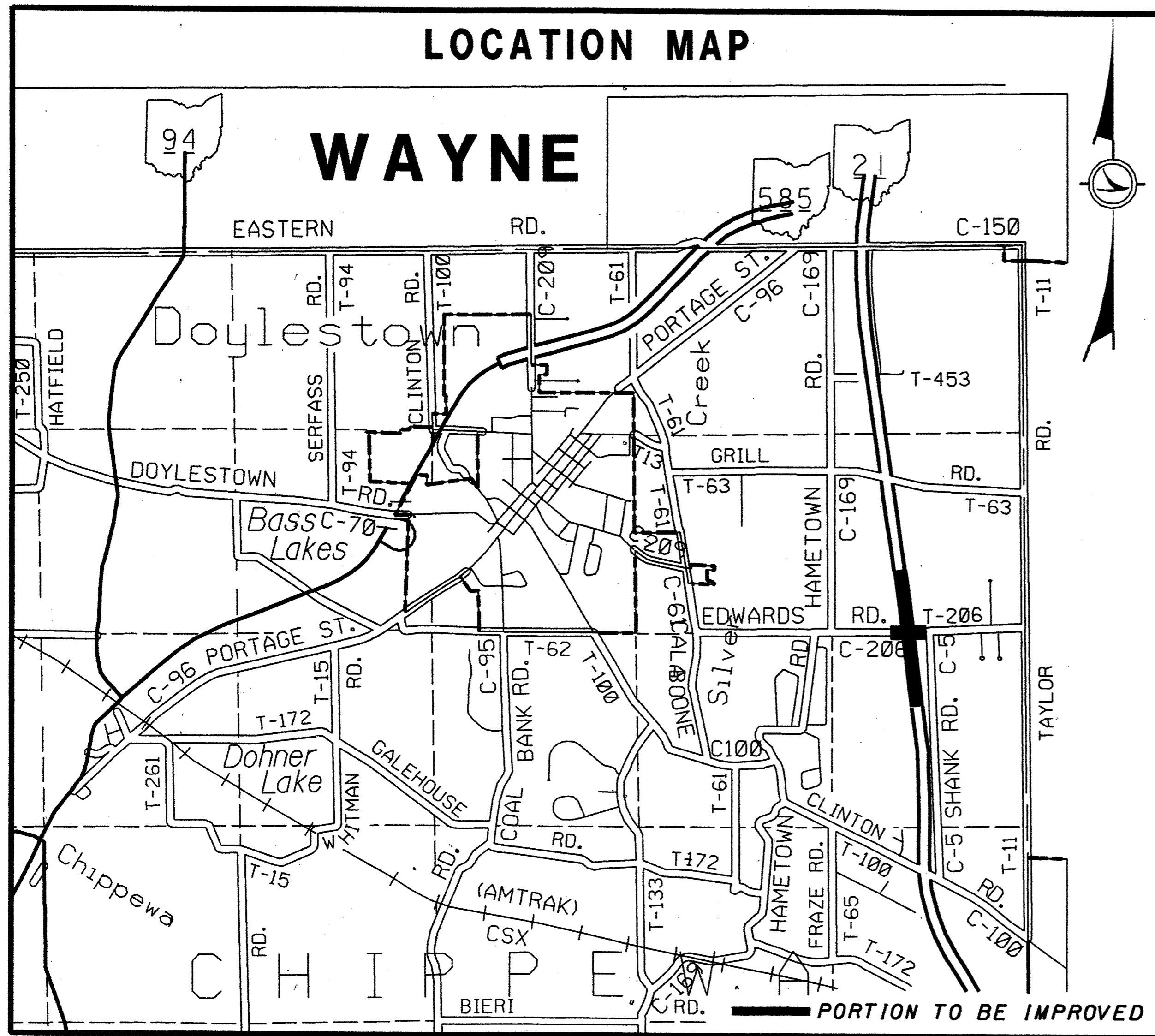


STATE OF OHIO, DEPARTMENT OF TRANSPORTATION

LOCATION MAP



81° 39' 37" W LONGITUDE 40° 57' 37" N LATITUDE

PART	COUNTY	ROUTE	PROJECT TERMINI (STRAIGHT LINE MILEAGE)		NET LENGTH (MILES)	CITY	VILLAGE
			BEGIN	END			
A	WAYNE	SR 21	3.75	4.13	0.38	N/A	N/A

INDEX OF SHEETS:

- 1 - TITLE SHEET
- 2 - STRAIGHT LINE DIAGRAM
- 2A - PROJECT SITE PLAN
- 3 - TYPICAL SECTION
- 4-5 - GENERAL NOTES
- 6 - DROPOFFS IN WORK ZONES
- 7 - MOT NOTES
- 8 - MOT
- 10-10A - GENERAL SUMMARY
- 11 - PAVEMENT & SHOULDER DATA
- 12-16 - PLAN SHEETS
- 17-21 - INTERSECTION DETAIL
- 22-31 - CROSS SECTIONS
- 31 - CALCULATIONS
- 32 - PAVEMENT MARKING DATA
- 33-37 - PAVEMENT MARKINGS AND SIGNING

PROJECT DESCRIPTION:

THIS PROJECT WILL INCLUDE PAVEMENT PLANING, PAVEMENT WIDENING, RESURFACING WITH ASPHALT CONCRETE, ADDITION OF CASTINGS WHERE NECESSARY, AND PAVEMENT MARKINGS.

PROJECT EARTH DISTURBED AREA = 1.1  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA = 0.4  
NOTICE OF INTENT EARTH DISTURBED AREA = 4.9

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSIONS FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CMS. CONVERSIONS SHALL BE APPROXIMATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE

2002 SPECIFICATIONS

THE STANDARD 2002 SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND THE PROPOSAL SHALL GOVERN THESE IMPROVEMENTS

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY AND PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PLAN AND PROPOSAL.

2/25/04 APPROVED DATE Thomas M. O'Leary DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

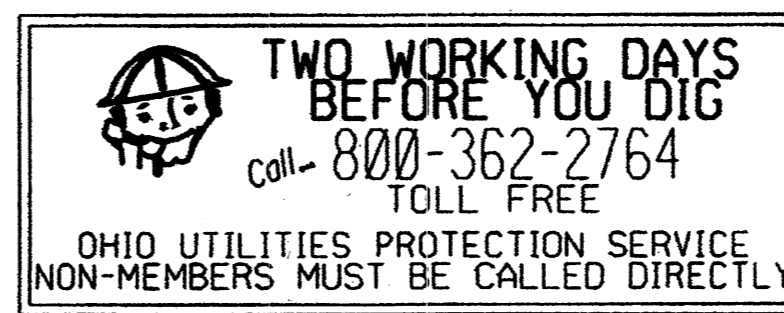
APPROVED DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

ENGINEER'S SEAL



SIGNED: Michael J. Schaffrath  
DATE: 2/25/04

ROADWAY		STANDARD DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
		BP-3.1	07-28-00	TC-41.20	01-19-01	802	07-19-02
		CB-1.2	07-19-02	TC-42.20	04-20-01	832	02-12-03
		DM-1.1	07-18-03	TC-65.10	10-19-01	833	02-12-03
		DM-1.2	07-19-02	TC-65.11	10-19-01	908	04-18-03
		DM-1.4	07-19-02	TC-65.12	10-19-01		
		DM-4.3	07-19-02	TC-71.10	04-19-02		
		DM-4.4	07-19-02	TC-73.10	01-19-01		
		MH-1.2	07-19-02	TC-82.10	04-19-02		
		MT-35.10	04-20-01				
		MT-95.30	04-19-02	RM-4.2	04-18-02		
		MT-95.40	07-18-03				
		MT-97.10	04-19-02				
		MT-97.12	04-19-02				
		MT-99.20M	01-30-95				
		MT-101.70	10-18-02				
		MT-105.10	10-18-02				
		MT-105.11	10-18-02				



DESIGN DESIGNATION (ENGLISH UNITS)

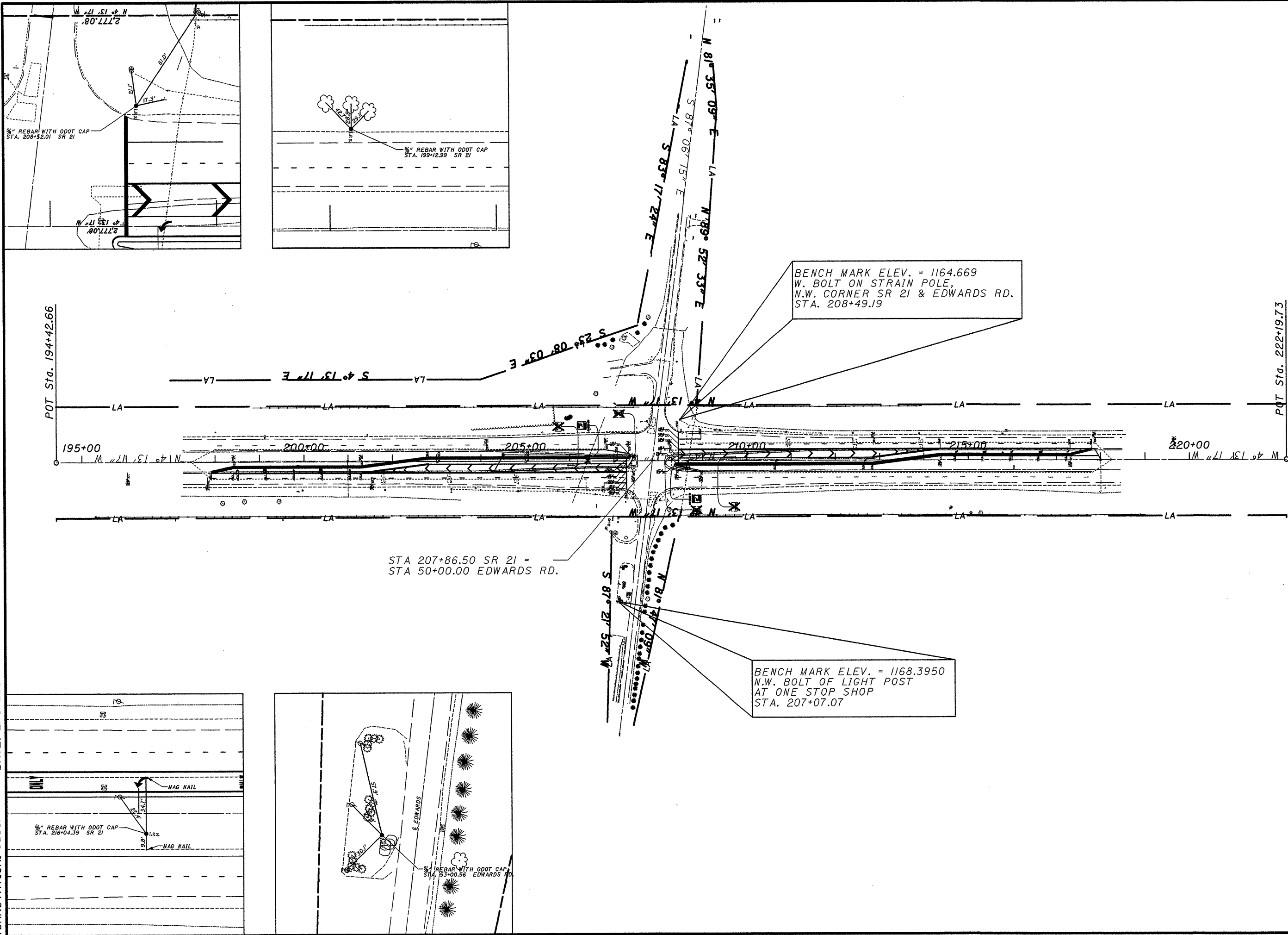
SR 21	
CURRENT ADT (2005)	1580
DESIGN YEAR ADT (2025)	2010
DESIGN HOURLY VOLUME (2025)	210
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	12%
DESIGN SPEED	60 MPH
LEGAL SPEED	
SLM 3.75-SLM 3.94	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL MINOR ARTERIAL	
NHS PROJECT	YES
DESIGN EXCEPTIONS	NONE

DESIGN FILE: I:\projects\23894\GT100.dgn  
WORKSTATION: sdeer DATE: 2/19/2004

FEDERAL PROJECT NO. E033(861)  
PID NO. 23894  
CONSTRUCTION PROJECT NO.  
RAILROAD INVOLVEMENT NONE  
WAY-21-3.75  
37

DESIGN FILE: I:\projects\23894\CB100\_21.dgn  
WORKSTATION: sdeer

DATE: 2/6/2004



**SCHEMATIC PLAN**

**WAY-21-3.94**

**PROJECT DATA**

TOTAL AREA (RIGHT OF WAY)	11.91 AC.
PROJECT EARTH DISTURBED AREA	1.06 AC.
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.43 AC.
NOTICE OF INTENT EARTH DISTURBED AREA	4.90 AC.
IMPERVIOUS AREA FOR PRE-CONSTRUCTION SITE	3.85 AC.
IMPERVIOUS AREA FOR POST-CONSTRUCTION SITE	4.74 AC.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.79 CW
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.76 CW
SOIL AND WATER CONSERVATION MAPS	7
IMMEDIATE RECEIVING WATERS	N/A
SUBSEQUENT RECEIVING WATER	N/A

**USGS QUADRANGLE MAP**

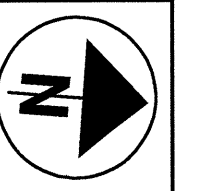
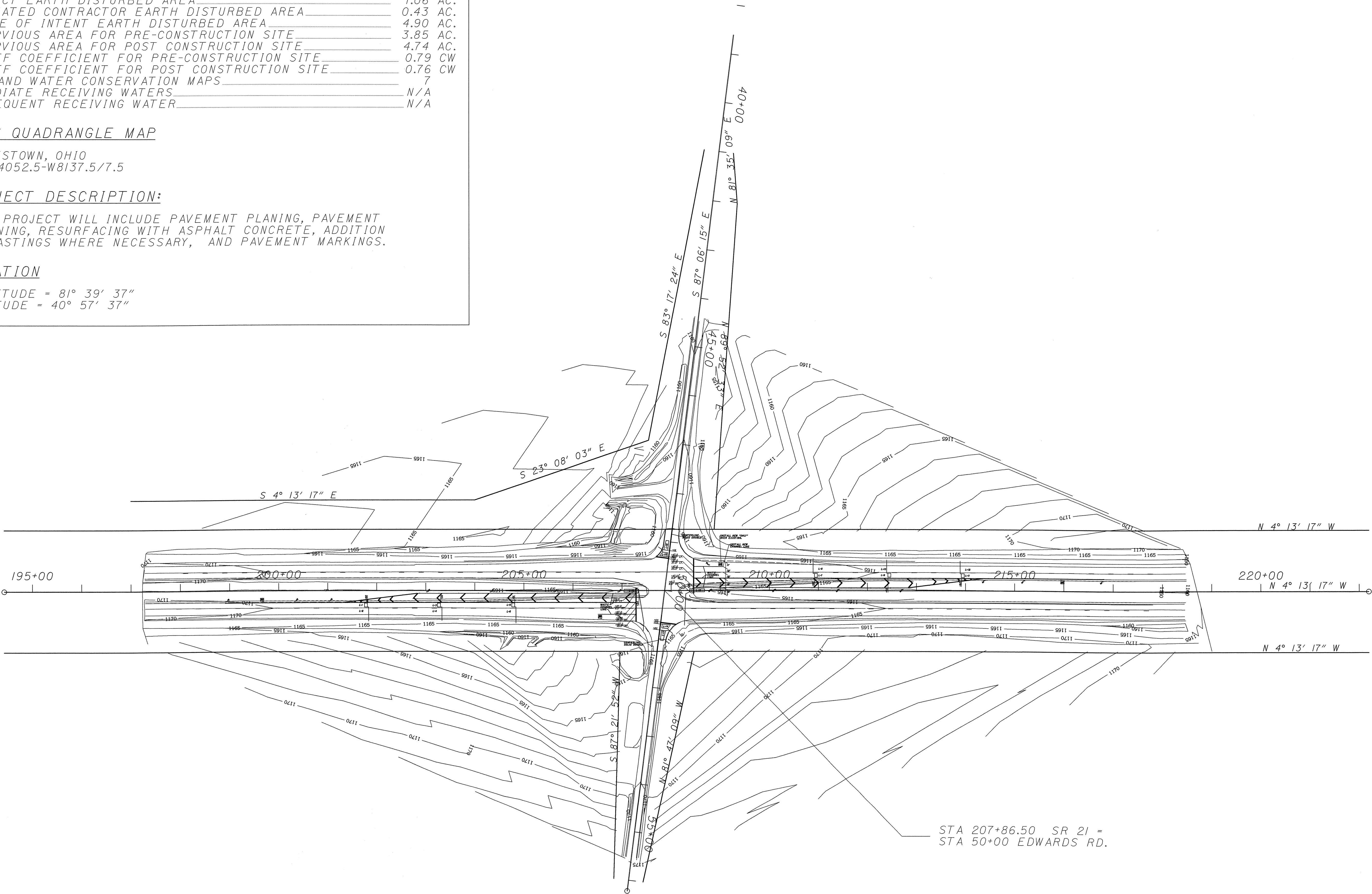
DOYLESTOWN, OHIO  
NO. N4052.5-W8137.5/7.5

**PROJECT DESCRIPTION:**

THIS PROJECT WILL INCLUDE PAVEMENT PLANING, PAVEMENT WIDENING, RESURFACING WITH ASPHALT CONCRETE, ADDITION OF CASTINGS WHERE NECESSARY, AND PAVEMENT MARKINGS.

**LOCATION**

LONGITUDE = 81° 39' 37"  
LATITUDE = 40° 57' 37"



CALCULATED	SJD
CHECKED	MJS

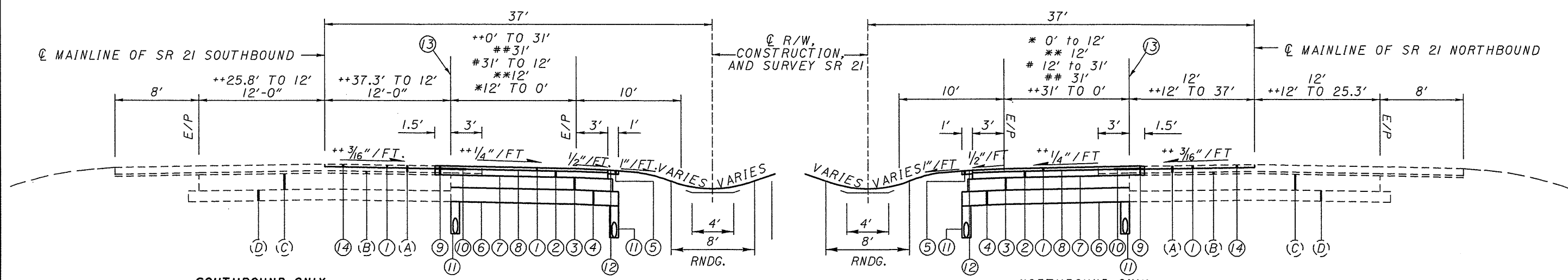
**PROJECT SITE PLAN**

**WAY-21-3.75**

DESIGN FILE: H:\23894\WD100.dgn  
WORKSTATION: mschafra DATE: 2/28/2007

**SOUTHBOUND**

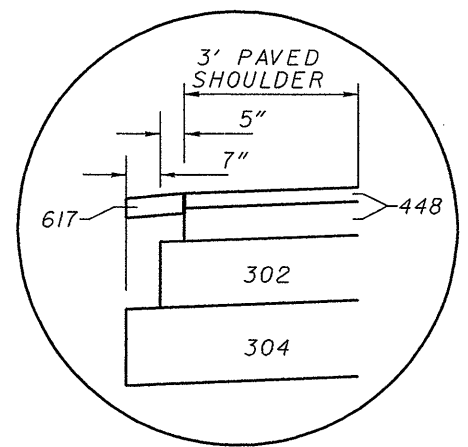
**NORTHBOUND**



**SOUTHBOUND ONLY**  
 ++ SR 21 - STA. 208+12.00 TO STA. 211+63.44 = 351.44'  
 ## SR 21 - STA. 211+63.44 TO STA. 212+83.69 = 120.25'  
 # SR 21 - STA. 212+83.69 TO STA. 214+36.44 = 152.75'  
 \*\* SR 21 - STA. 214+36.44 TO STA. 217+30.99 = 294.55'  
 \* SR 21 - STA. 217+30.99 TO STA. 217+80.37 = 49.38'

**NORTHBOUND ONLY**  
 \* SR 21 - STA. 197+92.07 TO STA. 198+42.07 = 50.00'  
 \*\* SR 21 - STA. 198+42.07 TO STA. 201+29.15 = 287.08'  
 # SR 21 - STA. 201+29.15 TO STA. 202+81.15 = 152.00'  
 ## SR 21 - STA. 202+81.15 TO STA. 203+87.28 = 106.13'  
 ++ SR 21 - STA. 203+87.28 TO STA. 207+53.00 = 365.72'

**NOTE:**  
 1) ++ - SLOPES VARY, SEE CROSS SECTION AND INTERSECTION  
 DETAIL SHEETS FOR SLOPES AND ELEVATIONS.



TYPICAL PAVEMENT EDGE  
STEP DETAIL

**PROPOSED LEGEND**

- ① ITEM 448 - 1/2" ASPHALT CONCRETE SURFACE COURSE, PG 64-22
- ② ITEM 448 - 3/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22
- ③ ITEM 302 - 7" ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN
- ④ ITEM 304 - 8" AGGREGATE BASE
- ⑤ ITEM 617 - 2" COMPACTED AGGREGATE, TYPE A, AS PER PLAN
- ⑥ ITEM 204 - SUBGRADE COMPACTION / ITEM 204 - PROOF ROLLING
- ⑦ ITEM 407 - TACK COAT (SEE GENERAL NOTE)
- ⑧ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
- ⑨ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (5" DEPTH)
- ⑩ ITEM SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS (3 FT MESH CENTERED OVER WIDENING JOINT)
- ⑪ ITEM 605 - SHALLOW PIPE UNDERDRAINS
- ⑫ ITEM 408 - PRIME COAT
- ⑬ ITEM 252 - FULL DEPTH PAVEMENT SAWING (ALONG THE CONCRETE BASE EDGE)
- ⑭ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE DEPTH)

**EXISTING LEGEND**

- (A) 3 3/4" ASPHALT CONCRETE & MICROSURFACING
- (B) 1 1/4" ASPHALT CONCRETE
- (C) 9" REINFORCED CONCRETE PAVEMENT
- (D) SUBBASE

**ITEM 254. PAVEMENT PLANING, ASPHALT CONCRETE**

THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER LINE OR EDGE OF PAVEMENT, TO PRODUCE THE CROSS SLOPES AND ELEVATIONS AS SHOWN ON THIS PLAN. FIELD WORK NECESSARY FOR PROPER CONTROL WITHIN PLAN INTENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

AN AUTOMATIC MILLING HEAD PROFILE CONTROL HAVING A MINIMUM 30 FT. SKI-ARM SHALL BE USED DURING PLANING OPERATION.

**ITEM 407. TACK COAT  
ITEM 407. TACK COAT FOR INTERMEDIATE COURSE**

AS PER 407.06 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ. YD. PRIOR TO THE LEVELING COURSE AND SHALL BE 0.03 GAL PER SQ. YD. PRIOR TO THE SURFACE COURSE FOR ESTIMATING PURPOSES ONLY. THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT SURFACE COVERAGE SHALL BE REQUIRED. AREAS OF TACK STRIPPED BY CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE RE-COATED PRIOR TO PLACING ASPHALT CONCRETE. ALL COST AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407, TACK COAT AND ITEM 407 TACK COAT FOR INTERMEDIATE COURSE.

**ITEM 604. MANHOLE NO. 3, AS PER PLAN**

DUE TO THE OFFSET OF THE EXISTING 36" CONDUITS THE CONTRACTOR SHALL USE A BASE I.D. OF 84". THIS IS TO ENSURE THAT ONCE THE CONDUITS HAVE A PROPOSED STRAIGHT CONNECTION BETWEEN EXISTING AND PROPOSED CONDUITS THEY WILL FIT WITHIN THE MANHOLE.

**ITEM 617. COMPACTED AGGREGATE, TYPE A, AS PER PLAN**

THIS ITEM OF WORK SHALL CONFORM TO ITEM 617 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS BOOK WITH EXCEPTION OF 617.02 (MATERIALS).

THE MATERIAL ON THIS PROJECT SHALL BE THE ASPHALT CONCRETE GRINDINGS RESULTING FROM ITEM 254. THE GRINDINGS USED FOR THIS WORK ARE TO BE PLACED AND COMPACTED AS DESCRIBED IN 617.05 WITH SPECIAL CARE TO CREATE PROPER COMPACTION. 100% OF THIS MATERIAL SHALL PASS A 1.5 INCH SIEVE AS JUDGED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MEET THE TYPICAL SECTIONS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER CU. YD. OF ITEM 617 COMPACTED AGGREGATE, TYPE A, AS PER PLAN.

**ITEM 302. ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN**

WHERE 302 ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN MATERIAL MEETS EXISTING CONCRETE PAVEMENT, PG GRADE LIQUID ASPHALT SHALL BE USED TO COAT THE VERTICAL FACE INSTEAD OF TACK COAT MATERIAL.

ALL COSTS TO BE INCLUDED IN ITEM 302 ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN.

**ITEM 659 SEEDING AND MULCHING**

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

659, COMMERCIAL FERTILIZER	1.0 TON
659, LIME	1.0 ACRE
659, WATER	39 M GAL.
659, REPAIR SEEDING AND MULCHING	301 SQ. YD.
659, INTER-SEEDING	301 SQ. YD.
659, TOPSOIL	0 CU. YD.
659, SOIL ANALYSIS TEST	2 EACH

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

**COORDINATION OF ASPHALT PLANING/PAVING OPERATIONS WITH LOOP DETECTOR REPLACEMENT**

DURING THE COURSE OF THE CONTRACT IT MAY BE NECESSARY FOR THE CONTRACTOR TO REPLACE THE EXISTING LOOP DETECTORS. THE INTENT IS TO REPLACE LOOP DETECTORS DAMAGED OR REMOVED BY ASPHALT PLANING OPERATIONS PRIOR TO RESURFACING COURSES. THE INTERSECTIONS INVOLVED ARE AS FOLLOWS:

SR 21 NB STA. 201+77.23	6' x 8'
SR 21 NB STA. 203+26.87	6' x 8'
SR 21 NB STA. 204+77.87	6' x 8'
SR 21 NB STA. 207+20.27	6' x 30' TURN LANE

SR 21 SB STA. 208+52.34	6' x 30' TURN LANE
SR 21 SB STA. 210+94.34	6' x 8'
SR 21 SB STA. 212+44.43	6' x 8'
SR 21 SB STA. 213+94.37	6' x 8'

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF ITEM 632 DETECTOR LOOP

**703.05 AGGREGATE FOR ASPHALT CONCRETE (INTERMEDIATE AND SURFACE COURSES)**

REMOVE THE PHRASE "THAT WILL BE EXPOSED TO TRAFFIC OVER THE WINTER MONTHS" FROM ITEMS b. AND c. OF C. GENERAL REQUIREMENTS FOR COURSE AND FINE AGGREGATE OF 703.05 (PAGE 767 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS).

**BUTT JOINTS**

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE OF SUFFICIENT LENGTH, AS DIRECTED BY THE ENGINEER.

CONSTRUCTION "BUMP" (OW-62) AND "ADVISORY SPEED" (OW-143) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THE BUTT JOINT IS LEFT OPEN. THESE SIGNS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM FOR ITEM 614 MAINTAINING TRAFFIC.

**CONSTRUCTION EQUIPMENT MEDIAN CROSSING**

CONSTRUCTION EQUIPMENT SHALL CROSS THE MEDIAN ONLY AT THE EXISTING INTERSECTIONS AND U-TURN CROSSOVERS AND AT OTHER ADDITIONAL LOCATIONS APPROVED BY THE ENGINEER. A MAXIMUM OF TWO (2) ADDITIONAL EQUIPMENT CROSSINGS MAY BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE, AT HIS EXPENSE, FOR THE RESTORATION OF THE ADDITIONAL EQUIPMENT CROSSINGS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING PRIOR TO HIS WORK OPERATIONS. WHEN THE MEDIAN CROSSINGS ARE BEING USED IN THE AREA OF ONE-LANE TRAFFIC OPERATION, THE CONTRACTOR SHALL PROVIDE AT HIS EXPENSE THE SERVICES OF A LAW ENFORCEMENT OFFICER WITH PATROL CAR TO CONTROL TRAFFIC FLOW.

**UTILITIES:**

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

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

ELECTRIC	TELEPHONE
OHIO EDISON	DOYLESTOWN
1910 W. MARKET ST., BLDG 1	81 N. PORTAGE ST.
AKRON, OHIO 44313	DOYLESTOWN, OHIO 44230
330-384-4702	330-658-2121

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

**ROUTINE MAINTENANCE**

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN

**WORK LIMITS**

THE WORK 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 WORK LIMITS.

**ITEM 252. FULL DEPTH PAVEMENT SAWING**

THE INTENT OF FULL DEPTH PAVEMENT SAWING IS TO CUT A LONGITUDINAL JOINT ALONG THE FACE OF THE EXISTING CONCRETE BASE. SEE TYPICAL SECTIONS FOR DETAILS.

**ROUNDING**

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

**ITEM SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS**

THIS WORK CONSISTS OF PLACEMENT OF A SELF ADHESIVE GLASS FIBER MESH OVER JOINTS AND CRACKS DESIGNATED IN THE PLAN PRIOR TO PLACEMENT OF SURFACE COURSE.

FURNISH GLASGRID KNITTED GLASS FIBER STRAND MESH MEETING THE FOLLOWING PROPERTIES:

PROPERTIES	GLASGRID NO. 0230
MATERIAL WIDTH	2.5 FT.
MATERIAL - SELF ADHESIVE FIBERGLASS STRAND COATED WITH ELASTROMERIC POLYMER PER ASTM 4963	20% MIN DRY PICKUP
TENSILE STRENGTH PER G.R.I.	
GG 1-87 WIDTH	1120 LBS/IN
LENGTH	560 LBS/IN
ELONGATION AT BREAK (MIN)	< 5%
MELTING POINT (MIN) ASTM D276	> 425° F
MASS/UNIT AREA (MIN) ASTM D5261-92	16 OZ/SQ. YD.
GRID PATTERN	0.5 IN x 0.5 IN

BEFORE INSTALLATION, SUBMIT A LETTER TO THE PROJECT WITH A STATEMENT CERTIFYING MATERIAL RECEIVED MEETS THE ABOVE PROPERTIES. SUBMIT TO THE PROJECT ACTUAL DATED (SALES FLYER DATA NOT ACCEPTABLE) TEST DATA WITH THE CERTIFICATION LETTER.

PERFORM ALL REQUIRED REPAIRS PRIOR TO PLACING MESH.

WHEN THE MESH IS TO BE APPLIED ON THE INTERMEDIATE COURSE, MARK THE CRACK LOCATIONS AS DESIGNATED IN THE PLAN.

ENSURE ALL AREAS WHERE MESH IS TO BE PLACED ARE FREE OF ALL DIRT AND OTHER LOOSE MATERIALS BY SWEEPING OR OTHER APPROVED METHOD. PLACE THE MESH ON A PAVEMENT SURFACE THAT IS BETWEEN 40°F AND 140°F. ALLOW FOR THE TACK COAT CURE BEFORE PLACING MESH.

PLACE MESH UNDER TENSION TO PREVENT RIPPLING. REMOVE RIPPLES BY PULLING, OR IF NECESSARY (IN CURVES FOR EX.) BY CUTTING AND FLATTENING THE MESH. OVERLAP TRANSVERSE JOINTS OF THE MESH 3 TO 6 INCHES. OVERLAP LONGITUDINAL JOINTS OF THE MESH BY 1 INCH MINIMUM. ROLL THE MESH SURFACE 2 PASSES WITH A RUBBER COATED DRUM ROLLER, RUBBER TIERED ROLLER OR OTHER METHOD ACCEPTABLE TO THE MANUFACTURE. CLEAN RUBBER TIRE ROLLER IF BUILD UP ON THE RUBBER SURFACE INTERFERES WITH MESH PLACEMENT. DO NOT USE A STEEL DRUM ROLLER.

PLACED MESH WILL HANDLE SPEED CONTROLLED EMERGENCY OR CONSTRUCTION TRAFFIC BUT DAMAGED SECTIONS MUST BE REMOVED AND/OR REPAIRED. COVER MESH WITH ASPHALT CONCRETE THE SAME DAY UNLESS WEATHER BECOMES UNSUITABLE.

THE DEPARTMENT WILL MEASURE MESH PLACEMENT BY THE SQ YD OF JOINT OR CRACK COVERED. MESH OVERLAP WILL NOT BE MEASURED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES, COMPLETED IN PLACE, AT THE CONTRACT PRICE, AS DESCRIBED ABOVE.

SEE TYPICAL SECTIONS FOR PLACEMENT LOCATION, SHEET 2

**ELEVATION DATUM**

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

**PAVEMENT CONTROL**

AN AUTOMATIC SCREED CONTROL, HAVING A 20FT. MINIMUM SKI-ARM, SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE AND SURFACE COURSE ON EXISTING PAVEMENT WIDTHS OF 20 FT. AND OVER.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPER-ELEVATED CURVES. THE SUPER-ELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE INTO ALL CATCH BASINS AND INLETS.

**COORDINATION OF WORK BETWEEN CONTRACTOR AND ODOT**

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ODOT PERSONNEL A MINIMUM OF 14 CALENDAR DAYS BEFORE STARTING WORK IN ORDER TO SCHEDULE A TIME TO CHANGE THE SIGNAL PHASING ACCORDING TO PLAN IN ORDER TO MAINTAIN TRAFFIC DURING CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ODOT PERSONNEL ONCE THE ASPHALT CONCRETE SURFACE COURSE, LOOP DETECTORS, AND PAVEMENT MARKINGS HAVE BEEN PLACED. THE ODOT PERSONNEL WILL CHANGE THE CONSTRUCTION PHASING TO THE NEW PROPOSED SIGNAL PHASING.

COORDINATION OF WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

KEVIN CAPIZZI 419-207-2822

**ITEM 202 RPM REMOVED**

THE CONTRACTOR SHALL DISPOSE OF ALL CASTINGS ON THE PROJECT ACCORDING TO CMS 105.17. PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE EACH FOR ITEM 202, RPM REMOVED.

**CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES**

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

DESIGN FILE: i:\projects\23894\GNI00.dgn  
WORKSTATION: sdeer  
DATE: 2/24/2004

GENERAL NOTES

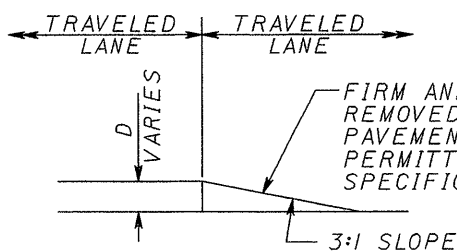
WAY - 21 - 3.75

**GENERAL NOTES**

- IT IS INTENDED THAT THIS DRAWING BE USED FOR TREATMENT OF DROP-OFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS, AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE CONSTRUCTION PLANS. THE SUGGESTED TREATMENTS ARE INTENDED FOR HIGH VOLUME PROJECTS THAT WILL LAST AT LEAST SEVEN DAYS AND HAVE AN ACTIVE WORK ZONE 1 MILE (1.6 KM) OR LESS IN LENGTH. FOR GUIDANCE ON THE USE OF THIS SHEET, SEE L&D MANUAL VOLUME ONE, SECTION 500. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED HEREON, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614-MAINTAINING TRAFFIC.
- WHILE THE NEED FOR CERTAIN ADVISORY SIGNING IS NOTED HEREON, IT IS NOT INTENDED THAT THIS BE INDICATIVE OF ALL SIGNING THAT MAY BE REQUIRED TO ADVISE OR WARN MOTORISTS. ALL REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) MUST BE FULFILLED.
- IN URBAN OR OTHERWISE HEAVILY DEVELOPED AREAS WHERE PEDESTRIANS AND/OR BICYCLISTS MAY BE PRESENT IN SIGNIFICANT NUMBERS, ADDITIONAL SIGNING AND PROTECTIVE MEASURES OTHER THAN THOSE SHOWN HEREON MAY BE REQUIRED.
- THE DROP-OFF TREATMENT SELECTED FOR USE AT ANY GIVEN LOCATION SHALL BE AS APPROPRIATE FOR THE PREVAILING CONDITIONS AT THE SITE.
- WHERE CONCRETE BARRIER IS SPECIFIED, IT SHALL BE IN ACCORDANCE WITH SCD RM-4.2 AND ITEM 622.
- WHEN DRUMS ARE SPECIFIED FOR A DROP-OFF CONDITION, A MINIMUM NUMBER OF FOUR DRUMS SHALL BE USED. SPACING SHALL BE AS INDICATED IN THE PLANS OR AS SPECIFIED IN THE OMUTCD.
- WHEN OW-151 (LOW SHOULDER) SIGNS OR OW-155 (SHOULDER DROP-OFF) SIGNS OR OW-171 (UNEVEN LANES) SIGNS ARE REQUIRED, THEY SHALL BE PLACED 750' (250 M) IN ADVANCE OF THE CONDITION, ON ALL INTERSECTING ENTRANCE RAMP WITHIN THE LIMITS OF THE CONDITION AND IMMEDIATELY BEYOND ALL INTERSECTING ROADWAYS WITHIN THE LIMITS OF THE CONDITION. WHEN THE DROP-OFF CONDITION EXTENDS MORE THAN 0.5 MILE (800M), ADDITIONAL SIGNS SHOULD BE ERECTED AT INTERVALS OF 1.0 MILE (1600 M) OR LESS.
- FOR LOCATIONS, SUCH AS AT RAMPS, LANE SHIFTS, LANE CLOSURES, ETC., WHERE TRAFFIC IS REQUIRED TO NEGOTIATE A DIFFERENCE IN ELEVATION BETWEEN PAVEMENTS, A 3:1 SLOPE TREATMENT SIMILAR TO THE OPTIONAL WEDGE TREATMENT SHALL BE PROVIDED.
- PORTABLE CONCRETE BARRIER SHALL BE PLACED ON THE SAME LEVEL AS THE TRAFFIC SURFACE AND SHALL NOT ENCRANCH ON LANE WIDTH(S) DESIGNATED AS THE MINIMUM REQUIRED FOR TRAFFIC USE. WHERE DRUMS ARE USED, AND THEIR PRESENCE WOULD REDUCE TRAVELED LANE WIDTHS TO LESS THAN 10' (3.0M), DRUMS MAY BE PLACED ON THE OPPOSITE LEVEL FROM THAT OF TRAFFIC PROVIDED THE DROP-OFF DEPTH DOES NOT EXCEED 5" (125) AND APPROVAL IS GRANTED BY THE PROJECT ENGINEER.
- PAVEMENT REPAIRS (OR SIMILAR WORK):
  - LENGTHS GREATER THAN 60' (18 M) - UTILIZE APPROPRIATE TREATMENT FROM CONDITION I.
  - LENGTHS OF 60' (18 M) OR LESS - REPAIRS SHALL BE EFFECTED IN ACCORDANCE WITH CMS 255.08. DRUMS MAY BE USED AS A SEPARATOR ADJACENT TO THE TRAVELED LANE.

**OPTIONAL WEDGE TREATMENT  
(MILLING OR RESURFACING)**

- THIS TREATMENT MAY BE USED WHEN PERMITTED FOR CONDITION I ONLY.
- OW-171 SIGN REQUIRED



FIRM AND UNYIELDING MATERIAL (TO BE REMOVED PRIOR TO PLACING THE ABUTTING PAVEMENT COURSE, UNLESS OTHERWISE PERMITTED TO REMAIN BY THE PLANS OR SPECIFICATIONS).

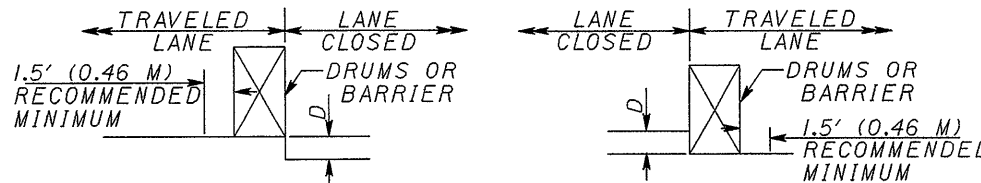
**CONDITION I**

**DROP-OFFS BETWEEN TRAVELED LANES**

1. THESE TREATMENTS ARE TO BE USED FOR RESURFACING, PAVEMENT PLANING, EXCAVATION, ETC. BETWEEN OR WITHIN TRAVELED LANES.

D	TREATMENT
≤ 1 1/2" (≤ 40)	ERECT OW-171 SIGN
> 1 1/2" - 3" (40-75)	1. LANE CLOSURE UTILIZING DRUMS* AS SHOWN BELOW OR 2. OPTIONAL WEDGE TREATMENT
> 3" - 5" (> 75-125)	LANE CLOSURE UTILIZING DRUMS AS SHOWN BELOW
> 5" (> 125)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW

\* CONES MAY BE USED FOR DAYTIME ONLY CONDITIONS



**CONDITION II**

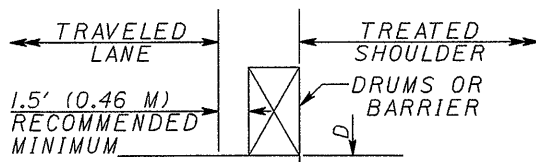
**DROP-OFFS WITHIN GRADED SHOULDER AREA**

THE TREATMENTS INDICATED BELOW ARE FOR USE IN CONJUNCTION WITH RESURFACING, PLANING, OR EXCAVATIONS WITHIN THE GRADED SHOULDER AREA.

THE GRADED SHOULDER AREA IS THAT FLAT OR GRADUALLY SLOPING AREA BETWEEN THE EDGE OF A NORMALLY TRAVELED LANE AND THE MORE STEEPLY SLOPING DITCH FORESLOPE OR EMBANKMENT SLOPE. ITS SURFACE MAY BE SOIL OR TURF, AND/OR IT MAY BE INCLUSIVE OF A "TREATED" AREA (IMPROVED WITH MAXIMUM WIDTH SHALL BE CONSIDERED TO BE 12' (3.6 M)).

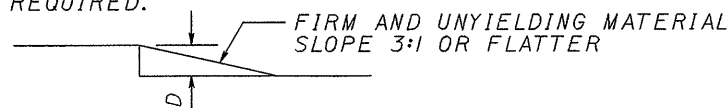
D	TREATMENT
≤ 1 1/2" (≤ 40)	ERECT OW-155 SIGNS
> 1 1/2" - 5" (> 40-125)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS OR 3. OPTIONAL SHOULDER TREATMENT
> 5" - 12" (> 125-305) DAYLIGHT ONLY	IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW.
> 5" - 24" (> 125-610)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW. OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS.
> 5" - 24" (> 125-610)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW

\*MINIMUM LANE WIDTHS SHALL BE 10' (3.0 M) UNLESS OTHERWISE SPECIFIED IN THE PLANS.



**OPTIONAL SHOULDER TREATMENT**

- THIS TREATMENT MAY NOT BE USED WITHIN A BITUMINOUS SHOULDER WHERE A HOT LONGITUDINAL JOINT PER CMS 401.15 IS REQUIRED.
- OW-151 SIGNS REQUIRED.



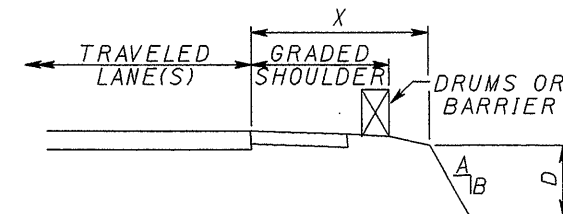
**CONDITION III**

**DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB**

- SEE NOTE 2 UNDER CONDITION II.
- USE CHART A OR B BELOW, AS APPLICABLE.

**CHART A**

- USE FOR: 1. UNCURBED FACILITIES.  
2. CURBED FACILITIES, WHERE:  
A. CURBS ARE LESS THAN 6" (150) IN HEIGHT.  
B. CURBS ARE 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS GREATER THAN 40 MPH (70 KM/H)

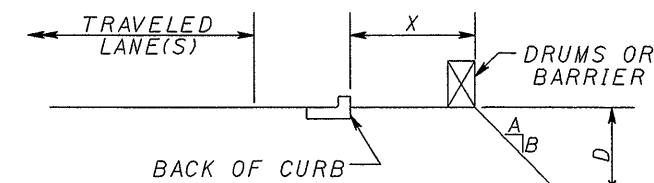


X	D	A/B	Treatment Required	
			Day	Night
0-4' (0-1.2 M)	ANY	ANY	(A)	(A)
4'-30' (1.2 M-9.1 M)	ANY	3:1 OR FLATTER	NONE	NONE
4'-12' (1.2 M-3.6 M)	≤ 3" (≤ 75)	STEEPER THAN 3:1	NONE	NONE
4'-12' (1.2 M-3.6 M)	> 3" - ≤ 12" (> 75 - ≤ 305)	STEEPER THAN 3:1	DRUMS	DRUMS
4'-12' (1.2 M-3.6 M)	> 12" (> 305)	STEEPER THAN 3:1	DRUMS	BARRIER
> 12'-20' (> 3.6 M-6.1 M)	> 12" (> 305)	STEEPER THAN 3:1	NONE	NONE
> 12'-20' (> 3.6 M-6.1 M)	> 12" - ≤ 24" (> 305 - ≤ 610)	STEEPER THAN 3:1	DRUMS	DRUMS
> 12'-20' (> 3.6 M-6.1 M)	> 24" (> 610)	STEEPER THAN 3:1	DRUMS	BARRIER
> 20'-30' (> 6.1 M-9.1 M)	< 24" (< 610)	STEEPER THAN 3:1	NONE	NONE
> 20'-30' (> 6.1 M-9.1 M)	> 24" (> 610)	STEEPER THAN 3:1	DRUMS	BARRIER
> 30' (> 9.1 M)	ANY	ANY	NONE	NONE

(A) USE TREATMENT SPECIFIED UNDER CONDITION II

**CHART B**

- USE FOR: CURBED FACILITIES, WHERE THE CURB IS 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS 40 MPH (70 KM/H) OR LESS.



X	D	A/B	TREATMENT REQUIRED	
			DAY	NIGHT
0-10' (0-3.0 M)	< 12" (< 305)	ANY	NONE	DRUMS
0-10' (0-3.0 M)	> 12" (> 305)	ANY	DRUMS	DRUMS
> 10' (> 3.0 M)	ANY	ANY	NONE	NONE

NOTE: ALL METRIC DIMENSIONS (IN BRACKETS ( ) ) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

**ITEM 614, WORK ZONE MARKING SIGN**

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

- WORK ZONE MARKING SIGN: (OW-167-36) NO EDGE LINE = 4 EACH
- WORK ZONE MARKING SIGN: (R-33-24) DO NOT PASS = 4 EACH
- WORK ZONE MARKING SIGN: PASS WITH CARE = 0 EACH
- TOTAL = 8 EACH

**ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC**

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANNED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF IN EXCESS OF 1.5 INCHES, AS DIRECTED BY THE ENGINEER. THIS QUANTITY SHALL ALSO BE USED AT PLANNED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS, AS DIRECTED BY THE ENGINEER.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC  
20 CU YD

**CONSTRUCTION PRE-TIMED SIGNAL TIMING**

THE SIGNAL SHALL BE SET AS FOLLOWS:

- PHASE A (ALL NORTHBOUND MOVEMENTS)  
GREEN 29.6 AMBER 5.4 ALL RED 5
- PHASE B (ALL SOUTHBOUND MOVEMENTS)  
GREEN 32.6 AMBER 5.4 ALL RED 5
- PHASE C (EDWARDS RD. MOVEMENTS)  
GREEN 9.5 AMBER 5.0 ALL RED 2.5

THE CONTRACTOR IS REMINDED OF THE COORDINATION WITH ODOT NOTE ON SHEET 5.

**TRENCH FOR WIDENING**

THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED AT ALL TIMES WITH DRUMS OR BARRICADES AS PER THE "DROP-OFFS IN WORK ZONES" SHEET, SHEET 6.

PLACEMENT OF THE PROPOSED BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL BY THE ENGINEER.

**ITEM 614, MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED)**

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

**ITEM 614, WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: QSCZCVR-T4  
DRAWING NAME: QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES  
REVISION DATE: 5/13/99 REV. J  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10  
DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD, CZ, QG  
REVISION DATE: 11/19/97 REV. D  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16  
DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG  
REVISION DATE: 7/30/99 REV. F  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z  
DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36  
REVISION DATE: 5/17/99  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18  
DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, QG  
REVISION DATE: 6/25/99 REV. F  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260  
DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY  
REVISION DATE: 11/19/97 REV. C  
ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PREAPPROVED SHOP DRAWINGS:

DRAWING NUMBER: SS450  
DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS  
REVISION DATE: 3/12/99 REV. I  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455  
DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS  
REVISION DATE: 2/18/99  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461  
DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS  
REVISION DATE: 6/30/99 REV. I  
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462  
DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS  
REVISION DATE: 6/30/99  
ODOT APPROVAL DATE: 8/27/99

**ITEM 614, WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) CONT.**

3. THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC.

THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR RELOCATE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**WORK PRIOR TO WIDENING**

THE CONTRACTOR SHALL PERFORM ALL THE FOLLOWING PROPOSED ITEMS OF WORK PRIOR TO WIDENING: ITEM 603 AND ITEM 604.

**LIMITATIONS FOR WIDENING**

1) ALL EXISTING LANES ARE TO BE OPEN EXCEPT FOR A PERIOD OF A 14 CONSECUTIVE CALENDAR DAY LANE CLOSURE. PERFORM ALL WORK UP TO A COMPLETED INTERMEDIATE COURSE. THE CONTRACTOR SHALL HAVE A INTERIM COMPLETION DATE OF 05-21-05. FAILURE OF THE CONTRACTOR TO MEET THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES AS PER 108.07 OF THE CMS

2) PLANING OPERATIONS OF THE PASSING LANE AND INTERSECTION AREA SHALL BE DONE AFTER THE INTERMEDIATE COURSE IS COMPLETED.

3) REMOVE ALL PCB THEN PLANE AND PAVE.

THE CONTRACTOR IS REMINDED TO CONTACT THE ODOT PERSONNEL IN ORDER TO HAVE THE ODOT PERSONNEL CHANGE THE SIGNAL OPERATION PRIOR TO BEGINING ANY WORK.

**OVERNIGHT TRENCH CLOSING**

NO TRENCH SHALL BE LEFT OPEN OVERNIGHT WITHIN 50 FEET OF THE CENTERLINE OF RIGHT OF WAY OF EDWARDS ROAD. IF THE CONTRACTOR DOES NOT CLOSE OR PAVE THE TRENCH TO WITHIN 5" OF THE EXISTING PAVEMENT ELEVATION, THE CONTRACTOR SHALL PLACE TEMPORARY EMBANKMENT TO A DEPTH OF NO MORE THAN 5" BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

PRIOR TO PLACING ASPHALT CONCRETE, THE CONTRACTOR SHALL CLEAN THE EDGE OF THE PROPOSED CONSTRUCTION JOINT THOROUGHLY TO REMOVE ALL LOOSE DEBRIS AND EMBANKMENT. THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE CLEANING FROM THE ENGINEER PRIOR TO PLACING THE ASPHALT CONCRETE.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

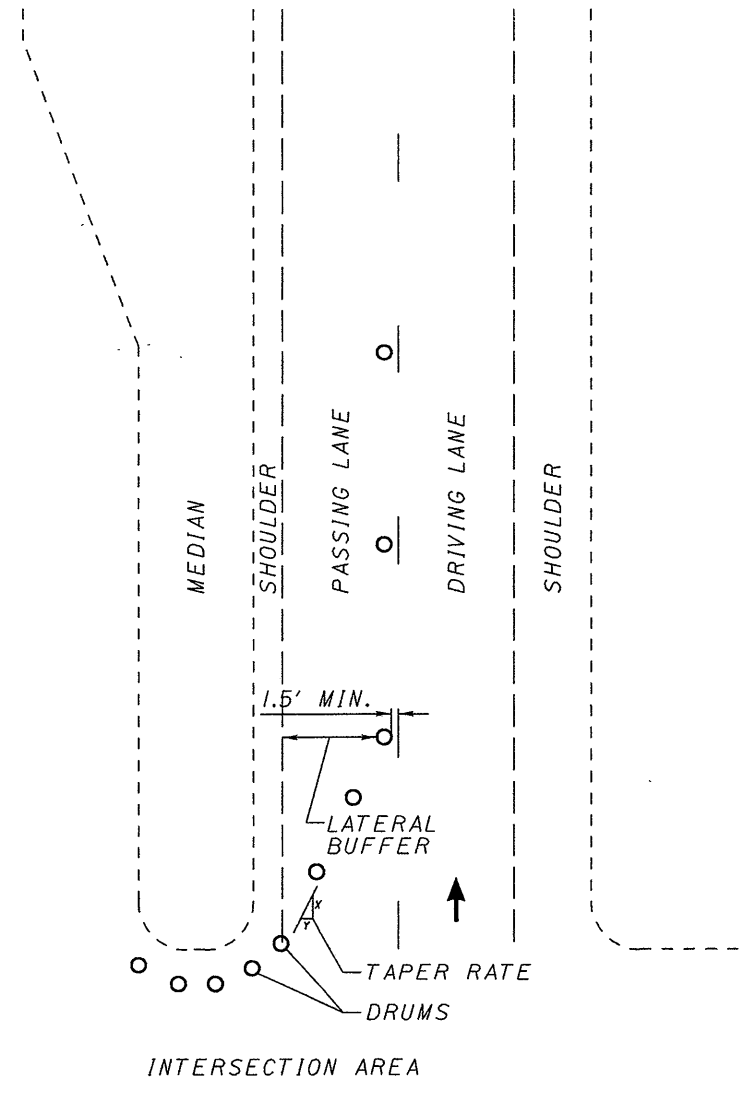


**ITEM 614. BARRIER REFLECTORS AND/OR OBJECT MARKERS**

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET AN ESTIMATED QUANTITY OF 50 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 50 EACH OF ITEM 614 OBJECT MARKER, ONE-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

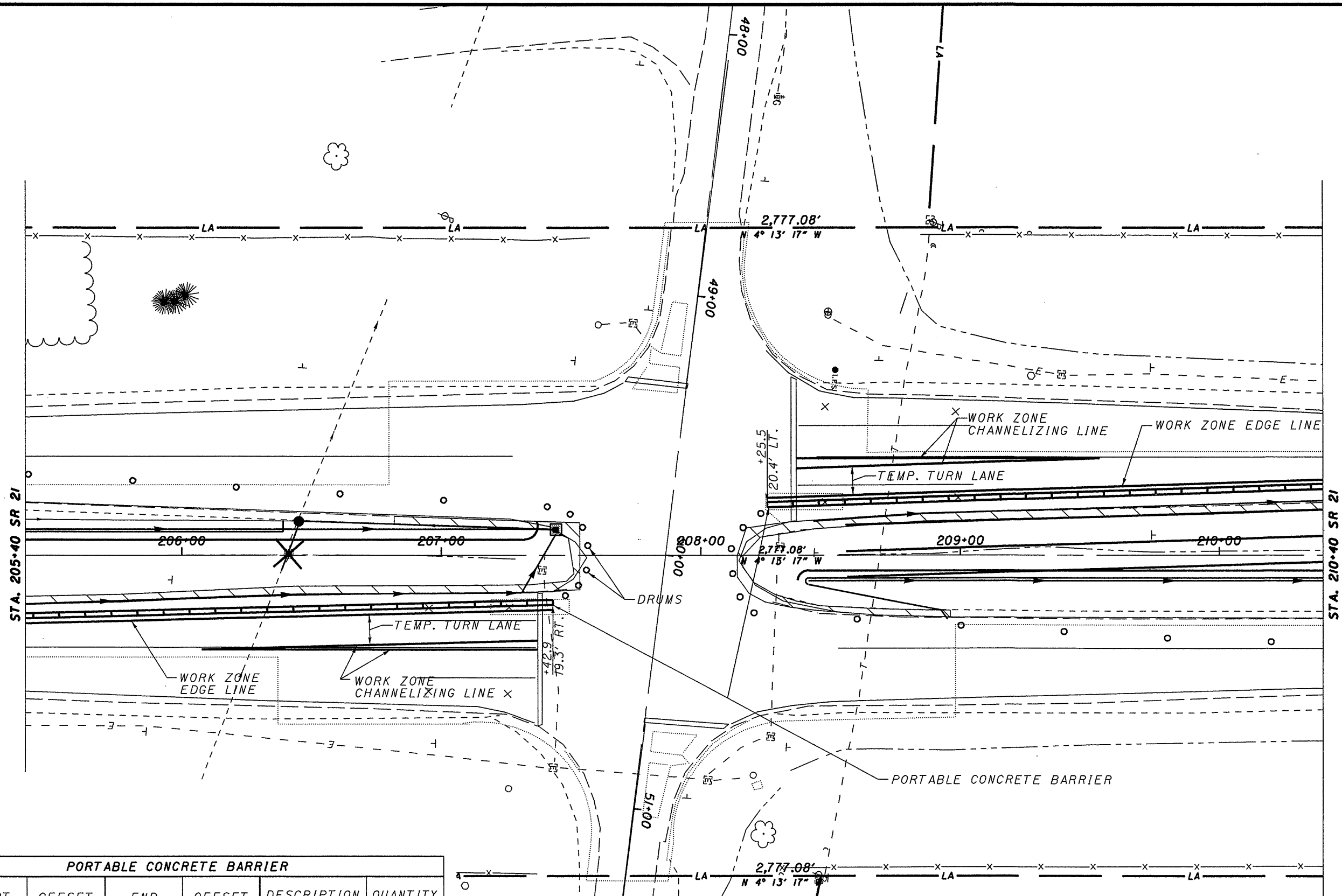
**ITEM 614. MAINTAINING TRAFFIC (DRUMS)**

DRUMS SHALL ONLY BE USED WITH A LATERAL BUFFER. THE LATERAL BUFFER SHALL CONSIST OF THE PASSING LANE AS SHOWN IN THE DETAIL BELOW. DRUMS SHALL BE PLACED FROM THE INTERSECTION TO THE BEGINING OF THE FIRST TAPER FROM THE INTERSECTION. TAPER RATES SHALL COMPLY TO THE SCD 95.40. THE DETAIL SHOWN BELOW, APPLIES TO BOTH SIDES OF THE INTERSECTION. PORTABLE CONCRETE BARRIER SHALL BE USED WHERE SPECIFIED IN THE PLANS, DRUMS ARE NOT AN ALTERNATIVE TO PCB. SEE SHEET 9 FOR ADDITIONAL DETAILS.



DESIGN FILE: I:\projects\23894\MN100\_21.dgn  
 WORKSTATION: sdeer  
 DATE: 2/10/2004

DESIGN FILE: i:\projects\23894\MD100.dgn  
 WORKSTATION: sdeer DATE: 2/10/2004



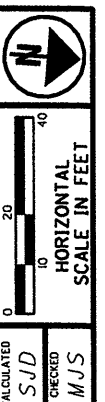
PORTABLE CONCRETE BARRIER

SIDE	START	OFFSET	END	OFFSET	DESCRIPTION	QUANTITY
RT.	195+63.30	22.4	197+83.09	34.2	TAPER	220
RT.	197+83.09	34.2	201+53.09	34.7	STRAIGHT	370
RT.	201+53.09	34.7	207+42.94	19.3	TAPER	590
LT.	208+25.54	20.4	212+85.37	35.4	TAPER	460
LT.	212+85.37	35.4	217+85.37	35.4	STRAIGHT	500
LT.	217+85.37	35.4	219+95.17	24.1	TAPER	210
					<b>TOTAL</b>	<b>2,350</b>

ALL QUANTITIES CARRIED TO GENERAL SUMMARY SHEET, SHEET 10 AND 10A

ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
			LEFT	RIGHT	
614	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	EACH	1	1	2
614	WORK ZONE CENTER LINE, CLASS II, 642 PAINT	MILE	0.02	0.03	0.05
614	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	MILE	0.04	0.05	0.90
614	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	FT	234	258	492
614	WORK ZONE STOP LINE, CLASS I	FT	50	66	116

SEE STANDARD CONSTRUCTION DRAWING MT-95.40 FOR ADDITIONAL INFORMATION NOT SHOWN



MOT DETAIL

WAY-21-3.94

# GENERAL SUMMARY

CALC BY: SJJ  
CHKD BY: MJS

SHEET NUMBER											ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHEET
4	11	13	16	31	32	34	35									
															<b>ROADWAY</b>	
			10								202	35200	10	FT	PIPE REMOVED, OVER 24"	
								28			202	54100	28	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	
			1								202	58100	1	EACH	CATCH BASIN REMOVED	
										2272	203	10000	2272	CU YD	EXCAVATION	
										412	203	20000	412	CU YD	EMBANKMENT	
		5404									204	10000	5,404	SQ YD	SUBGRADE COMPACTION	
			4								204	45000	4	HOUR	PROOF ROLLING	
		2105									252	01500	2105	FT	FULL DEPTH PAVEMENT SAWING	
								12	12		630	02100	24	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
								1	1		630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
								1	1		630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
8											632	26500	8	EACH	DETECTOR LOOP	
															<b>EROSION CONTROL</b>	
2											659	00100	2	EACH	SOIL ANALYSIS TEST	
										6024	659	10000	6024	SQ YD	SEEDING AND MULCHING	
301											659	14000	301	SQ YD	REPAIR SEEDING AND MULCHING	
301											659	15000	301	SQ YD	INTER-SEEDING	
1											659	20000	1	TON	COMMERCIAL FERTILIZER	
1											659	31000	1	ACRE	LIME	
39											659	35000	39	M GAL	WATER	
											832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
											832	20000	LUMP		EROSION CONTROL	
															<b>DRAINAGE</b>	
										160	603	00510	160	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
			294								603	07400	294	FT	18" CONDUIT, TYPE B	
			20								603	16400	20	FT	36" CONDUIT, TYPE B	
			2								604	04900	2	EACH	CATCH BASIN, NO. 2-3	
			1								604	31501	1	EACH	MANHOLE, NO. 3, AS PER PLAN	4
										3729	605	11100	3,729	FT	6" SHALLOW PIPE UNDERDRAINS	
															<b>PAVEMENT</b>	
		4502									254	01000	4,502	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE)	
		1007									254	01000	1,007	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (5" THICK)	
		225									254	01600	225	SQ YD	PATCHING PLANED SURFACE	
		1011									302	46001	1,011	CU YD	ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN	4
		1176									304	20000	1,176	CU YD	AGGREGATE BASE	
			788								407	10000	788	GALLON	TACK COAT	
			324								407	14000	324	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
			82								408	10000	82	GALLON	PRIME COAT	
			525								448	46050	525	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
			498								448	47020	498	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
										11	617	10101	11	CU YD	COMPACTED AGGREGATE, TYPE A, AS PER PLAN	
										679	SPECIAL	69012050	679	SQ YD	REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	

GENERAL SUMMARY

WAY-21-3-75

# GENERAL SUMMARY

CALC BY: JPF  
CHKD BY: BAD

SHEET NUMBER											ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHEET
							7	8	9	32						
											<b>MAINTENANCE OF TRAFFIC</b>					
									2		614	12336	2	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
							8				614	12460	8	EACH	WORK ZONE MARKING SIGN	
							20				614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
								50			614	13300	50	EACH	BARRIER REFLECTOR, TYPE B	
								50			614	13350	50	EACH	OBJECT MARKER, ONE WAY	
									0.05		614	21500	0.05	MILE	WORK ZONE CENTER LINE, CLASS II, 642 PAINT	
									0.09		614	22200	0.09	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
									116		614	26000	116	FT	WORK ZONE STOP LINE, CLASS I	
									492		614	23400	492	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
									2350		622	40020	2350	FT	PORTABLE CONCRETE BARRIER, 32"	
											<b>TRAFFIC CONTROL</b>					
										104	621	00200	104	EACH	RPM, INSTALLATION ONLY	
										0.54	642	00102	0.54	MILE	EDGE LINE, TYPE 2	
										0.38	642	00202	0.38	MILE	LANE LINE, TYPE 2	
										0.02	642	00302	0.02	MILE	CENTER LINE, TYPE 2	
										3053	644	00400	3053	FT	CHANNELIZING LINE	
										197	644	00500	197	FT	STOP LINE	
										650	644	00700	650	FT	TRANSVERSE LINE (CHEVRON)	
										14	644	01300	14	EACH	LANE ARROW	
										4	644	01410	4	EACH	WORD ON PAVEMENT, 96", ONLY	
											614	11000	LUMP	MAINTAINING TRAFFIC		
											623	10000	LUMP	CONSTRUCTION LAYOUT STAKES		
											624	10000	LUMP	MOBILIZATION		

GENERAL SUMMARY

WAY-21-3.75

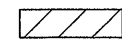
PART	ROUTE	LOG POINT TO LOG POINT		LENGTH	AVG. WIDTH	PAVEMENT AREA	254	254	254	204	204	302	304	407	407	448		448		SPECIAL REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	252 FULL DEPTH PAVEMENT SAWING	408	617	CALD SJD CHKD MJS			
							PAVEMENT PLANING, ASPHALT CONCRETE VARIABLE	PAVEMENT PLANING, ASPHALT CONCRETE 5" THICK	PATCHING PLANED SURFACE	SUBGRADE COMPACTION	PROOF ROLLING	ASPHALT CONCRETE BASE, PG64-22	AGGREGATE BASE	TACK COAT @ 0.08 GAL/SQ YD	TACK COAT FOR INTERM. COURSE @ 0.03 GAL/SQ YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	INCH THICK	INCH THICK			PRIME COAT @ 0.40 GAL/SQ YD	COMPACTED AGGREGATE, TYPE A, AS PER PLAN				
							SQ YD	SQ YD	SQ YD	SQ YD	HOUR	CU YD	8" THICK CU YD	GALLON	GALLON	CU YD	CU YD	SQ YD	FOOT			GALLON	CU YD				
<b>NORTHBOUND ONLY, WIDENING</b>																											
A	SR 21	197+92.07	198+42.07	50.00	7.5	41.7		25.0			50.0		8.7	10.5		3.0	3.5	4.9	1.5	2.1							
A	SR 21	198+42.07	201+29.15	287.08	15.0	478.5		143.5			526.3		96.7	113.4		31.6	3.5	51.2	1.5	21.9							
A	SR 21	201+29.15	202+81.15	152.00	24.5	413.8		76.0			439.1		82.4	95.7		26.3	3.5	42.7	1.5	18.3							
A	SR 21	202+81.15	203+87.28	106.13	34.0	400.9		53.1			418.6		79.3	91.7		25.1	3.5	40.7	1.5	17.4							
A	SR 21	203+87.28	206+39.00	251.7	29.5	825.1		125.9			867.0		163.6	189.6		52.0	3.5	84.3	1.5	36.1							
A	SR 21	206+39.00	207+53.00	114.0	29.0	367.3		57.0			386.3		72.9	84.4		23.2	3.5	37.6	1.5	16.1							
A	SR 22	208+12.00	208+96.16	84.2	7.5	61.2		42.1			84.2		14.7	17.7		5.0	3.5	8.2	1.5	3.5							
<b>NORTHBOUND ONLY, EXISTING PAVEMENT WORK</b>																											
A	SR 21	197+92.07	203+87.28	595.2	10.5	694.4		347.2							127.0				1.5	28.9							
A	SR 21	203+87.28	206+44.00	256.7	15.8	450.7		225.3							66.9				1.5	18.8							
A	SR 21	206+44.00	208+96.16	252.2	53.0	1,484.9		1,484.9							149.1				1.5	61.9							
<b>NORTHBOUND TOTAL</b>								<b>2,057.5</b>	<b>522.5</b>	<b>102.9</b>	<b>2,771.6</b>	<b>2.0</b>	<b>518.2</b>	<b>603.0</b>	<b>342.9</b>	<b>166.3</b>		<b>269.5</b>	<b>225.1</b>	<b>322.0</b>	<b>1,029.0</b>	<b>40.0</b>	<b>5.6</b>				
<b>SOUTHBOUND ONLY, WIDENING</b>																											
A	SR 21	208+12.00	208+40.42	28.42	20.0	63.2		14.2			67.9		12.6	14.7		4.1	3.5	6.6	1.5	2.8							
A	SR 21	208+40.42	211+63.44	323.02	28.0	1,005.0		161.5			1,058.8		199.5	231.3		63.5	3.5	102.9	1.5	44.1							
A	SR 21	211+63.44	212+83.69	120.25	34.0	454.3		60.1			474.3		89.8	103.9		28.5	3.5	46.1	1.5	19.8							
A	SR 21	212+83.69	214+36.79	153.1	24.5	416.8		76.6			442.3		83.0	96.4		26.5	3.5	43.0	1.5	18.4							
A	SR 21	214+36.79	217+30.99	294.2	15.0	490.3		147.1			539.4		99.1	116.2		32.4	3.5	52.4	1.5	22.5							
A	SR 21	217+30.99	217+80.37	49.38	7.5	41.1		24.7			49.4		8.6	10.4		3.0	3.5	4.8	1.5	2.1							
<b>SOUTHBOUND ONLY, EXISTING PAVEMENT WORK</b>																											
A	SR 21	206+81.90	208+61.35	179.45	22.8	454.6		454.6							57.9				1.5	18.9							
A	SR 21	208+61.35	211+63.44	302.09	66.3	2,225.4		1,112.7							214.3				1.5	92.7							
A	SR 21	211+63.44	217+80.37	616.93	10.3	706.0		353.0							130.5				1.5	29.4							
<b>SOUTHBOUND TOTAL</b>								<b>1,920.3</b>	<b>484.2</b>	<b>96.0</b>	<b>2,632.0</b>	<b>2.0</b>	<b>492.6</b>	<b>572.9</b>	<b>402.7</b>	<b>157.9</b>		<b>255.9</b>	<b>250.8</b>	<b>357.0</b>	<b>1076</b>	<b>41.9</b>	<b>5.8</b>				
<b>EA FOR INTERSECTION (EDWARDS RD.)</b>																											
						523.8	523.8	26.2						41.9					1.5	21.8							
<b>SHEET TOTAL</b>							<b>4,501.6</b>	<b>1,006.7</b>	<b>225.1</b>	<b>5,403.6</b>	<b>4.0</b>	<b>1,010.8</b>	<b>1,175.9</b>	<b>787.5</b>	<b>324.2</b>		<b>525.4</b>	<b>497.6</b>	<b>679.0</b>	<b>2,105.0</b>	<b>81.9</b>	<b>11.4</b>					


PAVEMENT & SHOULDER DATA

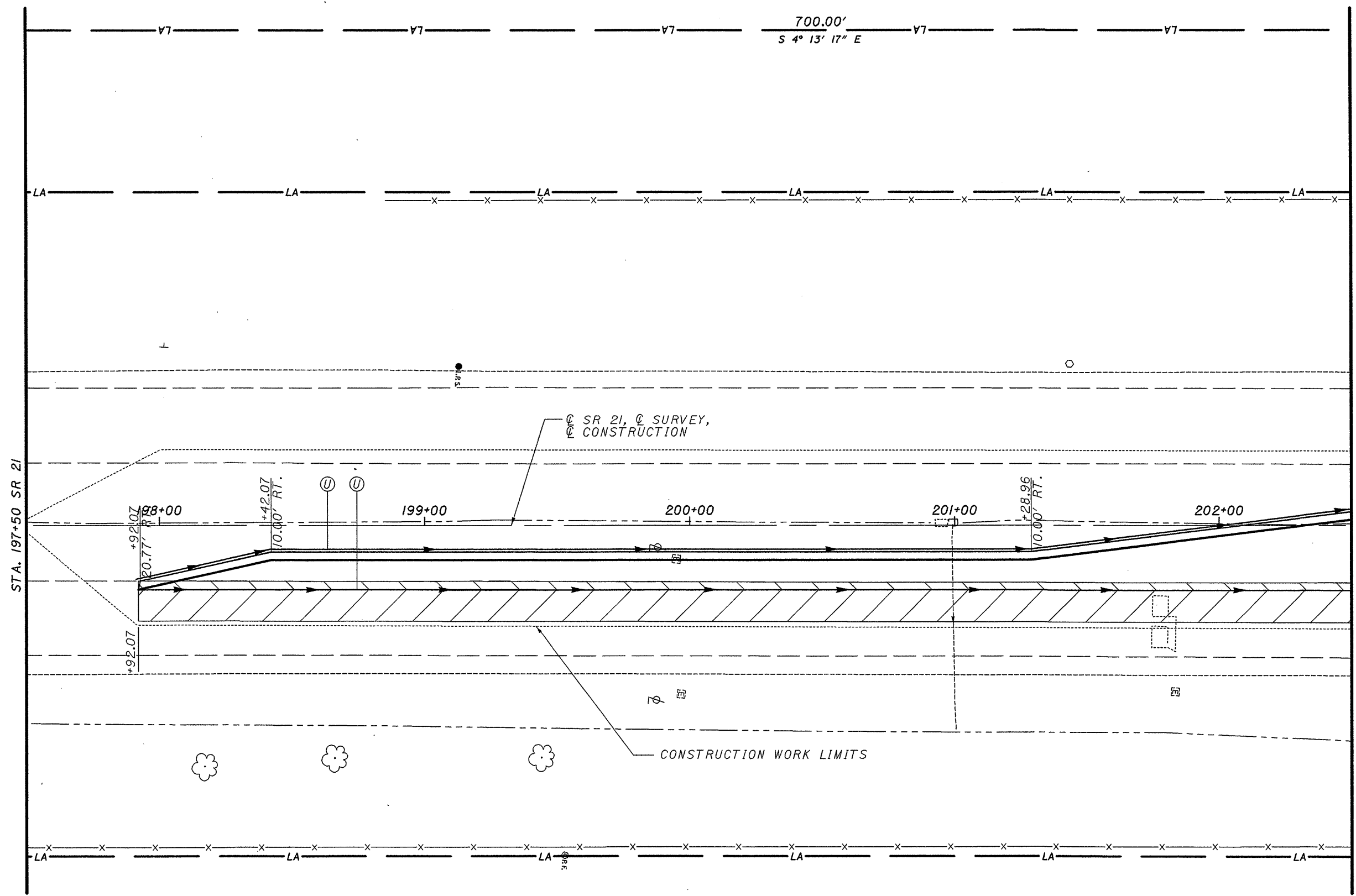
WAY-21-3.75

DESIGN FILE: I:\projects\23894\g100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

 - 5" PAVEMENT PLANING AND PAVING

 - PAVEMENT PLANING AND PAVING

FOR  QUANTITIES, SEE TABLE ON SHEET 16



CALCULATED SJD  
 CHECKED MJS

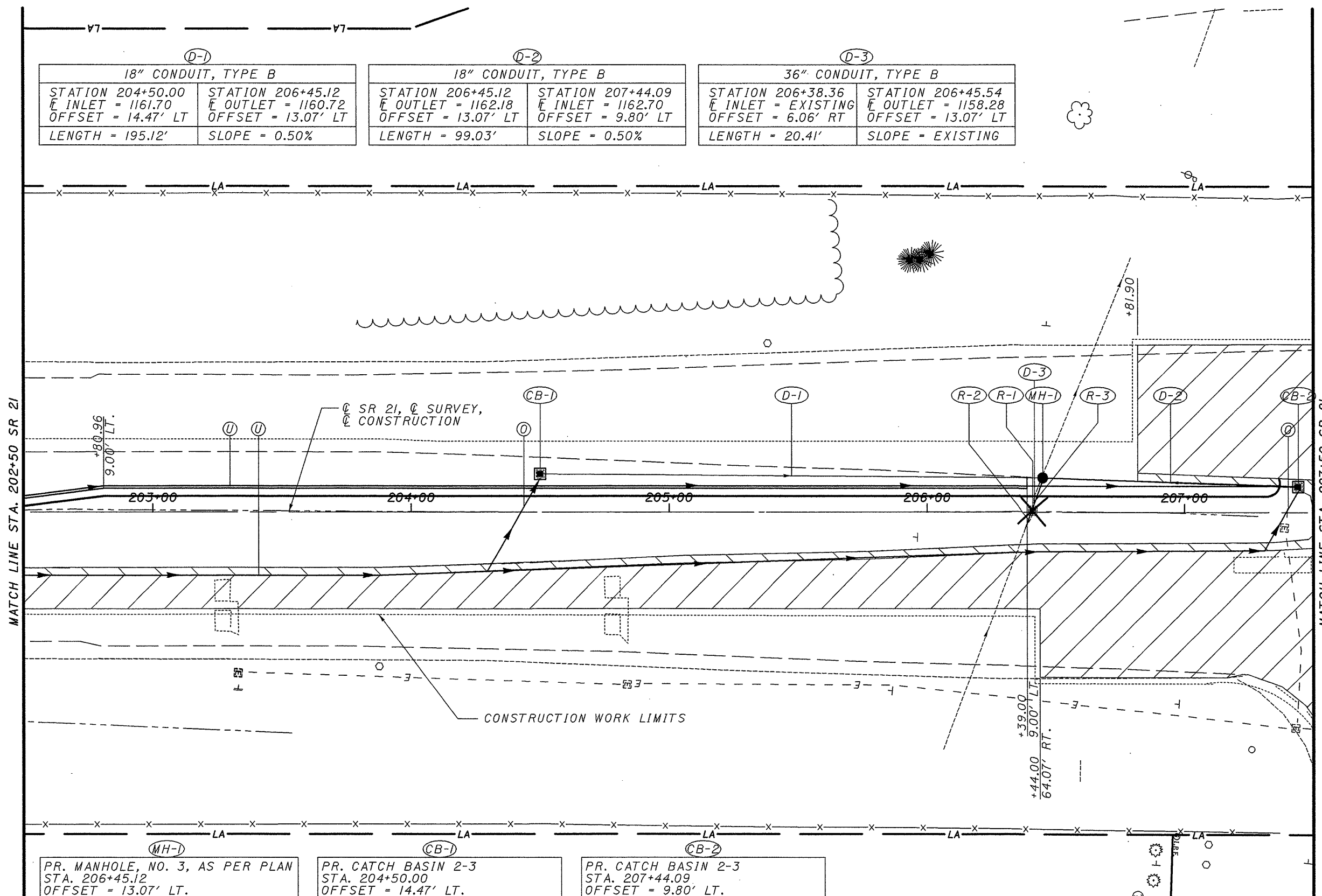
0 20 40  
 HORIZONTAL SCALE IN FEET

N

PLAN - SR 21  
 STA.197+50.00 TO STA.202+50.00

WAY-21-3.75

DESIGN FILE: I:\projects\23894\g100\_22.dgn  
 WORKSTATION: sdeer  
 DATE: 2/24/2004



D-1 18" CONDUIT, TYPE B	
STATION 204+50.00	STATION 206+45.12
INLET = 1161.70	OUTLET = 1160.72
OFFSET = 14.47' LT	OFFSET = 13.07' LT
LENGTH = 195.12'	SLOPE = 0.50%

D-2 18" CONDUIT, TYPE B	
STATION 206+45.12	STATION 207+44.09
OUTLET = 1162.18	INLET = 1162.70
OFFSET = 13.07' LT	OFFSET = 9.80' LT
LENGTH = 99.03'	SLOPE = 0.50%

D-3 36" CONDUIT, TYPE B	
STATION 206+38.36	STATION 206+45.54
INLET = EXISTING	OUTLET = 1158.28
OFFSET = 6.06' RT	OFFSET = 13.07' LT
LENGTH = 20.41'	SLOPE = EXISTING

MH-1
PR. MANHOLE, NO. 3, AS PER PLAN
STA. 206+45.12
OFFSET = 13.07' LT.
TOP OF CASTING ELEV. = 1166.89
INVERT ELVE. = 1158.13
PR 18" INLET ELEV. = 1160.72
PR 18" INLET ELEV. = 1162.18
PR 36" INLET ELEV. = 1158.28
EX 36" OUTLET ELEV. = 1158.13

CB-1
PR. CATCH BASIN 2-3
STA. 204+50.00
OFFSET = 14.47' LT.
GRATE ELEV. = 1164.95
INVERT ELEV. = 1161.70
PR 18" OUTLET ELEV. = 1161.70

CB-2
PR. CATCH BASIN 2-3
STA. 207+44.09
OFFSET = 9.80' LT.
GRATE ELEV. = 1166.45
INVERT ELEV. = 1162.70
PR 18" OUTLET ELEV. = 1162.70

- 5" PAVEMENT PLANING AND PAVING  
 - PAVEMENT PLANING AND PAVING

FOR (U) AND (O) QUANTITIES, SEE TABLE ON SHEET 16  
 ALL OTHER QUANTITES CARRIED TO GENERAL SUMMARY SHEET, SHEET 10 AND 10A

LOCATION	ITEM	DESCRIPTION	UNIT	STATION	OFFSET	TOTAL
(R-1)	202	CATCH BASIN REMOVED	EACH	206+41.19	0.50' LT.	1
(R-2)	202	PIPE REMOVED, OVER 24"	FT	206+39.86	3.3' RT.	6.2
(R-3)	202	PIPE REMOVED, OVER 24"	FT	206+41.58	3.4' LT.	3.9

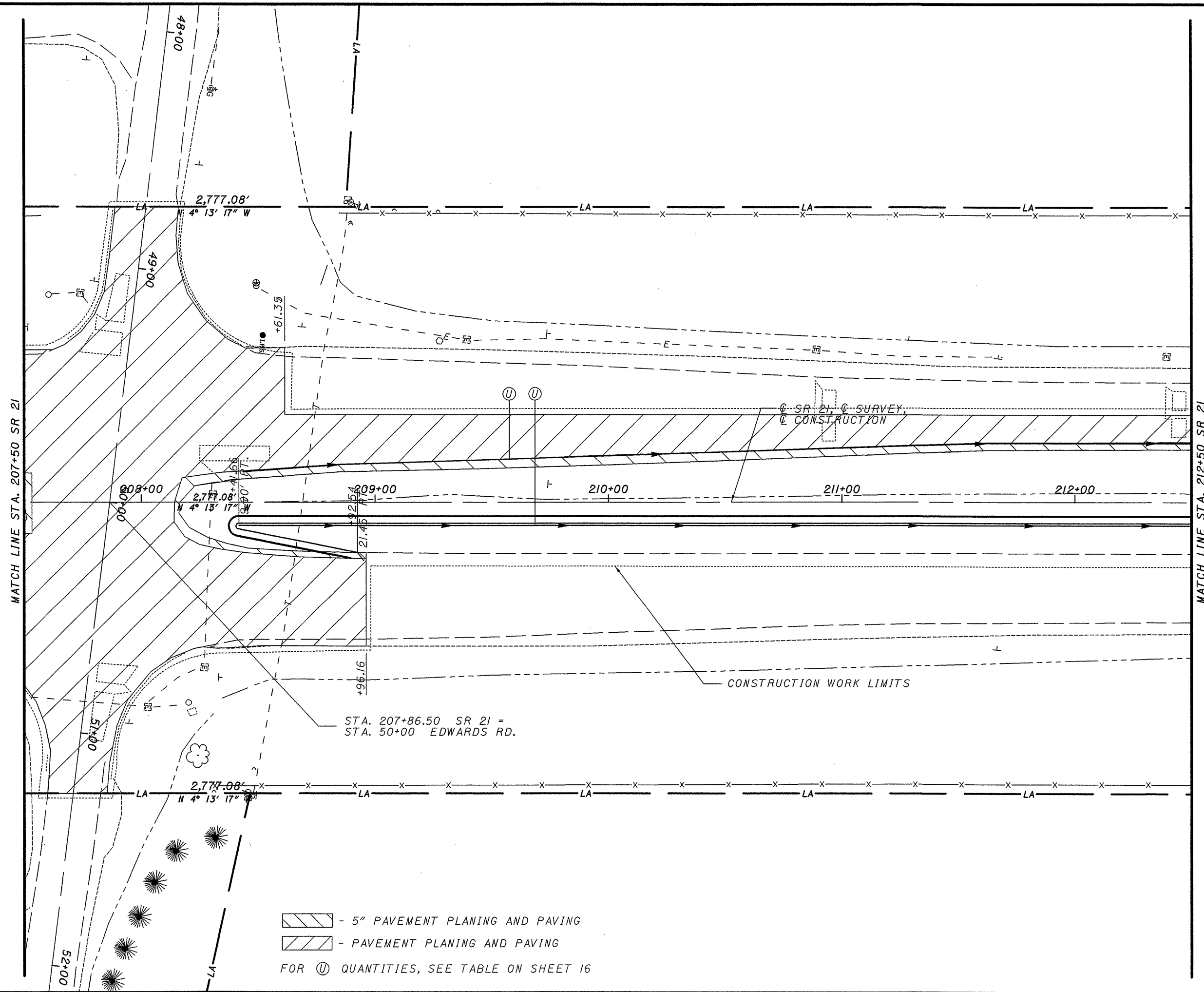


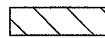
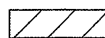
PLAN - SR 21  
 STA. 202+50.00 TO STA. 207+50.00

WAY-21-3.75

13/37

DESIGN FILE: I:\projects\23894\gl100\_23.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004



 - 5" PAVEMENT PLANING AND PAVING  
 - PAVEMENT PLANING AND PAVING  
 FOR (U) QUANTITIES, SEE TABLE ON SHEET 16

CALCULATED: SJD  
 CHECKED: MJS  
 HORIZONTAL SCALE IN FEET  
 0 10 20 40

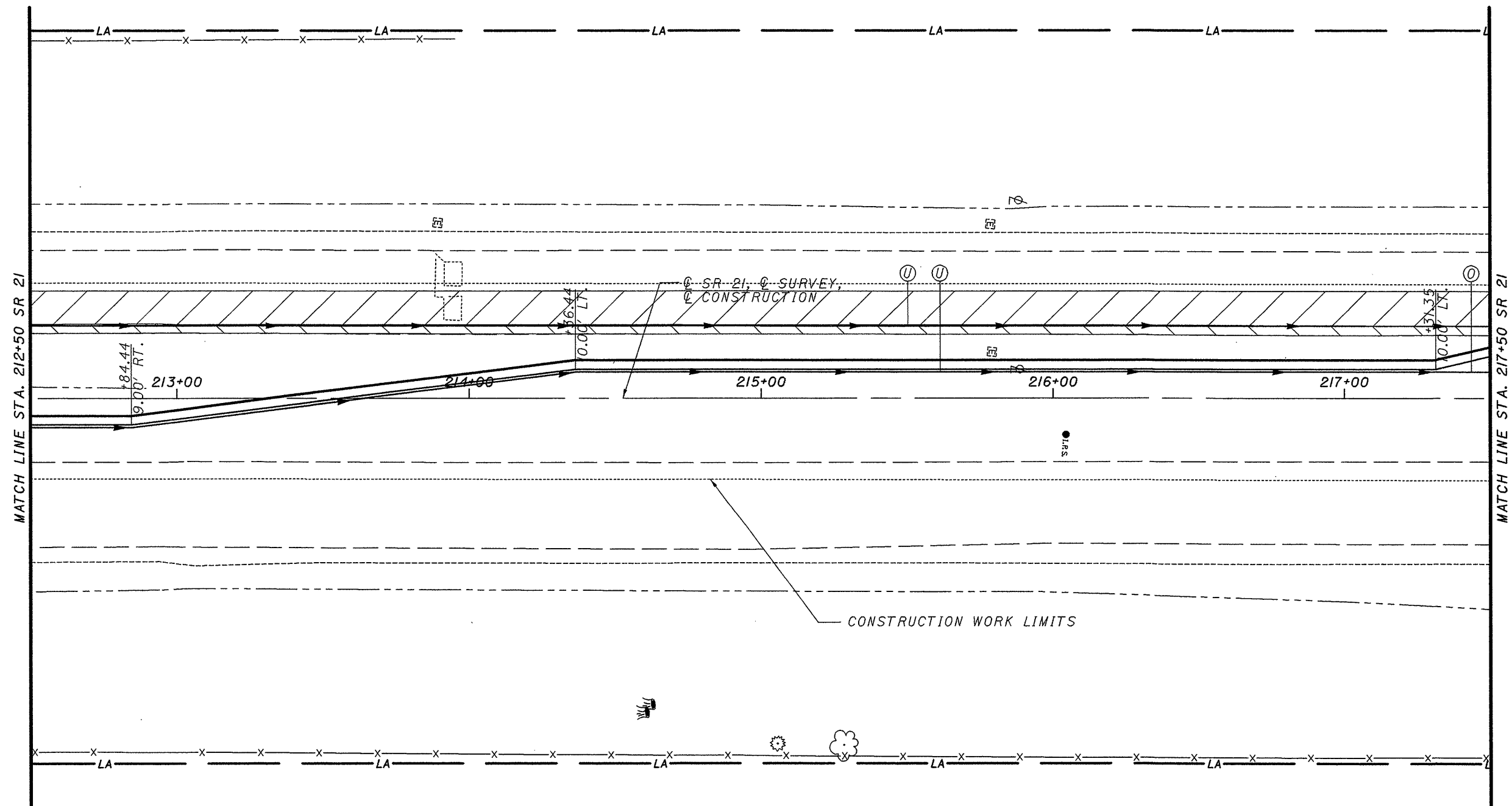
**WAY-21-3.75**  
**PLAN - SR 21**  
**STA. 207+50.00 TO STA. 212+50.00**



DESIGN FILE: i:\projects\23894\gl100\_24.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

-  - 5" PAVEMENT PLANING AND PAVING
-  - PAVEMENT PLANING AND PAVING

FOR (U) AND (O) QUANTITIES, SEE TABLE ON SHEET 16



CALCULATED		SJD	
CHECKED		MJS	

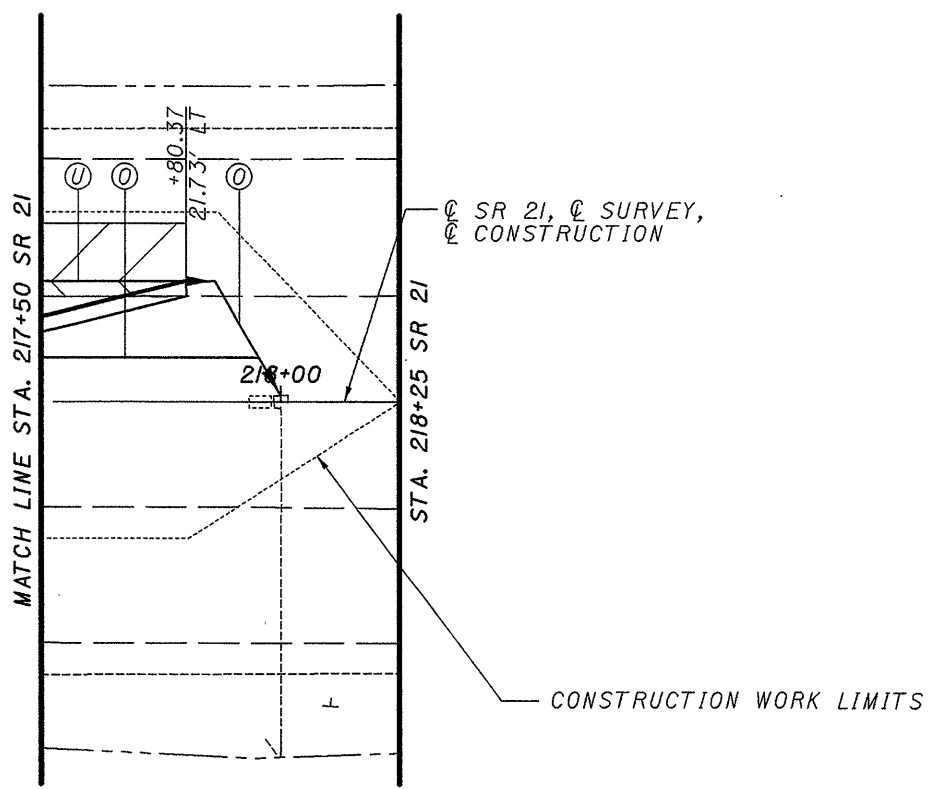
HORIZONTAL SCALE: 1" = 40'

**PLAN - SR 21**  
**STA. 212+50.00 TO STA. 217+50.00**

**WAY-21-3.75**

EX. CATCH BASIN  
 STA. 218+00.00  
 GRATE ELEV. = 1160.58  
 INVERT ELVE. = 1157.62  
 EX. 15" OUTLET ELEV. = 1157.54  
 PR. 6" INLET ELEV. = 1158.12

LA



CONSTRUCTION WORK LIMITS

LA

NOTES

- 1) 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS SHALL HAVE A MINIMUM SLOPE OF 1%.
- 2) 6" SHALLOW PIPE UNDERDRAINS SHALL BE INSTALLED AT A DEPTH OF 18".

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				NB	SB	
⊙	603	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	FT	68	92	160
⊕	605	6" SHALLOW PIPE UNDERDRAINS	FT	1,895	1,834	3,729

ALL QUANTITIES CARRIED TO GENERAL SUMMARY SHEET, SHEET 10 AND 10A

- 5" PAVEMENT PLANING AND PAVING
- PAVEMENT PLANING AND PAVING

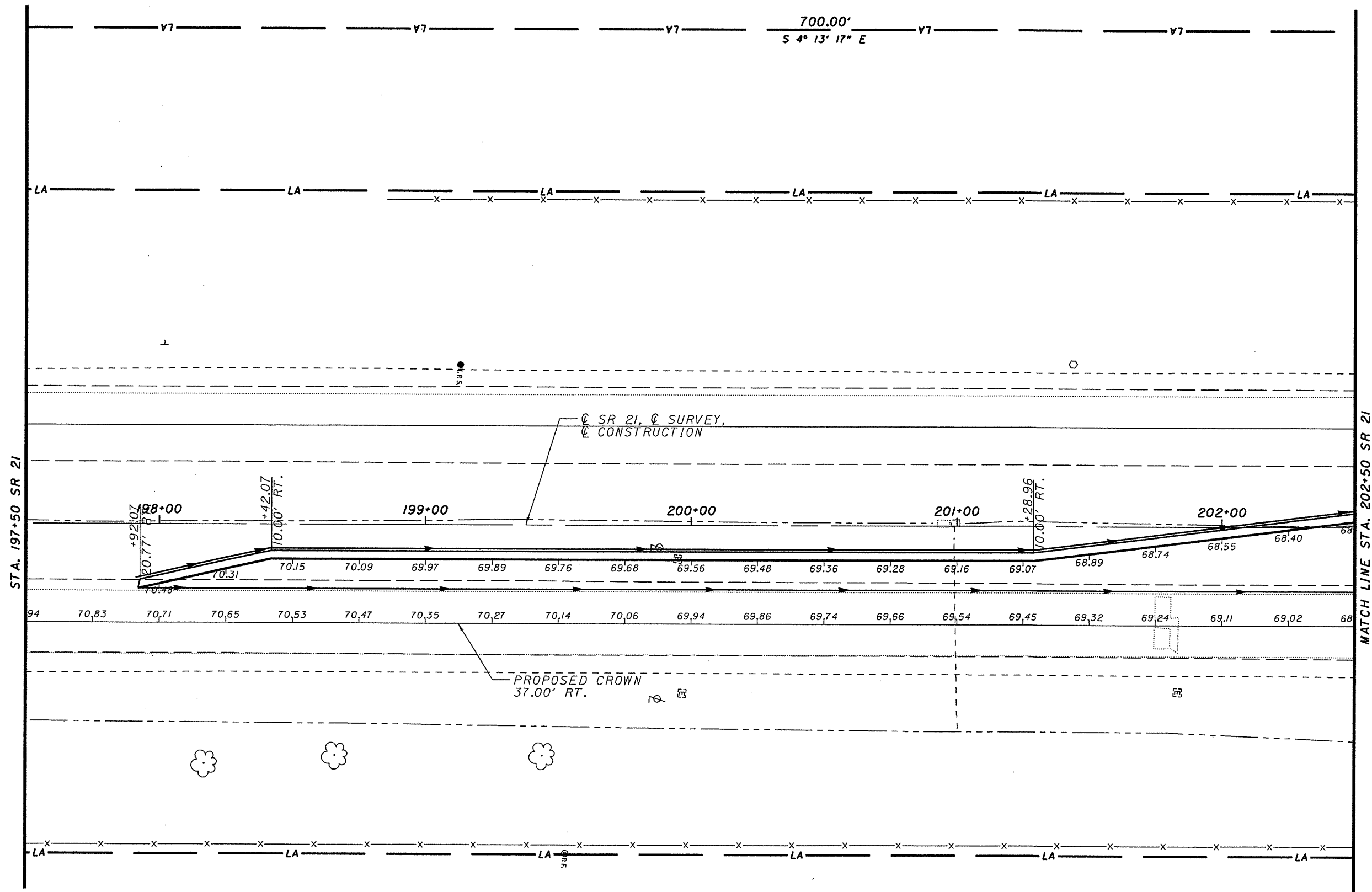
DESIGN FILE: i:\projects\23894\gl100\_25.dgn  
 WORKSTATION: sdeer  
 DATE: 2/17/2004

WAY-21-3.75

PLAN - SR 21

STA. 217+50.00 TO STA 218+25.00

16  
37



NOTE:

- 1) ADD 1100 TO THE ELEVATION SHOWN FOR ACTUAL ELEVATION.
- 2) SEE SHEET 2 FOR BENCH MARK INFORMATION.

CALCULATED SJD  
 CHECKED MJS

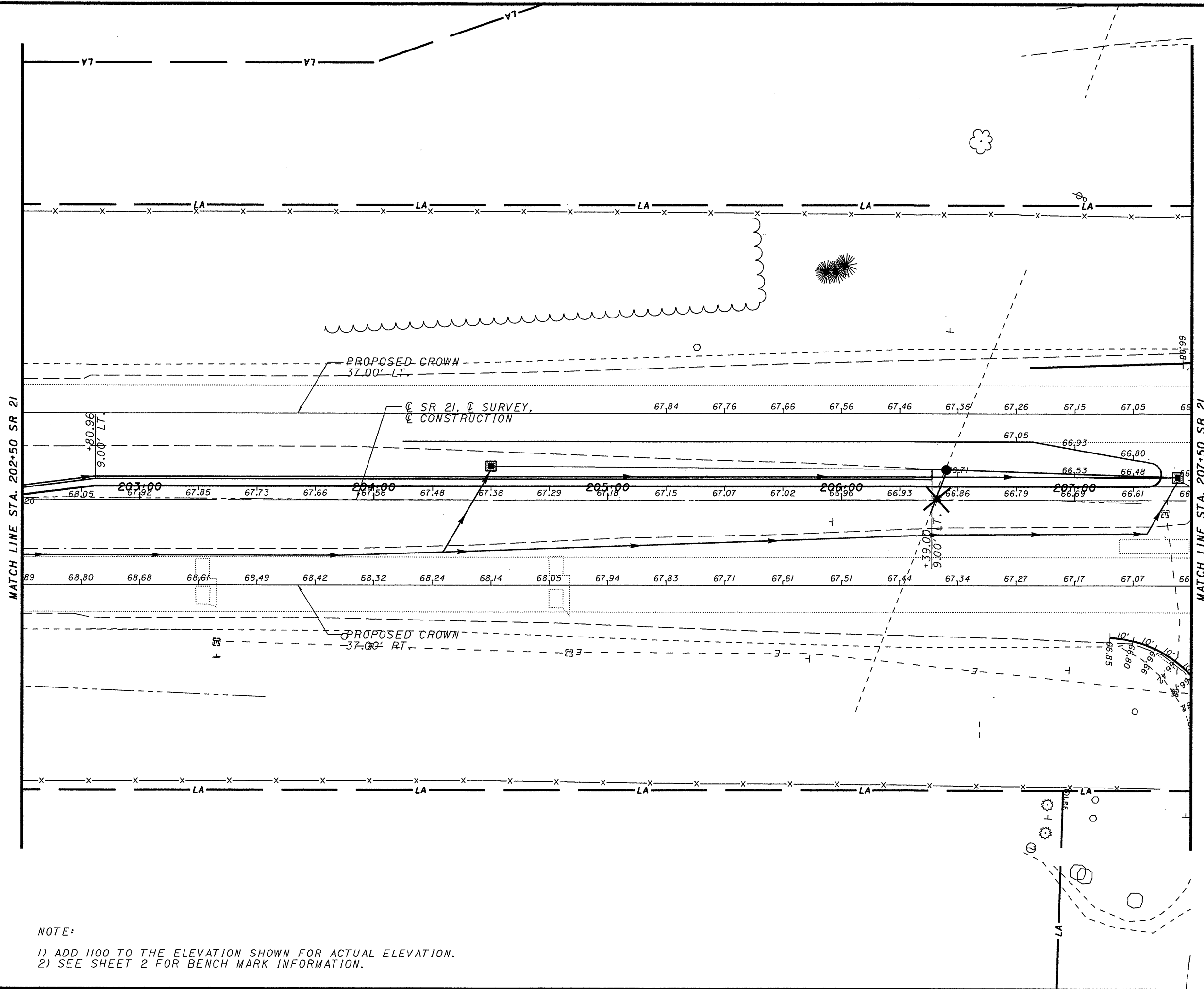
0 20 40  
 HORIZONTAL SCALE IN FEET

N

INTERSECTION DETAIL  
 STA. 197+50.00 TO STA. 202+50.00

WAY-21-3.75

DESIGN FILE: I:\projects\23894\CI100DT2.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004



NOTE:

- 1) ADD 1100 TO THE ELEVATION SHOWN FOR ACTUAL ELEVATION.
- 2) SEE SHEET 2 FOR BENCH MARK INFORMATION.



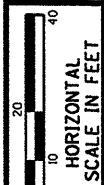
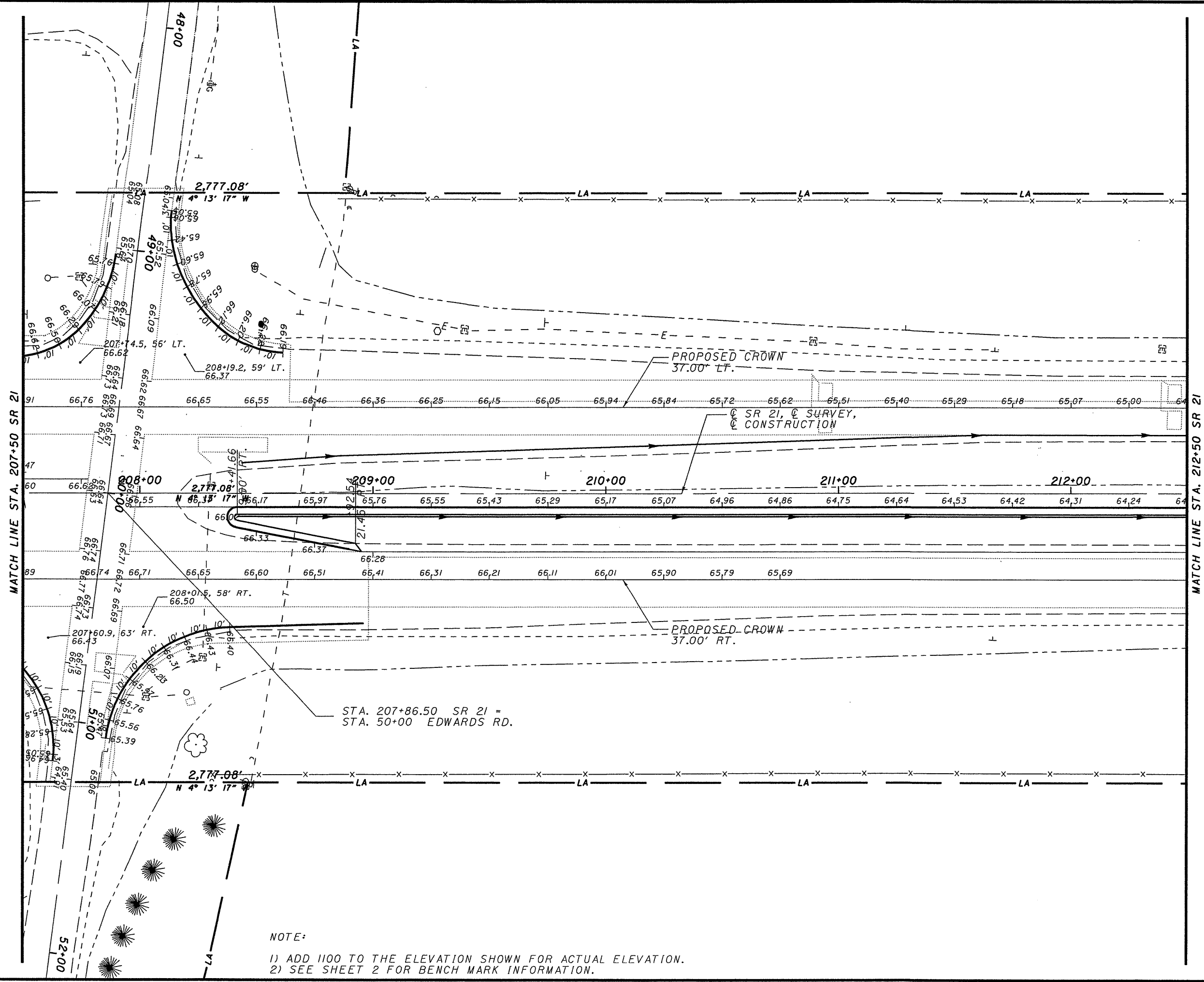
HORIZONTAL SCALE IN FEET  
 0 10 20 40

CALCULATED SJD  
 CHECKED MJS

**INTERSECTION DETAIL**  
**STA. 202+50.00 TO STA. 207+50.00**

**WAY - 21 - 3.75**

DESIGN FILE: I:\projects\23894\CI000T3.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004

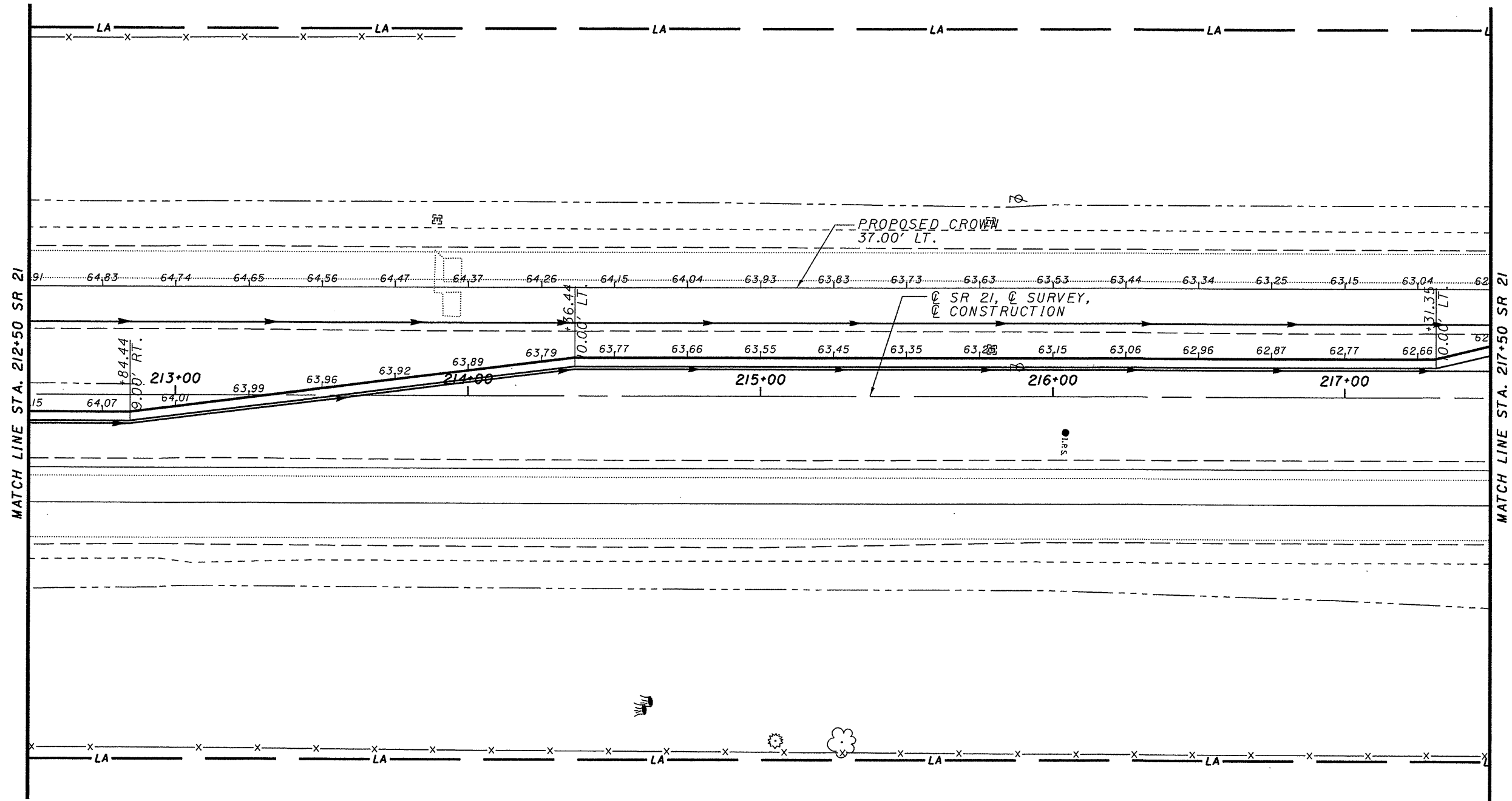


CALCULATED  
 SJD  
 CHECKED  
 MJS

**INTERSECTION DETAIL**  
**STA. 207+50.00 TO STA. 212+50.00**

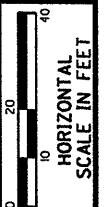
**WAY-21-3.75**

DESIGN FILE: I:\projects\23894\G100DT4.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004



NOTE:

- 1) ADD 1100 TO THE ELEVATION SHOWN FOR ACTUAL ELEVATION.
- 2) SEE SHEET 2 FOR BENCH MARK INFORMATION.



CALCULATED SJD  
 CHECKED MJS

INTERSECTION DETAIL  
 STA. 212+50.00 TO STA. 217+50.00

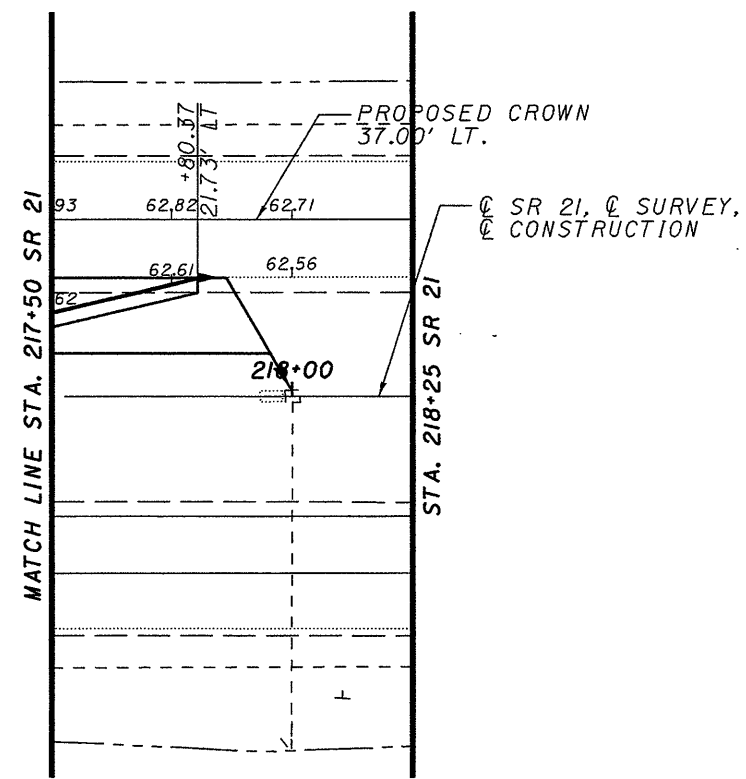
WAY-21-3.75

20  
37

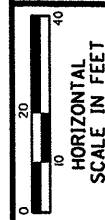
NOTE:

- 1) ADD 1100 TO THE ELEVATION SHOWN FOR ACTUAL ELEVATION.
- 2) SEE SHEET 2 FOR BENCH MARK INFORMATION.

— LA —————



— LA — x — x — x —

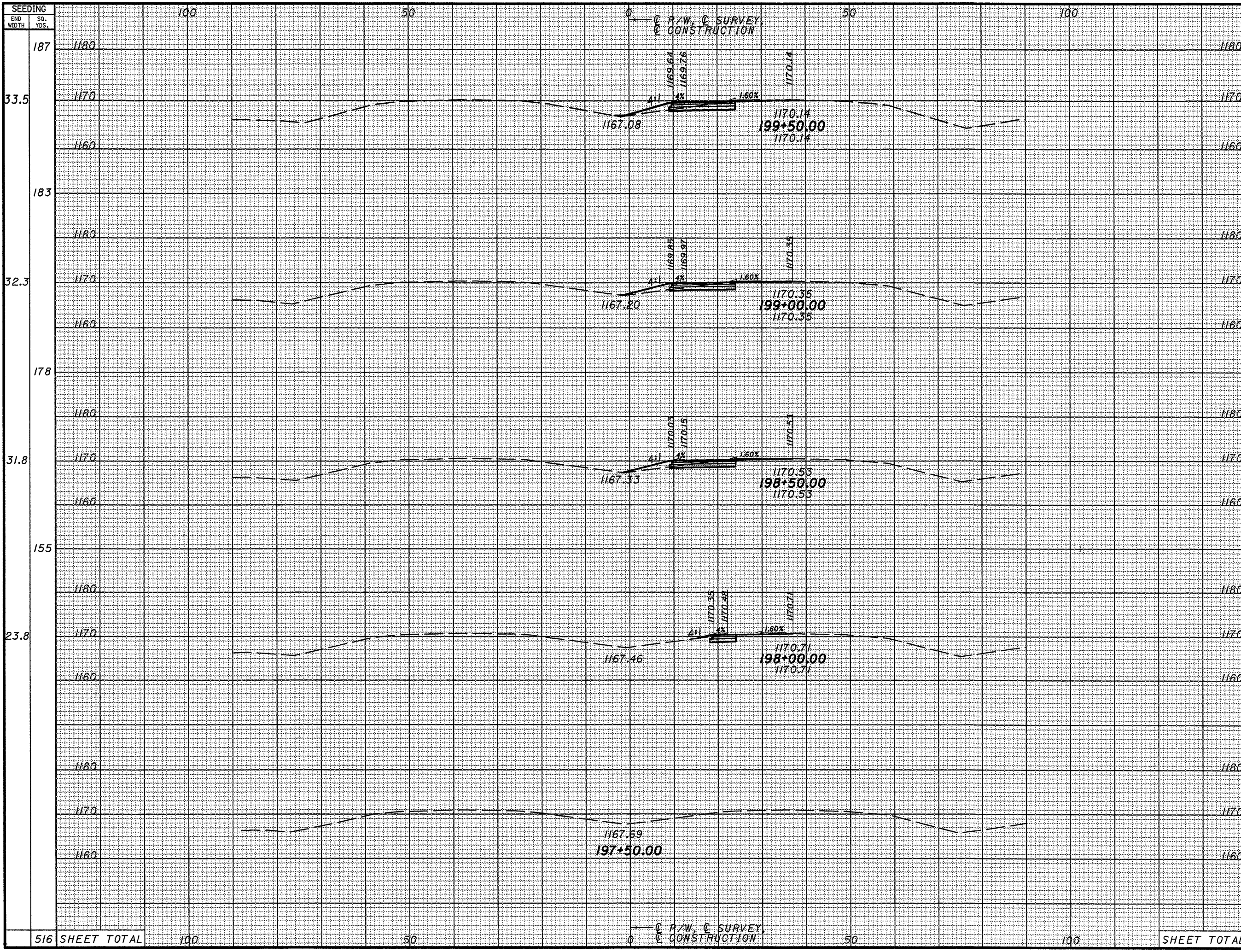


CALCULATED SJD  
 CHECKED MJS

**INTERSECTION DETAIL**  
**STA. 217+50.00 TO STA. 218+25.00**

**WAY-21-3.75**

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

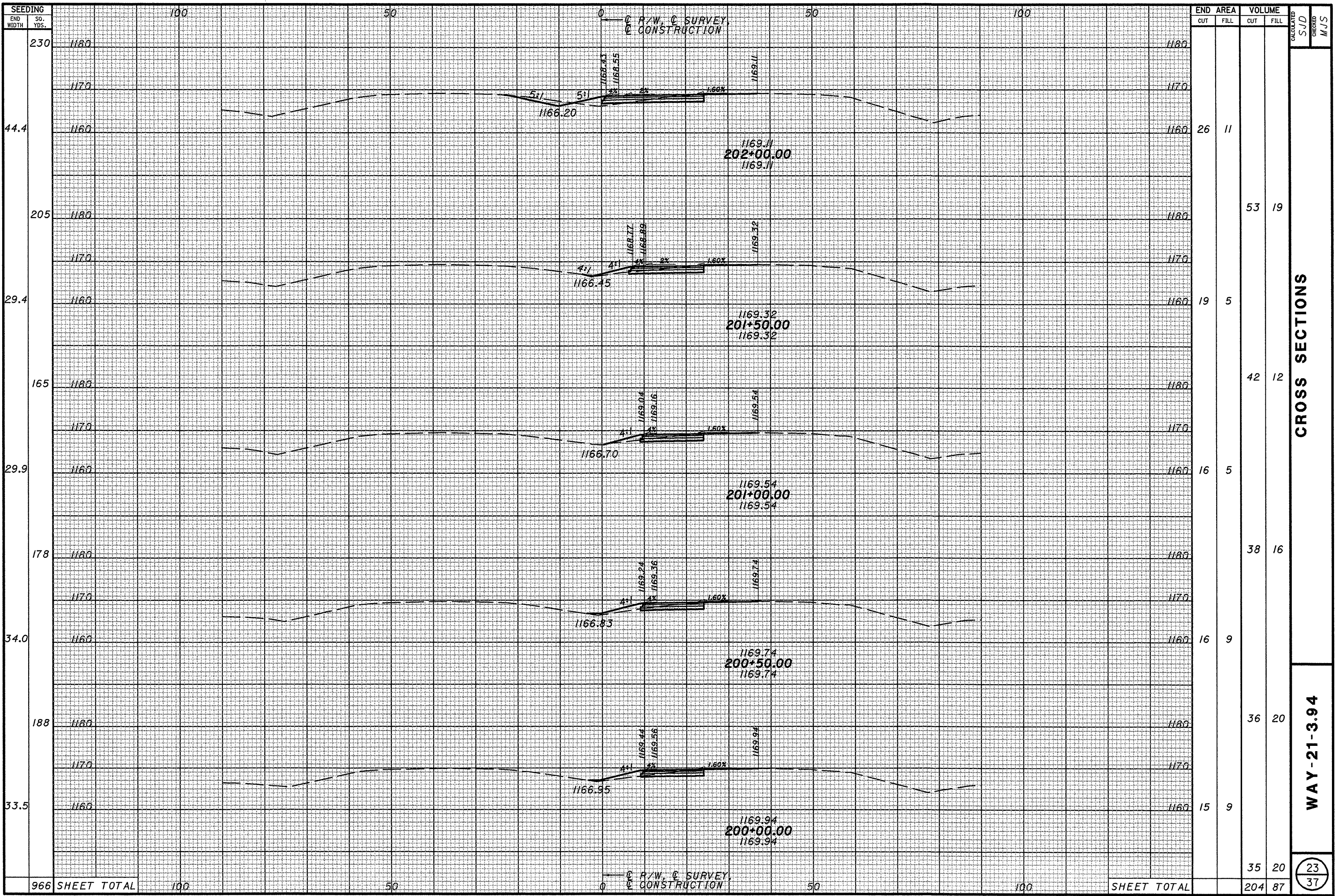


SEEDING	END WIDTH	SQ. YDS.	END AREA		VOLUME	
			CUT	FILL	CUT	FILL
187	1180					
33.5	1170		15	8	35	19
183	1180					
32.3	1170		15	8	36	19
178	1180					
31.8	1170		15	8	28	10
155	1180					
23.8	1170		9	1	0	0
	1180					
	1170					
	1160					
516	SHEET TOTAL	100			99	48

CALCULATED SJD  
 CHECKED MJS  
**CROSS SECTIONS**  
**WAY-21-3.94**  
 22/37



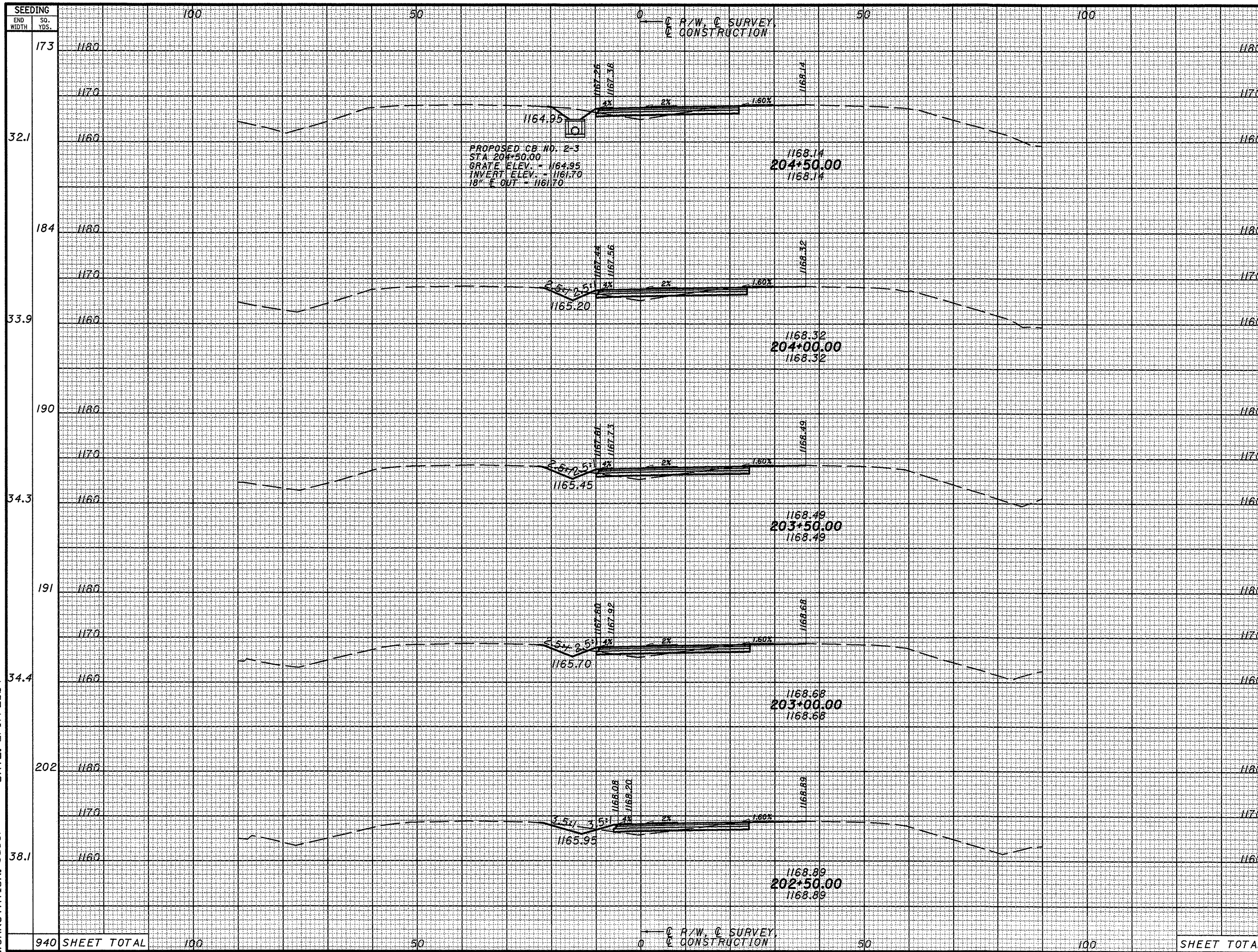
DESIGN FILE: I:\projects\23894\GX100-21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004



CROSS SECTIONS

WAY-21-3.94

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004



END STA	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
173				
32.1				
184				
33.9				
190				
34.3				
191				
34.4				
202				
38.1				
940	SHEET TOTAL		56	24
	100	50	282	90

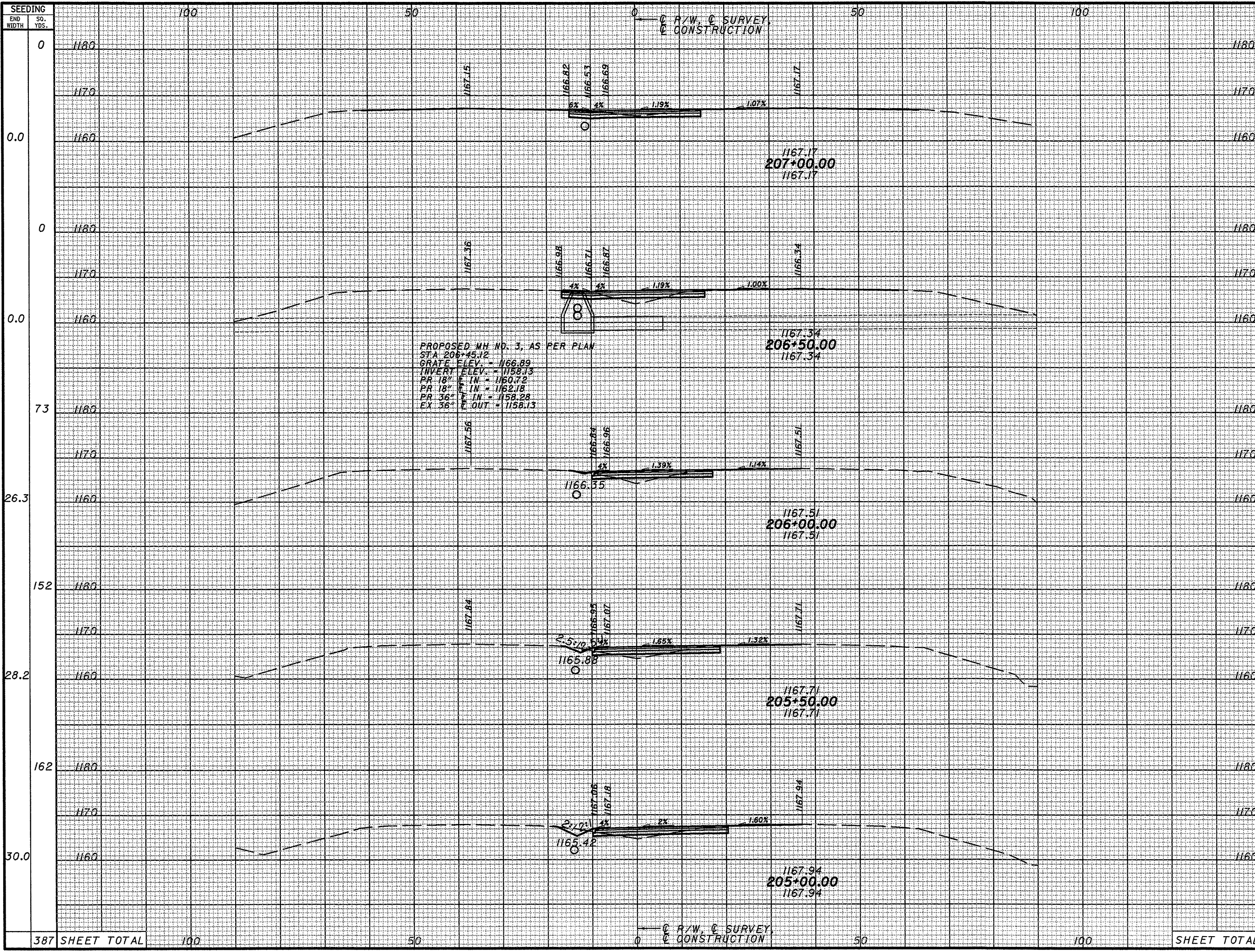
**CROSS SECTIONS**

**WAY-21-3.94**

CALCULATED: SJD  
 CHECKED: MJS

24  
 37

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004



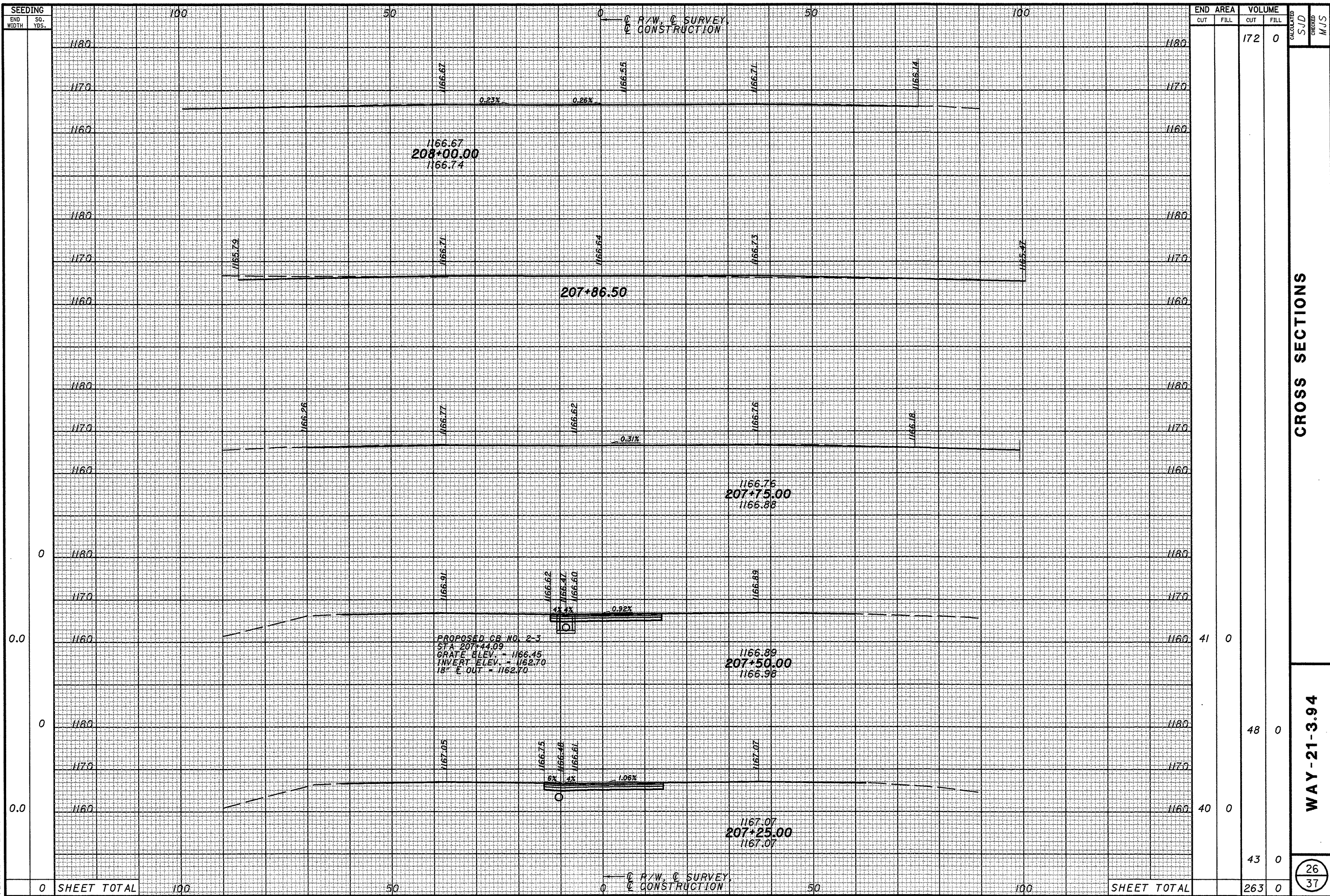
SEEDING	END WIDTH	SO. YDS.	END AREA		VOLUME	
			CUT	FILL	CUT	FILL
0	1180	0.0			32	0
0	1180	0.0			67	9
73	1180	26.3			24	8
	1180	152			46	16
	1180	28.2			15	6
	1180	152			37	14
	1180	28.2			16	6
	1180	162			41	14
	1180	30.0			19	6
387	SHEET TOTAL		100		48	14
					239	67

CROSS SECTIONS

WAY - 21 - 3.94

25  
37

DESIGN FILE: I:\projects\23894\CX\00-21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

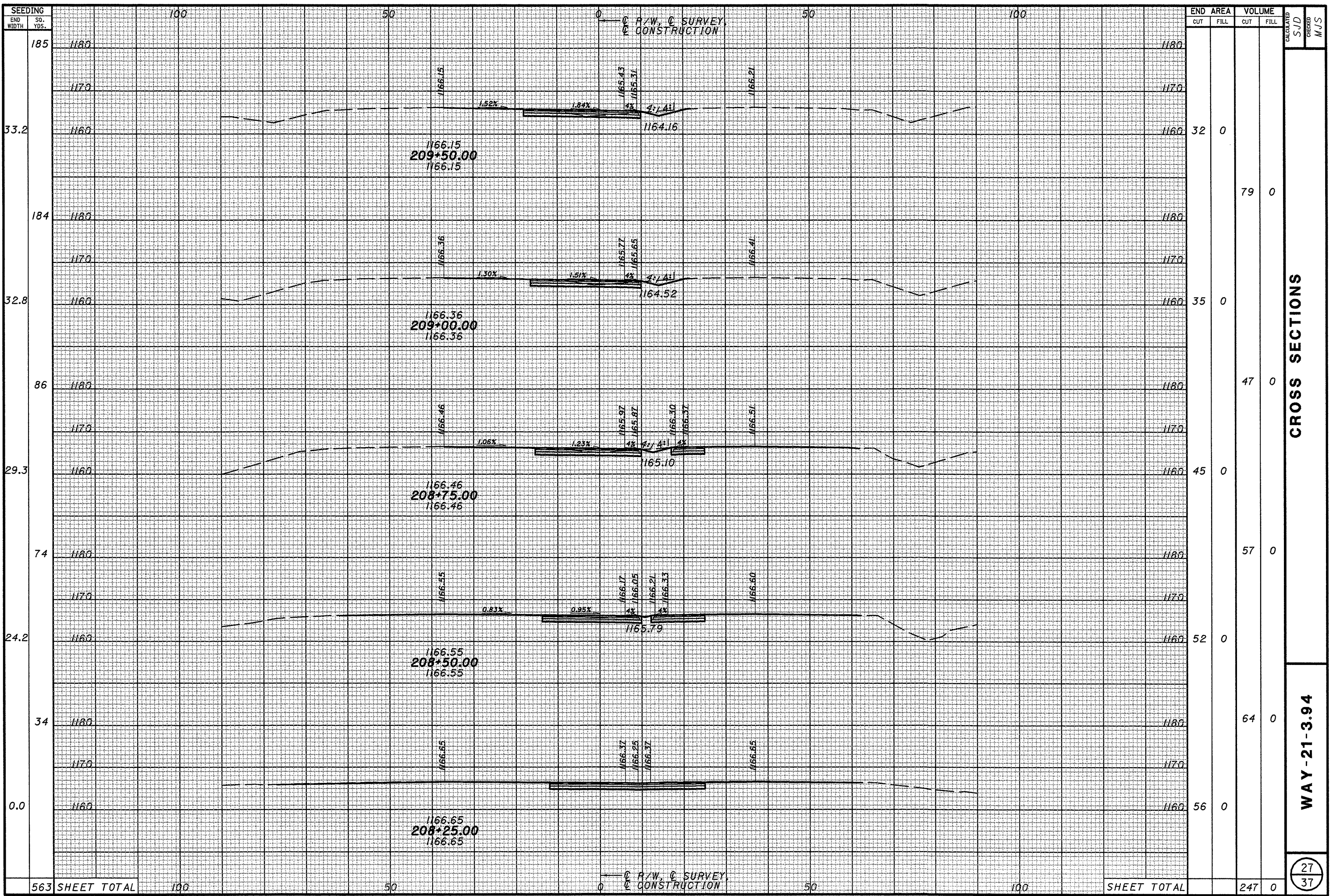


CROSS SECTIONS

WAY-21-3.94

26  
37

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

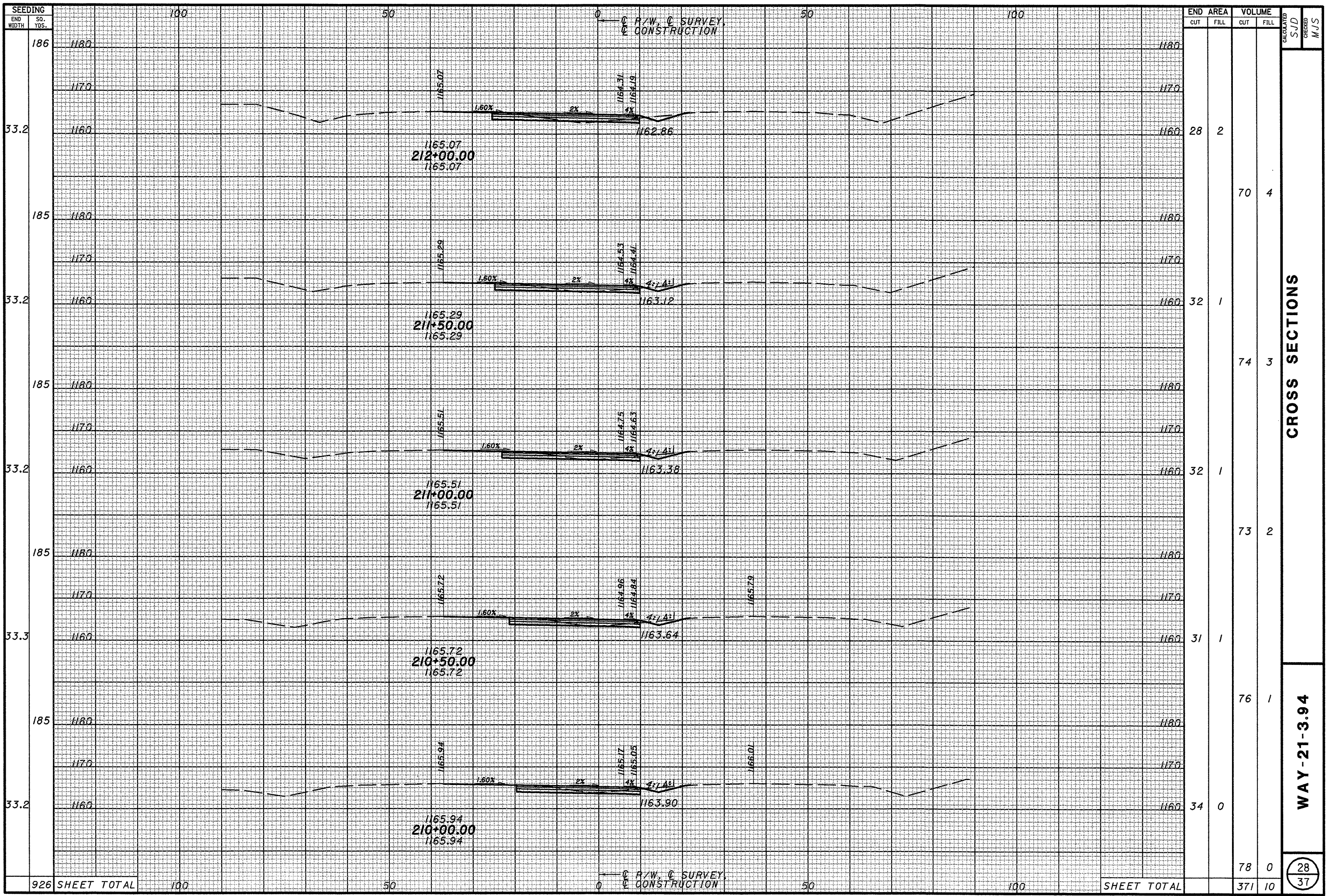


CROSS SECTIONS

WAY-21-3.94

27  
37

DESIGN FILE: I:\projects\23894\CX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

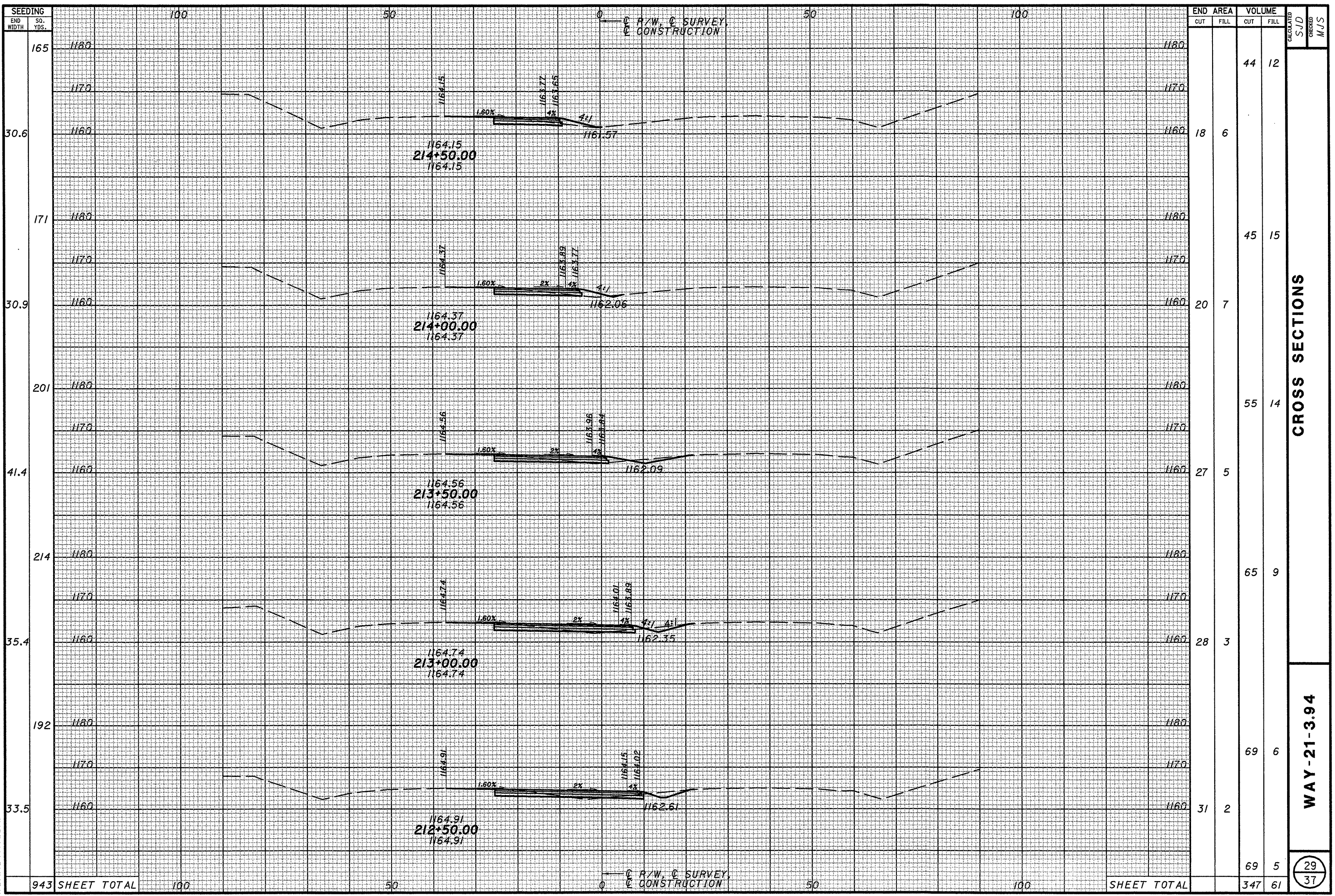


CROSS SECTIONS

WAY-21-3.94

28  
37

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004

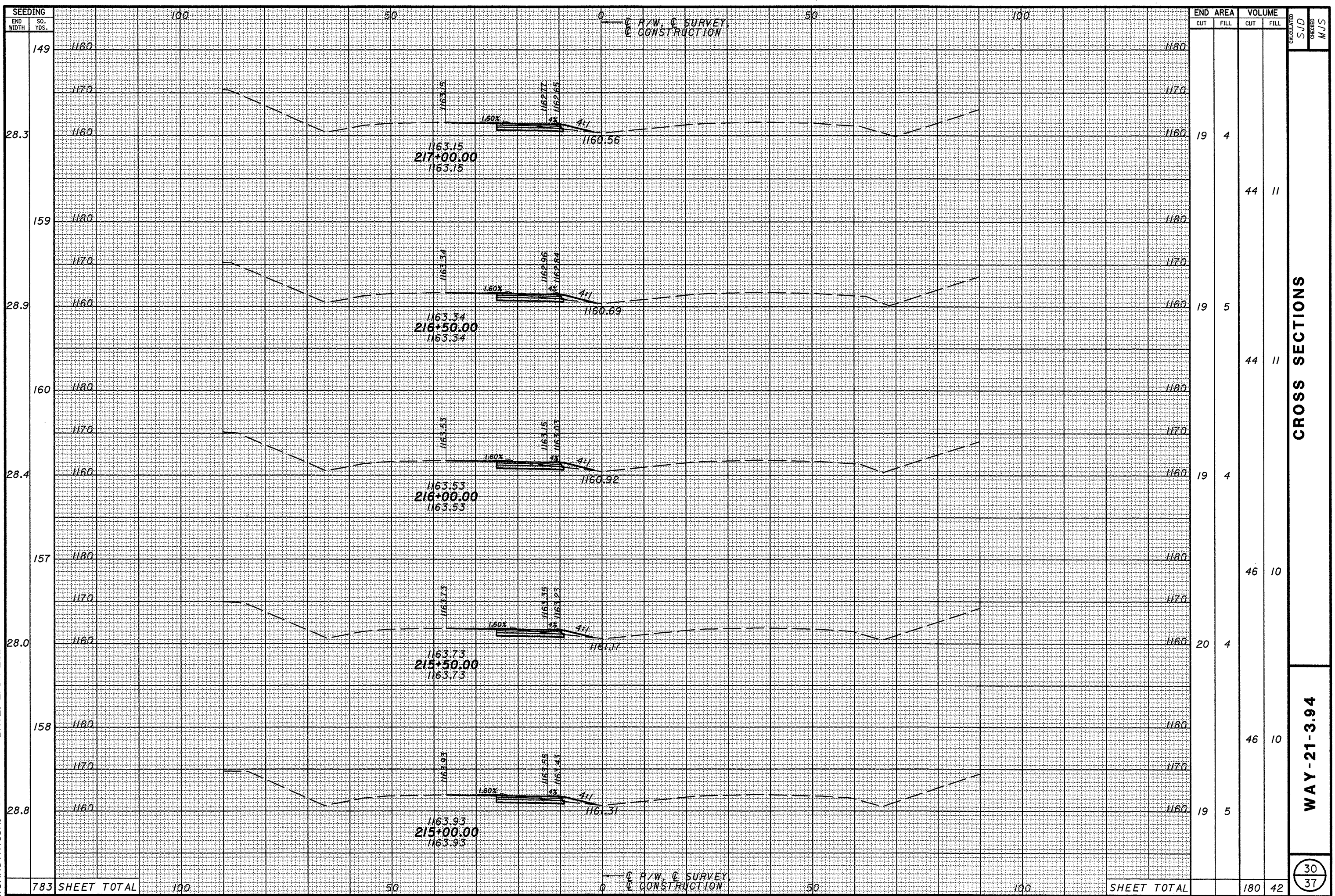


STATION	END CUT	END FILL	VOLUME		CALCULATED	CHECKED
			CUT	FILL		
165	18	6	44	12		
171	20	7	45	15		
201	27	5	55	14		
214	28	3	65	9		
192	31	2	69	6		
<b>943 SHEET TOTAL</b>			<b>69</b>	<b>5</b>		
			<b>347</b>	<b>61</b>		

**CROSS SECTIONS**

**WAY 21-3.94**

DESIGN FILE: I:\projects\23894\GX100\_21.dgn  
 WORKSTATION: sdeer DATE: 2/17/2004



END	AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
149						
28.3	19	4				
159			44		11	
28.9	19	5				
160			44		11	
28.4	19	4				
157			46		10	
28.0	20	4				
158			46		10	
28.8	19	5				
783	SHEET TOTAL		180	42		

CROSS SECTIONS

WAY-21-3.94

30  
37



SEEDING  
END WIDTH SO. YDS.

END AREA VOLUME  
CUT FILL CUT FILL  
CALCULATED SJD CHECKED MJS

**CALCULATIONS**  
(CAD MEASURED)

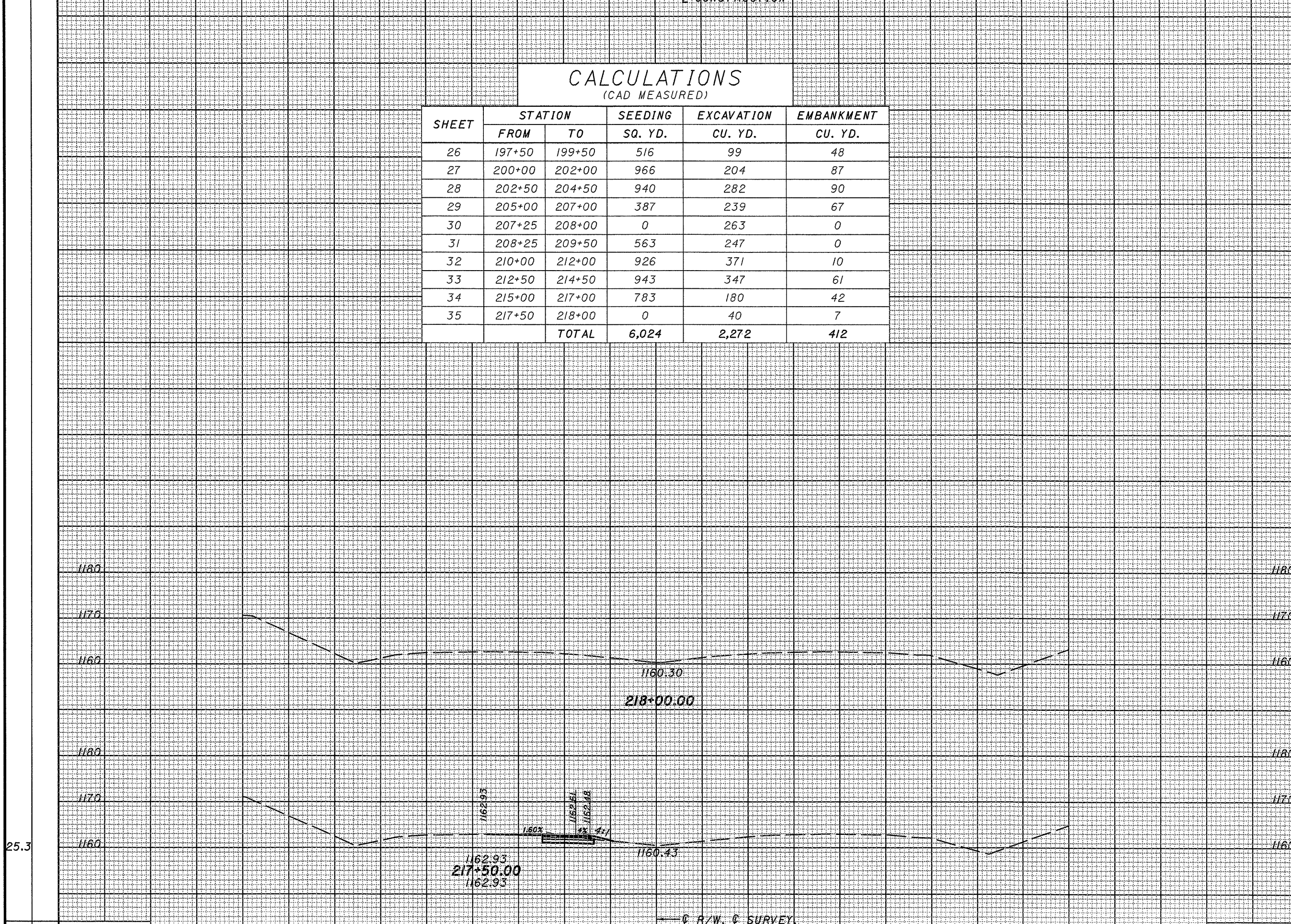
SHEET	STATION		SEEDING	EXCAVATION	EMBANKMENT
	FROM	TO	SQ. YD.	CU. YD.	CU. YD.
26	197+50	199+50	516	99	48
27	200+00	202+00	966	204	87
28	202+50	204+50	940	282	90
29	205+00	207+00	387	239	67
30	207+25	208+00	0	263	0
31	208+25	209+50	563	247	0
32	210+00	212+00	926	371	10
33	212+50	214+50	943	347	61
34	215+00	217+00	783	180	42
35	217+50	218+00	0	40	7
		<b>TOTAL</b>	<b>6,024</b>	<b>2,272</b>	<b>412</b>

DESIGN FILE: I:\projects\23894\CX100-21.dgn  
WORKSTATION: sdeer DATE: 2/17/2004

**CROSS SECTIONS**

**WAY-21-3.94**

31  
37



END CUT	AREA FILL	VOLUME	
		CUT	FILL
15	2	40	7
40	40	7	7

0 SHEET TOTAL

SHEET TOTAL

## AUXILIARY & LONG LINE MARKINGS

PART	ROUTE	FROM				TO				202		642, TYPE 2						644										614					
										RAISED PAVEMENT MARKER REMOVED FOR STORAGE	LANE WIDTH	EDGE LINE YELLOW		EDGE LINE WHITE		LANE LINE	CENTER LINE		AUXILIARY MARKINGS (740.04)										WORK ZONE CENTER LINE, CLASS II, 642 PAINT	WORK ZONE STOP LINE, CLASS I			
												HIGHWAY MILES	TOTAL (PAY QUANTITY)	HIGHWAY MILES	TOTAL (PAY QUANTITY)		SOLID LINE EQUIVALENT	TOTAL (PAY QUANTITY)	CHANNELIZING LINE	STOP LINE	DOTTED LINE, 4"	TRANSVERSE LINE	RAILROAD SYMBOL MARKING	PARKING LOT STALL MARKING	LANE ARROW			HANDICAP SYMBOL MARKING					
																									COMBINATION	WORD ON PAVEMENT "ONLY"	72 in				96 in		
EACH	FT	MI	MI	MI	MI	MI	MI	MI	MI	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	MI	FT.												
A	SR 21	3.75	CONSTRUCTION LIMIT				4.13	CONSTRUCTION LIMIT				28	12	0.38	0.43	0.02	0.11	0.38	0.04	0.02	3,053	197		650			12	2			4		
<b>TOTAL</b>											<b>28</b>	<b>12</b>	<b>0.38</b>	<b>0.43</b>	<b>0.02</b>	<b>0.11</b>	<b>0.38</b>	<b>0.04</b>	<b>0.02</b>	<b>3,053</b>	<b>197</b>		<b>650</b>			<b>12</b>	<b>2</b>			<b>4</b>			

## RAISED PAVEMENT MARKERS

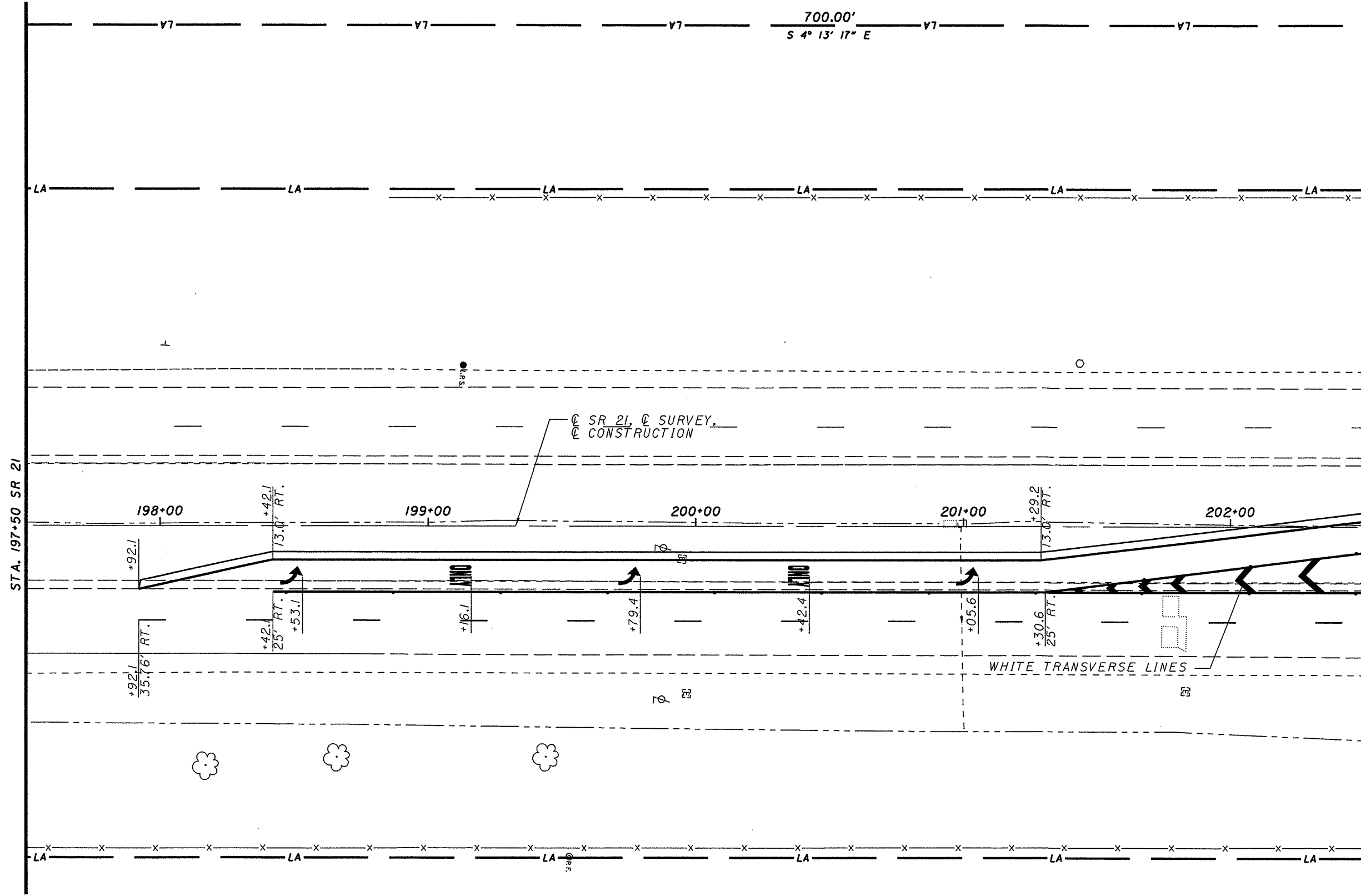
PART	ROUTE	LOCATION		DETAIL	621 RPM, INSTALLATION ONLY	PRISMATIC RETRO-REFLECTOR TYPES				REMARKS	DETAIL	DESCRIPTION
		SLM SECTION				ONE - WAY	TWO - WAY					
		FROM	TO				WHITE	YELLOW/YELLOW	WHITE/RED			
A	SR 21	3.75	4.13	5, 6	104			104		INTERSECTION OF SR 21 & EDWARDS RD.	1	MULTILANE UNDIVIDED TYPICAL SPACING
											2	TAPERED ACCEL LANE
											3	DECELERATION LANE
											4	PARALLEL ACCEL LANE
											5	MULTILANE DIVIDED/ EXPRESSWAY
											6	STOP APPROACH
											7	1 LANE APPR. W/ TURN LANE
											8	THROUGH APPROACH
											9	2 LANE APPR. W/ TURN LANE
											10	4 LANE DIVIDED TO 2 LANE TRANSITION
											11	4 LANE UNDIVIDED TO 2 LANE TRANSITION
											12	TWO LANE NARROW BRIDGE
											13	TWO WAY LEFT TURN LANE
											14	ONE LANE BRIDGE
											15	HORIZONTAL CURVE
											16	HORIZONTAL CURVE ALT.
											17	STOP APPROACH ALT.
											GAP	CENTER LINE AT 80 FT TYP

DESIGN FILE: I:\projects\23894\TC100.dgn  
 WORKSTATION: sdeer DATE: 2/10/2004

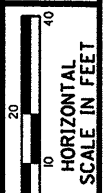
PAVEMENT MARKING DATA

WAY - 21 - 3.75

DESIGN FILE: i:\projects\23894\TD100\_1.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004



ALL PAVEMENT MARKING QUANTITIES CARRIED TO PAVEMENT MARKING DATA SHEET, SHEET 32



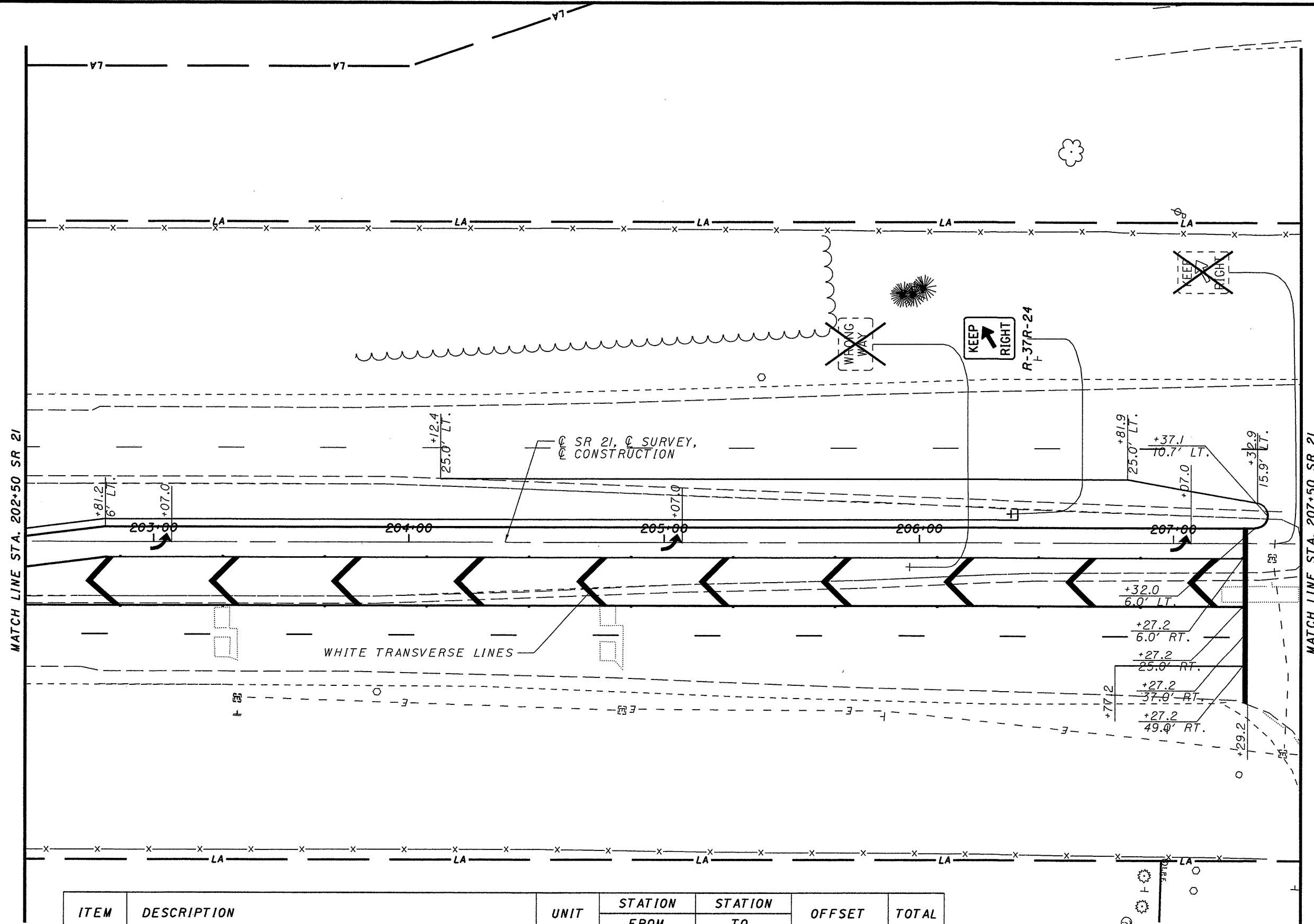
CALCULATED SJD  
 CHECKED MJS

PAVEMENT MARKINGS  
 STA. 197+50.00 TO STA 202+50.00

WAY-21-3.75

33  
 37

DESIGN FILE: i:\projects\23894\TD100.2.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004



ITEM	DESCRIPTION	UNIT	STATION	STATION	OFFSET	TOTAL
			FROM	TO		
630	GROUND MOUNTED SUPPORT, NO. 2 POST	FT		206+36.27	11.4' LT.	12
630	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	EACH	205+96.23		9.7' LT.	1
630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	EACH	207+39.82	206+36.27	11.4' LT.	1

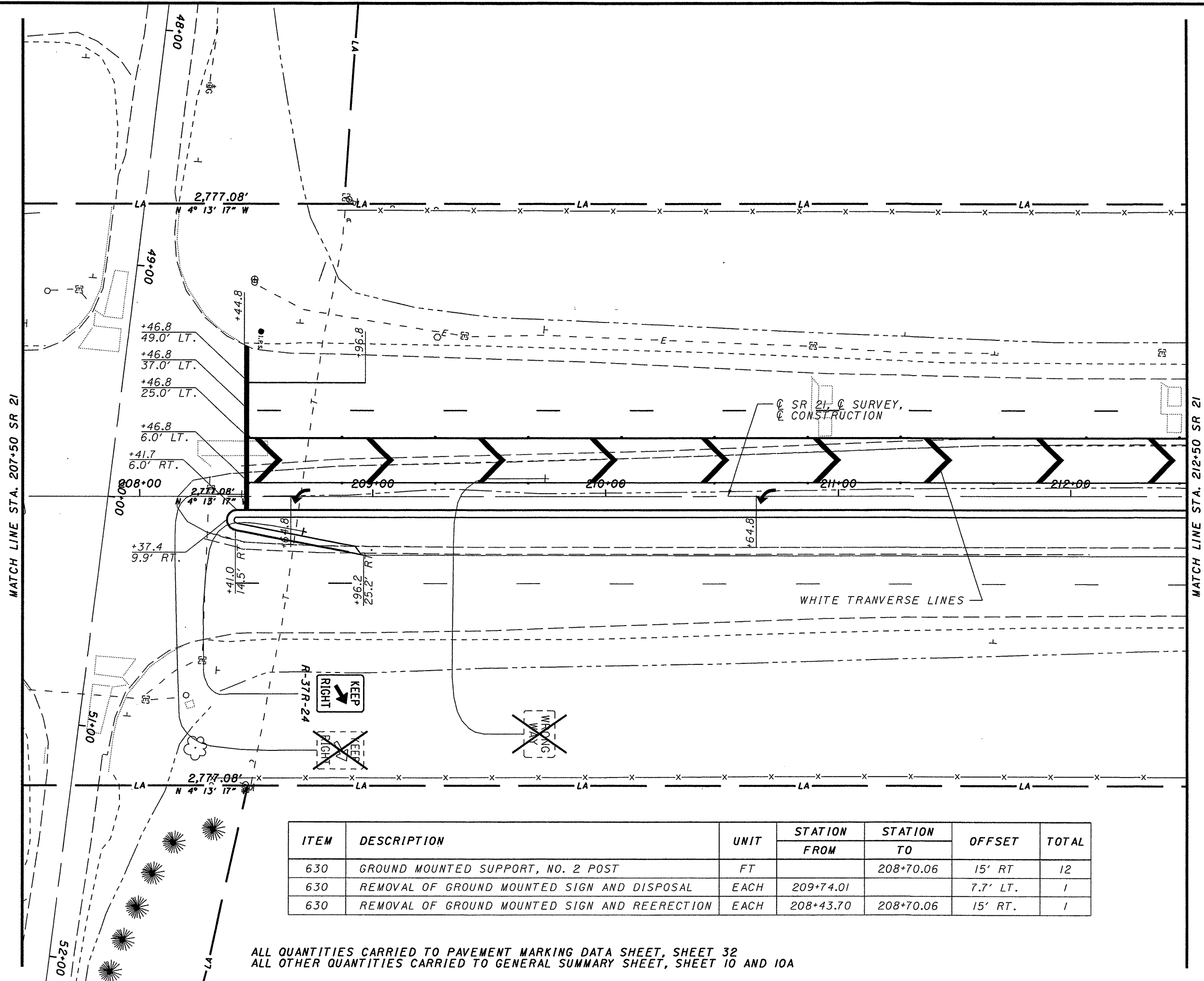
ALL QUANTITIES CARRIED TO PAVEMENT MARKING DATA SHEET, SHEET 32  
 ALL OTHER QUANTITIES CARRIED TO GENERAL SUMMARY SHEET, SHEET 10 AND 10A

**PAVEMENT MARKINGS**  
**STA. 202+50.00 TO STA. 207+50.00**

**WAY-21-3.75**

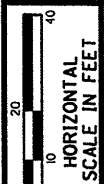
34  
37

DESIGN FILE: i:\projects\23894\TD100\_3.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004



ITEM	DESCRIPTION	UNIT	STATION	STATION	OFFSET	TOTAL
			FROM	TO		
630	GROUND MOUNTED SUPPORT, NO. 2 POST	FT		208+70.06	15' RT	12
630	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	EACH	209+74.01		7.7' LT.	1
630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	EACH	208+43.70	208+70.06	15' RT.	1

ALL QUANTITIES CARRIED TO PAVEMENT MARKING DATA SHEET, SHEET 32  
 ALL OTHER QUANTITIES CARRIED TO GENERAL SUMMARY SHEET, SHEET 10 AND 10A



CALCULATED  
SJD  
CHECKED  
MJS

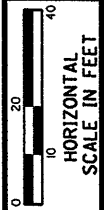
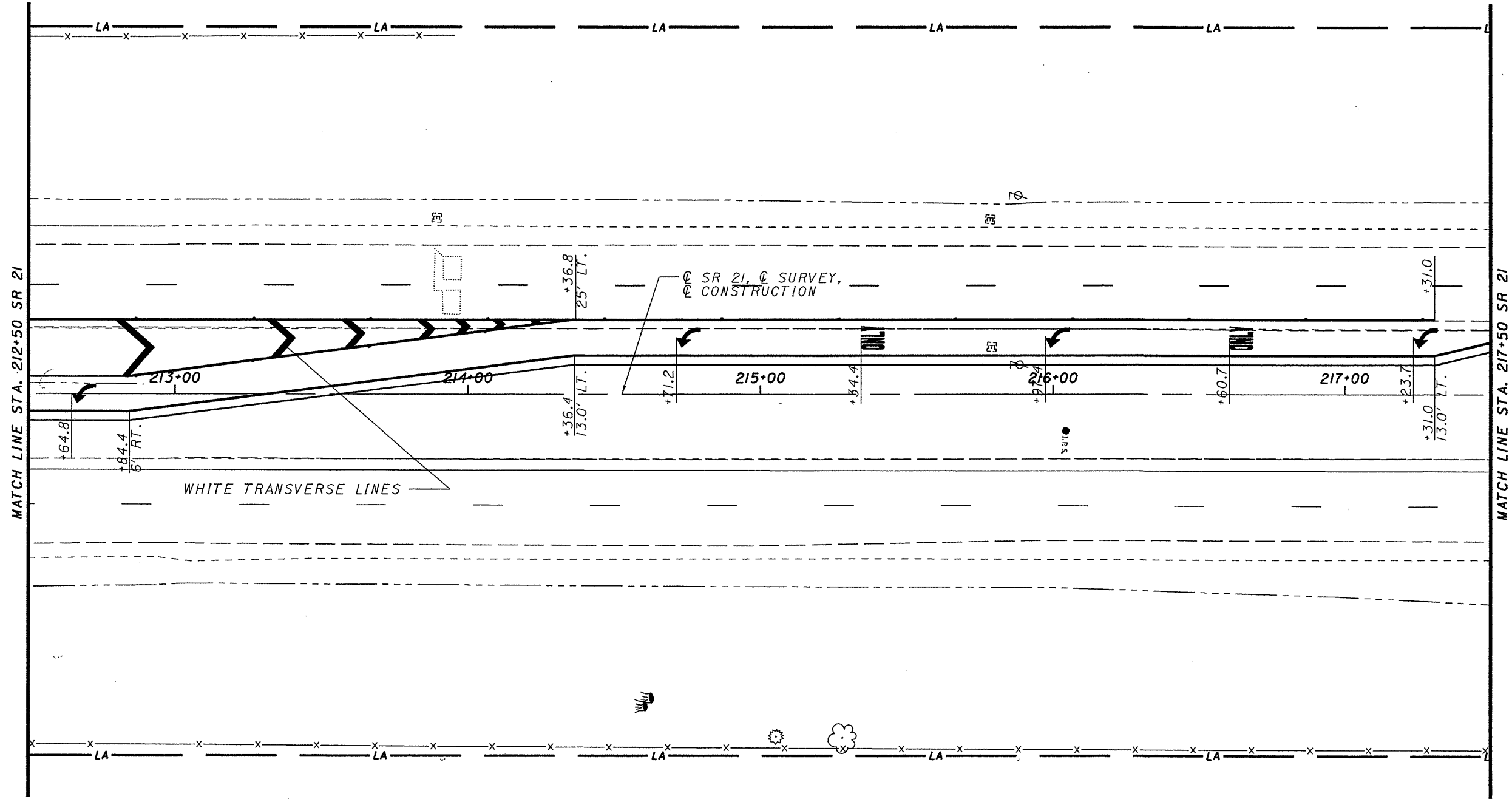
**PAVEMENT MARKINGS**  
 STA. 207+50.00 TO STA. 212+50.00

WAY-21-3.75

35  
37

DESIGN FILE: i:\projects\23894\TD100\_4.dgn  
 WORKSTATION: sdeer DATE: 2/24/2004

ALL QUANTITIES CARRIED TO PAVEMENT MARKING DATA SHEET, SHEET 32



CALCULATED SJD  
 CHECKED MJS

**PAVEMENT MARKINGS**  
**STA. 212+50.00 TO STA 217+50.00**

WAY-21-3.75

ALL QUANTITIES CARRIED TO PAVEMENT MARKING DATA SHEET, SHEET 32

