

PLANS SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT-OF-WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT-OF-WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Except Land Lines)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT-OF-WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TILE
- CUVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- HEDGE
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELLS
- ELECTRIC WARNING SIGN
- CROSSING GATE
- MEANDER CORNER
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- FIRE HYDRANT
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F - FRAME C - CONCRETE
- S - STONE T - TILE
- B - BRICK ST - STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITIES SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)
- GAS MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER (SANITARY OR STORM)
- SEWER MANHOLE

SCALES

- PLAN 50'
- PROFILE 10'
- INDEX MAP 2.66
- GENERAL LAYOUT.....

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

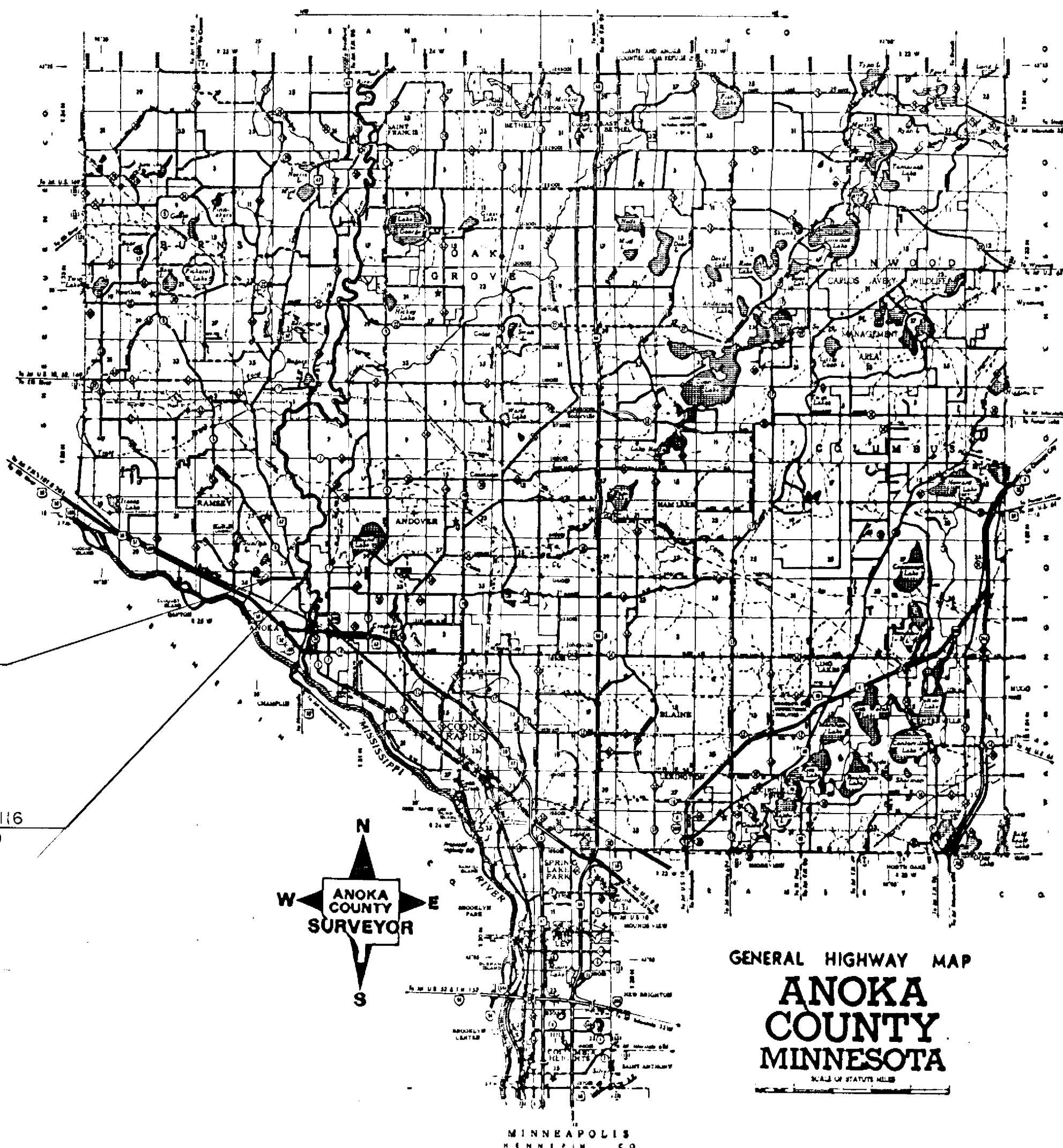
CONSTRUCTION PLAN FOR GRADING, BASE & BITUMINOUS PAVING

LOCATED ON 116 BETWEEN DYSPROSIUM ST. AND 275' EAST OF T.H. # 47 (Geographic Description)

C.P. 88-08-116 FROM TO (Legal Description)

STATE AID PROJ. NO. C.P. 88-08-116 STATE AID PROJ. NO.

GROSS LENGTH	2380 FEET	0.451 MILES	GROSS LENGTH	FEET	MILES
BRIDGES-LENGTH	FEET	MILES	BRIDGES-LENGTH	FEET	MILES
EXCEPTIONS-LENGTH	26 FEET	0.005 MILES	EXCEPTIONS-LENGTH	FEET	MILES
NET LENGTH	2354 FEET	0.446 MILES	NET LENGTH	FEET	MILES



MINN. PROJ. NO.
MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

- Sheet No. 1 Title Sheet & Layout Map
- Sheet No. 2-3 Est. Qty., Std. Pits, & Const. Notes
- Sheet No. 4 Super Chart
- Sheet No. 5 Typical Sections
- Sheet No. 6-9 Plan / Profile Sheets
- Sheet No. 10-14 Cross Section Sheets

THIS PLAN CONTAINS 14 SHEETS

DESIGN DESIGNATION

±N18₂₀

R Value

ADT (1987) = 3500

Proj. ADT (2007) = 12,000

Proj. HCADT (2007) = 1,100+

Soil Factor A-3 50%

9 Ton Design

Shoulder Width

Design Speed 40 MPH

Based on STOPPING Sight Distance

Height of eye 3.5' Height of object 0.5'

Design Speed not achieved at:

STA. TO STA. MPH

STA. TO STA. MPH

STA. TO STA. MPH

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE Nov. 28, 1988 REG. NO. 6549 ENGR. Paul E. Lund

COUNTY ANOKA

Recommended for Approval 19

DISTRICT STATE AID ENGINEER

Recommended for Approval 19

STATE AID PLANS AND SPECS ENGINEER

Approved 19

STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. **C.P. 88-08-116**

STATE PROJ. NO. SHEET NO. 1 OF 14 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES
2021.501	MOBILIZATION	LUMP SUM	1.00
2031.501	FIELD OFFICE, TYPE 'D'	EACH	1.00
2101.501	CLEARING	ACRE	0.65
2101.502	CLEARING	TREE	5.00
2101.506	GRUBBING	ACRE	0.65
2101.507	GRUBBING	TREE	5.00
2104.501	REMOVE CULVERT PIPE	LIN. FT.	126.00
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	7965.00
2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	494.00
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	78.00
2105.501	COMMON EXCAVATION (P)	CU. YD.	9479.00
2105.525	TOPSOIL BORROW (LV)	CU. YD.	387.00
2130.501	WATER	M-GAL	100.00
2211.503	AGGREGATE BASE PLACED, CLASS 5A (P)	CU. YD.	2636.00
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	267.00
2331.510	BINDER COURSE MIXTURE	TON	1815.00
2331.514	BASE COURSE MIXTURE	TON	3230.00
0331.601	2" WEARING COURSE PLACED	SQ. YD.	238.00
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	87.00
2341.508	WEARING COURSE MIXTURE	TON	1345.00
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	2150.00
2501.511	15' C.M. PIPE CULVERT	LIN. FT.	310.00
2501.515	15' C.M. PIPE APRONS	EACH	18.00
2501.521	22' SPAN R.C. PIPE-ARCH CULVERTS	LIN. FT.	180.00
2501.525	22' SPAN R.C. PIPE-ARCH APRONS	EACH	4.00
2501.571	INSTALL 15' C.M.P. CULVERT	LIN. FT.	36.00
2521.501	4" CONCRETE WALK	SQ. FT.	735.00
2531.501	CONCRETE CURB AND GUTTER DES. B-612	LIN. FT.	565.00
2545.521	3" RIGID STEEL CONDUIT	LIN. FT.	166.00
2545.553	PULL BOXES	EACH	6.00
2554.505	PERMANENT BARRICADES	LIN. FT.	80.00
2573.501	BALE CHECK	EACH	15.00
2575.501	ROADSIDE SEEDING (P)	ACRE	2.30
2575.502	SEED, MIXTURE 500	POUND	115.00
2575.505	SODDING	SQ. YD.	3436.00
2575.511	MULCH MATERIAL, TYPE #1	TON	4.60
2575.519	DISC ANCHORING	ACRE	2.30
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	TON	0.60
2580.501	TEMPORARY LANE MARKING	RD. STA.	69.00

BASIS OF PLANNED QUANTITIES

2331	PLANT MIXED BASE AND BINDER COURSE BITUMINOUS MIXTURE 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WEIGHT
2341	PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 6.5% BY WEIGHT
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GALLON PER SQ. YD.
2575	MULCH MATERIAL, TYPE #1 2 TONS PER ACRE
2575	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 500 LBS. / ACRE ON ALL SEED AND SOD AREAS
2575	ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT PLUS 10% SEED MIXTURE NO. 500 @ 50 LBS. / ACRE.

STANDARD PLATES

PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3014 J	REINFORCED CONCRETE PIPE-ARCH DETAIL
3040 F	CORRUGATED METAL PIPE CULVERT
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123 I	METAL APRON FOR C.S. PIPE
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7100 F	CONCRETE CURB AND GUTTER
8000 I	STANDARD BARRICADES
8002 F	PERMANENT BARRICADE
8117 F	PRECAST CONCRETE HANDHOLE
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

- ① FOR USE IN AREAS TO BE SODDED.
- ② FOR DUST CONTROL
- ③ INCLUDES 115 CU. YDS. FOR COMMERCIAL ENTRANCES & 117 CU. YD. FOR RD. APP. & CUL DE SAC
- ④ INCLUDES 120 TON FOR STREET APPROACHES & CUL DE SAC AND 90 TON FOR COMMERCIAL ENTRANCES.
- ⑤ INCLUDES 230 TON FOR STREET APPROACHES & CUL DE SAC PROVIDED FOR RESIDENTIAL DRIVEWAY RESTORATION. PAYMENT BY SQ. YD. INCLUDES BITUMINOUS MATERIAL FOR MIXTURE AND 3" THICK (COMPACTED THICKNESS) AGGREGATE BASE.
- ⑦ INCLUDES 92 TON FOR STREET APPROACHES & CUL DE SAC AND 73 TON FOR COMMERCIAL ENTRANCES.
- ⑧ FOR MEDIAN CONSTRUCTION.
- ⑨ FOR FUTURE SIGNALS AT TH 47
- ⑩ FOR SEED AND SOD AREAS

SPECIAL DETAILS

THE CONTRACTOR SHALL REMOVE SUFFICIENT TOPSOIL MATERIAL WITHIN THE EXCAVATION AREAS AND AREAS ON WHICH EMBANKMENT WILL BE PLACED, STOCKPILE IF NECESSARY, AND USE IT FOR TOPSOIL COVERING ON THE NEW SLOPES AND DITCH BOTTOMS TO PROVIDE A MINIMUM COVER COVER OF THREE (3) INCHES. SALVAGING AND REPLACING TOPSOIL SHALL BE CONSIDERED INCIDENTAL TO COMMON EXCAVATION. EXCESS COMMON EXCAVATION MATERIAL WILL BE STOCKPILED BY THE CONTRACTOR FOR FUTURE USE BY THE COUNTY. LOCATION FOR THE STOCKPILE WILL BE ALONG THE OLD ROAD ALIGNMENT BETWEEN STATION 94+00 & T.H. # 47 THIS WORK WILL BE CONSIDERED INCIDENTAL TO COMMON EXCAVATION.

REVISIONS			
DATE	BY	DATE	BY

DRAINAGE CHART																											
STATION	LOC	INPLACE	REMARKS	SODDING				REMOVE				SALVAGE				INSTALL CULVERTS				FURNISH AND INSTALL CULVERTS							
				CULV	END	SQ	YD	CULV	PIPE	CULV	PIPE	15'	CMP	15'	CMP	15'	CMP	22'	RCP-A	15'	CMP	22'	RCP-A	15'	CMP	22'	RCP-A
80+48	RT					17																	36	2			
81+22	RT		NO CULV REQ'D																								
81+54	LT		NO CULV REQ'D																								
82+37	RT	12' x 32' CMP				17		32															32	2			
84+33	LT					17																	32	2			
85+39	LT					17																	36	2			
87+30	LT	18' x 30' CMP	TO REMAIN INPL																								
87+80	RT					17																	36	2			
90+55	LT					17																	36	2			
91+82	RT	15' x 36' CMP	RELOCATE CULV			17		36		36																	
93+60	LT	12' x 30' CMP				17		30															42	2			
93+60	RT	15' x 42' CMP	NO CULV REQ'D					42																			
97+00	C/L					21																	60	2	80	2	
99+68	C/L	15' x 64' RCP						64																			
99+85	C/L					21																				100	2
100+30	RT		NO CULV REQ'D																								
100+76	LT		NO CULV REQ'D																								
TOTAL						195		126		78		36											310	18	180	4	

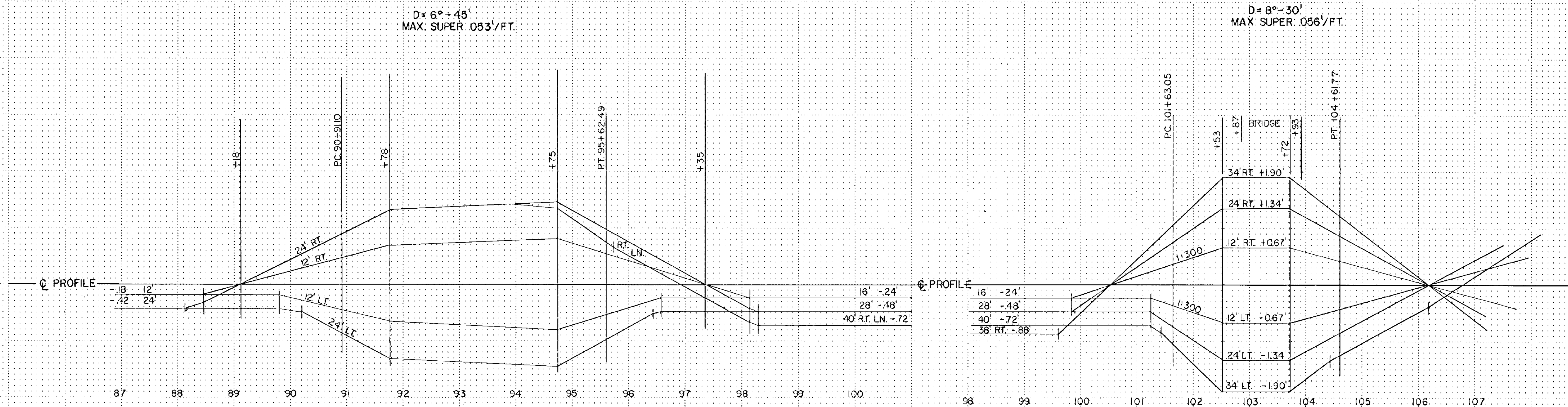
CLEARING AND GRUBBING					
STATION (TO STATION)	LOC	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
80+85	33' LT	1		1	
82+69 TO 83+54	RT		.05		.05
84+70 TO 86+59	RT		.15		.15
87+21	32' RT	1		1	
96+52 TO 98+56	LT & RT		.4		.4
98+77	26' RT	1		1	
98+86	23' LT	1		1	
98+88	6' RT	1		1	
212+00 TO 213+25	LT		.05		.05
TOTALS		5	.65	5	.65

SAWING BITUMINOUS PAVEMENT		
STATION	LOCATION	LIN. FT.
78+20	C/L X-ING	70
80+48	RT.	24
81+22	RT.	20
81+54	LT.	34
82+37	RT.	20
90+55	LT.	14
91+82	LT.	20
93+60	LT.	14
99+38	C/L X-ING	170
100+30	RT.	30
100+76	LT.	30
210+40		24
212+00		24
TOTAL		494

SODDING		
STATION	LOC	SQ. YDS.
78+20 TO 80+36	RT.	408
80+60 TO 81+12	RT.	184
81+32 TO 82+60	RT.	252
81+00 TO 81+37	LT.	68
81+71 TO 83+00	LT.	267
84+00 TO 84+28	LT.	75
84+40 TO 85+30	LT.	250
99+38 TO 100+15	RT.	342
99+38 TO 100+61	LT.	424
100+45 TO 102+00	RT.	576
100+91 TO 102+00	LT.	412
CULVERT ENDS		195
TOTAL		3453

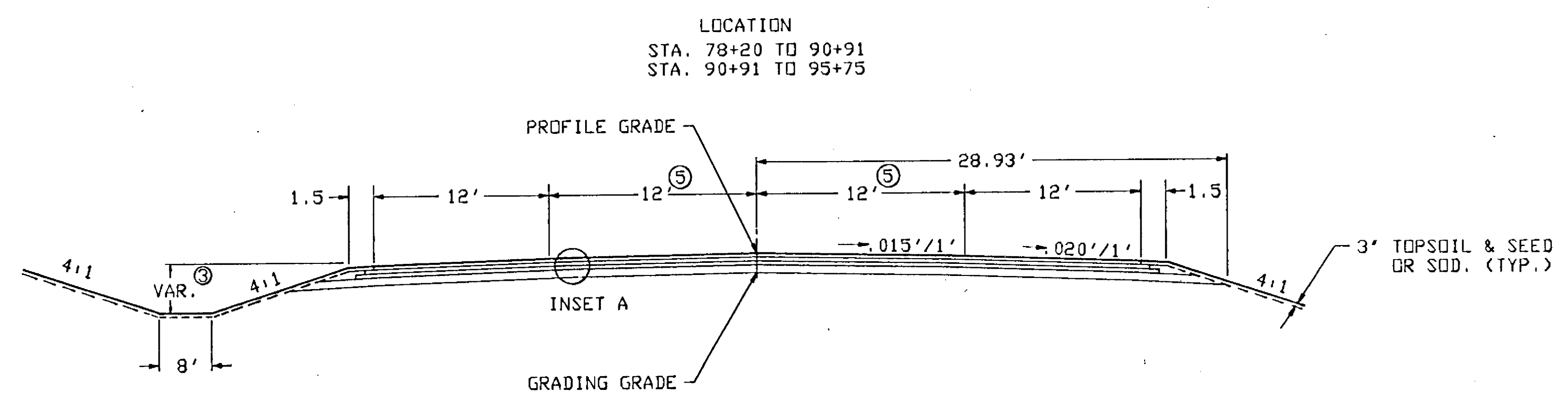
BALE CHECKS		
STATION	LOC.	QUANTITY
88+00	RT.	5.00
101+66	LT./RT.	10.00
TOTAL		15.00

REVISIONS			
DATE	BY	DATE	BY



SUPER ELEVATION CHART
 DESIGN SPEED 40 MPH.

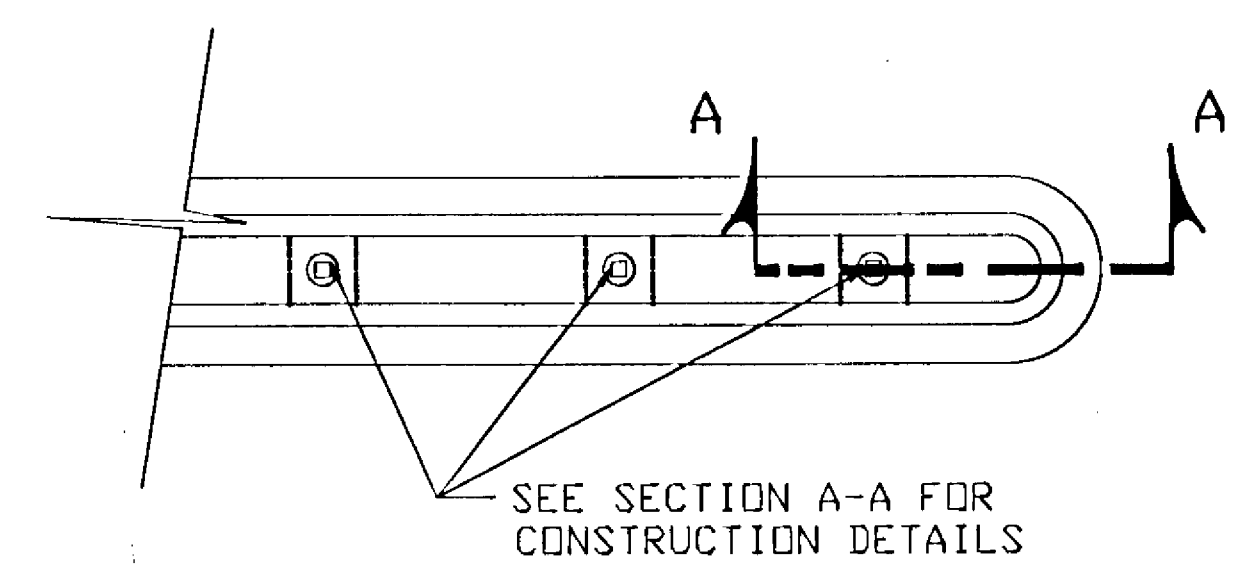
TYPICAL BASE AND SURFACING SECTION



- * INSET 'A'
 - 1 1/2" 2341 WEARING COURSE
 - 2" 2331 BINDER COURSE
 - 4" 2331 BASE COURSE
 - 5" CL.-5A AGGREGATE BASE
 - 4" 2331 BASE COURSE
- * INSET 'B'
 - 1 1/2" 2341 WEARING COURSE
 - 2" 2331 BINDER COURSE
 - 9" CL.-5A AGG. BASE

* NO WEARING COURSE ON EAST SIDE OF T.H. #47

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATION



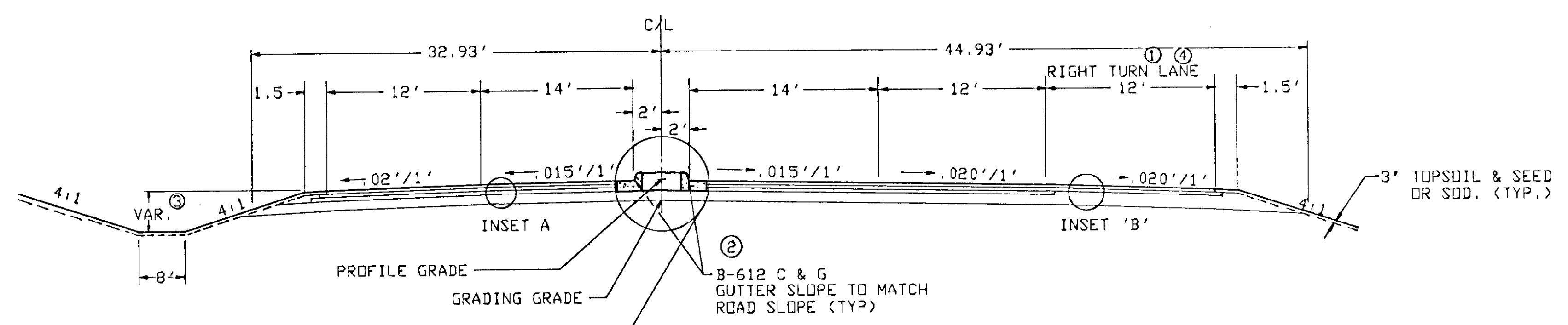
NOTE: DASHED LINES REPRESENTS APPROXIMATE LIMITS OF THE CONCRETE FOOTINGS TO BE POURED FOR EACH ISLAND MOUNT SIGN POST INSTALLATION. (32' WIDTH X 36' LENGTH X 5' HEIGHT)

THE WIDTH OF THE FOOTING SHALL EQUAL THE WIDTH OF THE ISLAND IF THE WIDTH OF THE ISLAND IS UNDER 4'. IF MORE THAN ONE POST IS REQUIRED FOR INSTALLATION SEE DETAIL '2'.

SECTION A-A THE SOLID GALVANIZED SQUARE TUBING FOR THE 'DO NOT ENTER' SIGNS SHALL BE SET AT PROPER ANGLE. REFER TO THE MINNESOTA MANUAL ON UNIFORM CONTROL DEVICES.

FOR PAYMENT OF CONCRETE FOOTINGS, REFER TO THE STATEMENT OF ESTIMATED QUANTITIES, ITEM 2564.513 CONCRETE FOOTINGS.

LOCATION
STA. 95+75 TO 101+25



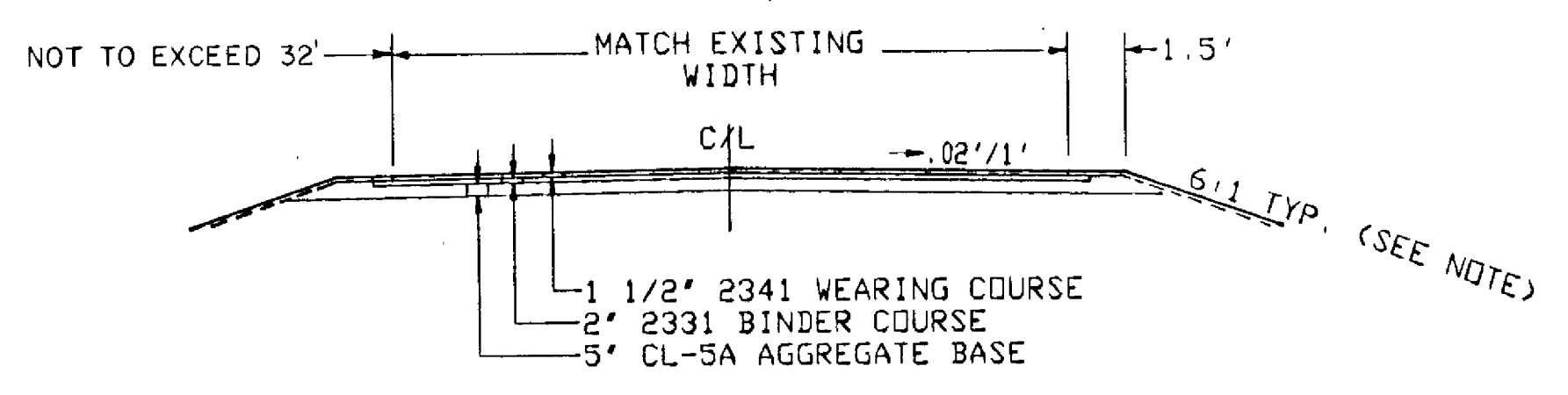
4' CONCRETE

COMPACTED GRANULAR MATERIAL (INCIDENTAL TO COMMON EXCAVATION)
MEDIAN LOCATION 95+75 - 98+75
(MEDIAN 99+75 - 101+25 TO BE CONST. WITH FUTURE PROJECT)

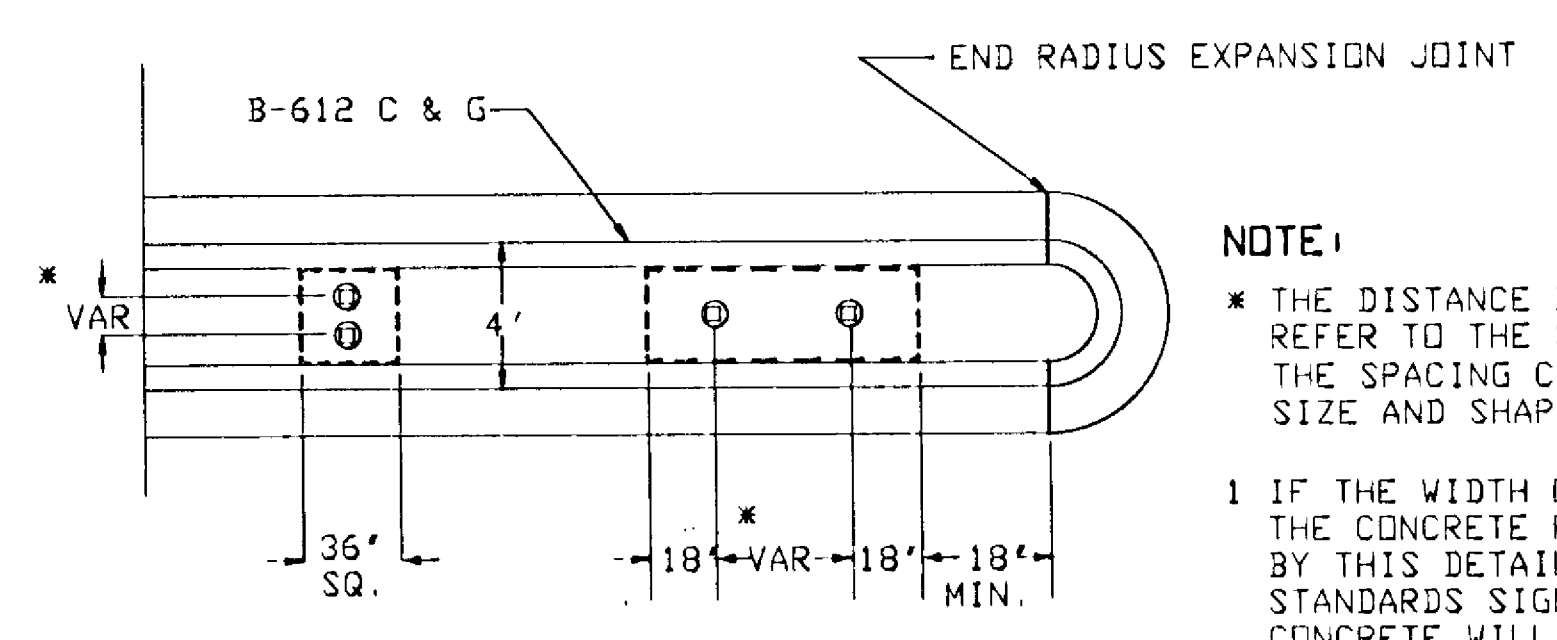
- ① SEE PLAN FOR LOCATION
- ② NO MEDIAN CONSTRUCTION 99+75 TO 101+25
- ③ SEE CROSS SECTIONS
- ④ CONSTRUCT 10' SHOULDER RIGHT 99+38 TO 101+15 SAME BITUMINOUS CONSTRUCTION AS RIGHT TURN LANE
- ⑤ WIDTH TAPERS 12'-16'

NOTE: CONSTRUCT ALL SIDE STREET APPROACHES AND ENTRANCES WITH 6:1 INSLOPES.

COMMERCIAL ENTRANCES



ISLAND MOUNT BREAK-AWAY INSTALLATIONS REQUIRING MORE THAN ONE POST



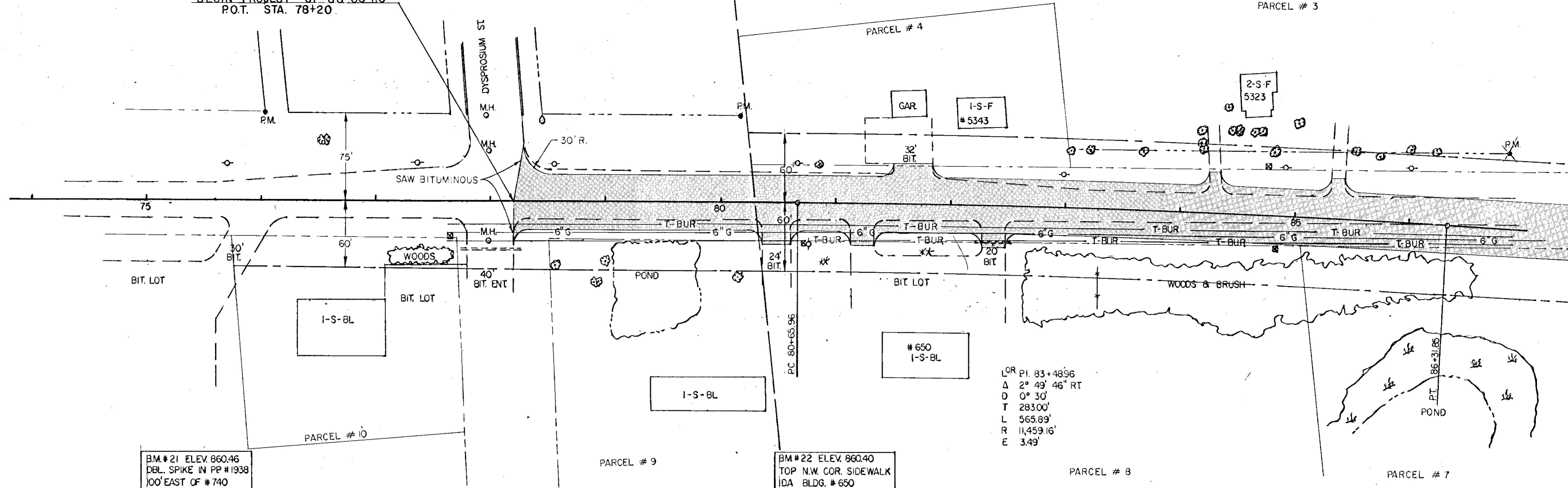
- NOTE:
- * THE DISTANCE BETWEEN SIGN POST VARIES REFER TO THE STANDARD SIGNS MANUAL FOR THE SPACING CHART THAT RELATES TO THE SIZE AND SHAPE OF THE INSTALLATION.
 - 1 IF THE WIDTH OF THE ISLAND IS LESS THAN THE CONCRETE FOOTING MEASUREMENT REQUIRED BY THIS DETAIL AND SPACING CHART IN THE STANDARDS SIGNS MANUAL, THE LENGTH OF THE CONCRETE WILL EQUAL THE WIDTH OF THE IS.
 - 2 THE DIMENSIONS OF THE CONCRETE FOOTINGS FOR ANY ISLAND MOUNT SIGN INSTALLATION REQUIRING MORE THAN ONE POST WILL BE 36' WIDTH X * LENGTH X 5' HEIGHT.
 - 3 DASHED LINE REPRESENTS THE APPROXIMATE LIMITS OF CONCRETE FOOTINGS TO BE POURED FOR ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATIONS REQUIRING MORE THAN ONE POST WITHIN SPECIAL MEDIAN AREAS. (ALT. I-1, ALT. I-2, ALT. I-3)

REVISIONS			
DATE	BY	DATE	BY

S.A.P. S.P. C.P. 88-08-116

BEGIN PROJECT CP 88-08-116
P.O.T. STA. 78+20

PARCEL # 3



LOR P.I. 83+48.96
Δ 2° 49' 46" RT
D 0° 30'
L 283.00'
R 565.89'
E 11,459.16'
F 3.49'

BM #21 ELEV. 860.46
DBL. SPIKE IN PP #1938
100' EAST OF #740

BM #22 ELEV. 860.40
TOP N.W. COR. SIDEWALK
IDA BLDG. # 650

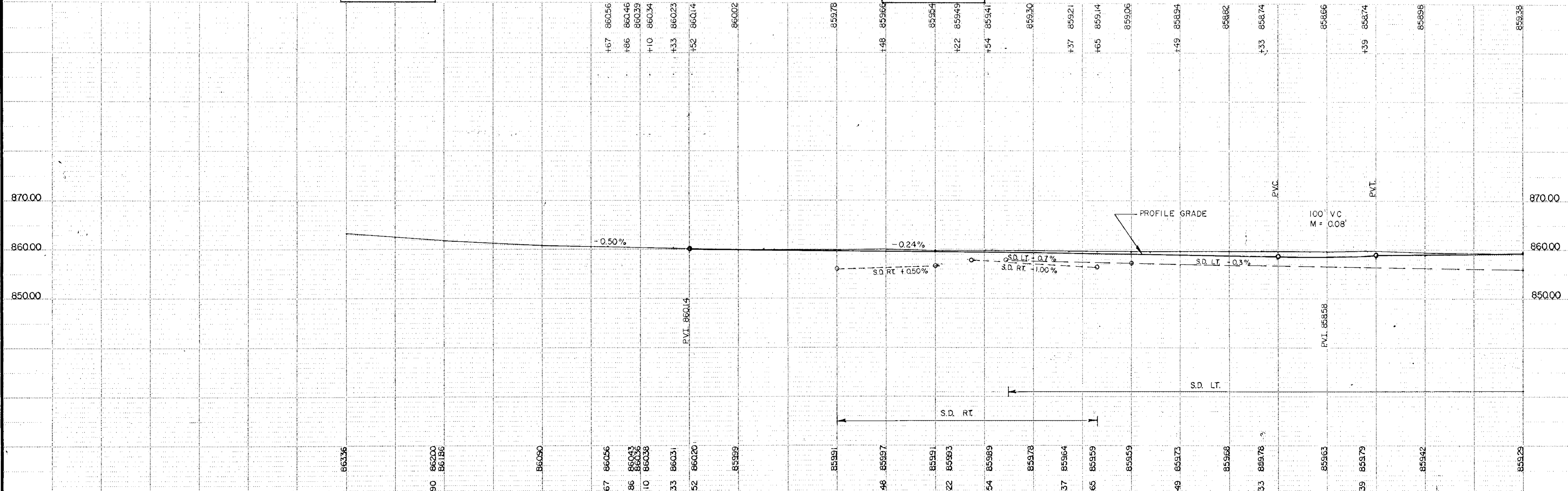


ILLUSTRATION BY: [unreadable]

B.M. # 8 ELEV. 859.89
SPK. IN POWER POLE
STA. 93+25 LT. 45'

P.I. 93+33.04
Δ 31° 49' 07"
D 6' 45"
T 848.63'
L 471.39'
T 241.94'

PT. 95+62.49

PARCEL # 3

PARCEL # 2

PARCEL # 1

E.C.S. # 1-5-2

FIELD

TREES & BRUSH

C.R. 116

SEE SHEET # 9 FOR CONST. DETAILS OF ENTRANCE

OR P.I. 83+48.96
Δ 2° 49' 46" RT.
D 0° 30'
T 28300'
L 565.89'
R 11,459.16'
E 3.49'

PARCEL # 7

FIELD

PARCEL # 7

I-S-BL

PARCEL # 6

FIELD

PARCEL # 5

Station	Elevation	Notes
85	859.75	
85	859.65	
85	859.79	
85	859.92	
85	859.29	
85	859.28	
85	859.58	
85	857.48	
90	857.35	
90	856.40	
90	857.28	
90	859.66	
90	860.86	
90	862.56	
90	862.28	
90	860.96	
90	860.86	
90	860.66	

EARTHWORK BALANCE STA. 78+20 TO 102+00	
TOTAL COMMON EXCAVATION	CU. YD. 9893
BITUMINOUS PAVEMENT REMOVAL	856
COMMON EXCAVATION (PAY QUANTITY)	9243
EMBANKMENT 1821 X (150% SHRINKAGE FACT.)	2732
EXCESS EXCAVATION MATERIAL	8511

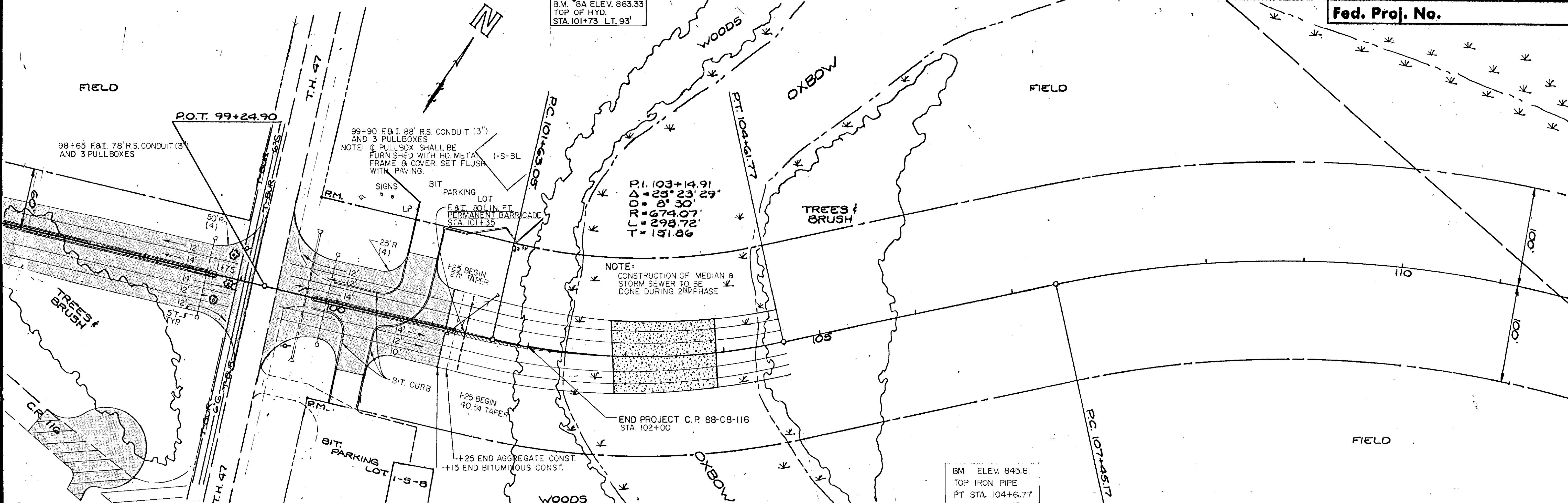
GRADIENTS:
 ± 4.0%
 SD RT ± 0.3%
 SD LT + 0.2%
 SD RT + 0.7%

VERTICAL CURVES:
 100.0 V.C.
 M = 0.08

VERTICAL CURVES:
 100.0 V.C.
 M = 0.093

Copy information from S.P. 88-116

B.M. #8A ELEV. 863.33
TOP OF HYD.
STA. 101+73 LT. 93'



BM ELEV. 845.81
TOP IRON PIPE
PT STA. 104+61.77

Station	Elevation	Notes
98+00	862.66	
98+05	860.07	
98+10	860.17	
98+12	861.49	
98+14	860.96	
98+15	860.95	
98+18	859.97	
98+19	861.37	
98+20	859.87	
98+25	859.17	
98+30	859.07	
98+35	859.46	
98+40	857.98	
98+45	857.17	
98+50	859.02	
98+55	859.02	
98+60	853.22	
98+65	853.52	
98+70	853.22	
98+75	853.22	
98+80	853.92	
98+85	852.85	
98+90	852.85	

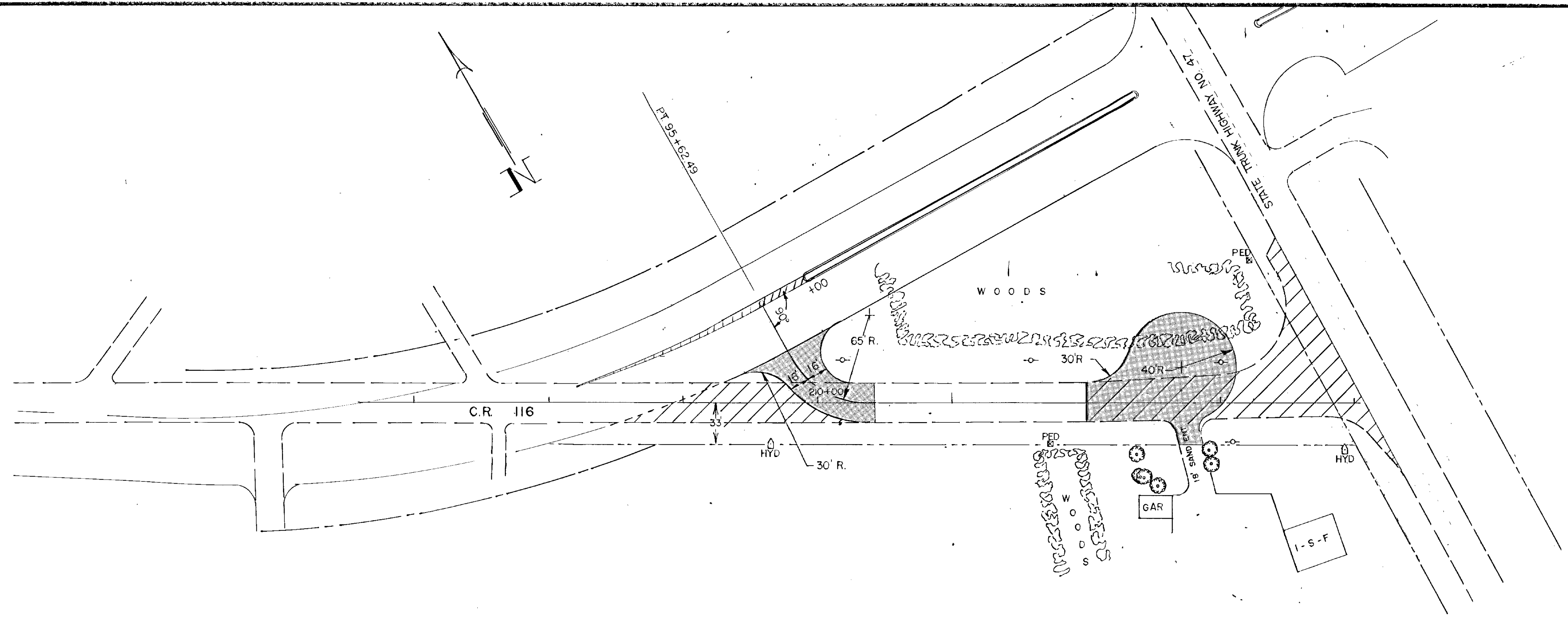
Profile Notes:

- 75' VC M=0.249
- EXCEPTION
- 75' VC M=0.0434
- PROPOSED BRIDGE NO. 02546
- 200' VC M=0.230

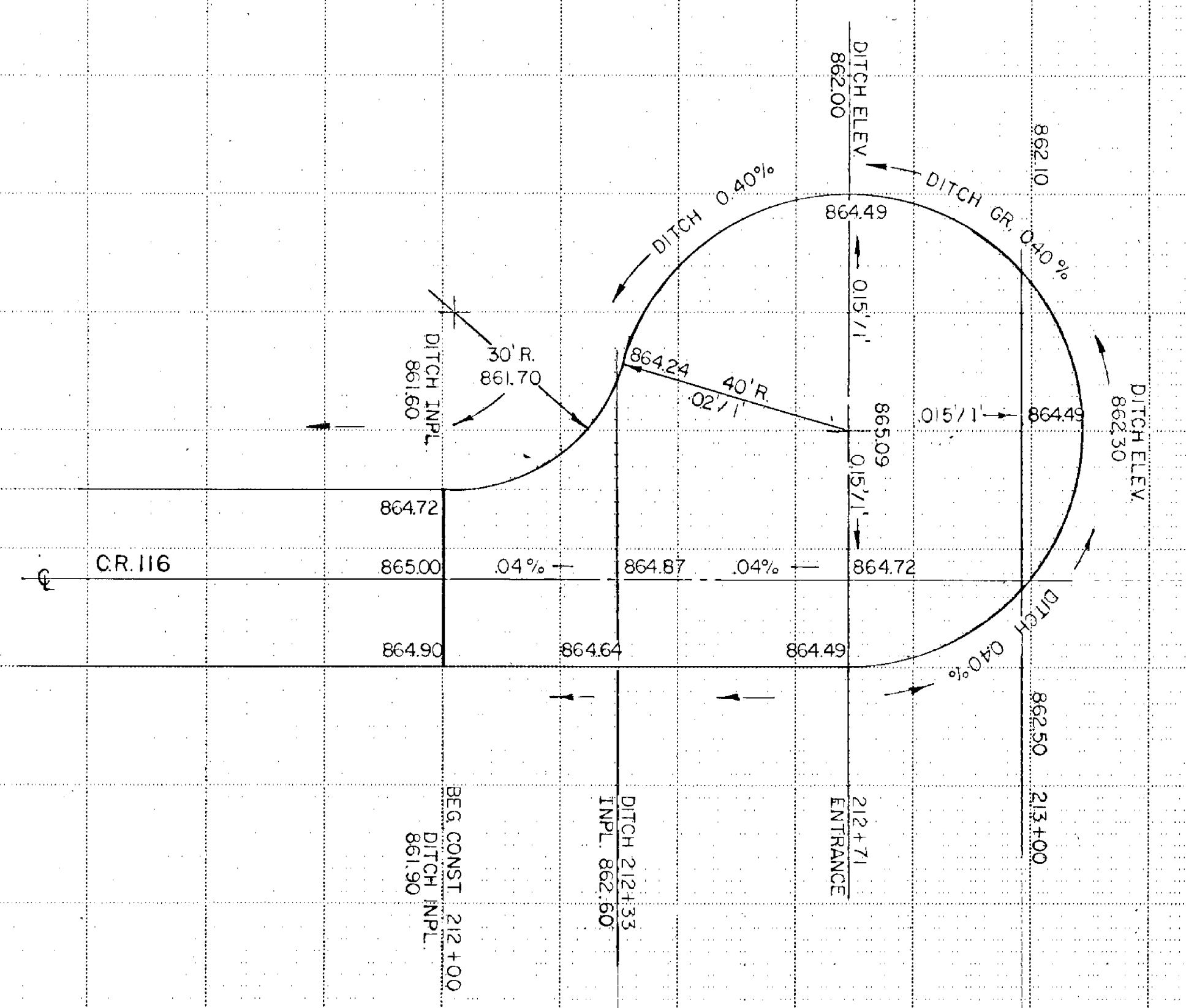
Grades: 0.34%, 0.33%, 0.36%, 0.70%, 1.43%, 2.00%

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Rev 5-7-90 UPL&C



▨ DENOTES BITUMINOUS REMOVAL AREA.



ROAD APPROACH
CUL DE SAC CONSTRUCTION

20' x 33'
9/2

860.2 78+52 859.1

860.31 78+33 859.19

860.38 78+10 866

860.3601 78+00 865.44

860.43 77+86 864.88

860.56 77+67 864.32

37 6

0 0

0 0

0 0

0 0

0 -14708

859.89 81+54 856.37

859.93 81+22 856.45

859.91 81+00 856.5

859.97 80+48 856.62

859.91 80+00 856.74

859.9901 79+00 856.98

0 0

1%

0.50% -668 -168

S.D. 856.50

0.50%

168

-354 -122

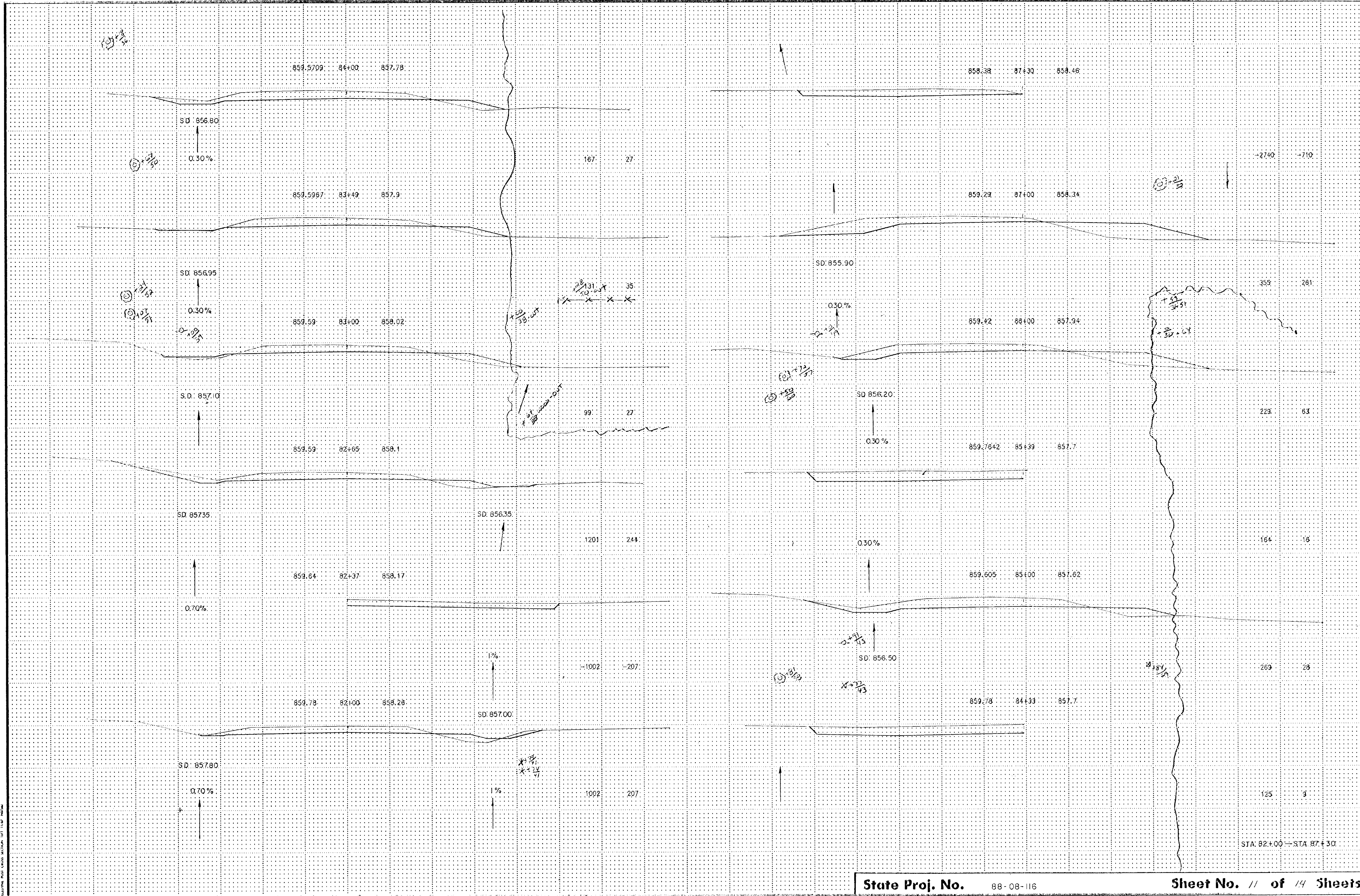
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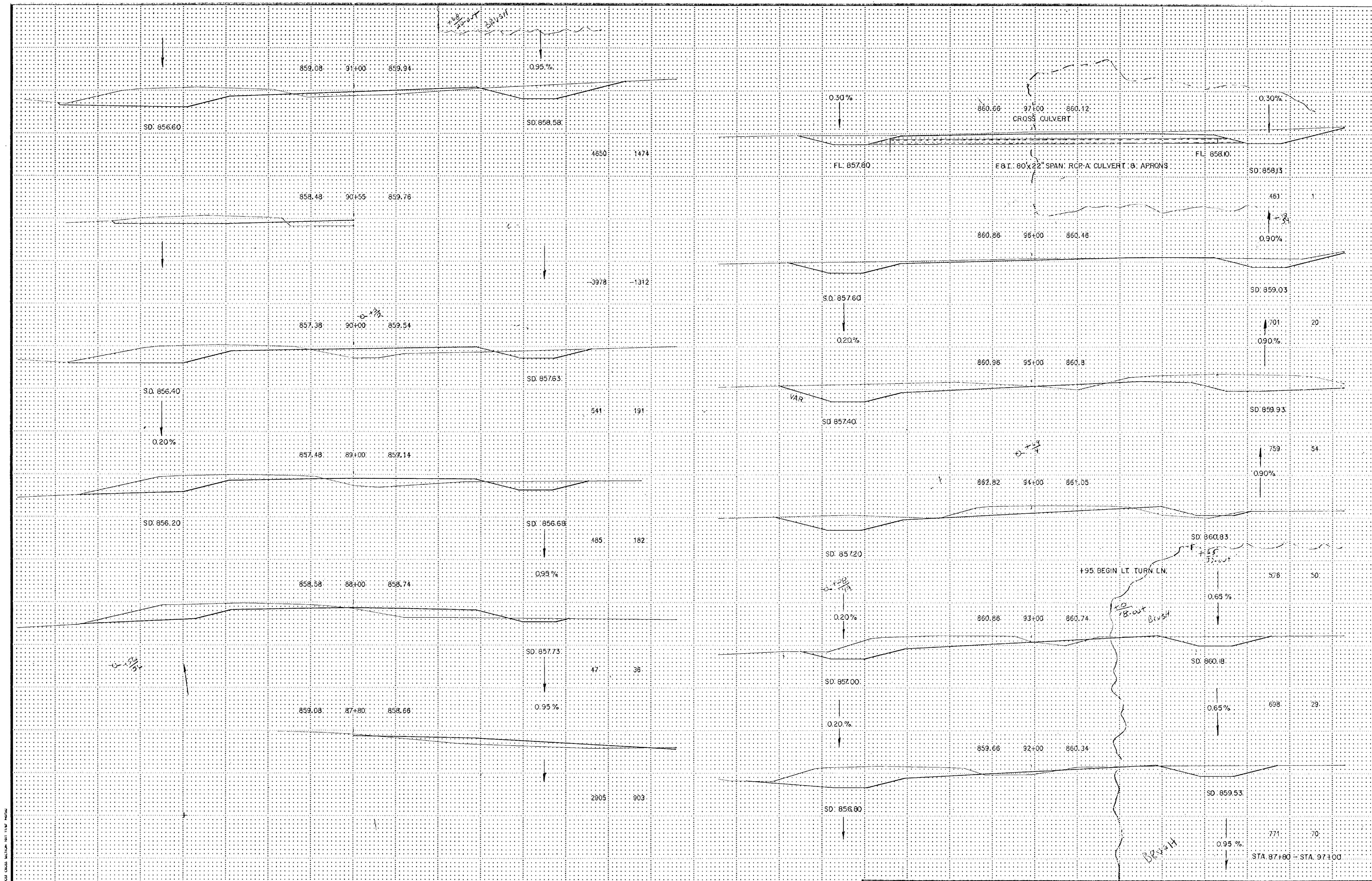
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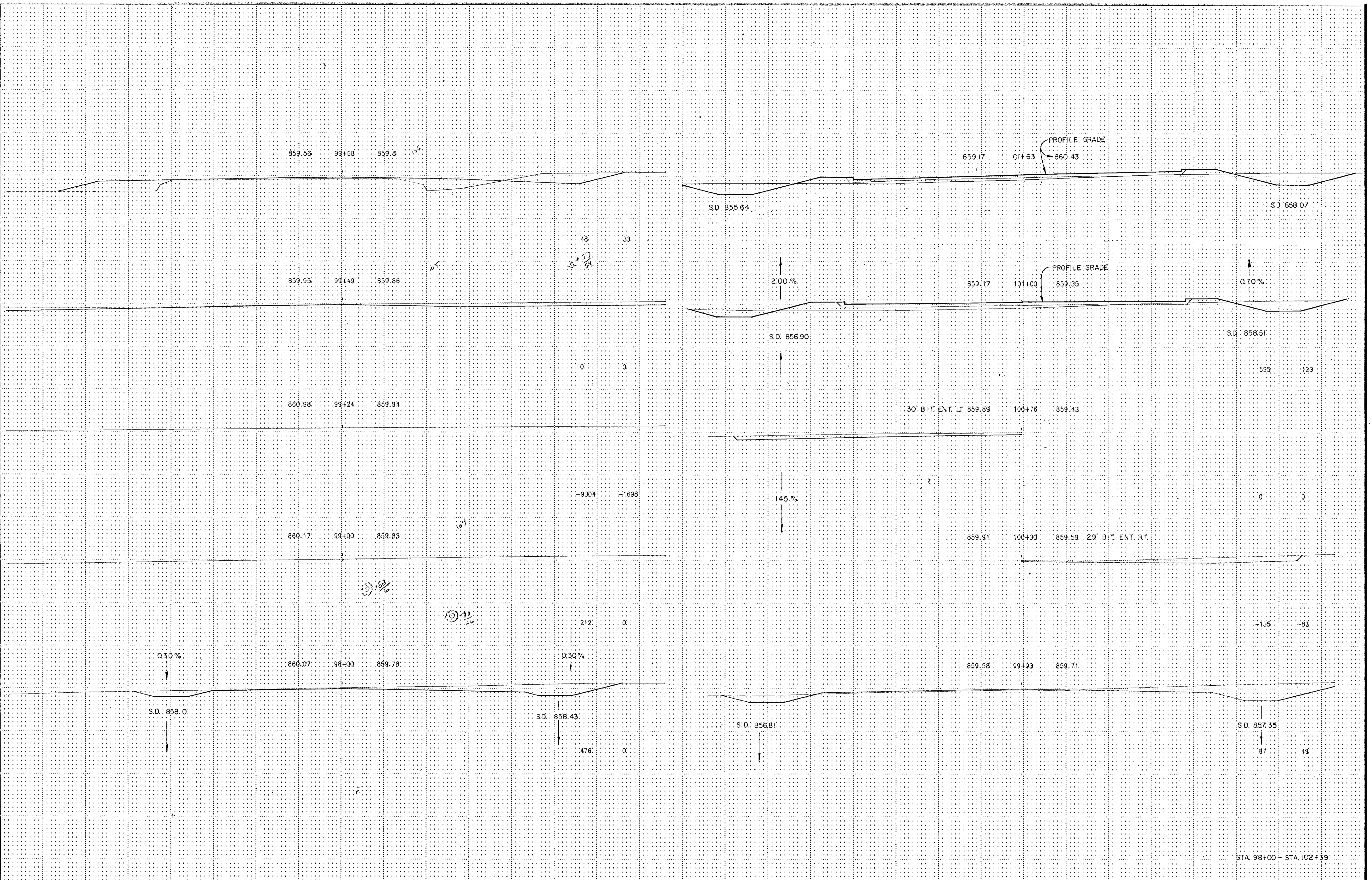
STA. 77+67 - 81+54

VERTICAL CURVE DATA SECTION UNIT: 1:100





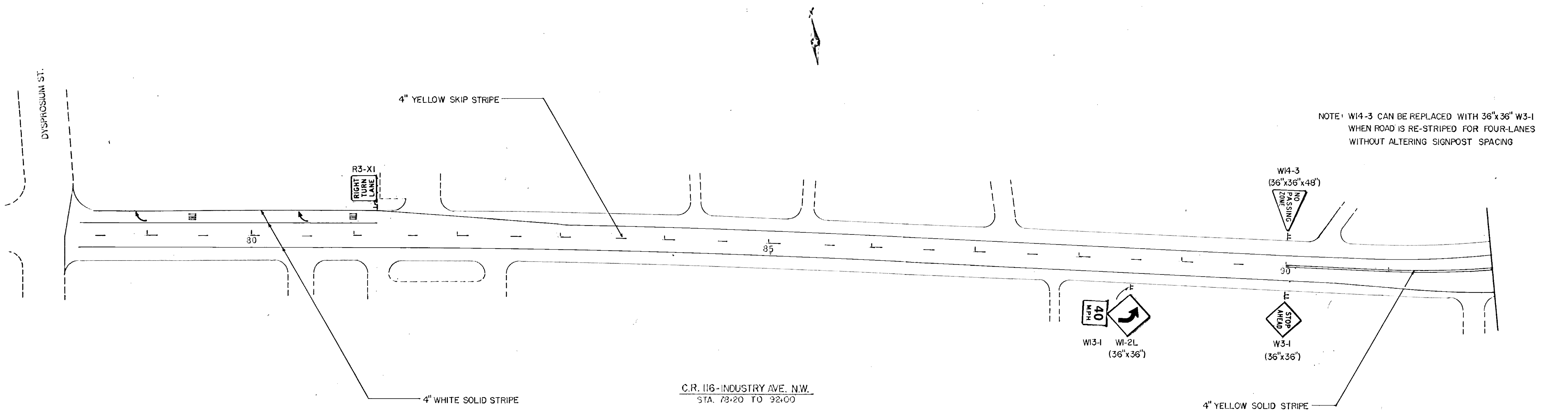
TRAVERSE ROAD CROSS SECTION SET 1/14/1968



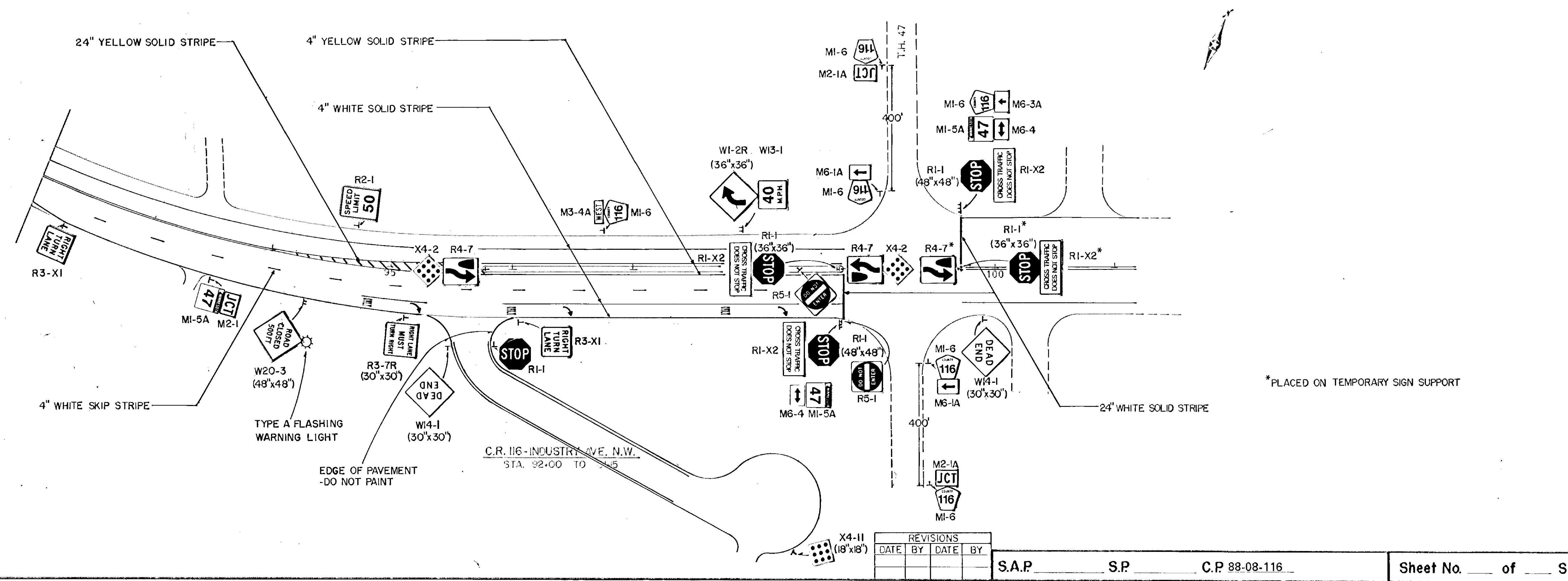
M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY
W20-1	48" x 48"		AHEAD 500 FT 1000 FT 1000 FT		TYPE III	8 FT				W14-3	36" x 48" x 48"				MI-6	24" x 24"			
W20-1	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		TYPE III	8 FT				R4-1	24" x 30"				M4-8	24" x 12"		M5-1(L)	1
W20-2	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		W4-2	36" x 36"				R3-7(L)	30" x 30"				M3-2A	24" x 12"		M5-1(R)	1
W20-2	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		W3-1	48" x 48"				TYPE III	8 FT				MI-6	24" x 24" 21" x 15"		M6-1(L)	1
W20-2	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		TYPE I					R11-2	48" x 30"			4				M6-1(R)	3
W20-3	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT	2	TYPE I					R11-2	48" x 30"				M4-8	24" x 12"		M5-1(L)	1
W20-3	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		DRUM					M4-10(L)	48" x 18"				M3-4A	24" x 12"		M5-1(R)	2
W20-3	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		CONE					R11-2	48" x 30"				MI-6	24" x 24" 21" x 15"		M6-1(L)	2
W20-4	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		VERTICAL PANEL					M4-10(R)	48" x 18"							M6-1(R)	2
W20-5(R)	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		VERTICAL PANEL					R11-3	60" x 30"							M6-2A(L)	2
W20-5(L)	48" x 48"		AHEAD 500 FT 1000 FT 1500 FT		RI-1	48" x 48"				M4-10(L)	48" x 18"				M4-9(L)	30" x 24"		M6-2A(R)	3
	48" x 48"		AHEAD		R3-1	24" x 24"				R11-3	60" x 30"				M4-9(R)	30" x 24"		M6-3	2
W1-6(L)	8 FT				R3-2	24" x 24"				M4-10(R)	48" x 18"			2	G20-1A	60" x 36"		M6-4	3
W1-6(R)	8 FT				R5-1	30" x 30"				TYPE III	8 FT				G20-2	60" x 24"			2
					R4-7A	24" x 30"				M4-10(L)	48" x 18"			2		30" x 24"			
					X4-2	18" x 18"				TYPE III	8 FT				M3-4A	24" x 12"			
										M1-6	24" x 24"				MI-6	24" x 24"			2
										TYPE III	8 FT					48" x 36"			

LOCATION: C.R. 116 - DYSPROSIUM ST. TO I.H. 47 (C.P. 88-08-116)
REASON FOR DETOUR: ROAD RELOCATION
INSTALLED BY: _____ DATE: _____
REMOVED BY: _____ DATE: _____

TIME: _____
TIME: _____



NOTE: W4-3 CAN BE REPLACED WITH 36"x36" W3-1 WHEN ROAD IS RE-STRIPED FOR FOUR-LANES WITHOUT ALTERING SIGNPOST SPACING

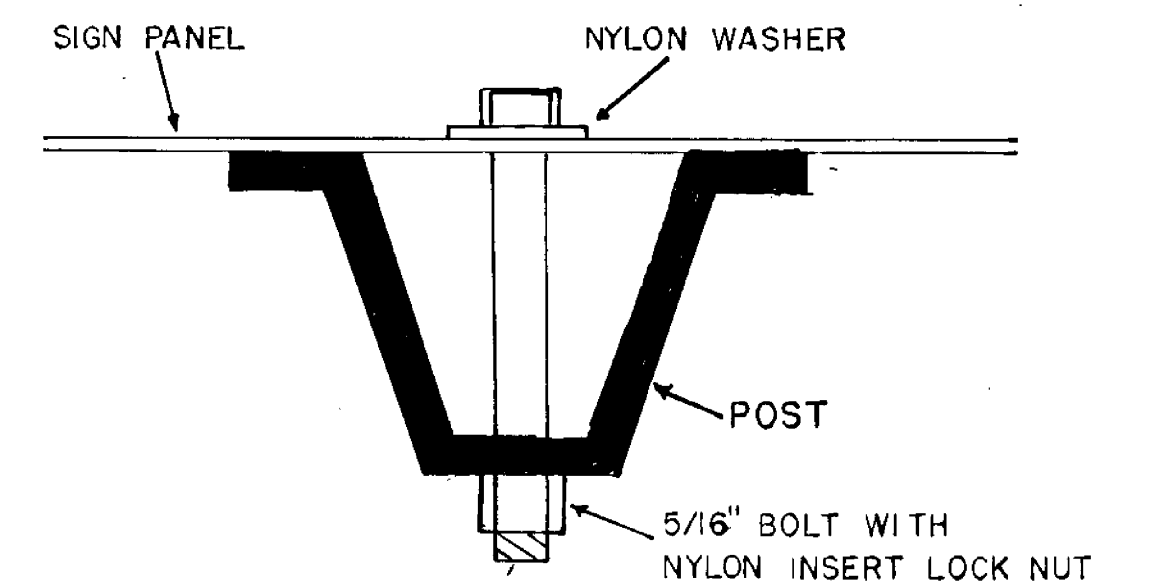
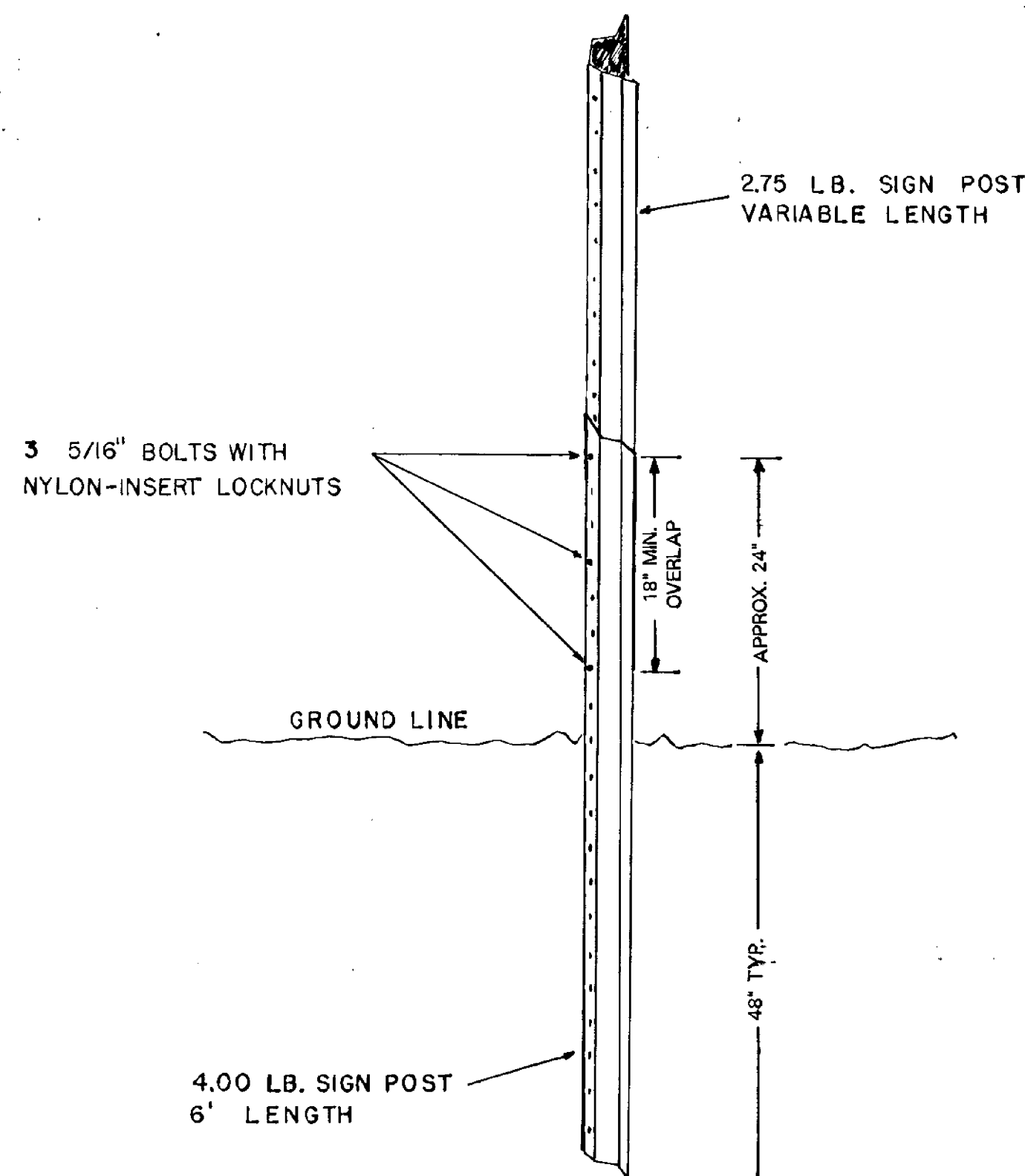


REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 88-08-116

MUTCD CODE NUMBER	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	NO. OF GROUND MOUNT INSTALLATIONS	NO. OF ISLAND MOUNT INSTALLATIONS	SIGN PANEL LEGEND	NO. OF POSTS/INSTALLATIONS
RI-1	30" x 30" 36" x 36" 48" x 48"	6.25 9.00 16.00	1 1* 2	1	STOP	1 2 2
RI-X2	36" x 12"	3.00	3*	1	CROSS TRAFFIC DOES NOT STOP	
R2-1	24" x 30"	5.00	1		SPEED LIMIT 50	1
R3-7R	30" x 30"	6.25	1		MANDATORY TURN	1
R3-X1	30" x 30"	6.25	3		RIGHT TURN LANE	1
R4-7	24" x 30"	5.00	1*	2	KEEP RIGHT	1
R5-1	30" x 30"	6.25	1	1	DO NOT ENTER	1
WI-2	36" x 36"	9.00	1 1		CURVE	2
W3-1	36" x 36"	9.00	1		STOP AHEAD	2
WI3-1	24" x 24"	4.00	2		ADVISORY SPEED PLATE	
WI4-1	30" x 30"	6.25	2		DEAD END	1
WI4-3	36" x 48" x 48"	5.56	1		NO PASSING ZONE	2
W20-3	48" x 48"	16.00	1		ROAD CLOSED 500 FEET	2
MI-5A	24" x 24"	4.00	3		MINNESOTA ROUTE MARKER	1
MI-6	24" x 24"	4.00	6		COUNTY HIGHWAY MARKER	1
M2-1 M2-1A	21" x 15"	2.19	1 2		JUNCTION MARKER (Bk on Wht.) JUNCTION MARKER (Wht on Blue)	
M3-4A	24" x 12"	2.00	1		CARDINAL DIRECTION MARKER	
M6-1A M6-3A M6-4	21" x 15"	2.19	1 1 2		DIRECTIONAL ARROW	
X4-2	18" x 18"	2.25		2	OBJECT MARKER	
X4-11	18" x 18"	2.25	1		END OF ROAD MARKER	1
			1		TYPE A FLASHING WARNING LT.	

*ONE INSTALLED ON TEMPORARY SUPPORT

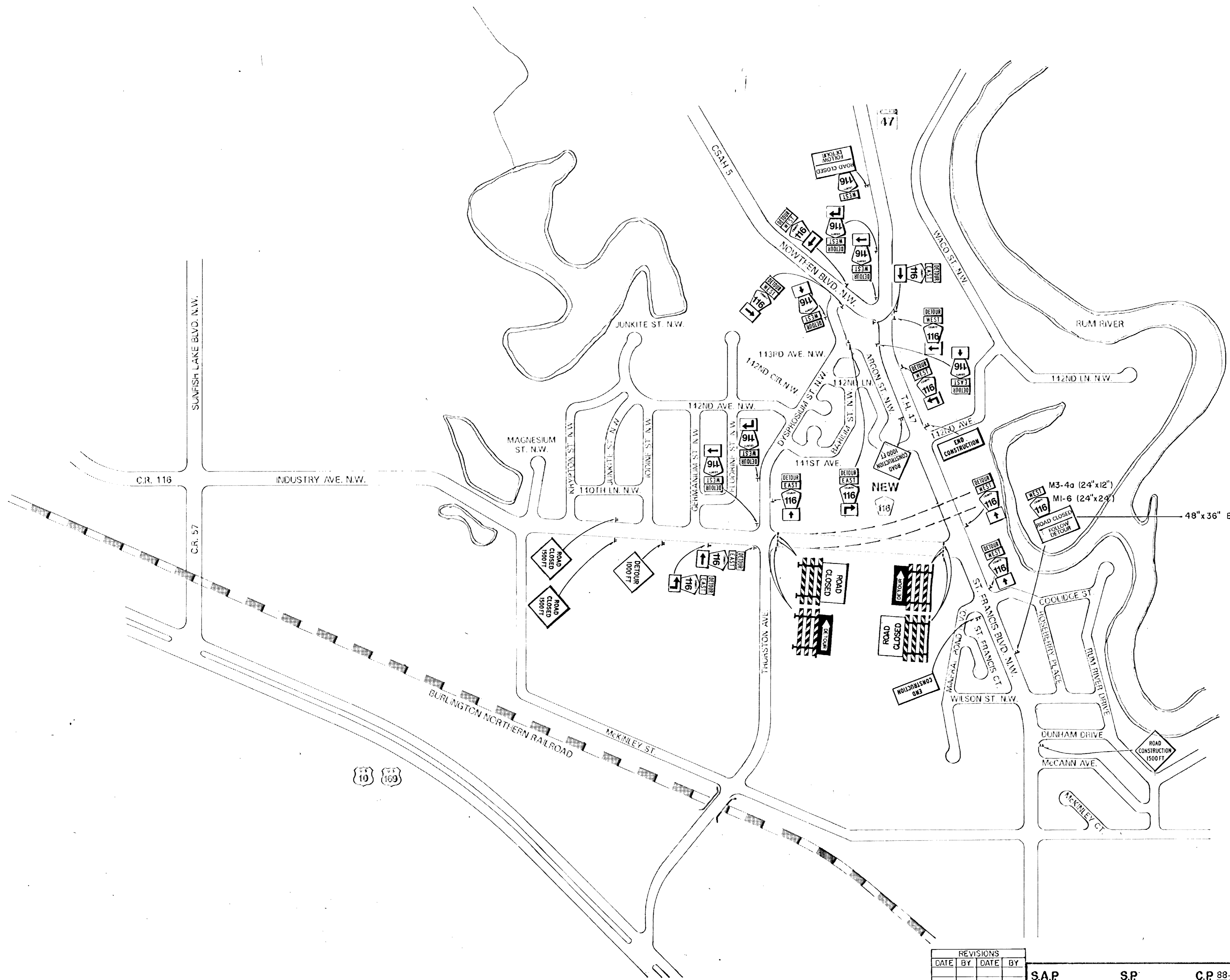


NOTE: ALL WORK MUST MEET Mn/DOT SPEC. 2564 EXCEPT SIGN POSTS SHALL NOT BE GALVANIZED BUT SHALL BE PAINTED BLACK
SIGN POSTS SHALL BE OF TWO-PIECE CONSTRUCTION AS SHOWN BELOW
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING APPENDIX "B", DATED SEPTEMBER 1985

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 88-08-116

Sheet No. _____ of _____ Sheets



FLAGS ON ALL ROUTE MARKER ASSEMBLIES
 FLAGS AND FLASHERS ON ALL OTHER SIGNS

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 88-08-116

Sheet No. _____ of _____ Sheets