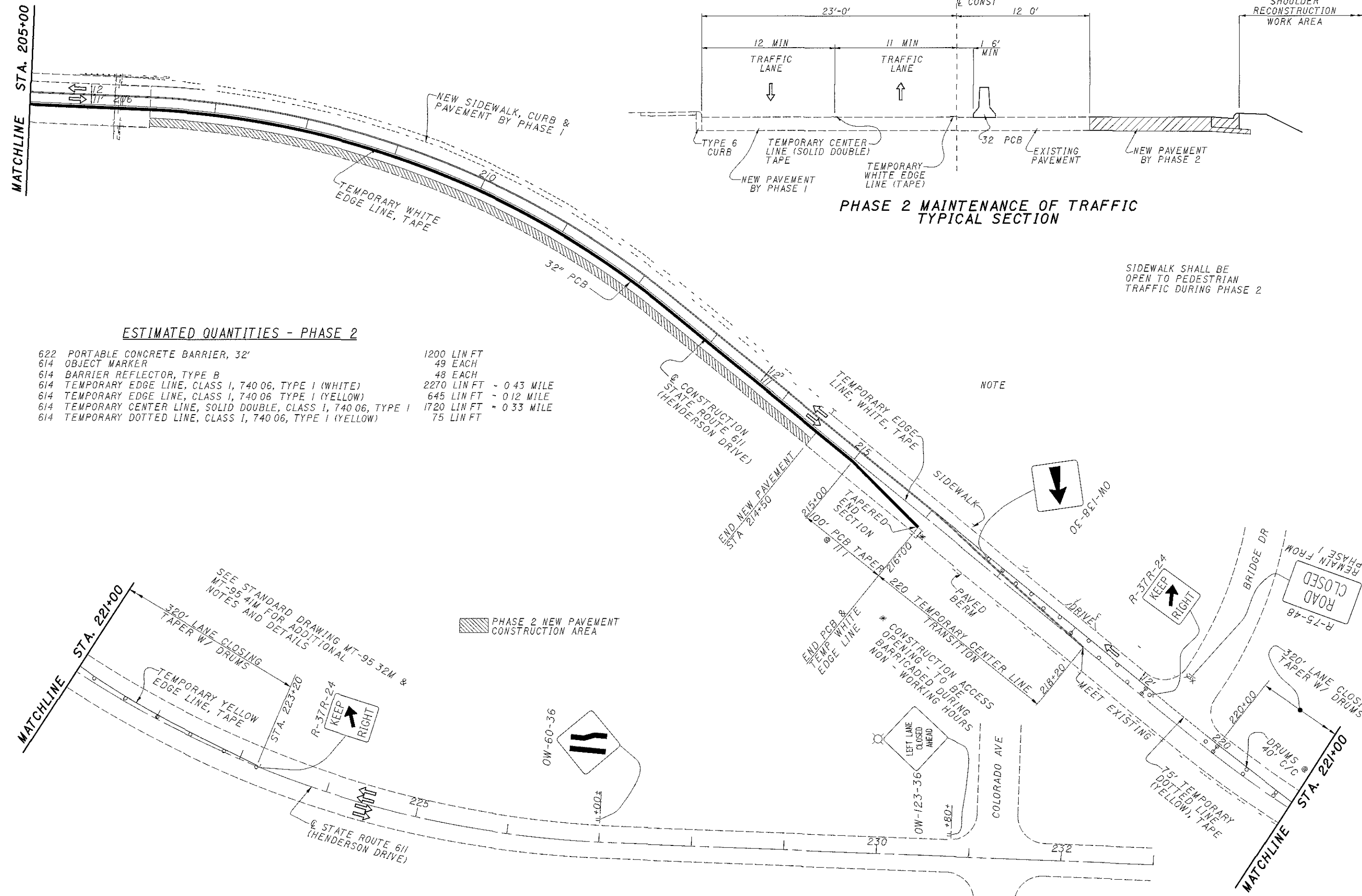
LOR-611-3.91



CALCULATED PDG 6/01  
CHECKED T/M 8/01

**MAINTENANCE OF TRAFFIC PLAN  
PHASE 2**

**LOR-611-3.91**



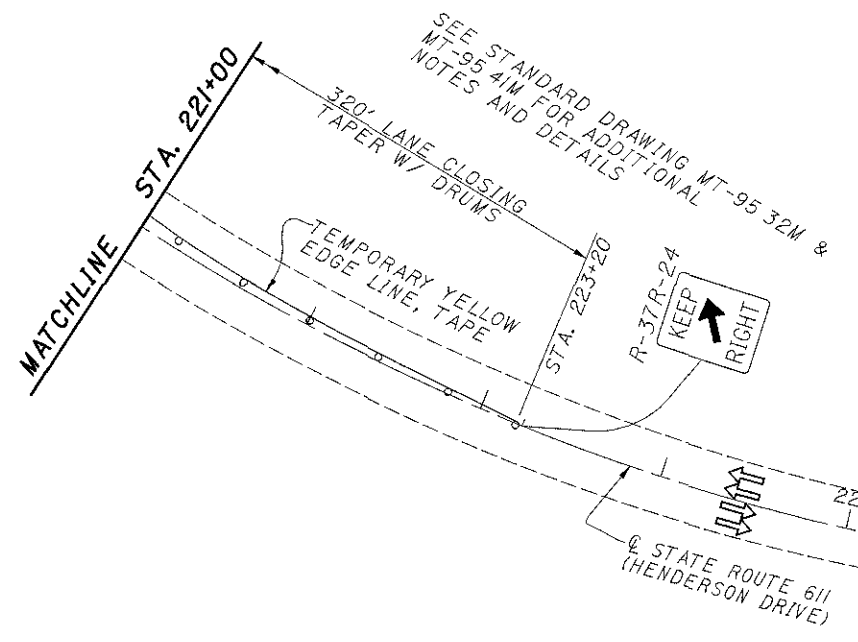
**PHASE 2 MAINTENANCE OF TRAFFIC  
TYPICAL SECTION**

SIDEWALK SHALL BE OPEN TO PEDESTRIAN TRAFFIC DURING PHASE 2

**ESTIMATED QUANTITIES - PHASE 2**

622 PORTABLE CONCRETE BARRIER, 32'	1200 LIN FT
614 OBJECT MARKER	49 EACH
614 BARRIER REFLECTOR, TYPE B	48 EACH
614 TEMPORARY EDGE LINE, CLASS 1, 740 06, TYPE 1 (WHITE)	2270 LIN FT = 0.43 MILE
614 TEMPORARY EDGE LINE, CLASS 1, 740 06 TYPE 1 (YELLOW)	645 LIN FT = 0.12 MILE
614 TEMPORARY CENTER LINE, SOLID DOUBLE, CLASS 1, 740 06, TYPE 1	1720 LIN FT = 0.33 MILE
614 TEMPORARY DOTTED LINE, CLASS 1, 740 06, TYPE 1 (YELLOW)	75 LIN FT

NOTE



PHASE 2 NEW PAVEMENT CONSTRUCTION AREA

100223 8A MPAL DGN 8/13/01 JDY

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4 & 5	6	13	14	15	17	19	21	31	33	34						
											<b>ROADWAY</b>					
LUMP											201	11000	LUMP		CLEARING AND GRUBBING	
				446	1232	1942					202	30000	3620	SQ FT	WALK REMOVED	
				73	224	353					202	32000	650	LIN.FT	CURB REMOVED	
				139	361	307					202	35100	807	LIN.FT	PIPE REMOVED, 24" AND UNDER	
				135	802	751	189				202	38000	1877	LIN FT	GUARDRAIL REMOVED	
				2	3	2					202	58100	7	EACH	CATCH BASIN REMOVED	
				1							202	58500	1	EACH	CATCH BASIN ABANDONED	
									36,814		203	12000	36,814	CUYD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
									125		203	20000	125	CUYD	EMBANKMENT	
									47,085		203	21000	47,085	CU.YD.	EMBANKMENT USING GRANULAR MATERIAL	
		1									203	45000	1	HOUR	PROOF ROLLING	
		2054									203	50000	2054	SQYD	SUBGRADE COMPACTION	
										3	604	38500	3	EACH	MONUMENT ASSEMBLY	
				124.5	802.3	710.7					606	13000	1637.5	LIN FT	GUARDRAIL, TYPE 5	
						1					606	25000	1	EACH	ANCHOR ASSEMBLY, TYPE A	
				1							606	26500	1	EACH	ANCHOR ASSEMBLY, TYPE T	
		4649									608	10000	4649	SQ FT	4' CONCRETE WALK	
		1888									653	10000	1888	CUYD	TOPSOIL FURNISHED AND PLACED	
											<b>EROSION CONTROL</b>					
80											601	32200	80	CUYD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
				42	42	42					670	40000	126	SQ.YD	DITCH EROSION PROTECTION	
2											870	00100	2	EACH	SOIL ANALYSIS TEST	
20,203											870	10000	20,203	SQ.YD	SEEDING AND MULCHING	
1010											870	14000	1010	SQYD	REPAIR SEEDING AND MULCHING	
2.92											870	20000	2.92	TON	COMMERCIAL FERTILIZER	
8.42											870	30000	8.42	TON	AGRICULTURAL LIME	
66											870	35000	66	M GAL	WATER	
4050											877	10000	4050	SQ.YD	TEMPORARY SEEDING AND MULCHING	
2000											877	30100	2000	LIN FT	TEMPORARY PERIMETER FILTER FABRIC FENCE	
60											877	30200	60	LIN.FT.	TEMPORARY DITCH CHECK FILTER FABRIC FENCE	
210											877	30300	210	LIN FT	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	
80											877	40000	80	LIN FT	TEMPORARY SLOPE DRAINS	
1600											877	55000	1600	CUYD	TEMPORARY DIKES	
40											877	60000	40	CUYD	SEDIMENT REMOVAL	
											<b>DRAINAGE</b>					
				20	22						603	00900	42	LIN FT	6" CONDUIT, TYPE B	
				20	26						603	01500	46	LIN FT	6' CONDUIT, TYPE F	
					66						603	04600	66	LIN FT	12" CONDUIT, TYPE C	
				173							603	05200	173	LIN FT	12 CONDUIT, TYPE F, 707 05 TYPE C	
				164	354	306					603	06100	824	LIN FT	15 CONDUIT, TYPE C	
				2	1						604	00400	3	EACH	CATCH BASIN, NO 3	
				1	2	1					604	01601	4	EACH	CATCH BASIN, NO 5, AS PER PLAN	32
						1					604	31500	1	EACH	MANHOLE, NO 3	
						1					604	36600	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				140	734	968					605	11100	1842	LIN FT	6" SHALLOW PIPE UNDERDRAIN	

CALCULATED PDG 6/01  
 CHECKED TM 8/01  
**GENERAL SUMMARY**  
**LOR-611-3.91**  
 11  
 37

100223 8A CC DGN 8/13/01 JUDY



LINE	CALCULATIONS	QUANTITY
<b>203 SUBGRADE COMPACTION</b>		
1	STA. 206+27.4 TO STA 206+62, LT 346 L.F x (10'25" + 11')/2 - 367.6 SQ FT	
2	STA 206+62 TO STA. 214+25, LT. 763 L.F x 11' - 8393.0 SQ FT	
3	STA 214+25 TO STA 214+50, LT. 25 L.F x (11' + 10')/2 - 262.5 SQ FT	
4	STA 206+27.4 TO STA. 214+50, RT 822.6 L.F x 9 - 7403.4 SQ FT	
5	STA 206+27.4 TO STA. 214+50, RT 822.6 L.F. x 2.5 - 2056.5 SQ FT	
6	SUM OF LINES 1 TO 5 18,483.0 SQ FT - 9 - 2053.7 SQ YD	
	USE	2054 SQ YD
<b>203 PROOF ROLLING</b>		
7	FROM LINE 6 2053.7 SQ YD - 3000 SQ YD / HOUR - 0.69 HOUR	
	USE	1 HOUR
<b>448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1</b>		
8	RESURFACING AREA - 822.6 L.F x 24 - 19,742.4 SQ FT	
9	SUM OF LINES 1 TO 4 16,426.5 SQ FT.	
10	TOTAL LINES 8 & 9 36,168.9 SQ.FT x 1 1/4" / 12 - 27 139.5 CUYD.	
	USE	140 CUYD
<b>448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2</b>		
11	SUM OF LINES 1 TO 4 - 16,426.5 SQ FT	
12	FROM LINE 11 16,426.5 SQ FT. x 1 3/4" / 12 - 27 - 88.7 CUYD	
	USE	89 CUYD
<b>301 8" BUTUMINOUS AGGREGATE BASE</b>		
13	FROM LINE 11 - 16,426.5 SQ FT x 8 / 12 - 27 = 405.6 CUYD	
	USE	406 CUYD
<b>304 24" AGGREGATE BASE</b>		
14	FROM LINE 6 - 2053.7 SQ YD	
15	ADD FOR EDGE COURSE, LT 822.6 L.F x 175' -9 - 160.0 SQ YD	
16	ADD FOR EDGE COURSE, RT 822.6 L.F x 125 -9 - 114.3 SQ YD	
17	SUM OF LINES 14 TO 16 2328.0 SQ YD x 24' / 36 - 1552.0 CUYD	
	USE	1552 CUYD
<b>408 BITUMINOUS PRIME COAT (@0.4 GAL/SQ.YD.)</b>		
18	FROM LINE 17 2328.0 SQ YD x 0.4 = 931.2 GAL	
	USE	931 GAL
<b>407 TACK COAT ( @ 0.1 GAL/SQ.YD.)</b>		
19	FROM LINE 8 19,742.4 SQ FT - 9 x 0.1 = 219.4 GAL	
	USE	220 GAL
<b>407 TACK COAT FOR INTERMEDIATE COURSE (@ 0.05 GAL/SQ.YD.)</b>		
20	FROM LINE 11 16,426.5 SQ FT. - 9 = 1825.2 SQ YD	
21	ADD RESURFACING AREA, LINE 8 19,742.4 SQ FT +9 - 2193.6 SQ YD	
22	DEDUCT PAVEMENT PLANING AREA (FROM TABLE, SHEET 14) - -1769.7 SQ YD.	
23	TOTAL LINES 20 TO 22 2249.1 SQ.YD x 0.05 - 112.5 GAL	
	USE	113 GAL
<b>830 COMBINATION CURB AND GUTTER, TYPE 2</b>		
24	STA 206+27.4 TO STA 214+50, RT - 822.6 LIN FT	
25	ADJUST FOR CURVE - -13.5 LIN FT	
26	SUM OF LINES 24 & 25 = 809.1 LIN FT	
	USE	809 LIN FT
<b>830 CURB, TYPE 6</b>		
27	STA. 206+27.4 TO STA 214+50, LT - 822.6 LIN.FT.	
28	ADJUST FOR CURVE - + 14.8 LIN FT	
29	TOTAL LINES 27 AND 28 - 837.4 LIN FT	
	USE	838 LIN FT
<b>608 4" CONCRETE WALK</b>		
30	STA 206+27.4 TO STA 206+40 BK, LT 12.6 LIN FT x (7'75" + 8'1")/2 - 99.9 SQ FT	
31	STA 206+40 AH, TO STA 206+62, LT 22 LIN FT. x (6'1" + 5'5")/2 = 127.6 SQ FT	
32	STA. 206+62 TO STA 214+50 , LT - 788 LIN FT x 5.5 - 4334.0 SQ FT	
33	ADJUST FOR CURVE +15.89 LIN FT x 5.5' - +87.4 SQ FT	
34	TOTAL LINES 30 TO 33 4648.9 SQ FT	
	USE	4649 SQ FT.
<b>SPECIAL GEOTEXTILE FABRIC, TYPE D</b>		
35	FROM LINE 17 - 2328.0 SQ YD	
	USE	2328 SQ.YD

LINE	CALCULATIONS	QUANTITY
<b>870 COMMERCIAL FERTILIZER</b>		
36	TOTAL 870 SEEDING AND 670 DITCH PROTECTION 20,203 SQ YD + 126 SQ.YD - 20,329 SQ.YD	
37	FROM LINE 36 20,329 SQ.YD x 9 x 30LB/1000 SQ FT + 2000 - 274 TON	
	TO GENERAL NOTE	274 TON
<b>870 AGRICULTURAL LIME</b>		
38	FROM LINE 36 20,329 SQ YD x 9 x 92 LB/1000 SQ FT + 2000 8.42 TON	
	TO GENERAL NOTE	8.42 TON
<b>870 WATER</b>		
39	FROM LINE 36 20,329 SQ YD x 9 x 300 GAL/1000 SQ FT + 1000 - 54.4 MGAL	
	TO GENERAL NOTE	55 MGAL
<b>642 CENTERLINE (SOLID DOUBLE) TYPE 2</b>		
40	STA 206+27.4 TO STA 214+50 - 822.6 LIN FT	
41	FROM LINE 40 822.6 LIN FT - 5280 - 0.16 MILE	
	USE	0.16 MILE
<b>642 LANE LINE, TYPE 2</b>		
42	FROM LINE 40 822.6 LIN FT x 2 - 1645.2 LIN FT	
43	FROM LINE 42 1645.2 LIN FT - 5280 - 0.31 MILE	
	USE	0.31 MILE
<b>626 BARRIER REFLECTOR, TYPE A</b>		
44	STA 206+42 TO STA 214+50.6+ LT - 812.50 LIN FT	
45	FROM LINE 44 812.50' - 100 - 8 SPACES = 9 EACH	
46	STA 206+21 TO STA 214+85± RT - 850 LIN.FT.	
47	FROM LINE 46. 850' - 100 - 9 SPACES = 10 EACH	
48	TOTAL LINES 45 & 47 - 19 EACH	
	USE	19 EACH

CALCULATIONS FOR  
653 TOPSOIL FURNISHED AND PLACED

STATION	END WIDTH FT. *	AREA SQ.YD.	STATION	END WIDTH FT. *	AREA SQ.YD.
205+15 AH	45		210+00	173	
205+50	162	403	210+50	162	931
205+80	225	645	211+00	150	867
		431	211+50	141	808
205+97.4 BK	221	-	212+00	128	747
205+97.4 AH	242	71	212+50	114	672
206+00	250	690	213+00	98	589
206+25	247	693	213+50	88	517
206+50	252	1361	213+80 BK	76	273
207+00	238	1292	213+80 AH	61	
207+50	227	1228	214+00	47	120
208+00	215	1161	214+50	36	231
208+50	203	1106	214+80 BK	26	103
209+00	195	1061			
209+50	187	994			
210+00	173				
			<b>TOTAL AREA</b>		16,994

\* SEE CROSS SECTIONS

653 VOLUME - 16,994 SQ.YD x 6' THICK + 36 - 1888 CUYD

CALCULATIONS

LOR-611-3.91

254 PAVEMENT PLANING & 448 INTERMEDIATE LEVELING COURSE TABLE

STATION	254 PAVEMENT PLANING, BITUMINOUS						448 INTERMEDIATE LEVELING COURSE, TYPE I							
	LEFT		Q	RIGHT		PLANING WIDTH LIN FT	PLANING AREA SQ YD	RIGHT				END AREA SQ FT	VOLUME CU YD	
	OFFSET	THICKNESS	THICKNESS	OFFSET	THICKNESS			OFFSET	THICKNESS	OFFSET	THICKNESS			
206+27.4 AH	12	1/4" ±	1/4" ±	12	1/4" ±	24	53.7	12	0	12'	0	0	0.18	
+50	12	3/4" ±	1 3/8" ±	6.8'	0	18.8	51.5	6.8'	0	12'	0.17'	0.44	0.45	
+75	12	0	1/4" ±	6.3'	0	18.3'	50.8	6.3'	0	12'	0.19'	0.54	0.50	
207+00	12	1/8" ±	1 3/8" ±	6.3'	0	18.3'	49.3	6.3'	0	12'	0.19'	0.54	0.63	
+25	12'	1/4" ±	1' ±	5.2'	0	17.2'	47.8	5.2'	0	12'	0.24'	0.82	0.76	
+50	12	1/2" ±	1 3/8" ±	5.2'	0	17.2	47.8	5.2	0	12	0.24'	0.82	0.76	
+75	12	1/2" ±	1 3/4" ±	5.2'	0	17.2	46.1	5.2	0	12	0.24	0.82	0.92	
208+00	12	1/4" ±	1 5/8" ±	4.0	0	16.0	44.2	4.0	0	12	0.29	1.16	1.14	
+25	12	1/2' ±	1 3/8" ±	3.8	0	15.8'	43.5	3.8	0	12'	0.32	1.31	1.25	
+50	12	1/4 ±	1' ±	3.5	0	15.5	43.8	3.5	0	12	0.33'	1.40	1.19	
+75	12	1/4' ±	7/8' ±	4.0	0	16.0'	44.4	4.0	0	12	0.29'	1.16	1.07	
209+00	12'	2" ±	7/8 ±	4.0	0	16.0	43.2	4.0	0	12	0.29	1.16	1.24	
+25	12	1 3/4 ±	1" ±	3.1	0	15.1'	41.9	3.1	0	12	0.34	1.51	1.40	
+50	12'	1/4' ±	1 1/8" ±	3.1'	0	15.1'	42.9	3.1	0	12'	0.34	1.51	1.31	
+75	12'	1/4 ±	1' ±	3.8'	0	15.8	46.9	3.8	0	12'	0.32	1.31	0.88	
210+00	12'	3/8' ±	3/4 ±	6.0'	0	18.0'	54.4	6.0	0	12	0.20	0.60	0.36	
+25	12'	7/8' ±	7/8 ±	9.2	0	21.2'	61.3	9.2	0	12'	0.13'	0.18	0.11	
+50	12'	7/8 ±	7/8" ±	10.9	0	22.9	63.6	10.9'	0	12	0.10'	0.06	0.06	
+75	12	1/4 ±	1 ±	10.9	0	22.9	63.6	10.9	0	12'	0.10	0.06	0.06	
211+00	12'	1/4' ±	1 1/8 ±	10.9	0	22.9	61.3	10.9'	0	12'	0.10	0.06	0.11	
+25	12	1/4' ±	1 1/4" ±	9.2'	0	21.2'	58.1	9.2'	0	12'	0.13	0.18	0.19	
+50	12	1/2" ±	1 1/4" ±	8.6	0	20.6'	61.3	8.6'	0	12'	0.14'	0.24	0.12	
+75	12'	1 3/8' ±	1 1/8 ±	11.5'	0	23.5'	66.0	11.5'	0	12	0.09	0.02	0.01	
212+00	12'	1 3/8' ±	1 1/8 ±	12'	1/4" ±	24'	66.7	12	0	12	0	0	0	
+25	12'	1' ±	1 1/8" ±	12'	1/4 ±	24	66.7	12'	0	12	0	0	0	
+50	12	7/8 ±	1 ±	12'	1 3/4 ±	24	66.7	12	0	12'	0	0	0	
+75	12'	7/8' ±	3/4 ±	12'	1/2 ±	24	66.7	12'	0	12'	0	0	0	
213+00	12	7/8' ±	5/8" ±	12'	1 1/2 ±	24	66.7	12	0	12	0	0	0	
+25	12'	1/4 ±	7/8 ±	12'	7/8" ±	24'	66.7	12'	0	12	0	0	0	
+50	12	7/8 ±	1 1/4' ±	12	1 3/8 ±	24	66.7	12'	0	12'	0	0	0	
+75	12	3/4' ±	1 3/8 ±	12'	1 1/8 ±	24	66.7	12'	0	12	0	0	0	
214+00	12'	7/8' ±	1 1/2 ±	12'	1 1/4 ±	24	66.7	12	0	12	0	0	0	
+25	12	1 ±	1 1/4 ±	12'	1 1/4 ±	24	66.7	12'	0	12'	0	0	0	
+50 BK	12	1 1/4" ±	1 1/4' ±	12'	1 1/4 ±	24'	66.7	12	0	12	0	0	0	
TOTAL 254 PAVEMENT PLANING							1769.7	TOTAL 448 INTERMEDIATE COURSE, TYPE I						14.47
USE							1770	USE						15

CALCULATED  
PDG 6/01  
CHECKED  
TM 8/01

CALCULATIONS

LOR-611-3.91

100223 8A CCLDGN 8/13/01 JPY

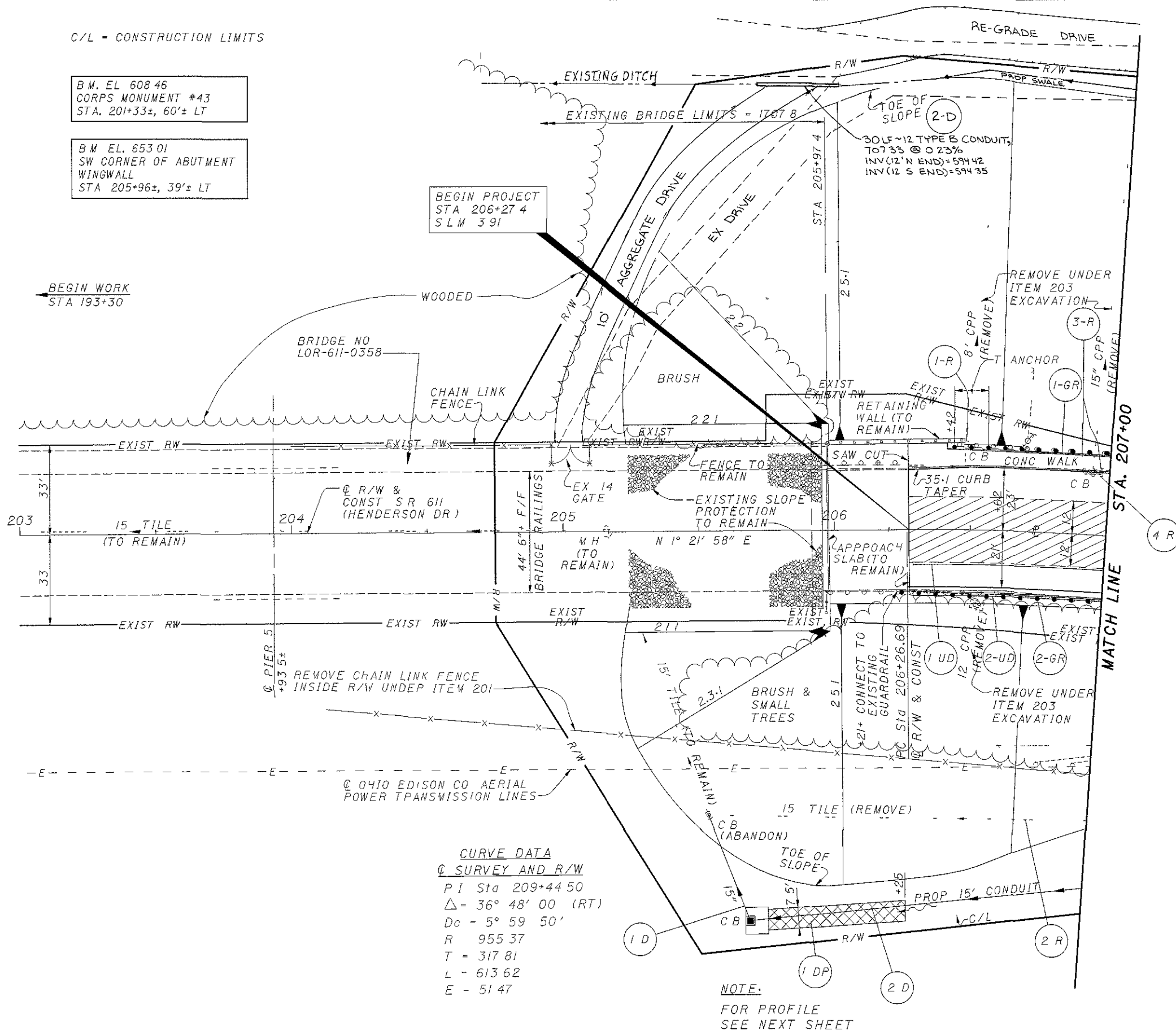
C/L = CONSTRUCTION LIMITS

B.M. EL. 608.46  
CORPS MONUMENT #43  
STA. 201+33±, 60'± LT

B.M. EL. 653.01  
SW CORNER OF ABUTMENT  
WINGWALL  
STA. 205+96±, 39'± LT

BEGIN PROJECT  
STA 206+27.4  
S L M 3.91

BEGIN WORK  
STA 193+30



**CURVE DATA**  
@ SURVEY AND R/W  
P I Sta 209+44.50  
 $\Delta = 36^\circ 48' 00''$  (RT)  
 $D_c = 5^\circ 59' 50''$   
R 955.37  
T = 317.81  
L = 613.62  
E = 51.47

NOTE:  
FOR PROFILE  
SEE NEXT SHEET

- RESURFACING AREA
- 670 DITCH EROSION PROTECTION

REF NO.	STATION		SIDE	ITEM	QUANTITY	GENERAL SUMMARY	
	FROM	TO				LINEAL FEET	AREA
1 D	205+52	205+68	RT	PIPE REMOVED UNDER	139		
2 D	205+68	207+00	LT/RT	CATCH BASIN ABANDONED	1		
1-DP	205+75	206+25	RT.	CATCH BASIN REMOVED	1		
1 R	206+47+	207+00	LT	CATCH BASIN REMOVED	1		
2 R	205+52	207+00	RT.	GUARDRAIL REMOVED	139		
1 UD	206+30	207+00	RT	GUARDRAIL REMOVED	139		
2-UD	206+30	207+00	RT	GUARDRAIL REMOVED	139		
1 GR	206+42	207+00	LT.	GUARDRAIL REMOVED	139		
2 GR	206+21+	207+00	RT	GUARDRAIL REMOVED	139		
3-R	206+27.4	207+00	LT	GUARDRAIL REMOVED	139		
4 R	206+94+	207+00	LT	GUARDRAIL REMOVED	139		
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					139	2	135
				PIPE REMOVED UNDER	139		
				CATCH BASIN ABANDONED	1		
				CATCH BASIN REMOVED	2		
				GUARDRAIL REMOVED	135		
				DITCH EROSION PROTECTION	42		
				12 CONDUIT TYPE B, 107.33	30		
				15 CONDUIT TYPE C	142		
				CATCH BASIN NO. 5, AS PER PLAN	1		
				6" SHALLOW PIPE UNDERDRAIN	70		
				6" SHALLOW PIPE UNDERDRAIN	70		
				GUARD RAIL, TYPE 5	124.5		
				ANCHOR ASSEMBLY, TYPE T	1		
				CURB REMOVED	7.3		
				WALK REMOVED	446		

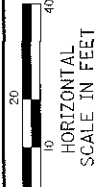
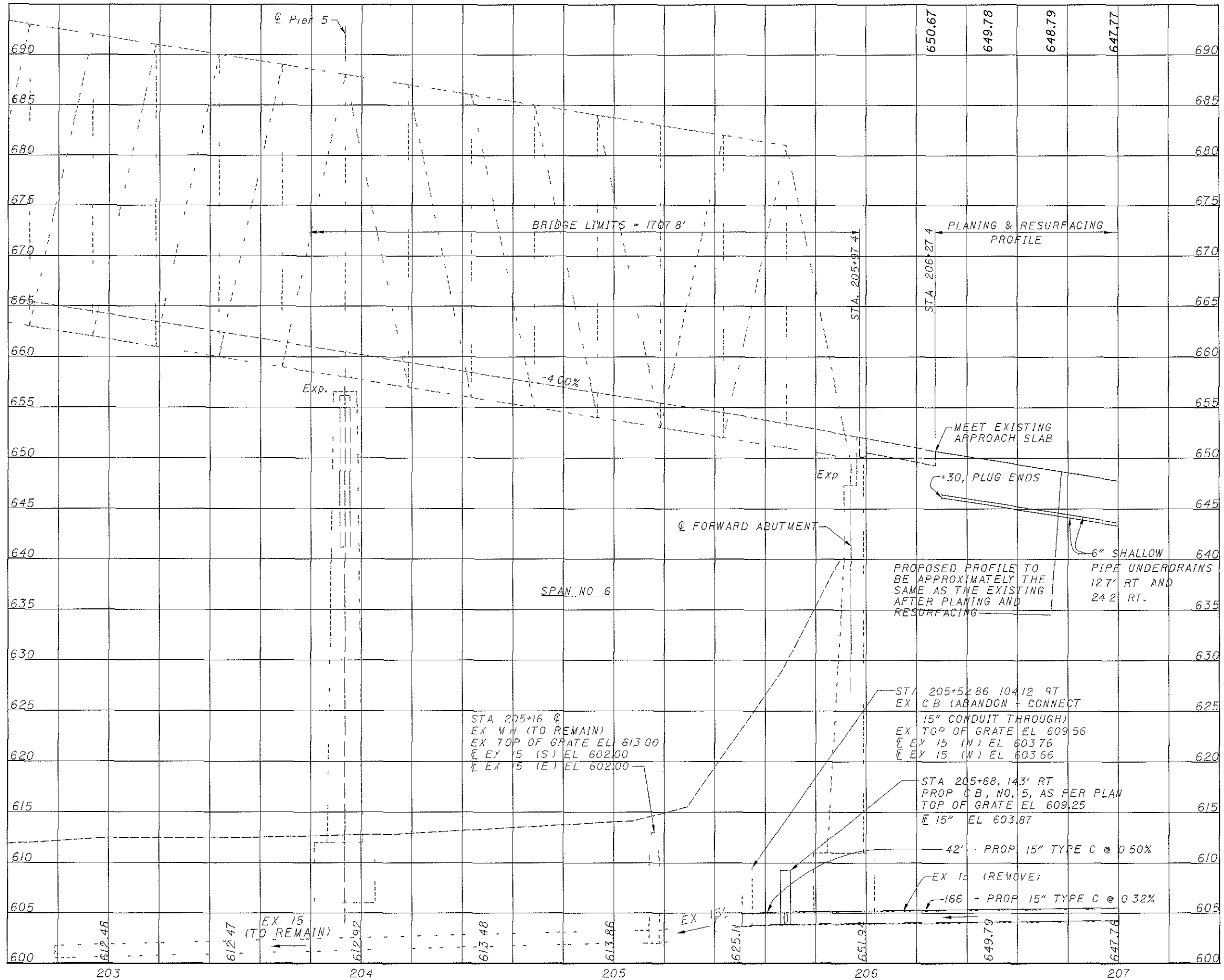


**PLAN**  
**STA. 203+00 TO STA. 207+00**

**LOR-611-3.91**

100223 8AP-0.DGN 8/27/01 RB,CEO,SAM,JDY,RC

20226PIDA.DGN 6/26/01 JDY



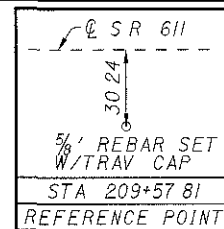
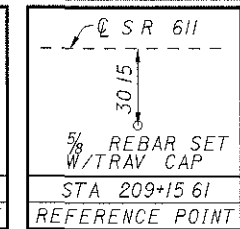
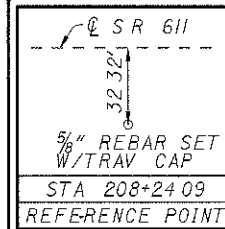
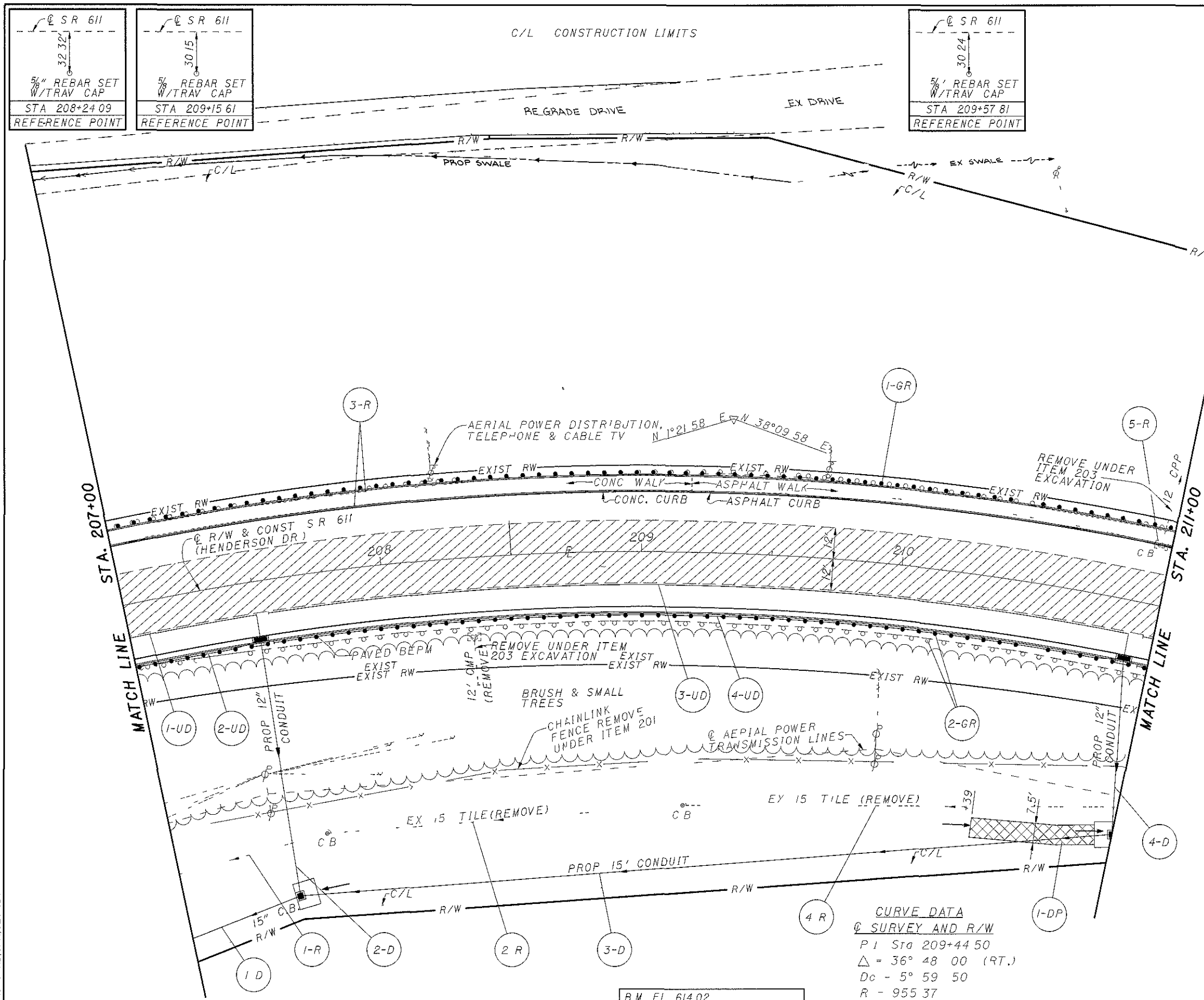
CALCULATED PDG 6/01  
 CHECKED TM 8/01

**PROFILE**  
**STA. 203+00 TO STA. 207+00**

**LOR-611-3.91**



100223 8AP11 DGN 8/13/01 RB,SAM,CEO JDY



**CURVE DATA**  
 @ SURVEY AND R/W  
 P1 Sta 209+44.50  
 $\Delta = 36^\circ 48' 00''$  (RT.)  
 Dc - 5° 59' 50"  
 R - 955.37  
 T - 317.81  
 L - 613.62  
 E = 51.47

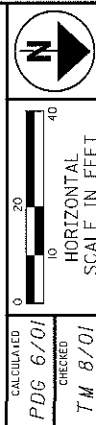
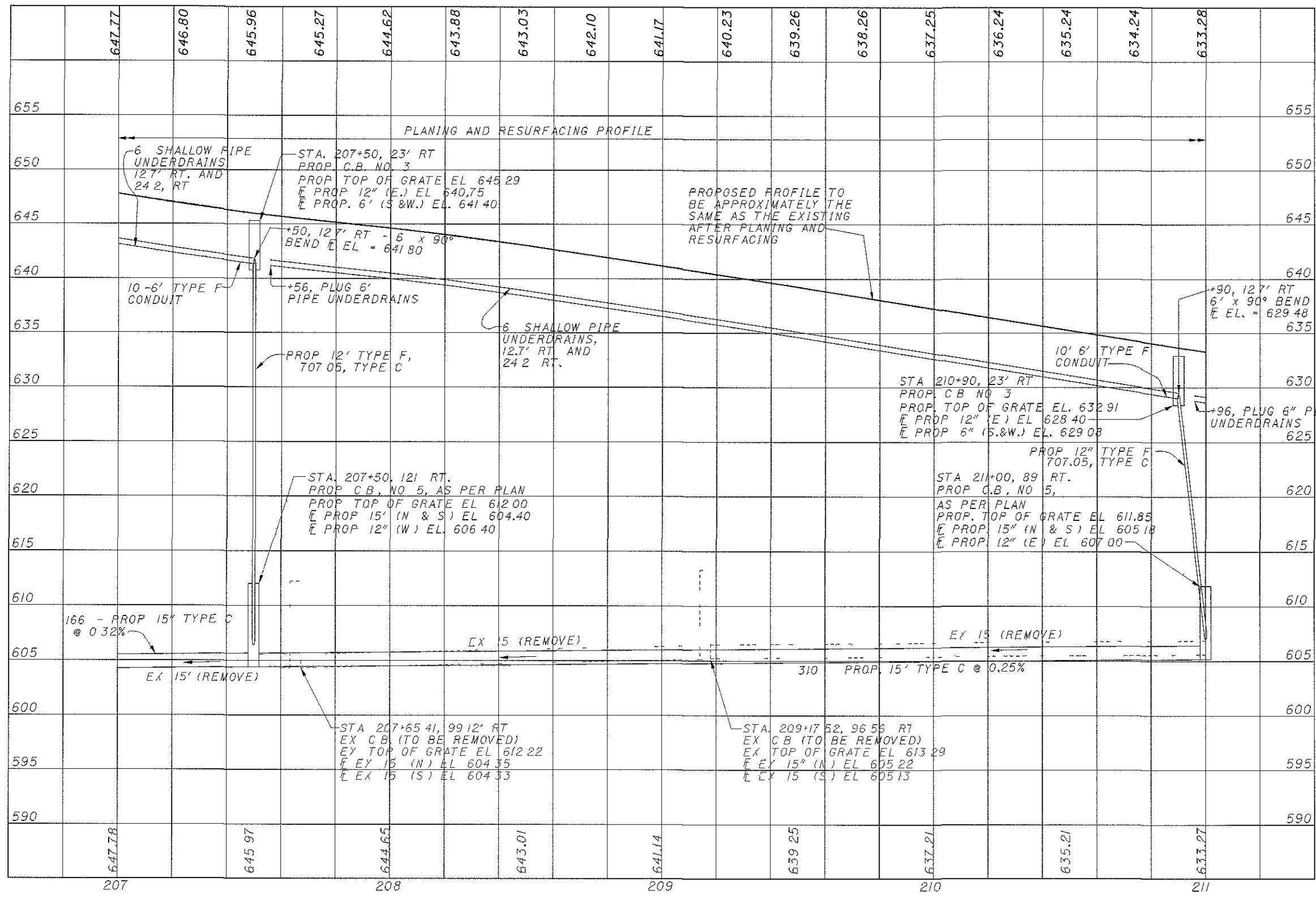
BM EL 614.02  
 5/8" REBAR W/TRVERSE CAP  
 STATION 210+85.11, 280.45' RT

RESURFACING AREA  
 DITCH EROSION PROTECTION

NOTE FOR PROFILE SEE NEXT SHEET

REF NO.	STATION		SIDE	CATCH BASIN REMOVED, 24' UNDER	PIPE REMOVED, 24' UNDER	GUARDRAIL 12' REMOVED	12' CONDUIT TYPE F, 707.05 TYPE C	6" CONDUIT TYPE C		DITCH EROSION PROTECTION	CATCH BASIN, NO 5, CATCH AS PER PLAN	6" SHALLOW PIPE UNDERDRAIN	GUARD RAIL, TYPE 5	WALK REMOVED	CURB REMOVED	
	FROM	TO						TYPE B	TYPE F							SOFT
1-D	207+00	207+50	RT					44								
2-D	207+50	207+50	RT				104									
3-D	207+50	211+00	RT				69	310								
4-D	210+90	211+00	RT													
1-DP	210+39	210+93	RT							41.7						
1-GR	207+00	211+00	LT.													
2-GR	207+00	211+00	RT													
1-R	207+00	207+65.4	RT													
2-R	207+65.4	209+17.5	RT													
3-R	207+00	209+19.2	LT													
4-R	209+17.5	211+00	RT													
5-R	210+96±	211+00	LT													
1-UD	207+00	207+50	RT.													
2-UD	207+00	207+50	RT													
3-UD	207+56	210+90	RT													
4-UD	207+56	210+90	RT													
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				3	361	802	173	354	20	20	2	734	802.30	1232	224	

100223 8A PII DGN 8/24/01 RB SAM JDY,RC

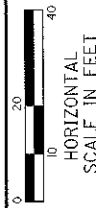
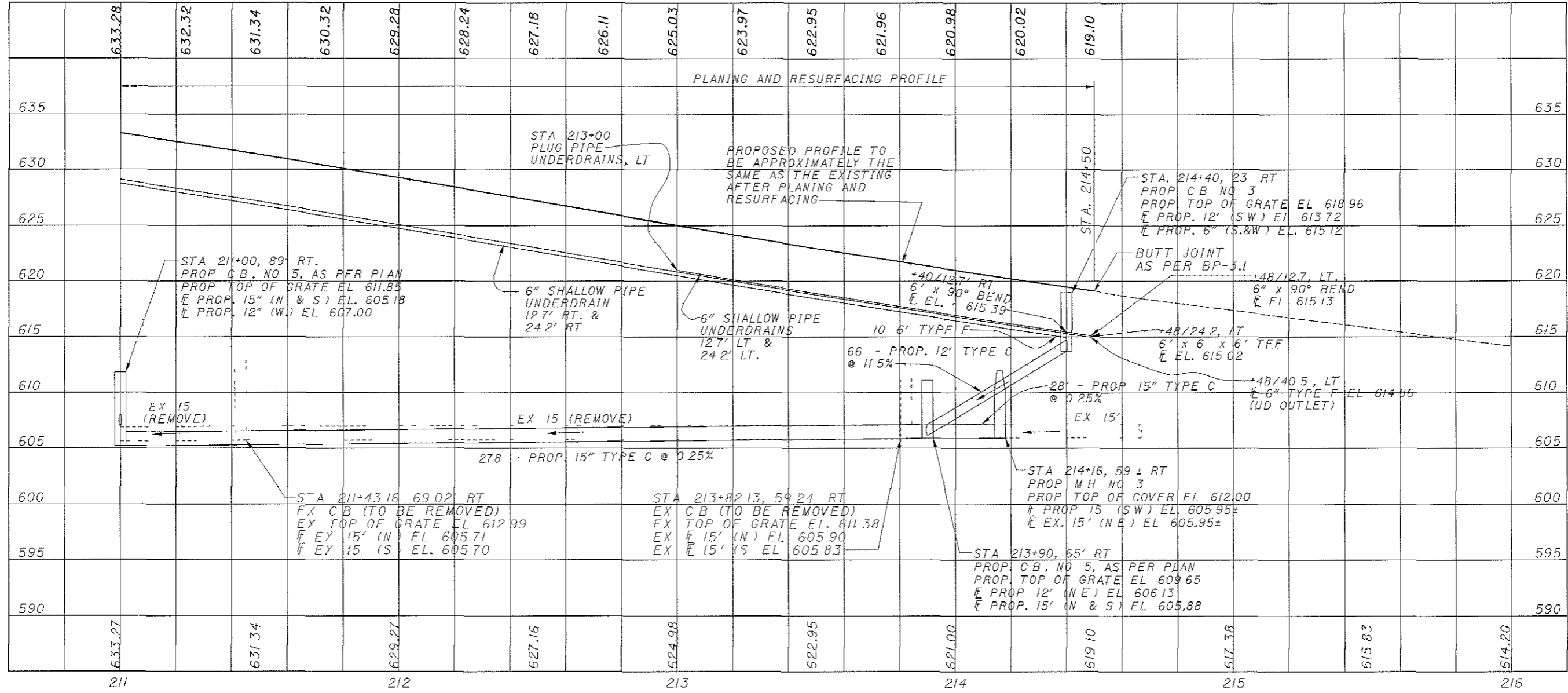


CALCULATED  
PDG 6/01  
CHECKED  
TM 8/01

**PROFILE**  
**STA. 207+00 TO STA. 211+00**

**LOR-611-3.91**



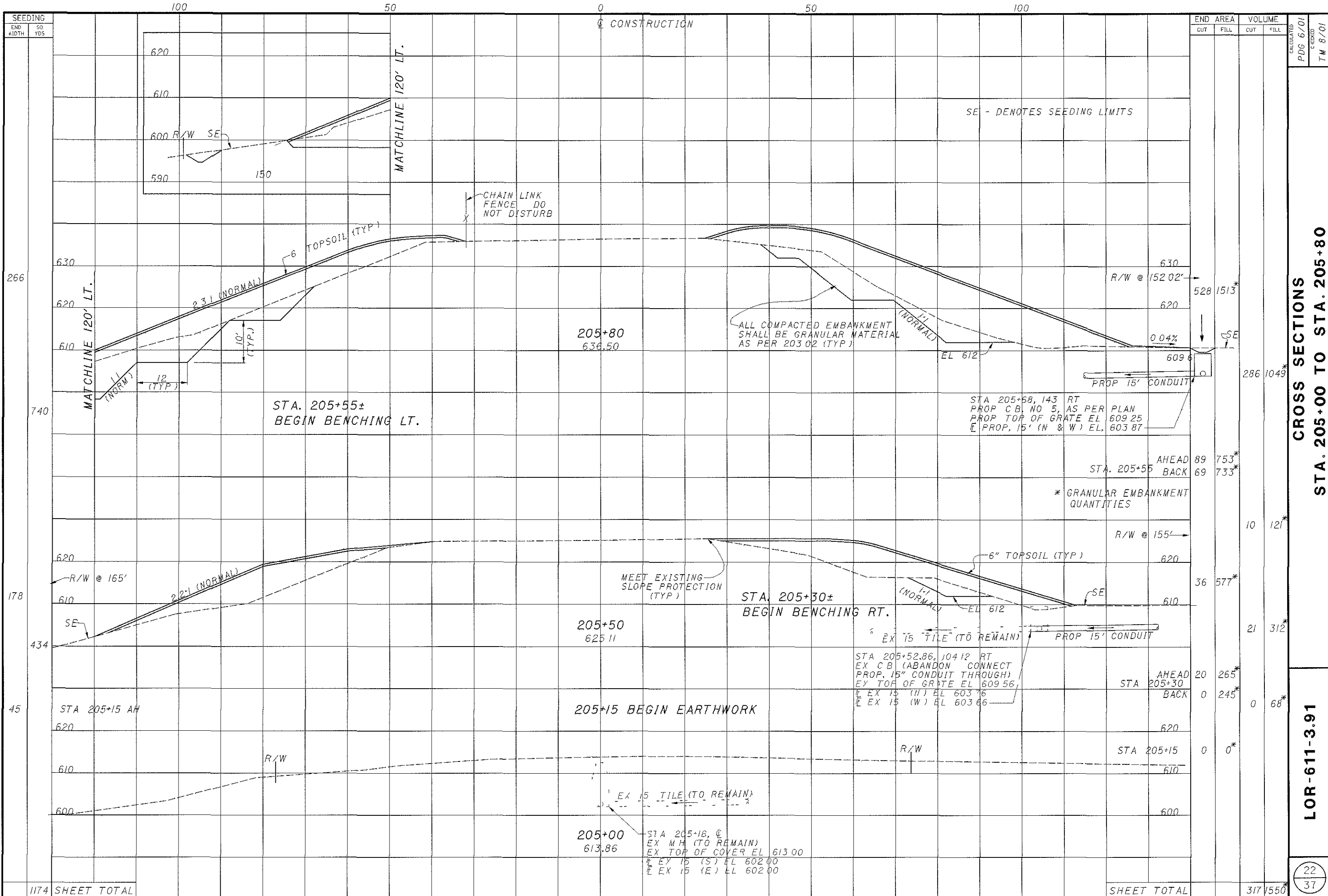


CALCULATED PDG 6/01  
 CHECKED TM 8/01

**PROFILE**  
**STA. 211+00 TO STA. 216+00**

**LOR-611-3.91**



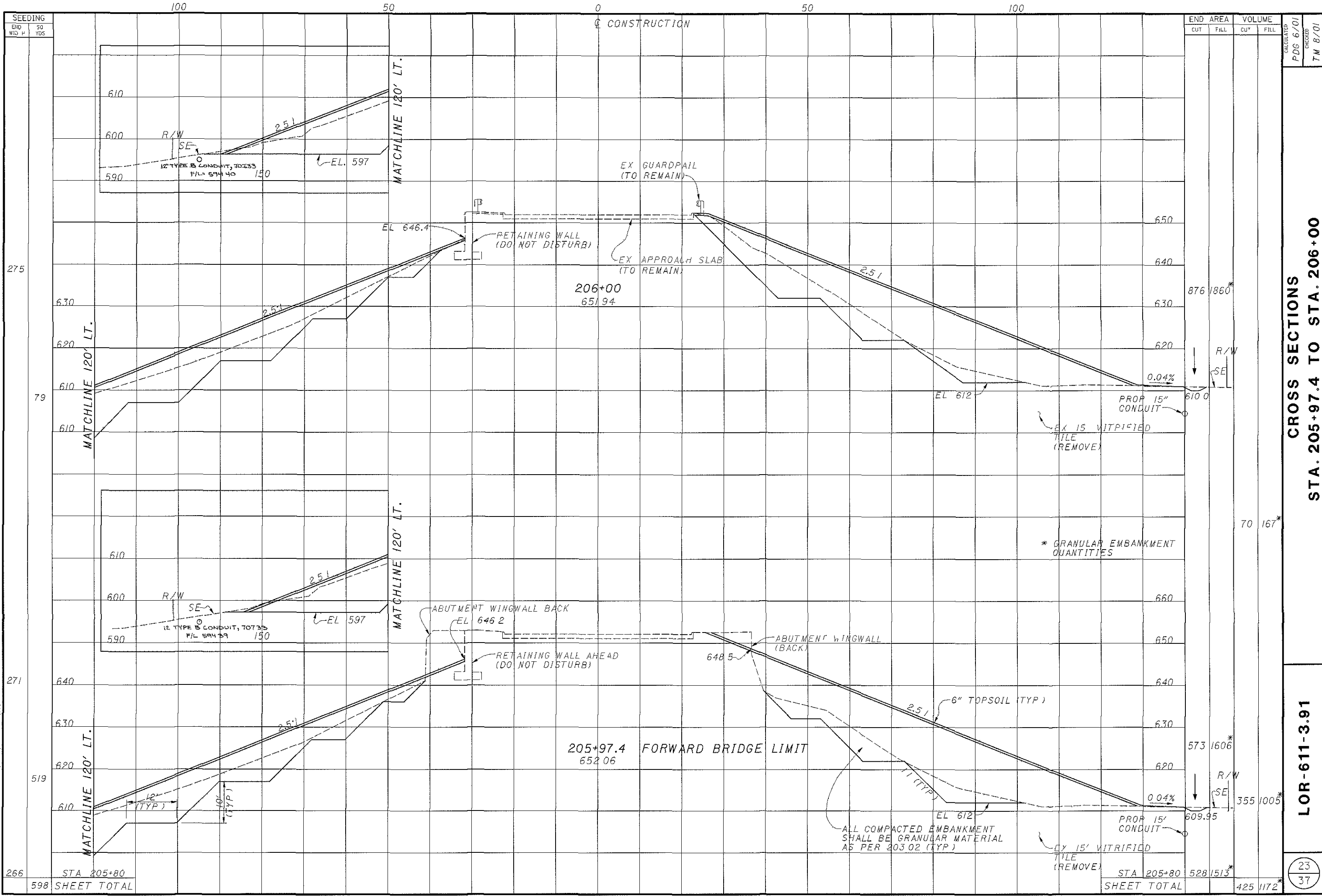


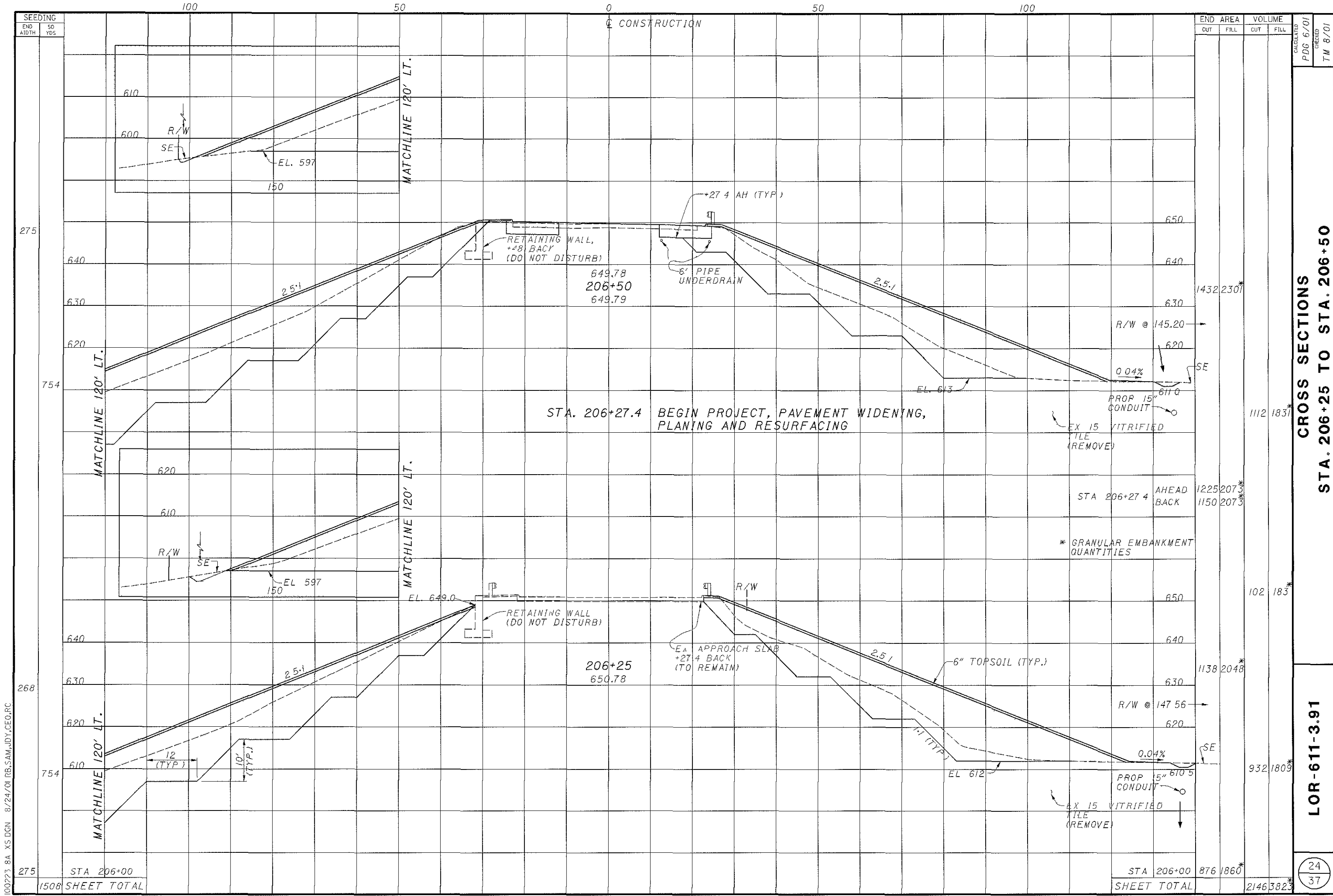
100223 BA XS DGN 8/24/01 RB SAM JDY CEO,PC

CROSS SECTIONS  
STA. 205+00 TO STA. 205+80

LOR-611-3.91

22  
37





CONSTRUCTION

STA. 206+27.4 BEGIN PROJECT, PAVEMENT WIDENING, PLANING AND RESURFACING

206+25  
650.78

649.78  
206+50  
649.79

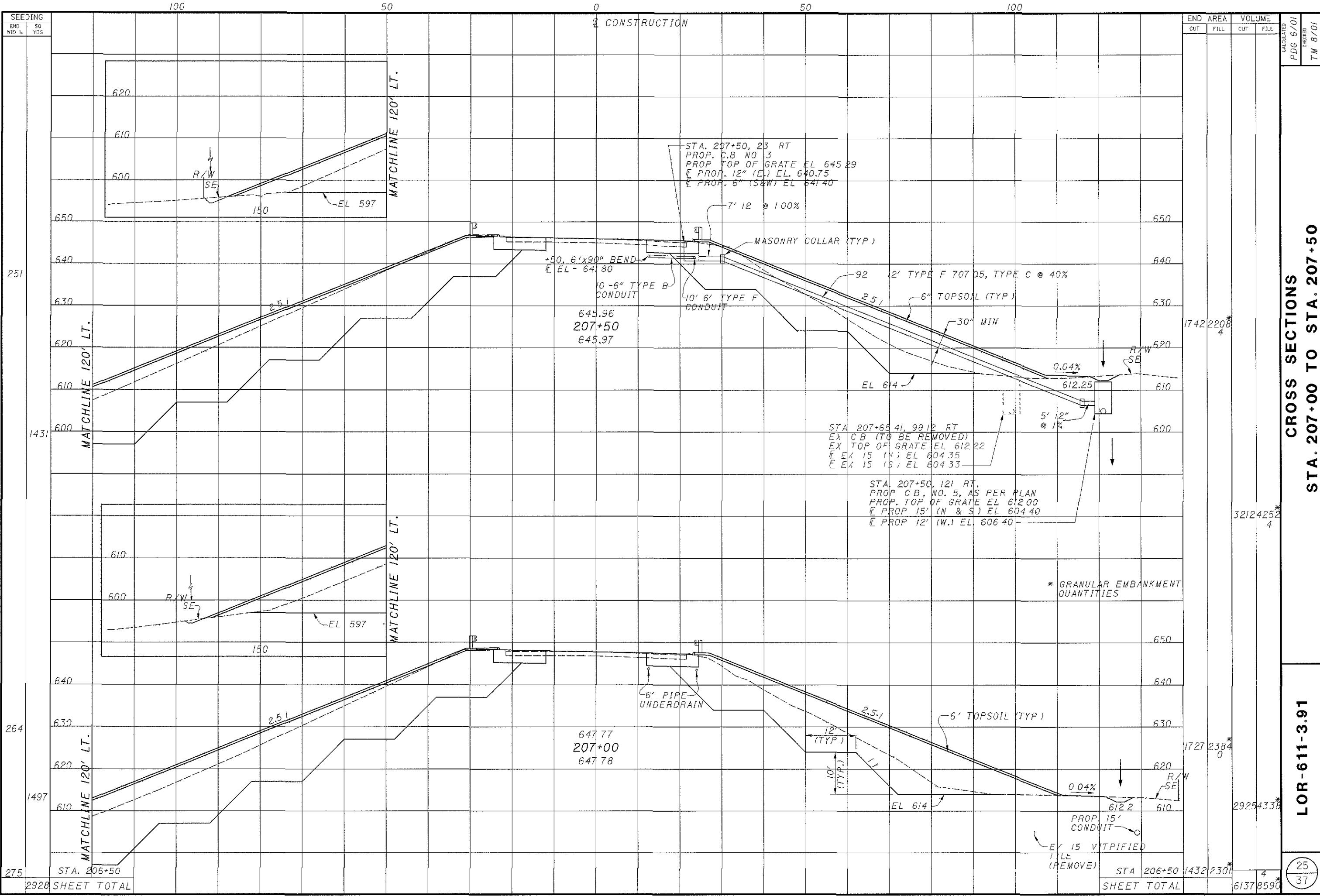
END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
1432.230*				
1112.183*				
1225.2073*				
1150.2073*				
102.183*				
1138.2048*				
932.1809*				
876.1860*				
1508 SHEET TOTAL			2146	3823

CROSS SECTIONS  
STA. 206+25 TO STA. 206+50

LOR-611-3.91

100273\_BA\_XS.DGN 8/24/01 RB,SAM,JDY,CEO,RC





CROSS SECTIONS  
STA. 207+00 TO STA. 207+50

LOR-611-3.91

25  
37

100223 BA XS DGN 8/24/01 REL SAM, JDY, CEO, PC

CALCULATED  
FDG 6/01  
CHECKED  
TM 8/01

END AREA	VOLUME
CUT	FILL
1742.2208	4
3212.4252	4
1727.2384	0
2925.4338	4
1432.2301	4
6137.8590	4

100

50

0

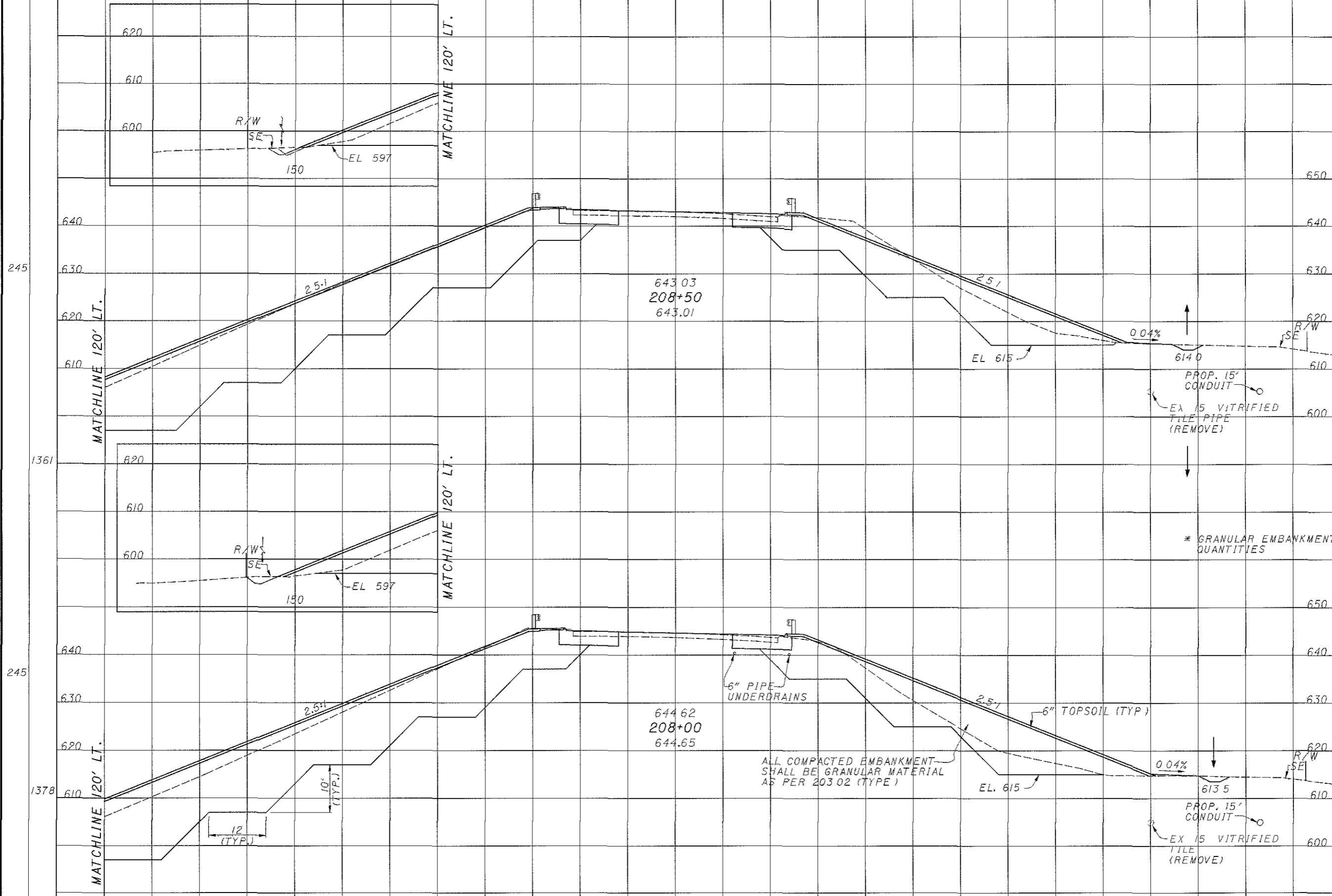
50

100

CONSTRUCTION

SEEDING	
END WDT#	SO YDS

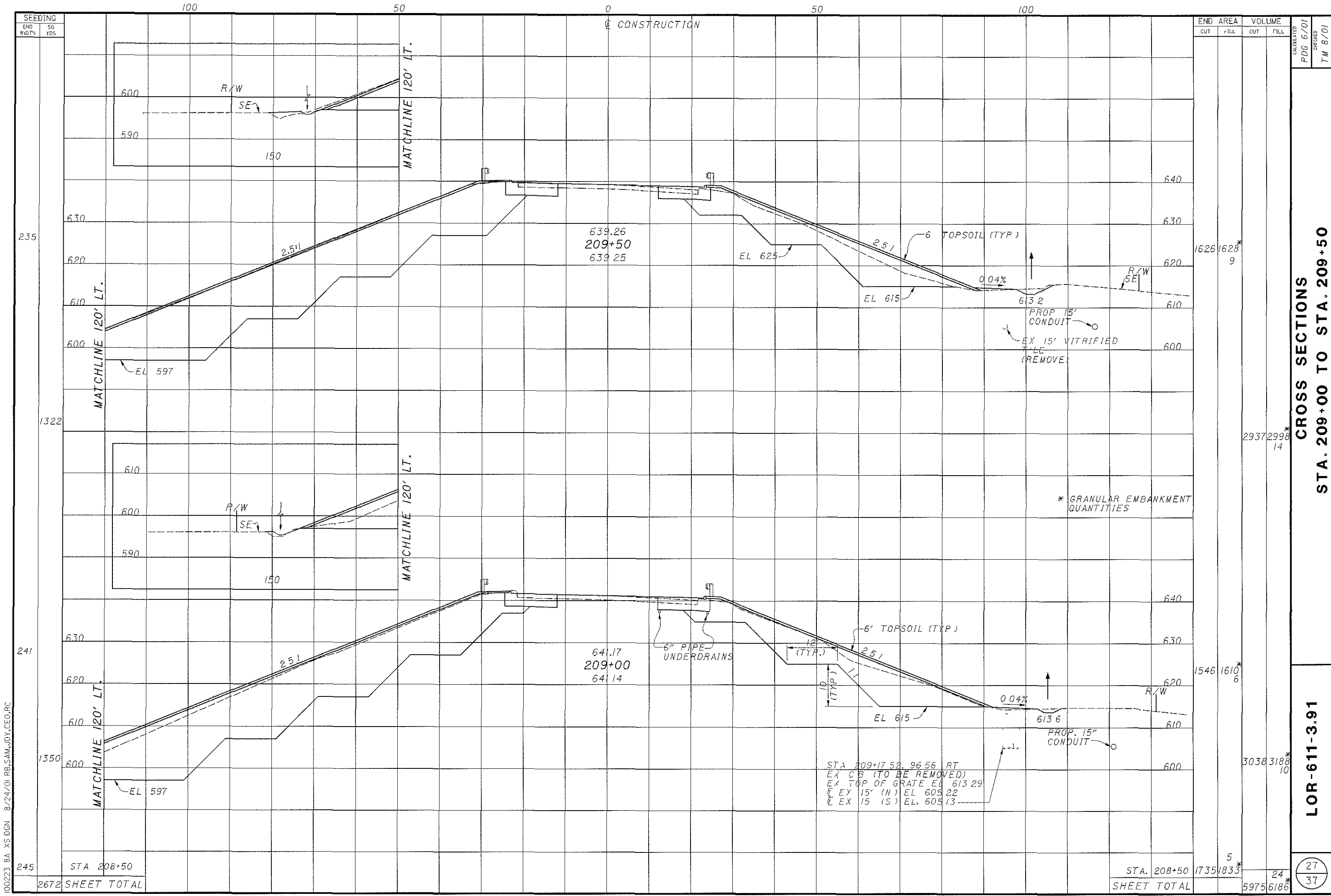
END AREA		VOLUME		CALCULATED PDG 6/01	CHECKED TM 8/01
CUT	FILL	CUT	FILL		



643.03  
208+50  
643.01

644.62  
208+00  
644.65

650	1735	183	5
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64			



SEEDING	
END WIDTH	SO YDS

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED  
PDG 6/01  
CHECKED  
TM 8/01

235

1626 1628  
9

1322

2937 2998  
14

241

1546 1610  
6

1350

3038 3188  
10

245

5  
1735 1835  
24

CROSS SECTIONS  
STA. 209+00 TO STA. 209+50

LOR-611-3.91

27  
37

00223 BA XS DGN 8/24/01 RB,SAM,JDY,CEO,RC

STA 208+50  
2672 SHEET TOTAL

STA. 208+50  
SHEET TOTAL

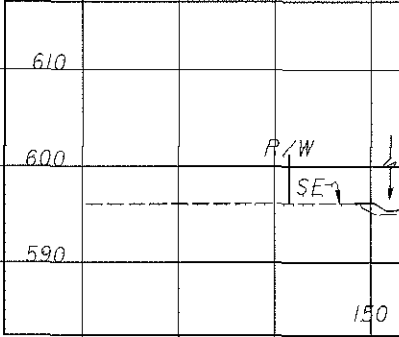
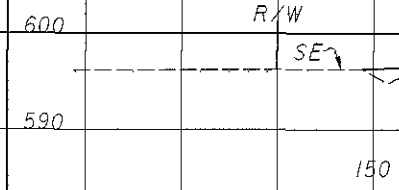
5  
1735 1835  
24  
5975 6186

STA 209+17.52, 96.56 RT  
EX CB (TO BE REMOVED)  
EX TOP OF GRATE EL 613.29  
EX 15" (N) EL 605.22  
EX 15" (S) EL 605.13

\* GRANULAR EMBANKMENT QUANTITIES

639.26  
209+50  
639.25

641.17  
209+00  
641.14



6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP 15" CONDUIT  
EX 15" VITRIFIED TILE (REMOVE)

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

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6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

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EL 605.22

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

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6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

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PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

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EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)

6" PIPE UNDERDRAINS

12" (TYP)

10" (TYP)

EL 615

EL 615

EL 605.22

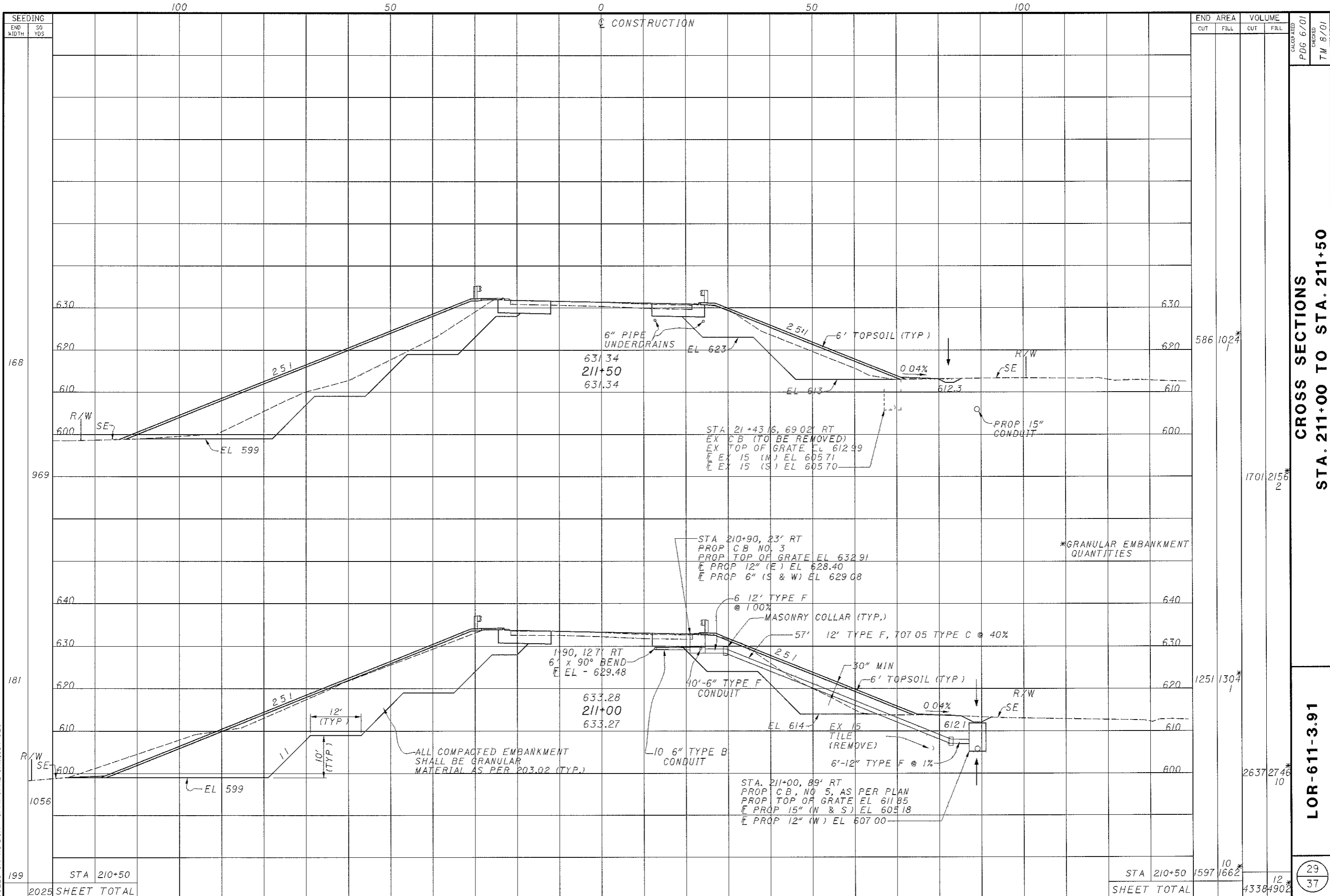
EL 605.13

PROP. 15" CONDUIT

6 TOPSOIL (TYP)

6' TOPSOIL (TYP)





CONSTRUCTION

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SO YOS	CUT	FILL	CUT	FILL		

CROSS SECTIONS  
STA. 211+00 TO STA. 211+50

LOR-611-3.91

\*GRANULAR EMBANKMENT QUANTITIES

ALL COMPACTED EMBANKMENT SHALL BE GRANULAR MATERIAL AS PER 203.02 (TYP.)

STA. 21+43 16.69 02 RT  
EX CB (TO BE REMOVED)  
EX TOP OF GRATE EL 612.99  
EX 15 (N) EL 605.71  
EX 15 (S) EL 605.70

STA 210+90, 23' RT  
PROP CB NO. 3  
PROP TOP OF GRATE EL 632.91  
PROP 12" (E) EL 628.40  
PROP 6" (S & W) EL 629.08

STA. 211+00, 89' RT  
PROP CB, NO 5, AS PER PLAN  
PROP TOP OF GRATE EL 611.85  
PROP 15" (N & S) EL 605.18  
PROP 12" (W) EL 607.00

586 1024

1701 2156

1251 1304

2637 2746

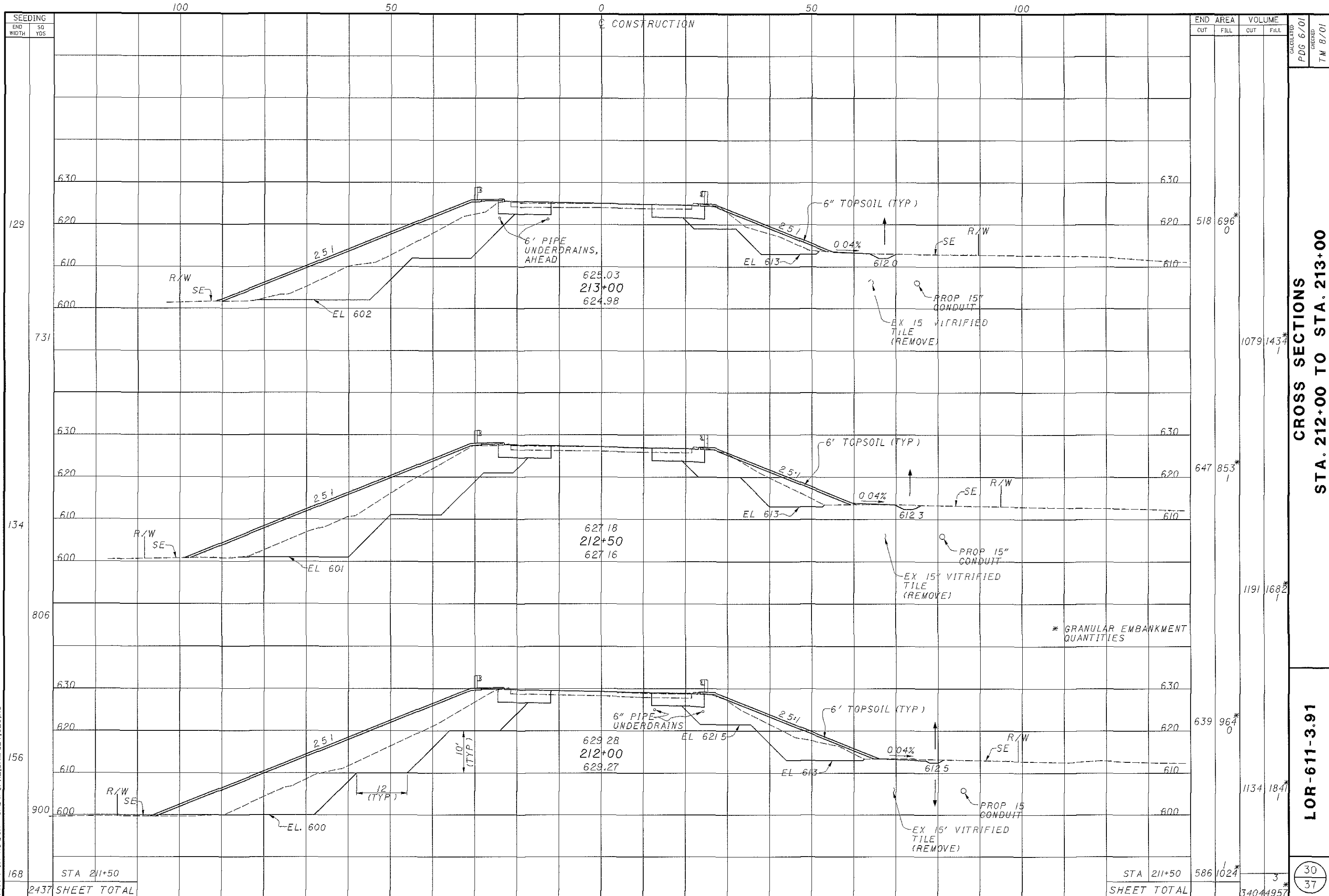
10 1662

12 4338

199 STA 210+50  
2025 SHEET TOTAL

10 1662  
12 4338  
SHEET TOTAL

100223 8A XS DGN 8/14/01 RB SAM JDY CJO



END WIDTH	SQ YDS	END AREA		VOLUME		CALCULATED PDG 6/01	CHECKED TM 8/01
		CUT	FILL	CUT	FILL		
129		518	696*		0		
731				1079	143*		
134		647	853*		1		
806				1191	1682*		
156		639	964*		0		
900				1134	184*		
168	STA 211+50	586	1024*		3		
2437	SHEET TOTAL			3404	4957*		

CROSS SECTIONS  
STA. 212+00 TO STA. 213+00

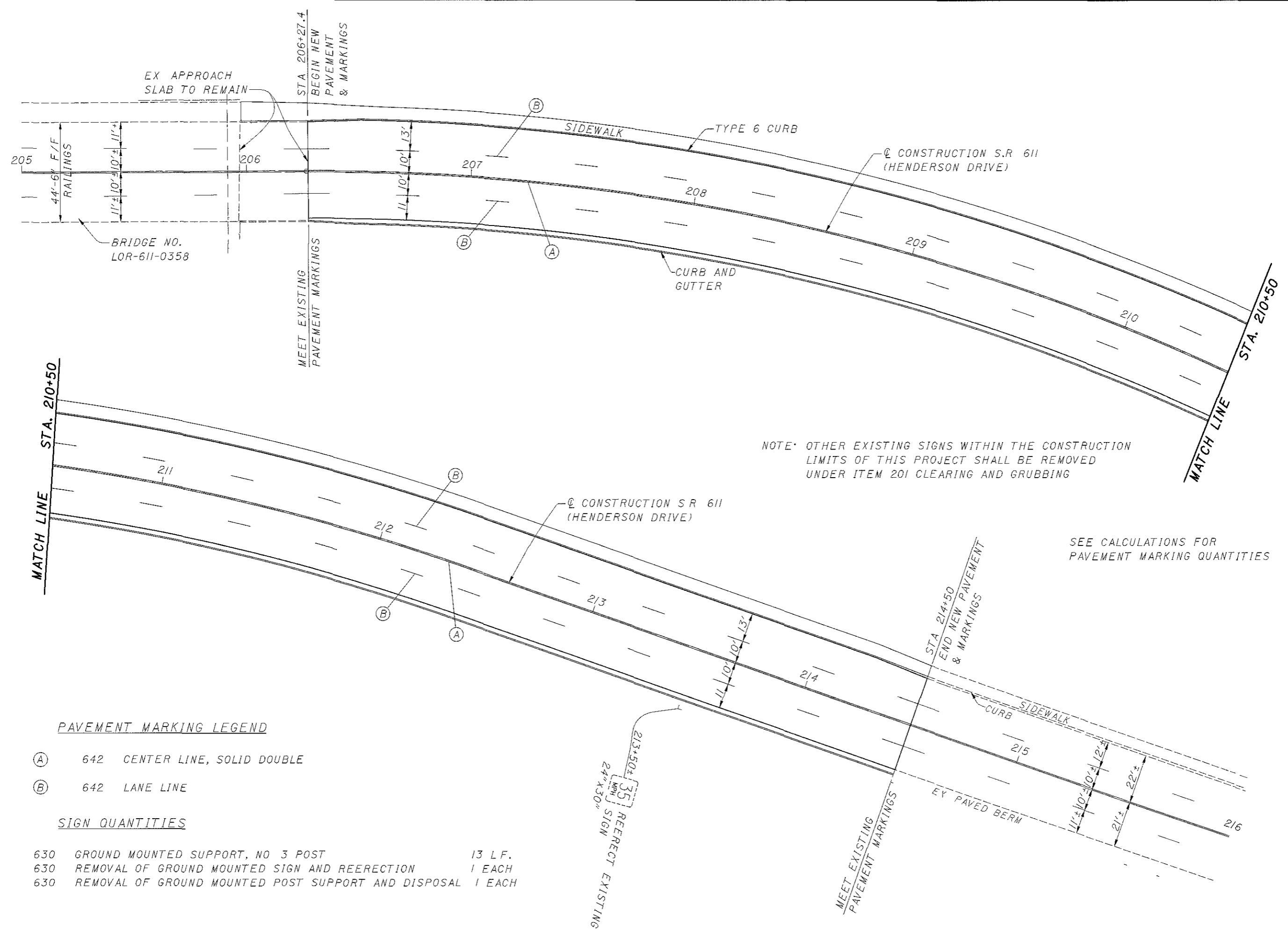
LOR-611-3.91

30  
37

100223.BA.XS.DGN 8/24/01 RB.SAM.JDY.CEO.PC

\* GRANULAR EMBANKMENT QUANTITIES





PAVEMENT MARKING LEGEND

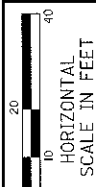
- (A) 642 CENTER LINE, SOLID DOUBLE
- (B) 642 LANE LINE

SIGN QUANTITIES

- 630 GROUND MOUNTED SUPPORT, NO 3 POST 13 L.F.
- 630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION 1 EACH
- 630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL 1 EACH

100223 8A IPLDGN 6/12/01 CEO, JUDY

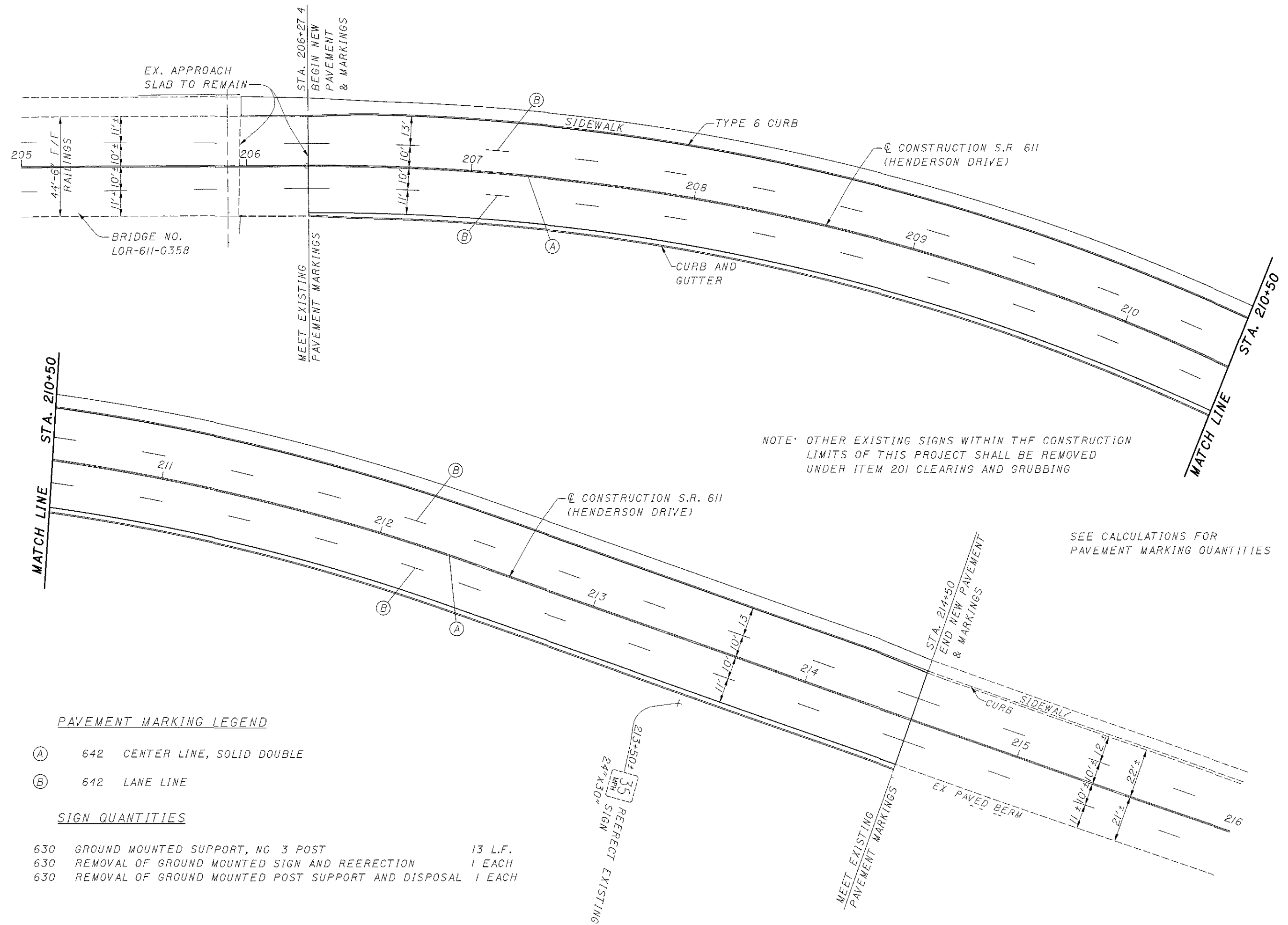




CALCULATED  
PDG 6/7/01  
CHECKED

TRAFFIC CONTROL PLAN

LOR-611-3.91



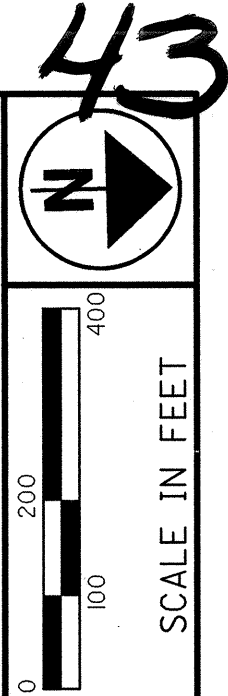
PAVEMENT MARKING LEGEND

- (A) 642 CENTER LINE, SOLID DOUBLE
- (B) 642 LANE LINE

SIGN QUANTITIES

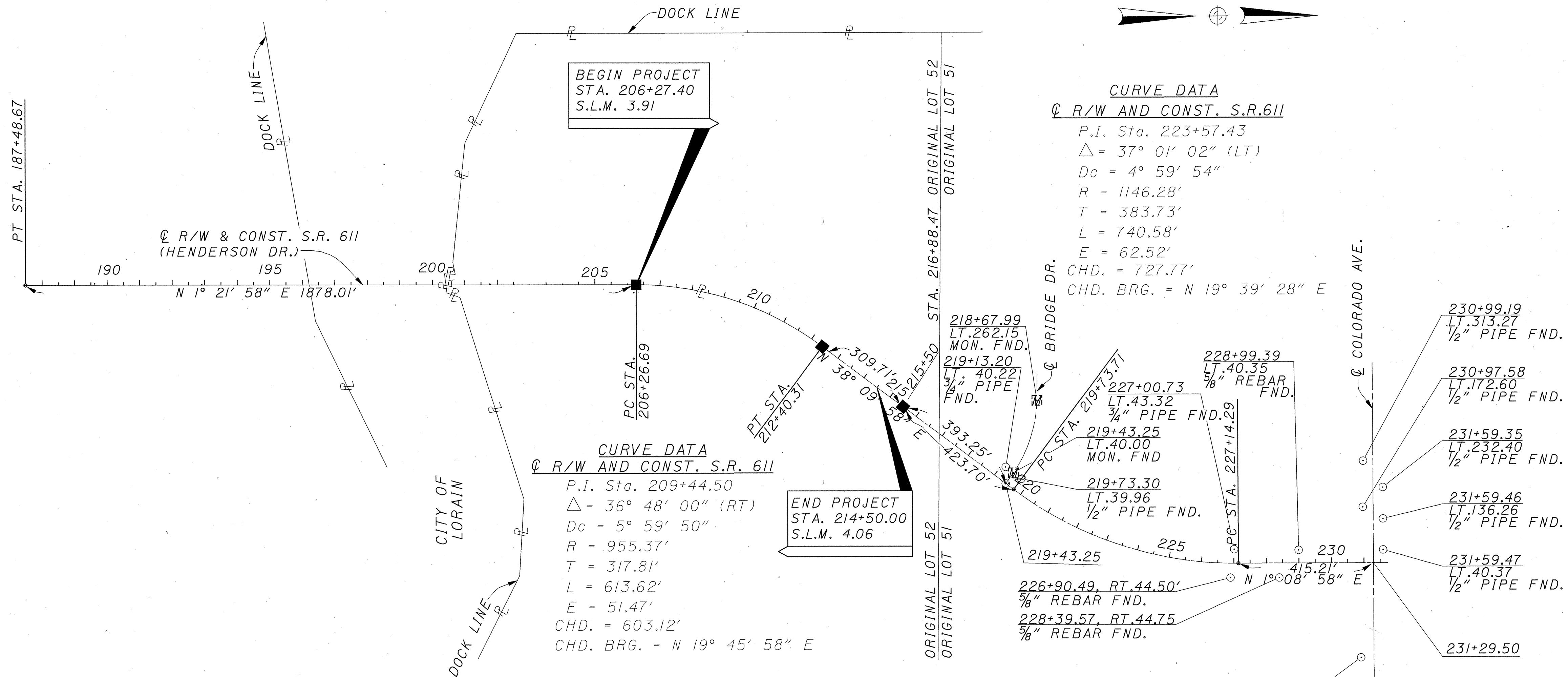
- |     |   |         |
|-----|---|---------|
| 630 | GROUND MOUNTED SUPPORT, NO 3 POST                   | 13 L.F. |
| 630 | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION       | 1 EACH  |
| 630 | REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL | 1 EACH  |

100223 8A IPLDGN 8/24/01 CEO...JDY,RC



MONUMENTS TO BE SET DURING CONSTRUCTION		
STATION	DISTANCE FROM $\phi$ R/W & CONST.	ADJUSTABLE $\phi$ MONUMENT
206+26.69	0'	1
212+40.31	0'	1
215+50.00	0'	1
TOTAL		3

**LOR-611-3.91  
LORAIN CO.  
CITY OF LORAIN  
BLACK RIVER TOWNSHIP  
ORIGINAL LOT 52  
T-7-N, R-17-W**



**CURVE DATA**  
 **$\phi$  R/W AND CONST. S.R.611**  
P.I. Sta. 223+57.43  
 $\Delta = 37^\circ 01' 02''$  (LT)  
Dc = 4° 59' 54"  
R = 1146.28'  
T = 383.73'  
L = 740.58'  
E = 62.52'  
CHD. = 727.77'  
CHD. BRG. = N 19° 39' 28" E

**CURVE DATA**  
 **$\phi$  R/W AND CONST. S.R. 611**  
P.I. Sta. 209+44.50  
 $\Delta = 36^\circ 48' 00''$  (RT)  
Dc = 5° 59' 50"  
R = 955.37'  
T = 317.81'  
L = 613.62'  
E = 51.47'  
CHD. = 603.12'  
CHD. BRG. = N 19° 45' 58" E

- MONUMENT LEGEND**
- ADJUSTABLE CENTERLINE MONUMENT
  - IRON PIN FOUND
  - ⊗ MONUMENT ASSEMBLY FOUND
  - IRON PIPE FOUND

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-29-99) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

BEARINGS ARE BASED ON THE CENTERLINE OF STATE ROUTE 611 BEING NORTH 1° 21' 58" EAST AS RECORDED ON LORAIN COUNTY ENGINEER'S FINAL CENTERLINE LOCATION PLAN DATED DEC., 1938. ALL OTHER BEARINGS ARE TO DELINEATE ANGLES ONLY.

EXISTING RIGHT OF WAY WIDTH AND LOCATIONS ARE BASED ON LORAIN COUNTY ENGINEER RIGHT OF WAY PLAN EAST 21ST. ST. BRIDGE EAST APPROACH REVISED 10/4/74 AND O.D.O.T. LOR-611-3.53 RIGHT OF WAY PLAN DATED 8/13/86.

STATION AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY AND CONSTRUCTION OF S.R. 611 (HENDERSON DR.)

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN 2000-2001 BY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT THREE AND RICHLAND ENGINEERING LIMITED.

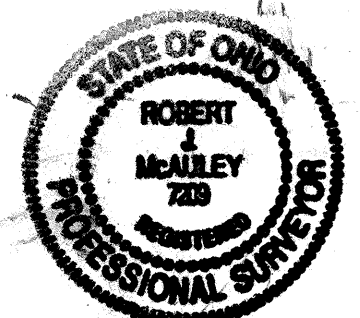
THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY Robert J. McAuley  
ROBERT J. MCAULEY  
SURVEYOR NO. 7209 DATE August 28, 2001

NOV 29 2001  
RECEIVED FOR RECORD  
at 11 o'clock A.M. in PLAT RECORD  
VOL. 70 MARY ANN JAMISON  
PAGE 43 Lorain County Recorder

**NO TRANSFER NECESSARY**  
**MARK R. STEWART**  
LORAIN COUNTY AUDITOR  
11/29/01 smn  
DEPUTY

RECEIVED \_\_\_\_\_, 20\_\_\_\_  
RECORDED \_\_\_\_\_, 20\_\_\_\_  
BOOK \_\_\_\_\_ PAGE \_\_\_\_\_  
COUNTY RECORDER



PID NO. **23457**

R/W DESIGNER **BB**  
R/W REVIEWER **RMC**

**CENTERLINE PLAT**

**LOR-611-3.91**

1 / 1  
1 / 4  
34  
37

21226PC.DGN 8/27/01 CEO,JDY,RC

**LOR-611-3.91  
LORAIN CO.  
CITY OF LORAIN  
BLACK RIVER TOWNSHIP  
ORIGINAL LOT 52  
T-7-N, R-17-W**

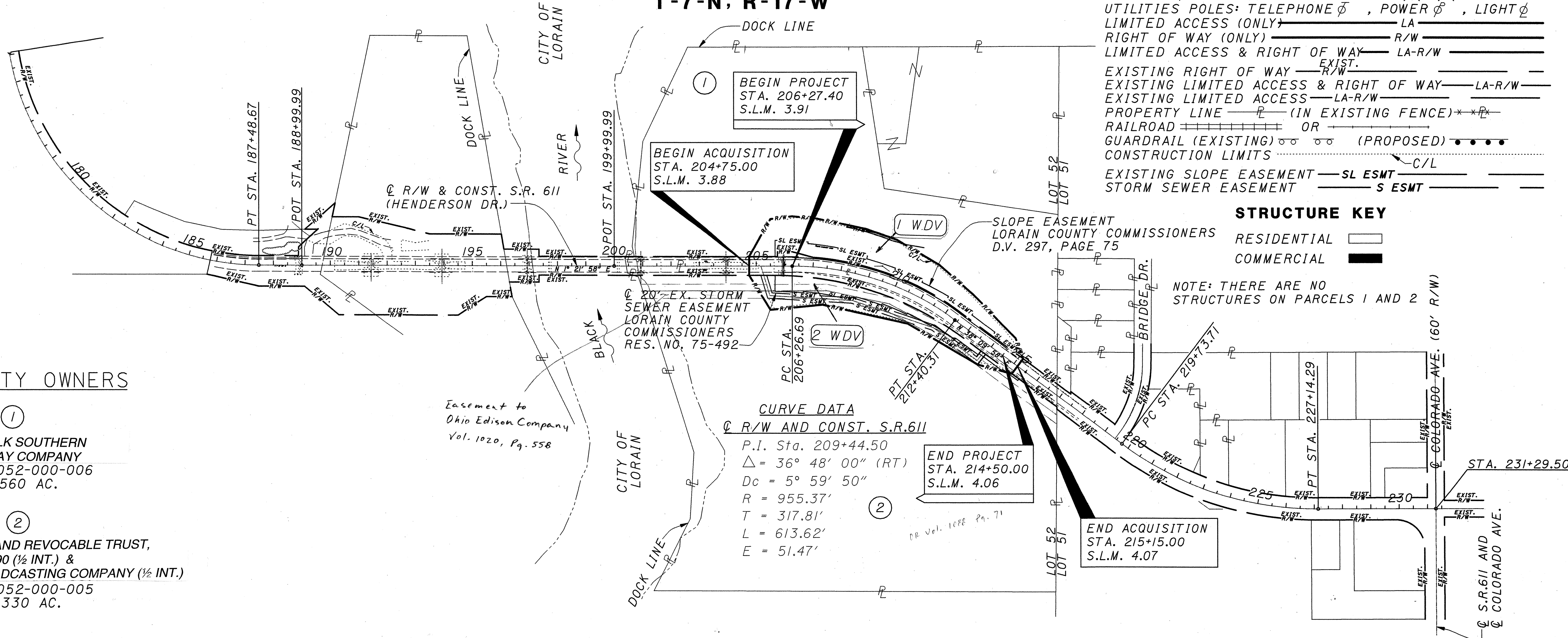
**CONVENTIONAL SIGNS**

- COUNTY LINE -----
- TOWNSHIP LINE -----
- SECTION LINE -----
- CORPORATION LINE -----
- FENCE LINE (EXISTING) -x-x- (PROPOSED) -x-x-
- CENTER LINE -----
- TREES, STUMPS (TO BE REMOVED) ⊗ ⊗
- UTILITIES POLES: TELEPHONE ⚡, POWER ⚡, LIGHT ⚡
- LIMITED ACCESS (ONLY) LA
- RIGHT OF WAY (ONLY) R/W
- LIMITED ACCESS & RIGHT OF WAY LA-R/W
- EXISTING RIGHT OF WAY R/W
- EXISTING LIMITED ACCESS & RIGHT OF WAY LA-R/W
- EXISTING LIMITED ACCESS LA-R/W
- PROPERTY LINE (IN EXISTING FENCE) \* \* \*
- RAILROAD OR
- GUARDRAIL (EXISTING) ○ ○ ○ (PROPOSED) ● ● ●
- CONSTRUCTION LIMITS C/L
- EXISTING SLOPE EASEMENT SL ESMT
- STORM SEWER EASEMENT S ESMT

**STRUCTURE KEY**

- RESIDENTIAL [ ]
- COMMERCIAL [ ]

NOTE: THERE ARE NO STRUCTURES ON PARCELS 1 AND 2



**PROPERTY OWNERS**

①  
NORFOLK SOUTHERN RAILWAY COMPANY  
02-00-052-000-006  
16.560 AC.

②  
THE BILLY S. ROWLAND REVOCABLE TRUST,  
DATED APRIL 19, 1990 (½ INT.) &  
GREAT LAKES BROADCASTING COMPANY (½ INT.)  
02-00-052-000-005  
32.330 AC.

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

**UTILITY OWNERS**

ELECTRIC: OHIO EDISON CO. (DISTRIBUTION) TELEPHONE: CENTURY TELEPHONE  
6326 LAKE AVENUE 1730 WEST 19TH STREET  
ELYRIA, OHIO 44052 LORAIN, OHIO 44052  
(440) 324-0231 (440) 244-8475

ELECTRIC: OHIO EDISON CO. (TRANSMISSION) CABLE TV: ADELPHIA CABLE  
76 SOUTH MAIN STREET 1801 ELYRIA AVENUE  
AKRON, OHIO 44308 LORAIN, OHIO 44052  
(330) 384-5180 (440) 245-1353

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.

**SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED**

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

DV = DEED VOLUME

**GRANTEE:**  
ALL RIGHT OF WAY TO BE ACQUIRED IN THE NAME OF THE LORAIN COUNTY COMMISSIONERS UNLESS OTHERWISE SHOWN.

\*DENOTES RIGHT OF WAY ENCROACHMENT

FIELD REVIEW BY		DATE	
OWNERSHIP VERIFIED BY	DATE	DATE	DATE
PWS	10-18-01	NAMES - PARS. 1 & 2	
REV		DATE	DESCRIPTION
DATE OF COMPLETION:			

2 OWNERSHIPS 0 OWNERSHIPS WITH STRUCTURES INVOLVED  
0 TOTAL TAKES 0 OWNERSHIP WITH "P" ITEMS

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
1WDV	NORFOLK SOUTHERN RAILWAY COMPANY	3 & 4	687	364	02-00-052-000-006	16.560	1.248	3.265	0.796	2.469		12.843		COUNTY		161 766#	2366
2WDV	THE BILLY S. ROWLAND REVOCABLE TRUST, DATED APRIL 19, 1990 (½ INT.) & GREAT LAKES BROADCASTING COMPANY (½ INT.)	3&4	305	372	02-00-052-000-005	32.330	1.244	2.503	0.780	1.723		29.363		COUNTY		823375#	1824
			INSTRUMENT NO. 19990657494														

**PROPERTY MAP AND SUMMARY OF ADDITIONAL RIGHT OF WAY**

**LOR-611-3.91**

PID NO. **23457**

STATE JOB NO. **23457**

R/W DESIGNER: B.B. R/W REVIEWER: RJM

SCALE IN FEET: 0 100 200 400

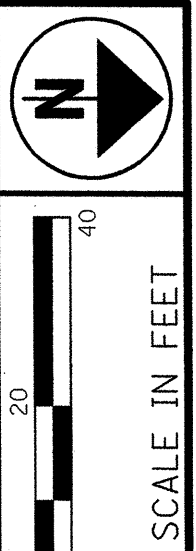
2 / 4

35 / 37

21226RM.DGN 8/16/01 CEO,JDY



LORAIN COUNTY  
CITY OF LORAIN  
BLACK RIVER TOWNSHIP  
ORIGINAL LOT 52  
T-7-N, R-17-W



P.I.D. NO.  
**23457**

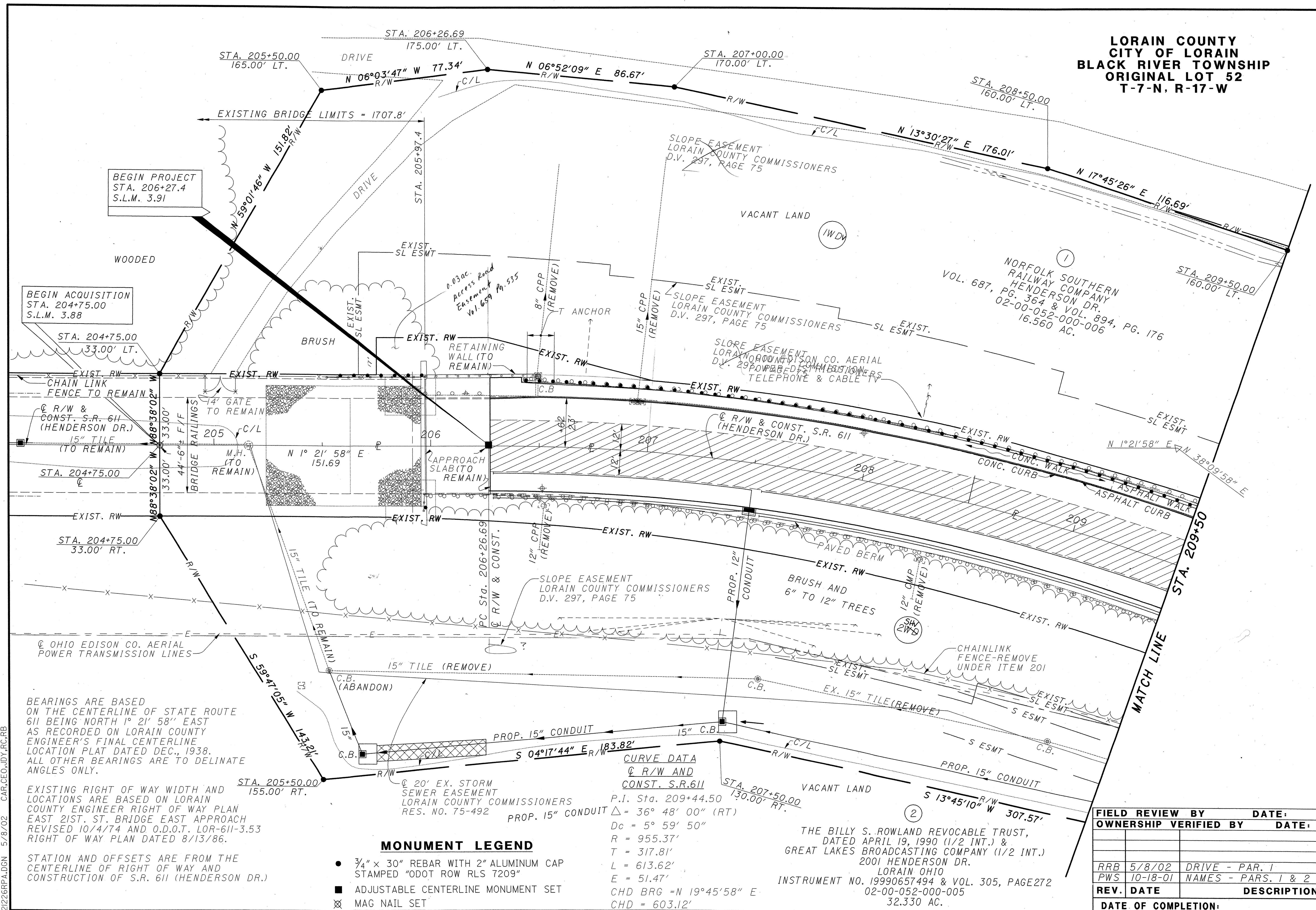
R/W DESIGNER  
BB  
R/W REVIEWER  
RJM

RIGHT OF WAY PLAN - S.R. 611

STA. 204+00 TO 209+50

LOR-611-3.91

3 / 4  
36  
37



BEGIN ACQUISITION  
STA. 204+75.00  
S.L.M. 3.88

BEGIN PROJECT  
STA. 206+27.4  
S.L.M. 3.91

BEARINGS ARE BASED ON THE CENTERLINE OF STATE ROUTE 611 BEING NORTH 1° 21' 58" EAST AS RECORDED ON LORAIN COUNTY ENGINEER'S FINAL CENTERLINE LOCATION PLAT DATED DEC., 1938. ALL OTHER BEARINGS ARE TO DELINEATE ANGLES ONLY.

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STATION AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY AND CONSTRUCTION OF S.R. 611 (HENDERSON DR.)

**MONUMENT LEGEND**

- 3/4" x 30" REBAR WITH 2" ALUMINUM CAP STAMPED "ODOT ROW RLS 7209"
- ADJUSTABLE CENTERLINE MONUMENT SET
- ⊗ MAG NAIL SET

**CURVE DATA**  
Q R/W AND CONST. S.R. 611

P.I. Sta. 209+44.50  
Δ = 36° 48' 00" (RT)  
Dc = 5° 59' 50"  
R = 955.37'  
T = 317.81'  
L = 613.62'  
E = 51.47'  
CHD BRG = N 19°45'58" E  
CHD = 603.12'

THE BILLY S. ROWLAND REVOCABLE TRUST,  
DATED APRIL 19, 1990 (1/2 INT.) &  
GREAT LAKES BROADCASTING COMPANY (1/2 INT.)  
2001 HENDERSON DR.  
LORAIN OHIO  
INSTRUMENT NO. 19990657494 & VOL. 305, PAGE 272  
02-00-052-000-005  
32.330 AC.

FIELD REVIEW BY		DATE:	
OWNERSHIP VERIFIED BY		DATE:	
RRB	5/8/02	DRIVE - PAR. 1	
PWS	10-18-01	NAMES - PARS. 1 & 2	
REV. DATE	DESCRIPTION		
	DATE OF COMPLETION:		

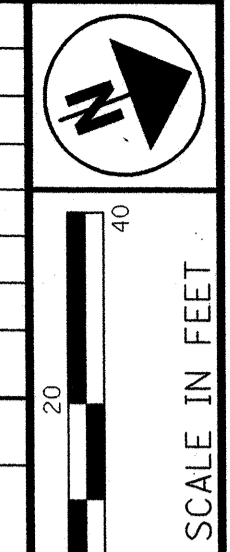
21226RPA.DGN 5/8/02 CAR.GEO.JDY.RC.RB



LORAIN COUNTY  
CITY OF LORAIN  
BLACK RIVER TOWNSHIP  
ORIGINAL LOT 52  
T-7-N, R-17-W

NORFOLK SOUTHERN  
RAILWAY COMPANY  
HENDERSON DR.  
VOL. 687, PG. 364 & VOL. 894, PG. 176  
02-00-052-000-006  
16.560 AC.

FIELD REVIEW BY	DATE:
OWNERSHIP VERIFIED BY	DATE:
RRB 5/8/02	DRIVE - PAR. 1
PWS 10-18-01	NAMES - PARS. 1 & 2
REV. DATE	DESCRIPTION
DATE OF COMPLETION:	



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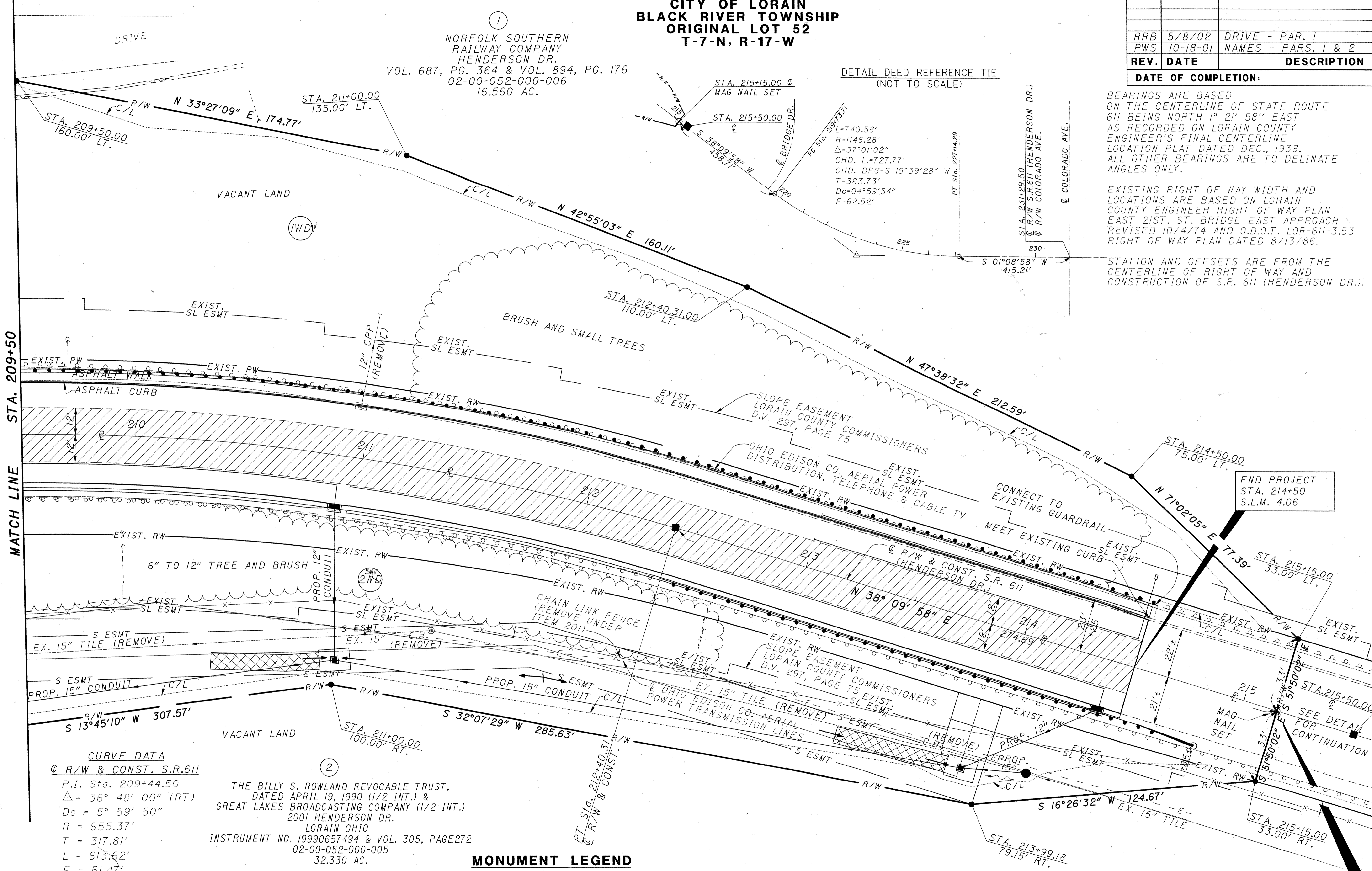
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STATION AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY AND CONSTRUCTION OF S.R. 611 (HENDERSON DR.).

DETAIL DEED REFERENCE TIE  
(NOT TO SCALE)

L=740.58'  
R=1146.28'  
Δ=37°01'02"  
CHD. L=727.77'  
CHD. BRG=S 19°39'28" W  
T=383.73'  
Dc=04°59'54"  
E=62.52'

MATCH LINE STA. 209+50



**CURVE DATA**  
C/R/W & CONST. S.R.611  
P.I. Sta. 209+44.50  
Δ = 36° 48' 00" (RT)  
Dc = 5° 59' 50"  
R = 955.37'  
T = 317.81'  
L = 613.62'  
E = 51.47'  
CHD BRG = N 19°45'58" E  
CHD, L, = 603.12'

THE BILLY S. ROWLAND REVOCABLE TRUST,  
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LORAIN OHIO  
INSTRUMENT NO. 19990657494 & VOL. 305, PAGE 272  
02-00-052-000-005  
32.330 AC.

- MONUMENT LEGEND**
- 3/4" x 30" REBAR WITH 2" ALUMINUM CAP STAMPED "ODOT ROW RLS 7209" SET
  - ADJUSTABLE CENTERLINE MONUMENT SET
  - ⊗ MAG NAIL SET

END PROJECT  
STA. 214+50  
S.L.M. 4.06

SEE DETAIL FOR CONTINUATION

END ACQUISITION  
STA. 215+15.00  
S.L.M. 4.07

21226RPB.DGN 5/8/02 CAR.JDY.CEO.RC

PID NO.  
**23457**

RIGHT OF WAY PLAN - S.R. 611  
STA. 209+50 TO 215+50

LOR-611-3.91

**GENERAL INFORMATION**

**INTRODUCTION**

THIS REPORT CONSISTS OF THE SUBSURFACE INVESTIGATION OF A 0.08 MILE SECTION OF SR 611 ON THE NORTH APPROACH OF BRIDGE NO LOR 611 0358. THE INFORMATION WAS OBTAINED FOR AN EMBANKMENT STABILITY ANALYSIS.

**GEOLOGY AND OBSERVATIONS OF THE PROJECT**

THE EMBANKMENT STABILITY HAS BEEN A PROBLEM FOR AN EXTENDED PERIOD OF TIME, WITH MULTIPLE REPAIRS BEING PERFORMED ON THE LEFT FORWARD EMBANKMENT. THE RIGHT FORWARD EMBANKMENT IS CURRENTLY EXHIBITING CRACKING SLIPS AND SLOUGHS.

OBSERVATIONS IN THE FIELD INDICATED THE PRESENCE OF AN UNUSUALLY STEEP SLOPE, CRACKS INDICATING THE TOP OF THE SLIDE APPROXIMATELY 8 FEET TO 10 FEET FROM THE EDGE OF THE TOP OF THE EMBANKMENT IN THE ROADWAY, NO EVIDENCE OF FAILURE AT THE TOE OF THE SLOPE, AND NO SEEPAGE OR WET AREAS ON THE FACE OF THE SLOPE.

**EXPLORATION**

BORINGS B-1 AND B-4 WERE PERFORMED AT THE TOE OF THE EMBANKMENT AND WERE EXTENDED TO APPROXIMATE DEPTHS OF 28 AND 24 FEET, RESPECTIVELY. BORINGS B-2 AND B-3 WERE PERFORMED AT THE TOP OF THE EMBANKMENT AND WERE EXTENDED TO AN APPROXIMATE DEPTH OF 50 FEET EACH. THE BORINGS WERE DRILLED USING A TRUCK MOUNTED DRILL RIG USING A 2 INCH I.D. HOLLOW-STEM AUGER AT REGULAR INTERVALS, DISTURBED, BUT REPRESENTATIVE SAMPLES WERE OBTAINED BY DRIVING A 2 INCH O.D. SPLIT BARREL SAMPLER INTO THE SOIL WITH BLOWS FROM A 29 POUND HAMMER FREELY FALLING 30 INCHES (STANDARD PENETRATION TEST).

**INVESTIGATIONAL FINDINGS**

BORINGS B-1 AND B-4 WERE DRILLED AT THE TOE OF THE EXISTING EMBANKMENT AND BORINGS B-2 AND B-3 WERE DRILLED AT THE TOP OF THE EXISTING EMBANKMENT. THE BORINGS REVEALED THE FOLLOWING GENERAL STRATIGRAPHY LISTED IN DESCENDING ORDER:

- 1 18 INCHES OF TOPSOIL IN BORING B-1, 12 TO 18 INCHES OF ASPHALT OVER 6 TO 18 INCHES OF GRANULAR BASE IN BORINGS B-2 AND B-3,
- 2 30 TO 34 FEET OF FILL CONSISTING OF STIFF TO HARD SILTY CLAY AND CLAYEY SILT IN BORINGS B-2 AND B-3 (A-6b),
- 3 2 TO 26 FEET OF STIFF TO HARD SILTY CLAY AND CLAYEY SILT IN ALL OF THE BORINGS. BORING B-2 AND B-3 WERE TERMINATED IN THIS STRATUM (A-6a, A-4a),
- 4 16.5 FEET OF MEDIUM-DENSE TO VERY-DENSE SILT IN BORING B-4 (A-6a),
- 5 0.2 TO 6 FEET OF VERY-SOFT TO MEDIUM-HARD SHALE IN BORING B-1 AND B-4. BOTH OF THESE BORINGS WERE TERMINATED IN THIS STRATUM.

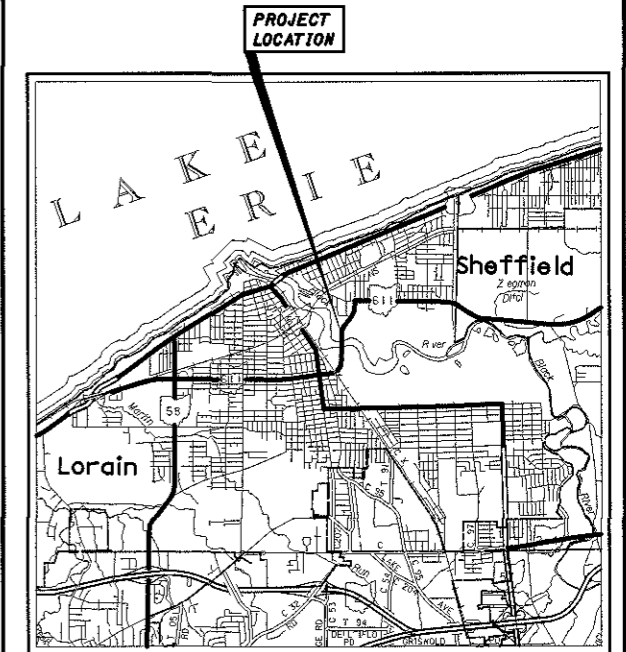
WATER WAS ENCOUNTERED DURING DRILLING IN BORING B-1 AT 27.5 FEET BELOW THE EXISTING GROUND SURFACE. AT COMPLETION OF DRILLINGS, WATER HAD REMAINED AT A DEPTH 27.5 FEET. THE REMAINING BORINGS WERE DRY, MEANING NO WATER HAD ACCUMULATED AT THE BOTTOM OF THE BORING. IF MORE DETAILED DESCRIPTIONS OF THE SUBSURFACE CONDITIONS ARE DESIRED AT A PARTICULAR LOCATION, THE LOGS FROM THE INDIVIDUAL EXPLORATIONS SHOULD BE EXAMINED.

**LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 4 SAMPLES TESTED**

DESCRIPTION	ODOT CLASS	% AGG.	% C SAND	% F SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a (0)									
GRAVEL WITH SAND	A-1-b (0)									
FINE SAND	A-3 (0)									
COARSE AND FINE SAND	A-3a (0)									
GRAVEL WITH SAND AND SILT	A-2-4 (0)									
GRAVEL WITH SAND, SILT AND CLAY	A-2-6 (0)									
SANDY SILT	A-4a (0)	3	15	24	34	23	20	13	13	1
SILT	A-4b (0)									
SILT AND CLAY	A-6a (0)	8	8	10	36	38	36	22	18	3
SILTY CLAY	A-6b (0)	4	9	11	32	44	34	18	19	1
ELASTIC CLAY	A-7-5 (0)									
CLAY	A-7-6 (0)									
RANDOM FILL										VISUAL CLASSIFICATION
WEATHERED SHALE										VISUAL CLASSIFICATION
MUDSTONE										VISUAL CLASSIFICATION
SHALE										VISUAL CLASSIFICATION
SANDSTONE										VISUAL CLASSIFICATION
LIMESTONE										VISUAL CLASSIFICATION
VARIOUS OTHER MATERIAL										VISUAL CLASSIFICATION
SOD AND/OR TOP SOIL - X = APPROXIMATE DEPTH										● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT
BERM MATERIAL										⊕ INDICATES A NON PLASTIC MATERIAL WITH A HIGH WATER CONTENT
AUGER BORING - PLAN VIEW										—W FREE WATER
DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW										—v STATIC WATER LEVEL
ROADWAY OR AUGER BORING PLOTTED TO VERTICAL SCALE ONLY										NUMBER OF BLOWS FOR STANDARD PENETRATION TEST X NUMBER OF BLOWS FOR FIRST 0.5 FT Y NUMBER OF BLOWS FOR SECOND 0.5 FT Z NUMBER OF BLOWS FOR THIRD 0.5 FT
DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY										NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

**NOTE**

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE OFFICE OF ROADWAY ENGINEERING OR THE OFFICE OF STRUCTURAL ENGINEERING AT 25 SOUTH FRONT STREET.

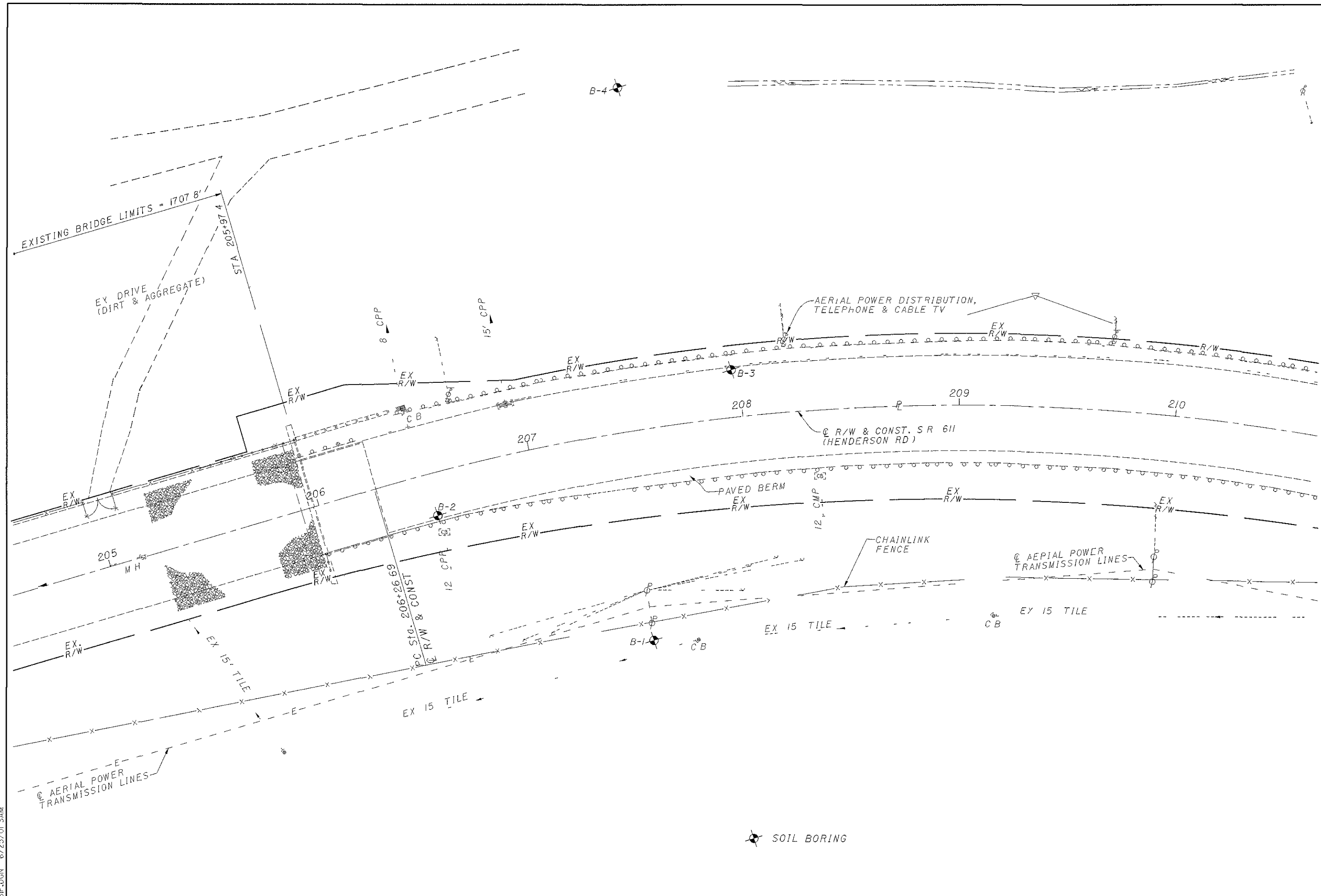


**LOCATION MAP**

Recon - BBC&M ENGINEERING INC - SEPTEMBER 1998  
 Drilling - BBC&M ENGINEERING INC - JULY 1998  
 Drafting - S.A.M. - JUNE 2001



0 10 20 40  
HORIZONTAL  
SCALE IN FEET

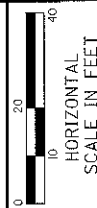
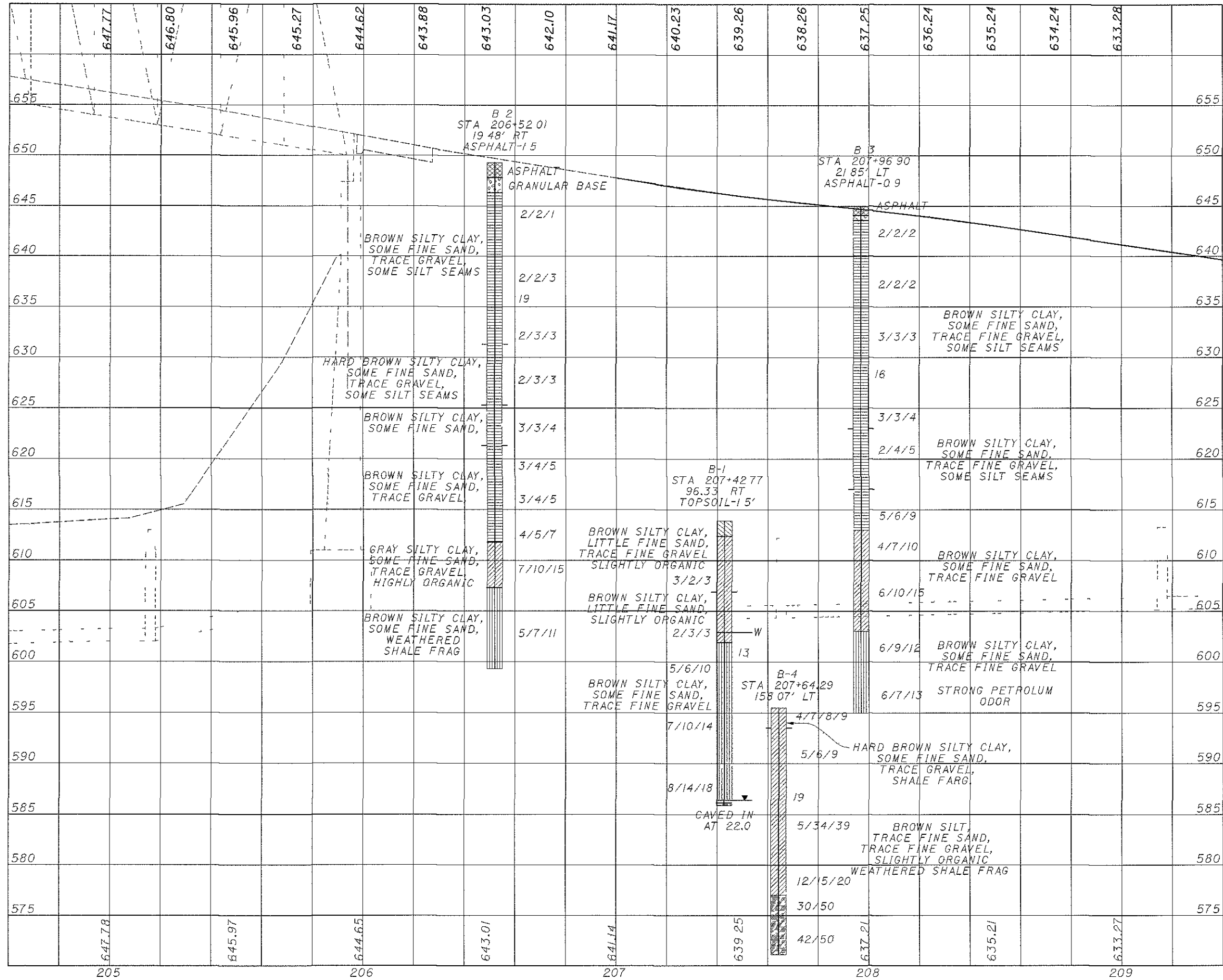


**SOIL PROFILE  
PLAN**

**LOR-611-3.91**

2/22/01.DCN 6/25/01 SAM

SOIL BORING



SOIL PROFILE  
PROFILE



LOR-611-3.91





EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS

SAMPLING DATA

-  - Blocked-in "SAMPLES" column indicates sample was attempted and recovered within this depth interval
-  - Sample was attempted within this interval but not recovered.
- 2/5/9 - The number of blows required for each 150mm increment of penetration of a "Standard" 50mm O.D. split-barrel sampler, driven a distance of 450mm by a 64 kilogram hammer freely falling 760mm. Addition of one of the following symbols indicates the use of a split-barrel other than the 50mm O.D. sampler
- [2S] - 65mm O.D. split-barrel sampler.
- [3S] - 80mm O.D. split-barrel sampler.
- P - Shelby tube sampler, 80mm O.D., hydraulically pushed
- R - Refusal of sampler in very-hard or dense soil, or on a resistant surface.
- 50-10mm - Number of blows (50) to drive a split-barrel sampler a certain distance (10mm), other than the normal 150mm increment.
- S/D - Sampler (split-barrel) advanced by weight of drill rods (D), or
- S/H - combined weight of rods and drive hammer (H)

SOIL DESCRIPTIONS - All soils have been classified basically in accordance with the Unified Soil Classification System, but this system has been augmented by the use of special adjectives to designate the approximate percentages of minor components as follows.

Adjective	Percent by Weight
trace	1 to 10
little	11 to 20
some	21 to 35
"and"	36 to 50

The following terms are used to describe density and consistency of soils

Term (Granular Soils)	Blows/300mm
Very-loose	Less than 5
Loose	5 to 10
Medium-dense	11 to 30
Dense	31 to 50
Very-dense	Over 50

Term (Cohesive Soils)	Qu (kPa)
Very-soft	Less than 25
Soft	25 to 45
Medium-stiff	45 to 95
Stiff	95 to 190
Very-stiff	190 to 380
Hard	Over 380

BDC&M ENGINEERING INC

PLATE 4

EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS  
FOR SAMPLING AND DESCRIPTION OF ROCK

SAMPLING DATA

When bedrock is encountered and rock core samples are attempted, the "SAMPLING EFFORT" column is used to record the type of core barrel used (NXM) and the percentage of core recovered for each run of the sampler. Rock-core barrels can be of either single- or double-tube construction, and a special series of double-tube barrels, designated by the suffix M, is commonly used to obtain maximum core recovery in very-soft or fractured rock. Three basic groups of barrels are used most often in subsurface investigations for engineering purposes, and these groups and the diameters of the cores obtained are as follows.

- AX, AW, AXM, AWM - 30 mm
- BX, BW, BXM, BWM - 43 mm
- NX, NW, NXM, NWM - 58 mm

ROCK HARDNESS

The following terms are used to describe rock hardness

Term	Meaning	Mohs' Hardness
Very-soft	Rock such as shale can be easily picked apart by the fingers. Sandstone is poorly cemented and very friable. The rock resembles hard clay or dense sand, but has rock structure.	Less than 1
Soft	Rock such as shale, siltstone or limestone can be scratched or powdered by fingernail pressure. Sandstone is mostly poorly cemented, and individual sand grains can be separated from the main rock mass by a fingernail	1 to 1½
Medium-hard	Rock cannot be scratched by a fingernail, but can be powdered by a knife. Sandstone is mostly well cemented, but individual grains can be removed by scratching with a knife	2½ to 5½
Hard	Rock is well cemented and cannot be powdered by a knife. Rock can be powdered by a steel file	5½ to 6½
Very-hard	Rock cannot be scratched by a steel file and core rings when struck with a hammer	Greater than 6½

BDC&M ENGINEERING INC

PLATE 5

LOG OF BORING NO. B-1															Page 1 of 1
LOR-611-05761 (0358)															
LORAIN COUNTY, OHIO															
DEPTH, FEET	SAMPLE NO.	SAMPLES	SAMPLING EFFORT	HAND PENE-TROMETER	MOISTURE CONTENT	LIQUID LIMIT	PLASTIC LIMIT	TYPE	LOCATION	COMPLETION DEPTH	ELEVATION	DATE	DESCRIPTION		
													AGG.	C.S.	F.S.
0								3-1/4" I.D. Hollow-stem Auger 2" O.D. Split-barrel Sampler	See Plate 2	28.0'	613.9	7/16/98	TOPSOIL - 18 INCHES		
0													Very-stiff brown mottled with gray silty clay, little fine to coarse sand, trace fine gravel, contains shale fragments and roots, slightly organic.		
1	3/2/3		2.0-3.5										Est A-6a		
2	2/3/3		1.0-2.0										Stiff brown mottled with gray silty clay, little fine to coarse sand, trace fine gravel, contains seams of clay and roots, slightly organic		
3	5/6/10		4.5+										Est A-6a		
4	7/10/14		4.5+	13	20	13	3	15	24	34	23		Hard brown clayey silt, some to "and" fine to medium sand, trace coarse sand, trace fine gravel, contains few lenses of clay and shale fragments		
5	8/14/18		4.5+										Est A-6a		
6	50-1'R												Medium-hard gray shale - Encountered water at 27' 6" - Caved at 22' 0"		
Visual															
A-4a															
WATER LEVEL 27.5															
WATER NOTE Caved at 20' 0"															
DATE 07/16/98 07/17/98															

LOG OF BORING NO. B-2															Page 1 of 2
LOR-611-05761 (0358)															
LORAIN COUNTY, OHIO															
DEPTH, FEET	SAMPLE NO.	SAMPLES	SAMPLING EFFORT	HAND PENE-TROMETER	MOISTURE CONTENT	LIQUID LIMIT	PLASTIC LIMIT	TYPE	LOCATION	COMPLETION DEPTH	ELEVATION	DATE	DESCRIPTION		
													AGG.	C.S.	F.S.
0								3-1/4" I.D. Hollow-stem Auger 2" O.D. Split-barrel Sampler	See Plate 2	50.0'	649.3	7/16/98	ASPHALT - 18 INCHES		
1	2/2/1		1.0-1.5										GRANULAR BASE - 18 INCHES		
2	2/2/3		1.5-2.0	19	34	18	4	9	11	32	44		FILL: Stiff to very-stiff brown silty clay, some fine to coarse sand, trace fine gravel, contains silt seams		
3	2/3/3		1.0-2.5										Est A-6b		
4	2/3/3		3.2-4.5+										FILL: Very-stiff to hard brown silty clay, intermixed with clayey silt, some fine to coarse sand, trace fine gravel, contains silt seams		
5A	3/3/4		3.8-4.5+										Est A-6b		
5B	3/3/4		2.0-2.5										FILL: Stiff to very-stiff brown silty clay, some fine to coarse sand, contains few lenses of clay, contains weathered shale fragments		
6	3/4/5		3.7-4.5+										Est A-6b		
7	3/4/5		3.5-4.5+										FILL: Very-stiff to hard brown clayey silt, some fine to coarse sand, trace fine gravel, contains few lenses of clay		
Est A-6b															
WATER LEVEL "Dry"															
WATER NOTE "Dry"															
DATE 07/16/98 07/17/98															

LOG OF BORING NO. B-2															Page 2 of 2
LOR-611-05761 (0358)															
LORAIN COUNTY, OHIO															
DEPTH, FEET	SAMPLE NO.	SAMPLES	SAMPLING EFFORT	HAND PENE-TROMETER	MOISTURE CONTENT	LIQUID LIMIT	PLASTIC LIMIT	TYPE	LOCATION	COMPLETION DEPTH	ELEVATION	DATE	DESCRIPTION - CONTINUED		
													AGG.	C.S.	F.S.
8	4/5/7		1.7-2.0	25									Stiff gray silty clay, some fine to coarse sand, trace fine gravel, contains silt seams, decayed wood, roots, highly organic		
9	7/10/15		4.5+										Est A-6a		
10	5/7/11		4.5+										Hard brown clayey silt interbedded with gray silty clay, some fine to coarse sand, contains desiccation cracks, silt and weathered shale fragments.		
Est A-4a															
- Encountered no water															
WATER LEVEL "Dry"															
WATER NOTE "Dry"															
DATE 07/16/98 07/17/98															

